Court File No. 98-CV-141369 CP00

ONTARIO
SUPERIOR COURT OF JUSTICE

B E T W E E N :

DIANNA LOUISE PARSONS, deceased by her Estate Administrator, William John Forsyth, MICHAEL HERBERT CRUICKSHANKS, DAVID TULL, MARTIN HENRY GRIFFEN, ANNA KARDISH, ELSIE KOTYK, Executrix of the Estate of Harry Kotyk, deceased and ELSIE KOTYK, personally

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, HIS MAJESTY THE KING IN RIGHT OF ONTARIO and THE ATTORNEY GENERAL OF CANADA

Defendants

and

HIS MAJESTY THE KING IN THE RIGHT OF THE PROVINCE OF ALBERTA
HIS MAJESTY THE KING IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HIS MAJESTY THE KING IN THE RIGHT OF THE PROVINCE OF MANITOBA,
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THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT and THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the *Class Proceedings Act, 1992*

Court File No. 98-CV-146405

B E T W E E N:

JAMES KREPPNER, BARRY ISAAC, NORMAN LANDRY, as Executor of the Estate of the late SERGE LANDRY, PETER FELSING, DONALD MILLIGAN, ALLAN GRUHLKE, JIM LOVE and PAULINE FOURNIER as Executrix of the Estate of the late PIERRE FOURNIER

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, THE ATTORNEY GENERAL OF CANADA and HIS MAJESTY THE KING IN RIGHT OF ONTARIO

Defendants

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Proceeding under the *Class Proceedings Act, 1992*

No. C965349
Vancouver Registry

In the Supreme Court of British Columbia

Between

Anita Endean, as representative plaintiff

Plaintiff

and

The Canadian Red Cross Society,
His Majesty the King in Right of the Province of
British Columbia, and The Attorney General of Canada

Defendants

and

Prince George Regional Hospital, Dr. William Galliford,
Dr. Robert Hart Dykes, Dr. Peter Houghton,
Dr. John Doe, His Majesty the King in Right of Canada, and
His Majesty the King in Right of the Province of BC

Third Parties

Proceeding under the *Class Proceedings Act*, R.S.B.C. 1996, C. 50

C A N A D A

PROVINCE OF QUÉBEC

DISTRICT OF MONTRÉAL

SUPERIOR COURT

Class action

NO : 500-06-000016-960

DOMINIQUE HONHON

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec

PETITIONER

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

C A N A D A

PROVINCE OF QUÉBEC

DISTRICT OF MONTRÉAL

SUPERIOR COURT

Class action

NO : 500-06-000068-987

DAVID PAGE

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

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-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

JOINT MOTION RECORD
VOLUME III OF VIII
(Joint Committee Motion to Allocate 2019 Excess Capital**)**

May 8, 2023

PODREBARAC BARRISTERS
PROFESSIONAL CORPORATION
402-1246 Yonge Street
Toronto, ON M4T 1W7

KATHRYN PODREBARAC
LSO#: 35640P
kp@PodrebaracMediation.com
Tel: 416.568.1299

STROSBERG SASSO SUTTS LLP
Lawyers
1561 Ouellette Avenue
Windsor ON N8X 1K5

HARVEY T. STROSBERG, Q.C.
LSO#: 12640O
harvey@strosbergco.com
Tel: 519.258.9333
Fax: 866.316.5308

Members of the Joint Committee

TO:
DEPARTMENT OF JUSTICE
Ontario Regional Office
Senior Counsel - Regulatory Law Section
120 Adelaide Street West, Suite 400
Toronto, ON M5H 1T1

VICTOR PAOLONE
ADAM GILANI
Tel: 647 256-1672
Email: Victor.Paolone@justice.gc.ca
Adam.Gilani@justice.gc.ca

Counsel for the Attorney General of Canada

AND TO:
MINISTRY OF ATTORNEY GENERAL
FOR ONTARIO
Crown Law Office - Civil Law
8th Floor, 720 Bay Street
Toronto, ON M5G 2K1

ERIN RIZOK
Tel: 416.326.4098
Email: erin.rizok@ontario.ca

Counsel for the Province of Ontario

AND TO:
MCCARTHY TÉTRAULT LLP
Lawyers
44th Floor, Toronto Dominion Tower
66 Wellington Street West
Toronto, ON M5K 1E6

CAROLINE ZAYID
MICHAEL ROSENBERG
Tel: 416.601.7768
Email: czayid@mccarthy.ca
mrosenberg@mccarthy.ca

Counsel for the Intervenors

AND TO:
GOWLING WLG
1 First Canadian Place
100 King Street West, Suite 1600
Toronto, ON M5X 1G5

JOHN C. CALLAGHAN
BELINDA BAIN
Tel: 416.369.6174
Email: John.Callaghan@gowlingwlg.com
Belinda.Bain@gowlingwlg.com

Fund Counsel for Ontario

AND TO:
OFFICE OF THE CHILDREN'S LAWYER
14th Floor
393 University Avenue
Toronto, ON M5G 1W9

KATHERINE ANTONACOPOULOS
Tel: 416.314.8027
Email: Katherine.Antonacopoulos@ontario.ca

Lawyer for the Children's Lawyer

AND TO:
OFFICE OF THE PUBLIC GUARDIAN
AND TRUSTEE
Suite 800
595 Bay Street
Toronto, ON M5G 2M6

MARY PHAN
Tel: 416.314.2777
Email: Mary.X.Phan@ontario.ca

Counsel for The Public Guardian and
Trustee

AND TO:
STOCKWOODS LLP
Barristers
77 King Street West
Suite 4130
Toronto, ON M5K 1H1

LUISA J. RITACCA
Tel: 416.593.2492
Email: luisar@stockwoods.ca

Monitor for the Court

AND TO:
BERNARD, ROY (JUSTICE-QUÉBEC)
Ministère de la Justice du Québec
Service du contentieux
1, rue Notre-Dame Est, 8e étage
Montreal, QC H2Y 1B6

LOUISE COMTOIS
Tel : 514. 393.2336, poste 51615
Email : louise.comtois@justice.gouv.qc.ca
bernardroy@justice.gouv.qc.ca

Counsel for the Province of Québec

AND TO:
McCARTHY TÉTRAULT
1000, rue de la Gauchetière Ouest
Bureau 2500
Montréal (Québec) H3B 0A3

MASON POPLAW
KIM NGUYEN
Tel: 514.397.4155
mpoplaw@mccarthy.ca
knguyen@mccarthy.ca

Quebec Fund counsel
AND TO:
MacKenzie Fujisawa LLP
1600 - 1095 W Pender Street
Vancouver BC V6E 2M6

GORDON KEHLER
Tel.: (604) 443-1222
Email: gkehler@macfuj.com

AND TO:
MINISTRY OF ATTORNEY GENERAL
OF BRITISH COLUMBIA
Legal Services Branch
865 Hornby Street
Vancouver BC V6Z 1T9

KEITH EVANS
Tel.: (604) 660-3360
Email: keith.evans@gov.bc.ca

Counsel for the Province of British Columbia

INDEX

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and:

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Robert Hart Dykes, Dr. Peter Houghton, Dr. John Doe,
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C A N A D A

PROVINCE OF QUÉBEC

DISTRICT OF MONTRÉAL

NO : 500-06-000016-960

SUPERIOR COURT

Class action

DOMINIQUE HONHON

Plaintiff

-vs-

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-and-

MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec

PETITIONER

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

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Mis-en-cause

C A N A D A

PROVINCE OF QUÉBEC

DISTRICT OF MONTRÉAL

NO : 500-06-000068-987

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DAVID PAGE

Plaintiff

-vs-

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THE CANADIAN RED CROSS SOCIETY

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-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

AFFIDAVIT OF PETER GORHAM
(Sworn December 10, 2020)

I, Peter Gorham, of the Town of Whitby, in the Province of Ontario, MAKE OATH AND SAY AS FOLLOWS:

1. I am a fellow of both the Canadian Institute of Actuaries and the Society of Actuaries, which is the professional association for actuaries in the United States of America. I attained my designation as Associate, Society of Actuaries, in 1977 and attained both fellowships as an actuary in 1980.

2. I am an experienced actuary having spent my professional career providing pension benefits and actuarial consulting services to numerous clients across Canada. I retired from Morneau Shepell in June 2011 and commenced working for JDM Actuarial Expert Services Inc. as president and actuary. I continue to provide consulting services as a contractor to Morneau Shepell and it is in that capacity that I provide expert witness services in this matter.

3. Attached hereto and marked as **Exhibit "A",** is my *curriculum vitae*.

4. Morneau Shepell was retained by Canada to prepare an actuarial valuation of the 1986-1990 Settlement Fund for use in the sufficiency review of that fund as of December 31, 2019. I had previously been engaged by Canada, through Morneau Shepell, to prepare similar reports assessing the financial sufficiency of the Settlement Fund as at December 31, 2004, December 31, 2007, December 31, 2010, December 31, 2013 and December 31, 2016.

5. In addition to myself, the Morneau Shepell personnel involved in reviewing the data and developing the actuarial model which provides a basis for the opinions expressed in the report

on fund sufficiency as at December 31, 2019 were Howard Cimring and Maria Jin. Mr. Cimring and I are the authors of the report; the opinions expressed therein are ours. Mr. Cimring's CV is attached hereto and marked as **Exhibit "B".**

6. Attached hereto and marked as **Exhibit "C"** is a true copy of the Report of Morneau Shepell dated November 9, 2020 assessing the financial sufficiency of the 1986-1990 Hepatitis C Trust Fund as of December 31, 2019 ("**MS Report**").

7. Subsequent to the MS Report, the Medical Model Working Group added an addendum dated November 18, 2020 to its "Seventh Revision of Hepatitis C Prognostic Model Based on the Post-Transfusion Hepatitis C Compensation Cohort". The information in the addendum has no effect on the findings in the MS Report. Attached hereto and marked as **Exhibit "D"** is true copy of a letter from Morneau Shepell to the Department of Justice dated November 20, 2020, which so confirms.

8. I hereby certify that the MS Report conforms to my and Mr. Cimring and Ms. Jin's duties to:

a. Provide opinion evidence that is fair, objective and without advocacy for either party and related only to matters that are within our areas of expertise; and

b. Assist the court and provide such additional assistance as the court may reasonably require to determine the matters in issue.

9. I hereby certify that if called upon to give oral evidence or written testimony, I will give that testimony in a fair, objective manner and without advocacy for either party.

10. I make this affidavit in response to the plaintiffs' material prepared in support of the fund sufficiency motion.

SWORN remotely by Peter Gorham stated as being located in the Town of Whitby in the Province of Ontario, before me at the City of Toronto, in the Province of Ontario, this 10th day of December 2020, in accordance with O. Reg. 431/20, Administering Oath or Declaration Remotely.)

A Commissioner for taking affidavits within the Province of Ontario

Nathalie Hamam
LSUC# 58589M

PETER GORHAM

THIS IS EXHIBIT "A"
referred to in the affidavit of
PETER GORHAM

Sworn remotely on the 10th day of December 2020

Commissioner for Taking Affidavits

Curriculum Vitae of Peter Gorham, F.S.A., F.C.I.A.

Position & Responsibilities

Peter is President and Actuary of JDM Actuarial Expert Services Inc. (JDM Actuarial). He provides pension and actuarial consulting advice, expert testimony, retirement planning and governance services.

Areas of Specialization

Peter has provided expert advice and testimony to the legal profession since 1987. His experience includes determining:

- certification of criminal rates of interest,
- lost benefits for wrongful dismissal,
- the present value of future income and future care costs,
- valuation of life estates,
- present value of future trust plan benefits and present value of past funds under various possible investment scenarios,
- present value of future contingent events.

In the past, Peter has also provided expert evidence for:

- family law pension valuations.

He has provided expert testimony to the Supreme Court of British Columbia, Court of Queen's Bench of Alberta, Court of Queen's Bench of Manitoba, the Ontario Superior Court of Justice, La Cour Supérieure du Québec, the Ontario Unified Family Court, the High Court of Justice of Trinidad and Tobago, the Supreme Court of Bermuda, Canada Human Rights Tribunal, Ontario Employment Standards Tribunal, Ontario Workplace Safety and Insurance Tribunal and the Canadian Institute of Actuaries Disciplinary Tribunal.

Within the actuarial consulting practice, Peter's main areas of expertise include the design, financing, administration and governance of pension and benefit plans. His strengths lie in providing innovative and workable solutions that address a client's needs. He is effective in communicating actuarial concepts in simple and understandable terms.

Peter is an experienced public speaker and an author of numerous articles related to pensions and benefits.

Background

Peter is an actuary, receiving his fellowship in 1980. He attended the University of Toronto, graduating with a B.Sc. in Actuarial and Computer Sciences. Prior to founding JDM Actuarial in 2011, Peter spent 13 years as a partner at Morneau Shepell, and prior to that, 20 years with Aon Consulting, (formerly MLH + A inc), serving clients in the area of pension and employee benefits.

Professional & Other Affiliations

Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries
Faculty, Humber College PPAC program
Past-President, Rotary Club of Whitby Sunrise

THIS IS EXHIBIT "B"
referred to in the affidavit of
PETER GORHAM

Sworn remotely on the 10th day of December 2020

Commissioner for Taking Affidavits

MORNEAU SHEPELL

Howard Cimring

FCIA, FFA, CFA

Partner – Toronto Consulting Practice

700 – 895 Don Mills Road
Toronto, ON, M3C 1W3 Canada
T: 416.383.6487
E: hcimring@morneaushepell.com

Education and Professional Designation

- Fellow of the Canadian Institute of Actuaries (2004)
- Chartered Financial Analyst designation (2002)
- Fellow of the Faculty of Actuaries (1994)
- University of Witwatersrand (South Africa) — Bachelor of Science (1990)

Career and Work Experience

- Morneau Shepell — Partner, Toronto Consulting Practice (since 2002)
- Oracle Employee Benefits — Executive Director (1998-2002)
- Liberty Life — Manager (1991-1998)

Qualifications

Howard is an actuary with over 25 years' experience. Since joining Morneau Shepell in 2002, Howard has been involved in all actuarial and design aspects of pension, post-employment, health insurance and administration programs. Howard is the lead consultant to numerous public and private sector clients and he oversees defined benefit actuarial valuations (pension and healthcare), performs plan design reviews, and co-ordinates other related projects for clients. Howard's actuarial work includes assumption setting and discussion and analysis of actuarial related matters.

In addition to providing advisory services to his own clients, Howard is often sought out to peer review and provide support on special and complex matters within our consulting practice. Howard also takes pride and great care in communicating with multiple stakeholders and strives to convey actuarial and other technical content with clarity. Howard has led and participated in various internal Morneau Shepell committees on actuarial, accounting and consulting standards, peer review, technical processes and training.

Some of Howard's clients include the Department of Justice, the Financial Services Regulatory Authority of Ontario, Metrolinx, Navistar Canada and Toronto Community Housing.

THIS IS EXHIBIT "C"
referred to in the affidavit of
PETER GORHAM

Sworn remotely on the 10th day of December 2020

Commissioner for Taking Affidavits

MORNEAU SHEPELL

Actuarial Report Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust Fund as at 31 December 2019

November 9, 2020

Table of Contents

1. PURPOSE

1. This report has been prepared at the request of Health Canada and the Department of Justice of the Government of Canada. Morneau Shepell was retained to perform an actuarial valuation of the 1986-1990 Hepatitis C Compensation Fund (the "**Fund**"), the Special Distribution Benefits Plan and the Late Claims Benefits Plan as of 31 December 2019 in order to:

    a. provide an evaluation of the financial position of the three plans as of 31 December 2019 for support of the 2019 Sufficiency Hearings;

    b. provide an analysis of actual to expected experience for the three years from 31 December 2016 to 31 December 2019;

    c. provide an independent review of the 2019 actuarial report prepared by Eckler for the Joint Committee (the "**Joint Committee**") established under section 9.01 of the January 1, 1986 to July 1, 1990 Hepatitis C Settlement Agreement (the "**Settlement Agreement**" or the "**Plan**");

    d. provide an evaluation of the sensitivity of the valuation results to changes in key actuarial assumptions; and

    e. provide information to the federal government to assist them in reviewing their position with respect to the Fund.

2. The intended users of this report are Health Canada, the Department of Justice of the Government of Canada, the Joint Committee and the courts having jurisdiction over the Plan and the Fund. The law may require this report to be provided to other parties who are not intended users. The report may not be provided to anyone who is not an intended user except as may be required by law. The findings herein may not be used or relied upon by any party other than an intended user without the prior written consent of Morneau Shepell.

2. EXECUTIVE SUMMARY

BACKGROUND

3. During the period 1986 to 1990, a number of people were infected with the Hepatitis C virus ("**HCV**") from blood products. A trust fund was established to provide compensation to people that were infected or secondarily infected.

4. A summary of the benefits and the amounts payable is contained in Appendix A. Appendix E provides a glossary of terms used in this report.

5. The Settlement Agreement distinguishes between haemophiliacs and non-haemophiliacs. In this report, the non-haemophiliac claimants are referred to as "**transfused**" claimants.

6. Following the 2013 Sufficiency Review, the Joint Committee filed a motion to increase benefits and to permit late claims to be accepted (the "**2016 Allocation Hearings**"). The courts ordered no changes to the benefits under the Settlement Agreement (hereafter referred to as the **Regular Benefits**), the creation of a **Special Distribution Benefits Plan**, the creation of a **Late Claims Benefits Plan** and the creation of three accounts within the Fund from which compensation will be paid – the **Regular Benefits Account**, the **Special Distribution Benefits Account** and the **LCBP Account**.

7. This report provides an independent review of the financial position of the three plans and accounts.

8. For this review, we were instructed to work cooperatively with Eckler to jointly select the actuarial methods and assumptions. The intent is to use the same assumptions in our respective valuations provided that it does not result in compromising our professional integrity or result in using assumptions that we believe are inappropriate. If we were unable to agree with respect to an assumption, the reasons therefor and financial effect was to be disclosed.

9. We cooperated with the analysis of the data and shared our respective findings. Both actuaries accept all of the assumptions used in this review – there are no differences.

10. We have shared our respective results, and in our opinion, the differences are immaterial and the results should be considered as essentially the same.

BEST ESTIMATES AND PROVISION FOR ADVERSE DEVIATIONS

11. In this report, we show results on a best estimate basis as well as results including a provision for adverse deviations.

12. The best estimate results are based on actuarial assumptions that in our opinion represent the most likely expectation for the future. This means that there is approximately a 50% chance that future experience will be better than the assumption and a 50% chance that it will be worse. In this way, the resulting best estimate actuarial liabilities represent the amount of assets required so there is approximately a 50% chance of having too much money and a 50% chance of having too little money.

13. It is neither appropriate nor prudent to assess the sufficiency of the Fund using best estimate assumptions. Since there is an agreement that no additional monies will be provided to the Fund by the governments, it is prudent to assess the financial sufficiency of the Fund utilizing a basis that has a greater than even (i.e. 50%) chance of having sufficient assets to pay all future benefits. This is done through the use of conservatism in the actuarial assumptions. Conservatism is introduced through the use of assumptions that represent the best estimate for the future *together with* a provision for adverse deviations. While it is possible that actual experience may deviate from our best estimate assumptions in a positive way (thereby reducing the Plan liabilities), this should not be recognized until such time as a positive deviation has occurred.

14. The use of best estimate results together with results including a provision for adverse deviations permits the user of this report to assess the degree of conservatism inherent in the results. Ultimately, it is an issue of individual judgement as to the amount and degree of provision for adverse deviations that is prudent to recognize, having regard to the interest of all parties in the three plans.

15. We have also added an additional buffer for catastrophic events. This provides an allowance to further protect the plans in the event of significant adverse events that have a very low probability of occurring.

16. A number of assumptions are revised in the 2019 review and those which significantly impact the future liability pertain to the percentage of claimants who have been treated and cured in the past as well as the percentage that will be treated and cured in the future, the incidence of HCV drug claims submitted against the Fund, the cost of care claims and the continuation of Loss of Services or Loss of Support benefits payable to beneficiaries after the death of the claimant.

17. The financial results presented herein are based on assumptions about the future. Actual future experience is unlikely to develop exactly as projected using the assumptions. Differences will be revealed in subsequent reviews.

HEPATITIS C CLAIMANT COHORT

18. Subject to some exceptions, the last date for filing claims for benefits from the Fund was 1 July 2010. As of 31 December 2019, there were 9 transfused and haemophiliac claims in process of adjudication. There will also likely be a number of additional late claims that are permitted under the terms of two Court Approved protocols (CAP1 and CAP2). Regardless, we believe that most of the claimant cohort for the Regular Benefits Plan is now known. Compared with prior reviews, there is now much less uncertainty about the characteristics of those yet to claim.

19. Table 19 shows the number of claimants (both known and unknown) under the Regular Benefits Plan that we have assumed for this report. These claimants are also entitled to compensation under the Special Distribution Benefits Plan.

Table 19 - Cohort Size – Known and Unknown Claimants – Regular Benefits Plan

Description	Known Claimants	Unknown Claimants	Total
Transfused Cohort			
• alive claimants	2,476	28	2,504
• claimants who died after 1998	1,338	16	1,354
• claimants who died before 1999	185	0	185
Total Transfused Cohort	3,999	44	4,043
Haemophiliac Cohort			
• alive claimants	806	5	811
• claimants who died after 1998	262	1	263
• claimants who died before 1999	302	0	302
Total Haemophiliac Cohort	1,370	6	1,376
Total of all Claimants	5,369	50	5,419

20. As of 31 December 2019 there are 16 approved claims for the Late Claims Benefits Plan. The majority of claims remain under review and have not yet been approved or denied. We have assumed there will be a total of 114 approved infected claimants and 228 family claimants. For the provision for adverse deviations, we have assumed 134 and 238 claimants respectively.

DISEASE PROGRESSION

21. The amount of data about the known claimants was sufficient for the Medical Model Working Group ("**MMWG**") to base their rates of disease progression in the 2013, 2016 and 2019 MMWG Report on the Plan's claimants. Prior to the 2013 MMWG Report, they combined the claimants' data with results from international studies.

22. A major change in the treatment of HCV are the DAA drugs which greatly increase the efficacy of treatment and are considered to be easier to take. These drugs are considerably more expensive than prior regimens with most treatments estimated to cost between $60,000 and $80,000 for a 12-week program. In 2013 we assumed that the bulk of these costs would be covered by the Fund as provincial drug programs were assumed to not add these drugs to their formularies for some time. For the 2016 review we assumed that the bulk of these costs will be covered by provincial drug programs – at least for claimants over age 65. For this review, we have assumed a larger portion of these costs will be covered by provincial drug programs for most claimants. The amount of the claims filed for the new drug treatments in the prior three years has been much less than we assumed in the 2016 review.

23. Use of these new drugs has accelerated the drug related cash flows of the Fund for compensation but resulted in a significant reduction in other future compensation payments as many claimants are assumed to have cleared the virus.

Excess HCV Mortality

24. There are a large number of deaths occurring at levels 2 to 5 that are being approved as having occurred as a result of HCV. There is no provision in the MMWG model or in the MMWG disease progression rates

for any death as a result of HCV to occur below level 6. These HCV related deaths at levels 2 to 5 are consistent with the expected deaths under the MMWG model, but they are considered by the MMWG model to be from non-HCV related causes. We refer to these deaths as due to "excess HCV mortality".

25. This excess HCV mortality arises from the difference in the medical and legal definitions of "as a result of HCV". The medical definition used by the MMWG makes little allowance for HCV interacting with another disease and accelerating the time of death. For purposes of the MMWG research, we agree that the use of the medical definition is likely the most appropriate. For purposes of the actuarial valuation for sufficiency purposes, the excess HCV mortality should be recognised. This approach is consistent with the 2016 review.

REGULAR BENEFITS PLAN

26. Table 26 presents a summary of the overall financial results of the Regular Benefits Plan.

Table 26 - Summary of Financial Results – Regular Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	980,363	1,025,156	980,363	1,025,156
Liabilities				
▪ Transfused	285,449	311,277	368,339	402,628
▪ Haemophiliacs	186,311	215,306	216,221	258,017
▪ HIV Program	409	820	414	830
▪ Future Expenses	64,548	58,603	67,070	60,907
Total Plan Liabilities	536,717	586,006	652,044	722,382
Fund Surplus	**443,646**	**439,150**	**328,319**	**302,774**
Additional buffer against catastrophic events			130,409	108,357
Excess Assets			**197,910**	**194,417**

27. Detailed financial results by cohort and benefit are presented in Section 8. The assets are summarized in Section 7.

28. However, we caution that due to a mismatch between the asset and liability cash flows, the excess assets could be very volatile and change significantly with future changes in the financial markets.

29. The provision for adverse deviations produces a total liability that is 21% greater than the best estimate liability. The additional buffer against catastrophic events adds 25% of the best estimate liability for a total buffer of 46% of the best estimate liability.

30. Additional information about the provision for adverse deviations, the change in the surplus amount from 2016 to 2019 and the sensitivity of the results to assumption changes are in Sections 8 and 11.

31. In our opinion, the Fund is sufficient and there are excess assets of $197.9 million at 31 December 2019.

SPECIAL DISTRIBUTION BENEFITS

32. Following the 2013 Sufficiency Review, the courts approved increasing certain benefits under the Plan. The increase in amount for these benefits is referred to as the Special Distribution Benefits.

    a. Special Distribution Benefits are to be paid entirely out of the Special Distribution Benefits Account that was established for this purpose. No part of the Special Distribution Benefits is to be funded by the Provincial or Territorial Governments. If the Special Distribution Benefits Account does not have sufficient assets to pay all Special Distribution Benefits, then benefit payments will cease.

    b. The Special Distribution Benefits include increases in benefits paid prior to 2014 as well as supplements that relate to future claims.

33. Table 33 presents a summary of the overall financial results of the Special Distribution Benefits Plan.

Table 33 - Summary of Financial Results – Special Distribution Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	99,514	185,750	99,514	185,750
Liabilities				
▪ Transfused	29,776	94,051	36,105	101,537
▪ Haemophiliacs	18,586	45,098	21,200	49,081
▪ Future Expenses	1,690	2,269	1,749	2,323
Total Plan Liabilities	50,052	141,418	59,054	152,941
Fund Surplus	**49,462**	**44,332**	**40,460**	**32,809**
Additional buffer against catastrophic events			11,811	22,941
Excess Assets			**28,649**	**9,868**

34. Detailed financial results are presented in Section 9. The assets are summarized in Section 7.

35. The provision for adverse deviations produces a total liability that is 18% greater than the best estimate liability. The additional buffer against catastrophic events adds 24% of the best estimate liability for a total buffer of 42% of the best estimate liability.

36. Additional information about the provision for adverse deviations, the change in the surplus amount from 2016 to 2019 and the sensitivity of the results to assumption changes are in Sections 9 and 11.

37. In our opinion, the Special Distribution Benefits Account is sufficient and there are excess assets of $28.6 million at 31 December 2019.

LATE CLAIMS BENEFITS PLAN

38. Following the 2013 Sufficiency Review, the courts approved providing benefits to certain infected persons and their family members who failed to file a claim by the deadline specified in the Plan for a valid reason and who do not qualify for one of the existing situations where a late claim may be filed. A new plan was established called the Late Claims Benefits Plan. Currently a 25% holdback is applied to all benefits payable from this plan. Should the courts determine that the Late Claims Benefits Plan is sufficient, they may order the holdback to be lifted in whole or in part and the additional compensation be paid.

    a. Late Claims Benefits are to be paid entirely out of the Late Claims Benefits Account that was established for this purpose. No part of the Late Claims Benefits is to be funded by the Provincial or Territorial Governments. If the Late Claims Benefits Account does not have sufficient assets to pay all Late Claims Benefits, then benefit payments will cease.

    b. The Late Claims Benefits are the same as the benefits under the Regular Benefits Plan as well as those under the Special Distribution Benefits Plan.

39. Table 39 presents a summary of the overall financial results of the Plan including the 25% holdback.

Table 39 - Summary of Financial Results – Late Claims Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	48,436	48,573	48,436	48,573
Liabilities				
▪ Transfused (75%)	25,746	25,681	32,219	28,602
▪ Haemophiliacs (75%)	3,039	3,746	3,574	4,047
▪ 25% hold back	10,203	9,809	12,539	10,883
▪ Future Expenses	9,397	8,496	9,731	8,751
Total Plan Liabilities	48,385	47,732	58,063	52,283
Fund Surplus (Deficit)	**51**	**841**	**(9,627)**	**(3,710)**
Additional buffer against catastrophic events			13,354	13,071
Excess Assets			**(22,981)**	**(16,781)**

40. Detailed financial results are presented in Section 10. The assets are summarized in Section 7.

41. The provision for adverse deviations produces a total liability that is 20% greater than the best estimate liability. The additional buffer against catastrophic events adds 28% of the best estimate liability for a total buffer of 48% of the best estimate liability.

42. Additional information about the provision for adverse deviations, the change in the surplus amount from 2016 to 2019 and the sensitivity of the results to assumption changes are in Sections 10 and 11.

43. The present value of the holdback is estimated at $12.5 million including provision for adverse deviations. If the 25% holdback remains in place, the Late Claims Benefits Plan is sufficient on a provision for adverse deviations basis, but not sufficient if the additional buffer against catastrophic events is included.

44. In our opinion, the Late Claims Benefits Account is not sufficient and there is a shortfall in assets of $23.0 million at 31 December 2019.

PROVINCIAL/TERRITORIAL CONTRIBUTION OBLIGATION

45. The provinces and territories are given a choice under the Settlement Agreement to either contribute on a pay-as-you-go basis or to prefund some or their entire contribution obligation. As of 31 December 2019, there was a total remaining contribution of $92.5 million (net of $2.2 million contribution payable), of which $12,000 had been prefunded. The remaining provincial/territorial contributions are increased annually for interest based on the return of 90-day Treasury Bills.

46. We have projected the future provincial/territorial contribution requirements for each year based on the Regular Benefits cash flows under both the best estimate and the provision for adverse deviations assumptions. (The provincial and territorial governments do not contribute to the Late Claims Benefits Plan or the Special Distribution Benefits Plan.)

47. Using the best estimate assumptions for determining the amount and timing of future benefits, the provincial/territorial contribution obligation is expected to expire in 2033. After that time, there will be no additional funds payable by the provinces and territories.

48. Using the provision for adverse deviations assumptions, the provincial/territorial contribution obligation is expected to expire in 2030.

COVID-19

49. On March 11, 2020, the World Health Organization declared that COVID-19 was a pandemic. This public health crisis caused significant economic and social disruptions worldwide.

- The COVID-19 pandemic has resulted in a higher number of deaths for the population in general as measured by public health officials. The effect of the outbreak on the mortality incidence for the Fund is unknown at this time and no adjustments to the mortality assumption have been made in this report. The effect on the Fund, if any, will be recognized in the gains or losses of future reports as the experience emerges.

- Economic conditions also changed with a significant reduction in asset values and strained liquidity occurring in the month of March. Sustained lowered economic activity could also impact the Fund's economic assumptions. No adjustments to the Fund assets nor to any of the economic assumptions have been made or anticipated in this report.

CERTIFICATION

50. We hereby certify that in our opinion:

    a. the Regular Benefits Plan and Account is sufficient;

    b. the Special Distribution Benefits Plan and Account is sufficient;

    c. the Late Claims Benefits Plan and Account is not sufficient;

    d. the data used is sufficient and reliable for the purpose of the report;

    e. the actuarial methods are appropriate for the purpose of this report;

    f. the assumptions used are, in aggregate, appropriate for the purpose of the work;

    g. the calculations were prepared in accordance with the Canadian Institute of Actuaries' Standards of Practice;

    h. this report has been prepared and our opinions given in accordance with accepted actuarial practice in Canada; and

    i. there are no subsequent events other than those discussed in this report that we are aware of that would have an impact on the results presented herein.

51. This report conforms to our duty to:

    a. provide opinion evidence that is fair, objective and without advocacy for either party and related only to matters that are within our area of expertise;

    b. assist the court and provide such additional assistance as the court may reasonably require to determine the matter at issue; and

    c. if called upon to give oral or written testimony, we will give that testimony in a fair, objective manner and without advocacy for either party.

52. We are available to answer any questions or to provide additional information regarding any aspect of this report.

Respectfully submitted,
MORNEAU SHEPELL LTD.

Howard Cimring
Fellow, Canadian Institute of Actuaries
Fellow, Faculty of Actuaries

Peter J. M. Gorham
Fellow, Canadian Institute of Actuaries
Fellow, Society of Actuaries

Morneau Shepell Ltd.
895 Don Mills Rd., Tower One, Suite 700
Toronto ON M3C 1W3
Phone: (416) 445-2700

9 November 2020

3. BACKGROUND

53. During the period 1996 to 1998, a number of class action lawsuits were brought forward against the federal, provincial and territorial governments on behalf of people who were infected with Hepatitis C from blood transfusions received between 1 January 1986 and 1 July 1990. A Settlement Agreement was reached as of 15 June 1999 that provided for the establishment of a trust fund to pay benefits to the affected class. This Settlement Agreement specifies the persons eligible to receive benefits, the amount of benefits payable, the funding of the benefits by the federal, provincial and territorial governments and the investment of Plan assets.

54. Benefits under the Plan are dependent on the progression of a claimant through the various levels of the disease. Benefits are also dependent on:

- whether the person is haemophiliac (non-haemophiliacs are referred to as "**transfused**"); and
- whether the person died prior to 1999 or was alive on 1 January 1999.

55. To be eligible for compensation from the Fund, claimants must show clinical evidence of infection from Hepatitis C; must have received blood products during the period 1 January 1986 to 1 July 1990 where such blood product can be shown to have contained the Hepatitis C virus (through a trace-back program); and, with the exception of haemophiliacs, must be able to demonstrate that prior infection is not likely to have occurred. Subject to a few exceptions, claims must be filed with the administrator of the Plan prior to 1 July 2010.

56. A summary of the Plan benefits and the amounts payable for the various levels of the disease is contained in Appendix A. Appendix E is a glossary of terms used in this report.

57. Following the 2013 Sufficiency Review, the courts approved two new sets of benefits (the "**2016 Allocation Orders**").

a. The **Special Distribution Benefits** are payable under the Settlement Agreement as modified by the 2016 Allocation Orders of the courts and provide an increase, both retroactively and prospectively, to selected benefits under the Plan. A sub-fund (the "**Special Distribution Benefits Account**") was established within the Fund for purposes of paying these Special Distribution Benefits and it was funded out of unallocated actuarial assets that had been identified as part of the 2013 Sufficiency Review. A summary of the benefits payable from the Special Distribution Benefits Plan are set out in Appendix A.

b. The **Late Claims Benefits Plan** is a separate plan that provides benefits to class members who did not file a claim within the time permitted under the Plan and who do not qualify to file a claim under the two Court Approved Protocols dealing with late claims. A second sub-fund (the "**LCBP Account**") was established within the Fund for purposes of paying these Late Claims Benefits and it was funded out of unallocated actuarial assets that had been identified as part of the 2013 Sufficiency Review. The Late Claims Benefits Plan provides benefits equal to those payable from both the Plan and the Special Distribution Benefits for persons who are approved as members of the Late Claims Benefits Plan.

c. The assets transferred to the Special Distribution Benefits Account and to the LCBP Account, together with investment earnings, are the only assets available to pay the Special Distribution Benefits and the Late Claims Benefits respectively together with the administrative costs incurred in respect of those benefits.

58. In addition to the sufficiency review of the Plan, this report also reviews the sufficiency of the Special Distribution Benefits and the Late Claims Benefits Plan.

59. In this report, the benefits, assets and financial sufficiency are reviewed in three separate parts:

a. the provisions of the Settlement Agreement prior to the modification by the 2016 Allocation Orders (the "**Regular Benefits**");

b. the Special Distribution Benefits payable under the terms of the Settlement Agreement as modified by the 2016 Allocation Orders, and are treated separately from the Regular Benefits; and

c. the benefits payable from the Late Claims Benefits Plan.

60. In this report, the term "level" is used to refer to the disease levels for which compensation is paid under the Plan. The term "stage" is used to refer to the disease stages as modelled in the MMWG Report (see Appendix E). There is a comparison of the various levels and stages contained in Table 72.

61. The Settlement Agreement distinguishes between haemophiliacs and non-haemophiliacs. In this report, the non-haemophiliac claimants are referred to as "**transfused**" claimants.

62. Under the terms of the Plan, an actuarial valuation of the benefits is to be produced at least every three years to assist the courts with their review of the sufficiency of the Fund. The most recent actuarial valuations for that purpose was prepared by Eckler as of 31 December 2016 (dated 27 February 2018) and by Morneau Shepell as of 31 December 2016 (dated 7 March 2018).

63. At the request of Health Canada, Morneau Shepell undertook an independent review of the Plan on a triennial basis starting as of 31 December 2004, and through to 31 December 2016. Health Canada has requested Morneau Shepell to again perform an independent review of the Plan as of 31 December 2019 and prepare this report detailing the results.

4. DOCUMENTS PROVIDED

64. In addition to data and documents used in our previous sufficiency reports, we were provided with the following data and documents that we have used in the preparation of this report:

a. "Estimating the Prognosis of Canadians Infected With the Hepatitis C Virus Through the Blood Supply, 1986-1990 – the Seventh Revision of Hepatitis C Prognostic Model Based on the Post-Transfusion Hepatitis C Compensation Claimant Cohort", dated 25 March 2020 by Karen Bremner BSc, Yeva Sahakyan MD MPH MSc, Qilong Yi MD MSc PhD, William Wong, PhD and Murray Krahn MD MSc FRCPC (the "**MMWG Report**");

b. A data file containing class member data as of 31 December 2019 that was provided to the Medical Model Working Group (the "**MMWG**");

c. A data file containing class member data as of 31 December 2019 that was prepared by the administrator, Epiq Global at the request of the Joint Committee for purposes of the sufficiency review;

d. The investment summary reports prepared by Eckler as at 31 December 2017, 2018 and 2019;

e. The audited financial statements prepared by Deloitte LLP as at 31 December 2017, 2018 and 2019;

f. Numerous email correspondence between some or all of the Joint Committee, Department of Justice, Epiq Global, the MMWG, Eckler and Morneau Shepell in which queries were raised, answers provided and supplemental information provided, all of which was carried out within the spirit of cooperation between Eckler and Morneau Shepell;

g. The sufficiency review report prepared by Eckler as of 31 December 2016 and 31 December 2019.

5. DISEASE PROGRESSION

65. The following is a high-level summary of Hepatitis C disease progression as it has a bearing on this valuation, based on our understanding of the MMWG Report. We have utilized these findings in this valuation.

66. A person infected with Hepatitis C will usually show signs of the infection through blood tests. A number of people infected recover, possibly without knowing that they have been infected (spontaneous viral clearance ("**SVC**") or sustained viral response ("**SVR**")) but will still have signs of the disease in their blood. This is referred to in this report as stage RNA negative, or as F0(RNA-).

67. We understand that there may be a remote chance of the disease redeveloping in the future. In past sufficiency reviews, this possibility was ignored. With the 2016 MMWG Model, progression rates for those who have had an SVC or SVR were developed and this possibility is now included in the model. Despite the small probability of advancing in the disease, a person at stage F0(RNA-) is referred to as recovered.

In This Section....

We provide a brief summary of:

- the MMWG medical model and the various stages of Hepatitis C
- Changes in the model from the 2016 version
- transition rates between stages
- treatment effect on transition rates
- HIV co-infection effect on progression of Hepatitis C
- excess HCV mortality

68. The rate at which Hepatitis C develops varies from person to person. It can take many years before some people will notice that they are sick and discover they have the disease, whereas others will progress through the various stages much more quickly. The progression of the disease is assumed to be similar in haemophiliacs and non-haemophiliacs. However, due to the younger age and higher co-infection with HIV of haemophiliacs, there is a greater chance of developing cirrhosis and of death from Hepatitis C among haemophiliacs than transfused claimants.

69. The stages that are modelled in the MMWG report differ from the levels that are used for compensation under the Plan. Based upon advice provided by the authors of the MMWG report, Eckler determined an approximate relationship between the levels under the Plan and stages as modelled in the MMWG report. We have utilized the same assumed equivalency for purposes of this report. We understand that non-bridging fibrosis is actually identified in patients somewhere between stages F1 and F2. For purposes of their work, the MMWG assumed non-bridging fibrosis occurs at clinical stage F1, earlier than it would occur for most patients. We have made the same assumption.

70. It may be that this linking of Level 3 (non-bridging fibrosis) with stage F1 introduces a level of conservatism to the results. Such conservatism is present in all of our results, including those identified as "best estimate". We have not attempted to adjust for this since the linkage between level 3 and stage F1 appears to be consistent with the way the claimant data is presented and the results presented in the MMWG Report.

71. In the 2013 review, claimants who were identified as having renal failure, glomerulonephtitis, or cryoplobulinemia were assumed to all be treated and to recover. Claimants with B-cell lymphoma were

considered to have the same future probabilities as those with Decompensation. With the 2016 MMWG Model, these diseases have all been combined together as "HCV-related extrahepatic disease", or "**Extrahepatic**" (B-cell lymphoma, renal failure, glomerulonephtitis and cryoplobulinemia). Rates of transition to Extrahepatic from F0(RNA+) through F4 were added and transition rates for Extrahepatic claimants to death were included for those who have not cleared the virus as well as those who have had a SVC.

72. The stages modelled in the MMWG report and the levels recognized under the Plan are:

Table 72 – Hepatitis C Disease Stages and Levels

MMWG Stage	MMWG Stage Description	Compensation Plan Levels	Compensation Plan Description
F0(RNA-)	Fibrosis Stage 0 – RNA negative	1	Claimants who have cleared the virus
SVC	Spontaneous Viral Clearance	1	
SVR	Sustained Viral Response	*	
F0(RNA+)	Fibrosis Stage 0 – RNA positive	2	PCR test positive
F1	Fibrosis Stage 1	3	Non-Bridging Fibrosis
F2	Fibrosis Stage 2		
F3	Fibrosis Stage 3	4	Bridging Fibrosis
F4	Cirrhosis	5	Cirrhosis
HCC	Hepatocellular Cancer	6	Cancer
Decomp	Decompensated cirrhosis		Liver decompensation
Xhepatic	Extrahepatic		Renal failure; Glomerulonephtitis; Lymphoma; Cryoplobulinemia.
Transplant	Liver Transplant		Liver Transplant
Death	Liver related death		Death

** SVR is the state of having cleared the virus after receiving treatment. In the 2016 MMWG report, the claimant's probability of progressing to a higher level is about 8.6% of the rates at levels 2 to 4. At level 5, cirrhosis, progression for those with a prior SVR occurs at approximately half the regular rate. In the 2019 MMWG report, the same progressing rate remains except for the ones stated in Table 83. Any damage done by the virus is not reversed.*

73. In the MMWG model, the disease was modelled recognizing a maximum progression of one stage in a year. Progression to subsequent stages would occur in sequence except:

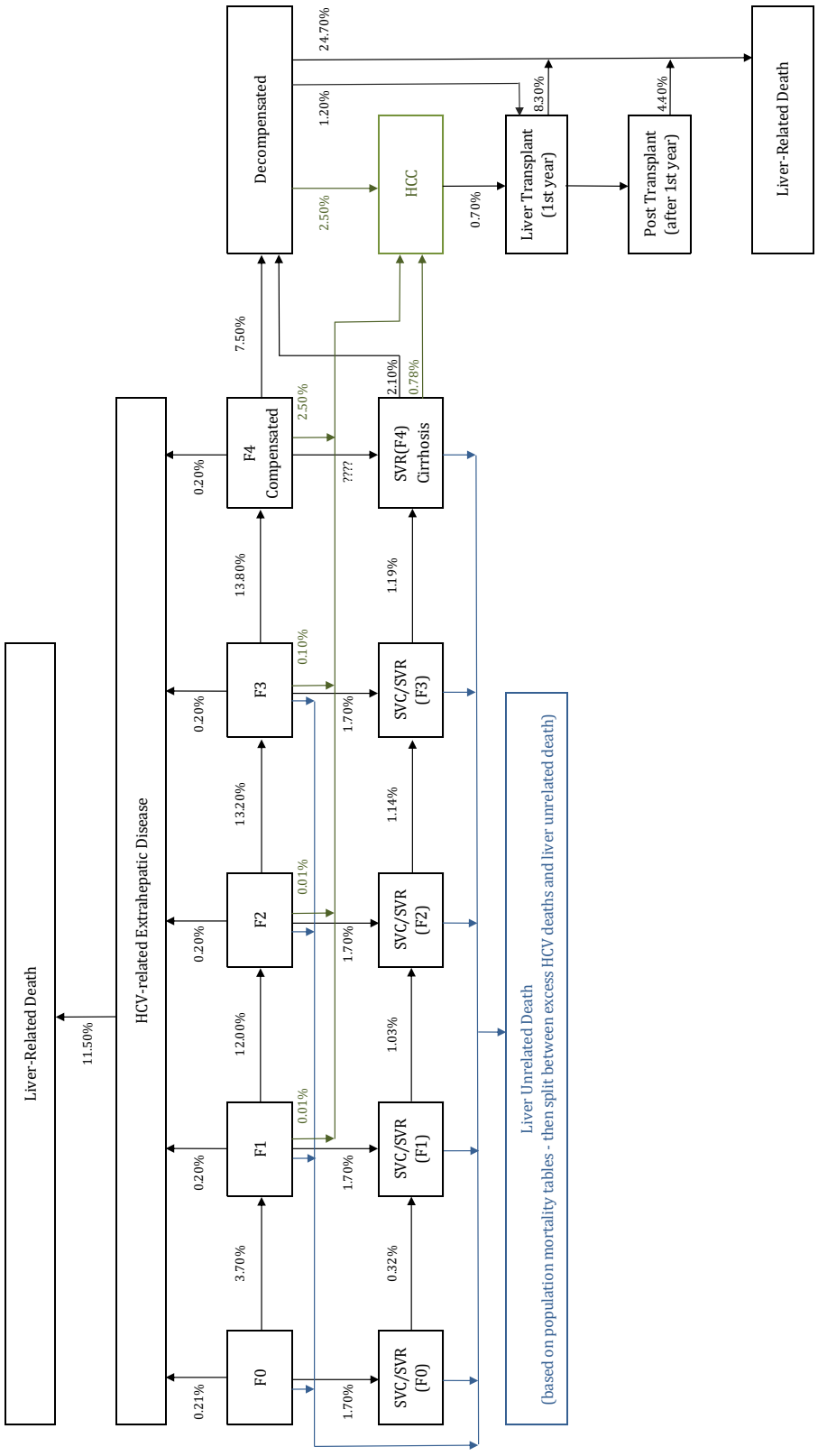
a. one can transition from any of stages F0(RNA+) through F3 to SVC or SVR and from F4 to SVR;

b. one can transition from any of the stages F1 through F4 to HCC; and

c. one can transition from any of the stages F0(RNA+) through F4 to Extrahepatic.

74. Chart 74 shows the possible sequences of disease progression as recognized and modelled in the report. It should be noted that there may be other patterns to the disease progression, including regression to an earlier stage. However, they were considered to have such a low probability as to be immaterial to the results. The percentages shown on the chart are the MMWG baseline probabilities for a transfused person of transitioning from one disease stage to another over the course of a year. As discussed below, transition probabilities for HIV co-infected people are higher, and for those who have been successfully treated (SVR) or are status SVC (Spontaneous Viral Clearance) the transition probabilities are lower.

Chart 74 – Disease Progression as Modeled in the MMWG Report



This chart is taken from the MMWG Report, with some minor modifications for added detail. Each box represents a health state for the individuals infected due to blood transfusion in Canada between 1986 and 1990. Each solid arrow represents possible transitions between health states that may occur each year. The percentages have been added to the chart by us to indicate the annual baseline probability of transitioning between disease stages.

MORTALITY FROM NON-LIVER RELATED CAUSES

75. During the time that a person has Hepatitis C, they continue to be subject to death from causes other than Hepatitis C. This is no different from others who do not have Hepatitis C. Both the MMWG report and this report recognize that possibility in the projections done. A claimant who dies from non-liver related causes remains entitled to any payments made or due based on the stage reached prior to death, but is not entitled to any additional payments as a result of death.

76. For the 2019 medical model, the MMWG applied mortality rates derived from the claimant cohort. In our discussions with Eckler, we agreed to utilise the Canada Life Tables 2016-2018 for all non-liver related mortality. The impact of this change from the MMWG model assumption on the projections and the financial results is immaterial.

EXCESS MORTALITY RELATED TO THE CONDITION REQUIRING BLOOD TRANSFUSION

77. Many persons entitled to compensation under the Plan received a blood transfusion during the period 1986 to 1990. Because MMWG utilised cohort data to determine mortality from non-HCV causes in their report, there is no need for them to have considered this issue. The 2010 MMWG report discussed the possible existence of excess mortality in relation to average population mortality as a result of the condition that gave rise to the need for the transfusion. It was concluded that any such excess mortality would reduce to nothing or an immaterial level during the ten years following the transfusion. Since the most recent blood transfusion that could be related to the transmission of Hepatitis C for infected claimants under this Plan occurred more than 10 years ago, the possibility of excess mortality factors unrelated to Hepatitis C is ignored.

78. It is possible that a claimant under the Plan might have received a subsequent blood transfusion and may be subject to excess mortality as a result of the condition that gave rise to that transfusion. This possibility has been ignored since the mortality table used for this report reflects such issues by virtue of being a Canadian population mortality table.

TRANSITION PROBABILITIES

79. The progress of a claimant through the various disease stages is modelled using probabilities. The transition probabilities used in our calculations are taken from the MMWG Report and are the same as the baseline rates used in the MMWG Report. These represent the probability of transition to another disease stage during the course of one year.

80. In 2010 and prior MMWG Reports, the MMWG established the baseline transition rates as a blend of the experience of the claimant cohort and results of published studies from around the world.

81. With the 2013 MMWG Report, the baseline transition rates were determined based only on the experience of the claimant cohort. That was continued in the 2016 and 2019 reports. We consider these 2019 rates as the best estimate transition probabilities.

82. For purposes of the valuation model, a claimant who experiences SVC or SVR is transitioned to status SVC but retains their prior disease level. The process of SVR and SVC does not undo any physical damage that had previously occurred and it is therefore appropriate to recognise that a claimant at SVC (F4) may still have a disability and file a claim for Loss of Income or for Loss of Services in the Home. A claimant at SVC(F1) is much less likely to have a future disability and so will likely never have a claim for Loss of Income or for Loss of Services in the Home.

83. The modelling of SVC and SVR has changed from prior valuations. For a claimant who has been treated and is cured (SVC or SVR), transitioning to higher disease stages is still assumed possible but at a reduced probability, as outlined in table 83.

Table 83 – Reduced transition rates following cure

From	To	Transition as a % of base rate
SVR (F0(RNA+), F1, F2, F3)	F1, F2, F3 or F4	8.6%[1]
SVR (F4)	Decomp	28.0%
SVR (F0(RNA+), F1, F2, F3, F4 or Decomp)	HCC	31.0%
SVR (F0(RNA+), F1, F2, F3 or F4)	Extrahepatic	42.0%
SVR (Xhepatic)	Death	5.0%
SVR (Decomp)	Transplant or Death	32.0%

84. The baseline transition probabilities are from Table 11 of the MMWG report. The baseline probabilities represent the mean probabilities and are the values used for both the best estimate and provision for adverse deviations liabilities in this report. The transition probabilities are adjusted for the effects of successful treatment and for the effects of HIV on fibrosis progression in the same manner as was done in the MMWG Report. The basic transition probabilities are shown in Table 84.

[1] The formula used is: 1 - EXP(8.6% * LN(1 - baseline probability)). For the other rows in the table, the 8.6% is replaced accordingly.

Table 84 - Transition Rates for Singly Infected – 2019 with comparatives from 2016 and 2013

From Stage	To Stage	Transition Rates 2013	Transition Rates 2016	Transition Rates 2019
F0(RNA-)	F0(RNA+)	0.00%	0.00%	0.00%
F0(RNA+)	F1	5.40%	4.10%	3.70%
F1	F2	12.00%	12.20%	12.00%
F2	F3	13.50%	13.80%	13.20%
F3	F4	13.80%	14.00%	13.80%
F4	Decompensation	7.80%	8.50%	7.50%
Decompensation	Transplant	0.40%	1.50%	1.20%
F1	HCC	0.01%	0.01%	0.01%
F2	HCC	0.01%	0.01%	0.01%
F3	HCC	0.10%	0.10%	0.10%
F4	HCC	2.50%	2.60%	2.50%
Decompensation	HCC	2.50%	2.60%	2.50%
HCC	Transplant	0.40%	0.76%	0.70%
F0(RNA+)	Extrahepatic	n/a	0.21%	0.20%
F1	Extrahepatic	n/a	0.21%	0.20%
F2	Extrahepatic	n/a	0.21%	0.20%
F3	Extrahepatic	n/a	0.21%	0.20%
F4	Extrahepatic	n/a	0.21%	0.20%
F0(RNA+)	SVC(F0)	1.70%	1.70%	1.70%
F1	SVC(F1)	1.70%	1.70%	1.70%
F2	SVC(F2)	1.00%	1.70%	1.70%
F3	SVC(F3)	0.50%	1.70%	1.70%
SVC(F0)	SVC(F1)	0.00%	0.36%	0.32%
SVC(F1)	SVC(F2)	0.00%	1.11%	1.03%
SVC(F2)	SVC(F3)	0.00%	1.27%	1.14%
SVC(F3)	SVC(F4)	0.00%	1.29%	1.19%
SVC(F4)	Decompensation	3.98%	4.34%	2.10%
SVC(F4)	HCC	n/a	1.31%	0.78%

85. With the exception of non-HCV related mortality (Canada Life Tables, 2016-2018, that are based on age and gender), the transition rates do not vary by age, gender or duration of infection.

86. The transition rates for 2019 have generally decreased or remained unchanged from those used in 2016. None of the changes are, in our opinion, significant but rather are more in the nature of fine tuning.

Effect of treatment on fibrosis progression

87. There are a number of treatments available for Hepatitis C that, if successful, will slow down or arrest progression of the disease. In the past six to nine years, a number of new drugs have been approved that have significantly improved treatment prognosis compared with the drugs previously available.

88. These new drugs are taken in a pill form rather than by injection, have less severe side-effects during treatment, have a shorter recommended duration for treatment and have a significantly higher efficacy rate than the previous treatments. The medical model recognised these new drugs in the 2013 report with a major change to the assumptions for future treatments. Those assumptions are continued for the 2016 and 2019 reviews but updated to recognise further advances in treatments available.

89. Only one future treatment per claimant is assumed. A claimant who received treatment prior to 2020 that was not successful, is eligible for a future treatment. However, a claimant who receives treatment after 1 January 2020 and who is not cured is assumed to never receive another treatment.

90. The rate of treatment, type of drug assumed to be used and efficacy differ between those who have not received treatment in the past (treatment naïve) and those with past treatments (previously treated) as well as between those co-infected and not co-infected with HIV.

91. The rate of treatment, type of treatment received and efficacy of the different treatments varies based on certain characteristics of the claimants. Table 91 summarises the probability of receiving treatment at some time during the five-year period 2020 to 2024. Treatment at the Decompensation stage was added to the MMWG model for the 2019 review.

Table 91 – Probability of Receiving Treatment Within Next Five Years*

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	81.00%	88.00%	91.30%	94.00%
F1/F2	89.80%	92.20%	94.90%	96.20%
F3	92.10%	96.00%	94.90%	97.60%
F4	91.20%	96.20%	93.00%	98.20%
Decompensation	73.40%	77.70%	78.00%	84.20%

* *Extrahepatic receive treatment based on the disease stage they transitioned from (F0 to F4)*

92. The treatment rates set out in the MMWG Report gave the percentage of claimants that are assumed to receive treatment at some time during the period 2020 to 2024, the percentage who discontinue treatment, the types of drugs used and the efficacy rate for treatments. The rates vary based on disease stage, whether one was previously treated, whether one is co-infected with HIV and the type of drug utilised. Based on those assumptions we developed annual cure rates.

93. The following rates give the percent of non-cured infected claimants who are assumed to clear the virus in each future year. These rates are a combination of the percentage of claimants assumed to be treated, the rates of discontinuance, the type of drug used and the efficacy of the drug. Over five years, these rates produce the same results as the rates in the MMWG Report.

Table 93 – Annual Rates of SVR* – 2019 Best Estimate

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	27.30%	32.70%	37.30%	40.90%
F1/F2	35.40%	37.80%	43.30%	45.60%
F3	38.50%	44.90%	43.30%	50.00%
F4	37.20%	45.40%	39.80%	52.50%
Decompensation	22.48%	25.23%	24.51%	29.33%

* *The annual rate of SVR (cure rate) is the percent of all claimants in a future year who are assumed to be cured through taking drug treatment. The medical model assumes that only one treatment regimen will be given per claimant on and after 1 January 2020, regardless of any treatments received prior to that. Extrahepatic cure rates are based on the disease stage they transitioned from (F0 to F4).*

94. For the provision for adverse deviations, we extended the period over which treatments are assumed to be received by the claimants from five years to ten years and reduced the drug efficacy to 90% of the rates in the MMWG Report. That produces lower annual rates of SVR, and the total percentage of the claimants assumed to be cured after ten years is lower than the best estimate assumptions after five years. The difference in the liabilities comes from fewer claimants being cured, the additional delay before treatment and the possibility of claimants advancing in the disease prior to treatment.

Table 94 – Annual Rates of SVR – 2019 Provision for Adverse Deviations

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	15.30%	21.67%	19.11%	24.52%
F1/F2	20.41%	25.74%	22.52%	27.89%
F3	22.42%	25.74%	27.52%	31.13%
F4	21.58%	23.35%	27.89%	33.08%
Decompensation	12.40%	14.05%	13.93%	16.85%

95. A claimant who has been cured is assumed to advance to a higher level as described in table 83.

96. For the 2016 MMWG model, treatment was assumed to be considered for patients at stages – F0 through F4 and Extrahepatic. The cure rates assumed for the 2016 review were:

Table 96 – Annual Rates of SVR – 2016 Review

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	27.30%	32.70%	37.30%	40.90%
F1/F2	35.40%	37.80%	43.30%	45.60%
F3	38.50%	44.90%	43.30%	50.00%
F4	37.20%	45.40%	39.80%	52.50%

97. Compared to 2016 MMWG report, the 2019 cure rates at the same stages are unchanged.

Effect of HIV co-infection on fibrosis progression

98. HIV co-infection has an impact on the fibrosis progression rate of Hepatitis C. Haemophiliacs who are co-infected with HIV are subject to a differing set of transition probabilities from stages F0(RNA+) to decompensation. The baseline transition probabilities are increased by a factor of 1.92.[2] This remains the same as 2016 assumption.

Effect of HIV co-infection on population mortality

99. A number of claimants are infected with both Hepatitis C and HIV. Most of these are among the haemophiliac cohort, of which about 17% of the known alive haemophiliac claimants are co-infected with HIV. It is presumed under the Plan that the HIV infection was due to a blood transfusion. The presence of HIV is assumed to increase the non-liver death mortality rates by a factor of 6.24 (same as 2016). This is recognized in this report only for haemophiliacs.

100. Of the known transfused cohort, about ⅓ of one percent are co-infected with HIV. The population mortality table used in both the MMWG Report and this report is based on population statistics that include people with HIV/AIDS. As a result, we can assume that any excess mortality due to the presence of HIV among the transfused cohort is adequately recognised in the population mortality table used.

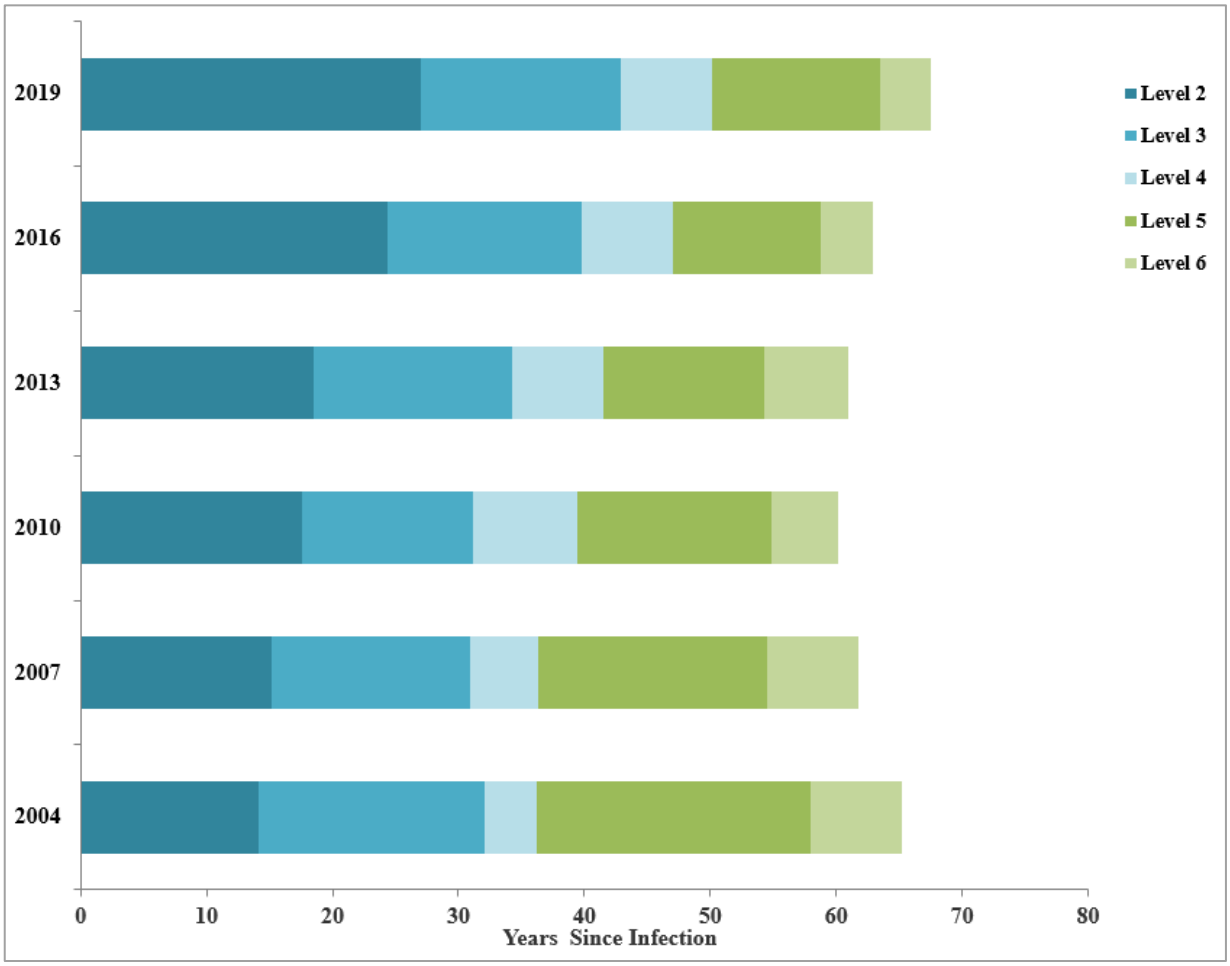
EXPECTED DURATION AT EACH LEVEL

101. Based on the disease progression rates, we can determine an average time spent within each disease level for people with HCV. This is based on time since infection and ignores normal mortality rates. If normal mortality rates were included, the actual time would be shorter.

102. Chart 102 shows the average number of years a person could be expected to spend at each of the disease Levels 2 to 6. Level 1 is not shown since it is considered to be recovered and the assumption is that no person at Level 1 will progress further in the disease. Similarly, those who have SVC/SVR are not shown as they are cured and are expected to advance very slowly in the disease (except at stage F4). This chart shows the expectancy based on the disease progression rates assumed in each of the 2004 to 2019 sufficiency reviews.

[2] The formula used is: 1 - EXP(1.92 * LN(1 - baseline probability)).

Chart 102 – Expected duration at each level under the MMWG Model 2004 – 2019



DATA ADJUSTMENTS APPLIED IN MMWG MODEL

103. The MMWG team apply adjustments to the observed data provided by the administrator. These adjustments appear to us to be due to the lag in the diagnosis of and reporting disease levels to the administrator.

104. Class members' actual disease levels are not the current level in all cases. A person may have advanced to a new level but is not yet aware of it due to not having visited their doctor or not having been diagnosed at the new level. A person may be aware of the change in level but may not yet have reported it to the Administrator. This would be particularly prevalent for changes from level 3 to level 4, since there is no additional compensation available at level 4 unless and until the person suffers a Loss of Income or Loss of Services in the home.

105. It appears to us quite reasonable that the MMWG would make such adjustments to the extent that they have information available to make these reclassifications. They discuss their adjustments on pages 20 to 23 of the MMWG Report. Failing to make these adjustments might result in a lower probability of transition between stages than may actually exist.

106. While we are not in a position to assess these adjustments, we believe that they probably make sense for purposes of determining transition probabilities and therefore result in more realistic transition probabilities than would be obtained in the absence of such adjustments.

107. However, these adjustments are not appropriate for use in the disease distribution of the class members for the actuarial valuation. The purpose of the valuation is to determine the present value of future benefit payments. If we did make similar adjustments as the MMWG, the timing and possibly the quantum of the future benefit payments would be affected. Consequently, we ignored the adjustments made by the MMWG to current disease levels.

EXCESS DEATHS DUE TO HCV

108. The Plan provides benefits to be paid to claimants whose death was "caused by his or her infection with HCV". In reviewing the past experience of the Plan, we noticed that the incidence of HCV-related deaths differed markedly from what the MMWG model predicted.

109. In particular, the MMWG model provides for death caused by HCV only at level 6. The claims experience indicates that there are many infected persons who die at other levels, including level 2, where the death is classified as caused by HCV. We refer to these as excess HCV deaths or excess HCV mortality.

110. We understand that there is a significant difference in the interpretation of the phrase "caused by" between a doctor and the legal profession. We believe that the MMWG model provides for death as a result of HCV where HCV had a material contribution to death. The administration of the Plan appears to allow for deaths to be classified as a result of HCV where HCV had a less than material contribution to the death. As a result, there are many claimants who are approved for family and dependant benefits where the MMWG model would not recognize the death being as a result of HCV.

111. This should not be construed as a criticism or failing of the MMWG model. There is nothing to suggest that the MMWG model fails to provide properly for HCV related death, based on the medical profession's definition of the term. The real issue is that we need to reconcile the MMWG model with the administration process and make allowance in the valuation for this difference in classification of deaths.

112. Based on Plan experience to date, about 43% of all post 1999 transfused deaths and 62% of all post 1999 haemophiliac deaths have been classified as being caused by HCV.

113. Effective with the 2007 valuation, we analysed the past experience of the Plan and created a mortality assumption for excess HCV related deaths. That assumption was retained for subsequent sufficiency reviews.

114. The analysis and development of the assumption can be found in the 2010 Morneau Shepell Sufficiency Report and is not repeated here.

115. It should be noted that the analysis looked at differences between:

    a. transfused and haemophiliac claimants;

    b. those co-infected with HIV and those not co-infected; and

    c. different age groups.

There was little statistically credible differences and so we determined it was appropriate to develop an assumption that does not vary between those classifications[3]. The only credible differences we found were between claimants at the various disease levels.

116. Since the MMWG model does not recognize any increase in mortality due to HCV infection except at level 6, we determined that we should make no changes to the MMWG assumptions. Further, we noted that the number of deaths from all causes at levels 1 to 5 is within a reasonable range of what would be expected based on the Canada Life Tables. We have therefore assumed that all deaths at levels 1 to 5 will be in accordance with the Canada Life Tables 2016-2018 but that we should allocate those deaths between HCV-related and not HCV-related.

117. Table 117a shows the number of HCV related and non-HCV related deaths at each level by age grouping. Table 117b shows the ratio of HCV related and non-HCV related deaths at each level by age grouping. For these tables, we analyzed only deaths occurring after 1999, so there is no overstatement from the pre-1999 deaths.

Table 117a – Number of HCV Related and Non-HCV Related Deaths, 1999 to 2019

		Disease Level						
Age		**1**	**2**	**3**	**4**	**5**	**6**	**Total**
0-30	HCV Death	0	1	0	1	4	9	15
	Non-HCV Death	3	7	3	1	0	1	15
30-45	HCV Death	0	2	11	0	10	47	70
	Non-HCV Death	15	12	19	2	6	3	57
45-60	HCV Death	0	0	9	3	21	137	170
	Non-HCV Death	30	42	36	9	10	12	139
60-75	HCV Death	0	6	9	7	41	190	253
	Non-HCV Death	55	81	33	11	22	5	207
75-110	HCV Death	0	11	7	5	31	182	236
	Non-HCV Death	143	201	43	10	21	7	425
Totals	**HCV Death**	**0**	**20**	**36**	**16**	**107**	**565**	**744**
	Non-HCV Death	**246**	**343**	**134**	**33**	**59**	**28**	**843**
	Total	**246**	**363**	**170**	**49**	**166**	**593**	**1,587**

[3] In looking at possible variances by haemophiliac status, age and co-infection status, the level 6 deaths were largely ignored since most of them are expected under the medical model and are not excess HCV deaths. We also ignored Level 1 deaths since they are cured and presumably have no liver damage due to HCV.

Table 117b – Ratio of HCV Related and Non-HCV Related Deaths, 1999 to 2019

		Disease Level						
Age		1	2	3	4	5	6	Total
0-30	HCV Death	0%	12%	0%	50%	100%	90%	50%
	Non-HCV Death	100%	88%	100%	50%	0%	10%	50%
30-45	HCV Death	0%	14%	37%	0%	62%	94%	55%
	Non-HCV Death	100%	86%	63%	100%	38%	6%	45%
45-60	HCV Death	0%	0%	20%	25%	68%	92%	55%
	Non-HCV Death	100%	100%	80%	75%	32%	8%	45%
60-75	HCV Death	0%	7%	21%	39%	65%	97%	55%
	Non-HCV Death	100%	93%	79%	61%	35%	3%	45%
75-110	HCV Death	0%	5%	14%	33%	60%	96%	36%
	Non-HCV Death	100%	95%	86%	67%	40%	4%	64%
Totals	**HCV Death**	**0%**	**6%**	**21%**	**33%**	**64%**	**95%**	**47%**
	Non-HCV Death	**100%**	**94%**	**79%**	**67%**	**36%**	**5%**	**53%**

118. During the 2016 sufficiency review, we noted that the number of excess HCV deaths during the prior three years had been less than we expected based on analysis of deaths prior to 2013. We asked the administrator whether there has been a change in adjudication practices that could account for this difference from past experience and were advised that there were no changes. We noticed that the pattern of fewer than expected excess HCV deaths had continued over the past three years. Consequently, we reviewed the overall and the more recent experience of excess HCV deaths. We have made a number of adjustments to the ratio of HCV related and non-HCV related deaths for the 2019 sufficiency review.

119. The MMWG model provides for HCV related death at level 6 only. Therefore, it is important to remember that we expect a large number of HCV related deaths at level 6. We also expect some non-HCV related deaths at level 6, since there are other causes of death that may affect even the most serious case of HCV. Prior to 2013, the MMWG model made provision for that, but with effect from the 2013 model, the MMWG have assumed that all deaths at level 6 will be as a result of HCV. What the MMWG model does not do is provide for HCV related deaths at levels 1 to 5.

120. With the expectation that the number of cured claimants would increase significantly, as part of the 2016 review, we discussed, along with Eckler, what effect SVC and SVR might have on the excess HCV mortality. Medical experts advised us that while excess HCV deaths will likely be less for a person cured, they will not disappear. The following factors will influence the rate:

    a. any damage done by the disease is not undone by virtue of being cured and it will persist for the balance of life;

    b. any other diseases the claimant has will remain and any effect on that disease(s) from HCV will likely continue to affect the person for some time; and

c. recovery time from the effects of HCV for most claimants is likely to be a few months at level 3 to a few years at level 5 with some claimants at level 5 and almost all at level 6 possibly never having a complete recovery from the effects of HCV.

121. We decided to make separate assumptions for excess HCV mortality based upon whether the claimant has and has not cleared the virus.

122. Table 124 provides the percentage of the deaths based on the Canada Life Table that we will consider as being as a result of HCV. The rest of the deaths based on the Canada Life Tables will be considered as non-HCV related. At levels 4 and 5, the percent of deaths related to HCV have been reduced from the assumption used in 2016.

123. Using this assumption for excess HCV mortality does not change any of the MMWG population projections other than to take a percentage of the non-HCV related deaths and reclassify them as being as a result of HCV. The total number of deaths projected by the MMWG model in their Table 14, and in particular, the total number of HCV related deaths resulting from the MMWG mortality assumption at level 6 remains unchanged.

124. For example, assume for a particular group that the MMWG model projects 25 HCV related deaths and 75 non-HCV related deaths by 2040. This excess HCV related mortality assumption would apply to the 75 non-HCV related deaths and reclassify some of them. This might result in an additional 30 HCV related deaths with 45 remaining as non-HCV related. We will still have 100 total deaths and we will still have 25 HCV related deaths resulting from the HCV related mortality assumption within the MMWG model at level 6.

Table 124 – Assumption for Percentage of Deaths Classified as HCV-Related

	Disease Level					
	1	2	3	4	5	6
Claimants who have not cleared the virus						
HCV Death	0%	5%	25%	35%	50%	100%
Non-HCV Death	100%	95%	75%	65%	50%	0%
Claimants who have cleared the virus						
HCV Death	0%	0%	5%	20%	35%	100%
Non-HCV Death	100%	100%	95%	80%	65%	0%

6. HEPATITIS C CLAIMANT COHORT

In This Section, we....

- develop our assumptions about the number of future unknown claimants,
- discuss the assumed distribution of claimants by disease level, HIV co-infection and for deceased claimants, cause of death, and
- develop our assumptions about the expected number of approved claimants under the Late Claims Benefits Plan.

125. Both the benefits under the Plan and the assumptions for disease progression differ between transfused and haemophiliac claimants. Therefore, we have separated the claimants into two cohorts, transfused and haemophiliacs.

126. As of the valuation date, the first claims deadline (30 June 2010) has passed and there is now only limited opportunity for a person to file a claim under the Settlement Agreement[4]. Two Court Approved Protocols for the adjudication and approval of claims submitted after 30 June 2010 (CAP1 and CAP2) have been adopted since 2010.

127. The claimant cohort eligible for Special Distribution Benefits is the same as those eligible for the Regular Benefits. A person who is ineligible to file a claim under the Settlement Agreement may be eligible to file under the Late Claims Benefits Plan. A separate set of cohorts for the Late Claims Benefits Plan is summarised in paragraphs 146 to 154.

128. The ultimate number of claimants is unknown and assumptions are required about the number and disease stage of the future claimants (the "unknown" claimants). There are some claims that have been previously submitted that are still under review and for which a decision about approval has not yet been made. There will likely be some additional claims made under the provisions for late claims under the Regular Benefit Plan.

129. Morneau Shepell and Eckler held a number of conference calls during which the expected number of future approvals were discussed, input from the Joint Committee was provided, and agreement was reached on the size of the expected unknown claimant cohort. This section discusses the rationale used by both actuaries in setting the assumed number and characteristics of the unknown claimant cohort.

130. The known claimants are a fact. The key assumptions required about the claimant cohort are:

    a. Number of unknown (future) claimants;

    b. Timing of the filing of their claims;

    c. Approval rate for acceptance into the Class;

    d. Status at the time of approval (whether they are alive, deceased prior to 1999, deceased since 1 January 1999 and whether death was as a result of HCV);

[4] To be accepted after 30 June 2010, the claim must be made within one year of the person attaining his or her age of majority; or the claim must be made within three years of the date the person first learned of his or her infection and the court grants leave to apply for compensation. For a secondarily infected person, the claim must be filed within 3 years of the date the primarily infected person's claim was filed.

e. Disease stage of their illness at the time their claim is filed.

131. That information is known for the existing claimants. The following discusses the assumptions made with respect to the unknown claimants.

UNKNOWN CLAIMANTS – REGULAR BENEFITS PLAN

132. There are 12 claims for transfused claimants and no claims for haemophiliac claimants that have been filed and for which neither approval nor denial has been issued as of 31 December 2019. It is likely that some of these claims will be approved in the future.

133. In addition to these pending claims, there will continue to be some new claims filed in the future that will be adjudicated as late claims. We have assumed that there will be a total of 71 claims filed in the future from transfused claimants and 6 from haemophiliacs.

134. Together, these claims form what is referred to as the unknown claimants. While we have data from the Administrator for all of the pending claims, the information that would be of use in the valuation is sparse. Consequently, there is little or no value to using the pending claim data as a basis for the unknown claimants.

135. The proportion of claims submitted that are eventually approved has varied over the years the Plan has been operating. Since 2010, the approval rate has averaged about 52% of submitted claims for transfused claimants and about 82% for haemophiliacs. We have assumed that future approval rates of 50% for transfused and 100% for haemophiliac claimants will apply.

136. In total, we have assumed that there will be 44 unknown transfused claimants approved and 6 unknown haemophiliac claimants approved.

Classification of the Unknown Claimants

137. We have allocated the total unknown claimants based on the distribution of the claims approved over the past six years (ignoring pre 1999 deaths).

a. For the transfused claimants, this resulted in an unknown cohort of 28 alive claimants, and 8 who died after 1998 from non-HCV causes and 8 who died after 1998 as a result of HCV.

b. For the haemophiliac claimants, 5 are assumed to be alive and 1 post 1998 death as a result of HCV.

138. We assumed that the unknown transfused and haemophililac claimants will be distributed by disease level based on the distribution of transfused claimants approved over the past six years with the alive, deceased after 1998 from HCV and from non-HCV distributions separate.

139. These classifications are reflected in Table 142a and Table 142b – Cohort Size below.

ASSUMED CLAIMANT COHORT – REGULAR BENEFITS PLAN

140. Tables 142a and 142b show the distribution of claimants by level based on the administrator's data for the known cohort and the assumptions outlined above for the unknown cohort. We have adjusted the claimants at level 3 to split them between stages F1 and F2. The MMWG allocated 50% of the level 3 claimants to each of those disease stages and we have done the same.

141. The MMWG made some additional adjustments for disease stages based on their analysis of the data. While those adjustments likely improved the accuracy of the data for the purposes of modelling the disease, they are not appropriate for estimating the future financial liability of the fund (see discussion at paragraphs 103 to 107). We have therefore ignored the additional data changes made by the MMWG.

142. The following summarizes the assumptions regarding cohort size.

Table 142a – Cohort Size – Transfused Claimants - 2019

Disease Level	Disease Stage	Known Claimants	Unknown Claimants	Total
Alive Claimants				
1	F0 – RNA-	447	1	**448**
2	F0 – RNA+	716	6	**722**
3	F1	449	7	**456**
3	F2	449	7	**456**
4	F3	162	1	**163**
5	Cirrhosis	169	3	**172**
6	Decompensated	30	3	**33**
6	Extrahepatic	26	0	**26**
6	Transplant	13	0	**13**
6	HCC	15	0	**15**
Total Alive		**2,476**	**28**	**2,504**
Deceased				
Died before 1999		185	0	**185**
Died after 1998 - non HCV		757	8	**765**
Died after 1998 - HCV		581	8	**589**
Total Deceased		**1,523**	**16**	**1,539**
Total Transfused Cohort		**3,999**	**44**	**4,043**

Table 142b – Cohort Size – Haemophiliac Claimants - 2019

Disease Level	Disease Stage	Known Claimants	Unknown Claimants	Total
Alive Claimants				
1	F0 – RNA-	139	1	**140**
2	F0 – RNA+	130	1	**131**
3	F1	157	1	**158**
3	F2	157	1	**158**
4	F3	74	0	**74**
5	Cirrhosis	89	0	**89**
6	Decompensated	27	1	**28**
6	Extrahepatic	9	0	**9**
6	Transplant	7	0	**7**
6	HCC	17	0	**17**
Total Alive		**806**	**5**	**811**
Deceased				
Died before 1999		302	0	**302**
Died after 1998 - non HCV		99	0	**99**
Died after 1998 - HCV		163	1	**164**
Total Deceased		**564**	**1**	**565**
Total Cohort		**1,370**	**6**	**1,376**

143. The following summarizes the known alive claimants by age band.

Table 143a – Age Distribution of Known Alive Claimants – Transfused Claimants - 2019

Age	2019 Disease Level						Total
	1	2	3	4	5	6	
Under 20	0	0	0	0	0	0	**0**
20 – 34	28	37	101	10	7	5	**188**
35 – 49	40	44	106	10	13	5	**218**
50 – 64	163	184	398	66	68	31	**910**
65 – 79	118	155	213	56	55	32	**629**
80 – 94	71	182	65	18	25	10	**371**
95 – 109	27	109	15	2	1	1	**155**
110 +	0	5	0	0	0	0	**5**
Total	**447**	**716**	**898**	**162**	**169**	**84**	**2,476**

Table 143b– Age Distribution of Known Alive Claimants – Haemophiliac Claimants - 2019

Age	2019 Disease Level						Total
	1	2	3	4	5	6	
Under 20	0	1	0	0	0	0	**1**
20 – 34	3	3	4	1	0	0	**11**
35 – 49	68	45	125	22	29	8	**297**
50 – 64	44	53	127	33	46	28	**331**
65 – 79	17	14	51	16	13	19	**130**
80 – 94	7	12	6	1	1	5	**32**
95 – 109	0	2	1	1	0	0	**4**
110 +	0	0	0	0	0	0	**0**
Total	**139**	**130**	**314**	**74**	**89**	**60**	**806**

144. Under the transfused cohort disease level 2, 16% of the known alive claimants are age 95 and over (if we include age 80 and up, the figure is 41%). It is probable that not all of these claimants are still alive however, the administrator is not notified of their death on a timely basis as there are no additional benefits payable from the Fund on their death. In the 2019 review, we were notified of a significant number of level 1 and level 2 deaths that preceded the date of our 2016 review. In our opinion, there are likely many claimants (not just those over age 80) that are assumed to still be alive but who are actually deceased. That will result in the liabilities being overstated.

145. The following summarizes, by age and disease Level 3 to 6, the percentage of known alive claimants that are in receipt of Loss of Income / Loss of Support benefits as at 31 December 2019.

Table 145a – Loss of Income / Loss of Support of Known Alive Claimants – Transfused Claimants - 2019

Age	2019 Disease Level				Total
	3	4	5	6	
Under 20	0.0%	0.0%	0.0%	0.0%	**0.0%**
20 – 34	2.0%	20.0%	57.1%	40.0%	**8.1%**
35 – 49	3.8%	0.0%	23.1%	40.0%	**6.7%**
50 – 64	3.5%	36.4%	47.1%	64.5%	**16.0%**
65 – 79	7.0%	25.0%	52.7%	53.1%	**21.1%**
80 – 94	3.1%	22.2%	36.0%	50.0%	**16.9%**
95 – 109	0.0%	0.0%	100.0%	0.0%	**5.3%**
110 +	0.0%	0.0%	0.0%	0.0%	**0.0%**
Total	**4.1%**	**27.2%**	**46.2%**	**54.8%**	**15.6%**

Table 145b – Loss of Income / Loss of Support of Known Alive Claimants – Haemophiliac Claimants - 2019

Age	2019 Disease Level				Total
	3	4	5	6	
Under 20	0.0%	0.0%	0.0%	0.0%	**0.0%**
20 – 34	0.0%	100.0%	0.0%	0.0%	**20.0%**
35 – 49	0.8%	40.9%	44.8%	75.0%	**15.8%**
50 – 64	1.6%	54.5%	58.7%	78.6%	**29.5%**
65 – 79	7.8%	62.5%	53.8%	78.9%	**36.4%**
80 – 94	16.7%	100.0%	100.0%	100.0%	**61.5%**
95 – 109	0.0%	100.0%	0.0%	0.0%	**50.0%**
110 +	0.0%	0.0%	0.0%	0.0%	**0.0%**
Total	**2.5%**	**54.1%**	**53.9%**	**80.0%**	**26.8%**

CLAIMANT COHORT – LATE CLAIMS BENEFITS PLAN

146. Payments under the Late Claims Benefits Fund began in late 2019, but the vast majority of claimant applications and approved claim amounts remain under review or are yet to be processed for payment.

147. Adjudication for the Late Claims Benefits Plan is a two-step process. First, the applicant must provide evidence to support being permitted to proceed with a late claim. If approved, a claim is submitted and adjudicated using the same processes as for the Regular Benefits Plan.

148. As of June 2020, 1,594 infected persons and 335 family members of deceased claimants under the Regular Plan have registered a claim with the administrator. Most of those have received an application form with about 41% of the infected persons and about 56% of the family members having returned the application. The Referees have approved 466 (about 85%) of infected persons and 165 (98%) of family member applications which permits them to proceed to the second step – a formal claim submission to the Plan.

149. Less than half of the infected persons who were approved at step one had submitted a claim package for step two by June 2020. 33% of those have been approved and 67% denied. Correspondingly, most of the family members approved at stage one have submitted a claims package for step two and about 80% of them were approved.

150. We have assumed that about 7% of infected persons who register a claim and about 62% of family members who register a claim will eventually be approved as a class member of the Late Claims Benefits Plan.

151. For the Late Claims Benefits Plan, we have made a best estimate assumption of 114 approved infected claimants and 228 approved family members. We have made a provision for adverse deviation assumption of 134 approved infected claimants and 238 approved family members.

152. Applying the above assumptions results in an expectation of:

Table 152 – Summary of Claimant Cohort - Late Claims Benefits Plan

		Infected Claimants		Family Members	
		Transfused	Haemophiliac	Transfused	Haemophiliac
(a)	Approved Claimants as of 30 June 2020	21	1	110	13
(b)	Current Stage 2 Claimants	109	6	10	1
(c)	Stage 1 Claimants assumed to proceed to Stage 2	120	7	51	6
(d)	Future applications assumed to reach Stage 2	20	1	33	4
(e)	Stage 2 approval rate	35.00%	35.00%	99.00%	99.00%
	Assumed approved cohort (a) + [(b) + (c) + (d)] x (e)	**108**	**6**	**204**	**24**

Classification of Unknown Claimants under the Late Claims Benefits Plan

153. We have assumed that the approved late claimants will be distributed in a similar manner to the unknown claimants under the Regular Benefits Plan.

154. We have assumed that out of the 228 approved family member claims there will be 8 with a loss of service or loss of support claim.

7. ASSETS

PLAN FUNDING

In This Section, we....

- summarize the Plan's funding principles,
- show the Plan's assets by type of investment,
- summarize past investment performance, and
- show the allocation of the Fund between the Regular Benefits Account, the Special Distribution Benefits Account and the LCBP Account.

155. Funding of the Plan is shared between the federal and provincial/territorial governments. The federal government has paid its full share of $846,327,527 (8/11^{ths} of the total).

156. The provincial/territorial governments pay their share (initial amount of $323,995,909 as of 22 October 1999) as benefits and expenses are paid, with an optional prepayment provision. Any unpaid balance grows with interest based on three-month Treasury-bill rates.

157. The invested assets are invested primarily in real return bonds, with a lesser portion invested in equities, bonds, and short-term securities.

158. The assets are split between a long-term fund, a short-term fund and a notional fund. The main investments of the fund are made through the long-term fund. The short-term fund is used as the source of assets to pay benefits. As benefits are paid, the short-term fund is replenished by a transfer from the long-term fund as necessary. The notional fund represents the contributions owing from the provincial/territorial governments.

ACCOUNTS

159. With effect from 1 January 2014, the assets of the Plan were split into three sub-funds. The sub-funds are comingled for purposes of investing, but all cash flows and investment income are accounted for separately.

    a. The Regular Benefit Account holds all of the assets for benefits under the Regular Benefits Plan, which includes most of the invested assets and all of the notional assets.

    b. The Special Distribution Benefits Account holds the assets for payment of the Special Distribution Benefits.

    c. The Late Claims Benefits Account holds the assets for payment of the Late Claims Benefits.

SUMMARY OF PLAN ASSETS

160. In Table 160, we have shown the total asset information taken directly from the Eckler Investment Summary Report as of 31 December 2019, adjusting the market value of assets to reflect the provision for accruals as indicated in the audited financial statements prepared by Deloitte LLP. These amounts are the totals of all three Accounts.

Table 160 – Summary of Total Assets as of 31 December 2019 and 2016

Description	Assets at 31 Dec 2019	Percent of Invested Assets	Percent of Total Assets	Assets at 31 Dec 2016
	($'000s)	(%)	(%)	($'000s)
Invested Assets				
Real Return Bonds	806,095	77.8	71.3	861,509
Bonds	61,988	6.0	5.5	58,161
Canadian Equity	0	0.0	0.0	75,156
U.S. Equity	0	0.0	0.0	51,192
International Equity	149,744	14.4	13.2	37,100
Cash and short term	573	0.1	0.1	613
Long Term Fund Total	1,018,400	98.3	90.1	1,083,731
Short Term Fund*	17,360	1.7	1.5	52,125
Total Invested Assets	1,035,760	100.0	91.6	1,135,856
Notional Assets				
Provincial/Territorial Obligation[5]	92,553		8.4	123,623
Total Plan Assets	**1,128,313**		**100.0**	**1,259,479**

* Net of provision for accruals.

CHANGES IN ASSETS 2017 TO 2019

161. The information in Table 161 is taken from the audited financial statements prepared by Deloitte LLP where the changes in total assets during the three-year period 2017 to 2019 are summarized. These amounts are the totals of all three Accounts. The notional assets have been taken from the Eckler Investment Summary Report.

[5] As of 31 December 2019, Yukon has prepaid $12,000 of their obligation. These prepayments are shown as an invested asset.

Table 161 – Changes in Assets – 2017 to 2019

	Invested Assets	Notional Assets	Total Regular Benefit Account	Special Distribution Benefits Account	LCBP Account
	($'000s)	($'000s)	($'000s)	($'000s)	($'000s)
Assets at 31 Dec 2016	**901,533**	**123,623**	**1,025,156**	**185,750**	**48,573**
Provision for accruals	(8,580)	0	(8,580)	0	0
Provincial contribution	34,868	(34,782)	86	0	0
Investment income	78,295	3,712	82,007	9,075	4,593
Benefit payments	(111,968)	0	(111,968)	(94,295)	(2,189)
Expenses	(6,338)	0	(6,338)	(1,016)	(2,541)
Assets at 31 Dec 2019	**887,810**	**92,553**	**980,363**	**99,514**	**48,436**

PAST INVESTMENT RETURNS

162. Past investment returns are summarized in Table 162 based on information contained in the Eckler Investment Report for 2019 and for prior years.

Table 162 - Investment Returns – 2010 to 2019

Year	Invested Assets	Notional Assets	Combined
	(%)	(%)	(%)
2010	8.9	0.5	7.5
2011	11.4	0.9	9.8
2012	3.8	0.9	3.4
2013	(2.8)	1.0	(2.3)
2014	13.6	0.9	11.9
2015	2.6	0.6	2.4
2016	4.5	0.5	4.1
2017	2.4	0.7	2.3
2018	(0.6)	1.2	(0.4)
2019	7.3	1.7	6.8

163. The 2016 valuation assumed that the total assets would earn a best estimate return of 3.40% per annum after investment management fees (which includes 2.25% to cover expected inflation). The assumption including a provision for adverse deviations was a return of 3.15%. During the three-year period, inflation averaged 1.89% per annum.

164. The actual average return of the total fund over the past three years was 2.9% per annum and 1.0% per annum net of inflation.

165. The investment return over the past three years was less than assumed in the 2016 review and consequently the fund suffered a loss.

EFFECT OF INVESTMENT RETURN ON PLAN SURPLUS

166. With the Plan assets invested in the equity and bond markets, rates of return will fluctuate over time. An obvious source of fluctuating returns will be the equity investments, which are subject to the volatility of the capital markets. This will give rise to capital gains and losses. The overall effect on the fund will be minor since the equity investments are a small portion of the fund.

167. The major component of fluctuating returns will likely be from changes in the rate of return expectations of bond investors, primarily as this affects the real return expectations. When interest rates decrease, the market value of bonds will increase. Over the 2001 to 2012 period, we saw a gradual and steady decline in real interest rates, with the result that the real return bond assets increased in value from the resulting capital gains.

168. During 2013, real interest rates rose slightly and that resulted in a capital loss on the real return bonds in the portfolio.

169. That was reversed in 2014 with a decrease in real interest rates and a large investment gain on the real return bonds. In 2015 and 2016, the real rate of return fluctuated between a low of 0.1% and 0.8%, finishing 2016 at about 0.6%.

170. Since the beginning of 2017 to the end of 2019, real interest rates declined from 0.6% to 0.3%.

171. Because of the nature of the Plan assets and the Plan liabilities, any increase in assets due to declining real interest rates should be offset by an increase in liabilities. The converse is also true. If interest rates increase, the Plan assets should suffer capital losses, such that they will be offset by a decrease in the Plan liabilities.

172. However, that is only true if:

    a. the investments are designed so the future investment cash flows approximately match the expected future cash flows of the benefits to be paid; and

    b. the discount rate utilised for a sufficiency review is adjusted each review to approximately follow the movement of the yield on the real return bonds.

173. If the discount rate is not adjusted in line with changes in the yield on real return bonds, then large gains and losses are likely to develop and there could be significant fluctuations in the excess assets from review to review.

174. Virtually all of the Plan benefits are subject to inflation increases. As long as the amount of Plan assets invested in real return bonds equals or exceeds the Plan liabilities (including future expenses), and the portfolio is periodically adjusted so that cash flows of the assets match those of the liabilities, future changes in inflation will have no or very little effect on the Plan's financial position.

175. In early 2013, the assets were restructured to approximately match the liabilities. However, with the advances in treatment therapies, the expected future benefits changed significantly by the end of 2013. By the end of 2016 and again as at the end of 2019, the expected future benefits have again changed significantly. During the past three years, the real return bonds were rebalanced to shorten the duration in order to more closely match the future cash flows expected from the 2016 sufficiency review. However, the unallocated surplus was also considered and the result is that the real return bonds by

themselves, do not match the liabilities. Consequently, there could be future mis-matching of the assets and liabilities producing gains or losses.

176. With assets matching liabilities, we expect losses on assets to be roughly offset by gains on liabilities, and vice versa. However, recent asset changes did not offset the changes in the liabilities, but rather both assets and liabilities experienced a loss due to changes in the interest rate. Unless there is an adjustment to the real return bonds to bring them into a match with liabilities, the risk to the fund from interest rate changes will remain.

8. FINANCIAL RESULTS – REGULAR BENEFITS

In This Section, we....

- discuss the appropriate use of best estimate assumptions, and the importance of making a provision for adverse deviations in the liabilities,
- set out the present value of future compensation payments and administration expenses;
- present a summary of the overall financial position of the Regular Benefits Plan;
- discuss the amount of provision for adverse deviations that is reasonable; and
- review the experience gains and losses over the past three years.

177. The valuation model used in calculating these liabilities is discussed in Appendix C. Essentially, the model projects the disease progression of Hepatitis C for each person based upon the annual probabilities for transition through the various stages of the disease. These probabilities were taken from the MMWG report and are summarized, along with all of the actuarial assumptions used, in Appendix D – Summary of Actuarial Assumptions.

178. In this report, we show results on a best estimate basis as well as results including a provision for adverse deviations.

179. The best estimate results are based on actuarial assumptions that in our opinion represent the most likely expectation for the future. This means that there is approximately a 50% chance that future experience will be better than the assumption and a 50% chance that it will be worse. In this way, the resulting best estimate actuarial liabilities represent the amount of assets required so there is approximately a 50% chance of having too much funds and a 50% chance of having too little funds.

180. It is neither appropriate nor prudent to assess the sufficiency of the Fund using best estimate assumptions. Since there is an agreement that no additional monies will be provided to the Fund by the governments, it is prudent to assess the financial sufficiency of the Fund utilizing a basis that has a greater chance than 50% of having sufficient assets to pay all future benefits. This is done through the use of conservatism in the actuarial assumptions. Conservatism is introduced through the use of assumptions that represent the best estimate for the future *plus* a provision for adverse deviations. While it is possible that actual experience differing from our best estimate may be positive (reducing the Plan liabilities), this should not be recognized until such time as a positive deviation has occurred.

181. The use of best estimate results together with results including a provision for adverse deviations permits the user of this report to assess the level of conservatism inherent in the results and therefore gain an insight into the resulting level of conservatism. Ultimately, it is an issue of individual judgement as to the amount and degree of provision for adverse deviations that is prudent to recognize, having regard to the interest of all parties to the Settlement Agreement.

182. The financial results presented herein are based on assumptions about the future. Actual future experience is unlikely to develop exactly as projected using the assumptions. Differences will be revealed in subsequent reviews.

183. The following tables summarize our results by benefit. The results obtained by Eckler are, from a materiality perspective, essentially the same.

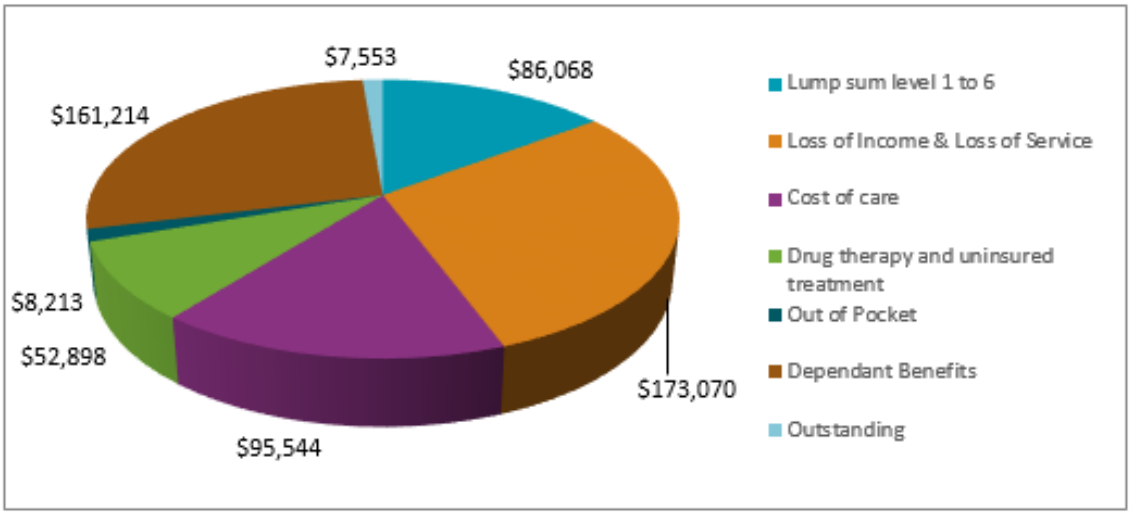
Table 183a – Transfused - Results as at 31 December 2019 – Regular Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	654	0.2	654	0.2
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	1,190	0.4	1,190	0.3
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	6,329	2.2	7,601	2.1
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	13,352	4.7	21,319	5.8
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	22,140	7.8	31,585	8.6
4.01(3)(a)	Loss of income- non-bridging fibrosis	3,369	1.2	3,413	0.9
4.01(3)(b)	Loss of services- non-bridging fibrosis	10,702	3.7	10,787	2.9
4.02	Loss of income	18,414	6.5	22,993	6.2
4.03	Loss of services	54,901	19.2	71,719	19.5
4.04	Cost of care	50,832	17.8	63,821	17.3
4.05	HCV drug therapy	340	0.1	391	0.1
4.06	Uninsured treatment - HCV treatment drugs	20,376	7.1	35,712	9.7
4.06	Uninsured treatment – non-HCV treatment drugs	3,100	1.1	3,137	0.9
4.07	Out-of-pocket expenses	2,859	1.0	4,478	1.2
4.08	HIV secondarily infected	0	0.0	0	0.0
	Alive claimants subtotal	**208,558**	**73.0**	**278,800**	**75.7**
	Pre-1999 deaths				
5.01	– Lump sums	0	0.0	0	0.0
5.01(1)	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	62	0.1	62	0.1
6.01(2)	– Loss of Services	4,149	1.4	4,222	1.1
	Pre-1999 deaths sub total	**4,211**	**1.5**	**4,284**	**1.2**
	Post-1999 deaths (pre-deceased and future deaths)				
5.02	– Funeral	1,628	0.6	2,017	0.5
6.01(1)	– Loss of Support	6,413	2.2	7,796	2.1
6.01(2)	– Loss of Services	40,869	14.3	46,993	12.8
6.02	Loss of Care and Guidance	19,581	6.9	24,260	6.6
	Post-1999 deaths sub total	**68,491**	**24.0**	**81,066**	**22.0**
	Outstanding Payments	4,189	1.5	4,189	1.1
	Total	**285,449**	**100.0**	**368,339**	**100.0**

Table 183b – Haemophiliacs – Results as at 31 December 2019 – Regular Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	74	0.0	74	0.0
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	149	0.1	149	0.1
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	1,164	0.6	1,471	0.7
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	5,112	2.7	7,712	3.6
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	10,764	5.8	14,239	6.6
4.01(3)(a)	Loss of income- non-bridging fibrosis	707	0.4	769	0.4
4.01(3)(b)	Loss of services- non-bridging fibrosis	1,888	1.0	1,975	0.9
4.02	Loss of income	19,827	10.7	21,694	10.0
4.03	Loss of services	36,273	19.6	39,720	18.3
4.04	Cost of care	26,531	14.3	31,723	14.7
4.05	HCV drug therapy	92	0.0	112	0.1
4.06	Uninsured treatment - HCV treatment drugs	5,900	3.2	10,637	4.9
4.06	Uninsured treatment – non-HCV treatment drugs	2,885	1.5	2,909	1.3
4.07	Out-of-pocket expenses	2,512	1.3	3,735	1.7
4.08	HIV secondarily infected	74	0.0	74	0.0
	Alive claimants subtotal	**113,952**	**61.2**	**136,993**	**63.3**
	Pre-1999 deaths				
5.01	– Lump sums	0	0.0	0	0.0
5.01(1)	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	4,882	2.6	4,936	2.3
6.01(2)	– Loss of Services	12,265	6.6	12,536	5.8
	Pre-1999 deaths sub total	**17,147**	**9.2**	**17,472**	**8.1**
	Post-1999 deaths (pre-deceased and future deaths)				
5.02	– Funeral	785	0.4	899	0.4
6.01(1)	– Loss of Support	8,284	4.4	9,343	4.3
6.01(2)	– Loss of Services	30,604	16.5	34,208	15.9
6.02	Loss of Care and Guidance	12,175	6.5	13,942	6.4
	Post-1999 deaths sub total	**51,848**	**27.8**	**58,392**	**27.0**
	Outstanding Payments	3,364	1.8	3,364	1.6
	Total	**186,311**	**100.0**	**216,221**	**100.0**

Chart 183c – Best Estimate Results Including Provision for Adverse Deviations as at 31 December 2019 – Regular Benefits ($'000s)



184. In addition to compensation payable to HCV claimants, the Regular Benefits Account must also cover the expenses of the Joint Committee, the administrator and various consultants and other parties. The annual amount of these expenses is detailed in Section 13 – Actuarial Assumptions. We have used the same expected annual fee amounts for both best estimate and provision for adverse deviation calculations. The differences in liabilities are due solely to the discount rates. Expenses related to investment management are not included in this section as they are implicitly recognized in the investment rate of return.

185. The present value of the future expected expenses is as follows:

Table 185 – Present Value of Future Expenses – Regular Benefits

Future Expenses	Best Estimate	Provision for Adverse Deviations
	($'000s)	($'000s)
Accounting and expert testimony and assistance	554	576
Actuarial	10,488	10,891
Administration	15,901	16,523
Arbitrators/Referees	547	569
Audit	2,580	2,683
Fund Counsel	2,190	2,277
Joint Committee	29,106	30,243
Medical Modelling	1,796	1,867
Monitor	1,109	1,153
Software Development	277	288
Total	**64,548**	**67,070**

HIV PROGRAM

186. In addition to the HCV benefits, the Fund is also responsible for making benefit payments under the HIV Program of $240,000 to each eligible claimant. This results in a best estimate liability of $409,000 and a provision for adverse deviations liability of $414,000 for the HIV Program.

FINANCIAL POSITION OF THE PLAN

187. Table 187 presents a summary of the overall financial results of the Plan together with comparative liabilities from 2016. Our 2019 results are similar to those of Eckler.

Table 187 – Summary of Financial Results – Regular Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	980,363	1,025,156	980,363	1,025,156
Liabilities				
▪ Transfused	285,449	311,277	368,339	402,628
▪ Haemophiliacs	186,311	215,306	216,221	258,017
▪ HIV Program	409	820	414	830
▪ Future Expenses	64,548	58,603	67,070	60,907
Total Plan Liabilities	536,717	586,006	652,044	722,382
Fund Surplus	**443,646**	**439,150**	**328,319**	**302,774**
Additional buffer against catastrophic events			130,409	108,357
Excess Assets			**197,910**	**194,417**

188. The difference in the total liabilities with provision for adverse deviations compared to the total best estimate liabilities is a measure of the degree of conservatism included in the results. The provision for adverse deviations for 2019 is about 21% greater than the best estimate liabilities. As at 31 December 2016, it was about 23% greater than the best estimate liability.

189. With the passage of time, the degree of uncertainty about many of the assumptions, (such as the ultimate cohort size, claiming patterns, and disease progression) is reduced. With lower uncertainty, the provision for adverse deviations should also decrease.

190. With the 2013 review, the introduction of new drugs with their high efficacy had increased the uncertainly for items that are related to treatment. We had very limited data about the cost of the new drug treatments, the degree to which provincial health plans and private insurance would contribute toward the cost, the actual efficacy of the various drugs and the effect clearing the virus would have on disability benefits and excess HCV mortality. Nevertheless, we had to make assumptions about those items.

191. With the 2016 and 2019 review, a number of the uncertainties have been reduced while others remain unchanged. The cost of drug treatments, the degree to which provincial health plans and private insurance are contributing toward the cost and the efficacy of the drugs is clearer (however, there could still be a potential adverse deviation if provincial health plans change their reimbursement rules). Little experience has been observed to date on the effect of clearing the virus on disability benefits and excess HCV mortality. The cost of care benefit is subject to potentially large changes due to the severity of many claimants' illness at level 6 and variability from person to person in the financial quantum of their required assistance.

192. There are some other assumptions where we believe the degree of uncertainty has decreased to the point that very little provision for adverse deviations is warranted. Changes in the future unknown cohort size are unlikely to result in any material changes to the total liabilities for the Regular Benefits Plan.

193. While there are many other assumptions made in the course of this valuation, the rest of the assumptions have a relatively minor effect on the financial results.

194. About two-thirds of the liabilities are subject to a low degree of uncertainty and about one-third to a high degree of uncertainty. In our opinion, a 30% to 35% provision for adverse deviations for the liabilities for which there is a higher uncertainty and a 10% to 15% provision for adverse deviations for the liabilities for which there is a low degree of uncertainty is appropriate. Combined, that gives an overall provision for adverse deviations of about 18% to 22%.

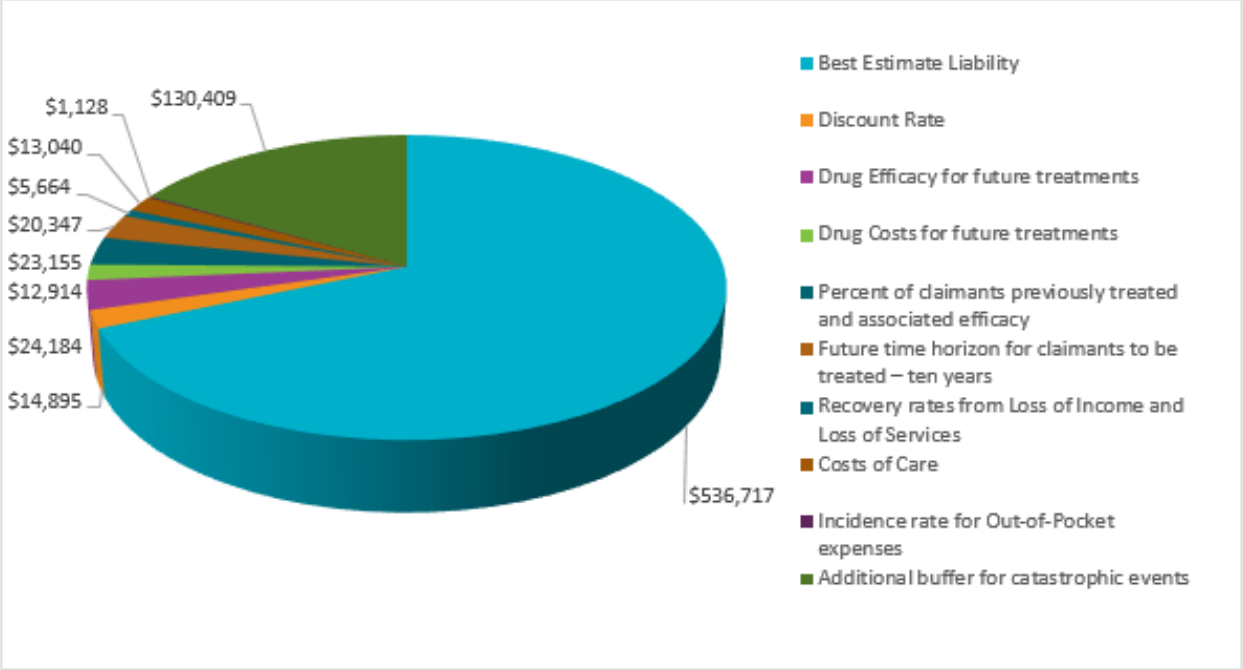
195. In our opinion, the overall average 21% provision for adverse deviations is appropriate for the 2019 sufficiency review.

196. Table 196 shows the development of the provision for adverse deviation liability starting from the best estimate and adding the various components of the provision. Chart 196 shows the relative size of these provisions.

Table 196 – Development of Provision for Adverse Deviations Liability – Regular Benefits

Item	2019	2016
	($'000s)	($'000s)
Best Estimate Liability	536,717	586,006
Discount Rate	14,895	18,036
Drug Efficacy for future treatments	24,184	29,133
Drug Costs for future treatments	12,914	16,209
Percent of claimants previously treated and associated efficacy	23,155	25,231
Future time horizon for claimants to be treated – ten years	20,347	27,063
Recovery rates from Loss of Income and Loss of Services	5,664	5,980
Costs of Care	13,040	11,480
Incidence rate for Out-of-Pocket expenses	1,128	3,244
Provision for Adverse Deviations Liability	**652,044**	**722,382**
Additional buffer for catastrophic events	130,409	108,357
Total Liability including Additional Buffer	**782,453**	**830,739**

Chart 196 – Amount of Provision for Adverse Deviations and Catastrophic Events



ADDITIONAL BUFFER AGAINST CATASTROPHIC EVENTS

197. The provision for adverse deviations recognizes that best estimate assumptions about the future may prove to be wrong and increases the confidence that the total liability including the provision for adverse deviations will be sufficient to meet emerging benefits as they become payable. It is not intended to cover catastrophic events that may occur. An additional buffer is required if it is considered appropriate to make a provision in case such events occur.

198. An additional buffer is not always necessary. There may be situations where insurance or guarantees are available to reduce the risk of insufficiency. With no available source of additional monies, in our opinion, the Fund is in a position where an additional buffer is appropriate.

199. Catastrophic events can be grouped into two categories - those that are reasonable to imagine occurring and those that are extremely remote. For example, if you were to flip a coin 100 times and had to pay out $1,000 for every head but you received $1,000 for every tail, your best estimate liability would be zero. (You would expect to flip 50 heads and thereby pay $50,000 and also flip 50 tails and receive $50,000). Adverse deviations would be any result that produced more heads than tails since that would give a result where you would have to pay. There is about an 86% probability that you will flip no more than 55 heads, or turning that around, about 14% of the time you will lose more than $10,000. That might be a reasonable assumption to make for determining a provision for adverse deviations.

200. Flipping more than 55 heads would quickly get you into the catastrophic territory – for example flipping 60 heads would result in a loss of $20,000. The probability of flipping 61 or more heads in 100 tosses is less than 1%. That could be taken as a reasonable basis to be used for an additional buffer for catastrophic events.

201. We reviewed the financial effect on the fund for three catastrophic events as well as an adjustment to the long-term future investment returns. These are:

    a. treatments no longer are viable and there are no future treatments;

    b. provincial and territorial health care plans no longer will reimburse claimants of the HCV Fund for any part of treatment drugs with the result that the Fund reimburses $75,000 for all future HCV treatments;

    c. 100% of claimants at level 6 incur a cost of care claim for the maximum amount ($74,370 in 2020 dollars); and

    d. future real investment returns are equal to the average yield on Government of Canada Real Return Bonds as of 31 December 2020 of 0.3% per annum.

Table 201 – Effect of Four Catastrophic Future Events

	a. No Future treatments	b. Future HCV Drug claims $75,000	c. 100% Claim Cost of Care for Max Amount	d. Future Real investment Returns of 0.3%
Increment over PFAD Liability	$160 million	$68 million	$ 142 million	$40 million
Percent Impact	27.5%	11.6%	24.2%	7.1%

202. We assumed that any of these events might occur over the next forty years and the financial effect on the fund would decline linearly to zero during that period. In each of those future years, we assumed that there is a 0.5% chance that future treatments will cease, 2.5% chance provincial and territorial governments will cease covering the HCV treatment drugs and 1.5% chance the cost of care benefit will become fully utilised. The current value of those future amounts was calculated (without any discounting for interest) and the $40 million for investments added. That resulted in a buffer for catastrophic events of $130 million, or 20% of the provision for adverse deviations liability.

203. It is unlikely that all those events will occur together and normally one would reduce the total result to reflect that. We have not made any such offset but rather assumed that the offset is roughly equal to the financial effect of other catastrophic events that we have not included in the analysis.

204. Eckler has determined a buffer by developing an HCV-specific framework for assessing the appropriate amount of additional assets estimated to be sufficient to meet reasonable catastrophic events. They refer to this buffer as “required capital”. Their approach is similar to that utilized in the insurance industry in Canada. The determination of the required capital attempts to look at catastrophic events and quantify the resulting cost. In our 2010 report, we provided commentary on that approach as it was used in 2010. We have had some discussions with Eckler about the basis they have used for 2019 and the results it produced.

205. Based on our discussions with Eckler and the amount of the additional buffer that Eckler has determined, we agree that the basis they used and the additional buffer they determined are reasonable.

ANALYSIS OF EXPERIENCE GAINS AND LOSSES

206. In the valuation as of 31 December 2016, we made assumptions about the future. During the past three years, actual experience has developed differently from those assumptions. This is normal and to be expected. It is good practice to review the sources of these experience gains and losses to identify where these differences occurred. Table 208 summarizes the various factors that resulted in a change in the fund surplus (based on the provision for adverse deviations) from 2016 to 2019.

207. The starting position for the analysis is the excess capital amount as ordered by the courts following the 2016 Allocation Hearings. A number of adjustments were made to that value to obtain the fund surplus as reported in our 2016 Sufficiency Report, including provision for adverse deviations.

    a. Because the analysis of change in surplus is conducted prior to any buffer (or the required capital), we added the Eckler required capital amount from 31 December 2016 to the surplus.

    b. We also adjusted the surplus for the difference between the Eckler reported fund surplus and the Morneau Shepell reported fund surplus from 31 December 2016. The resulting surplus of $302,774 is the surplus on a provision for adverse deviations basis from the 2016 Morneau Shepell Sufficiency Report.

208. The balance of the items in Table 208 (identified by letter) is discussed below at paragraph 211.

Table 208 – Change in Surplus from December 2016 to December 2019 – Regular Benefits

Description	($'000s)	($'000s)
Excess Capital as at 31 December 2016		176,497
Add required capital from 2016	133,166	
Adjust for difference between Eckler and Morneau Shepell PfAD liability	(6,889)	126,277
Fund Surplus at 31 December 2016 prior to additional buffer		**302,774**
a. Expected interest on Fund Surplus		29,523
Expected surplus at 31 December 2019 prior to additional buffer		**332,297**
Effect of Experience differing from assumptions		
b. Provision for accruals	(9,318)	
c. Loss on Investments other than for inflation	(241)	
d. Loss on Investments due to CPI increasing less than expected	(10,937)	
e. Pension index causing benefits to increase less than assumed	6,769	
f. Expenses less than assumed during 2016 to 2019	1,468	
g. Claims different than assumed from 2017 to 2019	32,675	
h. Cohort changes from 2017 to 2019	40,116	60,532
Effect of Changes in Assumptions		
i. Increase in future unknown cohort	(14,125)	
j. Reduction in the discount rate	(12,136)	
k. Changes to MMWG disease progression rates and model	(3,779)	
l. Change to assumptions about past and future treatment and efficacy rates	(69,350)	
m. Change in assumed average drug cost claims	15,884	
n. Change in assumed average cost of care claims	(16,197)	
o. Change in expected incidence for Loss of Support and Loss of Services claims following an HCV death	36,337	
p. Increased expectation for future expenses	(8,349)	
q. Gain (loss) from all other assumption changes	6,767	
r. Miscellaneous gains (losses)	438	(64,510)
Surplus at 31 December 2019		**328,319**

209. In total, the amount of surplus increased over the three years by approximately $25.5 million on a provision for adverse deviations basis.

210. Normally, we expect a mix of gains and losses. Over time, we would expect that the gains and losses based on the provision for adverse deviations will gradually produce a net gain equal to the difference

between the provision for adverse deviations liability and the best estimate liability – provided future experience on average is similar to the best estimate assumptions.

211. The following provides a brief explanation of the various components of the gains and losses shown in Table 208.

a. ***Interest on the Surplus:*** The surplus as at 31 December 2016 was part of the assets and as such was invested and earned investment income. This interest is the amount of interest that we would have expected to make on the surplus based on the provision for adverse deviations interest rate of 3.15% used in the 2016 sufficiency review.

b. ***Provision for accruals***: This is an adjustment to reconcile from a cash basis to an accrual basis, per the audited financial statements.

c. ***Loss on investments other than inflation***: Over the last 3 years, the real rate of return of the assets was slightly less than expected, resulting in a loss of about $0.2 million.

d. ***Loss on investments due to CPI increasing less than expected***: This looks at the impact of expected and actual inflation on the investment earnings of all the Fund's assets. Actual inflation was less than expected over the past three years and the inflationary increase in the value of assets was less than expected, giving a loss of about $11 million. This loss is partially offset by the gain due to changes in the pension index discussed in paragraph (211.e) below.

e. ***Gain from pension index***: The increases in the pension index during the past three years were less than expected causing benefits to increase less than assumed. This had a small impact on the benefits paid during the past three years. The bulk of this gain is due to lower amounts of future benefit payments as a result of the lower level of increases from 2017 to 2019. The net total impact of these changes was a gain of about $7 million.

f. ***Gain on expenses***: The actual expenses paid during the period 2017 to 2019 were about $1.5 million less than assumed in the 2016 review.

g. ***Claims paid different than assumed***: Benefits paid in the last 3 years, in particular for uninsured treatment and medication, were significantly lower than assumed. This resulted in a total gain of $32.7 million.

h. ***Cohort transitions different than assumed:*** The overall status of the 2019 cohort is more favorable than predicted by the 2016 cohort and assumptions used in the 2016 review. In total, this resulted in a net gain of about $40 million.

i. ***Increase in future unknown cohort***: The claimants approved in the past three years were about equal in number to all the future claimants that we assumed as unknown in the 2016 review. As a result, we have increased the number of unknown claimants for Regular Benefits, resulting in a loss of about $14 million from higher liabilities.

j. ***Change to the discount rate***: Future expected returns on investments have decreased since 2016 and the lower discount rate reflects the change in the future return expectations. When the discount rate decreases, the liabilities increase and vice versa. The effect of this change is a loss of about $12 million. In a fund with assets matching the liabilities, the effect of the gain or loss from assets would be offset by the effect of the change to the discount rate. That did not happened in this situation.

k. ***Change to disease progression rates***: The future disease progression rates reported in the 2019 MMWG report were, on average, slightly lower than the progression rates utilised in the 2016 sufficiency review, especially net of treatment effect. This results in a loss of about $3.8 million.

l. ***Change to assumptions about past and future treatment and efficacy rates:*** In the 2019 MMWG report, the assumptions for claimants who were previously treated and previously cured are lower than what we used in the 2016 review. In addition, the assumption for future treatment horizon has been lengthened, resulting in more claimants qualifying for a future treatment. The total net impact of these changes is a loss of about $69 million.

m. ***Change to average assumed cost of treatment drugs for future claims***: Over the past three years, the uninsured treatment claims have been significantly less than we estimated in 2016. We updated our assumption which resulted in a gain of approximately $16 million.

n. ***Change to average assumed cost of care for future claims***: In reviewing the recent claims history, we observed that the cost of care claims were increasing faster than we had previously assumed. There was little change to the percentage of claimants that incurred a cost of care. Consequently, we adjusted the expected average amount of the claims for cost of care resulting in a loss of $16 million.

o. ***Change to incidence of loss of support and loss of service on an HCV death***: In the 2019 review, we performed an analysis of HCV excess deaths to review the incidence of on-going loss of support and loss of service claims. The analysis revealed a correlation with the existence of the benefit prior to death and we were able to adjust our assumptions to more accurately reflect the claims experience. See paragraph 351 and 352 for a detailed description of this assumption change. The change in the assumption resulted in a gain of approximately $36 million.

p. ***Expected future expenses***: The future expected expenses are estimated to be greater than was assumed in 2016, resulting in a loss of about $8 million.

q. ***Loss from all other assumptions***: There were a number of other assumption changes that individually were minor in effect. The net total impact of these changes is a gain of about $7 million.

r. ***Miscellaneous gains and losses:*** The analysis of experience gains and losses involves assumptions and estimations. A detailed and more accurate determination is not economically feasible. Normally, the analysis of experience gains and losses will require the use of a balancing item that is the total effect of the assumptions and estimations used in the analysis. The miscellaneous loss is less than $1 million.

PROVINCIAL/TERRITORIAL CONTRIBUTION SHORTFALL

212. The Fund includes invested assets, which arise from the federal government's contribution of $846 million, plus a provincial/territorial obligation to contribute 3/11^{ths} of all benefit and expenses paid out of the Fund. There is a cap to the provincial/territorial contribution obligation, originally $324 million, of which $93 million remains as of 31 December 2019[6]. The provincial/territorial contribution obligation is increased by interest at the three-month Treasury Bill rate and reduced by any contributions made.

213. There are no provincial/territorial obligations associated with the Special Distribution Benefits Plan or the Late Claims Benefits Plan.

214. Based on future expected benefit payments and expenses from the Regular Benefits Plan (see Section 12 - Projected Cash Flow of Compensation Benefits), we estimate that the provincial/territorial contribution obligation will be fulfilled by the end of 2033 under the best estimate assumptions and by 2030 including a provision for adverse deviations. After those dates, any remaining benefits could only be paid out of the fund with no provincial/territorial contribution.

215. In our 2016 Report, we had projected the provincial/territorial contribution obligation would be fulfilled in 2034 for the best estimate and 2030 for the provision for adverse deviations.

[6] The $93 million provincial/territorial contribution obligation includes $12,000 that has been prefunded by Yukon.

9. SPECIAL DISTRIBUTION BENEFITS PLAN

In This Section, we....

- present a summary of the overall financial position of the Special Distribution Benefits Plan;
- discuss the amount of provision for adverse deviations that is reasonable; and
- review the experience gains and losses over the past three years.

216. In 2016 and 2017, the courts approved the 2016 Allocation Orders which included increases to the benefit amounts payable under the Plan. The increase in the amounts is funded solely by assets transferred to the Special Distribution Benefits Account. There is no contribution from the provincial/territorial governments towards the Special Distribution Benefits.

217. The transfer amount to the Special Distribution Benefits Account was set as $152,630,000 as of 31 December 2013. As of 31 December 2016, the total had grown to $185,749,863 with interest. None of the Special Distribution Benefits had been paid by the end of 2016. Benefits and expenses have been paid from the Special Distribution Benefits Account since 2017 with almost all of the retroactive benefit payments having been completed by the end of 2019.

218. The Special Distribution Benefits are payable in respect of amounts paid from the Regular Benefits Plan prior to 2014 (with the exception of the $200 allowance for a family member accompanying an infected person to a medical appointment) as well as amounts to be paid subsequent to 2013.

219. The following are the Special Distribution Benefits. Where the supplement is payable with respect to an amount previously paid under the Regular Benefits Plan, the supplement is indexed where necessary to the year of payment.

a. 8.5% of the fixed payment amounts payable to infected claimants and estates;

b. Family Member benefits payable to a parent or child over age 21 increased by $4,600 (in 1999 dollars);

c. 10% of the amount paid as a Loss of Income to compensate for diminished pension savings;

d. an additional two hours per week for loss of services in the home (for claimants at the maximum, that is a 10% increase);

e. an increase in the maximum payable for Cost of Care of $10,000 (in 1999 dollars) to bring the overall maximum to $60,000 per year;

f. provide an allowance of $200 per visit (in 2014 dollars) for a family member who accompanies an infected person for a medical appointment related to their infection with HCV, but only for such visits that occur after the court approval (17 August 2016);

g. permit co-infected haemophiliacs to reverse their prior election of the $50,000 lump sum benefit and receive regular Plan benefits once the total regular Plan benefits exceed the $50,000 (1999 dollars) already paid; and

h. provide ongoing loss of services benefits to permanently disabled dependents for the remaining lifetime of the dependent.

FINANCIAL POSITION OF THE SPECIAL DISTRIBUTION BENEFITS PLAN

220. The following tables summarize our results by benefit. The results obtained by Eckler are, from a materiality perspective, essentially the same.

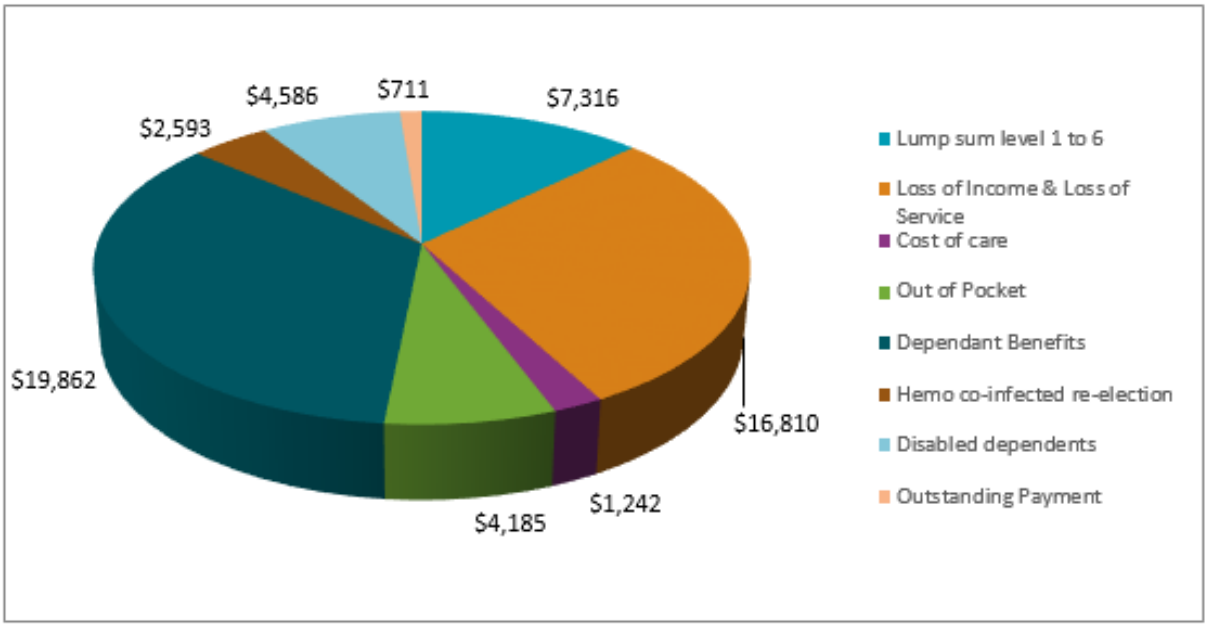
Table 220a – Transfused - Results as at 31 December 2019 – Special Distribution Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	56	0.2	56	0.2
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	101	0.3	101	0.3
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	538	1.8	646	1.8
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	1,135	3.8	1,812	5.0
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	1,882	6.3	2,685	7.4
4.01(3)(a)	Loss of income- non-bridging fibrosis	337	1.1	341	0.9
4.01(3)(b)	Loss of services- non-bridging fibrosis	1,070	3.6	1,079	3.0
4.02	Loss of income	1,651	5.5	2,117	5.9
4.03	Loss of services	5,489	18.6	7,171	19.8
4.04	Cost of care	661	2.2	830	2.3
4.07	Out-of-pocket expenses	1,811	6.1	1,891	5.2
4.08	HIV secondarily infected	0	0.0	0	0.0
	Alive claimants subtotal	**14,731**	**49.5**	**18,729**	**51.8**
	Pre-1999 deaths				
5.01	– Lump sums	0	0.0	0	0.0
5.01(1)	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	0	0.0	0	0.0
6.01(2)	– Loss of Services	415	1.4	422	1.2
	Pre-1999 deaths sub total	**415**	**1.4**	**422**	**1.2**
	Post-1999 deaths (pre-deceased and future deaths)				
5.02	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	0	0.0	0	0.0
6.01(2)	– Loss of Services	4,087	13.7	4,699	13.0
6.02	Loss of Care and Guidance	5,874	19.7	7,278	20.2
	Post-1999 deaths sub total	**9,961**	**33.4**	**11,977**	**33.2**
	Outstanding Payments	391	1.3	391	1.1
	Disabled dependents	4,278	14.4	4,586	12.7
	Total	**29,776**	**100.0**	**36,105**	**100.0**

Table 220b – Haemophiliacs – Results as at 31 December 2019 – Special Distribution Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	6	0.0	6	0.0
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	13	0.1	13	0.1
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	99	0.5	125	0.6
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	435	2.3	656	3.1
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	915	4.9	1,210	5.7
4.01(3)(a)	Loss of income- non-bridging fibrosis	71	0.4	77	0.4
4.01(3)(b)	Loss of services- non-bridging fibrosis	189	1.0	197	0.9
4.02	Loss of income	1,618	8.7	1,855	8.8
4.03	Loss of services	3,628	19.5	3,973	18.8
4.04	Cost of care	345	1.9	412	1.9
4.07	Out-of-pocket expenses	2,314	12.5	2,294	10.8
4.08	HIV secondarily infected	6	0.0	6	0.0
	Alive claimants subtotal	**9,639**	**51.8**	**10,824**	**51.1**
	Pre-1999 deaths				
5.01	– Lump sums	0	0.0	0	0.0
5.01(1)	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	0	0.0	0	0.0
6.01(2)	– Loss of Services	1,226	6.6	1,254	5.9
	Pre-1999 deaths sub total	**1,226**	**6.6**	**1,254**	**5.9**
	Post-1999 deaths (pre-deceased and future deaths)				
5.02	– Funeral	0	0.0	0	0.0
6.01(1)	– Loss of Support	0	0.0	0	0.0
6.01(2)	– Loss of Services	3,060	16.5	3,421	16.1
6.02	Loss of Care and Guidance	2,435	13.1	2,788	13.2
	Post-1999 deaths sub total	**5,495**	**29.6**	**6,209**	**29.3**
	Outstanding Payments	320	1.7	320	1.5
	Haemophiliac co-infected re-election	1,906	10.3	2,593	12.2
	Total	**18,586**	**100.0**	**21,200**	**100.0**

Chart 220c – Best Estimate Results Including Provision for Adverse Deviations as at 31 December 2019 – Special Distribution Benefits ($'000s)



221. Table 220 presents a summary of the overall financial results of the Special Distribution Benefits Plan together with comparative liabilities from the 2016 review. The large reduction in liabilities between 2016 and 2019 is due to payment of the benefits in respect of the past, leaving a liability that is almost entirely with respect to future expected benefits. Our results are similar to those of Eckler.

Table 220 - Summary of Financial Results – Special Distribution Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	99,514	185,750	99,514	185,750
Liabilities				
▪ Transfused	29,776	94,051	36,105	101,537
▪ Haemophiliacs	18,586	45,098	21,200	49,081
▪ Future Expenses	1,690	2,269	1,749	2,323
Total Plan Liabilities	50,052	141,418	59,054	152,941
Fund Surplus	**49,462**	**44,332**	**40,460**	**32,809**
Additional buffer against catastrophic events			11,811	22,941
Excess Assets			**28,649**	**9,868**

222. The difference in the total liabilities with provision for adverse deviations compared to the total best estimate liabilities is a measure of the degree of conservatism included in the results. The provision for adverse deviations for 2019 is about 18% greater than the best estimate liabilities.

223. We have added an additional buffer against catastrophic events equal to 20% of the total plan liabilities on a provision for adverse deviations basis. This produces a buffer of about $12 million. Our analysis was similar to that done for the Regular Benefits Fund but with no inclusion of the change in cost of HCV drug treatments.

224. Table 224 shows the development of the provision for adverse deviations liability starting from the best estimate and adding the various components of the provision. The 2016 figures are included for comparison purposes.

Table 224 – Development of Provision for Adverse Deviations Liability – Special Distribution Benefits Plan

Item	2019	2016
	($'000s)	($'000s)
Best Estimate Liability	50,052	141,418
Discount Rate	1,783	1,856
Drug Efficacy for future treatments	1,657	2,777
Drug Costs for future treatments[7]	19	27
Percent of claimants previously treated and associated efficacy	2,033	1,610
Future time horizon for claimants to be treated – ten years	2,399	3,282
Recovery rates from Loss of Income and Loss of Services	564	610
Costs of Care	547	212
Incidence rate for Out-of-Pocket expenses in the main fund	0	1,149
Provision for Adverse Deviations Liability	**59,054**	**152,941**
Additional buffer for catastrophic events	11,811	22,941
Total Liability including Additional Buffer	**70,865**	**175,882**

CHANGE IN SURPLUS – SPECIAL DISTRIBUTION BENEFITS PLAN

225. In the 2016 review, we made assumptions about the future. During the past three years, actual experience has developed differently from those assumptions. This is normal and to be expected. Table 227 summarizes the various factors that resulted in a change in the financial position from 2016 to 2019.

226. The starting position for the analysis is the excess capital amount as ordered by the courts following the 2016 Allocation Hearings. A number of adjustments were made to that value to obtain the fund surplus as reported in our 2016 Sufficiency Report, including provision for adverse deviations.

[7] Drug costs and uninsured treatment are not part of the Special Distribution Benefits except for the haemophiliacs who elected the $50,000 lump sum option and are now assumed to change their election.

a. Because the analysis of change in surplus is conducted prior to any buffer (or the required capital), we added the Eckler required capital amount from 31 December 2016 to the surplus.

b. We also adjusted the surplus for the difference between the Eckler reported fund surplus and the Morneau Shepell reported fund surplus from 31 December 2016. The resulting surplus of $32,809 is the surplus on a provision for adverse deviations basis from the 2016 Morneau Shepell Sufficiency Report.

227. Some of the items in the analysis of change in surplus are not directly related to benefits payable under the Special Distribution Benefits Plan, however, they do affect the progression of claimants and the development of future compensation benefits. For example, reducing treatment efficacy will reduce the number of claimants assumed to be cured and increase the number who will continue to advance in the disease and submit larger claims in the future.

Table 227 – Change in Surplus from 31 December 2016 to 31 December 2019 – Special Distribution Benefits Plan

Description	($'000s)	($'000s)
Excess Capital at 31 December 2016		13,947
Add required capital from 2016	19,758	
Adjust for difference between Eckler and Morneau Shepell PfAD liability	(896)	18,862
Surplus assets at 31 December 2016 prior to additional buffer (required capital)		**32,809**
Expected interest on surplus assets		3,199
Expected surplus at 31 December 2019 prior to additional buffer		**36,008**
Effect of Experience differing from assumptions		
Loss on Investments other than for inflation	(366)	
Loss on Investments due to CPI increasing less than expected	(1,468)	
Gain from pension index causing benefits to increase less than assumed	1,048	
Gain on expenses less than assumed during 2016 to 2019	209	
Claimants transitions and claims different than assumed from 2017 to 2019	8,882	
Cohort changes from 2017 to 2019	(416)	7,889
Effect of Changes in Assumptions		
Loss from increase in future unknown cohort	(1,295)	
Loss from reduction in the discount rate	(1,391)	
Loss from changes to the MMWG disease progression rates and model	(692)	
Loss from changes to the pre-treated pre-cured rates	(4,278)	
Gain from decrease in assumed average drug cost for future claims	63	
Loss from increase in assumed average cost of care for future claims	(312)	
Gain from changing expected incidence for Loss of Support and Loss of Services claims following an HCV death	3,197	
Loss from increased expectation for future expenses	(413)	
Gains from all other assumption changes	1,791	
Miscellaneous gains (losses)	(107)	(3,437)
Surplus at 31 December 2019		**40,460**

228. The discussion of the components of the change in surplus is similar to that for the Regular Benefits Plan other than the amounts involved.

10. LATE CLAIMS BENEFITS PLAN

229. In 2016, the courts approved the 2016 Allocation Orders which included a new plan to provide benefits to claimants who missed filing a claim by the deadline and who do not meet the existing provisions for filing a claim after the deadline. The cost for these late claimants is funded solely by assets transferred to the LCBP Account. There is no contribution from the provincial/ territorial governments towards the Late Claims Benefits Plan.

230. The transfer amount to the LCBP Account was set as $39,912,000 as of 31 December 2013. As of 31 December 2016, the total had grown to $48,572,683 with interest. Payment of the Late Claims Benefits began in late 2019, but the vast majority of claims remained in process with no decision regarding approval as of the end of 2019.

In This Section, we....

- present a summary of the overall financial position of the Late Claims Benefits Plan;
- discuss the amount of provision for adverse deviations that is reasonable; and
- review the experience gains and losses over the past three years.

231. The Late Claims Benefits are equal to the total of the benefits that would have been paid under the Regular Benefits Plan plus the amounts that would have been payable under the Special Distribution Benefits Plan.

232. A late claimant first applies to the administrator for approval to submit a late claim. If they meet the criteria, they then submit a claim for benefits which is reviewed and either approved or denied in the same way as for the Regular Benefits.

233. Currently there is a 25% holdback on all benefits payable from the Late Claims Benefits Plan. Claimants will therefore receive 75% of the total compensation amount plus an entitlement to receive the 25% holdback if and when the courts approve a reduction in or removal of the holdback. Any holdback amounts are indexed to the date of eventual payment.

FINANCIAL POSITION OF THE LATE CLAIMS BENEFITS PLAN

234. The following tables summarize our results by benefit. The results obtained by Eckler are, from a materiality perspective, essentially the same.

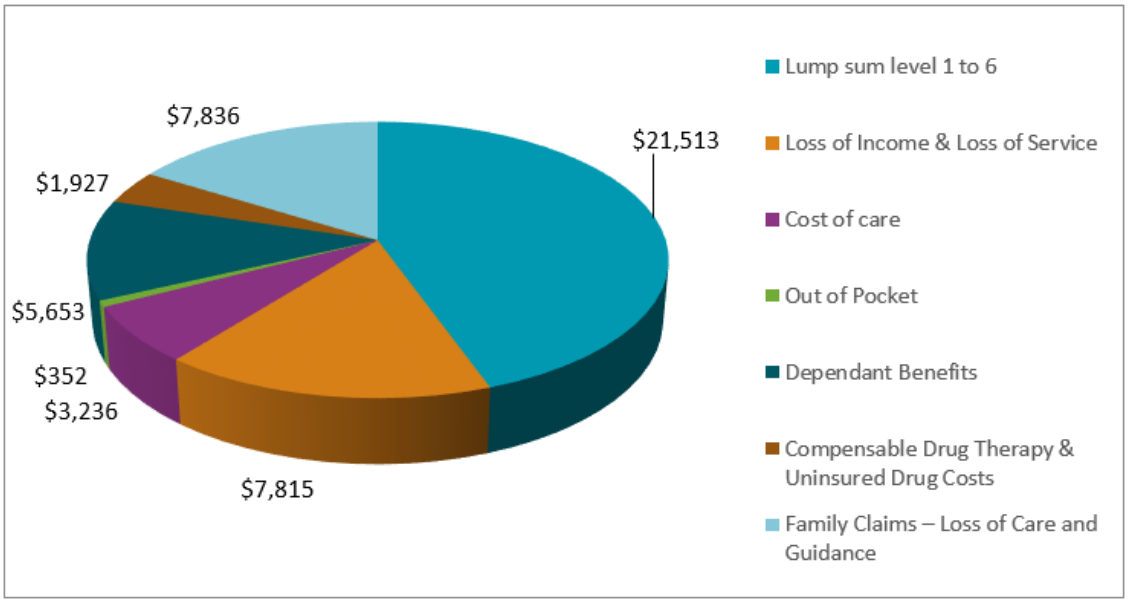
Table 234a – Transfused - Results as at 31 December 2019 – Late Claims Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	1,743	5.0	2,050	4.7
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	3,163	9.1	3,712	8.5
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	3,843	11.0	4,510	10.4
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	3,700	10.6	4,688	10.8
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	4,187	12.0	5,252	12.1
4.01(3)(a)	Loss of income- non-bridging fibrosis	158	0.5	176	0.4
4.01(3)(b)	Loss of services- non-bridging fibrosis	500	1.4	557	1.3
4.02	Loss of income	1,846	5.3	2,324	5.3
4.03	Loss of services	2,994	8.6	4,196	9.8
4.04	Cost of care	2,189	6.3	3,034	7.0
4.05	HCV drug therapy	14	0.0	18	0.0
4.06	Uninsured treatment – HCV cure drugs	866	2.5	1,676	3.9
4.06	Uninsured treatment – non-HCV cure drugs	132	0.4	147	0.3
4.07	Out-of-pocket expenses	215	0.6	317	0.7
	Alive claimants subtotal	**25,550**	**73.3**	**32,657**	**75.2**
	Post-1999 deaths (pre-deceased and future deaths)				
5.02	– Funeral	113	0.3	148	0.3
6.01(1)	– Loss of Support	316	0.9	419	1.0
6.01(2)	– Loss of Services	2,009	5.8	2,545	5.8
6.02	Loss of Care and Guidance	1,601	4.6	2,115	4.9
	Post-1999 deaths sub total	**4,039**	**11.6**	**5,227**	**12.0**
	Late Family Claims	6,706	19.3	7,042	16.2
	Benefits previously paid (net of holdback)	(1,475)	(4.2)	(1,475)	(3.4)
	Total	**34,820**	**100.0**	**43,451**	**100.0**
	Breakdown of Total				
	75% of prospective liability	25,746	74.0	32,219	74.2
	Hold back of prospective liability	8,582	24.6	10,740	24.7
	Hold back of previously paid amounts	492	1.4	492	1.1
	Total	**34,820**	**100.0**	**43,451**	**100.0**

Table 234b – Haemophiliacs – Results as at 31 December 2019 – Late Claims Benefits

Plan Section	Benefit	Best Estimate		Including Provision for Adverse Deviations	
		($'000s)	(%)	($'000s)	(%)
	Alive claimants				
4.01(1)(a)	Level 1: $10,000 – positive anti-HCV	81	1.9	97	2.0
4.01(1)(b)	Level 2: $20,000 – PCR Test positive	161	3.9	194	4.0
4.01(1)(c)	Level 3: $30,000 – Non-bridging fibrosis	200	4.8	250	5.1
4.01(1)(d)	Level 5: $65,000 – Cirrhosis	138	3.3	261	5.3
4.01(1)(e)	Level 6: $100,000 – Decomp/cancer	232	5.6	418	8.7
4.01(3)(a)	Loss of income- non-bridging fibrosis	5	0.1	5	0.1
4.01(3)(b)	Loss of services- non-bridging fibrosis	13	0.3	14	0.3
4.02	Loss of income	212	5.1	241	4.9
4.03	Loss of services	271	6.6	302	6.2
4.04	Cost of care	168	4.0	202	4.1
4.05	HCV drug therapy	1	0.1	1	0.0
4.06	Uninsured treatment – HCV cure drugs	37	0.9	67	1.4
4.06	Uninsured treatment – non-HCV cure drugs	18	0.4	18	0.4
4.07	Out-of-pocket expenses	28	0.7	35	0.7
4.08	HIV secondarily infected	81	1.9	81	1.7
	Alive claimants subtotal	**1,646**	**39.6**	**2,186**	**44.9**
	Post-1999 deaths (pre-deceased and future)				
5.02	– Funeral	6	0.1	7	0.1
6.01(1)	– Loss of Support	53	1.3	60	1.2
6.01(2)	– Loss of Services	212	5.1	239	4.9
6.02	Loss of Care and Guidance	106	2.5	120	2.5
	Post-1999 deaths sub total	**377**	**9.0**	**426**	**8.7**
	Late Family Claims	2,494	59.8	2,618	53.6
	Benefits previously paid (net of holdback)	(349)	(8.4)	(349)	(7.2)
	Total	**4,168**	**100.0**	**4,881**	**100.0**
	Breakdown of Total				
	75% of prospective liability	3,039	72.9	3,574	73.2
	Hold back of prospective liability	1,013	24.3	1,191	24.4
	Hold back of previously paid amounts	116	2.8	116	2.4
	Total	**4,168**	**100.0**	**4,881**	**100.0**

Chart 234c – Best Estimate Results Including Provision for Adverse Deviations as at 31 December 2019 – Late Claims Benefits ($'000s)



235. Table 235 presents a summary of the overall financial results of the Plan assuming that the full benefit will be paid (i.e. ignoring the holdback) together with comparative liabilities from 2016. Our results are similar to those of Eckler.

Table 235 - Summary of Financial Results - Late Claims Benefits Plan

	Best Estimate		Provision for Adverse Deviations	
	2019	2016	2019	2016
	($'000s)	($'000s)	($'000s)	($'000s)
Assets	48,436	48,573	48,436	48,573
Liabilities				
▪ Transfused (75%)	25,746	25,681	32,219	28,602
▪ Haemophiliacs (75%)	3,039	3,746	3,574	4,047
▪ 25% hold back	10,203	9,809	12,539	10,883
▪ Future Expenses	9,397	8,496	9,731	8,751
Total Plan Liabilities	48,385	47,732	58,063	52,283
Fund Surplus (Deficit)	**51**	**841**	**(9,627)**	**(3,710)**
Additional buffer against catastrophic events			13,354	13,071
Excess Assets			**(22,981)**	**(16,781)**

236. The difference in the total liabilities with provision for adverse deviations compared to the total best estimate liabilities is a measure of the degree of conservatism included in the results. The provision for adverse deviations for 2019 is about 20.0% greater than the best estimate liabilities.

237. Most of the uncertainty about future claims under the Late Claims Benefits Plan relates to the number of claimants who will eventually be approved – the cohort size – and their distribution by level. We have assumed a buffer of 25% additional infected claimants (giving 34 additional infected claimants). We also assumed that the future portion of the liability (which is approximately half of the total liability) is subject to the effects of catastrophic events similar to the Regular Benefit Fund. That results in a buffer for future catastrophic claims of about 37%, which we applied to the liabilities net of the 25% holdback.

238. That results in a buffer for future catastrophic events of $13.4 million. When compared to the total liability including the 25% holdback, it results in a buffer of about 23% of the total liabilities. Eckler has accounted for cohort uncertainty in their Required Capital provision for the Late Claims Benefits Plan.

CHANGE IN SURPLUS – LATE CLAIMS BENEFITS PLAN

239. During the past three years, actual experience has developed differently from the 2016 assumptions. This is normal and to be expected. Table 240 summarizes the various factors that resulted in a change in the financial position from 2017 to 2019.

240. The starting position for the analysis is the excess capital amount as ordered by the courts following the 2016 Allocation Hearings. A number of adjustments were made to that value to obtain the fund deficit as reported in our 2016 Sufficiency Report, including provision for adverse deviations.

    a. Because the analysis of change in deficit is conducted prior to any buffer (or the required capital), we added the Eckler required capital amount from 31 December 2016 to the deficit.

    b. We also adjusted the deficit for the difference between the Eckler reported fund deficit and the Morneau Shepell reported fund deficit from 31 December 2016. The resulting deficit of $3,710 is the deficit on a provision for adverse deviations basis from the 2016 Morneau Shepell Sufficiency Report.

Table 240 – Change in Surplus from December 2016 to December 2019 – Late Claims Benefits Plan

Description	($'000s)	($'000s)
Excess Capital (deficit) at 31 December 2016		(16,826)
Add required capital from 2016	10,768	
Adjust for difference between Eckler and Morneau Shepell PfAD liability	2,348	13,116
Surplus (Deficit) at 31 December 2016 prior to additional buffer		**(3,710)**
Expected interest on surplus (deficit)		(362)
Expected Surplus (Deficit) at 31 December 2019 prior to additional buffer		**(4,072)**
Effect of Experience differing from assumptions		
Gain on Investments other than for inflation	561	
Loss on Investments due to CPI increasing less than expected	(501)	
Gain from pension index causing benefits to increase less than assumed	472	
Gain on expenses less than assumed during 2017 to 2019	332	
Claimants transitions and claims different than assumed from 2017 to 2019	24,629	
Cohort changes from 2017 to 2019	(31,001)	(5,508)
Effect of Changes in Assumptions		
Gain from changes in future unknown cohort	3,107	
Loss from reduction in the discount rate	(171)	
Gain from changes to the MMWG disease progression rates and model	24	
Gain from changes to the previously treated and previously cured rates	18	
Loss from decrease in assumed average drug cost for future claims	(45)	
Gain from increases in assumed average cost of care for future claims	28	
Loss from changing expected incidence for Loss of Support and Loss of Services claims following an HCV death	(9)	
Loss from increased expectation for future expenses	(2,992)	
Gain from all other assumption changes	37	
Miscellaneous gains (losses)	(44)	(47)
Surplus (Deficit) at 31 December 2019		**(9,627)**

241. The discussion of the components of the change in surplus is similar to that for the Regular Benefits Plan other than the amounts involved. In addition,

    a. In the 2016 review, we assumed the Late Claims Benefits Plan would start to make payments in 2017. Actual payments only started in 2019, which resulted in actual payments being less than assumed.

b. Future unknown infected claimant cohort for the Late Claims Benefits Plan was reduced from what was assumed in the 2016 review, future family claims were increased from 2016. This generates a net gain about $3.1 million.

11. ANALYSIS OF SENSITIVITY

242. The results presented in this report are based on assumptions about what will happen in the future. Many of these assumptions have a relatively minor effect on the resulting liabilities, however some do have a greater impact.

243. The purpose of a sensitivity analysis is to help the user to gain an understanding of the possible financial effect of changes in the more material assumptions.

In This Section, we....

- review the effect of changes in the key assumptions on the resulting liabilities for each of the three Accounts.

REGULAR BENEFITS

244. In this sensitivity analysis, each line shows the effect of making only the indicated change to the single assumption. All other assumptions are held constant. The assumption changes shown in the table are not cumulative. For example, the first line shows the effect of changing only the size of the alive transfused cohort. In the second line, the size of the transfused cohort is returned to the starting size and then the size of the haemophiliac cohort is changed.

Table 244 – Sensitivity Analysis – Regular Benefits

Assumption Change[8]	Liability including Provision for Adverse Deviations	Percentage Change
	($'000s)	(%)
Total Liability (transfused and haemophiliac claimants)	652,044	N/A
Change in the liability due to:		
• Increase transfused cohort by 10 alive claimants	3,172	0.5
• Increase haemophiliac cohort by 10 alive claimants	3,060	0.5
• Increase transition probabilities between disease stages to 110% of the baseline rates. (For example, if the baseline transition probability is 7.0%, this would increase it to 7.7%)	9,792	1.5
• Decrease future treatment efficacy by 10% (for PfAD, that is from 90% to 80% of the efficacy assumed by the MMWG)	21,332	3.3
• Increase the amount the Fund pays for treatment drugs by $10,000	13,924	2.1
• Change the number of years over which all claimants are assumed to receive treatment by 5 years (for the PfAD, that is from 10 to 15 years)	16,078	2.5
• Increase percent of future deaths at levels 2 to 5 due to HCV by 10%	15,610	2.4
• Increase the average Loss of Income benefit amount by 10%	2,127	0.3
• Increase the number of claimants with Loss of Services by 10%	8,541	1.3

[8] A decrease to the indicated assumption will have approximately the same effect but in the opposite direction.

Assumption Change[8]	Liability including Provision for Adverse Deviations	Percentage Change
• Increase the average amount for Cost of Care by 10%	10,899	1.7
• Increase the discount rate by 0.25%	(19,573)	(3.0)
• Decrease the discount rate by 0.25%	20,787	3.2

245. It should be noted that multiple changes may be interdependent. That is, when multiple changes are combined, the total effect may be different from what one gets by adding the individual amounts together. This effect is similar to the difference between simple and compound interest. Some of the multiple assumption changes have a compounding effect.

SPECIAL DISTRIBUTION BENEFITS PLAN

246. The Special Distribution Benefits Plan is subject to many of the same sensitivities as the Regular Benefits Plan, plus potential variability in the number of medical visits made each year with an accompanying family member. Most of the Supplemental Benefits are a percentage of the Regular Benefits and will fluctuate approximately in line with the Regular Plan. However, Cost of Care is a top-up. When the total cost of care benefit exceeds $50,000 (1999 dollars), then the next $10,000 (1999 dollars) is reimbursed from the Supplemental Benefits Plan. This amount is highly leveraged – any increase in average amounts could have a disproportionate effect on the Supplemental Benefits Plan.

Table 246 – Sensitivity Analysis – Special Distribution Benefits

Assumption Change[9]	Liability including Provision for Adverse Deviations	Percentage Change
	($'000s)	(%)
Total Liability (transfused and haemophiliac claimants)	59,054	N/A
Change in the liability due to:		
• Increase transfused cohort by 10 alive claimants	279	0.5
• Increase haemophiliac cohort by 10 alive claimants	271	0.5
• Increase transition probabilities between disease stages to 110% of the baseline rates. (For example, if the baseline transition probability is 7.0%, this would increase it to 7.7%)	1,104	1.9
• Decrease future treatment efficacy by 10% (for PfAD, that is from 90% to 80% of the efficacy assumed by the MMWG)	2,313	3.9
• Change the number of years over which all claimants are assumed to receive treatment by 5 years (for the PfAD, that is from 10 to 15 years)	2,213	3.7
• Increase percent of future deaths at levels 2 to 5 due to HCV by 10%	3,614	6.1

[9] A decrease to the indicated assumption will have approximately the same effect but in the opposite direction.

Assumption Change[9]	Liability including Provision for Adverse Deviations	Percentage Change
• Increase the average Loss of Income benefit amount by 10%	259	0.4
• Increase the number of claimants with Loss of Services by 10%	886	1.5
• Portion of the cost of care paid by the fund doubles	1,242	2.1
• Increase the percent of claimants assumed to have an Out-of-Pocket expense in a year by 1%	174	0.3
• Increase the discount rate by 0.25%	(1,982)	-3.4
• Decrease the discount rate by 0.25%	2,117	3.6
• Increase the number of medical visits with accompanying family members by 40%	271	0.5

LATE CLAIMS BENEFITS PLAN

247. The Late Claims Benefits Plan is subject to the same sensitivities as the Regular Benefits Plan plus the Special Distribution Benefits Plan. The percentage sensitivities are similar to those under the Regular Benefits Plan and Special Distribution Benefits Plan.

Table 247 – Sensitivity Analysis – Late Claims Benefits Plan

Assumption Change[10]	Liability including Provision for Adverse Deviations	Percentage Change
	($'000s)	(%)
Total Liability (transfused and haemophiliac claimants)	58,063	N/A
Change in the liability due to:		
• Increase transfused cohort by 20 infected claimants	6,414	11.0
• Increase haemophiliac cohort by 20 family claimants	661	1.1
• Increase transition probabilities between disease stages to 110% of the baseline rates. (For example, if the baseline transition probability is 7.0%, this would increase it to 7.7%)	9	0.1
• Decrease future treatment efficacy by 10% (for PfAD, that is from 90% to 80% of the efficacy assumed by the MMWG)	22	0.1
• Change the number of years over which all claimants are assumed to receive treatment by 5 years (for the PfAD, that is from 10 to 15 years)	33	0.1
• Increase percent of future deaths at levels 2 to 5 due to HCV by 10%	89	0.2
• Cost of Care payable from Special Distribution Plan doubles	39	0.1
• Increase the discount rate by 0.25%	(405)	(0.7)

[10] A decrease to the indicated assumption will have approximately the same effect but in the opposite direction.

Assumption Change[10]	Liability including Provision for Adverse Deviations	Percentage Change
• Decrease the discount rate by 0.25%	430	0.7
• Infected late claimants are one disease level higher than assumed	1,388	2.4

12. PROJECTED CASH FLOW OF COMPENSATION BENEFITS

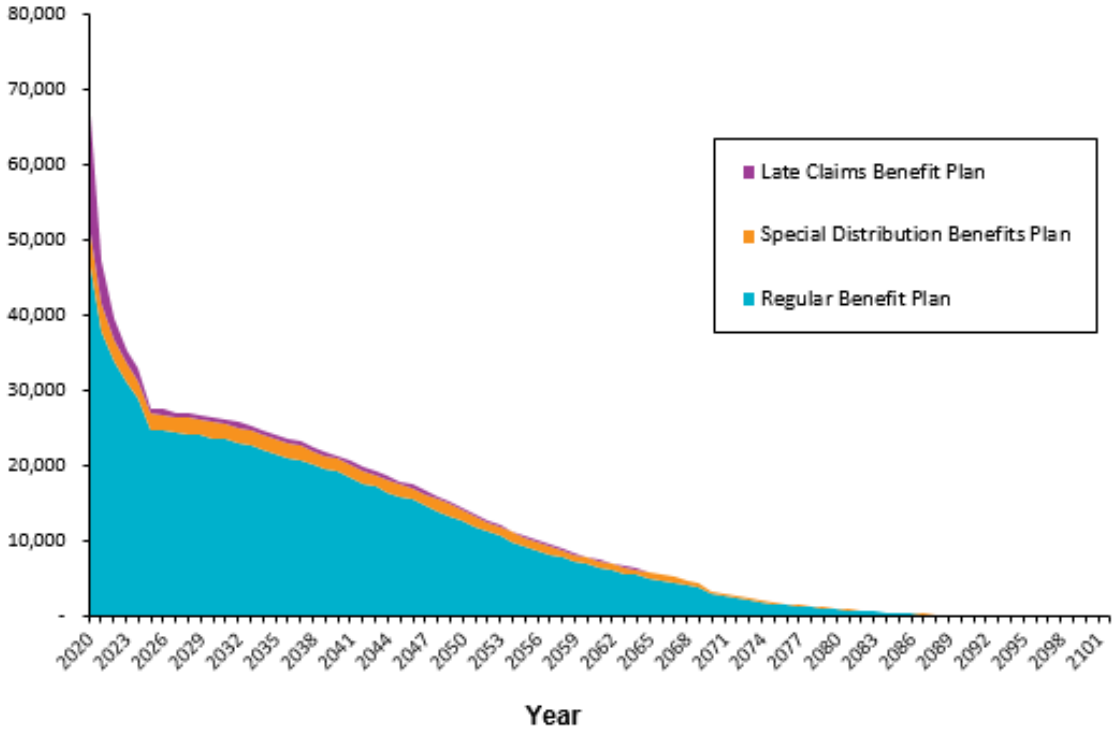
248. The following chart shows the future expected cash flows for 2020 to 2102 based on the best estimate assumptions. These are the benefit payments and expenses that underlie the liabilities for the Plan.

249. The retroactive payments from the Late Claims Benefits Plan are assumed to be mostly paid over the next couple of years.

In This Section....

- We show the projected future payments from the Plan (based on the assumptions) in each of the next 83 years.

Chart 249 – Future Cash Flows – Best Estimate Assumptions (in $'000s)



250. The dollar amounts of the past and future cash flows are shown in Table 250a for the best estimate assumptions and in Table 250b for the provision for adverse deviations assumptions. Cash flows include future expected inflation and are not discounted for future interest earnings.

Table 250a – Fund Cash Flows (Historical & Projected to 2102) – Best Estimate Assumptions

Year	Regular Benefits Plan	Special Distribution Benefits Plan	Late Claims Benefits Plan*	Total
	($'000s)	($'000s)	($'000s)	($'000s)
2010	40,084	0	0	40,084
2011	35,903	0	0	35,903
2012	30,323	0	0	30,323
2013	33,681	0	0	33,681
2014	50,198	0	0	50,198
2015	55,205	0	0	55,205
2016	46,852	0	0	46,852
2017	41,656	84,893	569	127,118
2018	41,785	5,604	1,570	48,959
2019	34,865	4,814	2,591	42,270
2019 o/s	13,267	711	0	13,978
2020	48,234	4,550	17,501	70,285
2021	37,952	3,571	5,687	47,210
2022	33,718	3,011	2,845	39,573
2023	30,921	2,719	1,670	35,310
2024	28,813	2,544	1,677	33,034
2025	24,715	2,154	558	27,427
2026	24,651	2,146	617	27,414
2027	24,274	2,128	580	26,982
2028	24,203	2,110	592	26,904
2029	23,954	2,140	603	26,698
2030	23,647	2,142	615	26,404
2031	23,492	2,117	628	26,237
2032	22,995	2,089	596	25,681
2033	22,578	2,071	610	25,260
2034	21,987	2,021	623	24,630
2035	21,490	1,986	538	24,014
2036	20,922	1,958	549	23,429
2037	20,635	1,924	561	23,119
2038	20,034	1,883	528	22,445
2039	19,503	1,771	537	21,811
2040	19,097	1,726	546	21,369
2041	18,376	1,758	513	20,648
2042	17,620	1,710	520	19,851
2043 - 2102	279,345	32,872	6,806	319,024
Total	**2,348,226**	**181,124**	**51,232**	**2,580,582**

* *Net of the 25% holdback.*

Table 250b - Fund Cash Flows (Historical & Projected to 2102) – Provision for Adverse Deviations

Year	Regular Benefits Plan	Special Distribution Benefits Plan	Late Claims Benefits Plan*	Total
	($'000s)	($'000s)	($'000s)	($'000s)
2010	40,084	0	0	40,084
2011	35,903	0	0	35,903
2012	30,323	0	0	30,323
2013	33,681	0	0	33,681
2014	50,198	0	0	50,198
2015	55,205	0	0	55,205
2016	46,852	0	0	46,852
2017	41,656	84,893	569	127,118
2018	41,785	5,604	1,570	48,959
2019	34,865	4,814	2,591	42,270
2019 o/s	13,267	711	0	13,978
2020	52,948	4,407	17,781	75,137
2021	44,714	3,790	5,691	54,196
2022	41,179	3,417	2,857	47,453
2023	38,378	3,212	1,686	43,277
2024	36,029	3,087	1,687	40,803
2025	32,511	2,782	577	35,870
2026	31,364	2,699	635	34,698
2027	30,136	2,620	598	33,354
2028	29,408	2,554	608	32,570
2029	28,651	2,547	619	31,818
2030	27,159	2,489	632	30,280
2031	27,001	2,461	644	30,105
2032	26,495	2,429	613	29,537
2033	26,067	2,408	626	29,101
2034	25,480	2,358	640	28,478
2035	24,952	2,318	553	27,823
2036	24,342	2,284	564	27,189
2037	24,002	2,242	575	26,819
2038	23,331	2,191	542	26,064
2039	22,733	2,070	551	25,353
2040	22,237	2,014	560	24,810
2041	21,434	2,038	527	23,999
2042	20,579	1,978	534	23,091
2043 - 2102	321,678	36,189	6,928	364,794
Total	**2,497,881**	**192,605**	**51,957**	**2,742,444**

* *Net of the 25% holdback.*

13. ACTUARIAL ASSUMPTIONS

In This Section....

We discuss the actuarial assumptions used in this review

- Mortality
- Interest and Inflation
- Benefit specific assumptions

Cohort and disease progression assumptions are discussed in Sections 5 and 6.

251. Since the 2013 review and onward, we were instructed to work cooperatively with Eckler to select the actuarial methods and assumptions jointly with the intent that we would both use the same assumptions in our respective valuations. If we were unable to agree with respect to an assumption, the reasons therefor and financial effect thereof were to be disclosed.

252. We cooperated with the analysis of the data and shared our respective findings. Both actuaries accept all of the assumptions used in this review – there are no differences.

253. The assumptions about disease progression are discussed in Section 5. The assumptions about the claimant cohort are discussed in Section 6. This section discusses all the other actuarial assumptions used for this report along with reasons for their adoption.

254. These assumptions are summarized in Appendix D.

255. The liability including a provision for adverse deviations was determined using the best estimate assumptions together with a margin to provide for possible adverse deviations. We included a margin only for those assumptions that in our opinion might have a material financial effect if actual experience differed from the best estimate assumption. If the assumption has a low financial impact, the provision for adverse deviation assumption is the same as the best estimate assumption.

256. The same assumptions were used for the Special Distribution Benefits Plan and for the Late Claims Benefits Plan unless indicated otherwise.

THE VALUATION MODELS

257. We worked together to review our respective valuation models and identify any differences. A number of differences were found and the models adjusted appropriately.

258. However, our models approach the calculation of liabilities from very different perspectives.

259. The Morneau Shepell valuation model is deterministic. The probabilities are applied to each claimant and the many possible journeys through the disease stages for each claimant is determined. A deterministic model is one in which the assumptions are applied exactly as stated in each year without any random variation. If a deterministic model is used to calculate the number of heads that will occur if a coin is tossed 1,000 times, the result will be exactly 500.

260. The Eckler valuation model is stochastic. In a stochastic model, each probability has a distribution – this could be equated to a bell curve that was sometimes applied to test marks at school. Stochastic models recognise that when things happen according to a probability, there is a degree of randomness in the results. If a stochastic model is used to calculate the number of heads that will occur if a coin is tossed

1,000 times, the result will likely be something close to 500, say between 400 and 600 in most cases. But the result could be as low as 0 and as high as 1,000, although the likelihood of that happening is minute.

261. Because our models are based on different methodologies, complete equivalency of the results is not possible, but we are satisfied that there are no material differences in the approach to calculating liabilities.

MORTALITY ASSUMPTIONS

262. The MMWG utilised mortality rates developed from the claimant data. In our opinion, there is not sufficient credibility within the claimant data for those rates to be applied in an actuarial model. We have therefore assumed that future mortality of the claimants will be in accordance with the Canada Life Tables 2016-2018. This represents average mortality based on all Canadians. Those mortality rates include the excess HCV mortality. In addition, for claimants at level 6, mortality from HCV was assumed in accordance with the rates set out in the 2019 MMWG Report.

Table 262 - Mortality Assumptions

Assumption	2016 With Provision for Adverse Deviation	2019 Best Estimate	2019 With Provision for Adverse Deviation
Mortality from all causes other than HCV[11]	Canada Life Tables - 2012 to 2014	Canada Life Tables - 2016 to 2018	Same
Mortality from all causes other than HCV for those with HIV	624% of the Canada Life Tables 2012 to 2014	624% of the Canada Life Tables 2016 to 2018	Same
Mortality due to HCV from Level 6 – Decompensation	Greater of Canada Life mortality* and 23.8%	Greater of Canada Life mortality* and 24.7%	Same
Mortality due to HCV from Level 6 – Extrahepatic	Greater of Canada Life mortality* and 12.6%	Greater of Canada Life mortality* and 11.5%	
Mortality due to HCV from Level 6 – HCC (cancer)	Greater of Canada Life mortality* and 25.9%	Greater of Canada Life mortality* and 26.5%	Same
Mortality due to HCV from Level 6 - liver transplant - first year - thereafter	Greater of Canada Life mortality* and: 8.7% 4.3%	Greater of Canada Life mortality* and: 8.3% 4.4%	Same

* *The Canada Life mortality utilized includes the 624% adjustment for co-infected persons where applicable.*

263. All level 6 deaths are considered to be as a result of HCV and the mortality rate is the greater of the stage specific rate and the Canada Life rate.

264. The determination of expected HCV related deaths is performed in three steps. First, expected deaths from all causes other than HCV is determined based on the Canada Life Mortality Tables. That gives the number of expected non-HCV deaths predicted by the MMWG model. Second, the percentages from Table 264 – Excess HCV Mortality are applied to allocate a portion of those expected deaths to be treated

[11] The deaths resulting from this assumption are split between HCV-related and non-HCV related death based on the Excess HCV Related Mortality assumption.

as HCV related deaths. Third, the HCV related deaths as expected by the MMWG model are determined, using the mortality from HCV as set out in Table 262.

Table 264 – Excess HCV-Related Mortality - 2019

	Disease Level					
	1	2	3	4	5	6
Claimants who have not cleared the virus						
HCV Death	0%	5%	25%	35%	50%	100%
Non-HCV Death	100%	95%	75%	65%	50%	0%
Claimants who have cleared the virus						
HCV Death	0%	0%	5%	20%	35%	100%
Non-HCV Death	100%	100%	95%	80%	65%	0%

The assumptions for best estimate and provision for adverse deviations are the same.

The assumptions have changed from 2016. For claimants who had not cleared the virus, the assumption for HCV deaths at level 4 was 40% and at level 5 it was 80%. For claimants who have cleared the virus, the assumption for HCV deaths at level 4 was 25% and at level 5 it was 60%. The balance of the excess HCV death assumptions are unchanged from 2016.

ECONOMIC ASSUMPTIONS

265. The return on invested assets shown is developed from an expected return for a pool of assets invested in a combination of equities and bonds, less a provision for investment expenses. We have assumed the long-term fund assets will be invested based on the investment benchmark mix as adopted by the Joint Committee. The long-term assets make up about 89.5% of the total fund assets. The short-term fund assets (which are to be managed to be about $24 million, or 2.1% of the current fund size) are invested entirely in cash. Investment related expenses are assumed to be 0.04% of the invested assets, based on actual recent experience.

266. The provincial notional assets, which are about 8.3% of the current fund, are assumed to earn interest at the return over the long-term future for 3-month Treasury Bills.

267. The discount rate utilised is a net rate of return – the return expected after subtracting inflation. By using a net or real rate of return, future inflation is automatically taken into consideration in the determination of the liabilities.

268. The methodology utilised by Morneau Shepell and by Eckler to determine the discount rates differ, but the resulting best estimate and provision for adverse deviations rates are the same.

Table 268 - Economic Assumptions

	2016			2019		
Asset Class	Allocation	Expected Return	Contribution to Fund Return	Allocation	Expected Return	Contribution to Fund Return
Universe Bonds	5.25%	3.10%	0.16%	5.47%	3.15%	0.17%
Short Term Bonds	2.50%	2.60%	0.07%	2.10%	2.25%	0.05%
Real return bonds	70.00%	2.75%	1.93%	70.96%	2.66%	1.89%
Equities						
- Canada	-	-	-	-	-	-
- US	-	-	-	-	-	-
- International	-	-	-	-	-	-
- Global	12.25%	6.90%	0.85%	13.17%	6.65%	0.88%
Notional assets	10.00%	1.90%	0.19%	8.30%	2.25%	0.19%
Expected return	100.00%		3.20%	100.00%		3.17%
Rebalancing effect			0.24%			0.17%
Less Inflation			(2.25%)			(2.25%)
Less Expenses			(0.04%)			(0.04%)
Discount rate - Best Estimate			**1.15%**			**1.05%**
Margin for Adverse Deviations			(0.25%)			(0.25%)
Discount Rate – Provision for Adverse Deviations			**0.90%**			**0.80%**

269. The future assumed inflation rate has remained unchanged since the 2016 review.

270. The net discount rate has decreased 0.10% since the 2016 review. That will result in an increase in the liabilities.

271. The discount rate for the Special Distribution Benefits and for the Late Claims Benefits would normally be slightly greater than the discount rate for the Regular Benefits. The assets for the Special Distribution Benefits Account and for the LCBP Account are entirely made up of invested assets and do not include any part of the notional assets. All of the notional assets are with respect to the Regular Benefits Account. Since the notional assets have a lower expected rate of return than the invested assets, the average return expected for the Regular Benefits Account is lower than for the Special Distribution Benefits Account and for the LCBP Account. The difference is about 0.08%.

272. In our opinion, the difference is not material to the resulting liabilities and for the purposes of this review we have chosen to ignore it. Consequently, the discount rate utilised for the review of all three plans is 1.05% for the best estimate and 0.80% for the provision for adverse deviations assumption.

ASSUMPTIONS FOR SPECIFIC BENEFIT PAYMENTS

273. We need to make assumptions about each specific benefit available under the Plan. Except where indicated otherwise, each of the following assumptions is used for:

    a. the Regular Benefits Plan, the Special Distribution Benefits Plan and the Late Claims Benefits Plan; and

    b. both the best estimate and the provision for adverse deviations.

274. Most of the payment amounts are increased from the 1999 levels as set out in the Settlement Agreement to reflect inflation. This indexing is based on the indexing level under the Canada Pension Plan each year. In the discussion of benefit amounts, we refer to the amount based on the 1999 levels. In the valuation, we recognised the actual indexing that has been applied up to January 2020.

275. The following are the indexing rates that have been used to increase the payments under the Plan. For 2021 and thereafter, payments are assumed to be indexed at the rate of inflation. These historical indexing rates are based on fact and are the same for all sets of assumptions.

Table 275 – Historical Indexing Rates

Year	Indexing Rate (% per annum)
1999	1.57
2000	2.54
2001	3.01
2002	1.63
2003	3.21
2004	1.72
2005	2.26
2006	2.13
2007	1.91
2008	2.52
2009	0.35
2010	1.66
2011	2.84
2012	1.76
2013	0.91
2014	1.79
2015	1.20
2016	1.43
2017	1.48
2018	2.31
2019	1.88
2020	2.03

276. The cumulative indexing rate since 1999 is 48.7377%. So, the $10,000 lump sum payable for level 1 would be paid at $14,873.77 during 2020.

$10,000 for HCV infection (Level 1)

277. Payments are assumed to be made immediately upon a claimant being approved. All known claimants are therefore assumed to have received this amount. To the extent that any amounts remain outstanding, they are included in the total of outstanding payments.

278. For the unknown claimants, payments are assumed to be made at future dates upon approval of their claim.

$20,000 – positive PCR test (Level 2)

279. Payments are assumed to be made immediately upon a claimant reaching level 2. Since there is an assumption that almost no one will progress from level 1 to any other level, this essentially results in a payment immediately upon a claim being approved for those at level 2 or beyond. All known claimants other than those at level 1 are therefore assumed to have been paid this amount. To the extent that any amounts remain outstanding, they are included in the total of outstanding payments.

280. For the unknown claimants, payments are assumed to be made upon approval of their claim if they are level 2 (disease stage F0(RNA+)) or beyond.

$30,000 – Non-bridging fibrosis (Level 3)

281. This payment is available to all claimants who have developed non-bridging fibrosis or have proceeded beyond that level. The MMWG model does not include a stage directly corresponding to non-bridging fibrosis. However, we understand that non-bridging fibrosis normally occurs somewhere between stages F1 and F2, (Fibrosis stages 1 and 2) and we have assumed that a claimant at stage F1 is entitled to level 3 benefits. This is consistent with the Eckler assumptions and with how the MMWG assumed the levels and stages would be treated.

282. A claimant may elect to waive this payment and receive instead a Loss of Income or Loss of Services benefit. The decision as to which benefit to receive may be deferred as long as the claimant wishes.

283. For all known claimants who have made an election to receive the $30,000 lump sum, we have assumed payment has been made and to the extent that it has not, the amount is included in the outstanding payments totals.

284. For all unknown claimants and all known claimants who have not reached this stage, we assumed 95% of those under age 65 (94% in 2016) and 91% of those over age 65 (94% in 2016) would elect to receive the $30,000 lump sum and the balance would elect the Loss of Income or Loss of Services benefit as described below (paragraphs 294 to 305). For all known claimants at Level 3 who have not yet made this election, we assumed they would receive $30,000 and ignore the possibility of a Loss of Income or Loss of Services claim.

Level 2 Claimants receiving Compensable Drug Therapy

285. If a claimant at level 2 is certified by a doctor to be eligible to receive Compensable Drug Therapy (in general, a treatment that includes interferon, ribavirin or another drug approved by the courts) they

qualify for the $30,000 lump sum payment at level 3. The current treatment protocols utilised in the MMWG model do not include any Compensable Drug Therapy. We understand that there are a few situations where therapy is likely to be combined with ribavirin.

286. Currently, a claimant at level 2 who qualifies for Compensable Drug Therapy is not required to take the therapy to qualify for this benefit. We were informed that with previous treatment regimens, some infected persons with co-morbidities may be advised against treatment due to severe adverse issues due to another disease. We are advised that those situations are not likely to occur in the future and that the expectation is any future person at level 2 will likely be required to undergo treatment in order to qualify for the lump sum compensation.

287. We have assumed that 5.0% of all treatments in the future will include ribavirin and that 2.5% of all claimants at level 2 who receive treatment will therefore qualify for the level 3 lump sum.

$65,000 – Cirrhosis (Level 5)

288. Payments are assumed to be made immediately upon a claimant reaching Level 5 (stage F4 - Cirrhosis). All known claimants at stage F4 and beyond are assumed to have been paid this amount. To the extent that any amounts remain outstanding, they are included in the total of outstanding payments.

289. For other claimants, payments are assumed to be made upon transition to stage F4.

$100,000 – Decompensation/Cancer/Liver Transplant (Level 6)

290. Payments are assumed to be made immediately upon a claimant reaching level 6 – liver decompensation, extrahepatic and HCC. (While liver transplant is recognised under the Plan, the medical model assumes that all patients who receive a liver transplant first go through the liver decompensation or HCC stage, so for purposes of this valuation, no additional benefits are assumed payable at liver transplant). All known claimants at stages decompensation, extrahepatic or HCC and beyond are assumed to have been paid this amount. To the extent that any amounts remain outstanding, they are included in the total of outstanding payments.

291. For other claimants, payments are assumed to be made upon transition to stages decompensation, extrahepatic or HCC. If a claimant transitions into extrahepatic or HCC directly from Levels 2-4, they will also receive the Level 3 and/or Level 5 lump sum that they had “skipped”.

Special Distribution Benefits for Fixed Income Amounts

292. A Special Distribution equal to 8.5% of each of the above fixed payments that was paid prior to 2017, plus indexing has been paid as of the valuation. Some of those payments remain outstanding, primarily due to wrong addresses.

293. A Special Distribution equal to 8.5% of each of the above fixed payments paid after 2016 is assumed to be paid simultaneously with fixed payments that come due following the valuation date.

Loss of Income and Loss of Services

294. Loss of Income is available to claimants under age 65. Loss of Services is available to any claimant regardless of age, provided they are not in receipt of a Loss of Income benefit.

295. Loss of Income and Loss of Services is available to claimants at level 3 who elect to receive this benefit in lieu of the $30,000 lump sum.

296. For the best estimate as well as the provision for adverse deviation liabilities, known claimants who are already in receipt of these benefits are assumed to continue to receive payments at the same level but indexed each year.

297. The rate of claiming a loss of income and loss of services benefit for the known and unknown claimants is shown in Table 297. The percentage for future claims from known claimants when added to the respective percentage of known claimants who are already receiving a benefit gives a total the same as (or in some cases greater than) the unknown claimants.

Table 297 – Rate of Future Claims for Loss of Income/Services Benefit

Benefit Payment	2016 - BE	2019 - BE	2019 - PfAD
Loss of Income – Level 3			
▪ Proportion claiming	3.0% under age 65 0.0% over age 64	2.0% under age 65 0.0% over age 64	Same
Loss of Income – Level 4			
▪ Proportion claiming – unknown	12.0% under age 65 0.0% over age 64	10.0% under age 65 0.0% over age 64	Same
▪ Proportion claiming - known[12]	4.2% transfused 1.6% haemophiliac	3.7% transfused 0.0% haemophiliac	
Loss of Income – Level 5			
▪ Proportion claiming – unknown	25.0% under age 65 0.0% over age 64	25.0% under age 65 0.0% over age 64	Same
Proportion claiming - known	1.0% transfused 6.5% haemophiliac	5.1% transfused 7.1% haemophiliac	
Loss of Income – Level 6			
▪ Proportion claiming - unknown	25.0% under age 65 0.0% over age 64	25.0% under age 65 0.0% over age 64	Same
▪ Proportion claiming - known	0.6% transfused 0.0% haemophiliac	6.8% transfused 5.6% haemophiliac	
Loss of Services – Level 3			
▪ Proportion claiming	3.0% under age 65 6.0% over age 64	3.0% under age 65 9.0% over age 64	Same
Loss of Services – Level 4			
▪ Proportion claiming - unknown	30.0% under age 65 38.0% over age 64	30.0% under age 65 40.0% over age 64	Same
▪ Proportion claiming - known			
- Transfused	16.3% under age 65 14.8% over age 64	8.0% under age 65 22.2% over age 64	
- Haemophiliac	0.0% under age 65 0.0% over age 64	0.0% under age 65 0.0% over age 64	
Loss of Services – Level 5			
▪ Proportion claiming - unknown	30.0% under age 65 44.0% over age 64	35.0% under age 65 50.0% over age 64	Same
▪ Proportion claiming - known			

[12] The known proportion claiming applies to known claimants already at the indicated level who have not yet commenced a claim. All known claimants already on claim are assumed to continue. All known claimants who later transition into the level are assumed to claim based on the proportions for unknown claimants.

Benefit Payment	2016 - BE	2019 - BE	2019 - PfAD
- Transfused	2.6% under age 65 9.2% over age 64	13.3% under age 65 6.8% over age 64	
- Haemophiliac	0.0% under age 65 10.4% over age 64	0.6% under age 65 0.0% over age 64	
Loss of Services – Level 6			
▪ Proportion claiming - unknown	50.0% under age 65 65.0% over age 64	55.0% under age 65 65.0% over age 64	Same
▪ Proportion claiming - known			
- Transfused	14.5% under age 65 42.3% over age 64	26.1% under age 65 30.0% over age 64	
- Haemophiliac	0.0% under age 65 0.0% over age 64	0.0% under age 65 0.0% over age 64	

298. Payments are assumed to continue for the lifetime of the claimant, subject to assumptions about recovery following successful treatment.

299. The valuation model assumes that those who claim a Loss of Income or Loss of Services benefit do so coincident with transitioning into a level. In reality, many of these claims will commence at a later time. This assumption will overstate the liabilities. This issue only affects the claimants who commence the benefit at a level without having claimed at an earlier level. We will refer to this group as Knowns with Deferred Benefits.

300. Under the Plan, a claimant at level 4 who has a Loss of Income or Services that commenced prior to reaching level 4 may claim retroactive benefits – even if they had received the $30,000 lump sum payment at level 3. This may affect a small percentage of the claimants who transition to level 4. We will refer to this group as Knowns with Retroactive Benefits.

301. In our opinion, the overstatement of liabilities for the Knowns with Deferred Benefits is significantly greater than the liability for the Knowns with Retroactive Benefits. We have therefore assumed that the liability for Knowns with Deferred Benefits will exceed the total liability for Knowns with Retroactive Benefits. Rather than trying to quantify the amounts involved, for the best estimate and provision for adverse deviations assumptions, we have assumed there is no adjustment required to recognize any projected retroactive benefits payable and that there may be an immaterial overstatement of liabilities as a result.

302. Further, in our opinion, it is likely that any claims commenced at level 6 will have no or very little retroactive payments due.

303. We understand that there may be situations where claimants are receiving Loss of Income or Loss of Service benefits due to a temporary disability. The data does not identify these claimants, so we have assumed that there are no temporary periods of disability. To the extent that some of these claimants will recover and, either permanently or temporarily, cease receiving Loss of Income or Services benefits, the liability will be overstated slightly.

304. For claimants currently receiving benefits, the amount paid is assumed to continue with indexing for the future. For claimants not currently receiving this benefit, the Loss of Income payments are assumed to be

$40,500 ($40,000 in 2016) per year for the transfused cohort and $57,500 ($55,000 in 2016) per year for the haemophiliac cohort. Loss of Services benefits are assumed to be $17,600 ($17,000 in 2016) per year for both the transfused and haemophiliac cohorts. These dollar amounts are all in current dollars.

305. For Special Distribution Benefits, we assumed that the amount paid will be 10% of the Loss of Income and Loss of Services amounts payable after 2013.

Recovery from Loss of Income and Loss of Services

306. Prior to 2013, we assumed that any claimant who commenced a Loss of Income or Loss of Services benefit would remain in receipt of it (after switching to a loss of services benefit at age 65) for the balance of their life. While there were claimants for whom the disability was temporary, they were few in number and ignoring the possibility of recovery from disability was not material.

307. With the DAA treatments now available, we believe that recovery from disability will be material and we have therefore made an assumption. We had little information on which to base the assumption for the 2013 review and there has been very little experience emerging in the claimant data in the past six years. We were advised that:

a. damage done by HCV is not reversed by recovery;

b. comorbidity issues will likely continue and any prior effect of HCV on the comorbidity could continue affecting the person for some time; and

c. recovery time for most claimants at level 3 is likely to be a few months but increase to a few years, if at all, at level 5.

308. Based on the above, it is not surprising that there has been little evidence of recovery from disability as of the end of 2019.

309. We assume that the following percent of claimants who have cleared the virus and those who will clear the virus will recover and have their loss of income and loss of services benefit cease. These are the same recovery rates as assumed for the 2016 review.

Table 309 – Recovery Rates from Loss of Income and Loss of Services After Clearing the Virus

Duration Since Disability (Years)	Levels 3 & 4	Level 5	Level 6
1	50.0%	25.0%	0%
2	30.0%	15.0%	0%
3	25.0%	12.5%	0%
4	25.0%	12.5%	0%
5	15.0%	7.5%	0%
6	10.0%	5.0%	0%
7	5.0%	2.5%	0%
8	5.0%	2.5%	0%
9+	0.0%	0.0%	0%

310. We included a PfAD for recovery from disability by using recovery rates that are half of those shown above.

Costs of Care (Level 6)

311. Table 311 shows the past six years of claims (indexed to 2020) for cost of care among all claimants at level 6. The 2019 average claim amount is likely preliminary since we expect there will be more claims filed in respect of 2019.

Table 311 – Cost of Care Claims

Year	Number Claiming Cost of Care	Percentage of All Level 6 Claimants	Average Claim Amount
2014	101	53%	$ 41,730
2015	101	54%	40,849
2016	91	51%	44,019
2017	87	50%	47,327
2018	86	60%	48,645
2019	71	45%	43,040
Average	**90**	**50%**	**$ 44,268**

312. We noticed that the average claim amount (especially prior to 2014) has varied significantly from year to year. We also considered that many claimants at level 6 are likely to have health issues requiring care and that about a quarter of them are expected to die each year. Those who die are expected to be replaced by a claimant advancing from level 5 or lower. As such, we expect to see ongoing year to year variation in the percent of level 6 claimants who have a cost of care claim as well as variation in the average amount claimed each year.

313. We have assumed that each year on average, 50% (50% in 2016) of claimants at level 6 (decompensation, extrahepatic, HCC and liver transplant) will require care with an average claim of $52,500 ($39,000 in 2016) where the amount is stated in current dollars. For the provision for adverse deviations, the assumptions are 50% (50% in 2016) of claimants will have an average claim of $59,500 ($47,000 in 2016).

314. The Special Distribution Benefits Plan provides up to an additional $10,000 reimbursement for cost of care that exceeds the maximum $50,000 (1999 dollars) under the Regular Benefits Plan. We have assumed that the Special Distribution Benefits Plan will reimburse, on average, $682 (current dollars) each year for 50% of the claimants at level 6 with a provision for adverse deviations average claim amount of $773 (current dollars).

Drug Therapy

315. The drug treatment regimens introduced over the past nine years have resulted in significant changes in the drug therapy claims from the past. These DAA treatments are expected to take less time and be much less debilitating during treatment.

316. Based on information provided by the MMWG, we developed an average treatment length for use in our models. The information indicated that the vast majority of claimants will require 12 weeks of treatment, but there are some who will only require 8 weeks and others up to 24 weeks. On average, treatment

length is expected to be slightly less than 18 weeks. For the best estimate assumption, we assume a treatment length of 18 weeks or 4.5 months (3.0 months in 2016). For 2019, we did not include a provision for adverse deviations. The benefit amount is $1,000 (1999 dollars) payable for each month.

317. Most of the treatment regimens used since at least 2013 do not require interferon or ribavirin – two drugs that when taken automatically entitle a claimant to a drug therapy payment of $1,000 per month (1999 dollars). There are other factors that can result in payment of a drug therapy amount. We have assumed that 5% of claimants receiving drug therapy will qualify for this benefit of $4,500 (1999 dollars) coincident with receiving a treatment (see Table 91 for the treatment assumptions). We have made no provision for adverse deviations in 2019.

Uninsured Treatment & Medication

318. Over the past three years, the cost of drugs for treating HCV has become clearer. In addition, since 2013, most provincial governments have announced public funding for Canadians receiving treatment for Hepatitis C that differs significantly from the assumptions we used in 2013 and 2016.

319. We have assumed on average, HCV drugs costs paid by the Fund equal $50,000 (per a claimant's treatment) and the average incidence of claim submission to the Fund to be 45% under age 65 and 35% for age 65 and over. The balance of the claim submissions (55% and 65% respectively) are assumed to be directed to (and fully reimbursed by) provincial healthcare and/or employer benefit plans. Accordingly the Fund is assumed to reimburse for HCV drugs an average of $22,500 under age 65 and $17,500 for age 65 and over.

320. For 2016, we assumed that HCV drug costs would average $45,000 for claimants under 65 and $5,000 for claimants over 65. In 2016, the provision for adverse deviations assumption was $55,000 for claimants under 65 and $15,000 for claimants over 65.

321. For greater certainty, the drug costs for purposes of clearing the virus are incurred only once per claimant in conjunction with the treatment rates set out in Table 91.

322. The Plan also reimburses other uninsured treatment costs that are for purposes other than clearing the virus. We have assumed those costs will continue for the future among those who have not cleared the virus in similar proportions to the past.

323. For our best estimate assumptions, we have assumed that each year 4.0% of transfused claimants who have not cleared the virus will incur an expense on average of $2,200 in current dollars (4.5% and $2,000 in 2016) and that 7.0% of haemophiliacs will incur an expense of $3,300 in current dollars (8.5% and $3,00 in 2016). The provision for adverse deviations assumption is the same.

Out-of-pocket Expenses

324. With the large number of claimants expected to clear the virus in the future from the new treatment regimens available, we separated the out-of-pocket expenses between those who have not cleared the virus and those who have cleared the virus. Our assumption is that there will be few, if any, expenses from claimants who have cleared the virus after a year or two following their treatment.

325. For those who have not cleared the virus, we made an assumption about the incidence and amount of claim in each future year. We also made an assumption about the total of all out of pocket expenses

associated with receiving treatment and for follow up medical appointments, which are assumed to be incurred one time only coincident with receipt of treatment.

326. Having reviewed the administrator's payment protocol for this expense, it seems that very few claimants at level 1 would be likely to incur more than one out-of-pocket expense, as they have cleared the virus. As well, claimants who live in large metropolitan areas and are in close proximity to health facilities should have no or very little expenses. However, for simplicity in implementing this benefit in the valuation models, we decided to make an assumption about the average incidence and average amount of claims each year across all claimants.

327. The Special Distribution Benefits Plan includes a payment to a family member who accompanies the infected person to a medical appointment. In our opinion, the availability of that payment will likely increase the number of claimants who file an out of pocket claim each year. Previously, some claimants with only a small amount of expenses may have not bothered filing for reimbursement. But with a $200 amount payable to a family member, a claim is more likely to get made.

328. For our best estimate, we assumed that 6% of all transfused claimants and 12% of all haemophiliacs at levels 1 to 6 (same for 2016) who have not cleared the virus will incur an out-of-pocket expense. The average expense is assumed to be $2,000 ($1,700 for 2016) for transfused and $2,200 ($2,000 for 2016) for haemophiliac claimants, both in current dollars. The provision for adverse deviations assumption is that 9% of all transfused claimants and 18% of all haemophiliacs will incur an out of pocket expense of the same amount as for the best estimate assumption.

329. We assume that 100% of claimants who clear the virus will incur an out-of-pocket expense coincident with their treatment for $1,500 for transfused and $5,500 for haemophiliacs ($1,200 and $5,000 respectively for 2016). While these claims are likely incurred over a 2 year or longer period following treatment, for simplicity we have assumed the amount is incurred coincident with successful treatment. The provision for adverse deviations assumption is the same.

330. The Special Distribution Benefits Plan provides a lump sum of $200 (2014 dollars) to a family member who accompanies the infected claimant to a medical appointment. We have assumed that the incidence of a claim is the same as for the Regular Benefits Plan with an average claim amount of $70 for transfused and $224 for haemophiliacs (2014 dollars). In 2016, we assumed that the incidence of a claim was the same as for the Regular Benefits Plan with an average claim amount of $360 (2014 dollars). For the provision for adverse deviations, we assumed the incidence would be the same as the provision for adverse deviations incidence of the Regular Benefits Plan.

Unknown Claimants

331. Unknown claimants are assumed to have a disease distribution based on the distribution of recently approved Transfused claimants (see Tables 142a and 142b). Upon the approval of the claim, an unknown claimant is assumed to be owed all fixed payments for which they are already eligible (for example, a level 3 unknown claimant is owed the $10,000, $20,000 and $30,000 lump sums).

332. When an unknown claimant is approved, they may have previously incurred expenses that are eligible for reimbursement. These are:

    a. Loss of Services;

    b. Loss of Income;

c. Out-of-pocket expenses;

d. Uninsured treatment; and

e. Costs of care

333. Based on analysis of historical retroactive amounts claimed by known claimants, we have assumed that each unknown claimant will make a claim for retroactive benefits equal to $20,000 (2020 dollars) representing all benefits discussed above payable on their assumed approval date.

334. Additional compensation for an unknown claimant after having been approved is assumed to be paid based on the same assumptions that apply to known claimants. This liability is calculated as a pro-rata of the corresponding known claimant liabilities based on headcount.

Secondarily Infected Persons

335. We have assumed that all secondarily infected claimants are either known claimants or are included in the unknown cohort.

$50,000 Full Settlement for Haemophiliacs with HCV and HIV

336. There is a provision for a haemophiliac who is both HCV and HIV primarily infected to claim a lump sum of $50,000 in full satisfaction of all claims.

337. Under the plan, a person at level 1 is entitled to a $10,000 payment. The MMWG Report indicates that it is unlikely that a level 1 person would advance in the disease. For consistency, it makes sense to us that any co-infected haemophiliac at level 1 would most likely elect this $50,000 option rather than the $10,000 otherwise available.

338. For the best estimate and provision for adverse deviations, we have assumed that the known co-infected haemophiliacs who have made an election were paid based on the election made. For all unknown co-infected haemophiliacs, we assumed 100% at level 1 would elect this option.

Supplemental Distribution Benefits – Re-election of $50,000 Full Settlement for co-infected Haemophiliacs

339. The Special Distribution Benefits Plan provides haemophiliacs who elected the $50,000 Full Settlement Option and who are alive, to rescind their election and receive benefits as provided under the Regular Benefits Plan and the Special Distribution Benefits Plan, subject to a deduction for any amounts already paid. All of these future benefits are payable from the Special Distribution Benefits Plan – no additional amount is payable from the Regular Benefits Plan.

340. We have assumed that a co-infected claimant at level 1 will not become eligible for benefits in excess of the $50,000 option as they are considered to be cured and are unlikely to advance beyond level 1.

341. We have assumed that level 2 co-infected haemophiliacs who had died prior to 31 December 2019 will not become eligible for benefits in excess of the $50,000.

342. As a result, we have assumed that 23 level 2 co-infected haemophiliacs who are alive as at 31 December 2019 will be eligible for this benefit.

HCV related death before 1 January 1999

343. There are two options available to deceased transfused claimants – a single lump sum of $120,000 (1999 dollars) plus uninsured funeral expenses or a $50,000 lump sum (1999 dollars) plus uninsured funeral expenses plus family member benefits plus dependant's annual ongoing benefits.

344. In addition to the options available to transfused claimants who die prior to 1999, haemophiliacs who are co-infected with HIV may elect a $72,000 lump sum (1999 dollars) without submitting evidence of infection through the blood supply in the 1986 to 1990 period.

345. We have assumed that there will be no additional claims from those who died prior to 1999.

346. For the best estimate and with provision for adverse deviations, we assumed that all payments presently being made to dependents will continue at the same level as present but indexed each year. The end date for these payments is specified in the data.

HCV related death after 1-Jan-1999

347. Where death occurs for reasons other than HCV, no benefits are payable as a result of the death. Where death is due to HCV, any uninsured funeral expenses are payable along with lump sum amounts payable to family members plus Loss of Support or Loss of Services payable to dependants.

348. For all known claimants who are deceased, we assumed that any funeral expenses and family member claims have been paid (or are included in the outstanding payments). Any Loss of Support or Loss of Services benefits currently being paid will continue at the same amount, indexed for the future, and the Loss of Services payments will cease when the deceased claimant would have reached age 85.

349. For all unknown claimants and all known alive claimants who later die as a result of HCV, we assumed:

    a. 100% will receive uninsured funeral expenses of $4,700 ($4,500 for 2016) in current dollars.

    b. 100% will receive family benefits of $56,520 (100% receive $51,000 for 2016) for transfused and 100% receive $72,810 (100% receive $63,000 for 2016) for haemophiliac claimants.

350. In the 2016 review, for a death of a known claimant that occurs prior to age 65 where the claimant is in receipt as of the valuation date of:

    a. *a Loss of Income benefit:* then a Loss of Support benefit becomes payable 70% of the time to the claimant's dependants equal to 70% of the Loss of Income benefit amount paid to the claimant's age 65 and converted to a Loss of Services benefit thereafter, plus future indexing;

    b. *a Loss of Services benefit:* then a Loss of Services benefit becomes payable 70% of the time to the claimant's dependants equal to $17,600, plus future indexing;

351. In the 2016 review, for a death of a known claimant where the claimant is not in receipt of a Loss of Income or a Loss of Services benefit as of the valuation date:

    a. Where the claimant was under age 65 on the date of death, 55% of dependants will receive a Loss of Support benefit of $30,000 for transfused and $37,000 for haemophiliacs payable to the claimant's age 65 and converted to a Loss of Services benefit at age 65 payable to the claimant's age 85, all in current dollars;

b. Where the claimant was under age 65 on the date of death, 17% of dependants will receive a Loss of Services benefit of $17,000 payable to the claimant's age 85, in current dollars;

c. Where the claimant was over age 65 on the date of death, 65% of dependants (40% in 2013) will receive a Loss of Services benefit of $17,000 payable to the claimant's age 85, in current dollars;

352. For the 2019 review, we performed an analysis on the incidence of loss of support and loss of service after an HCV related death and our findings indicate a correlation based on the existence of the benefit prior to death. Our 2019 assumptions are as follows:

a. Where the claimant is under age 65 on the date of death and at the time of death:

(i) is in receipt of a Loss of Income benefit, 70% of dependants are assumed to receive a Loss of Support benefit, or

(ii) is in receipt of a Loss of Services benefit, 10% of dependants are assumed to receive a Loss of Support benefit and 55% a Loss of Services Benefit, or

(iii) is in receipt of neither a Loss of Income or Loss of Services benefit, 10% of dependants will receive a Loss of Support benefit and 10% a Loss of Services Benefit.

The Loss of Support amount (in current dollars) is assumed to be $31,000 for transfused and $39,500 for haemophiliacs payable to the claimant's age 65 and converted to a Loss of Services benefit at age 65. The Loss of Services benefit (in current dollars) is assumed to be $17,600 and is assumed payable to the claimant's age 85.

b. Where the claimant is over age 65 on the date of death and at the time of death:

(i) is in receipt of a Loss of Services benefit, 65% of dependants will receive a Loss of Services benefit (amount and payment term as per above).

(ii) is not in receipt of Loss of Services benefit, 25% of dependants will receive a Loss of Services benefit (amount and payment term as per above).

353. For a death of an unknown claimant, the incidence and amounts are the same as set out in paragraph 352.

Permanently Disabled Dependants – Special Distribution Benefits Plan

354. Under the Special Distribution Benefits Plan, a permanently disabled dependant of an infected claimant may apply to have the loss of services benefit remain payable for the dependant's life following its cessation under the Regular Benefits Plan. We understand that the expected administration of this benefit will limit the application only to those in significant need.

355. The Joint Committee has identified four existing dependants (all dependent adult children) who will be entitled to this benefit. We calculated a $1,426,000 liability for these four dependants. A provision for an additional eight dependent adult children was added on a pro rata basis for a total liability of $4,278,000.

Outstanding Payments at 31 December 2019

356. As of the valuation date there are a number of benefit payments outstanding. Based on information provided by the administrator and the Joint Committee we have determined the outstanding benefit payments as presented in the table below.

Outstanding Payments	Regular Benefits Plan	Special Distribution Benefits Plan	Late Claims Benefits Plan	Total
	($'000s)	($'000s)	($'000s)	($'000s)
Transfused				
Alive cohort	8,203	820	202	9,225
Known deaths	2,722	0	0	2,722
Haemophiliac				
Alive cohort	6,587	672	163	7,422
Known deaths	2,992	0	0	2,992
Total	**20,504**	**1,492**	**365**	**22,361**

Based on the audited financial statement issued by Deloitte LLP, $8,383,000 is already reflected as an accrual for outstanding benefit payments in the 31 December 2019 asset balance. The remainder was included in our liabilities.

HIV Secondarily Infected Claimants

357. An HCV infected person who is also a secondarily infected HIV person may only receive compensation from this Plan once their claims would otherwise have exceeded $240,000. We understand this group is non-existent or very small. We therefore have assumed that there will be no such claims.

HIV Program

358. This Program pays a lump sum of $240,000 to Canadians who are secondarily infected with HIV by virtue of being a partner or child of a primarily infected HIV person who is an approved Extraordinary Assistance Program recipient. A maximum of 240 such benefits are payable.

359. The Joint Committee advised that there have been 91 approved claims to date under this program. They expect to receive a total of two additional claims for $240,000 each, assumed to be one in 2023 and one in 2027. The present value of these future benefits is $409,000 for the best estimate assumption and $414,000 including provision for adverse deviations.

Future Expenses

360. The Joint Committee provided their assumptions about future expenses, split between the three plans. We reviewed their work and have accepted it as the assumption for both best estimate and provision for adverse deviations.

361. The dollar amounts are in current dollars and are subject to annual increases for inflation from 2020 to the year of payment. Various taxes (GST, HST, provincial sales tax) were averaged based on the provinces where the expenses are expected to be incurred and using current tax rates.

362. *Investment expenses*, including fees for investment counsel, custody of assets, and other related items are not included in this section as they have been implicitly recognized in the determination of the net interest rate.

Future Expenses - Regular Benefits Plan

363. The table below summarizes the assumed future expenses for the next 10 years with respect to the Regular Benefits Plan. From 2032 the amounts decline in approximate relation to the expected number of alive claimants.

Table 363 – Future Expenses – Regular Benefits Plan ($'000s)

Year	Accounting Expert Testimony and Assistance	Actuarial Regular	Actuarial Financial Sufficiency	Administration	Arbitrators/ Referees	Audit	Fund Counsel	Joint Committee Regular	Joint Committee Financial Sufficiency	Medical Modeling	Monitor	Software Development	Total
2020	20	50	650	640	20	85	60	775	535	110	20	10	**2,975**
2021	20	50	200	640	20	85	120	775	535	-	80	10	**2,535**
2022	20	75	600	640	20	110	60	775	80	110	20	10	**2,520**
2023	20	50	300	565	20	85	60	675	535	110	20	10	**2,450**
2024	20	50	100	565	20	85	120	675	535	-	80	10	**2,260**
2025	20	75	600	565	20	110	60	675	80	110	20	10	**2,345**
2026	20	50	300	565	20	85	60	675	535	110	20	10	**2,450**
2027	20	50	100	565	20	85	120	675	535	-	80	10	**2,260**
2028	20	75	600	565	20	110	60	675	80	110	20	10	**2,345**
2029	20	50	300	565	20	85	60	675	535	110	20	10	**2,450**
2030	20	50	100	565	20	85	120	675	535	-	80	10	**2,260**
2031	20	75	600	565	20	110	60	675	80	110	20	10	**2,345**

Future Expenses – Special Distribution Benefits Plan

364. The table below summarizes the assumed future expenses for the next 10 years with respect to the Special Distribution Benefits Plan. From 2032 the amounts decline in approximate relation to the expected number of alive claimants.

Table 364 – Future Expenses – Special Distribution Benefits Plan ($'000s)

Year	Actuarial Regular	Administration	Audit	Joint Committee Regular	Total
2020	25	65	10	55	**155**
2021	25	65	10	55	**155**
2022	25	10	10	10	**55**
2023	25	10	10	10	**55**
2024	25	10	10	10	**55**
2025	25	10	10	10	**55**
2026	25	10	10	10	**55**
2027	25	10	10	10	**55**
2028	25	10	10	10	**55**
2029	25	10	10	10	**55**
2030	25	10	10	10	**55**
2031	25	10	10	10	**55**

Future Expenses – Late Claims Benefits Plan

365. The table below summarizes the assumed future expenses for the next 10 years with respect to the Late Claims Benefits Plan. From 2032 the amounts decline in approximate relation to the expected number of alive claimants.

Table 365 – Future Expenses – Late Claims Benefits Plan ($'000s)

Year	Actuarial Regular	Administration	Arbitrators/ Referees	Audit	Fund Counsel	Joint Committee Regular	Communications	Total
2020	25	250	75	10	85	200	37	**682**
2021	25	250	75	10	85	175	-	**620**
2022	25	175	75	10	85	150	-	**520**
2023	25	100	35	10	35	100	-	**305**
2024	25	100	35	10	35	100	37	**342**
2025	25	100	35	10	35	100	-	**305**
2026	25	100	35	10	35	100	37	**342**
2027	25	100	35	10	35	100	-	**305**
2028	25	100	35	10	35	100	-	**305**
2029	25	100	35	10	35	100	-	**305**
2030	25	100	35	10	35	100	-	**305**
2031	25	100	35	10	35	100	-	**305**

APPENDIX A – SUMMARY OF BENEFITS

This summary is taken from the Plan terms and includes items that have a bearing on the results of the valuation. The Plan terms include other details about benefits that are not material to the results presented herein. Amounts are expressed in 1999 dollars, except where otherwise indicated. Most of these payment amounts are indexed from their 1999 levels to the date of payment to reflect inflation.

In 2016, the courts approved changes to the Plan benefits. The Special Distribution Benefits Plan and Late Claims Benefits Plan are summarised following the Regular Benefits Plan summary.

REGULAR BENEFITS PLAN

In the following summary, the specific section reference of the Regular Benefits Plan is shown in brackets.

Level 1 - $10,000 for HCV infection [4.01(1)(a)]

A compensation payment of $10,000 is made upon a claimant being approved for the Plan.

Level 2 - $20,000 – positive PCR test [4.01(1)(b)]

A payment of $20,000 is made upon a claimant delivering a positive PCR test report. Prior to July 2002, this benefit was split into two parts, with $15,000 paid immediately and $5,000 subject to a “holdback” until such time as it could be demonstrated that the fund was sufficient to support payment of the full $20,000. The holdback amounts were authorised by the court to be paid effective July 2002.

Level 3 - $30,000 – Non-bridging fibrosis [4.01(1)(c)]

This payment is available to all claimants who have developed non-bridging fibrosis or have proceeded beyond that stage. As well, claimants who have received or meet a protocol for Compensable Drug Therapy (interferon, ribavirin or such other treatment approved by the courts) whether or not treatment is undertaken, are eligible for this benefit.

A claimant may elect to waive this payment and to receive instead a Loss of Income or Loss of Services benefit. The decision as to which benefit to receive may be deferred as long as the claimant wishes.

Loss of Income [4.02]

Each claimant under the age of 65 who was in receipt of earned income and who suffers a Loss of Income caused by their infection with Hepatitis C is entitled to periodic annual payments provided:

1. the claimant is at the bridging fibrosis level or beyond, or

2. the claimant is at the non-bridging fibrosis level and is unable to work more than 20% of the usual work-week and has waived the $30,000 lump sum payment described above.

The amount of benefit is equal to 100% of the amount of lost income determined after normal payroll deductions (net income). The lost income is based on the average annual net income during the three years prior to the loss. Benefit amounts are indexed from the middle of the three-year period used to determine the amount of loss to the year of payment based on the indexing rate under the Canada Pension Plan. There is a holdback whereby any lost income over $300,000 (1999 dollars) will not be paid until the courts are satisfied that the fund assets are sufficient to make such payments. Prior to October 2004, the holdback was based on a lost income amount of $75,000. Also, prior to October 2004, there was a holdback equal to 30% of the lost income payable to claimants at the non-bridging fibrosis stage.

In 2008, the courts approved payment of lost income for three claimants of up to $2.3 million. Any future claim for lost income that exceeds the $300,000 per annum level will be subject to the approval of the courts prior to payment.

Loss of Services [4.03]

Each claimant who normally performed household duties in their home and is unable to do so as a result of their infection with Hepatitis C is entitled to periodic annual payments for Loss of Services provided:

1. the claimant is at the bridging fibrosis level or beyond, or

2. the claimant is at the non-bridging fibrosis level and has waived the $30,000 lump sum payment described above.

The amount of benefit is equal to $12 per hour of homemaker assistance required to a maximum of $240 per week.

A claimant is not entitled to Loss of Services benefits if they are receiving Loss of Income benefits.

Level 5 - $65,000 – Cirrhosis [4.01(1)(d)]

A payment of $65,000 is made upon a claimant being diagnosed with cirrhosis.

Level 6 - $100,000 – Decompensation/Cancer/Liver Transplant [4.01(1)(e)]

A payment of $100,000 is made upon a claimant being diagnosed with liver decompensation or hepatocellular cancer or has received a liver transplant. There are some other conditions that will give rise to this benefit which are modelled together as extrahepatic diseases.

Cost of Care [4.04]

A claimant who meets the conditions for the $100,000 payment above and who has incurred costs for care that are not covered by any public or private health plan is entitled to reimbursement for all reasonable costs to a maximum of $50,000 per year.

Drug Therapy [4.05]

A claimant who receives Compensable Drug Therapy (interferon, ribavirin or such other treatment approved by the courts) is entitled to be paid $1,000 for each completed month of such therapy.

Uninsured Treatment & Medication [4.06]

A claimant who receives a generally accepted treatment and medication for HCV that is not otherwise recoverable from a private or public health plan is entitled to be reimbursed for all such reasonable costs.

Out-of-pocket Expenses [4.07]

A claimant who incurs out-of-pocket expenses due to infection by HCV that are not otherwise recoverable from a private or public health plan is entitled to be reimbursed for all such reasonable costs. This includes amounts for travel, hotels, meals, telephone and other similar expenses attributable to seeking medical advice or treatment and medication as well as costs incurred in establishing a claim under the Plan.

Secondarily Infected Persons

A spouse or child of an HCV infected claimant (or of an HCV infected person who has opted out of the Plan) where that person was infected with HCV as a result of the relationship, may make his or her own claim for compensation under the Plan. To be eligible, the spouse must file a claim within three years of the date the primarily infected person submits their claim. There is no such limitation on claims submissions by children. Benefits to secondarily infected persons are the same as for primarily infected persons.

HCV related death before 1 January 1999 [5.01]

If an approved HCV infected person died prior to 1 January 1999 as a result of HCV, their personal representative and/or family members are entitled to receive either:

1. $50,000 plus any uninsured funeral expenses incurred to a maximum of $5,000 plus the compensation to dependants and approved family members as outlined below; or,

2. $120,000 plus uninsured funeral expenses.

HCV related death after 1-Jan-1999 [5.02]

If a claimant dies after 1 January 1999 as a result of HCV, any uninsured funeral expenses incurred to a maximum of $5,000 and compensation to dependants and approved family members as outlined below are payable. This is in addition to any other benefit entitlement the claimant has under the Plan.

Compensation to Dependants [6.01]

Following the death of a person as a result of HCV, the dependants of that person are entitled to receive:

1. Loss of Support – from the date of death to the date the infected person would have attained age 65, dependants will be paid an annual amount equal to the net income of the deceased person, reduced by 30% to account for the personal living expenses of the deceased.

2. Loss of Services – from the date of death of the infected person, dependants will be paid an annual amount equal to $12 per hour to a maximum of $240 per week as compensation for Loss of Services in the home of the deceased. The Plan contains no reference as to how long these payments are to be made, however we understand that the administrator is paying this Loss of Services for the life expectancy of the deceased, calculated as of the date of death and based on the Canadian Life Tables as published by Statistics Canada.

Where the dependants are entitled to both Loss of Support and Loss of Services, only one is payable. Loss of Support payments cease upon the date the deceased would have attained age 65 and Loss of Services payments are payable thereafter.

The amount of benefit payable is to be split among all dependants in such manner as the dependants or administrator determine.

Compensation to Approved Family Members [6.02]

Following the death of a person as a result of HCV, the family members of that person are entitled to receive:

a. $25,000 for the spouse

b. $15,000 for each child under the age of 21 at the date of death

c. $5,000 for each child aged 21 or over at the date of death

d. $5,000 for each parent

e. $5,000 for each sibling

f. $500 for each grandparent

g. $500 for each grandchild

HIV Secondarily Infected Claimants [4.08]

An HCV infected person who is also a secondarily infected HIV person may only receive compensation from this Plan once their claims would otherwise have exceeded $240,000.

Additional Benefits for Haemophiliacs with Hepatitis C

The following benefits are payable upon a claimant's election instead of the above listed benefits and are only available to an approved haemophiliac claimant. Section references are to the Haemophiliac Plan.

Haemophiliac infected with both HCV and HIV [4.08(2)]

If the claimant is a primarily infected haemophiliac and is also infected with HIV, a lump sum amount of $50,000 may be elected instead of all other compensation under the Plan and is in full satisfaction of all claims.

Death prior to 1 January 1999 [5.01(4)]

If an approved HCV infected person died prior to 1 January 1999 as a result of HCV, their personal representative and/or family members are entitled to receive either:

1. $50,000 plus any uninsured funeral expenses incurred to a maximum of $5,000 plus the compensation to dependants and approved family members as outlined above; or,

2. $120,000 plus uninsured funeral expenses; or,

3. $72,000 if the claimant was a primarily infected haemophiliac and was also infected with HIV and if all dependants and other family members agree to accept this amount in full satisfaction of all claims. For this benefit, evidence of receipt of blood containing HCV during the period 1986 to 1990 is not required.

HIV Program

Persons who are infected with HIV resulting from a relationship (partner or child) with a primarily infected person who is an approved Extraordinary Assistance Plan recipient are eligible to receive $240,000 compensation from this Plan. There is no requirement that the person be infected with HCV. A maximum of 240 such claims will be accepted.

SPECIAL DISTRIBUTION BENEFITS PLAN

The Special Distribution Benefits Plan provides benefits that are in addition to those under the Regular Benefits Plan.

Fixed Payment Amounts

A supplement equal to 8.5% is payable for the following lump sums (past and future): payable at disease levels 1, 2, 3, 5 and 6, the haemophiliac co-infected with HIV lump sum, and lump sums payable for HCV-related death before Jan 1, 1999. For historical payments already paid, the supplement receives indexing to the year paid.

Family Member Payments

A supplement of $4,600 (1999 dollars) is payable to the parents and children over age 21 of infected claimants who died as a result of HCV.

Diminished Pension Savings

An infected claimant who is in receipt of Loss of Income payments will receive a supplement equal to 10% of the amount paid for loss of income which is to compensate them for a reduction in their savings for retirement income.

Loss of Services in the Home

An infected claimant or a dependant in receipt of a Loss of Services benefit will receive up to an additional 2 hours of benefit per week, bringing the total compensation to 22 hours of lost services per week.

Cost of Care

The Special Distribution Benefits Plan will pay for any cost of care expenses that exceed the $50,000 (1999 dollars) maximum under the Regular Benefits Plan up to an additional $10,000 (1999 dollars).

Out of Pocket Expenses

Family members who accompany an infected person to a medical appointment related to their HCV infection may claim a $200 (2014 dollars) lump sum amount. Only one such claim may be made per medical visit regardless of the duration of the appointment or the number of family members accompanying the infected person.

Co-Infected Haemophiliac Re-election

Co-infected haemophiliacs who have previously elected to receive a single lump sum payment of $50,000 (1999 dollars) in full satisfaction of their claim may rescind that election and receive regular Plan benefits once the total regular Plan benefits exceed the amount already paid from the Regular Benefits Plan.

Permanently Disabled Dependents

Permanently disabled dependents whose loss of services benefit runs out at the life expectancy of the deceased infected person may apply to have the loss of services benefit continue for the remaining lifetime of the dependent. The full amount of any such loss of services benefit is paid from the Special Distribution Benefits Plan.

LATE CLAIMS BENEFITS PLAN

Claimants who are approved under the Late Claims Benefits Plan are entitled to benefits equal to the sum of those provided under the Regular Benefits Plan plus the Special Distribution Benefits Plan.

APPENDIX B – SUMMARY OF CLAIMANT DATA

SOURCE OF DATA

The claimant data used to produce the results in this report can be split into two groups, the current known cohort and the assumed unknown cohort.

The data for the current known cohort was provided by the Plan administrator at the request of the Joint Committee. The data was split between a master list and several supporting lists. For each known claimant, as at 31 December 2019, the master list specified the claimant group (transfused or haemophiliac), gender, date of birth, HIV status, current disease level, etc. The supporting lists contained information on benefits paid and benefits currently in pay to the claimant and/or their beneficiaries, as dictated by the claimant's current disease level. The master list and supporting lists were consolidated into one file containing all of the information required to value the current known cohort.

The data for the assumed unknown cohort was created based on the assumptions set out in Section 6 - Hepatitis C Claimant Cohort. The unknown claimants are assumed to mirror the known claimants with respect to age, status (alive or deceased) and disease level.

DATA CHECKS ON THE CURRENT KNOWN COHORT

After consolidating the master list and supporting lists into one file, we performed a number of checks for reasonableness.

- Compare the number of claimants at each status with the number from the 2016 data.
- Compare the 2016 data for each known claimant with the 2019 data for any changes that would not be reasonable (such as a large number of changed dates of birth, inappropriate change in disease level or status).
- Reviewed the 2016 and 2019 data for missing claimants. There were no missing claimants.
- Compare the counts of the claimants who were alive, deceased after 1999 and deceased before 1999 for the known claimants to the similar numbers reported by Eckler.

We made the following adjustments to the data provided for the current known cohort:

- For claimants at disease level 3, we have assumed that 50% are at clinical stage F1 and 50% are at stage F2. This is based on the ratios presented in the MMWG report.

- For claimants at disease level 6 for whom a transplant is indicated, we allocated them to the first-year post-transplant and to the more than 1-year post transplant groups based on the date of transplant reported in the data.

- For claimants at level 6 who are indicated to have BN-cell lymphoma, renal failure, Cryoglobulinemia or Glomerulonephritis (“level 6 - Extrahepatic”), we grouped them into a single group for modeling.

COHORT DISTRIBUTIONS AS AT 31 DECEMBER 2019

Table 142 shows the claimant cohorts used in the valuation. Tables B.1 and B.2 below show the disease level as at 31 December 2019 for the known claimants together with their disease level as of 31 December 2016.

The following may assist in understanding the table.

The first row in Table B.1 shows the transfused claimants who were at level 1 in 2016. We can see that 445 of them remain at level 1 as of 2019 and that 3 are currently level 3. 24 have died in the past three years from non-HCV causes. The right-hand column shows that there was a total of 472 transfused claimants at level 1 in 2016.

From another perspective, look at the column headed “DA9 HCV”. This column shows the transfused claimants as of 31 December 2019 who have died as a result of HCV. There is a total of 581 (bottom row).

Looking at the second last row in the DA9 HCV column, we see that one of these deaths is a new entrant – that is the claim was approved at some time in the period 1 January 2017 to 31 December 2019. 542 of the transfused who died as a result of HCV were also deceased from HCV as of 31 December 2016. In the third last row are 10 claimants that were classified as a non-HCV death in 2016 but who have since been reclassified as a death from HCV. The balance of the rows above shows the number of claimants who were alive in December 2016 who have since died as a result of HCV.

Table B.1 – Disease Levels in 2016 and 2019 – Transfused Claimants

	2019 Disease Level									
2016 Disease Level	1	2	3	4	5	6	DB9[14]	DA9-non HCV[15]	DA9 - HCV[15]	Total by Level in 2016
1	445		3					24		472
2		710	13	3	5	2		63	5	801[13]
3			873	1	8	3		45	5	935
4				158	3	1		11	3	176
5					148	8		17	3	176
6						67		7	12	86
DB9[14]							185			185
DA9-non-HCV[15]								588	10	598
DA9 - HCV[15]									542	542
New Entrant	2	6	9		5	3		2	1	28
Total by Level in 2019	**447**	**716**	**898**	**162**	**169**	**84**	**185**	**757**	**581**	**3,999**

Table B.2 – Disease Levels in 2016 and 2019 – Haemophiliac Claimants

	2019 Disease Level									
2016 Disease Level	1	2	3	4	5	6	DB9[14]	DA9-non HCV[15]	DA9 - HCV[15]	Total by Level in 2016
1	139							6		145
2		130	7	1	1			16	1	156
3			305	2	4	1		8	1	321
4				71	2	3		1	1	78
5					82	5		6	6	99
6						51		1	6	58
DB9[14]							302			302
DA9-non-HCV[15]								61	2	63
DA9-HCV[15]									146	146
New entrant			2							2
Total by Level in 2019	**139**	**130**	**314**	**74**	**89**	**60**	**302**	**99**	**163**	**1,370**

[13] There were 802 claimants at Level 2 as of December 31, 2016; one claimant has subsequently been denied.

[14] DB9 – Deceased prior to 1999.

[15] DA9 – Deceased after 1999 – either HCV related or not-HCV related.

APPENDIX C – DESCRIPTION OF ACTUARIAL MODEL

The model for the valuation of the HCV liabilities is comprised of several modules, outlined as follows:

Data Entry Module

In this module, all relevant data fields are populated using data provided by the administrator, which reflects the actual known claimants at their actual age and disease stage. Similar to the 2016 model, we calculate the liability for the unknown claimants on a pro-rata basis to the known claimant liabilities.

Assumptions Module

This module is used to build sets of assumptions called scenarios, which are in turn used to calculate results. There are separate sets of assumptions for the transfused and haemophiliac groups.

Transition Matrix Module

The transition matrix contains the MMWG methodology and transition probabilities used in order to project each claimant's disease progression. This module also incorporates the excess mortality from HCV assumption.

Calculation Module

Once the data has been entered and a scenario chosen, individual claimants are automatically run through the calculation engine one at a time. This is commonly referred to as a seriatim valuation.

The data for each claimant is combined with the scenario's assumptions and the Plan specifics in order to produce liabilities and future expected year-by-year cash flows.

Each claimant is projected forward one year at a time. Each year, the model assesses the probability of them remaining at the same disease stage, changing to another disease stage, dying from HCV, dying from non-HCV causes, undergoing a successful treatment, incurring an eligible expense (e.g. drug therapy, out-of-pocket), incurring a Loss of Income or Loss of Services claim and recovering from disability and thereby ceasing to receive Loss of Income or Loss of Services.

Economic and demographic assumptions along with eligible benefit amounts are then taken into account to calculate the future cash flows for up to 100 years, as well as the present values of the liabilities. Both cash flows and present values are summarized by claimant and by benefit to facilitate analysis.

Cohort Progression Module

A by-product of the model is the ability to produce future cohort disease distributions similar to those presented in the MMWG Report at Tables 13.1 to 14.8.

Results Module

The results are then summarized in various reports to facilitate review and checking of the model, to provide the information necessary for inclusion in this report and to quantify effects of assumption changes and sensitivities.

APPENDIX D – SUMMARY OF ACTUARIAL ASSUMPTIONS

This is a summary of the main actuarial assumptions used in this report. The 2019 assumptions were selected jointly with Eckler and are the same as Eckler used for their 2019 report. The 2016 assumptions are also shown for comparison.

The assumptions for the claimant cohort are described in Section 6 and are not repeated here.

The assumptions are explained in more detail in the body of this report – disease progression is in Section 5 and the other assumptions in Section 13.

DISEASE PROGRESSION

Table D.1 - Transition Probabilities

From Stage	To Stage	Transition Rates 2016	Transition Rates 2019 - BE	Transition Rates 2019 - PfAD
F0(RNA-)	F0(RNA+)	0.00%	0.00%	0.00%
F0(RNA+)	F1	4.10%	3.70%	3.70%
F1	F2	12.20%	12.00%	12.00%
F2	F3	13.80%	13.20%	13.20%
F3	F4	14.00%	13.80%	13.80%
F4	Decompensation	8.50%	7.50%	7.50%
Decompensation	Transplant	1.50%	1.20%	1.20%
F1	HCC	0.01%	0.01%	0.01%
F2	HCC	0.01%	0.01%	0.01%
F3	HCC	0.10%	0.10%	0.10%
F4	HCC	2.60%	2.50%	2.50%
Decompensation	HCC	2.60%	2.50%	2.50%
HCC	Transplant	0.76%	0.70%	0.70%
F0(RNA+)	Extrahepatic	0.21%	0.20%	0.20%
F1	Extrahepatic	0.21%	0.20%	0.20%
F2	Extrahepatic	0.21%	0.20%	0.20%
F3	Extrahepatic	0.21%	0.20%	0.20%
F4	Extrahepatic	0.21%	0.20%	0.20%
F0(RNA+)	SVC(F0)	1.70%	1.70%	1.70%
F1	SVC(F1)	1.70%	1.70%	1.70%
F2	SVC(F2)	1.70%	1.70%	1.70%
F3	SVC(F3)	1.70%	1.70%	1.70%
SVC(F0)	SVC(F1)	0.36%	0.32%	0.32%
SVC(F1)	SVC(F2)	1.11%	1.03%	1.03%
SVC(F2)	SVC(F3)	1.27%	1.14%	1.14%
SVC(F3)	SVC(F4)	1.29%	1.19%	1.19%
SVC(F4)	Decompensation	4.34%	2.10%	2.10%
SVC(F4)	HCC	1.31%	0.78%	0.78%

Effect of Treatment on Fibrosis Progression

Treatment is assumed to be considered for all patients at stages F0(RNA+) to F4, Extrahepatic and Decompensation. At each of these stages a percentage of the patients are given treatment, and a percentage of those treated react successfully to the treatment.

For 2019, we assumed that 75% (58% for provision for adverse deviations) of claimants who have previously been treated have cleared the virus (60% and 45% respectively in 2016).

For 2019, all known claimants who have not previously been treated or have not cleared the virus following a prior treatment are eligible for one round of treatment during the five-year period following the valuation (same for 2016) with no additional treatments assumed thereafter. For the unknown claimants, we assumed each person would be eligible for one round of treatment in accordance with the treatment rates below during the five-year period following their approval.

Table D.2a - Probability of Receiving Treatment in the Future – 2019*

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	81.00%	88.00%	91.30%	94.00%
F1/F2	89.80%	92.20%	94.90%	96.20%
F3	92.10%	96.00%	94.90%	97.60%
F4	91.20%	96.20%	93.00%	98.20%
Decompensation	73.40%	77.70%	78.00%	84.20%

** Extrahepatic receive treatment based on the disease stage they transitioned from (F0 to F4).*

The MMWG Report set out a series of assumptions about which drugs would be used and their respective efficacies. After combining those assumptions and spreading the treatments over the next five years (10-years at 90% of the MMWG Report efficacies for provision for adverse deviations), we developed the following annual cure rates, or rates of SVR.

Table D.2b – Annual Rates of SVR* – 2019 Best Estimate

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	27.30%	32.70%	37.30%	40.90%
F1/F2	35.40%	37.80%	43.30%	45.60%
F3	38.50%	44.90%	43.30%	50.00%
F4	37.20%	45.40%	39.80%	52.50%
Decompensation	22.48%	25.23%	24.51%	29.33%

* *The annual rate of SVR (cure rate) is the percent of all claimants in a future year who are assumed to be cured through taking drug treatment. The medical model assumes that only one treatment regimen will be given per claimant on and after 1 January 2020, regardless of any treatments received prior to that. Extrahepatic cure rates are based on the disease stage they transitioned from (F0 to F4).*

Table D.2c – Annual Rates of SVR – 2019 Provision for Adverse Deviations

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	15.30%	21.67%	19.11%	24.52%
F1/F2	20.41%	25.74%	22.52%	27.89%
F3	22.42%	25.74%	27.52%	31.13%
F4	21.58%	23.35%	27.89%	33.08%
Decompensation	12.40%	14.05%	13.93%	16.85%

The modelling of SVC and SVR has changed from prior valuations. For a claimant who has been treated and is cured (SVC or SVR), transitioning to higher disease stages is still assumed possible but at a reduced probability, as outlined in table D.2d.

Table D.2d – Reduced transition rates following cure

From	To	Transition as a % of base rate
SVR (F0(RNA+), F1, F2, F3)	F1, F2, F3 or F4	8.6%[16]
SVR (F4)	Decomp	28.0%
SVR (F0(RNA+), F1, F2, F3, F4 or Decomp)	HCC	31.0%
SVR (F0(RNA+), F1, F2, F3 or F4)	Extrahepatic	42.0%
SVR (Xhepatic)	Death	5.0%
SVR (Decomp)	Transplant or Death	32.0%

The assumptions used in 2016 are summarised in table D.2e and table D.2f.

Table D.2e – Annual Rates of SVR – 2016 Best Estimate

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	27.30%	32.70%	37.30%	40.90%
F1/F2	35.40%	37.80%	43.30%	45.60%
F3	38.50%	44.90%	43.30%	50.00%
F4	37.20%	45.40%	39.80%	52.50%

[16] The formula used is: 1 - EXP(8.6% * LN(1 - baseline probability)). For the other rows in the table, the 8.6% is replaced accordingly.

Table D.2f – Annual Rates of SVR – 2016 Provision for Adverse Deviations

Disease Stage	Treatment Naïve Without HIV	Treatment Naïve With HIV	Previously Treated Without HIV	Previously Treated With HIV
F0(RNA+)	13.30%	16.30%	18.80%	21.00%
F1/F2	17.80%	19.20%	22.40%	23.90%
F3	19.50%	23.40%	22.40%	26.60%
F4	18.80%	23.70%	20.30%	28.30%

OTHER ASSUMPTIONS

Mortality Assumptions

Table D.3 - Mortality Assumptions

Assumption	2016	2019 - BE	2019 - PfAD
Mortality from all causes other than HCV	Canada Life Tables 2012 to 2014 for transfused and haemophiliacs.	Canada Life Tables 2016 to 2018 for transfused and haemophiliacs.	Same
Mortality from all causes other than HCV for those co-infected with HIV	624% of the Canada Life Tables 2012 to 2014	624% of the Canada Life Tables 2016 to 2018	Same
Mortality due to HCV from Level 6 – Decompensation	Greater of Canada Life mortality* and 23.8%	Greater of Canada Life mortality* and 24.7%	Same
Mortality due to HCV from Level 6 – Extrahepatic	Greater of Canada Life mortality* and 12.6%	Greater of Canada Life mortality* and 11.5%	Same
Mortality due to HCV from Level 6 – HCC – cancer	Greater of Canada Life mortality* and 25.9%	Greater of Canada Life mortality* and 26.5%	Same
Mortality due to HCV from liver transplant - first year - thereafter	Greater of Canada Life mortality* and: 8.7% 4.3%	Greater of Canada Life mortality* and: 8.3% 4.4%	Same

** The Canada Life mortality utilized includes the 624% adjustment for co-infected persons.*

Table D.4a – Excess HCV-Related Mortality - 2019

	Disease Level					
	1	2	3	4	5	6
Claimants who have not cleared the virus						
HCV Death	0%	5%	25%	35%	50%	100%
Non-HCV Death	100%	95%	75%	65%	50%	0%
Claimants who have cleared the virus						
HCV Death	0%	0%	5%	20%	35%	100%
Non-HCV Death	100%	100%	95%	80%	65%	0%

The percentages for excess HCV-related mortality are applied to allocate deaths based on the Canada Life Tables between those that are considered HCV related deaths and those that are not considered HCV related deaths. These HCV related deaths are in addition to those assumed under the MMWG model as set out in Section 5.

The provision for adverse deviations assumptions are the same.

Table D.4b – Excess HCV-Related Mortality - 2016

	Disease Level					
	1	2	3	4	5	6
Claimants who have not cleared the virus						
HCV Death	0%	5%	25%	40%	80%	100%
Non-HCV Death	100%	95%	75%	60%	20%	0%
Claimants who have cleared the virus						
HCV Death	0%	0%	5%	25%	60%	100%
Non-HCV Death	100%	100%	95%	75%	40%	0%

Economic Assumptions

Table D.5 - Economic Assumptions

	2016			2019		
Asset Class	Allocation	Expected Return	Contribution to Fund Return	Allocation	Expected Return	Contribution to Fund Return
Universe Bonds	5.25%	3.10%	0.16%	5.47%	3.15%	0.17%
Short Term Bonds	2.50%	2.60%	0.07%	2.10%	2.25%	0.05%
Real return bonds	70.00%	2.75%	1.93%	70.96%	2.66%	1.89%
Equities						
- Canada	-	-	-	-	-	-
- US	-	-	-	-	-	-
- International	-	-	-	-	-	-
- Global	12.25%	6.90%	0.85%	13.17%	6.65%	0.88%
Notional assets	10.00%	1.90%	0.19%	8.30%	2.25%	0.19%
Expected return	100.00%		3.20%	100.00%		3.17%
Rebalancing effect			0.24%			0.17%
Less Inflation			(2.25%)			(2.25%)
Less Expenses			(0.04%)			(0.04%)
Discount rate - BE			**1.15%**			**1.05%**
Margin for Adverse Deviations			(0.25%)			(0.25%)
Discount Rate - PfAD			**0.90%**			**0.80%**

Assumptions about Benefit Amounts – Regular Benefits Plan

Benefit amounts with a value shown for 1999 are amounts set out in the Plan. Where there is no value shown for 1999, the amounts are *assumptions* about the expected amount of a claim.

Table D.6 – Assumptions about Benefit Amounts – Regular Benefits

Benefit	1999 Amount	2016 BE	2016 PfAD	2019 BE	2019 PfAD
Level 1	$10,000	$14,061	Same	$14,874	Same
Level 2	$20,000	$28,123	Same	$29,748	Same
Level 3	$30,000	$42,184	Same	$44,621	Same
Level 5	$65,000	$91,400	Same	$96,679	Same
Level 6	$100,000	$140,615	Same	$148,738	Same
Loss of services - maximum	$12,480	$17,549	Same	$18,562	Same
Loss of services – assumed benefit					
• transfused		$17,000	Same	$17,600	Same
• haemophiliac		$17,000	Same	$17,600	
Loss of income - maximum	$300,000 [17]	$421,844	Same	$446,213	Same
Loss of income – assumed benefit					
• transfused		$40,000	Same	$40,500	Same
• haemophiliac		$55,000	Same	$57,500	
Cost of Care (level 6)		$39,000	$47,000	$52,500	$59,500
HCV Drug Therapy monthly amount	$1,000	$1,406	Same	$1,487	Same
HCV Drug Therapy total claim		$4,218	Same	$4,500	Same
Uninsured treatment and medication for those who have not cleared the virus:					
• transfused		$2,000	Same	$2,200	Same
• haemophiliac		$3,000	Same	$3,300	Same
Treatment costs reimbursed by the Fund					
• Claimants under 65		$45,000	$55,000	$22,500	$33,750
• Claimants over 65		$5,000	$15,000	$17,500	$26,250
Out-of-pocket Expenses: claimants who have not cleared the virus					
• transfused		$1,700	Same	$2,000	Same
• haemophiliac		$2,000	Same	$2,200	Same
Claimants upon clearing the virus					
• transfused		$1,200	Same	$1,500	Same
• haemophiliac		$5,000	Same	$5,500	Same

[17] In 2008, the courts increased the maximum Loss of Income to $2,300,000 but limited it to three known claimants. Future claimants with losses in excess of $300,000 (1999 dollars) may apply to the courts for a review of their loss.

Table D.6 – Assumptions about Benefit Amounts – Regular Benefits

Benefit	1999 Amount	2016 BE	2016 PfAD	2019 BE	2019 PfAD
Uninsured Funeral Expenses					
• maximum	$5,000	$7,031	Same	$7,437	Same
• assumed average claim	n/a	$4,500		$4,700	
Haemophiliac Coinfected with HIV lump sum option	$50,000	$70,307	Same	$74,369	Same
Death after 1999					
Family Benefits					
• transfused		$51,000	Same	$56,520	Same
• haemophiliac		$63,000		$72,810	
Dependant benefits – Loss of Support					
• If currently receiving loss of income		70% of LOI	Same	70% of LOI	Same
• Transfused		$30,000		$31,000	
• Haemophiliac		$37,000		$39,500	
Dependant benefits – Loss of Services					
• Currently receiving loss of services		$17,000	Same	$17,600	Same
• Transfused		$17,000		$17,600	
• Haemophiliac		$17,000		$17,600	
HIV Program	$240,000	$240,000	Same	$240,000	Same

Table D.7 – Eligibility and Timing of Compensation Payments – Regular Benefits

Benefit Payment	2016 - BE	2016 - PfAD	2019 - BE	2019 - PfAD
Claimants at Level 2 eligible for Compensable Drug Therapy (thereby qualify for Level 3 benefits)	5.0%	5.0%	2.5%	2.5%
Claimants other than Level 2 eligible for Compensable Drug Therapy	5.0%	5.0%	5.0%	5.0%
Loss of Income – Level 3				
▪ Proportion claiming	3.0% under age 65 0.0% over age 64	Same	2.0% under age 65 0.0% over age 64	Same
Loss of Income – Level 4				
▪ Proportion claiming – unknown	12.0% under age 65 0.0% over age 64	Same	10.0% under age 65 0.0% over age 64	Same
▪ Proportion claiming - known[18]	4.2% transfused 1.6% haemophiliac		3.7% transfused 0.0% haemophiliac	
Loss of Income – Level 5				
▪ Proportion claiming – unknown	25.0% under age 65 0.0% over age 64	Same	25.0% under age 65 0.0% over age 64	Same
▪ Proportion claiming - known	1.0% transfused 6.5% haemophiliac		5.1% transfused 7.1% haemophiliac	
Loss of Income – Level 6				
▪ Proportion claiming - unknown	25.0% under age 65 0.0% over age 64	Same	25.0% under age 65 0.0% over age 64	Same
▪ Proportion claiming - known	0.6% transfused 0.0% haemophiliac		6.8% transfused 5.6% haemophiliac	
Loss of Services – Level 3				
▪ Proportion claiming	3.0% under age 65 6.0% over age 64	Same	3.0% under age 65 9.0% over age 64	
Loss of Services – Level 4				
▪ Proportion claiming - unknown	30.0% under age 65 38.0% over age 64	Same	30.0% under age 65 40.0% over age 64	Same
▪ Proportion claiming - known				
- Transfused	16.3% under age 65 14.8% over age 64		8.0% under age 65 22.2% over age 64	
- Haemophiliac	0.0% under age 65 0.0% over age 64		0.0% under age 65 0.0% over age 64	
Loss of Services – Level 5				
▪ Proportion claiming - unknown	30.0% under age 65 44.0% over age 64	Same	35.0% under age 65 50.0% over age 64	Same
▪ Proportion claiming - known				
- Transfused	2.6% under age 65		13.3% under age 65	

[18] The known proportion claiming applies to known claimants already at the indicated level who have not yet commenced a claim. Known claimants already on claim are assumed to continue. Known claimants who transition into a level are assumed to claim based on the rates for unknown claimants.

Table D.7 – Eligibility and Timing of Compensation Payments – Regular Benefits

Benefit Payment	2016 - BE	2016 - PfAD	2019 - BE	2019 - PfAD
- Haemophiliac	9.2% over age 64 0.0% under age 65 10.4% over age 64		6.8% over age 64 0.6% under age 65 0.0% over age 64	
Loss of Services – Level 6				
▪ Proportion claiming - unknown	50.0% under age 65 65.0% over age 64	Same	55.0% under age 65 65.0% over age 64	Same
▪ Proportion claiming - known				
- Transfused	14.5% under age 65 42.3% over age 64		26.1% under age 65 30.0% over age 64	
- Haemophiliac	0.0% under age 65 0.0% over age 64		0.0% under age 65 0.0% over age 64	
Cost of Care				
▪ Proportion claiming	50.0% each year	Same	50% each year	Same
Drug Therapy				
▪ Incidence	5.0% of claimants coincident with undergoing treatment	Same	2.5% of claimants coincident with undergoing treatment	Same
▪ Proportion claiming				
▪ Level 2				
▪ Level 3				
▪ Level 4				
▪ Level 5				
Uninsured Treatment & Medication				
Proportion claiming (of those not cured):				
▪ Transfused	4.5%	Same	4.0%	Same
▪ Haemophiliac	8.5%		7.0%	
Claimants being treated for purpose of clearing the virus	In accordance with Table D.2a		In accordance with Table D.2a	
Out-of-pocket expenses				
▪ Incidence	Claimants who are not cured	Claimants who are not cured	Claimants who are not cured	Claimants who are not cured
▪ Proportion claiming				
- Transfused	6.0% at levels 1 to 6	12.0% at levels 1 to 6	6.0% at levels 1 to 6	9.0% at levels 1 to 6
- Haemophiliac	12.0% at levels 1 to 6 100.0% coincident with clearing the virus	24.0% at levels 1 to 6 100.0% coincident with clearing the virus	12.0% at levels 1 to 6 100.0% coincident with clearing the virus	18.0% at levels 1 to 6 100.0% coincident with clearing the virus
Secondarily Infected Persons	All SIP claimants included in known & unknown cohort	Same	All SIP claimants included in known & unknown cohort	Same
$50,000 Full Settlement				
▪ Incidence	Haemophiliacs with HCV and HIV	Same	Haemophiliacs with HCV and HIV	Same
▪ Proportion claiming	100.0% level 1 0.0% level 2		100.0% level 1 0.0% level 2	
HCV related death pre-1999 - Transfused				
▪ Known claimants	Payable as elected	Same	Payable as elected	Same

Table D.7 – Eligibility and Timing of Compensation Payments – Regular Benefits

Benefit Payment	2016 - BE	2016 - PfAD	2019 - BE	2019 - PfAD
▪ Unknown claimants	48.0% elect $120,000 52.0% elect $50,000+ 100.0% - funeral 100.0% - family ben 20.0% - Lost Support 80.0% - Lost Services	Same	0.0% elect $120,000 100.0% elect $50,000+ 100.0% - funeral 100.0% - family ben 0.0% - Lost Support 100.0% - Lost Services	Same
HCV related death pre-1999 - Haemophiliac				
▪ Known Claimant	Payable as elected	Same	Payable as elected	Same
▪ Unknown Claimants	n/a		n/a	
HCV related death post 1998				
▪ Deaths prior to 2014 for known claimants	Continue current benefits	Same	Continue current benefits	Same
▪ Future deaths and unknown claimants	100.0% - funeral 100.0% - family ben 55.0% - Lost Support 17.0% - Lost Svcs <65 65.0% - Lost Svcs >65		100.0% - funeral 100.0% - family ben <u>Pre 65 Death:</u> *In receipt of Lost Income at death*: 70% - Lost Support *In receipt of Lost Svcs at death:* 10% - Lost Support 55% - Lost Svcs; *Receiving Neither at death*: 10% - Lost Support 10% - Lost Svcs <u>Post 65 Death:</u> *Receiving Lost Svcs at death*: 65% - Lost Svcs; *Not receiving Lost Svcs at death*: 25% - Lost Svcs	
▪ Death while receiving loss of income/loss of services	70% - Lost Support, at 70% of the Loss of Income amount 70% - Lost Svcs, at 100% of the Loss of Svcs amount		Per above	

Table D.7 – Eligibility and Timing of Compensation Payments – Regular Benefits

Benefit Payment	2016 - BE	2016 - PfAD	2019 - BE	2019 - PfAD
Loss of Services Cease				
▪ Infected claimants	At death	Same	At death	Same
▪ Dependants	As specified in data otherwise at age 85		As specified in data otherwise at age 85	
Outstanding Payments	Provided by administrator	Same	Provided by administrator	Same
HIV Secondarily Infected	No claims	Same	No claims	Same
HIV Program	4 future payments of $240,000 each occurring every 3 years	Same	2 future payments of $240,000 each, one occurring in 2023 and another occurring in 2027	Same

Table D.8 – Recovery Rates from Loss of Income and Loss of Services After Clearing the Virus[19]

	Best Estimate			PfAD		
Years Since Disability	Levels 3 & 4	Level 5	Level 6	Levels 3 & 4	Level 5	Level 6
1	50.0%	25.0%	0.0%	25.0%	13.0%	0.0%
2	30.0%	15.0%	0.0%	15.0%	8.0%	0.0%
3	25.0%	12.5%	0.0%	13.0%	7.0%	0.0%
4	25.0%	12.5%	0.0%	13.0%	7.0%	0.0%
5	15.0%	7.5%	0.0%	8.0%	4.0%	0.0%
6	10.0%	5.0%	0.0%	5.0%	3.0%	0.0%
7	5.0%	2.5%	0.0%	3.0%	2.0%	0.0%
8	5.0%	2.5%	0.0%	3.0%	1.0%	0.0%
9+	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

[19] The 2016 and 2019 assumptions for recovery are the same.

Assumptions for the Special Distribution Benefits Plan

The Special Distribution Benefits were valued using the same assumptions as for the Regular Benefits with the following exceptions.

Table D.9 – Assumptions for Special Distribution Benefits

Benefit Payment	2016 - BE	2016 - PfAD	2019 - BE	2019 - PfAD
Lump sum amounts at levels 1 to 6 Haemophiliac co-infected lump sum HCV-related death before 1 Jan 1999 lump sums	8.5% of Regular Benefit	Same	8.5% of Regular Benefit	Same
Average benefit for Loss of Income	10% of amount under Regular Benefits Plan	Same	10% of amount under Regular Benefits Plan	Same
Average benefit for Loss of Services	10% of amount under Regular Benefits Plan	Same	10% of amount under Regular Benefits Plan	Same
Average benefit for Cost of Care	Average $625 increase per claimant	Average $750 increase per claimant	Average $682 increase per claimant	Average $774 increase per claimant
Out of Pocket - for accompanying family member – while not cured	6% transfused 12% haemophiliac Each year will average $360	12% transfused 24% haemophiliac Each year will average $720	6% transfused 12% haemophiliac Each year will average: $2,900 for transfused $3,400 for haemophiliac	9% transfused 18% haemophiliac Each year will average $2,900 for transfused $3,400 for haemophiliac
Coincident with treatment	100% of claimants average $360	Same	100% of claimants average $360	Same
Family Benefits	Average total of $15,300 transfused $12,600 haemophiliac	Same	Average total of $11,400 transfused $9,800 haemophiliac	Same
Dependants - Loss of Support - Loss of Services	 Average of $3,000 pa Average $1,700 pa	Same	 10% of the main fund 10% of the main fund	Same
Permanently Disabled Dependants	5 current dependants qualify for lifetime loss of services plus assume 4 more	Same	4 current dependants (no spouse and 4 children) qualify for lifetime loss of services plus assume 4 more children	Same
Haemophiliac re-election of $50,000 option	All 27 haemophiliacs at level 2 will re-elect	Same	All 23 haemophiliacs at level 2 will re-elect	Same

Assumptions for the Late Claims Benefits Plan

The Late Claims Benefits were all valued using the combined set of assumptions from the Regular benefits and the Special Distribution Benefits.

APPENDIX E – GLOSSARY OF TERMS USED

Administrator	Epiq Global.
Best Estimate (BE) Assumptions	When preparing a present value of future contingent events, it is necessary to make assumptions about the future. Best estimate assumptions are those that when taken either individually or in total are expected to provide one's best estimate of how the future might unfold. Based on expectations of the future, the Best Estimate liability is expected to be too large 50% of the time and too small 50% of the time.
CAP	Court Approved Protocol. Each CAP sets out details on how to administer provisions within the Plan.
Compensable Drug Therapy	Compensable Drug Therapy is a defined term in the Plan and sets out the conditions when a drug treatment qualifies for various compensation payments under the Plan. It includes treatment that involves interferon, ribavirin or such other treatment approved by the courts.
Eckler Report	Actuarial Report to the Joint Committee Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust as of December 31, 2019, prepared by Richard Border, FIA, FCIA, and Euan Reid, FSA, FCIA.
Fund	The Fund holds all of the assets and is the vehicle through which the investments are made. The Fund is comprised of three portions – the Regular Benefits Account, the Special Distribution Benefits Account and the LCBP Account.
Haemophiliac Cohort	The group of approved claimants who are haemophiliacs.
Haemophiliac Plan	A compensation program that forms part of the Settlement Agreement for people who are haemophiliacs and who are infected with HCV transmitted through the blood supply in Canada between 1 January 1986 and 1 July 1990.
HCV	The Hepatitis C virus.
HIV	The human immunodeficiency virus.
HIV Program	A compensation program that forms part of the Settlement Agreement for people who are secondarily infected with HIV and where the primarily infected person is eligible for benefits from the Extraordinary Assistance Program. There is no requirement that they also be infected with HCV.
HIV Co-infection	Describes a person who is infected with both HCV and HIV. There are additional benefits available to haemophiliacs who are HIV co-infected.
HIV Secondarily Infected Person	A haemophiliac infected with HCV who is also secondarily infected with HIV. No benefits are payable from this Plan unless the total to which they would have been entitled exceeds $240,000.
Joint Committee	The committee established under section 9.01 of the Plan to oversee the operations of the Plan.
Known Claimants	Those claimants who have been approved as of the date of the valuation and are included in the data provided by the Administrator.

Late Claims Benefits	These are benefits payable from the Late Claims Benefits Plan.
Late Claims Benefits Plan	The Late Claims Benefits Plan provides benefits to claimants who filed claims after the deadline under the Settlement Agreement and did not meet one of the conditions under the Settlement Agreement for filing late. This plan provides benefits that total what would be payable under the Regular Benefits Plan plus the Special Distribution Benefits Plan.
LCBP Account	The sub-fund from which all Late Claims Benefits are paid. This is maintained as an account within the Fund. Assets are comingled with those of the Regular Benefits Account and the Special Distribution Benefits Account for purposes of investment, but fund values are maintained separately. There is no provision for any asset transfers between accounts after the initial transfer of assets into the LCBP Account.
Level	A disease level as defined under the Plan. Levels are related to stages as modelled in the MMWG Report.
MMWG Report	"Estimating the Prognosis of Canadians Infected with the Hepatitis C Virus Through the Blood Supply, 1986-1990 – The Seventh Revision of Hepatitis C Prognostic Model Based on the Post-Transfusion Hepatitis C Compensation Claimant Cohort", dated 25 March 2020 by Karen Bremner BSc, Yeva Sahakyan MD MPH MSc, Qilong Yi MD MSc PhD, William Wong PhD, and Murray Krahn MD MSc FRCPC
Non-haemophiliac Cohort	See Transfused Cohort
Plan or Regular Benefits Plan	Transfused HCV Plan and the Haemophiliac HCV Plan as attached to and forming part of the judgement of the Honourable Mr. Justice Warren K. Winkler dated 22 October 1999, (court file number 98-CV-141369).
Plan Terms	The provisions regarding payment of benefits as set out in the Plan.
Previously Treated	Those claimants who have received any previous HCV treatment but where the treatment was unsuccessful. They are assumed in the medical model to be eligible for one additional course of treatment following the valuation date.
Provision for Adverse Deviations (PfaD)	When preparing a present value of future contingent events, it is necessary to make assumptions about the future. To increase the likelihood that the resulting liabilities will be sufficient to provide for all future benefits, it is prudent to include margins for conservatism in the assumptions. These margins individually and in total result in larger liabilities than the best estimate liability and provide a provision for adverse deviations from the best estimate, or the expected, assumptions about the future. The greater the provision for adverse deviations, the greater the expectation that the liabilities will be sufficient to provide for all future benefits as they become payable.
Regular Benefits	These are the benefits payable under the Plan. Special Distribution Benefits are in addition to the Regular Benefits.
Regular Benefits Account	Prior to 2016, there was only one fund from which benefits were paid. Effective with the establishment of the Late Claims Benefits Plan and the Special Distribution Benefits Plan, the Fund was split into three components. The Regular Benefits Account is the continuation of the previous fund. It holds a portion of the invested assets plus all of the Notional Assets and is used to pay the Regular Benefits as set out under the Plan.

Regular Benefits Plan	See Plan.
Settlement Agreement	The Transfused HCV Plan, the Haemophiliac HCV Plan, the Federal/Provincial/Territorial Assistance Program for HIV Secondarily-Infected Individuals and the Funding Agreement all as attached to and forming part of the judgement of the Honourable Mr. Justice Warren K. Winkler dated 22 October 1999, (court file number 98-CV-141369).
Special Distribution Benefits	Benefits that are payable from the Special Distribution Benefits Plan. These are in addition to the benefits payable from the Regular Benefits Plan.
Special Distribution Benefits Account	The fund from which all Special Distribution Benefits are paid. This is maintained as a sub-fund of the Fund. Assets are comingled with those of the Regular Benefits Account for purposes of investment, but fund values are maintained separately. There is no provision for any asset transfers between funds after the initial transfer of assets into the Special Distribution Benefits Account.
Special Distribution Benefits Plan	The Special Distribution Benefits Plan which provides payments supplemental to the Plan benefits in accordance with the court orders dated 15 August 2016 (Ontario and Quebec) and 17 August 2016 (British Columbia).
Stages	A disease stage as modelled under the MMWG Report. Stages are related to the compensation levels under the Plan.
SVC	Spontaneous Viral Clearance – this indicates a person is cured.
SVR	Sustained Viral Response – this is an indicator for clearing the virus or being cured. SVR is the absence of detectable RNA of the hepatitis C virus in blood serum for at least 24 weeks after discontinuing the treatment[20].
Transfused Cohort	The group of approved claimants who are not haemophiliacs.
Transfused Plan	A compensation program that forms part of the Settlement Agreement for people who are not haemophiliacs and who are infected with HCV transmitted through the blood supply between 1 January 1986 and 1 July 1990.
Treatment Naïve	Those claimants who have not received any previous HCV treatment. They are assumed in the medical model to be eligible for one course of treatment following the valuation date.
Unknown claimants	Those claimants who are assumed to be approved as a class member at some date in the future.
2016 Allocation Orders	Orders of the three Courts having jurisdiction that established the Supplemental Benefits Plan and Late Claims Benefits Plan.

[20] Wikipedia – "Sustained Viral Response"

Morneau Shepell is the leading provider of technology-enabled HR services that delivers an integrated approach to well-being through our cloud-based platform. Our focus is providing everything our clients need to support the mental, physical, social and financial well-being of their people. By improving lives, we improve business. Our approach spans services in employee and family assistance, health and wellness, recognition, pension and benefits administration, retirement consulting, actuarial and investment services. Morneau Shepell employs approximately 6,000 employees who work with some 24,000 client organizations that use our services in 162 countries. Morneau Shepell is a publicly traded company on the Toronto Stock Exchange (TSX: MSI). For more information, visit morneaushepell.com.

Morneau Shepell Ltd.
895 Don Mills Rd.,
Tower One, Suite 700
Toronto ON M3C 1W3

Phone: (416) 445-2700

MENTAL HEALTH PARTNER

THIS IS EXHIBIT "D"
referred to in the affidavit of
PETER GORHAM

Sworn remotely on the 10th day of December 2020

Commissioner for Taking Affidavits

MORNEAU SHEPELL

895 Don Mills Road Tower One,
Suite 700 Toronto, Ontario M3C 1W3

November 20, 2020

John Spencer
Department of Justice
First Canadian Place, Exchange Tower
130 King Street West, 34th Floor
Toronto, Ontario M5X 2A2

Re: Morneau Shepell's Actuarial Report Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust Fund as at 31 December 2019

Dear John,

Subsequent to our report dated 9 November 2020 an addendum was added to the MMWG Report. The addendum is dated 18 November 2020 and is titled "Addendum on Zepatier (Elb/Grz) Issue". The addendum discusses a comment suggesting that Zepatier will have little or no use in the future and will be replaced by other DAA agents. The MMWG conclude that the replacement with other DAA agents would have negligible to no impact on their current model results.

We confirm that the information in the addendum has no effect on the findings in our report.

Howard Cimring

cc. William Knights, Department of Justice
Matthew Sullivan, Department of Justice
Nathalie Hamam, Department of Justice

Parsons, et al	and	Canadian Red Cross Society, et al	Court File No. 98-CV-141369 CP00
Plaintiffs		Defendants	

ONTARIO
SUPERIOR COURT OF JUSTICE

Proceeding Commenced in
Toronto

AFFIDAVIT OF PETER GORHAM

ATTORNEY GENERAL OF CANADA

Department of Justice Canada
Ontario Regional Office
120 Adelaide Street West
Suite 400
Toronto, Ontario
M5H 1T1

Per: John Spencer
Tel: (416) 973-8219
Fax: (416) 973-5004
Email: John.Spencer@justice.gc.ca
LSO# 16888F

Counsel for Her Majesty the Queen in Right of Canada

This is the 5th Affidavit
of Richard Border in this case
and was made on October 14, 2015

Court File No. 98-CV-141369 CP00

ONTARIO
SUPERIOR COURT OF JUSTICE

BETWEEN:

DIANNA LOUISE PARSONS, MICHAEL HERBERT CRUICKSHANKS, DAVID TULL, MARTIN HENRY GRIFFEN, ANNA KARDISH, ELSIE KOTYK, Executrix of the Estate of Harry Kotyk, deceased and ELSIE KOTYK, personally

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO and THE ATTORNEY GENERAL OF CANADA

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT and THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the *Class Proceedings Act, 1992*

Court File No. 98-CV-146405

BETWEEN:

JAMES KREPPNER, BARRY ISAAC, NORMAN LANDRY, as Executor of the Estate of the late SERGE LANDRY, PETER FELSING, DONALD MILLIGAN, ALLAN GRUHLKE, JIM LOVE and PAULINE FOURNIER as Executrix of the Estate of the late PIERRE FOURNIER

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, THE ATTORNEY GENERAL OF CANADA and HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT AND THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the *Class Proceedings Act, 1992*

No. C965349
Vancouver Registry

In the Supreme Court of British Columbia

Between:

Anita Endean, as representative plaintiff

Plaintiff

and:

**The Canadian Red Cross Society
Her Majesty the Queen in Right of the Province of
British Columbia, and The Attorney General of Canada**

Defendants

and:

**Prince George Regional Hospital, Dr. William Galliford,
Dr. Robert Hart Dykes, Dr. Peter Houghton, Dr. John Doe,
Her Majesty the Queen in Right of Canada, and
Her Majesty the Queen in Right of the Province of
British Columbia**

Third Parties

Proceeding under the *Class Proceedings Act*, R.S.B.C. 1996, C. 50

CANADA PROVINCE OF QUÉBEC DISTRICT OF MONTRÉAL NO : 500-06-000016-960	**SUPERIOR COURT** **Class action** **DOMINIQUE HONHON** Plaintiff -vs- **THE ATTORNEY GENERAL OF CANADA** **THE ATTORNEY GENERAL OF QUÉBEC** **THE CANADIAN RED CROSS SOCIETY** Defendants -and- **MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec** **PETITIONER** -and- **FONDS D'AIDE AUX RECOURS COLLECTIFS** -and- **LE CURATEUR PUBLIC DU QUÉBEC** Mis-en-cause
CANADA PROVINCE OF QUÉBEC DISTRICT OF MONTRÉAL NO : 500-06-000068-987	**SUPERIOR COURT** **Class action** **DAVID PAGE** Plaintiff -vs- **THE ATTORNEY GENERAL OF CANADA** **THE ATTORNEY GENERAL OF QUÉBEC** **THE CANADIAN RED CROSS SOCIETY** Defendants -and- **FONDS D'AIDE AUX RECOURS COLLECTIFS** -and- **LE CURATEUR PUBLIC DU QUÉBEC** Mis-en-cause

AFFIDAVIT

I, RICHARD BORDER, of 980-475 West Georgia Street, Vancouver, British Columbia SWEAR (OR AFFIRM) THAT:

1. I am a Principal and Shareholder of Eckler Ltd. ("Eckler").

2. Attached hereto and marked as **Exhibit "A"** is a true copy of the Actuarial Report to the Joint Committee, entitled *"Proposed Allocation of the 2013 Sufficiency Assessment Actuarially Unallocated Assets 1986-1990 Hepatitis C Trust".*

3. The Eckler actuarial personnel involved in the review of the data and the development of the actuarial model which provides a basis for the opinions expressed are myself, Wendy Harrison, Dong Chen and Kevin Chen. The opinions are those of Wendy Harrison and me and we are the authors of the report.

4. There have been no material changes to the curriculum vitaes appended to my fourth affidavit, sworn on March 11, 2015.

SWORN (OR AFFIRMED) BEFORE ME)
at Vancouver, British Columbia, on)
October 14, 2015.)

_____)
A Commissioner for taking)
Affidavits for British Columbia)

_____
RICHARD BORDER

SHARON D. MATTHEWS, QC
BARRISTER & SOLICITOR
856 Homer Street, 4th Floor
Vancouver, BC V6B 2W5
Tel: 604-689-7555 Fax: 604-689-7554

This is Exhibit" A "referred to in the
affidavit of Richard Border
sworn before me at Vancouver, BC
this 14 day of October 2015

A Commissioner for taking Affidavits
for British Columbia

Eckler
CONSULTANTS + ACTUARIES

Actuarial Report to the Joint Committee

Proposed Allocation of the 2013 Sufficiency Assessment Actuarially Unallocated Assets

1986-1990 Hepatitis C Trust

Prepared by:

Richard Border, FIA, FCIA Wendy Harrison, FSA, FCIA

Vancouver, B.C.
October 14, 2015

Eckler

CONTENTS

Eckler

1 INTRODUCTION

1. Our assessment of the financial sufficiency of the 1986-1990 Hepatitis C Trust as at December 31, 2013 was documented in our report (2013 Sufficiency Report) dated March 11, 2015.

2. Our 2013 Sufficiency Report concluded that, after allowing for an appropriate level of Required Capital, there was Excess Capital, or actuarially unallocated assets, of $236,341,000. As set out in Section 2, an additional sufficiency liability in respect of level 2 claimants who are reclassified as level 3 claimants equal to $29,421,000 million, should be reflected in the financial position of the Trust. This reduces the Excess Capital to $206,920,000.

3. The Settlement Approval Orders give the Courts discretion to allocate the actuarially unallocated assets "for the benefit of class members and family class members", referred to in this report as "Allocation Benefits". The Joint Committee has defined an extensive list of specific potential Allocation Benefits, to be funded by the Excess Capital, or actuarially unallocated assets.

4. We were asked by the Joint Committee to calculate the cost of these potential Allocation Benefits. Our calculations showed that, even before considering an appropriate level of Required Capital, not all these Allocation Benefits could be funded by the revised Excess Capital of $206,920,000.

5. The Joint Committee has therefore identified a priority subset of Allocation Benefits, which in aggregate can be funded by the Excess Capital, and which are being recommended to the Courts.

6. This report provides actuarial analysis of both the priority Allocation Benefits recommended by the Joint Committee and the other Allocation Benefits that were considered, but not recommended at this time.

2 SUMMARY OF 2013 SUFFICIENCY REPORT RESULTS

7. As noted above, our 2013 Sufficiency Report concluded that, after allowing for an appropriate level of Required Capital, there was Excess Capital, or actuarially unallocated assets, of $236,341,000.

8. In the calculations for our 2013 Sufficiency Report, we assumed that the level 3 lump sum of $30,000 (1999 dollars) will be paid when a claimant moves to level 3 from a medical model perspective (provided they do not waive it in favour of loss of income or loss of services). It has since come to our attention that a level 2 claimant who meets the protocol for treatment (whether or not treatment is taken) is reclassified as a level 3 claimant under the terms of the Plans and is therefore eligible for the $30,000 at that point, despite not moving to level 3 from a medical model perspective. While this change may at first appear to be merely an acceleration of the level 3 lump sum, it in fact leads to a reasonably large increase in the liability as, under the medical model, not all level 2 claimants are expected to actually progress to level 3. Further, due to the relatively minor side effects, it is expected that many more level 2 claimants will be treated than in the past. We have calculated the increase in the sufficiency liability arising from this to be $29,421,000[1].

[1] The corresponding best estimate liability is $32,935,000. Perhaps counterintuitively, the increase in the best estimate liability is larger than on the more conservative sufficiency basis. This is due to the fact that, in the context of the medical model, the best estimate basis assumes fewer claimants will progress to level 3 than the sufficiency basis does (in other words, more claimants remain at level 2). Hence, on the best estimate basis, the cost of paying the benefit while still at level 2 according to the medical model is relatively higher.

9. A summary of the financial position of the Trust as at December 31, 2013, modified to reflect the additional liability for level 2 claimants reclassified as level 3 described above, is as follows:

Financial Position as at December 31, 2013 Prior to Allocation Benefits		
	Best Estimate ($,000's)	**Sufficiency ($,000's)**
Assets		
Invested Fund[1]	1,028,048	1,028,048
Provincial/Territorial Notional Fund[2]	162,152	162,152
Total Assets	**1,190,199**	**1,190,199**
Liabilities		
Transfused	375,482	480,167
Hemophiliac	225,153	265,957
HIV Program	950	970
Expenses	53,455	55,552
Total Liabilities Per 2013 Sufficiency Report	**655,040**	**802,646**
Excess of Assets over Liabilities	535,160	387,554
Required Capital	n/a	151,213
Excess Capital Per 2013 Sufficiency Report	**n/a**	**236,341**
Additional Liability for level 2 claimants reclassified as level 3 due to meeting treatment protocol	32,935	29,421
Restated Total Liabilities	**687,975**	**832,067**
Restated Excess of Assets over Liabilities	502,224	358,133
Restated Excess Capital	**n/a**	**206,920**

10. The foregoing table indicates that, as at December 31, 2013 the assets exceed the restated sufficiency liabilities by about $358,133,000.

11. After allowing for the Required Capital buffer of $151,213,000, which is unchanged by the additional liability for level 2 claimants reclassified as level, the restated Excess Capital is $206,920,000.

12. This is the amount that is available to fund Allocation Benefits for class members and family class members.

13. The settlement is funded by invested funds, mainly contributed by the Federal Government in terms of the settlement, as well as ongoing payments by the Provinces and Territories (PT), equal to

[1] In our 2013 Sufficiency Report, we referred to both "invested assets" and an "invested fund". These two terms are synonymous and for this report we have used the phrase "Invested Fund".

[2] In our 2013 Sufficiency Report, we referred to both a PT "notional fund" and a PT 'notional asset". These two terms are synonymous and for this report we have used the phrase "Notional Fund".

3/11ths of the emerging costs. The overall PT liability is capped at 3/11ths of the original settlement, increased with interest at the rate on three-month treasury bills, less the PT share of costs to date. As at December 31, 2013, this capped PT liability, which equates to the maximum funds available from the PT, was $162,152,000. This figure can be regarded as the PT Notional Fund.

14. It is illustrative to break down the sufficiency result between the portion covered by the Invested Fund and the portion covered by the remaining PT Notional Fund.

HCV Trust Fund as at December 31, 2013[1]			
$000	**Total Fund**	**Invested Fund**	**PT Notional Fund**
Assets	1,190,199	1,028,048	162,152
Sufficiency Liabilities[2]	802,646	583,743	218,903
Additional Liability for level 2 claimants reclassified as level 3 due to meeting treatment protocol[2]	29,421	21,397	8,024
Restated Excess of Assets over Sufficiency Liabilities	358,133	422,908	(64,775)
Reallocation of cost from the PT Notional Fund to the Invested Fund	-	(64,775)	64,775
Restated Excess of Assets over Sufficiency Liabilities after reallocation of cost	358,133	358,133	0
Required Capital	151,213	151,213	0
Restated Excess Capital	206,920	206,920	0

15. We note that:

- The PT Notional Fund is less than 3/11 of the total Sufficiency Liabilities.
- Based on the sufficiency assumptions, our model projects that the PT Notional Fund will be exhausted by 2026.
- The PT shortfall thus emerging has been charged against the Invested Fund. This reflects our expectation that once the PT Notional Fund is exhausted, the full amount of payments will be charged to the Invested Fund (as opposed to reducing the compensation amounts payable).
- Consistent with this we have allocated the full amount of the Required Capital against the Invested Fund.
- The Excess Capital, which is the amount by which the assets exceed the sum of the Sufficiency Liabilities plus a provision to protect the class members from future major adverse experience or catastrophe (the Required Capital), is therefore associated with the Invested Fund only; there is no Excess Capital in the PT Notional Fund.

[1] In some cases in this table and elsewhere in this report, amounts may appear not to add up to the total shown. This occurs because amounts have been rounded to thousands or millions for presentation.

[2] Allocated 8/11 to the Invested Fund and 3/11 to the PT Notional Fund.

- From an actuarial perspective, the assets identified as Excess Capital are actuarially unallocated assets.

16. We understand that the Joint Committee recommends that the Allocation Benefits be funded from the Excess Capital in the Invested Fund. Therefore, the time at which the PT Notional Fund would be exhausted does not change as a result of the Allocation Benefits. The fact that PT Notional Fund is less than 3/11ths of the total liability does not affect the amount of actuarially unallocated assets.

3 APPROACH TO OUR CALCULATIONS

17. We have calculated the cost of the specific Allocation Benefits with an effective date of December 31, 2013. The costs consist of two pieces. Firstly, a retroactive component that represents the cost of back dating the Allocation Benefits to the settlement date; this is our estimate of the costs that would have been paid by December 31, 2013 had the Allocation Benefit always been in place. No interest is paid on retroactive payments. Secondly, a future cost that represents the cost of payments after December 31, 2013 and is essentially the increase in the December 31, 2013 liability arising as a result of the Allocation Benefit.

18. The future liability costs have been calculated using the methods and assumptions employed in our 2013 Sufficiency Assessment, as outlined in our 2013 Sufficiency Report. We have not repeated a description of the methods and assumptions in this report. Where additional assumptions are required, we have described them in our outline of the calculations in Appendices A and D.

19. In our 2013 Sufficiency Report, we set out both Best Estimate and Sufficiency liabilities. As the label suggests, Best Estimate liabilities are calculated using best estimate assumptions, while the Sufficiency liabilities are calculated using assumptions that include, where appropriate, margins for adverse deviations. As the Excess Capital that is being used to fund the priority Allocation Benefits is calculated on a Sufficiency basis, for consistency, our estimates of the cost of the Allocation Benefits set out in this report have also been calculated on a Sufficiency basis.

20. While the 2013 Sufficiency Report assumptions include margins for adverse deviations, not every assumption in the Sufficiency calculations has a margin added, and in many cases the Sufficiency assumption and the Best Estimate assumption is the same. We have taken a similar approach to setting any new assumptions needed to calculate the liabilities arising from the Allocation Benefits and have only added margins where we believe they are required. This is consistent with the original 2013 assumption setting process that was carried out in conjunction with Morneau Sheppell.

21. The retroactive costs can in theory be calculated directly from the actual payment history. However, in some cases the necessary data were not available given the time constraint imposed on the preparation of this report. As a result, exact costs could not be calculated, and we made estimates of the actual retroactive cost, taking into account the available data. We have not added any margins for adverse deviations in these circumstances.

4 PRIORITY ALLOCATION BENEFITS

22. The table below contains the costs of the Allocation Benefits that the Joint Committee is putting forward for approval. The details on each specific Allocation Benefit are included in Appendix A. A more detailed breakdown of these items between Transfused and Hemophiliacs is included in Appendix B.

23. Each Allocation Benefit has two cost components. The retroactive cost is the cost of paying the Allocation Benefit to claimants who have qualified in the past for the Allocation Benefit in question[1]. The future cost is the cost of payments that are expected to fall due in the future, either to claimants who are currently receiving payments for the head of damage in question, or for claimants who are expected to qualify for such payments in the future.

24. In addition to calculating the cost of the Allocation Benefits, we have recalculated the Required Capital that would be needed if these Allocation Benefits are approved. The Required Capital is calculated using the same method employed in the 2013 Sufficiency Report. The approach takes into account the risks that the Trust faces as a whole, and sets aside capital to protect the claimants from these risks. Retroactive payments do not have a need for Required Capital and so we have calculated the increase in Required Capital based on the future liability increase only. Further, not all risks increase as a result of the Allocation Benefits in question. For example, investment risk is calculated based on the total assets, which do not change as a result of the Allocation Benefits and so the Required Capital to protect against investment risk does not change. The consequence of this is that the Required Capital associated with the Allocation Benefits, expressed as a percentage of the increase in the future liability, is less than the Required Capital percent in our 2013 Sufficiency Report. The dollar amount of the total increase in Required Capital is set out in the table below. More detail is provided in Appendix C.

25. The Joint Committee has obtained from the administrator an estimate of the administration cost associated with providing the Allocation Benefits in question and we have included these costs in this report. We have not reviewed these administration costs for reasonableness.

26. The total cost of the priority Allocation Benefits, including the increase in Required Capital is close to, but less than, the restated Excess Capital of $206,920,000.

[1] In some cases, the Joint Committee has not recommended retroactive payments.

Cost of Priority Allocation Benefits				
$000	**Retro Cost**	**Future Cost**	**Admin Expense**	**Total Cost**
Late claims protocol (CAP3)	-	32,399	51	32,450
Do not deduct other sources of income from income loss	14,644	12,895	143	27,682
Compensate for lost pension benefits at 10% of pre-tax loss of income (loss of income capped at $200,000 prior to 2014, indexed thereafter)	12,072	7,715	-	19,787
Increase hours cap on loss of services to 22 hours	13,546	21,014	196	34,756
Increase maximum benefit payable for Cost of Care by $10,000 in 1999 dollars	121	505	2	629
Increase cap on Funeral Expenses to $10,000 in 1999 dollars	1,066	984	43	2,093
$200 in 2014 dollars per diem for family member out of pocket expenses		1,957	-	1,957
Increase payments on death to children over 21 and parents by $5,000 in 1999 dollars	11,197	10,965	287	22,449
Increase all regular lump sum payments by 10%	40,701	10,565	126	51,392
Additional expense associated with the administration of Estates of class members	-	-	61	61
Increase in Required Capital	-	-	-	12,167
Total Cost of Allocation Benefits	**93,347**	**99,000**	**909**	**205,422**
Restated Excess Capital				**206,920**
Remaining Excess Capital				**1,498**

5 ADDITIONAL POTENTIAL ALLOCATION BENEFITS

27. In addition to the priority Allocation Benefits discussed in section 4 above, the Joint Committee considered a number of other Allocation Benefits. These Allocation Benefits were deemed to be of lower priority than those selected, but would be considered again should an increase in the Excess Capital emerge in the future.

28. For completeness we have included a discussion of the additional Allocation Benefits in Appendix D.

6 OPINION

29. In our opinion,

(a) after allowing for the priority Allocation Benefits the Trust funds are sufficient to meet the liabilities of the Trust,

(b) the claimant data on which the calculations are based are sufficient and reliable for the purposes of the calculations,

(c) the assumptions are appropriate for the purposes of the calculations, and

(d) the methods employed in the calculations are appropriate for the purposes of the calculations.

30. This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

31. To the best of our knowledge, there are no material subsequent events that would affect the results and recommendations of this report.

32. On behalf of the Eckler actuarial personnel who worked on this report, we certify that we are aware that our duties are:

(a) to provide opinion evidence that is fair, objective and non-partisan and related only to matters within our area of expertise; and

(b) to assist the Courts and provide such additional assistance as the Courts may reasonably require to determine a matter in issue.

33. We are aware that the foregoing duties prevail over any obligation we may owe to any party on whose behalf we are engaged and we are aware that we are not to be an advocate for any party. We confirm that the report conforms with the above-noted duties. We further confirm that if called upon to give oral or written testimony, we will give such testimony in conformity with these duties.

Richard A. Border
Fellow of the Canadian Institute of Actuaries[1]
Fellow of the Institute and Faculty of Actuaries

Wendy F. Harrison
Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries

[1] Canadian Institute of Actuaries is the Primary Regulator.

APPENDIX A – DETAIL ON PRIORITY ALLOCATION BENEFITS

A.1 Late Claims Protocol 3

34. We reported the liability for Late Claims Protocol 3 (CAP3) as a sensitivity in our 2013 Sufficiency Report. At that time, we assumed that 120 transfused and 10 hemophiliac claims will be made and approved under CAP3 after December 31, 2013, and that none of these claims will be DB9s. Taking into account the unknown alive and DA9 sensitivity results in our 2013 Sufficiency Report, we calculated the resulting CAP3 liability to be $29,018,000.

35. We have reviewed the number of inquiries that have been made under CAP3 as of May 25th, 2015 and they are consistent with our original assumptions. As a result we see no reason to revise the assumed number of CAP3 claims.

36. Taking into account the priority Allocation Benefits recommended, and assuming 120 transfused and 10 hemophiliac claims, the revised CAP3 liability is $32,399,000.

A.2 Do Not Deduct Other Sources of Income When Calculating the Net Income Loss After Disability

37. Currently, when calculating Loss of Income (LOI) or Loss of Support (LOS) a claimant's income is taken net of any "other" sources of income. In other words, their compensation to be paid is reduced to the extent that they have other sources of income. These other sources of income include Canada Pension Plan (CPP) disability, disability insurance, Employment Insurance (EI) and the Multi-Provincial and Territorial Assistance Program (MPTAP). The Joint Committee believes it would be more appropriate to not deduct these other sources of income when calculating a member's loss.

Loss of Income

38. We have analyzed the data for payments in 2012 to 2014 (relating to loss of income in 2011 to 2013) to estimate the impact of no longer deducting these other sources of income when calculating the net income after HCV disability for LOI as follows:

	Actual/ Sufficiency	No Deduction for Other Income	Increase
Total LOI Claims incurred 2011 to 2013 ($)	18,049,615	20,179,784	11.8%
Total with outliers capped at $200,000 annual loss ($)	14,025,951	16,028,307	14.3%
Transfused sufficiency assumption ($)	43,000	49,139	
Hemo sufficiency assumption ($)	53,000	60,566	

39. In calculating the sufficiency liability in our 2013 Sufficiency Report, we assumed:

- The actual loss of income in the most recent year prior to the valuation would continue to those currently receiving loss of income (with anticipated future indexing), dependent on the claimant's health state (for claimants who are assumed to clear the virus, an allowance is made for recovery and return to work); and
- The Transfused and Hemo sufficiency assumptions for loss of income (in the table above) would be paid to claimants going on to loss of income in the future.

40. In calculating the increase in the sufficiency liability arising from no longer deducting these other sources of income when calculating the net income after HCV disability for LOI we applied a consistent approach. Thus,

- We calculated the actual change in loss of income for those currently on loss of income in the most recent year prior to the valuation and assumed it would continue, dependent on health state; and
- For future claimants we increased the assumed LOI amount by the average increase in the capped loss of income of 14.3%, where the capped loss is $200,000 annually. We used the capped data, as in our opinion, the proportion of claims related to very high incomes is unlikely to continue at the

historically observed rate (to date there have been an unexpected number of claims from high income people in comparison to what would be anticipated based on Canadian income distribution).

41. Using these revised LOI assumptions in our model, we calculate the increase in the liability for future payments to be as shown below:

($000)	Transfused	Hemo	Total
2013 Sufficiency LOI liability	30,588	30,199	60,787
Future cost of not deducting other sources of income in calculating LOI	2,949	4,269	7,218

42. These results are calculated assuming that the pre-claim income does not include any other sources of income such as MPTAP, EI, CPP disability and any other disability income. If they were included, the increase in the liability would be larger than is shown here.

43. The administrator provided us with sufficient information to calculate the associated retroactive payments accurately for the losses incurred in the three years 2011 to 2013[1], but not for years prior to that. For the purpose of these calculations, we have assumed that LOI payments for years prior to 2011 would increase by the same order of magnitude as the future payments. However, in this case it is appropriate to take into account the increase in the uncapped payments to correctly allow for the increases to any high paid claimants (i.e. claimants above the $200,000 cap). This approach results in the following retroactive payments:

($000)	Transfused	Hemo	Total
LOI payments for losses to December 31, 2013	46,983	40,984	87,967
Approximate retroactive payments	5,606	5,390	10,997

44. In carrying out these calculations, we have assumed that the current limitation[2] on LOI stays in place (we made the same assumption in our 2013 Sufficiency Report). The trust has already had four claims with pre-claim gross income over $300,000, including one LOI claim for a person who was earning over $2 million. It is statistically unlikely that another very large loss of income claim will be submitted,[3] but in the event that one does, it could have a material impact on the Trust. For that reason, we have been instructed by the Joint Committee to assume that the current cap on LOI benefits will continue.

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[1] Losses incurred in 2013 are paid in 2014.

[2] The Plans incorporate holdbacks and limitations on the loss of income which are subject to alleviation by the Courts, including limits on the percentage of pre-claim gross income and the absolute dollars of pre-claim gross income that will be used in the calculation of income loss payments. By 2008, those holdbacks and limitations had been removed and the holdbacks repaid with interest except the limitation on annual pre-claim gross income which is used in the calculation of a loss of income claim. That limitation had been lifted from $70,000 (1999 dollars) to a maximum of $2.3 million (1999 dollars) with the proviso that any claim calculated on pre-claim gross income in excess of $300,000 (1999 dollars) required express approval from the Court with jurisdiction prior to its payment.

[3] Statistics Canada data shows that based on 2010 earnings, only 1% of the population earn over about $201,000 annually, 0.1% of the population earn over $685,000 and 0.01% over $2.57 million.

Loss of Support

45. A similar approach to that used for LOI was used in calculating the increase in the LOS liability.

46. We have taken into account the data for payments in 2012 to 2014 (relating to loss of income in 2011 to 2013). Based on this analysis, we obtain the following estimate of the impact of no longer deducting other sources of income, such as CPP, disability insurance and EI when calculating the net income after disability for LOS:

	Actual/ Sufficiency	No Deduction for Other Income	Increase
Total LOS Claims incurred 2011 to 2013 ($)	6,459,296	7,200,452	11.5%
Transfused sufficiency assumption ($)	34,000	37,901	
Hemo sufficiency assumption ($)	36,000	40,131	

47. In calculating the sufficiency liability in our 2013 Sufficiency Report, we assumed:

- The actual LOS in the most recent year prior to the valuation would continue to those currently receiving LOS (with anticipated future indexing), dependent on the claimant's health state; and
- The Transfused and Hemo sufficiency assumptions for LOS in the table above would be paid to claimants going on to LOS in the future (for those currently on LOI, future LOS is at 70% of their current LOI).

48. In calculating the increase in the sufficiency liability arising from no longer deducting these other sources of income when calculating the net income after HCV disability for LOS we applied a consistent approach. Thus,

- We calculated the actual change in LOS for those currently on LOS in the most recent year prior to the valuation and assumed it would continue, dependent on health state; and
- For future claimants we increased the assumed LOS amount by the average increase in the loss of support of 11.5%.

49. On this basis we estimate the increase in the liability for future payments to be as shown below:

($000)	Transfused	Hemo	Total
2013 Sufficiency LOS liability	16,833	33,762	50,596
Future cost of not deducting other sources of income in calculating LOS	1,600	4,077	5,677

50. As for LOI, the administrator provided us with sufficient information to calculate the associated LOS retroactive payments accurately for losses in the three years 2011 to 2013, but not for years prior to that. For the purpose of these calculations, we have assumed that LOS payments for losses incurred in years prior to

2011 would increase by the same order of magnitude as the future payments. This approach results in the following retroactive payments:

($000)	Transfused	Hemo	Total
LOS payments for losses to December 31, 2013	11,987	19,573	31,560
Approximate retroactive payments	1,364	2,283	3,647

A.3 Compensation for Diminished Pension Due to Disability

51. Claimants who are unable to work lose not only employment income, but also may lose access to pension benefits. Currently the settlement does not compensate claimants for the loss of this future retirement income.

52. The range of pension arrangements offered by employers is vast and as a result, it is difficult to come up with a broad brush estimate of the cost of compensating claimants for their diminished pension due to HCV. Rather than attempt to directly compensate claimants, i.e. take the individual's specific pension arrangement into account and calculate how that individual's pension has been affected by disability, and then replace the "lost" pension, it is more practical, in the context of this global settlement, to use the cost of providing pension benefits as a proxy for the claimant's loss.

53. If this route is followed, the wide range of costs still presents a challenge. For example some employees will have no pension benefits, others will have defined contribution arrangements, often at quite low rates of contribution (e.g. less than 10% of pay), while others will have defined benefit plans where the costs may range from 17% to 23% of pay. As a very rough rule of thumb, we believe that a reasonable level of retirement income (relative to the pre-retirement income) can be achieved with a contribution of 20% of pay. On average, claimants are probably receiving pensions funded at half that rate, so we suggest 10% of pay per year as a proxy for compensation for diminished pension due to disability. The Allocation Benefit could be structured to take into account the actual retirement arrangement that the claimant was participating in prior to HCV onset (focusing on the cost of that arrangement, rather than the benefits promised or targeted), or could be a simpler modification that does not vary by claimant. Consideration should be given to whether interest should be added retroactively.

54. In addition to lost pension benefits, claimants who are not working lose CPP benefits for the years they do not work. Employees and employers contribute equally to CPP at a rate of 4.95% each on income up to the Yearly Maximum Pensionable Earnings (YMPE = $53,600 in 2015). Claimants are compensated for their loss of income, so in theory they can save 4.95% (or the after tax equivalent) that they would have paid as their CPP contributions in order to provide a replacement retirement income related to the employee share of the lost CPP. Thus, only the employer share of the lost CPP needs to be compensated for. As the employer contribution is 4.95% up to the YMPE the CPP contribution as a percentage of total pay is less than 4.95% for anyone earning more than the YMPE and on average the CPP contribution expressed as a percentage of total pay must be less than 4.95%. Based on the income levels of current claimants we estimate that 4% is a reasonable equivalent rate.

55. To give a sense for the magnitude of compensating members for lost pension benefits we have applied 14% (10% for occupational pension and 4% for CPP) to the LOI liability and past LOI payments adjusted to reflect that the rate should be applied to a pre-tax or gross income.

56. While we have suggested a 14% of gross loss of income would be a reasonable allowance, the Joint Committee has decided to limit this Allocation Benefit to 10% of gross loss of income (capped at $200,000 prior to 2014 and indexed thereafter) in order to ensure that the overall cost of the priority Allocation Benefits is less than the Excess Capital. The results for both 14% and 10% are shown below:

($000)	Transfused	Hemo	Total
Sufficiency LOI liability on a gross basis	45,903	50,665	96,568
Past LOI payment grossed up for tax	81,383	75,427	156,810
Prospective cost at 14%	6,426	7,093	13,520
Retroactive cost at 14%	11,394	10,560	21,953
Sufficiency LOI liability on a gross basis capped at $200,000	41,505	35,647	77,152
Past LOI payment grossed up for tax capped at $200,000	71,602	49,118	120,720
Prospective cost at 10% (loss of income capped at $200,000)	4,150	3,565	7,715
Retroactive cost at 10% (loss of income capped at $200,000)	7,160	4,912	12,072

A.4 Capping of Loss of Services (SRV) Hours at 22 Hours per Week

57. Based on feedback from class members and the Administrator's data, the Joint Committee believes that the 20 hour per week cap on lost services is too low, leaving claimants out of pocket when replacing the actual hours of services in the home lost. An increase of the cap to 25, 30 or 40 hours was contemplated, but taking into account the optimum allocation of the Excess Capital, an increase to a 22 hour cap was selected. The impact of increasing the cap beyond this is shown in Appendix D.

58. We have analyzed the data for payments in 2012 to 2014 (relating to loss of services in 2011 to 2013). The data included not only the actual compensation amounts paid based on the current cap of 20 hours, but also the actual number of hours worked both before and after disability due to HCV. This enabled us to estimate the impact of an increase to a 22 hour cap for SRV as follows:

	Actual/ Sufficiency	Increase to a 22 hour cap	Increase
Total SRV Claims incurred 2011 to 2013 ($)	27,229,048	29,659,826	8.9%
Sufficiency assumption ($)	16,000	17,428	

59. In calculating the sufficiency liability in our 2013 Sufficiency Report, we assumed:

- The actual loss of service in the most recent year prior to the valuation would continue to those currently receiving loss of service (with anticipated future indexing), dependent on the claimant's health state (for claimants who are assumed to clear the virus, an allowance is made for recovery and return to work); and
- The sufficiency assumptions for loss of service (in the table above) would be paid to claimants going on to loss of service in the future.

60. In calculating the increase in the sufficiency liability arising from increase to a 22 hour cap for SRV we applied a consistent approach. Thus,

- We calculated the actual change in loss of service for those currently on loss of service in the most recent year prior to the valuation and assumed it would continue, dependent on health state; and
- For future claimants we increased the assumed SRV amount by the average increase of 8.9%.

61. Using these revised SRV assumptions in our model, we calculate the increase in the liability for future payments to be as shown below:

($000)	Transfused	Hemo	Total
2013 Sufficiency SRV liability	141,272	96,013	237,285
Future cost of increasing the hours cap to 22 hours per week	12,509	8,505	21,014

62. The administrator provided us with sufficient information to calculate the associated retroactive payments accurately for losses in the three years 2011 to 2013, but not for years prior to that. For the purpose of these calculations, we have assumed that SRV payments for losses incurred in years prior to 2011 would increase by the same order of magnitude as the future payments. This gives an estimate of the retroactive cost of increasing the cap to 22 hours of $8,973 for transfuseds and $4,573 for hemophiliacs.

A.5 Capping Cost of Care Claims at $60,000, Increase of $10,000 (1999 Dollars)

63. Currently compensation for cost of care is limited to $50,000 (1999 dollars) per year. The Administrator estimated that about 10% to 15% of claimants incur actual cost in excess of this and are therefore negatively impacted by this limit.

64. We were asked to calculate the cost of lifting the $50,000 (1999 dollars) by $10,000. We were provided with all the historic data on cost of care claims, which allowed us to analyse the year by year effect of lifting the cap. Based on the most recent three years' experience (the pattern of claims has changed over time), we assumed that increasing the cap would increase overall payments by 1%. While about 10% to 15% of claimants would have benefited from an increase in the cap, most of these only exceeded the cap by a small amount, hence the 1% assumption we have used.

65. Based on the 1% increase assumption, we calculate the future cost of increasing the cap to be $505,000 and, based on all the historic data, the retroactive impact would be $121,000.

A.6 Provide $200 (2014 Dollars) Per Diem to Family Members for Out of Pocket Expenses

66. Currently out of pocket expenses are covered only for class members, not for family class members. We were asked to calculate the impact of an additional $200 (2014 dollars) per diem being provided to cover losses associated with family members accompanying claimants to medical appointments on a prospective basis. We have interpreted the per diem to be applied per visit, rather than per day per visit (some visits may take more than a day if a claimant is traveling from a remote area).

67. Based on out of pocket claims data, we estimate that on average there have been 1.8 medical appointments per year. On the basis of $200 per visit this results in additional future claims of $364 per year per non-cured claimants. For non-cured claimants we assumed $1,800 for Transfused and $2,600 for Hemophiliacs per year would be claimed. The $364 (2014 dollars) per year extra therefore represents an increase of 20.2% for Transfused and 14.0% for Hemophiliacs.

68. In our 2013 Sufficiency Report, for cured claimants we assumed a one-time Out-of Pocket payment of $2,400 for Transfused and $10,000 for Hemophiliacs. Applying the same increase percentage as for the non-cured we get an additional family claim amount of $485 and $1,400 respectively.

69. Re-running our model with these revised assumptions, we calculate the following:

($000)	Transfused	Hemo	Total
Sufficiency Out of Pocket Liability	6,538	4,682	11,220
Cost of additional $200 (2014 dollars) per diem	1,303	654	1,957

A.7 Cap on Funeral Expenses Increased to $10,000 (1999 Dollars)

70. We were asked to estimate the impact of lifting the $5,000 (1999 dollars) cap on funeral expenses to $10,000 (1999 dollars), as well as the impact of no longer deducting the CPP death benefit (equal to $2,500) from the reimbursable funeral expense. For this analysis we were provided with data that showed the full funeral cost before application of the $5,000 cap, so we could directly calculate the impact of the above changes.

71. We estimate that increasing the cap to $10,000 would result in additional retroactive payments of about $1.1 million and removing the CPP deduction would result in a further retroactive payment of about $1.3 million. This represents an increase of 31% for increasing the cap, relative to the cumulative actual payments of $3.5 million, and combined, represent a 68% increase.

72. If we indexed all the past payments to 2014 dollars, the percentage increase above become 32% and 60% respectively.

73. Applying the same percentage increase on the indexed basis to projected future funeral expense claims, we estimate the cost of lifting the cap to $10,000 to be $1.0 million. We estimated the future cost of removing the CPP deduction to be an additional $0.9 million.

74. Taking into account the amount of Excess Capital, the Joint Committee has prioritized the increase in the cap on funeral expenses by $10,000 (1999 dollars), while continuing to deduct the CPP death benefit from the reimbursable funeral expense. The cost is therefore about $1.1 million for retroactive payments and $1.0 million for future payments.

A.8 Increase Family Claim Payments on Death to Children over 21 and to Parents by $5,000 (1999 Dollars)

75. Currently children over 21 and parents are paid $5,000 (1999 dollars) on the death of a claimant. We were asked to calculate the cost of increasing each of these payments by $5,000 (1999 dollars).

76. The administrator provided us with a summary of the past payments made to children over 21 and to parents. An increase of $5,000 (in 1999 dollars) represents a doubling of these two benefits, so the retroactive cost of this Allocation Benefit is equal to the payments made to date to children over 21 and to parents.

77. To calculate the cost for future claims, we assumed that the family profile for the future claims would be the same as the family profile of claims made in the past. In other words, we calculated the ratio of the retroactive cost for each category (i.e. children over 21, parents) to the total past payments (aggregated across all categories, e.g, spouse, child under 21, etc). We applied these ratios to the loss of care sufficiency assumption and reran our model to obtain the increase in the liability to get the future cost for each category.

78. Our results are as follows:[1]

DA9s

	Retroactive			Future		
($000)	**Transfused**	**Hemo**	**Total**	**Transfused**	**Hemo**	**Total**
Child over 21	6,881	805	7,686	7,201	1,591	8,792
Parent	556	675	1,231	582	1,335	1,916

DB9s

	Retroactive			Future		
($000)	**Transfused**	**Hemo**	**Total**	**Transfused**	**Hemo**	**Total**
Child over 21	1,488	284	1,773	224	7	232
Parent	93	414	507	14	11	25

[1] DA9 refers to deaths before January 1, 1999 and DB9 refers to deaths after this date.

A.9 Increase Lump Sum Payments by 10%

79. We were asked to calculate the cost of increasing the lump sums payable by 10%. For retroactive payments, we tabulated the actual payments by level, and increased these actual costs by 10%. For future costs, we increased the lumpsum amounts by 10% and reran our valuation. The payments affected, and the resultant costs are as follows:

Lump sum payments on disease progression

($000)	Retroactive cost			Future cost		
Payment in 1999 dollars	**Transfused**	**Hemo**	**Total**	**Transfused**	**Hemo**	**Total**
Level 1 $ 10,000	4,146	1,089	5,236	308	27	335
Level 2 $ 20,000	6,849	1,907	8,756	504	54	558
Level 3 $ 30,000	6,069	2,153	8,223	1,219	217	1,436
Level 4 $ 65,000	5,201	1,878	7,079	2,008	815	2,823
Level 6 $100,000	5,242	1,694	6,936	3,371	1,712	5,083

Optional lump sum payments

($000)	Retroactive cost			Future cost		
Payment in 1999 dollars	**Transfused**	**Hemo**	**Total**	**Transfused**	**Hemo**	**Total**
4.08(2) Alive HIV Co-Infected Option $50,000	0	228	228	0	20	20
5.01(1) DB9 Estate $50,000	519	458	978	87	13	101
5.01(4) DB9 HIV Co-infected option $72,000	0	1,042	1,042	0	0	0
5.01(2) DB9 Option $120,000	1,185	1,038	2,223	194	16	210

A.10 Estate Administration

80. The Joint Committee has estimated that the administration costs arising from the additional administration of estates is $61,000. These are the costs associated with the Administrator managing the receipt of estate documents, issuing and mailing cheques, as well as managing returned mail and obtaining current contact information for family members of the deceased.

Eckler

APPENDIX B – SUMMARY OF COST OF PRIORITY ALLOCATION BENEFITS

$000's	Retroactive Cost			Future Cost			Total Cost		
	Trans	Hemo	Total	Trans	Hemo	Total	Trans	Hemo	Total
Late claims protocol (CAP3)	N/A	N/A	N/A	28,605	3,794	32,399	28,605	3,794	32,399
Do not deduct other sources of income from income loss	6,970	7,674	14,644	4,549	8,346	12,895	11,519	16,020	27,539
Compensate for lost pension benefits at 10% of pre-tax loss of income (loss of income capped at $200,000 prior to 2014 and indexed thereafter)	7,160	4,912	12,072	4,150	3,565	7,715	11,310	8,477	19,787
Increase hours cap on loss of services to 22 hours	8,973	4,573	13,546	12,509	8,505	21,014	21,482	13,078	34,561
Increase maximum benefit payable for Cost of Care by $10,000 in 1999 dollars			121	325	180	505			627
Increase cap on Funeral Expenses to $10,000 in 1999 dollars			1,066	690	294	984			2,050
$200 in 2014 dollars per diem for family member out of pocket expenses	N/A	N/A	N/A	1,303	654	1,957	1,303	654	1,957
Increase payments on death to children over 21 and parents by $5,000 in 1999 dollars	9,018	2,179	11,197	8,021	2,944	10,965	17,039	5,123	22,162
Increase all lump sum payments by 10%	29,212	11,489	40,701	7,691	2,874	10,565	36,903	14,363	51,266
Total			93,347	67,843	31,156	99,000			192,347

APPENDIX C – REQUIRED CAPITAL ON PRIORITY ALLOCATION BENEFITS

81. In our 2013 Sufficiency Report, we developed a Hepatitis C specific framework to systematically assess the sources of risk not covered in the sufficiency liability and calculate an appropriate "Required Capital" for the Hepatitis C fund, in order to protect the claimants from future major adverse experience or catastrophe. This "Required Capital" represents the amount of assets, over and above those needed to meet the liabilities, that is to be used for the protection, and benefit, of claimants. We have continued that framework in this report. Specifically, we have updated the elements of Required Capital to reflect the priority Allocation Benefits.

82. Our approach takes into account any existing margins for adverse deviation in the actual liability calculation; to the extent there are margins for adverse deviation in the actual liability calculation, the impact is to reduce the additional Required Capital. Conversely, if there is no margin in the actual liability (i.e. it is a "best estimate" liability), the Required Capital would be higher. This approach prevents inappropriate duplication (between the actual liability and the Required Capital) in providing for uncertainty.

83. The approach takes into account the risks that the Trust faces as a whole, and sets aside capital to protect the claimants from these risks. Retroactive payments do not have a need for Required Capital and so we have calculated the increase in Required Capital based on the future liability increase only. Further, not all risks increase as a result of the priority Allocation Benefits in question. For example, investment risk is calculated based on the total assets, which do not change as a result of the priority Allocation Benefits and so the Required Capital to protect against investment risk does not change. The consequence of this is that the Required Capital associated with the priority Allocation Benefits, expressed as a percentage of the increase in the future liability, is less than the Required Capital percent in our 2013 Sufficiency Report.

C.1 Investment Risk

84. The investment risk in our 2013 Sufficiency Report was based on the total assets, which are not affected by the increase in liabilities arising from the priority Allocation Benefits. Therefore, there is no increase in the Investment Risk component as a result of the priority Allocation Benefits (the total Investment Risk component remains at $25.4 million as calculated in our 2013 Sufficiency Report).

C.2 Interest Mismatch

85. In our 2013 Sufficiency Report, we calculated the Interest Mismatch component to be $18.6 million, based on the sensitivity of the financial position of the Trust to a 0.5% increase in medium to long-term interest rates. An interest rate increase would be detrimental to the Trust because the duration of the liabilities[1], as measured in the 2013 Sufficiency Assessment, was about 9.5 years (using a 1.05% net discount rate), while the

[1] Duration is the weighted average term of the cash flows associated with an asset or a liability. Since it is the average term, some cash flows will occur earlier, and some later, than the duration.

duration of the interest-sensitive assets was longer, with average duration of about 13.4 years. If interest rates increase, the resulting decrease in liabilities would be less than the decrease in asset value.

86. The duration of the liabilities, excluding the retroactive payments which would be paid out immediately, increases. This would reduce the mismatch, as the duration of the assets is currently greater than the duration of the liabilities. However offsetting this the duration of the assets is likely to increase as well if the retroactive payments are paid out of the short term assets. Furthermore, to the extent that the actual benefits and expenses payable under the HCV arrangement differ from those assumed in the valuation, interest mismatch may exist even if the duration of the assets is set equal to the duration of the liabilities, but it is not possible to quantify this in any meaningful way.

87. Taking into account these factors, we believe that the Mismatch Risk component has not changed materially as a result of the priority Allocation Benefits (the total Mismatch Risk component remains at $18.6 million as calculated in our 2013 Sufficiency Report).

C.3 Efficacy Rate of New HCV Treatments

88. In the interval since the 2010 sufficiency review, there have been dramatic developments in the drugs available to treat HCV. More claimants can be treated by these new drugs, they are tolerated far more easily, and clinical trials indicate cure rates as high as 95%.

89. The impact of incorporating these new drug treatment options into the medical model (and our valuation) resulted in a net reduction of liability. As discussed in our 2013 Sufficiency Report, because the drugs are so new, we believe there is the potential for variability in their effectiveness: this variability could arise from a number of sources: fewer claimants than expected able to be treated, unexpected drug toxicity results in drugs being pulled from market, and/or the actual efficacy (cure) rate is lower than anticipated based on the clinical trials.

90. For the purpose of assessing the cost of the priority Allocation Benefits, we followed the same principal and methodology that we used in the 2013 Sufficiency Report. Specifically, we included a provision for adverse deviation for drug efficacy in our liability calculation by multiplying the best estimate drug efficacy rate by a factor of 80%. Given the newness of these drugs, and the sensitivity of the liability to this assumption, we have calculated an additional buffer (a Required Capital component) for drug efficacy equal to the increase in liabilities if we substituted a factor of 67% for the 80% factor in the liability calculation. The increase in the buffer for drug efficacy due to the priority Allocation Benefits is $2.8 million ($44.8 million in the 2013 Sufficiency Report increased to $47.6 million as a result of the priority Allocation Benefits).

C.4 Transition Probability Parameter Uncertainty

91. As noted in our 2013 Sufficiency Report, the Medical Model Working Group (MMWG) who have defined the medical model used in the liability calculations could not know with certainty what the actual transition

probabilities are, and therefore provided the estimated mean, associated distribution, and 95% confidence intervals for each one. The estimated mean represents the best estimate of the true value of the transition probability, and the 95% confidence interval indicates that the MMWG are 95% confident (statistically) that the true value falls in the range.

92. We modified our liability calculation to use the distribution specified by the MMWG, rather than the mean of the distribution, for seven[1] key disease transition parameters. Using these distributions in the Tree-age software, we carried out stochastic analysis of the impact of medical parameter uncertainty.

93. Based on the results of 1,000 stochastic scenarios, we determined the distribution of liability results, and selected the liability at the 95% quantile threshold. The difference between the 95% quantile liability and the mean liability (which formed the basis for the sufficiency liability) represents the required capital for this risk exposure.

94. The additional difference between the 95% quantile liability for parameter uncertainty and the mean liability as a result of the priority Allocation Benefits is $2.5 million ($28.4 million in the 2013 Sufficiency Report increased to $30.9 million as a result of the priority Allocation Benefits).

C.5 Uncertainty Regarding Other Benefit and Claim Amounts

95. For benefits other than the lump sums, the dollar amount of benefits that will be paid in the future is not known.

96. As set out in our 2013 Sufficiency Report, the Required Capital earmarked an amount for a potential large loss of income claim of $1 million annual loss of income claim payable for 12 years; such a claim would require about $11.3 million in assets. We have maintained the same amount in this report.

97. In our 2013 Sufficiency Report, we considered the impact of our assumption regarding the proportion of deaths (other than deaths at level 6) that are deemed to be HCV related (with the ensuing additional benefits). There is considerable uncertainty around this outcome, as it depends on a number of factors, including the co-morbidities and the interpretation of "death materially contributed to by HCV", and we therefore incorporated a buffer reflecting the increase in liability if the assumed proportion of deaths at levels 2 through 5 that are deemed to be caused by HCV were increased by adding 10% at each level. Using the same principal and methodology, we calculated that the corresponding buffer would increase by $3.9 million as a result of the priority Allocation Benefits (the risk component would increase from $17.4 million in the 2013 Sufficiency Report to $21.3 million).

98. We considered the set of priority Allocation Benefits, taking into account the magnitude of the additional liability as well as the variability in the retroactive payment data associated with these benefits and/or the

[1] The stochastic analysis was restricted to seven parameters to limit the changes needed to Tree-age. The seven specific parameters chosen were those that we understand will have the most significant impact on the results.

uncertainty inherent in our liability calculation. As a proxy for the overall benefit amount uncertainty, we calculated an additional buffer equal to the increase in liability should the number of family members eligible for the enhanced family benefits exceed our sufficiency assumption by 10%. The resulting Required Capital component is $1.1 million.

99. Considering only this subset (one additional large loss of income claim, additional deaths attributed to HCV, and additional family benefits claimants) of the possible variation in benefit and claim amounts, and calculating the impact of a plausible change in average benefit amount or claim rate for each gives a total increase in liability as a result of the priority Allocation Benefits of $5.0 million (the risk component would increase from $28.7 million in the 2013 Sufficiency Report to $33.7 million). We believe this is a reasonable risk amount in respect of benefit uncertainty.

C.6 Actual Size of Unknown Cohort

100. In our 2013 Sufficiency Report, we noted that although the official cut-off date for claimants coming forward was June 30, 2010, there is still some uncertainty regarding the size (and profile) of the unknown cohort: additional claimants may be approved due to unusual circumstances and/or the assumed denial rate could prove to be too high. We therefore incorporated a risk component regarding the actual size of the unknown cohort based on an additional 25 additional unknown alive transfused claimants, multiplied by the corresponding average sufficiency liability. The 25 additional unknowns represented two types of uncertainty: the possibility that the number for claimants coming forward in the future is higher than anticipated (we assumed there were 10 unanticipated claimants) and the risk that the assumed denial rate applied to the claims in process and/or CAP1 and CAP2 claims higher than actual (in which case we assumed an additional 15 claimants would be approved).

101. For the purpose of this report, we have incorporated an additional 5 claimants to reflect the uncertainty around the additional CAP3 claims, and have use the higher average sufficiency liability arising from the balance of the priority Allocation Benefits. The resulting additional buffer is $1.9 million (the risk component would increase from $5.3 million in the 2013 Sufficiency Report to $7.2 million).

C.7 Results of Hepatitis C Specific Approach to Required Capital

102. The results of the Hepatitis C specific approach to calculating required capital are set out in the following table:

Estimated Required Capital on Hepatitis C Specific Approach				
Risk Component ($ millions)		**2013 Sufficiency Report**	**2013 Allocation Benefit Report**	**Increase in Risk Component Due to Allocation Benefits**
Investment Risk		$25.4	$25.4	$0.0
Mismatch Risk		18.6	18.6	0.0
Claimant Risk	Drug Treatment Efficacy	44.8	47.6	2.8
	Parameter Uncertainty	28.4	30.9	2.5
	Benefit Amount Uncertainty	28.7	33.7	5.0
	Cohort Uncertainty	5.3	7.2	1.9
Total Required Capital		151.2	163.4	12.2
Required Capital % of Sufficiency Liability		**18.8%**	**17.5%**	**9.3%**

APPENDIX D – ADDITIONAL POTENTIAL ALLOCATION BENEFITS

103. We calculated the cost of a number of further Allocation Benefits that the Joint Committee considered, but is not currently recommending to the Courts. For completeness we have included a discussion of each of these below:

D.1 Exhaustion of Private Health Care and Drug Plans

104. The Joint Committee was concerned that some claimants could exhaust their Private Health Care and Drug Plans as a result of claims arising from their HCV infection. The Joint Committee considered three options

- Purchase of extended benefits from insurers
- Lump sum compensation
- Take over the existing coverage once it is exhausted, i.e. provide the same benefits as the claimants existing plan as if it had not been exhausted by HCV claims.

105. We undertook a basic analysis of this issue based on the input of the Eckler Benefits practice experts.

106. We obtained input from Andrew Tsoi-A-Sue, an Eckler Principal and head of the Eckler Benefits practice. He relied on his general knowledge of the market, as well as discussions with contacts at GreenShield, IA, Manulife, GWL and Sun Life. These insurers cover approximately 80%-85% of the Canadian market. His comments are summarised below:

- *Overview*

107. The discussions focused on the typical HCV drugs being used at this time including, Galexos (Simeprevir), Sovaldi (Sofosbuvir), Harvoni (Ledispasvir/Sofosbuvir) and Holkira Pak (Ombitasvir/Paritaprevir/Ritonavir and Dasabuvir).

108. The general perception is that these HCV drugs have pushed up total costs by about 1% to 1.5%, with the outlook being another impact of up to 1.5%. Different insurers are differently impacted by the new drugs, and some could have experienced a 4-5% increase in claim costs. Rough estimates are that these drugs might have represented between 0.5% and 1% of drug spend in 2013, rose to 1.5% to 2% in 2014 and the outlook for 2015 is to again rise to maybe 2.5% to 3%.

109. In most top 10 drug lists for clients, none of these drugs showed up in 2013, and then in 2014, Sovaldi showed up, generally up at number three to five. Harvoni is in the top five for the first half of 2015. At least one of the major carriers expects HCV drugs to have a noticeable impact on drug spend over the next ten years.

- *What is the typical annual or lifetime maximum?*

110. For the larger groups that Eckler generally deals with, it's uncommon to have limits on drug coverage. Limits are more common for smaller cases, or for post-retirement plans. Where limits exist they are

typically in the range of $50,000 to $100,000 for total lifetime drug costs. Thus, it is likely that claimants who are in plans with limits will be negatively impacted by HCV drug costs.

- *Has the experience of this drug affected the typical plan's annual or lifetime maximum?*

111. The market has not seen plan sponsors reacting to HCV drugs by changing/limiting/implementing a drug or health plan maximum. It's a relatively new impact, and while potentially there has been some impact on pooling arrangements, which have seen significant changes and are receiving a lot of attention from insurers, employers and consultants, no one reports introducing limits as a result of HCV drug costs at this time.

112. Pooling refers to the practice whereby the employer pays the first portion of the costs, up to the "pooling level" and the insurer pays the balance. The insurer charges a risk premium for the cover they provide and the employer choses the pooling level based on their perception of the risk of paying directly for drug costs and the cost of moving the risk to the insurer (i.e. the risk premium). Pooling levels are currently often in the range of $10,000 to $15,000. As a result of significant increases in drug costs in general, i.e. not just HCV drugs, insurers have been significantly increasing their risk premiums and in response employers have been increasing their pooling levels. Revised pooling levels may be as high as $50,000 to $60,000. Note that at this stage this is an employer issue, and does not impact individual members directly. It is possible that at some stage employers will seek to manage their costs by introducing limits on coverage, but as stated earlier, this does not appear to be happening yet.

- *Anything else in terms of usage, outlook etc.*

113. There is an expectation that a number of new therapies, which are aimed at harder to treat types of HCV, will come to market over the next 12 months. Those drugs will cost even more than the high cost products that are already available on the market. So the expectation is that HCV drug costs will continue to increase.

114. In order to protect clients from these costs, many carriers have developed and are rolling out a Hepatitis C program or a patient management program, or have partnered with a pharmacy provider to manage high cost drugs in general, not just HCV drugs. The patient advocate or manager will help work through things like integration with the manufacturers' patient support program, adherence support, and exclusive dispensing of HCV medications.

Investigation of Further Options

115. At this stage, as it seems as if a large part of the market does not impose maximum lifetime benefits, we have not further investigated the feasibility of the options outlined by the Joint Committee to address this problem for claimants.

116. We would like to point out that the last option considered by the Joint Committee, whereby the fund would take over responsibility to provide continuation of existing coverage once it is exhausted, is problematic from two perspectives. Firstly, it would expose the fund to liabilities that would be difficult to define (essentially

the liability will differ depending on each claimants' plan coverage) and hence it would be extremely difficult to assess the actuarial liability with any degree of confidence. The risk arising from this would be considerable. Secondly, it would be very complex to administer due to the potentially wide range of benefits that would be possible.

D.2 Access to Insurance

117. People who are infected with HCV find it difficult to obtain life, mortgage or travel insurance, as they are either deemed by insurers to be uninsurable, or have a significant loading applied to their insurance premiums. The Joint Committee asked us to investigate the feasibility of establishing an arrangement, similar to the Hepatitis C Insurance Scheme established in Ireland, whereby members could obtain access to these three types of insurance, either through:

- A top-up arrangement, where the difference between the increased premium the claimant is charged by the insurer and "normal" premiums charged a non-HCV infected person is paid by the fund, or
- Full insurance cover is provided by the fund in circumstances where the claimant is deemed uninsurable by insurers.

118. We drew on the expertise of Eckler employees who specialize in consulting to insurance companies and they approached a number of Canadian insurance companies to obtain their views on pricing such cover and gauge their interest in participating in a top-up scheme.

119. In general, insurers in Canada tend to see HCV infected persons as uninsurable and therefore if a top-up arrangement was to be set up they would first have to change their policies in this regard, i.e. be willing to offer insurance to HCV infected people via a "HCV product". For this to be feasible, the insurers would need to be confident that:

- They understood the risks well enough to price an HCV product,
- That the volume of business was large enough to be statistically reliable and
- That the volume of business would be large enough that they could cover the costs of developing and administering a product and meet their required profit margins.

120. Eckler discussed this arrangement with four large insurers and one smaller one. Three of the large insurers indicated that they had no interest in participating in such an arrangement. One large insurer and the smaller insurer did not reject the concept, but indicated that significantly more information and analysis would be required before they would commit themselves to providing such a product. It was not possible to go through this process, given the time constraint imposed on the preparation of this report. We reported this information to the Joint Committee, and the Joint Committee decided not to pursue this as a priority Allocation Benefit at this time.

121. No cost analysis has been carried out regarding the "access to insurance" issue.

D.3 Raise the Age at which LOI/LOS Cease to 67, or Some Other Age

122. Currently LOI and LOS cease at age 65. The Joint Committee considered increasing this cut off age to 67 to reflect possible future changes to the demographics of retirement.

123. The increase in the sufficiency liability for future payments is $5.0 million for Transfused and $6.3 million for Hemophiliacs. This represents an increase in the LOI/LOS/SRV liability of about 2.7% for Transfused and 4.0% for Hemophiliacs.

124. We do not have data that allows us to easily calculate the associated retroactive payments, however, to provide a sense of the potential magnitude of the retroactive payments we have assumed that the LOI/LOS/SRV payments would have been 2.7% and 4.0% higher for Transfused and Hemophiliacs respectively. This would result in retroactive payments of $4.3 million for Transfused and $4.4 million for Hemophiliacs.

D.4 Include Other Sources of Income in the Calculation of the "Three Best Years"

125. Currently other sources of income, including MPTAP, EI, CPP Disability and Disability income are excluded when calculating a claimant's pre-claim income. A potential benefit allocation would be to include these items in pre-claim income. The administrator does not currently have data on other sources of pre-claim income, and due to the low priority assigned to this option we did not attempt to calculate the costs associated with this change any further.

D.5 Eliminate the Income Tax Deduction from Loss of Income

126. Currently when calculating LOI or LOS the after tax loss is taken into account. The Joint Committee asked us to estimate the financial consequences of compensating claimants for their pre-tax loss of income.

Loss of Income

127. Based on the analysis of loss of income data for losses incurred in 2011 to 2013 and assuming that the other sources of income are not deducted when calculating the post-claim loss, we obtain the following approximate impact of eliminating the income tax deduction from loss of income:

	Actual/ Sufficiency	No Deduction for Other Income	Increase
Total LOI Claim incurred 2011 to 2013 ($)	18,049,615	30,375,757	68.3%
Total with outliers capped at $200k ($)	14,025,951	21,629,306	54.2%
Transfused sufficiency assumption ($)	43,000	66,310	
Hemo sufficiency assumption ($)	53,000	81,731	

128. Applying the actual increases to actual losses where these are known and applying the average increases of 54.2% to claims arising in the future, we obtain the following estimate of the increase in the liability for future payments:

($000)	Transfused	Hemo	Total
2013 Sufficiency LOI liability	30,588	30,199	60,787
Cost of not deducting other sources of income and eliminating the income tax deduction in calculating LOI	15,315	20,466	35,781

129. These results are calculated assuming that the pre-claim income does not include the other sources of income referred to in paragraph 37. If they were, the increase in the liability would be larger than is shown here.

130. The administrator provided us with sufficient information to calculate the associated retroactive payments accurately for the losses incurred in the three years 2011 to 2013[1], but not for years prior to that. For the purpose of these calculations, we have assumed that LOI payments for years prior to 2011 would increase by the same order of magnitude as the future payments. However, in this case it is appropriate to take into account the increase in the uncapped payments to correctly allow for the increases to any high paid claimants (i.e. claimants above the $200k cap). This results in the following retroactive payments:

($000)	Transfused	Hemo	Total
LOI payments to December 31, 2013	46,983	40,984	87,967
Approximate retroactive payments (= actual increase for 2011 to 2013 plus 68.3% of past LOI payments prior to that)	32,166	31,466	63,632

Loss of Support

131. Based on the analysis of the 2012 to 2014 loss of support data and assuming that the other sources of income are not deducted when calculating the post-claim loss, we obtain the following approximate impact of eliminating the income tax deduction from loss of support.

	Actual/ Sufficiency	No Deduction for Other Income	Increase
Total LOS incurred 2011 to 2013 ($)	6,459,296	9,960,345	54.2%
Transfused sufficiency assumption ($)	34,000	52,429	
Hemo sufficiency assumption ($)	36,000	55,513	

132. Applying the actual increases to actual losses where these are known and applying the average increases of 54.2% to claims arising in the future, we obtain the following estimate of the increase in the liability for future payments:

($000)	Transfused	Hemo	Total
2013 Sufficiency LOS liability	16,833	33,762	50,596
Cost of not deducting other sources of income and eliminating the income tax deduction in calculating LOS	8,540	22,527	31,067

133. As for LOI, the administrator provided us with sufficient information to calculate the associated retroactive payments accurately for losses in the three years 2011 to 2013, but not for years prior to that. For the purpose of these calculations, we have assumed that LOS payments for losses incurred in years prior to

[1] Losses incurred in 2013 are paid in 2014.

2011 would increase by the same order of magnitude as the future payments. This results in the following retroactive payments:

($000)	Transfused	Hemo	Total
LOS payments to December 31, 2013	11,987	19,573	31,560
Approximate retroactive payments (= actual increase for 2011 to 2013 plus 54.2% of past LOS payments prior to that)	6,381	10,791	17,172

D.6 Compensation for Loss of Extended Benefits on Disability

134. Claimants who are unable to work lose not only employment income, but also may lose access to health and other employment benefits. Currently the settlement does not compensate claimants for the loss of these benefits.

135. There is a great degree of variation in the extended benefits that are provided to employees, as there is no requirement to provide any specific level of benefit. Therefore, the actual benefits will depend on the type of employment and associated market dynamics for the employees in question. In our view it is not practical, nor actuarially desirable (due to the significant unquantifiable additional risk that would be taken on) to attempt to compensate claimants directly for lost extended benefits, i.e. attempt to replicate the payments that would have been made to the claimant had they not become sick and terminated employment. An alternative that would be more practical is to pay the claimants an amount that is equivalent to the average value of the lost benefits. This means that claimants would lose the insurance aspect of their extended benefits, but on average the group as a whole would receive payments of equal value. A proxy for the value of the lost benefits is the cost to the employer of providing extended benefits.

136. The costs to the employer vary in concert with the variety of extended benefit arrangements in the market, so it is difficult to come up with a meaningful estimate of the cost of the benefits. In discussion with the Eckler Benefits experts we estimate that these costs are often in the range of 6% - 9% of gross pay.

137. To get a rough estimate of the liability impact of adding this benefit we suggest that the LOI liability in question be increased by 6% - 9% of pay. To give a sense for the magnitude of compensating members for lost benefits we have applied 6% to the LOI liability and past LOI payments.

($000)	Transfused	Hemo	Total
Sufficiency LOI liability on gross or pre-tax basis	45,903	50,665	96,568
Estimated past LOI payments grossed up for tax	81,383	75,427	156,810
Prospective cost at 6%	2,754	3,040	5,794
Retroactive cost at 6%	4,883	4,526	9,409

D.7 LOI/SRV Starting at Level 3 or 4

138. Currently, claimants at level 3 may waive the $30,000 (1999 dollars) lump sum and claim LOI or SRV instead. Claimants who do not experience a loss of income at level 3 are therefore treated relatively more generously in that they have no income loss and receive $30,000, while level 3 claimants who experience a loss are made whole in this regard, but do not receive any additional payments. Claimants whose loss starts after reaching level 4 receive both the $30,000 and compensation of their actual loss and are thus also relatively better off than those whose income loss starts at level 3. In order to achieve greater equity, the Joint Committee considered removing the election, so that level 3 claimants who experience a loss of income also receive $30,000.

139. There are 94 level 3 claimants who have elected LOI/SRV rather than the $30,000 lump sum and 13 claimants have not yet made the election. Paying the 2014 equivalent to each of these members results in a cost of $4.3 million ((94+13)*40,373.22) in 2014 dollars.

140. The 2013 sufficiency review assumes that 5% of claimants in level 3 are disabled and will waive the $30k lump sum and instead claim the LOI/SRV. If we assume that these claimants will receive the $30,000 lump sum as well as their LOI/SRV, the cost will be:

($000)	Transfused	Hemo	Total
Sufficiency liability for $30,000 lump sum	12,191	2,169	14,360
% of Level 3 assumed to waive $30,000	5%	5%	5%
Liability assuming 100% claim $30,000 lump sum (line 1 / (1-line 2))	12,833	2,283	15,116
Cost of eliminating the waiver	642	114	756

D.8 SRV Capped at $12 Per Hour/20 Hours Per Week

141. The Joint Committee is concerned that the $12 per hour (1999 dollars) is too low relative to the replacement cost of the work the claimant can no longer perform. To assist in assessing the financial impact of increasing this limit we were asked to calculate the cost of increasing the cap by $1 per hour.

142. We estimate that a $1 increase in the rate per hour increases the liability by $11.8 million for Transfused and $8.0 million for Hemophiliacs, or $19.8 million in total. We estimate that a $1 increase in the rate per hour would result in retroactive payments of $8.4 million for Transfused and $4.3 million for Hemophiliacs, or $12.6 million in total (calculated as 1/12 of past payments).

143. The Joint Committee is also concerned that limiting the number of hours that may be compensated to 20 is too low. In addition to the 2 hour per week increase, i.e. raising the cap to 22 hours discussed in Appendix A, we were asked to estimate the cost of increasing the 20 hour per week limit to 25 hours, 30 hours or 40 hours. The table below shows the results:

($m)	Transfused	Hemo	Total
Total SRV sufficiency liability (20 hour cap)	141.3	96.0	237.3
Additional cost of 25 hours per week cap (cap increased by 5 hours per week)	29.4	19.7	49.1
Additional cost of 30 hours per week cap (cap increased by 10 hours per week)	54.0	34.9	88.9
Additional cost of 40 hours per week cap (cap increased by 20 hours per week)	89.7	61.0	150.7

144. As described in paragraph 58, we used data on payments for losses incurred in 2011 to 2013 to calculate the increases shown above. We re-ran our Treeage valuation model to accurately calculate the cost of lifting the cap to 25 and 30 hours and did the same calculation using a simplified proportional approach (by looking at the increase in payments for losses in 2011 to 2013 and proportionally increasing the sufficiency liability). Both approaches gave very similar results; therefore for the 40 hour cap results, we used only the proportional approach. The above table shows the Treeage approach for the 25 hour and 30 hour caps.

145. We have not calculated the retroactive payments resulting from these increases accurately, but estimate that on pro-rata basis the following payments would result.

($m)	Transfused	Hemo	Total
Total Past SRV payment	102.3	49.5	151.8
Retroactive cost of 25 hours per week cap	21.1	10.6	31.7
Retroactive cost of 30 hours per week cap	38.4	19.3	57.7
Retroactive cost of 40 hours per week cap	64.3	32.1	96.4

D.9 Loss of Services to Dependents that Stop at the Non-HCV Life Expectancy of the Deceased

146. In some cases the requirement that the loss of services to dependents stop at the non-HCV life expectancy of the deceased have resulted in hardship to the recipient of the benefit. A number of alternatives are considered by the Joint Committee.

Option 1 - Extending the benefits for the lifetime of the dependent

147. In calculating the cost of this change, we have assumed that the payments will continue for the greater of the expected lifetime of the deceased and the lifetime of the spouse (in other words, we have assumed that if the spouse were to die earlier than the expected death of the deceased that the payments will not be reduced relative to the current arrangement).

148. For payments that are currently being made we have taken into account the actual age of the spouse and the associated life expectancy. Results are as follows:

($000)	Sufficiency Liability	Revised Liability	Cost
Transfused DB9	5,767	7,625	1,858
Transfused DA9	23,080	31,738	8,658
Total Transfused	**28,847**	**39,363**	**10,516**
Hemo DB9	12,675	16,303	3,628
Hemo DA9	12,842	15,255	2,413
Total Hemo	**25,517**	**31,558**	**6,041**

149. For future claims we have assumed that the male spouse is 3 years older than the female and have taken the respective life expectancies into account (2009-2011 Canada Life Table). On this basis we calculate that on average the payments should continue to the claimants age 88 (for the 2013 Sufficiency Review we had assumed payments to age 85). The increase in the liability arising from this change is $30.1 million (including those currently in pay as well as future claims).

150. In addition to this amount, there would be retroactive payments associated with benefits that had previously been stopped. We have not calculated these payments accurately, but have estimated them on a pro-rata basis to be approximately $14.5 million.

Option 2 - Extending the benefits to the dependent's age 65

151. There are currently five cases where the spouse would reach age 65 after the claimant's non-HCV life expectancy was reached. Paying the loss of services for the additional years for these cases results in a liability of $336,000.

152. Future cases of this nature could arise where the spouse is twenty years younger than the claimant (we assume that the non-HCV life expectancy is 85, i.e. 20 years past age 65, so for the spouse to reach age 65 after the claimant reaches age 85, they must be 20 years younger than the claimant). Based on the Stats Canada information that we were able to access, this is sufficiently uncommon that a specific assumption and associated extra liability is not warranted.

153. There are cases where the dependent is a child rather than a spouse. In this case it is more likely that the child will be younger than 65 when the claimant would have reached age 85. For payments to be required to the child's age 65, the child must be disabled in some way. While there is at least one case of this nature in the fund, we believe that it should be sufficiently rare that an explicit assumption and associated liability for this situation is not warranted.

Option 3 - Extending the benefits to the dependant's age 65, but allowing for other sources of income and OAS.

154. This is a limited version of Option 2. We have done no calculations at this stage for the five cases that currently exist, but the cost will be less than Option 2. As for Option 2, we would make no explicit allowance for this option in the liabilities for future claims of this nature.

D.10 Death Due to HCV – DB9s and DA9s

155. DB9 estates must prove causation to qualify for the pre-death losses ($50k). Eighty-two estates have been rejected because they could not prove causation. The Joint Committee considered making retroactive payments to these estates as if causation had been proved.

156. The cost of paying the 82 estates who were rejected because they could not prove causation is $5.5 million (= 82 x $50,000 x 1.345773875).

D.11 Secondarily Infected Definition Is Too Limited

157. Twenty-seven family members who applied for compensation as a secondarily infected person (SIP) were rejected because they were not the spouse or child of a primarily infected claimant. We were asked to calculate the cost of paying these members as SIPs.

158. Sixty-two family members were approved as secondarily infected. In the 2013 sufficiency review, we assumed that a further 7 SIPs will be approved, assuming the same ratio of approved to rejected in the future, we estimate that a further 3 SIPs will be approved if the definition is widened.

159. Based on the sensitivity analysis in our 2013 review, a rough estimate of the cost of adding 30 additional SIPs is $6.3 million.

D.12 Cost of Care Provided to Level 5 Claimants

160. Currently cost of care is paid to level 6 claimants only, while some level 5 claimants have a need for care and are therefore left with the burden of funding the care themselves.

161. We were asked to estimate the impact of providing cost of care to level 5 claimants. We do not have any data on the potential claims that would emerge if this was done, but we carried out a sensitivity analysis to provide some insight into the potential impact. Two assumptions are needed to calculate the liability, the average claim amount per person claiming cost of care and the percentage of level 5 claimants making a claim.

162. For Level 6 we assume that 40% of claimants will claim an amount of $45,000. This is equivalent to $18,000 to each Level 6 claimant. To provide insight into the sensitivity to extending Cost of Care to level 5 we have calculate the effect of providing $10,000 to each person at Level 5 (this is equivalent to paying Cost of Care of $25,000 to 40% of those at Level 5). We calculate that this would increase the liability by $41.8 million.

163. We are not able to calculate the retroactive cost of extending Cost of Care to Level 5, but on the assumption that the relationship between past and future Level 6 payments will apply to Level 5 as well, we estimate that, if future Level 5 Cost of Care is $10k per person, the associated retroactive payments, would be $15.3 million.

D.13 Hemophiliac 23 Election

164. This issue arises in the context of a coinfected claimant who elected the $50,000 lump sum in lieu of other benefits payable under the settlement. In the early years of the Fund, a person who was coinfected had a very short life expectancy, but now, with dramatically improved treatments for both HCV and HIV, the life expectancy has lengthened considerably. The Joint Committee has requested analysis of the cost of allowing these individuals to "re-elect". According to the data, there are 59 claimants (21 alive at level 1, 29 alive at level 2, and 9 DA9s) who made this election. Based on the medical model, the 21 claimants who were at level 1 at the time of their election should not have progressed in the disease, and so the option to "re-elect" would not result in additional benefits being paid. We have also assumed that the DA9s would not be posthumously given the option to re-elect. Therefore, a cost only arises on the 29 claimants at level 2.

165. We ran the Treeage model for those 29 claimants assuming they are still at level 2 at the valuation date. The total liability, including the level 1 and level 2 lump sum, is $6.6 million. This compares to the total paid to them of $2.0 million in 2014 dollars for the $50k option, the cost would thus be $4.6 million if they re-elect the option.

D.14 Family Claims

166. Currently the following amounts are payable to family members on the death of a claimant:

	1999 Dollars
Spouse	25,000
Child under 21	15,000
Child over 21	5,000
Parent	5,000
Sibling	5,000
Grandparent	500
Grandchild	500

167. We have calculated the cost of increasing payments to Child over 21 and Parent by $5,000 (1999 dollars as discussed in Appendix A.

168. We were also asked to perform a sensitivity analysis of the impact of increasing the benefit to each category of family member that is currently compensated, where the amount of the increase is $1,000 in 1999 dollars.

169. The administrator provided us with sufficient information to calculate the associated retroactive payments precisely. We started with the actual indexed payments made for each individual family member in the past, and divided by the original benefit amount in 1999 dollars (as set out in the table above). This gives us

the indexing factor applied to each payment. We then multiplied this set of indexing factors by $1,000, as per the sensitivity test. We added up the cost of an additional benefit of $1,000 indexed for each family member in the same category and got the total retroactive cost for each category.

170. To calculate the cost for future claims, we assumed that the family profile for the future claims would be the same as for those claims made in the past. In other words, we calculated the ratio of the retroactive cost for each category to the total past payments (aggregated across all categories), and then applied above ratios to the future loss of care sufficiency liability to get the future cost for each category.

171. Our results are as follows:

DA9s

172. For future claims:

($000)	Transfused	Hemo	Total
Spouse	366	185	551
Child under 21	60	110	170
Child over 21	1,440	318	1,758
Parent	116	267	383
Sibling	1,014	674	1,688
Grandparent	1	40	41
Grandchild	2,167	379	2,546

173. For retroactive claims:

($000)	Transfused	Hemo	Total
Spouse	350	94	444
Child under 21	57	56	113
Child over 21	1,376	161	1,537
Parent	111	135	246
Sibling	969	341	1,310
Grandparent	1	20	21
Grandchild	2,071	192	2,263

DB9s

174. For future claims:

($000)	Transfused	Hemo	Total
Spouse	15	3	18
Child under 21	5	3	8
Child over 21	45	1	46
Parent	3	2	5
Sibling	37	8	44
Grandparent	-	0	0
Grandchild	65	1	66

175. For retroactive claims:

($000)	Transfused	Hemo	Total
Spouse	102	95	198
Child under 21	34	117	151
Child over 21	298	57	355
Parent	19	83	101
Sibling	243	295	538
Grandparent	-	15	15
Grandchild	431	49	480

176. The above results would appear to indicate that the increases for Child over 21 and Grandchild are relatively large, while other categories, for example Spouse are relatively small. This is partly because a $1,000 increase on a $500 Grandchild benefit represents a very large percentage increase, while a $1,000 increase on a $25,000 Spouse benefit is proportionately a much smaller increase. To aid understanding of the impact on the sufficiency liabilities of each of the above categories, we have recalculated the costs based on a 10% increase in the benefit in each category.

177. Cost of a 10% increase in Family Benefits:

	DA9s			DB9s		
($000)	**Trans**	**Hemo**	**Total**	**Trans**	**Hemo**	**Total**
Spouse	1,791	696	2,487	294	245	539
Child under 21	175	248	423	59	180	239
Child over 21	1,408	240	1,648	171	29	200
Parent	114	201	315	11	42	53
Sibling	992	507	1,499	140	151	291
Grandparent	0	3	3	-	1	1
Grandchild	212	29	240	25	3	27
Total	**4,692**	**1,924**	**6,615**	**699**	**652**	**1,351**

Eckler

APPENDIX E – SUMMARY OF COST OF ADDITIONAL POTENTIAL ALLOCATION BENEFITS

$000's	Retroactive Cost			Future Cost			Total Cost		
	Trans	Hemo	Total	Trans	Hemo	Total	Trans	Hemo	Total
Pay LOI/LOS to age 67	4,312	4,352	8,664	5,044	6,328	11,372	9,356	10,680	20,036
Pay LOI/LOS gross of income tax and not deduct other sources of income	38,547	42,257	80,804	23,855	42,993	66,848	62,402	85,250	147,652
Compensation for loss of extended benefits (6% of LOI)	4,883	4,526	9,409	2,754	3,040	5,794	7,637	7,565	15,203
LOI/LOS starts at Level 3 – Pay all $30K			4,300	642	114	756			5,056
Loss of SVC increases by $1 per hour	8,373	4,270	12,643	11,773	8,001	19,774	20,146	12,271	32,417
Loss of SVC hours cap increased to 25 hours	21,071	10,673	31,743	29,435	19,681	49,115	50,505	30,353	80,858
Loss of SVC hours cap increased to 30 hours	38,384	19,279	57,663	53,988	34,928	88,917	92,373	54,207	146,579
Loss of SVC hours cap increased to 40 hours	64,324	32,069	96,392	89,738	60,989	150,727	154,062	93,058	247,120
Extending loss of SVC to lifetime of spouse	11,075	3,439	14,514	19,089	11,030	30,118	30,164	14,468	44,632
Extending loss of SVC to spouse's age 65						336			336
Death due to HCV more leniently awarded									5,518
Secondarily Infected definition broadened									6,300

$000's	Retroactive Cost			Future Cost			Total Cost		
	Trans	Hemo	Total	Trans	Hemo	Total	Trans	Hemo	Total
Cost of Care provided to level 5 claimants ($10,000 per year)	11,600	3,662	15,262	28,108	13,736	41,844	39,708	17,398	57,106
Do not deduct CPP death benefits when compensating funeral expenses (assuming cap on funeral expenses raised to $10,000)	n/a	n/a	1,288	n/a	n/a	889	n/a	n/a	2,177
Hemophiliac 23 election									4,649

$000's	Retroactive Cost			Future Cost			Total Cost		
	Trans	Hemo	Total	Trans	Hemo	Total	Trans	Hemo	Total
Increasing payments to family on death by $1,000									
DA9 – Spouse	350	94	444	366	185	551	716	278	995
DA9 – Child under 21	57	56	113	60	110	170	117	166	282
DA9 – Child over 21	1,376	161	1,537	1,440	318	1,758	2,816	479	3,296
DA9 – Parent	111	135	246	116	267	383	227	402	629
DA9 – Sibling	969	341	1,310	1,014	674	1,688	1,983	1,015	2,998
DA9 – Grandparent	1	20	21	1	40	41	2	60	62
DA9 – Grandchild	2,071	192	2,263	2,167	379	2,546	4,238	570	4,809
DB9 – Spouse	102	95	198	15	3	18	117	98	215
DB9 – Child under 21	34	117	151	5	3	8	39	120	160
DB9 – Child over 21	298	57	355	45	1	46	343	58	401
DB9 – Parent	19	83	101	3	2	5	21	85	106
DB9 – Sibling	243	295	538	37	8	44	280	302	582

$000's	Retroactive Cost			Future Cost			Total Cost		
	Trans	Hemo	Total	Trans	Hemo	Total	Trans	Hemo	Total
DB9 – Grandparent	0	15	15	0	0	0	0	15	15
DB9 – Grandchild	431	49	480	65	1	66	497	50	547

Court File No. 98-CV-141369 CP00

ONTARIO
SUPERIOR COURT OF JUSTICE

BETWEEN:

DIANNA LOUISE PARSONS, MICHAEL HERBERT CRUICKSHANKS, DAVID TULL, MARTIN HENRY GRIFFEN, ANNA KARDISH, ELSIE KOTYK, Executrix of the Estate of Harry Kotyk, deceased and ELSIE KOTYK, personally

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO and THE ATTORNEY GENERAL OF CANADA

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT and THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the Class Proceedings Act, 1992

Court File No. 98-CV-146405

BETWEEN:

JAMES KREPPNER, BARRY ISAAC, NORMAN LANDRY, as Executor of the Estate of the late SERGE LANDRY, PETER FELSING, DONALD MILLIGAN, ALLAN GRUHLKE, JIM LOVE and PAULINE FOURNIER as Executrix of the Estate of the late PIERRE FOURNIER

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, THE ATTORNEY GENERAL OF CANADA and HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT AND THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the Class Proceedings Act, 1992

No. C965349
Vancouver Registry

In the Supreme Court of British Columbia

Between:

Anita Endean, as representative plaintiff

Plaintiff

and:

**The Canadian Red Cross Society
Her Majesty the Queen in Right of the Province of
British Columbia, and The Attorney General of Canada**

Defendants

and:

**Prince George Regional Hospital, Dr. William Galliford, Dr.
Robert Hart Dykes, Dr. Peter Houghton, Dr. John Doe,
Her Majesty the Queen in Right of Canada, and
Her Majesty the Queen in Right of the Province of British Columbia**

Third Parties

Proceeding under the Class Proceedings Act, R.S.B.C. 1996, C. 50

CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL

NO : 500-06-000016-960

SUPERIOR COURT
Class action

DOMINIQUE HONHON

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec

PETITIONER

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL

NO : 500-06-000068-987

SUPERIOR COURT
Class action

DAVID PAGE

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

AFFIDAVIT OF PETER GORHAM
(Sworn January 29, 2016)

I, Peter Gorham, of the Town of Whitby, in the Province of Ontario, MAKE OATH AND SAY AS FOLLOWS:

1. I am a fellow of both the Canadian Institute of Actuaries and the Society of Actuaries, which is the professional association for actuaries in the United States of America. I attained my designation as Associate, Society of Actuaries, in 1977 and attained both fellowships as an actuary in 1980.

2. I am an experienced actuary having spent my professional career providing pension benefits and actuarial consulting services to numerous clients across Canada. I also teach pension courses at the Humber College Centre for Employee Benefits. As such, I have knowledge of matters to which I hereinafter depose.

3. In 1976, I graduated from the University of Toronto with a Bachelor of Sciences in Actuarial and Computer Sciences.

4. I began my actuarial career with Crown Life Insurance Company, where I worked as a pension administrator and an actuarial assistant specializing in pensions and group insurance. I began working at MLH + A Inc. (now Aon Hewitt) in 1978 as an Associate Actuary, serving clients in the area of pension and employee benefits.

5. I continued working at MLH + A Inc. until 1998 becoming a partner in that firm in 1989. I joined Morneau Sobeco (now Morneau Shepell) as a partner in 1998. Morneau Shepell is a firm with over 2,500 employees throughout Canada and the United States. Morneau Shepell

provides integrated human resource services to a wide range of clients. The firm has very large and active practice groups in the fields of asset management, benefits, compensation, disability management and employee assistance programs, which provide actuarial and other services pertaining to pensions, employee benefits and compensation plans. My practice focuses on the design, financing, administration and governance of pension and benefit plans. This includes costing and valuations of pension plan benefits and advice, as well as valuations of pension and benefits obligations for funding and accounting purposes.

6. I retired from Morneau Shepell in June 2011 and commenced working for JDM Actuarial Expert Services Inc as president and actuary. I continue to provide consulting services as a contractor to Morneau Shepell and it is in that capacity that I provide expert witness services in this matter.

7. I have been a member and served as a director of numerous pension-related councils and committees. For example, from 1988 to 1994, I sat on the Pension Review Council, an advisory group of the largest pension and legal firms in Canada. I was a founding director of the Multi-Employer Benefit Plan Council of Canada from 1992 to 1993. I recently completed an appointment as the lead member of the Capital Accumulation Plans Fees Disclosure Industry Working Group that was constituted to provide advice to the Joint Forum of Financial Market Regulators.

8. I have provided evidence as an expert witness in the Superior Court of Ontario for a class action related to alleged excessive credit card interest charges of a major Canadian financial institution. In addition, I have provided expert evidence for the assessment of investment based damages payable on administered funds held by the Federal Government

over an 85 year period, a class action against a number of pay-day loan companies, two constitutional challenges to the Ontario Workplace and Safety Insurance Board regarding benefit entitlement for disabled seniors, and on matters related to the valuation of pensions for family law purposes, life estates valuations, the present value of future income and care costs, as well as other actuarial areas. In testifying, I have appeared before various Courts in Ontario, British Columbia and Alberta, the Ontario Employment Standards Tribunal, the Ontario Workplace Safety and Insurance Tribunal and the Canadian Institute of Actuaries Disciplinary Tribunal. I have also testified before the High Court of Justice in Trinidad and Tobago and the Supreme Court of Bermuda.

9. My *curriculum vitae* is attached as Appendix E to my Report.

10. Morneau Shepell was retained by Canada to prepare an actuarial valuation of the 1986-1990 Settlement Fund for use in the sufficiency review of that fund as of 31 December, 2013. I previously had been engaged by Canada to prepare similar reports assessing the financial sufficiency of the Settlement Fund as at 31 December, 2004, December 31, 2007 and December 31, 2010.

11. For the 2013 valuation we worked cooperatively with Eckler to develop the joint selection of actuarial methods and assumptions. The intent was to use the same assumptions in our respective valuations provided that did not result in compromising our professional integrity or result in using assumptions that we believed were inappropriate for the purpose. The two firms co-operated with the analysis of the data, including data we received from the administrator, developed a common set of assumptions utilized by both firms and shared our respective findings. The differences between the reports were immaterial. Those Reports concluded that

the Fund was sufficient as at December 31, 2013.

12. The current Morneau Shepell retainer in respect of the potential allocation of that actuarial surplus of the 1986-1990 Hepatitis C Compensation Fund as of December 31, 2013 required that we analyze the cost of the benefit enhancements proposed by the class and the sources of the current unallocated surplus.

13. Attached hereto and marked as Exhibit A to this my affidavit is a copy of my Report dated January 29, 2016.

14. Attached hereto and marked as Exhibit B to this my affidavit is a copy of the Administrator's data which I relied upon in formulating the conclusions I reached in paragraph 50 of my report, Exhibit A.

I make this affidavit in response to the plaintiffs' material prepared in support of the fund sufficiency motion.

SWORN before me at the City of Toronto, in the Province of Ontario, this 29th day of January, 2016.

A Commissioner for taking affidavits within the Province of Ontario

PETER GORHAM

This is Exhibit "A" referred to in the
affidavit of Peter Gorham
sworn before me at Toronto, ON
this 29th day of January, 2016

A Commissioner for taking affidavits
within the Province of Ontario

MORNEAU SHEPELL

ACTUARIAL REPORT ON PROPOSED ALLOCATION OF THE ACTUARIALLY UNALLOCATED FUNDS AS OF 31 DECEMBER 2013

Prepared by:
Peter Gorham, F.C.I.A., F.S.A.
Morneau Shepell
895 Don Mills Rd., Suite 700
Toronto, ON M3C 1W3

Prepared 29 January 2016

Table of Contents

A. PURPOSE

1. I am president and actuary with JDM Actuarial Expert Services Inc and I am contracted as a consulting actuary with Morneau Shepell. I regularly provide actuarial consulting services as well as actuarial expert testimony. I am a fellow of the Canadian Institute of Actuaries and of the Society of Actuaries. I received my Actuarial Fellowship in 1980 and have provided pension, benefits and actuarial consulting services for approximately 38 years. A copy of my curriculum vitae is attached as Appendix E.

2. I understand and acknowledge that as an expert, I have a duty to provide evidence in this proceeding as follows:

   a. to provide opinion evidence that is fair, objective and non-partisan;

   b. to provide opinion evidence that is related only to matters that are within my area of expertise; and

   c. to provide such additional assistance as the court may reasonably require, to determine a matter in issue.

3. I acknowledge that the duty referred to above prevails over any obligation that I may owe to any party by whom or on whose behalf I am engaged. A copy of Ontario Form 53 acknowledging those duties is attached as Appendix F.

4. This report has been prepared in order to provide an actuarial analysis of the proposed increases to compensation payments under the 1986 – 1990 Hepatitis C Settlement Agreement made as of 15 June 1999 (the "**Agreement**" or "**Settlement Agreement**") as set out in the Notice of Application filed by the British Columbia Joint Committee Member dated 16 October 2015 and to provide the expected cost should the proposals be implemented.

5. This report is supplemental to the **2013 Morneau Shepell Sufficiency Report**[1].

6. The intended users of this report are the courts having jurisdiction over the matter, Health Canada, the Department of Justice of the Government of Canada and the Joint Committee. The law may require this report to be provided to other parties who are not intended users. The report may not be provided to anyone who is not an intended user except as may be required by law. The findings herein may not be used or relied upon by any party other than an intended user without the prior written consent of Morneau Shepell.

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[1] Actuarial Report Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust Fund as at 31 December 2013, prepared by Péter Gorham and dated 8 April 2015

B. EXECUTIVE SUMMARY

7. With the introduction of new drugs for treatment of the Hepatitis C virus ("**HCV**"), most claimants under the Agreement are eligible for treatment that is much easier to endure than with past drugs and has a very high success rate of 90% to 95% for curing most infected persons (an exception is those who are co-infected with HIV where the cure rate is just over 80%). Even so, there are some HCV genotypes for which these new drugs are contraindicated and where a regimen including interferon and/or ribavirin is still the indicated treatment. Based on the 2013 Report of the Medical Model Working Group (the "**MMWG**"), fewer than 10% of the claimants are in that category.

8. We understand that there are additional new drugs in the approval pipeline that are expected to work effectively with very high rates of success for all genotypes[2]. Once those drugs are approved, we can expect that all claimants (other than those at level 1, who are already cured, and some of those at level 6 for whom we understand treatment is not effective) will be eligible for treatment.

9. We can therefore expect that within the next few years, about 90% to 95% of the claimants will be cured of HCV with about 5% to 10% remaining infected.

TREATMENT FOR CLAIMANTS AT LEVEL 2

10. An issue was identified in the **Eckler Costing Report**[3] whereby the Settlement Agreement provides that claimants at level 2 who meet certain conditions for treatment will qualify for the $30,000 (1999 dollars) lump sum payment that is paid at disease level 3. In addition, they would also qualify for a $1,000 (1999 dollars) payment for each month that they remain on treatment. We understand that the Joint Committee instructed Eckler to assume that all claimants at level 2 would qualify for those payments. Eckler restated the excess assets identified in the **2013 Eckler Sufficiency Report**[4] to provide for those potential payments and thereby reduced the excess assets by $29,421,000 - from $236 million to $206 million.

11. To qualify for the lump sum and monthly payments, the medication these claimants receive must include ribavirin, interferon or any other drug with serious side effects. We understand that under the current drug regimens, only about 60% of claimants at level 2 would require ribavirin and only then if they were prescribed Holkira Pak. We also understand that there is an alternate

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2 Affidavit of Dr. Samuel S. Lee, sworn 26 January 2016, paragraph 25.

3 Actuarial Report to the Joint Committee – Proposed Allocation of the 2013 Sufficiency Assessment Actuarially Unallocated Assets prepared by Richard Border and Wendy Harrison and attached to affidavit #5 of Richard Border.

4 Actuarial Report to the Joint Committee Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust as at December 31, 2013, prepared by Richard Border and Wendy Harrison date 11 March 2015.

treatment (Harvoni) that does not require ribavirin and that Harvoni is the drug currently prescribed in the vast majority of treatment situations[5].

12. We understand that there is a question as to whether it is appropriate to make such payments to a claimant at level 2 by reason only of taking the new treatment (Holkira Pak in combination with ribavirin). We suggest that the situation be reviewed to determine whether the court approved protocol regarding these payments should be revised.

13. If these payments are made to all level 2 claimants who could receive Holkira Pak with ribavirin, we estimate the present value of all such lump sums[6] would be about $21.6 million.

14. It is our opinion that even if these payments are made to claimants at level 2, the liabilities that were set aside as part of the 2013 Morneau Shepell Sufficiency Report are sufficient to provide for these additional lump sum payments and that there is no need to adjust the liabilities and restate the excess assets.

FEDERAL PROVINCIAL AND TERRITORIAL GOVERNMENT CONTRIBUTIONS

15. The federal government made a cash contribution to the 1986-1990 Hepatitis C Trust Fund (the "**Fund**" or "**Compensation Fund**") that was invested and has been used to pay 8/11^{ths} of all benefit payments and expenses. The provincial and territorial governments (the "**PT Governments**") pay 3/11^{ths} of all benefit payments and expenses as they fall due. The present value of the federal and PT Governments contributions totalled about $1.1 billion in 1999.

16. In addition to those contribution obligations, the federal and the PT Governments have exempted the Fund from all income taxes and the claimants from income taxes on any benefit they receive. We have estimated that the present value as of 31 December 2013 of past taxes foregone plus expected future taxes to be foregone is about $555 million.

17. We also reviewed the development of the excess assets and determined that had the federal government not made an up-front contribution, but instead had contributed on the if-and-when basis used by the PT Governments, the Fund would have a deficit of about $348 million as of 31 December 2013. With the actual position being an excess of $256 million, the Fund currently has about $604 million of assets more than it would have had in the absence of prefunding.

18. If the PT Governments had prefunded their contributions like the federal government did, the Fund would have about $224 million more assets as of 31 December 2013 than it actually has.

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5 Affidavit of Dr. Samuel S. Lee, sworn 26 January 2016, paragraph 23.

6 The 2013 sufficiency review already includes a provision for the $1,000 per month payment, but did not include any provision for the $30,000 lump sum payment.

COST OF PROPOSED CHANGES

19. We have estimated the cost of the proposed changes, together with additional administrative expenses and a buffer against catastrophic events, to be about $228 million. That is greater than the $205 million cost shown in the Eckler Costing Report. Most of that difference is because we believe that there is a risk that claiming patterns may change and result in larger future benefits than were assumed by Eckler.

20. As part of our review, we have identified some possible issues with the proposed changes.

    a. The 10% increase to the fixed payments will result in different top-up amounts being paid to claimants in similar situations simply due to the year in which the original payment was made. As an example, for claimants at level 3, if the original lump sum of $60,000 (1999 dollars) was paid in 2001, the top-up amount in 2016 will be $6,250 and if the original lump sum amount was paid in 2013, the top-up amount in 2016 would be $8,002.

    b. A similar situation exists for Family Member top-ups where the amount payable will vary solely due to the year in which the original payment was made.

    c. Eliminating the deduction of collateral benefits from Loss of Income and Loss of Support will result in payments that exceed the actual loss. In our opinion, paying a loss of income or support benefit that exceeds the actual loss is not actuarially sound. If the amount exceeding full compensation is appropriate to pay, it should be paid in some other form, not as compensation for a loss of income.

    d. If the Loss of Income benefit exceeds the lost income, and the claimant is receiving disability income benefits from an insurance company, some of the insurance companies may reduce the benefit they pay by some or all of the Loss of Income benefit.

    e. We believe it is likely that there are many claimants who would like a family member to accompany them to their appointments but who have not done so in the past due to the need to take time off work. In our opinion, the proposal to compensate a family member with $200 when they accompany an infected person to a medical appointment may result in a significant increase in the number of out-of-pocket claims compared with the past experience. We believe that in the past, many out-of-pocket expenses have not been claimed due to their small amount and so the data seriously understates number of medical visits actually taken by the claimants.

C. TREATMENT IMPLICATIONS FOR THE CLAIMANTS

21. Virtually all alive class members (excluding those at level 1 who are already cured and some of those at level 6 for whom the drugs will not help) are eligible to receive treatment. The MMWG assumptions about treatment result in about 85% of the claimants at levels 2 to 5 being cured of the disease by 2019. We utilised those assumptions in the 2013 Morneau Shepell Sufficiency Report.

22. Of the almost 3,750 claimants alive at levels 1 to 5 at the end of 2013, about 3,200 will be cured and about 550 will remain infected. There are a further 130 claimants at level 6 who are assumed to either not qualify for treatment or who are not cured.

23. Based on the MMWG treatment assumptions, of the 550 at levels 1 to 5 who are not cured, about 350 are because they do not meet the current treatment protocols (and therefore do not receive treatment) and about 200 are because the treatment is not effective.

24. There are certain genotypes of HCV for which the current drugs are either not very effective or are contraindicated. Some claimants may still need to take interferon. In the Affidavit of Dr. Samuel S. Lee, sworn 26 January 2016 (the "**Lee Affidavit**", paragraph 25) he advised that there are a number of new drugs in the approval pipeline, in addition to one approved in January 2016, that will be able to treat all genotypes and have a cure rate in excess of 90%. We have assumed that these new drugs will be priced competitively or even below the current drugs in order to obtain an appropriate percentage of the market. (Holkira Pak is about $64,000 for 12 weeks and Harvoni is about $77,000 for 12 weeks[7]. Sofosbuvir (which is used for some of the genotypes) is in the same price range).

25. The 2013 Morneau Shepell Sufficiency Review included a liability of about $160 million for the costs of the approximately 89% of claimants for whom treatment is assumed to be medically indicated. Some of the cost will be paid by private insurance and some (especially for those over 65) by provincial health plans. The balance of about $160 million is assumed to be paid by the Fund.

26. Applying the MMWG treatment assumptions will leave about 11% of the claimants at levels 2 to 5 untreated. Our understanding (Lee Affidavit paragraph 25) is that those claimants will likely be eligible medically for treatment when the new drugs are approved within a very short time. While the liabilities set aside in 2013 did not contemplate these claimants being treated, the reduction in future claims is expected to be more than enough to pay for their treatment without having to touch any of the surplus.

27. So we can consider that in the next few years, almost every claimant who wants treatment will receive it at no personal cost. Once all claimants have been treated, we estimate that between about 5% to 10% will be left with HCV because they did not get cured by the available treatment.

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7 Prices quoted by Shoppers Drug Mart – see also paragraph 47.

28. The 2013 Morneau Shepell Sufficiency Review contemplated a small percentage (15% at levels 1 to 5) of the class would remain infected after 2018. That percent should be smaller after the new drugs are available in 2016. Most of the funds remaining after paying for treatment will be needed:

    a. To provide for the approximately 5% to 10% of non-cured claimants;

    b. Continue to pay for Loss of Support and Loss of Services to dependants of those who died prior to this drug breakthrough;

    c. Provide ongoing Loss of Income to some claimants who, even though cured, are still unable to return to work. Even though the HCV is cured, there are some situations where disablement may continue (affidavit of Dr. Vince Bain, sworn 11 March 2015, pages 15 to 17). In addition to those who remain unable to return to work, there is a risk that some claimants will be unemployed even though they are not disabled. Some of those may be due to having lost or been unable to learn new skills require for their job due to the length of their disability. Others may have the skills but lack the motivation to return to work.

    d. We expect many, if not virtually all, loss of service claims payable to the infected persons will continue, because people may have come to rely on that compensation to meet household expenses and it could cause hardship to have it cease. All of the dependants who are receiving Loss of Services as a result of an infected person's death will continue to receive it, since curing the disease will have no effect on those claims.

29. The cost of treatment for all the alive class members eligible based on the MMWG assumptions, was recognised in the 2013 sufficiency review. The total cost to the Fund was projected to be almost $160 million (including a provision for adverse deviations of $50 million)[8]. That cost is an increase of about $95 million from what the future costs for treatment would have been if the new drugs had not been developed[9].

30. Offsetting the cost increase for treatment by the new drugs is the reduction in future compensation payments of a little over $200 million because most of the claimants will be cured[10].

31. As a result, the actuarially unallocated funds increased by $105 million as a net effect of the new drug treatments (the expected reduction of $200 million in future compensation minus the $95 million increase in cost of treatment between the prior and current treatment costs).

32. Based on the MMWG assumption that all claimants who are eligible will receive treatment by the end of 2018, of the almost 3,750 claimants who are alive at levels 1 to 5, there will be about 550 who remain infected (some of whom may be cured by the new drugs expected in 2016) and about 3,200 who are cured.

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8 2013 Morneau Shepell Sufficiency Report, Table 169a and 169b

9 2013 Morneau Shepell Sufficiency Report, Table 191 and paragraph 195.p

10 2013 Morneau Shepell Sufficiency Report, Table 191 and paragraphs 195.m and 195.q

D. TREATMENT FOR CLAIMANTS AT LEVEL 2

33. The Settlement Agreement provides that the $30,000 (1999 dollars) lump sum payment at Level 3 will be paid to any claimant who meets the protocol for Compensable HCV Drug Therapy.

> *"4.01 Fixed Payments*
>
> *"(1) Each Approved HCV Infected Person will be paid the amounts set out below as compensation for damages:*
>
> ...
>
> (c) *"unless waived pursuant to the provisions of Section 4.01(3), the amount of $30,000 upon delivering to the Administrator evidence demonstrating that he or she has (i) developed fibrous tissue in the portal areas of the liver with fibrous bands extending out from the portal area but without any bridging to other portal tracts or to central veins (i.e., non-bridging fibrous) or* ***(ii) received Compensable HCV Drug Therapy or (iii) has met or meets a protocol for Compensable HCV Drug Therapy notwithstanding that such treatment was not recommended or, if recommended, has been declined;"*** [emphasis added].
>
> Compensable HCV Drug Therapy is defined as:
>
> *"'**Compensable HCV Drug Therapy**' means interferon or ribavirin, used alone or in combination, or any other treatment that has a propensity to cause adverse side effects and that has been approved by the Courts for compensation."*

34. We understand that the Joint Committee instructed Eckler to assume that all claimants at level 2 would qualify for those payments. The Eckler Costing Report quantifies that as an increase in the liabilities reported for the 2013 Sufficiency Review of $29,421,000. It also results in an equal reduction in the excess assets - from $236 million to $206 million.

35. In addition, the Settlement Agreement provides for a $1,000 (1999 dollars) per month while a claimant is receiving Compensable HCV Drug Therapy. The possibility of payment has already been recognised in the 2013 sufficiency liabilities.

DISCUSSION

36. We understand there is an issue as to whether a claimant at level 2 would qualify for the $30,000 lump sum and $,1000 per month payments simply by receiving treatment. However, even if we assume that any level 2 claimant who receives Compensable HCV Drug therapy will receive these payments, only some of the claimants at level 2 could actually qualify for it.

37. We understand that the DAA drug treatments (specifically Harvoni and Holkira Pak) do not get used in combination with interferon, but some infected persons taking Holkira Pak should use it in combination with ribavirin. While these new drugs have some side effects, "there is no medical

reason to suggest that any patient would undergo a hardship in following either Holkira PAK or Harvoni treatment regimens" (Lee Affidavit paragraph 24), which we interpret to be no "adverse side effects". That means the only way a claimant taking one of the DAA treatments would qualify as receiving Compensable HCV Drug Therapy is if the drug is taken in combination with interferon and/or ribavirin.

38. In discussions with Dr. Lee (Lee Affidavit, paragraph 23), we were informed that the most common and likely drug that would be prescribed for a patient would be Harvoni. Harvoni does not require a combination with ribavirin (or interferon).

39. We understand that there are some new drugs that are in the process of approval, and one that received approval in January 2016, that will improve treatment outcomes for some of the genotypes that currently do not have over 90% cure rates with the current drugs and for the genotypes where interferon and ribavirin remains the recommended treatment. These new drugs will not require usage in combination with either ribavirin or interferon and so are unlikely to meet the definition of compensable HCV Drug Therapy. In order to compete against the current drugs, we have assumed that these new drugs will be priced competitively or below the cost of Harvoni and Holkira Pak.

40. We note that most of the drugs taken in the past did include interferon and/or ribavirin and so would have met the definition of Compensable HCV Drug Therapy.

41. After reviewing the data received from the administrator about drug therapy, no claimant at level 2 appears to have received drug treatment in the past. (The data does not indicate whether any claimant at level 2 met the conditions for Compensable HCV Drug Therapy and declined treatment, thus receiving the lump sum payment).

42. Dr. Lee advised us that should a patient at level 2 specifically request treatment with Holkira Pak, he would expect that most specialists would prescribe it regardless of what the specialist would normally have prescribed. Further, he advised that there is no appreciable disadvantage in treatment effectiveness from prescribing Holkira Pak (Lee Affidavit, paragraph 24). The main difference is in the cost (Holkira Pak is about $13,000 cheaper for a 12-week treatment) and the number of pills required to be taken daily (1 for Harvoni and 4 or 6 for Holkira Pak[11]).

43. In our opinion, unless there are specific requests from patients, there is little reason to expect more than a few claimants at level 2 to receive drugs that qualify as Compensable HCV Drug Treatment.

44. To date, this potential lump sum payment has not been an issue. We assume that is either because:

    a. it was not permitted under standard operating procedures except in specific cases, or

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[11] Holkira Pak is taken as 3 pills in the morning and one in the evening. If ribavirin is used, it is taken twice per day. (www.Abbvie.ca)

b. no one realized that they could get the $30,000 just by requesting a recommendation for the treatment, even though it was never taken.

45. We believe that this issue should be addressed and clarification provided as to whether these payments are appropriate to make under the Agreement. Otherwise, there is a risk that claimants at level 2 may request and receive treatment fully paid for by the Fund and that claimant will not only have a better than 90% chance of being cured, but will also receive $30,000 (1999 dollars) plus $1,000 (1999 dollars) per month while taking the drug[12].

46. There is no medical reason to suggest that a claimant at level 2 would undergo a hardship in taking either Harvoni or Holkira Pak (Lee Affidavit, paragraph 24). We have therefore determined that there is no need to adjust the liabilities from the 2013 Morneau Shepell Sufficiency Report to recognise that there may be some lump sums paid. Assuming that the conditions to qualify for Compensable HCV Drug Therapy are clarified to exclude most or all uses of Holkira Pak and Harvoni, we expect that there will be at most only a few claimants at level 2 who might qualify for the lump sum.

47. However, to provide for the possibility that these lump sums will be payable, we have estimated their present value.

a. Based on the genotypes typical in Canada (affidavit of Dr. Vince Bain sworn 11 March 2015), we estimate that about 50% of level 2 claimants could take Holkira Pak with ribavirin and so qualify for the lump sum[13]. That drug costs approximately $64,000[14].

b. In addition, these level 2 claimants would receive the lump sum which in 2013 dollars is $40,373.

c. They would also receive the monthly drug treatment benefit, but that was included in the 2013 Sufficiency liabilities, so it should not be recognised again here.

d. The total cost (prior to recognising any portion payable by private health insurance or provincial government drug plans) would therefore average about $105,000 per claimant.

e. We estimate that a further 10% of level 2 claimants would require treatment using other drugs that include ribavirin or interferon at a cost of about $80,000 plus a lump sum for a total cost of about $120,000.

f. So a total of about 60% of level 2 claimants could potentially qualify to receive the lump sum payment. The average cost of treatment plus the lump sum is a little less than $108,000.

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12 Requires that treatment is Holkira Pak in combination with ribavirin.

13 They could also receive Harvoni and would thereby not qualify for the lump sum. We understand Haroni is currently prescribed in most situations where there is a choice (Lee Affidavit paragraph 23).

14 In November 2015, we were quoted a price of $64,400 by Shoppers Drug Mart in Ontario for a 12 week supply of Holkira Pak. Prices may vary by store and by province. We assume that the average price will not be materially different. We understand that Abbvie, the manufacturer of Holkira Pak, has a program to supply ribavirin at no cost to patients who require it. (www.pacifichepc.org/hepctip/ribavirin/). For this report, we assumed that the cost of a 12-week treatment would be the average cost for all claimants (there are some treatment protocols that require only 8-weeks and others that require 24 weeks).

48. In the 2013 Morneau Shepell Sufficiency Report, we made an assumption that all claimants who had not previously cleared the virus would receive treatment in accordance with the MMWG model during the period 2013 to 2018. That includes all claimants at level 2. We assumed (including provision for adverse deviations) that the cost of treatment would be $110,000 prior to recognising any amounts payable by private or government plans. That $110,000 assumption does not include an allowance for the possibility of paying the level 3 lump sum. The average cost of treatment plus the lump sum (paragraph 47.f) of about $108,000 is a little less than the assumption of treatment costs ($110,000) made in the 2013 sufficiency review.

49. If the 60% of level 2 claimants do receive the lump sum payments, the total of all lump sums would be about $30.3 million, of which $8.7 million has already been recognised in the 2013 Morneau Shepell Sufficiency Report for level 2 claimants who are expected to advance to level 3. So the total additional amount that would be payable is about $21.6 million.

50. This potential cost is not recognised in our 2013 best estimate sufficiency liabilities but is covered by the 2013 sufficiency liabilities including provision for adverse deviations. Consequently, it is our opinion that any lump sum payment has already been adequately recognised in the provision for adverse deviations liabilities and no adjustment to the result presented in the 2013 Morneau Shepell Sufficiency Report is required to recognise the possibility that this lump sum amount might become payable.

51. Should these lump sums be payable, the effect of making no adjustment to the liabilities is to reduce the provision for adverse deviations that was included in the 2013 Sufficiency Report. That will be partly offset by an increase in the provision for adverse deviations because of the assumption we made about the $1,000 (1999 dollars) per month payable while receiving drug therapy. In the 2013 sufficiency review, we had assumed that all claimants receiving treatment of any type would qualify for that payment. In our opinion, that will not be the case for most treatments received after 2013. An inspection of the drug claims paid since 2012 shows that many claimants do not receive the monthly payment. In our opinion, reflecting this change will increase the provision for adverse deviations in our 2013 Sufficiency Report by about $8 million.

52. There is one other event of note subsequent to our 2013 sufficiency review. In January 2016, the federal government announced plans to join the provincial governments for the purpose of establishing a bulk purchasing group for publicly-funded prescription drugs. Shortly after that, the Canadian Life and Health Insurance Association requested a seat at the table as representative of those privately-funding drugs[15]. Assuming that comes to fruition, we expect the cost of prescription drugs will decrease from the levels seen in 2015 (and from the levels used in this report and the 2013 sufficiency review) through the purchasing power of all the players in the funding of prescription drugs.

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15 "Private insurers want in on national bulk-buying deal for drugs", by Jennifer Patterson, Benefits Canada, 20 January 2016, [http://www.benefitscanada.com/uncategorized/private-insurers-want-in-on-bulk-buying-deal-for-drugs-76109]

53. Consequently, in our opinion, there is no need to restate the sufficiency liabilities and so the excess assets in the Fund are the $256,594,000 shown in the 2013 Morneau Shepell Sufficiency Report.

E. COMPARISON OF 1999 COHORT AND 2013 COHORT

54. We undertook an analysis of the 1986 to 1990 claimant cohort in an effort to to reconcile the 1999 estimated class composition with the 2013 estimate.

55. The original transfused class was estimated to be 8,180 – 8,104 of whom were alive at January 1999 and 76 who were deceased as a result of HCV[16]. As of 31 December 2013, there are 3,924 transfused class members who have filed a claim and been approved plus an expected 254 yet to be approved[17]. That gives a total of 4,178 expected transfused claimants – a little more than 50% of the 1999 estimated class size.

56. We have restricted our analysis to the transfused cohort. While the original haemophiliac cohort was larger than those who have filed a claim or are expected to file a claim (1,645 in 1999 vs 1,385 in 2013), the difference in size is much smaller than for the transfused cohort. Throughout the history of the Agreement, we understand that the number and identification of the likely haemophiliac cohort was reasonably well known by class counsel and subsequently by the Joint Committee.

57. All of those people infected with HCV in the class period would have started their progress through the disease stages on the date of infection. By applying the transition probabilities developed by the Medical Model Working Group (the "**MMWG**") to this homogenous population of infected persons, we can determine the expected distribution of the cohort in 2013. That distribution can be compared to the actual distribution of the claimants in 2013.

PROCESS

Transfused Patients Infected with HCV 1986 to 1990

58. We started with the estimate of transfused patients who were infected with HCV from transfusion during the class period of 1986 to 1990. In Dr. Remis' Report dated 22 June 1998 (the "**1998 Remis Report**"), that number was reported as 15,700 (page 13). In the report prepared by the Canadian Association for the Study of the Liver Working Group on Hepatitis C Prognosis dated 6 April 1999 (the "**CASL Report**"), that number is reported as 15,707 (Table 2). In the actuarial report prepared by Eckler and dated 9 July 1999 (the "**1999 Eckler Report**"), the total number of infections during the class period is assumed to be 15,707.

59. The 15,707 persons infected through transfusion are not all potential claimants, as any such person who died prior to 1999 from causes other than HCV does not qualify for compensation under the Agreement. However, that number of infected people formed the base for the estimate

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16 Actuarial report prepared by Eckler and dated 9 July 1999, pages 7-8.

17 2013 Morneau Shepell Sufficiency Report, Table 146a

of the original transfused cohort in 1999 and it has been used as the basis for our projections herein.

60. We assumed that these 15,707 people were infected over the period 1986 to 1990 based on the number of transfusions in each year contained in the 1998 Remis Report.

Table 60 – HCV Infections by Year

Year	HCV Infections from Transfusion
1986	4,501
1987	3,882
1988	3,425
1989	3,047
1990	852
Total	**15,707**

Disease Transition Rates

61. We assumed that the transition rates developed by the MMWG in their 2013 Report applied in each year from 1986 to 2013. We believe that this is likely the most accurate set of progression rates that apply to the class since they involve the greatest amount of data and represent the most recent refinement of the MMWG in the estimation of disease progression rates. Those rates were developed from the information of all claimants under the Agreement, including those who are alive in 2013 and all those who died prior to 2013. It reflects the various progression rates from slow to fast as well as the various comorbidity factors that are present in some claimants.

62. We note that each update to the progression rates produced by the MMWG have involved refinements to the prior reported rates. While some of the refinements were significant changes to the specific rate, the totality of the transition rate refinements had only a modest effect on the time from infection to cirrhosis and decompensation. While the amount of time spent at each disease stage has changed from 1999 to 2013, the total time from infection to cirrhosis (Level 5) has remained reasonably similar at 36 to 41 years.

Spontaneous Viral Clearance ("SVC")

63. We assumed that the rate of spontaneous viral clearance during the six-months post-infection was 20%, the same rate utilised as of 1999 in the 1999 Eckler Report. Dr. Lee advised that from his experience, the rate of SVC among the transfused class would be at least 25% (Lee Affidavit paragraph 38).

64. The transition rates recognise that SVC continues to occur, possibly long after infection. Consequently, if the initial rate of SVC is 20% within the first 6 to 12 months of infection, the ultimate rate will be larger, as infected individuals continue to experience SVC. For example, if we

assume a 20% SVC at the time of infection between 1986 and 1990, and then project that cohort using the MMWG transition assumptions, by 1999 the total rate of SVC has become about 33%.

Post-Transfusion Excess Mortality

65. We assumed that the excess mortality as a result of the reason for the transfusion was the same as assumed in the CASL Report. That assumption for excess post-transfusion mortality was applied for the first ten years post transfusion, at which point it was assumed to have been reduced to zero. That resulted in an assumption that 8,104 transfused infected persons were alive in 1999. The CASL Report assumed an additional 76 transfused infected persons had died prior to 1999 as a result of HCV for a total estimated class size of 8,180.

Treatment

66. Our model allowed for treatment based on the assumptions in the 2007 MMWG Report. We determined that the treatment assumptions in the 2013 MMWG Report were not appropriate as they anticipated the new DAA drug regimens available beginning in 2013. In the CASL Report, we noted that the assumption used for treatment prior to 1999 was nil. For 1999 and beyond, the assumption used by the MMWG was similar each year but with the percentage of successful treatments gradually increasing. In our opinion, the 2007 treatment assumptions are a reasonable proxy for the average effect of treatment set out in the CASL Report through to the 2010 MMWG Report.

RESULTS OF PROJECTIONS

67. By combining the assumption for excess post-transfusion mortality and the disease transition rates, we projected the distribution of the 15,707 infected people to 1999. That produced 8,104 alive infected persons as of 1 January 1999 distributed by disease stage as shown in Table 67. Adding in the 76 deceased class members gives a total assumed class of 8,180 in 1999.

Table 67 – Infected Transfused Patients Surviving to 1999

Level	Assumed Cohort in 1986 - 1990	Projected to 1999	Assumed Cohort in 1999*
1	3,141	2,697	1,621
2	12,566	2,924	2,271
3	-	2,035	2,739
4	-	326	790
5	-	107	544
6	-	15	140
Total Alive	15,707	8,104	8,104
Deceased - HCV	-	76	76
Excess HCV Mortality	-	-	-
Died after 1998 - non HCV	-	-	-
Died before 1999 – non HCV	-	7,527	7,527
Total Deceased	0	7,603	7,603
Total	15,707	15,707	15,707

* *The numbers shown for the Assumed Cohort in 1999 are taken from the 1999 Eckler Report and do not add to the totals shown due to rounding.*

68. Table 67 shows that the assumed distribution of the cohort in 1999 was significantly more advanced in the disease than would be predicted by the disease transition rates. Such overstatement would serve to add a significant provision for adverse deviations to the initial liabilities of the Agreement and increase the likelihood that the assets would prove more than sufficient to pay all compensation as it falls due.

69. We can continue our projection of the 15,707 infected persons from 1999 to 2013. Since the 7,603 persons who are assumed to have died due to post-transfusion causes are not part of the class, we have not included them in Table 69 and thereafter. The total number of infected persons that form our cohort is 8,180.

Table 69 – Infected Transfused Patients Surviving to 2013

Level	Original Cohort projected to 1999	Original Cohort projected to 2013	Actual Cohort 2013
1	2,697	2,925	542
2	2,924	874	1,055
3	2,035	1,327	954
4	326	584	186
5	107	575	168
6	15	192	93
Total Alive	8,104	6,477	2,998
Deceased - HCV	76	338	715
Excess HCV Mortality	-	450	
Died After 1998 - non HCV	-	915	465
Total Deceased	76	1,703	1,180
Total	8,180	8,180	4,178

70. In Table 69, we can see that if there were 8,180 persons originally infected during the class period who survived to 1999 or who died prior to 1999 from HCV, then by 2013 we would expect there to be 6,477 alive infected persons and 1,703 deceased.

71. We can compare the projection of the original assumed cohort with the actual 2013 cohort.

    a. In total, there are 4,178 claimants compared with an expected 8,180.

    b. There are 2,998 alive claimants compared with 6,477 who would be expected to have survived out of the original 1999 assumed cohort.

    c. There are 1,180 deceased claimants compared with 1,703 who would be expected to have died out of the original 1999 assumed cohort.

72. In our opinion, the actual class is likely much smaller than the original 1999 estimate of 8,180. However, we have not yet reached a stage in our analysis where we can quantify that difference.

F. FEDERAL AND PROVINCIAL GOVERNMENT CONTRIBUTIONS

73. The contributions from the federal, provincial and territorial governments (the "**FPT Governments**") have been made up of the direct cash contributions plus foregone tax revenue. The amount of foregone tax revenue was estimated in 1999 by Jacob Levi of Eckler to be $357 million (1999 Eckler Report, page 55). That calculation looked only at the foregone taxes on investment income of the Compensation Fund. Implicitly, it assumed that the contributions of the FPT Governments to the Fund and the payments of benefits to claimants would be non-taxable.

74. We have therefore estimated the amount of income tax foregone by the FPT Governments from

    a. investment income of the Fund; and

    b. payments of compensation to the claimants.

75. In performing these calculations, we made some rough assumptions in order to simplify the calculations involved. For purposes of tax on investment income, we assumed:

    a. the Fund would have been taxed as a personal trust based on a federal tax rate of 19% and a provincial tax rate of 16.8%[18];

    b. past investment income would be the same as was actually earned and future investment income would be at the rates used in the 2013 Sufficiency Review for the provision for adverse deviations assumptions (3.65% on invested assets, inclusive of future inflation) and compensation payments of the fund would be the same as shown in the 2013 Morneau Shepell Sufficiency Report in section 10.

    c. the tax payable by the trust for each year would be based on the investment income of the fund in that year reduced by the amounts paid to claimants[19] in the year and reduced by the expenses of the fund;

    d. investment income attributable to the Real Return Bonds would be taxable as ordinary income in the year accrued, regardless of when it is paid;

    e. since Real Return Bonds are expected to generally be held to maturity, any capital gains and losses on them will net out to zero over the life of the fund and no tax would be paid on these capital gains and losses;

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18 The 16.8% rate is the top tax rate applicable in British Columbia. A reduction of $10,400 was made to recognise the gradual tax structure of British Columbia. It may be that if the trust were taxable, it would be taxed in a different province and at a different rate.

19 For purposes of the trust fund taxes, only the portion of the benefits paid from the fund were included – the PT Government portion was not included as income and was not deducted for purposes of the trust fund's taxes.

f. approximately 20% of the fund's investment income would be in the form of capital gains and dividends, which attract a different treatment for tax than ordinary income. To recognise the tax-preferred status of capital gains and dividends, 9% of the total investment income could be treated as non-taxable and 91% taxable as ordinary income[20];

g. for simplification purposes, any capital gains are assumed to be taxed as they arise whether realised or unrealised;

h. payments to claimants and all expenses of the Fund would be deductible from income in each year, with any amount that exceeds the investment income eligible to carry forward to a future year;

i. there would be no flow-through of taxation (e.g. dividends and capital gains) to individuals; and

j. any taxes that might have been paid would have been refunded to the Compensation Fund by an additional contribution from the governments, as contemplated in the Agreement, so that the total assets of the Fund would remain unchanged as a result of taxation.

76. In calculating the income taxes of claimants, we assumed:

a. payments of pecuniary damages from the Compensation Fund would be taxed as ordinary income;

b. payments of non-pecuniary damages and reimbursement of expenses would not be taxed;

c. loss of income, loss of services and loss of support are pecuniary damages and therefore are taxable and all other compensation is non-pecuniary and therefore non-taxable;

d. the average individual income tax rate that would apply to pecuniary damages would be 20.5% for federal taxes and 8.0% for provincial taxes[21]; and

e. there would be no deduction made against the Compensation Fund payment (or if there is a deduction, it would have been available to the individual under the current regime where these payments are actually non-taxable).

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20 Only half of capital gains are taxable with the balance non-taxable. The effective tax rate that applies on dividends is about 72% of the tax rate that applies on ordinary income. We assumed 16% of the investment income is from capital gains, so 8% is non-taxable and 8% is taxable at the ordinary tax rate. We assumed 4% of the investment income is from dividends, which is equivalent to about 1% non-taxable and about 3% taxable at the ordinary tax rate. So in total, 9% of all investment income would not be taxed and the rest would be taxable at ordinary tax rates.

21 For this, we assumed that half of the claimants would have taxable income of about $30,000 on average and half would have taxable income of about $70,000 on average. The tax rates used are the average of the marginal rates applicable at those income levels (with the Ontario rate used as a proxy for provincial taxes).

77. Based on these assumptions, the total present value as of 31 December 2013 for past and future income taxes is estimated to be approximately:

Table 77 – Estimated Present Value of Foregone Income Taxes as at 31 December 2013

	Amount of Tax (in 000s)
Tax on Investment Income	
Federal Taxes	$ 226,942
Provincial Taxes	131,011
Total tax on investment income	357,953
Tax Paid by Claimants	
Federal Taxes	141,592
Provincial Taxes	55,255
Total tax on compensation payments	196,847
Total Income Tax	
Federal Taxes	368,534
Provincial Taxes	186,266
Total income taxes	$ 554,800

78. As of December 2013, we estimate that approximately $555 million of income taxes that would normally be payable by a settlement have and will be foregone by the FPT Governments. This is in addition to their respective contributions to the Compensation Fund for the payment of benefits and expenses.

79. The present value of the estimated foregone income taxes as of 1999 is about $336 million. That is similar to the $357 million estimated by Eckler in the 1999 Eckler Report. The total contribution of the federal and PT Governments is therefore approximately the 1.1 billion cash contributions plus the $0.34 billion of foregone income taxes for a total of $1.44 billion.

G. ATTRIBUTION OF EXCESS ASSETS

80. The 2013 Morneau Shepell Sufficiency Report identified $256,594,000 of excess assets (the 2013 Eckler Sufficiency Report identified the excess assets as $236,341,000). Excess assets are also referred to as Actuarially Unallocated Assets.

81. The existence of these excess assets is entirely due to the pre-funding of the Compensation Fund by the federal government. Had the federal government not prefunded their contribution obligation, the Fund would have been insufficient as of 31 December 2013.

82. In the absence of pre-funding, we assumed that the federal government would have contributed funds as and when compensation payments are made – in the same way that the provincial and territorial governments do. The unpaid contribution obligation would grow with interest calculated at the yield on Government of Canada 91-day Treasury Bills.

83. We have calculated the financial position of the Compensation Fund as of 31 December 2013 based on an assumption that neither the federal nor PT Governments pre-funded their contributions.

Table 83 – Financial Position if No Pre-Funding by Canada (in '000s)

	Best Estimate		*Provision for Adverse Deviations*	
	2013	*2010*	*2013*	*2010*
Assets	$ 585,718	$ 678,644	$ 585,718	$ 678,644
Liabilities				
▪ Transfused	387,114	412,012	491,612	528,404
▪ Haemophiliacs	223,969	242,240	264,471	284,150
▪ HIV Program	950	1,100	970	1,100
▪ Fees & Expenses	53,455	34,091	55,552	34,658
Total Fund Liabilities	665,488	689,443	812,605	848,312
Fund Surplus (Deficit)	**$(79,770)**	**$(10,799)**	**(226,887)**	**(169,668)**
Additional buffer against catastrophic events			121,000	-
Excess (Shortfall) in Assets			**$ (347,887)**	**$ (169,668)**

84. If there had been no pre-funding by Canada, we estimate that the Compensation Fund would have been insufficient as of 31 December 2013 by about $348 million. There were actually excess assets of about $256 million, meaning that the pre-funding by Canada has put the Compensation Fund in a $604 million better position than if no prefunding had occurred.

85. Similarly, we calculated the financial position of the Compensation Fund assuming that the PT Governments had pre-funded their obligation along with Canada.

Table 85 – Financial Position if PT Governments had Pre-Funded their Obligation (in '000s)

	Best Estimate		*Provision for Adverse Deviations*	
	2013	*2010*	*2013*	*2010*
Assets	$ 1,413,547	$ 1,360,403	$ 1,413,547	$ 1,360,403
Liabilities				
▪ Transfused	387,114	412,012	491,612	528,404
▪ Haemophiliacs	223,969	242,240	264,471	284,150
▪ HIV Program	950	1,100	970	1,100
▪ Fees & Expenses	53,455	34,091	55,552	34,658
Total Fund Liabilities	665,488	689,443	812,605	848,312
Fund Surplus (Deficit)	**$748,059**	**$670,960**	**600,942**	**512,091**
Additional buffer against catastrophic events			121,000	-
Excess (Shortfall) in Assets			**$ 479,942**	**$ 512,091**

86. Had the PT Governments pre-funded their contribution obligation along with Canada, the Compensation Fund would have excess assets of about $480 million as of 31 December 2013 – about $224 million greater than actually exists.

87. In our opinion, the excess assets are entirely due to the agreement by Canada to pre-fund the federal contribution obligation.

H. SUMMARY OF COST OF PROPOSED CHANGES

88. The estimated costs of the Joint Committee's proposals are presented in the following tables. Detailed information and discussion about each proposal is in the sections that follow.

89. We have continued to utilise the assumptions from the 2013 Morneau Shepell Sufficiency Report. For this report, we used the assumptions including a provision for adverse deviations.

90. Because of the nature of the proposals, we had to make some additional assumptions regarding the amounts and the claimants who would receive any increase in the benefits. These assumptions are set out in the sections that follow describing each proposed change.

91. For the most part, we adopted assumptions and methodologies that are consistent with those used by Eckler in the Eckler Costing Report. In a few situations, we believe that different assumptions are warranted to capture the full extent of the top-up payments to be made. In most situations, the impact on the cost is likely not material – for example, future payments for loss of services was determined by Eckler to be $21,014,000 and by us $24,108,000.

92. However, there are a few proposals where the difference in assumption or methodology has a material effect on the cost of the proposed change. For example, the future payments for cost of care was determined by Eckler to be $505,000 and by us to be $2,563,000. The expected cost for the change to out-of-pocket expenses was determined by Eckler to be $1,957,000 and by us to be $8,370,000.

93. In all situations where we utilised different assumptions or methodologies it was to recognise the risk of a possible change in behaviour of claimants as a result of the proposed changes. As an example, for the cost of care assumptions, we believe that claimants who incurred expenses close to but not over the current $50,000 (1999 dollars) maximum did so because they could not afford to pay for services out of their own pocket, even though such services were required. In the future, we expect even though they have never exceeded the current maximum, they will utilise the additional services afforded by the increase in maximum to $60,000 (1999 dollars).

94. We show two tables of costs for the proposed changes. Table 94a is based on there being no interest or indexing for retroactive payments between the date of the original payment and the date of the top-up payment. That is consistent with the Joint Committee proposals. In other words, if a claimant had incurred a loss of services payment of $14,288 in 2005 (the maximum payable in that year based on 20 hours per week) the top-up would be $1,428.80 in 2016. No interest or index adjustment to adjust the amount from 2005 to payment in 2016 would be made. Table 94b provides for indexing all past payments to the date the top-up is paid. (For our costings, that adjustment was applied up to December 2013 to be consistent with the date of the sufficiency review.)

Table 94a- Summary of Costs for Proposed Changes to HCV Settlement Agreement – No Interest on Retroactive Payments ('000s)

		Transfused Cohort			Haemophiliac Cohort				
Description	Number of Claimants Affected	Retro-active Cost	Future Cost	Total Cost	Retro-active Cost	Future Cost	Total Cost	Total Cost	Eckler Total Cost
First Claim Deadline	-	$ -	$ 28,605	$ 28,605	$ -	$ 3,794	$ 3,794	$ 32,399	$ 32,399
Increase Fixed Payments by 10%	5,453	29,153	7,635	36,788	11,259	2,830	14,089	50,877	51,266
Family Member Payments	2,487	9,069	7,456	16,525	2,212	3,857	6,069	22,594	22,162
Loss of Income/Support - eliminate deduction of collateral benefits	297	6,392	7,003	13,395	11,747	10,952	22,699	36,094	27,539
Compensate for Diminished Pension Savings	294	5,502	3,747	9,249	4,800	3,655	8,454	17,703	19,787
Loss of Services - Compensate for up to 22 Hours per Week	718	8,950	14,665	23,615	4,326	9,443	13,769	37,384	34,561
Cost of Care - increase maximum to $60,000 (1999 dollars)	13	114	1,641	1,755	7	922	929	2,684	627
Out-of-Pocket Expenses - $200 for accompanying Family Member	2,231	-	5,940	5,940	-	2,430	2,430	8,370	1,957
Funeral Expenses - increase maximum to $10,000 (1999 dollars)	375	710	661	1,371	371	283	654	2,025	2,050
Administrative Expenses	-	-	609	609	-	300	300	909	909
Buffer (15%)	-	-	11,694	11,694	-	5,770	5,770	17,464	12,167
Total Cost of Proposed Changes	**5,453**	**$59,890**	**$89,656**	**$149,546**	**$34,722**	**$44,235**	**$78,957**	**$228,503**	**$205,424**

Table 94b - Summary of Costs for Proposed Changes to HCV Settlement Agreement - Retroactive Payments indexed to 2013 ('000s)

		Transfused Cohort			Haemophiliac Cohort				
Description	Number of Claimants Affected	Retro-active Cost	Future Cost	Total Cost	Retro-active Cost	Future Cost	Total Cost	Total Cost	Eckler Total Cost
First Claim Deadline	-	$ -	$ 28,605	$ 28,605	$ -	$ 3,794	$ 3,794	$ 32,399	$ 32,399
Increase Fixed Payments by 10%	5,453	35,171	7,635	42,806	14,622	2,830	17,452	60,258	51,266
Family Member Payments	2,487	10,642	7,456	18,098	2,596	3,857	6,453	24,551	22,162
Loss of Income/Support - eliminate deduction of collateral benefits	297	7,172	7,004	14,175	13,479	10,952	24,430	38,606	27,539
Compensate for Diminished Pension Savings	294	6,188	3,747	9,935	5,294	3,655	8,948	18,883	19,787
Loss of Services - Compensate for up to 22 Hours per Week	718	10,121	14,665	24,786	4,909	9,443	14,352	39,138	34,561
Cost of Care - increase maximum to $60,000 (1999 dollars)	13	122	1,641	1,763	8	922	929	2,692	627
Out-of-Pocket Expenses - $200 for accompanying Family Member*	2,231	-	5,940	5,940	-	2,430	2,430	8,370	1,957
Funeral Expenses - increase maximum to $10,000 (1999 dollars)	375	820	661	1,481	430	283	713	2,195	2,050
Administrative Expenses*	-	-	609	609	-	300	300	909	909
Buffer (15%)	-	-	11,694	11,694	-	5,770	5,770	17,464	12,167
Total Cost of Proposed Changes	**5,453**	**$ 70,237**	**$ 89,656**	**$159,893**	**$ 41,337**	**$ 44,235**	**$ 85,571**	**$245,464**	**$205,424**

* Out-of-Pocket expenses and Administrative expenses have no retroactive element and are not affected by indexing.

I. FIRST CLAIM DEADLINE

95. The Agreement provided that the first claim deadline would be 30 June 2010, after which claims would be accepted in only specified situations ("late claims").

96. The Agreement provisions related to filing a late claim were clarified in two court approved protocols that became effective May 2012. In summary, those protocols provide that a class member may submit a claim if they:

    a. first learned of their infection within the three years prior to first advising the administrator of their claim; or

    b. do so within one year of attaining the age of majority; or

    c. are a secondarily infected person and they file a claim within three years of the date the primarily infected person first filed their claim; or

    d. are the personal representative and are seeking to file a claim within three years of the infected person's death; or

    e. are a dependant or family member and are seeking to file a claim within three years of the infected person's death; or

    f. the claim was initially advanced under the Pre-1986/Post-1990 Hepatitis C Settlement prior to 30 June 2010.

97. There are other conditions that a person must meet in order for a claim to be accepted by the administrator, such as completing the application within a specified time period. A claim that is accepted in accordance with one of the late claim protocols will still go through the approval process and may be approved or denied in accordance with the Agreement terms and administrative procedures.

98. The Joint Committee proposes that a third late claim protocol be approved to permit claims to be accepted by the administrator from a person who:

    a. did not receive timely notice of the deadline until after it had passed; or

    b. did receive notice of the deadline prior to it passing but did not have sufficient time to file a claim; or

    c. failed to meet the first claim deadline due to matters considered to be beyond their control.

DISCUSSION

99. If adopted, the proposal will likely result in a number of new claimants being approved for compensation. The actual number will depend on the approval rate. It appears that there would be a two-step process:

    a. first, the referee or court would determine whether the person meets the conditions of the late claims protocol so that the administrator may accept the claim;

    b. second, the normal approval processes would be followed as for every other claim submitted with the claim either accepted or denied.

100. The historical approval rate can be utilised to estimate the percent of these late claims that are likely to get approved in the second step of the process. Recent claims approval rates have been about 50% for transfused claimants and about 67% for haemophiliac claimants. We do not have any data to assist in selecting an assumption for the percent of claims that may be approved for acceptance under the first step.

101. We have reviewed the assumptions that were used in the Eckler Costing Report and the Eckler 2013 Sufficiency Report and we agree that they are reasonable assumptions for the purpose at hand. The key assumptions are:

    a. the rate for accepting a late claim will be about 80%;

    b. 50% of the accepted claims will be approved for transfused people and 70% for haemophiliacs, with the balance denied;

    c. this gives a total acceptance rate (steps 1 and 2 combined) of 40% for transfused people and 55% for haemophiliacs;

    d. based on the enquiries received to December 2013 by the administrator and projections of future applications, there will likely be about 295 transfused and 18 haemophiliac requests for filing a claim under this protocol if it is adopted;

    e. the disease and age distribution of the approved claimants will be the same as the current claimant cohort, with the exception that the new claimants approved will not include any who died prior to 1999.

102. In total, those assumptions produce 118 new transfused claims and 10 new haemophiliac claims.

CALCULATION OF COST FOR FIRST CLAIM DEADLINE

103. We have estimated the cost should the court approved protocol be adopted by:

a. ***Retroactive Cost***: Any retroactive compensation is included in the future cost. This is consistent with the methods and assumptions used for the 2013 Sufficiency Review by both Eckler and Morneau Shepell.

b. ***Future Cost***: We have accepted the Eckler calculation of this amount since our assumptions are the same.

104. The costs for the proposed late claims protocol are:

Table 104 – Costs for Late Claims Protocol ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Modification of First Claim deadline	$ 0	$ 28,605	$ 0	$ 3,794	$ 32,399

J. INCREASE FIXED PAYMENTS BY 10%

105. Currently, there are lump sum compensation amounts payable at most of the disease levels. The amounts are cumulative, so a person who is approved as a claimant at level 6 would receive the amounts for each of levels 1 through 6 for a cumulative total of $225,000 (1999 dollars) which is $302,799 in 2014 dollars.

106. The following lump sum amounts are in 1999 dollars:

Table 106 – Lump Sum Payments

Level	Lump Sum	Cumulative Amount
1	$ 10,000	$ 10,000
2	20,000	30,000
3	30,000	60,000
4	-	60,000
5	65,000	125,000
6	100,000	225,000

107. There are some other lump sum amounts under the Agreement.

a. A haemophiliac infected claimant who was also infected with HIV may elect to receive $50,000 (1999 dollars) in full satisfaction of all claims under the Agreement. This payment is likely of interest only to those haemophiliac claimants at level 1 and possibly some claimants at level 2.

b. Where an infected person died prior to 1999, the estate may claim either a lump sum of $120,000 (1999 dollars) in full satisfaction of all claims under the Agreement, or a lump sum of $50,000 (1999 dollars) in respect of all pre-death losses with family members and dependants eligible to claim additional losses.

c. Where a haemophiliac infected person who was also infected with HIV died prior to 1999, the estate may claim a lump sum of $72,000 (1999 dollars) in full satisfaction of all claims under the Agreement. This option does not require evidence about the cause of the HCV infection.

108. The Joint Committee proposes to increase these lump sum payments by 10%. The increase in respect of past payments will not be adjusted from the year of original payment to the date of payment for either interest or by the pension index.

DISCUSSION

109. The proposal will result in a lump sum amount equal to 10% of the actual lump sum paid to each infected person and estate with no adjustment for interest or the pension index. As a result,

claimants at the same level will receive different dollar amounts depending on the year they received the original lump sum amount.

110. For example, consider a level 3 claimant who received $60,000 (1999 dollars) upon approval as a claimant. For such a claimant who was approved in 2001, their original payment was $62,502.70, so the 10% increase would pay $6,250.27 in 2016. For a level 3 claimant approved in 2013, the original lump sum amount was $80,021.95, so the 10% increase would pay $8,002.20 in 2016.

111. If paying amounts that differ based on the year of the original payment is considered to be inappropriate, two of the possible alternatives are to pay the 10% increase based on:

    a. the 1999 dollar amounts with no interest or pension index adjustment to the date of payment; and

    b. the 1999 dollar amounts indexed to the date of payment of the top-up.

112. Under both alternatives, all claimants who are at the same level today, and all deceased claimants at that level when they died, will receive the same lump sum increase. The alternative (b) amounts shown in Table 112 are based on amounts payable in 2016.

Table 112 – Alternative Increases for Fixed Payments

Level	Alternative (a)	Alternative (b)
1	$ 1,000	$ 1,386
2	3,000	4,159
3	6,000	8,318
4	6,000	8,318
5	12,500	17,330
6	22,500	31,194
Haemophiliac $50,0000	5,000	6,932
Pre-1999 Death $120,000	12,000	16,637
Pre-1999 Death $50,000	5,000	6,932
Haemophiliac Pre-1999 Death $72,000	7,200	9,982

113. If Alternative (a) is adopted, consideration should be given for the amounts to be paid to future approved claimants. Would it be:

    a. the unindexed 10% amount as shown in the table (which will complicate the administration and explanation of the payment amounts in the future); or

    b. 10% of the 1999-dollar amount plus indexing to the year of payment (similar to Alternative (b)).

114. If Alternative (b) is adopted, there should be no issues due to differences in the amounts paid to claimants in different years.

CALCULATION OF COST FOR FIXED PAYMENTS

115. We have estimated the cost for the fixed payments by:

a. ***Retroactive Cost***: The retroactive compensation for the fixed payments as proposed is equal to 10% of all lump sum amounts paid in the past. For the alternatives set out above, we totaled the number of lump sum payments made at each level and multiplied each total by the retroactive amounts payable as shown in Table 112.

b. ***Future Cost***: The liability from the 2013 Morneau Shepell Sufficiency review for each of the lump sum payments was increased by 10%.

116. The costs for the proposed increase and the two options discussed are:

Table 116 – Costs for 10% Increase to Fixed Payments ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Proposal	$29,153	$7,635	$11,259	$2,830	$50,877
Alternative (a)	26,135	7,635	10,866	2,830	47,466
Alternative (b)	35,171	7,635	14,622	2,830	60,258

K. FAMILY MEMBER PAYMENTS

117. Currently, family members of a deceased infected claimant may claim a lump sum amount as compensation for loss of guidance, care and companionship. The amounts vary based on the relationship of the individual to the infected claimant – from $500 (1999 dollars) for a grandchild or grandparent to $25,000 (1999 dollars) for a spouse.

118. The Joint Committee is proposing that the amounts payable to children over age 21 and to parents be increased from $5,000 (1999 dollars) to $10,000 (1999 dollars).

DISCUSSION

119. A comparison of the lump sum amounts by province and territory for loss of guidance, care and companionship is attached as Appendix A. Neither of these increases will result in a payment that exceeds the maximum values shown in Appendix A for children or parents.

120. This proposal, if approved, will result in top-up payments for retroactive amounts that differ based on the year the original amount was paid – with larger payments going to those whose original benefit was paid more recently.

121. As with the Lump Sum amounts discussed above, two of the possible alternatives would be to make the payment in 1999 dollars with no adjustment for interest or pension index (for a top-up payment of $5,000), or to pay a flat amount that includes indexing to the date of payment of the top-up (for a top-up payment of $6,932 if paid in 2016).

122. The discussion comparing past and future payments in paragraphs 113 and 114 also applies to these payments.

CALCULATION OF COST FOR FAMILY MEMBER PAYMENTS

123. We have estimated the cost for the Family member payments by:

    a. ***Retroactive Cost***: The retroactive compensation for lump sum payments as proposed is equal to 100% of all family member amounts paid to parents and children over age 21 in the past. For the alternatives set out above, we totaled the number of these family member payments made and multiplied each total by the retroactive amounts payable.

    b. ***Future Cost***: The total amount paid in the past to children over 21 and to parents is 30.3% of all family member payments. We assumed that ratio would continue into the future in the absence of this proposal and determined the cost to be equal to 30.3% of the liability from the 2013 Sufficiency review.

124. The costs for the proposed increase and the two options discussed are:

Table 124 – Costs for 10% Increase to Family Member Payments ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Proposal	$9,069	$7,456	$2,212	$3,857	$22,594
Alternative (a)	7,838	7,456	1,912	3,857	21,063
Alternative (b)	10,642	7,456	2,596	3,857	24,551

L. ELIMINATE DEDUCTION OF COLLATERAL BENEFITS FOR LOSS OF INCOME AND LOSS OF SUPPORT CLAIMS

125. Currently, when a claimant suffers a loss of income as a result of their HCV infection, compensation equal to the loss in net income is paid. The focus is on the amount of net income so that after payment of the Loss of Income benefit ("**LOI**"), the claimant will be returned to approximately the same financial position after tax that they would have been in were it not for the disability. LOI is recalculated each year to take into account any changes in the claimant's financial situation. LOI is paid each year of loss until the claimant attains age 65 or the loss ends.

126. In the calculation of the amount of LOI payable, a deduction is made for any amounts the claimant receives in the year of the lost income, after tax, for the sum of:

    a. Canada Pension Plan and/or Quebec Pension Plan ("**C/QPP**") disability income[22]; plus

    b. Employment Insurance benefits; plus

    c. disability insurance (for example, from an employer long-term disability income plan); plus

    d. benefits from the HIV Extraordinary Access Plan ("**EAP**"), the HIV Multi-Provincial and Territorial Assistance Program ("**MPTAP**") and Nova Scotia HIV Assistance Program (collectively, the "**HIV Payments**").

127. Currently, following the death of an infected claimant, any surviving dependants may receive 70% of the lost income amount as a Loss of Support ("**LOS**"). That is payable for the dependants' life but not beyond the date the infected claimant would have attained age 65.

128. In the calculation of the amount of LOS payable, a deduction is made for any amounts the dependant receives in the year of the lost income, after tax, for the sum of:

    a. Canada Pension Plan and/or Quebec Pension Plan ("**C/QPP**") survivor benefits (including amounts for dependants)[23]; plus

    b. survivor HIV Payments.

129. The Joint Committee proposes to remove the deduction of these collateral benefits and thereby increase the amount of benefit payable for both past and future losses. Past losses will not be adjusted from the year of loss to the date of payment for either interest or by the pension index.

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22 The Notice of Application only references CPP in the section "Part 1: Orders Sought". Both Heather Rumble Peterson's affidavit and Richard Border's affidavit include QPP in their discussions and cost estimates. We have included both CPP and QPP in our discussion and cost estimates.

23 The Notice of Application references CPP disability payments in the section "Part 1: Orders Sought". There are no disability payments under the C/QPP after a person's death. We have recognised both CPP and QPP *survivor* benefits in our discussion and cost estimates.

DISCUSSION

130. Net income is defined to be the gross earned income of the claimant reduced by income taxes, C/QPP contributions and Employment Insurance premiums. Other payroll deductions (such as pension contributions and union dues) are ignored in calculating net income, so the net income amount likely will exceed what the claimant actually received after all deductions[24]. (Earned income is from working. Investment income and other forms of income that would not be affected by disability are not included in the loss of income calculation.)

131. The LOI amount is equal to 100% of the difference in pre-disability net income and the post-disability net income[25]. Effectively, the calculation is:

    a. Pre-disability Net Income (average over the best three consecutive years of total earned income less specified deductions); reduced by

    b. The difference between

        (i) the sum of the following amounts received in the year for which compensation is payable:

            (1) Earned income; plus

            (2) C/QPP disability benefits; plus

            (3) Employment Insurance benefits; plus

            (4) Disability income; plus

            (5) HIV Payments; and

        (ii) the ordinary payroll deductions that would apply to these amounts – essentially the income tax payable, C/QPP contributions, and EI contributions.

132. The Joint Committee's proposal would alter the LOI calculation set out above to remove items b(i)(2) through b(i)(5) (the "**Collateral Benefits**"). A similar change would apply for LOS benefits.

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24 Ignoring these other payroll deductions does not necessarily mean that the claimant is being overcompensated. For example, the calculation of net income ignores any employee contributions for pension and health insurance benefits. But those contributions help to pay for benefits that provide value to the employee, so it would be reasonable to assume that by incurring a loss of income, the claimant also incurs a loss of those other benefits. By ignoring the deductions of employee contributions, the loss of those benefits is partially compensated (the partial compensation is for the portion paid for by the employee contributions).

25 Originally, LOI compensation was 70% of the loss and the pre-disability income amount was limited to $75,000, but those limitations were removed, subject to court approval for any pre-disability income amount exceeding $300,000 (1999 dollars).

EFFECT OF REMOVING COLLATERAL BENEFITS ON LOI COMPENSATION

133. For most or all claimants who are in receipt of Collateral Benefits, removing the deduction of those Collateral Benefits will result in payment of significantly more than the actual loss in income. There is one possible exception: any amount of collateral benefit that was also payable during the period used to determine pre-disability income (see below at paragraph 138).

134. Table 134 provides examples of the current and proposed provisions. Line 5, pre-disability net income, is the amount used for the LOI calculation. For scenarios 1 to 3, total income after tax and pre-disability net income are the same. For Scenarios 4 and 5, they differ.

a. Scenarios 1 and 2 are claimants with no Collateral Benefits. Their LOI amount is the same under the current and proposed calculations. In both situations, they receive 100% replacement of their pre-disability total income after tax.

b. Scenario 3 is a claimant with Collateral Benefits but no HIV Payments. This is representative of most of the claimants who have Collateral Benefits. For the current calculation, they receive 100% of their pre-disability total income after tax[26]. For the proposed calculation, they receive more than 100% of their total income after tax.

c. Scenario 4 is a claimant with Collateral Benefits, all of which are HIV Payments. Under the current calculations, the LOI benefit replaces 100% of the "pre-disability net income", but since that net income excludes (by definition) the HIV Payments, the actual replacement of pre-disability total income after tax is less than 100%. The proposed calculation provides for a replacement of 100% of pre-disability total income after tax. In 2013, there was one claimant in this situation.

d. Scenario 5 is a claimant with Collateral Benefits, only some of which are HIV Payments. Under the current calculations, the LOI benefit replaces 100% of the "pre-disability net income", but since that net income excludes (by definition) the HIV Payments, the actual replacement of pre-disability total income after tax is less than 100%. The proposed calculation provides for a replacement of more than 100% of pre-disability total income after tax due to the effect of not deducting the non-HIV Collateral Benefits. *If the non-HIV Collateral Benefits are deducted but the HIV Payments are not deducted, the replacement ratio based on the total income after tax would be 100%.* In 2013, there were two claimants in this situation.

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[26] However, if any of their Collateral Benefits had been payable prior to disability, their income replacement would be less than 100%. We believe such a situation would be rare or non-existent.

Table 134 – Loss of Income Calculations – Current and Proposed

Line	Description	Calculation	Scenario 1	2	3	4	5
Pre Disability Amounts							
1	Earned Income		$ 59,000	$ 59,000	$ 59,000	$ 59,000	$ 59,000
2	HIV Payments		-	-	-	43,926	43,926
3	Income Tax Deduction		12,254	12,254	12,254	12,254	12,254
4	Pre-Disability Income after Tax	(1) + (2) - (3)	46,746	46,746	46,746	90,672	90,672
5	Pre-Disability Net Income	(1) - (3)	46,746	46,746	46,746	46,746	46,746
Post Disability Amounts							
6	Earned Income		-	12,000	12,000	-	-
7	HIV Payments		-	-	-	43,800	43,800
8	Other Collateral Benefits		-	-	28,437	-	28,437
9	Income Tax Deduction		-	646	4,458	-	1,457
10	Net Income prior to LOI Payment	(6)+(7)+(8)-(9)	-	11,354	35,979	43,800	70,780
Current Benefit							
11	Current LOI	(5) - (10)	46,746	35,393	10,768	2,946	-
12	Total Income After Tax - Current	(10) + (11)	46,746	46,746	46,746	46,746	70,780
13	Percent of Pre-Disability Income after Tax - **Current**	(12) ÷ (4)	100%	100%	100%	52%	78%
Proposed Benefit							
14	Proposed LOI	(5) – [(6) - (9)]	46,746	35,393	39,205	46,746	48,204
15	Total Income After Tax - Proposed	(10) + (14)	46,746	46,746	75,183	90,546	118,983
16	Percent of Pre-Disability Income after Tax - **Proposed**	(15) ÷ (4)	100%	100%	161%	100%	131%

135. Table 135 summarises the LOI claims for 2011 to 2013. It shows that virtually all claimants with Collateral Benefits would receive a "replacement" of more than 100% of their loss if Collateral Benefits are no longer deducted.

Table 135 – Effect of no Deduction for Collateral Benefits on LOI

	2011	2012	2013
Claimants with a LOI payment	112	121	113
Claimants with 100% loss of earned income	57	66	62
Claimants with partial loss of earned income	55	55	51
Claimants with Collateral Benefits	46	44	42
If no deduction for Collateral Benefits:			
- number of claimants with LOI in excess of loss	46	44	42
- average percent of lost net income that is "replaced"	131.8%	129.9%	128.3%
- maximum percent of lost net income that is "replaced"	185.1%	167.6%	165.8%

136. From an actuarial perspective, paying an amount that exceeds an actual financial loss is not appropriate. Most insured disability plans include a provision that limits post-disability income from all sources to no more than 85% of pre-disability income. That limit provides an incentive for the disabled person to return to work when first able to do so. It also recognises that expenses generally are lower when one does not work.

137. Any amount paid that exceeds the income loss is not compensation for a loss of income. If there is a valid reason for paying more than 100% of the loss, in our opinion, it should not be included with the LOI benefit but be provided elsewhere under the Agreement.

138. There is a situation where the current provisions are likely to produce a replacement of less than 100% of the income the claimant was receiving prior to disability. This can be sub categorised as:

    a. Where a claimant was in receipt of HIV Payments prior to the onset of disability and loss of income, the LOI benefit will be less than the loss of net income by an amount equal to the HIV payments (see examples 4 and 5 in Table 134). This happens because the pre-disability income does not include the HIV payments but the reduction from the Loss of Income amount does include the HIV Payments.

       We believe that it is likely all recipients of HIV Payments were in receipt of them prior to their disability. From 2011 to 2013, there are only three claimants receiving Loss of Income along with HIV Payments. However, if we assume that all co-infected haemophiliacs were in receipt of HIV Payments, we find that there were 13 other coinfected claimants who have received a loss of income benefit in the past and who have since died[27].

    b. Where a claimant was in receipt of C/QPP disability income, EI benefits and/or other disability income during the years that are used for calculating the pre-disability income amounts, the LOI benefit will be less than the loss of net income by an amount equal to those payments.

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27 Overall, there are 535 coinfected haemophiliac claimants of whom 357 had died as at Dec 31, 2013. Of those 357 deceased claimants, 13 had received LOI benefits. Of the 178 alive coinfected haemophiliacs, 3 are currently receiving LOI benefits.

We believe that the likelihood of this situation arising is extremely small, since it would require an ongoing disability for other than HCV at the same time as the person was earning an income, followed by a separate loss of income due to HCV.

139. From our analysis, it is clear that removing the offset for the Collateral Benefits other than for HIV payments and for any disability income that was in receipt during the pre-disability income averaging period, will result in paying more than 100% of the lost income.

EFFECT OF PAYING MORE THAN 100% OF LOST INCOME

140. Almost all long-term disability income insurance ("**LTD**") provided through an employer health and welfare plan contain a provision that provides for a reduction in the LTD benefit should the person's total income from all sources exceed a percentage of their pre-disability income. Normally that all-source maximum is 85% of the pre-disability income[28].

141. We have reviewed the standard policy terms of the major insurers and in our opinion, it is not clear whether the LOI payments from the Compensation Fund would be considered as part of the all-source maximum calculation. If the LOI benefit is used as part of the all-source maximum, the LTD payment to the individual will be reduced by part or all of the LOI payment.

EFFECT OF PROPOSED CHANGES ON LOSS OF SUPPORT

142. The Loss of Support ("**LOS**") payments are subject to the same effects as discussed above for LOI, except that LOS was designed to provide compensation equal to 70% of the income lost as a result of death due to HCV. Standard practice in personal injury cases is for the difference between 100% and about 70% replacement to represent the approximate deemed value of personal consumption – that is the portion of income that would have been spent by the infected claimant on him or herself and so it would not be considered a loss to the surviving dependants[29].

143. For purposes of whether LOS compensation exceeds the actual loss, we would therefor use the benchmark of 70% of the pre-disability income. In all other respects, the comments regarding LOI apply to LOS payments.

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28 LTD benefits can be either taxable or non-taxable, depending on whether the employee or employer paid the premiums. The all-source maximum is usually expressed as a percent of the gross income if the LTD benefits are taxable and as a percent of the net income if the LTD benefits are non-taxable.

In addition, the term "all-source maximum" is somewhat misleading, since any disability income from an individual LTD policy is ignored for purposes of the maximum.

These two distinctions in this footnote have no or immaterial effect on this issue.

29 Assessment of Personal Injury Damages, fifth edition, Christopher Bruce, Kelly Rathje, Laura Weir, LexisNexis Canada Inc, June 2011, pages 64 to 73 and 293 to 315.

144. Table 144 summarises the LOS claims for 2011 to 2013. It shows that virtually all claimants with Collateral Benefits would receive a "replacement" of more than 70% for loss of support if Collateral Benefits are no longer deducted.

Table 144 – Effect of no Deduction for Collateral Benefits on LOS[30]

	2011	2012	2013
Claimants with a LOS payment	80	65	60
Claimants with 70% loss of support	16	9	9
Claimants with partial loss of support	64	56	51
Claimants with Collateral Benefits	64	56	51
If no deduction for Collateral Benefits			
- number of claimants with support in excess of loss	64	56	51
- average percent of lost support that is "replaced"	89.5%	87.5%	85.7%
- maximum percent of lost support that is "replaced"	115.5%	110.8%	110.2%

145. As with the LOI compensation, from an actuarial perspective, paying an amount that exceeds an actual financial loss is not appropriate. In the case of LOS, the actual loss is deemed to be 70% of the infected claimant's after tax income prior to death.

CALCULATION OF COST FOR CHANGES TO LOI AND LOS

146. In calculating the cost of the proposed changes to LOI and LOS, we utilized the following assumptions and methods:

a. ***Retroactive Benefits - LOI***: Based on the detailed summary of LOI payments for 2011 to 2013 provided by the Joint Committee, we determined that the actual LOI payments for those three years would have been approximately 11.8% greater had there been no deduction for Collateral Benefits. We assumed that percentage would apply to all prior years and applied it to the actual LOI payments made since 1999.

We reviewed the data for deceased co-infected haemophiliacs who we assumed were all in receipt of HIV Payments. (There have been 13 such claimants). We assumed that there would be a retroactive payment made to these co-infected haemophiliac's estates to compensate for the past deduction but that the value of such a payment would not be recognised in the 11.8% factor referenced above. In our calculation we assumed that the HIV Payments would have been $30,000 per annum for each year while the claimant was alive. That assumption ignores

30 The percentages in Table 144 are all calculated in relation to the infected person's total earned income. So a percent of 89.5% is the portion of the total earned income that is replaced by LOS and that exceeds the 70% level for full compensation of the loss of support.

the indexing of the HIV Payments that began at various times between 2001 and 2007. We determined that ignoring indexing would not materially affect the total cost.

b. ***Future Benefits - LOI***: We performed the same analysis as above, but with pre-disability income capped at $200,000 to remove the effect of the very high earners that we assume are unlikely to affect future claims. The resulting increase in benefits was 14.8% and we assumed that the average benefit for LOI in the future would be 14.8% greater than we had assumed for our 2013 Sufficiency Report – giving an average benefit of $49,365 for transfused claimants and $60,845 for haemophiliacs. No adjustment for future HIV Payments is considered necessary.

c. ***Retroactive Benefits - LOS***: Based on the detailed summary of LOS payments for 2011 to 2013 provided by the Joint Committee, we determined that the actual LOS payments for those three years would have been approximately 16.3% greater had there been no deduction for Collateral Benefits[31]. We assumed that percentage would apply to all prior years and applied it to the actual LOS payments made since 1999.

   We reviewed the data for 31 deceased co-infected haemophiliacs (this is the 13 identified above plus 18 who died prior to 2009). We assumed that where a LOS benefit was paid, the spouse would have been in receipt of a survivor HIV Payment for the first five years following the infected claimant's death. We assumed that there would be a retroactive payment made to these dependants to compensate for the past deduction but where the value of such payment is not recognised in the 16.3% factor above. In our calculation we assumed that the spousal HIV Payments would have been $20,000 per annum for each year and ignored the effect of indexing on the actual benefit. We determined that ignoring indexing would not materially affect the total cost.

d. ***Future Benefits - LOS***: We applied the same 16.3% percentage for future payments – giving an average benefit of $39,540 for transfused claimants and $41,870 for haemophiliacs.

147. As part of the costings, we separately determined the cost if only the HIV Payments are removed as an offset. In other respects, the analysis was the same as described in paragraph 146. The resulting increase in benefits is 0.9% for both retroactive and future payments, plus an additional amount in respect of past HIV Payments.

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31 Eckler determined an increase of 11.5% based on a total of $741,156 of Collateral Benefits paid in 2011 to 2013 (Eckler Costing Report, page 17, table at paragraph 46). Morneau Shepell determined that Collateral Benefits totaled $1,054,794 during those three years, producing a proposed increase in LOS payments of 16.3%.

148. The costs of the changes for the LOI benefit are:

Table 148 – Cost of Changes to Loss of Income Payments ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Remove offset for Collateral Benefits other than HIV Payments	$4,548	$4,135	$3,968	$4,034	$16,685
Remove offset for HIV Payments only	0	0	2,709	1,195	3,904
Remove offset for all Collateral Benefits	$4,548	$4,135	$6,677	$5,229	$20,589

149. The costs of the changes for the LOS benefit are:

Table 149 – Cost of Changes to Loss of Support Payments ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Remove offset for Collateral Benefits other than HIV Payments	$1,843	$2,868	$3,010	$5,253	$12,974
Remove offset for HIV Payments only	0	0	2,061	470	2,531
Remove offset for all Collateral Benefits	$1,843	$2,868	$5,071	$5,723	$15,505

M. COMPENSATION FOR DIMINISHED PENSION SAVINGS

150. When a claimant suffers a loss of income, they may also lose pension and other benefits provided by their employer. The Loss of Income benefit includes the value of the employee contribution paid for pension benefits but does not include the value of the employer contribution for pensions. So it is only the employer portion of pension cost that should be considered here.

151. The Joint Committee proposes to compensate all claimants for a loss of pension by an amount equal to 10% of the gross amount of income lost, with the lost income amount capped at $200,000 (indexed from 2014 for the future only). Past losses will not be adjusted from the year of loss to the date of payment for either interest or by the pension index.

DISCUSSION

152. Not all employers provide a retirement savings plan, and for those that do, the contribution rates and benefits can vary significantly. Employer contributions can typically range from a low of about 2.5% of earnings to as much as 20% of earnings. In our opinion, the average employer contribution is likely in the range of 7% to 10% of earnings[32].

153. There are few statistics regarding how many employers offer a retirement savings plan. A frequently cited statistic is that about 35% to 40% of employees (many of whom are public sector) are members of an employer sponsored pension plan. However, that statistic only looks at *registered* pension plans (both trusteed plans and those funded through an insurance contract) and ignores all the employer sponsored group RRSPs. There is little to no information about the prevalence of such group RRSPs. In a study "Portrait du marché de la retraite au Québec" conducted in 2010 by the Régie des rentes du Quebec, it is reported that 38% of Quebec workers are covered by a workplace pension plan and an additional 15% of workers are covered by a group RRSP or other type of retirement plan (Table 7 on page 49)[33]. Assuming that Quebec employer-provided pension coverage is similar to the rest of Canada, that suggests that slightly more than 50% of workers are members of a workplace retirement savings plan.

154. In addition to loss of pension, a claimant who has a loss of income may also have a loss of their Canada Pension Plan or Quebec Pension Plan benefit.

155. A claimant who receives a C/QPP disability income will not lose any C/QPP pension benefit, as periods of C/QPP disability are treated in a manner that is similar to deeming contributions continue. A claimant who has a partial loss of income and whose post-disability gross income is greater than the maximum pensionable earnings under the C/QPP ($51,100 for 2013) will not suffer a loss of C/QPP pension, since they would still be contributing the maximum amount to the

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32 Public sector employers typically will contribute more to a retirement plan than a private sector employer. The average private sector employer contribution is likely in the range of 5% to 7% of earnings.

33 Those percentages are after removing workers who are covered by more than one type of plan.

C/QPP. Approximately one third of claimants in receipt of a loss of income benefit between 2011 and 2013 are either in receipt of a C/QPP disability income or have post-disability earnings sufficient to remain fully eligible for C/QPP pension accruals.

156. The rate of contribution to the C/QPP is 9.90% of earnings between $3,500 and the maximum pensionable earnings for the year. Contributions are split equally between employer and employee. The determination of the loss of income benefits does not provide compensation for the C/QPP contributions previously paid by an employee, so if it is found to be appropriate to compensate claimants for the loss of C/QPP pension, it would be based on both employer and employee contributions - 9.90% of earnings up to the maximum.

157. In paragraphs 52 and 53 of the Eckler Costing Report, it is stated that the range of pension plans provided varies widely between employers. The administrative complexity of identifying whether a claimant was a participant in a pension plan and how much the employer contributions were, is likely too great to be effectively employed for the Compensation Fund. We agree. (In most cases, a claimant's membership in a workplace pension can be determined from the income tax return with the exception of participation in a group RRSP. The amount of lost pension and its value are much harder to determine.)

158. We can estimate what the average amount of lost pension is for all claimants who have a loss of income. About 50% of claimants will have lost an employer pension worth on average about 8.5% of gross lost earnings and about 2/3^{rds} of claimants will have lost their C/QPP worth 9.90% of gross lost earnings, to a maximum of about $4,700 (in 2013 dollars). If we ignore the cap on the C/QPP loss, that gives an average loss of about 10.9% of gross lost earnings[34].

159. The Joint Committee has recommended compensation be paid equal to 10% of gross lost earnings. For the approximately 1/3rd of claimants who (a)did not have a workplace retirement savings plan, (b) have pre-disability income of less than the maximum C/QPP earnings and (c) are not in receipt of C/QPP disability income, 10% compensation will be almost exactly their loss. For the other 2/3^{rds} of claimants, it will likely overcompensate or undercompensate.

CALCULATION OF COST FOR LOSS OF PENSION

160. The retroactive compensation for loss of pension is proposed to be determined with reference to the gross loss of earnings – that is pre-disability gross earnings less post-disability gross earnings. The data provided for 2011 to 2013 contains information sufficient to do the calculation of cost, but the data for years prior to 2011 does not have sufficient data so, for purposes of determining the cost, we translated the 10% of lost gross earnings into a percent of actual LOI benefit paid.

161. We have estimated the cost for the loss of lost pension by:

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34 The average would be slightly less if the cap on C/QPP losses was recognised.

a. ***Retroactive Cost***: The LOI data from 2011 to 2013 was reviewed and the total amount of compensation based on 10% of the difference between pre-disability gross income (capped at $200,000[35]) and post-disability gross income was calculated. That gave an average cost equal to 11.7% of the LOI benefit paid. That 11.7% was then applied to the actual LOI payment for each of the past years to estimate the retroactive liability.

b. ***Future Cost***: That same 11.7% was applied to the LOI liability from the 2013 Morneau Shepell Sufficiency Review to estimate the future cost.

162. The costs of the changes for lost pension are:

Table 162 – Cost of Changes for Loss of Pension Benefits ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Cost for loss of pension benefits	$ 5,502	$ 3,747	$ 4,800	$ 3,655	$ 17,703

35 The $200,000 was applied without adjustment in each year of past loss.

N. INCREASE LOSS OF SERVICES FROM 20 TO 22 HOURS PER WEEK

163. A claimant who is unable to perform household chores is eligible for compensation of up to 20 hours per week at a rate of $12.00 (1999 dollars) per hour. That produces an annual maximum payment of $12,480 (1999 dollars).

164. The Joint Committee proposes that the number of hours for which compensation is payable be increased by 10% to 22 hours per week. That would result in a maximum annual compensation of $13,728 (1999 dollars). Amounts for past losses will not be adjusted from the year of loss to the date of payment for either interest or by the pension index.

DISCUSSION

165. A review of past claims shows that there are some claimants who report a reduction in the hours they work around the home as a result of disability of less than 20 hours and many who report the reduction as more than 20.

Table 165 - Claimants with Loss of Services in 2013

Hours Claimed	Number
Less than 20 hours	34
20 to 21 hours	30
22 to 29 hours	154
30 to 39 hours	106
40 to 49 hours	80
50 to 99 hours	138
100 or more hours	19
Total	561

166. ***Table 166- Average Weekly Hours for Loss of Services***

	2011	2012	2013
Number of claimants	603	597	561
Average weekly hours pre-disability	47.3	47.3	47.5
Average weekly hours post-disability	4.9	4.9	4.8
Average weekly hours claimed	42.4	42.4	42.7
Average weekly hours paid	19.4	19.5	19.5
Percent of all services lost	89.6%	89.6%	89.9%

167. We note that there is a huge variation in the number of hours reported as being spent performing services around the home prior to disability. The hours spent pre-disability as well as post-

disability are self reported. It is likely that the number of pre-disability hours is somewhat subjective.

168. From an actuarial perspective, providing compensation for a loss that is not capable of independent verification is poor practice. In such a situation, it is better to provide compensation based on a loss that reflects average behaviours, such as is done under the Agreement.

CALCULATION OF COST FOR LOSS OF SERVICES

169. The data provided for 2011 to 2013 contains information sufficient to calculate the cost for the change to the Loss of Services benefit, but the data for years prior to 2011 does not have sufficient information.

170. We have estimated the cost for Loss of Services by:

a. ***Retroactive Cost***: The data from 2011 to 2013 was reviewed and the number of additional hours that would be payable was determined. Claimants with 20 or less hours of loss claimed will receive no retroactive amount. Claimants with 22 or more hours claimed will receive an amount equal to 2 additional hours of loss per week – a 10% increase. We applied the $12.00 hourly rate (1999 dollars), including indexing to the year of the loss, to determine the additional payment for that year. That gave an average cost equal to 8.75% of the Loss of Services benefit previously paid for those three years. That 8.75% was then applied to the actual Loss of Services payments for each of the past years to estimate the retroactive liability.

b. ***Future Cost***: We assumed that most of the claimants who reported between 20 and 22 hours of loss may update their reported loss to at least 22 hours for the future. That differs from Eckler's assumption that implicitly assumed there would be no change in reporting of lost hours. While that leaves a few claimants with less than 20 hours of loss, we assumed that all future loss of services would be paid at the maximum of 22 hours per week – a 10% increase (compared to the assumption used by Eckler of an 8.9% increase). That 10% was applied to the Loss of Services liability from the 2013 Morneau Shepell Sufficiency Review to estimate the future cost.

171. The costs of the changes for loss of services are:

Table 171 – Cost of Changes for Loss of Services ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Cost for increase in Loss of Services	$ 8,950	$ 14,665	$ 4,326	$ 9,443	$ 37,384

O. INCREASE MAXIMUM PAYABLE FOR COST OF CARE FROM $50,000 TO $60,000 (1999 DOLLARS)

172. The Agreement provides infected claimants at Level 6 (decompensation, cancer, etc.) who require home care support reimbursement of any reasonable costs incurred that are not covered by a public or private health plan up to a maximum of $50,000 (1999 dollars) per year.

173. The Joint Committee proposes that the annual maximum reimbursement for Cost of Care be increased to $60,000 (1999 dollars). Past amounts will not be adjusted from the year of expense to the date of payment for either interest or by the pension index.

DISCUSSION

174. The Joint Committee provided an extract from the Administrator's data showing all Cost of Care claims that exceeded the maximum. There are a total of 9 claimants whose costs exceeded the maximum out of 321 claimants who have received a cost of care benefit at any time since 1999.

175. Separately, we examined all past claims (which do not indicate the amount of actual costs incurred, just the amount reimbursed). We found that a significant number of claimants had a reimbursement that was slightly less than the maximum available.

176. In our opinion, it is likely that there are a number of claimants who are unable to afford to pay for care and so they restrict the care received so that the total will be eligible for reimbursement and they will not be out of pocket. Since 1999, there have been 36 claims from 13 claimants where the total amount claimed is within 5% of the maximum.

Table 176 – Large Cost of Care Claims 2011 to 2013

	2011	2012	2013
Number of claims	59	50	41
$50,000 indexed to year	$ 63,710	$ 65,520	$ 66,673
Claims exceeding 90% of maximum	8	10	6
Average amount of claims that exceed 90% of maximum	$ 62,927	$ 65,112	$ 63,095
Claims exceeding 95% of maximum	6	8	3
Average amount of claims that exceed 95% of maximum	$ 64,092	$ 66,088	$ 64,870

177. In our opinion, it is likely that claimants who require significant amounts of care but are not able to afford it, will increase the amount of care they incur in the future to stop just short of the new maximum.

CALCULATION OF COST FOR COST OF CARE

178. We have estimated the cost for Cost of Care by:

a. ***Retroactive Cost***: The data file listing all claims where the cost incurred exceeded the amount reimbursed was reviewed and the additional amount based on the $60,000 (1999 dollars) maximum was assumed to be payable. No interest adjustment was made for the time from the date the cost was incurred to the payment date of the additional amount.

b. ***Future Cost***: We assumed that all claimants whose costs exceeded $47,000 (1999 dollars) for a year will increase the amount of care that they purchase in the future by the $10,000 (1999 dollars) increase in the maximum. For those who incurred an amount that exceeded the maximum, we assumed that they would incur at least $60,000 (1999 dollars) in the future. Had the increased maximum been in place for 2011 to 2013, those assumptions would have increased the average amount of compensation by about 5.1%. We applied that 5.1% to the liabilities from the 2013 Morneau Shepell Sufficiency Review to estimate the future cost.

179. The costs of the changes for cost of care are:

Table 179 – Cost of Changes for Cost of Care ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Cost for increase in Cost of Care	$ 114	$ 1,641	$ 7	$ 922	$ 2,684

P. OUT-OF-POCKET EXPENSES - $200 ALLOWANCE FOR ACCOMPANYING FAMILY MEMBERS

180. Currently, the Agreement provides reimbursement for any out-of-pocket expenses

   a. incurred by an infected person;

   b. where those expenses are not recoverable from an insurance plan; and

   c. that were incurred in conjunction with attending medical appointments related to their HCV infection or establishing a claim under the Agreement.

   This includes amounts for travel, hotels, meals, telephone and similar items.

181. The Joint Committee proposes that there be an additional amount of a flat $200 (indexed from 2014) payable in respect of a family member (as defined in the Agreement) where that family member accompanies the infected claimant to a medical appointment connected with the claimant's HCV infection. This would only apply to such visits that occur after court approval is granted.

DISCUSSION

182. The reason given in Heather Rumble Peterson's affidavit for this payment is to provide compensation for the family member's loss of vacation, sick days or wages.

183. We note that there is no similar provision currently or proposed to compensate infected persons for a similar loss of vacation, sick pay or wages. There does not appear to be compensation payable currently or proposed for any out-of-pocket expenses incurred by an accompanying person. And there does not appear to be any requirement that the accompanying person must actually have taken a day off work to qualify for this payment.

184. If this proposal is introduced, it is our opinion that there is a risk it may lead to an increase in the number of accompanying family members from what would have happened in the absence of such compensation.

185. We estimate that $200 of non-taxable income for one day of time is equivalent to an annual wage of about $65,000 to $70,000. (If the time required exceeds one day, then the annualized equivalent will be proportionately reduced, since the proposal is for a flat amount per visit, not a per diem.)

186. In addition, we believe that currently there are a large number of infected claimants who do not bother filing an out-of-pocket claim because the amount is minimal and it is not worth the effort of completing the required forms. If they are eligible for a $200 payment for an accompanying person, we believe that the number of out-of-pocket claims will increase from the past level. Since the amount of these claims is assumed to be minimal in the absence of the $200 payment, it

is only the number of claims that would lead to a material increase in compensation. The effect of the additional out-of-pocket expenses would be expected to be small.

187. From 1999 to 2013, there have been a total of 7,412 claims paid for out-of-pocket expenses. That is less than 2 claims per infected claimant over the entire 15 years. Of those claims, 187 (2.5%) were for less than $20 and 73 (1%) were for less than $10. In our opinion, few claimants from large metropolitan centres have filed an out-of-pocket claim, since such claimants are likely to have only minimal expenses.

188. We also note that the proposal references $200 "per visit". We have interpreted that term the same way Eckler did as meaning "per trip". It is possible that a claimant could have multiple appointments with different (or even the same) service provider within one trip. It is also possible that an infected person might require a stay away from home for an extended period of time in order to receive treatment. We recommend that the term "visit" be clearly defined. To be consistent with the costings, it should be one $200 payment per trip from home. Allowing for larger amounts for extended trips could likely be accommodated without a material difference in total cost, as we expect such trips to be relatively few. However, if the amount is payable per appointment, there is a risk that the total cost could be significantly greater than we have estimated.

CALCULATION OF COST FOR OUT-OF-POCKET EXPENSES

189. We have estimated the cost for Out-of-Pocket Expenses by:

a. ***Retroactive Cost***: There is no retroactive payment proposed, so the cost is nil.

b. ***Future Cost***: We have made three distinct assumptions to recognise the additional cost of this payment in respect of family members.

(i) We assumed that 90% of all claimants who seek treatment with the new drug therapies will be accompanied by a family member and that such treatment will require 5 medical appointments up to the point of evaluation of successful treatment. This increases the average expense assumed in the 2013 Morneau Shepell Sufficiency Review from $2,400 to $4,800 for transfused claimants and from $10,000 to $11,800 for haemophiliacs, with the total expenses assumed payable coincident with treatment.

(ii) In addition, we assumed that the average number of medical visits after successful treatment for which an out-of-pocket claim is submitted will double (from 1.4 to 2.8 for transfused and from 3.1 to 6.2 for haemophiliacs) with 90% of claimants assumed to be accompanied by a family member.

(iii) For all claimants who do not clear the virus, we assumed that the percentage of claimants who have an expense each year will double from 8% assumed in the 2013

sufficiency review to 16% and that the average claim amount will increase from $1,800 to $2,200 for transfused claimants and from $2,600 to $3,000 for haemophiliacs.

190. The costs of the changes for out-of-pocket expenses are:

Table 190 – Cost of Changes for Out-of-Pocket Expenses ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Cost for increase in Out-of-Pocket expenses	$ -	$ 5,940	$ -	$ 2,430	$ 8,370

Q. INCREASE CAP ON FUNERAL EXPENSES FROM $5,000 TO $10,000 (1999 DOLLARS)

191. Currently, the Agreement will provide reimbursement for any uninsured funeral expenses, less the Canada or Quebec Pension Plan death benefit, up to a maximum reimbursement of $5,000 (1999 dollars).

192. The Joint Committee proposes increasing the maximum amount reimbursed from $5,000 to $10,000 (1999 dollars). Past amounts will not be adjusted from the year of the expense to the date of payment for either interest or by the pension index.

DISCUSSION

193. There have been 823 claims for funeral expenses since 1999 of which 375 were limited by the maximum reimbursement. The average amount of funeral costs that exceeded the maximum is $3,730. Total funeral costs ranged from a low of $470 to a high of $44,156.

194. A search of the internet found normal funeral costs in Canada are reported to range from about $5,000 to about $8,000 for a cremation and from about $7,000 to about $12,000 for a burial. The average appears to be about $7,000 for cremation and $10,000 for burial. (See Appendix C).

195. The Last Post Fund is operated by Veterans Affairs Canada and provides funds for veterans who do not have the means for a dignified funeral. Their definition of a dignified funeral as well as the costs the fund pays is contained in Appendix C. The maximum the Last Post Fund would cover in 2009 for a dignified funeral totals about $10,000. An evaluation team found that there were a number of expenses that were not covered by the fund but which were suggested could be considered as part of a dignified funeral. Those additional items average a total cost of $785.

196. If we take the Last Post Fund maximum amount and include the average cost of the additional items, the total in 2013 dollars is $11,500 ($8,545 in 1999 dollars). That should cover the average cost of either a dignified cremation or a burial in Canada.

197. If we look at the average cost per veteran whose funeral is covered by the Last Post Fund, it was reported as $4,368 in 2007 – about $4,800 when indexed to 2013 ($3,570 in 1999 dollars).

198. The Joint Committee's proposed maximum for funeral expenses is $10,000 (1999 dollars) which is $13,458 in 2013 dollars.

199. We have analysed the past claims assuming that the funeral expenses less the death benefit under the C/QPP are reimbursed up to the proposed amount.

Table 199 – Funeral Expenses

	Actual Dollars	1999 Dollars
Total funeral claims	823	823
Average total funeral expense	$ 7,677	$ 6,724
Average claim - Funeral expense reduced by C/QPP death benefit	$ 5,917	$ 5,167
Average reimbursement	$ 4,218	$ 3,689
Number of claims that exceed $5,000 (1999 dollars)	375	375
Average total claim that exceeds $5,000 (1999 dollars)	$ 9,347	$ 8,144
Number of claims that exceed $10,000 (1999 dollars)	73	109
Average total claim that exceeds $10,000 (1999 dollars)	$15,918	$12,250

CALCULATION OF COST FOR FUNERAL EXPENSES

200. We have estimated the cost for Funeral Expenses by:

a. ***Retroactive Cost***: The data provided contained sufficient information to determine the amount of all retroactive payments for adjusting the maximum amount from $5,000 to $10,000 (1999 dollars). The past cost is the actual expenses submitted reduced by the C/QPP death benefit received, with a maximum of $10,000 (1999 dollars) and minus the original reimbursement amount.

b. ***Future Cost***: We determined that the retroactive cost was an average increase of 30.9% over the average past reimbursement. While there may be a tendency for the cost of future funerals to increase from what was claimed in the past if this proposal is implemented, we believe that any such increase will not be material and we have ignored it. This assumption increases the assumed average reimbursement for funeral expenses from the $4,300 (1999 dollars) used in the 2013 Morneau Shepell Sufficiency Review to $5,630 (1999 dollars).

201. The costs of the changes for Uninsured Funeral Expenses are:

Table 201 – Cost of Changes for Uninsured Funeral Expenses ('000s)

	Transfuseds		Haemophiliacs		
	Retroactive Cost	Future Cost	Retroactive Cost	Future Cost	Total Cost
Cost for Uninsured Funeral Expenses	$ 710	$ 661	$ 371	$ 283	$ 2,025

R. ADMINISTRATIVE EXPENSES

202. The administrator provided estimates of the expense to administer the proposed changes. These are set out in Heather Rumble Peterson's affidavit #13 at Exhibit E and summarised in the Eckler Costing Report (page 11). We have utilised these costs as provided and offer no opinion as to their reasonableness.

Table 202 - Summary of Administrative Cost for Proposed Changes

Description	Cost
First claim deadline	$ 51,000
Increase fixed payments by 10%	126,000
Family member payments	287,000
Loss of Income/Support - eliminate deduction of Collateral Benefits	143,000
Compensate for diminished pension savings	-
Loss of Services - Compensate for up to 22 Hours per Week	196,000
Cost of Care - increase maximum to $60,000 (1999 dollars)	2,000
Out-of-Pocket Expenses - $200 for accompanying family member	-
Funeral Expenses - increase maximum to $10,000 (1999 dollars)	43,000
Additional expense associated with administration of estates	61,000
Total administrative cost	**$ 909,000**

S. BUFFER AGAINST CATASTROPHIC EVENTS

203. In the Morneau Shepell Sufficiency Report, we discussed the provision for adverse deviations that was utilised in determining the liabilities of the Agreement and introduced a buffer against catastrophic events (pages 48-49).

204. Actuarial valuations require the use of assumptions about the future. Those assumptions may prove, with the benefit of hindsight, to have under-estimated or over-estimated the occurrence of the specific contingency. Normally, there will be a mixture of gains and losses and the final outcome will be reasonably close to the actuarial estimates.

205. Including a provision for adverse deviations produces liabilities larger than the amount that would have a 50% chance of being sufficient and a 50% chance of being insufficient. This provides greater assurance that the fund will have sufficient assets to meet all payments most of the time.

206. The provision for adverse deviations does not provide a full guarantee. Events could occur that were outside the expected scope of possibilities when the assumptions were first made. When considering whether assets are sufficient enough that a portion of them could be repurposed, it is prudent to include a buffer in addition to the provision for adverse deviations. We have utilised a 15% buffer.

207. The buffer is only applied against the liability for future payments since the retroactive payments are reasonably well known and are unlikely to deviate materially from the cost calculated herein.

208. Eckler have taken a different approach to this and performed calculations to estimate the amount of additional capital that should be set aside to provide for a possibility of a catastrophic event occurring. The additional required capital determined by Eckler for the proposed changes is less than our 15% additional buffer. The Eckler total required capital is somewhat greater than 15%, but is not materially different in quantum from our total buffer.

209. Based on a total future cost for the proposed changes of $116 million, the 15% buffer against catastrophic events is $17,464,000.

T. CERTIFICATION

210. I hereby certify that:

a. In my opinion, the data used is sufficient and reliable for the purposes of this report;

b. In my opinion, the actuarial methods are appropriate for the purpose of this report;

c. In my opinion, the assumptions used are, in aggregate, appropriate for the purpose of this report;

d. There may be contingencies other than those considered in the preparation of this report that could have a positive or negative impact on the amounts presented herein;

e. The calculations were prepared in accordance with the Canadian Institute of Actuaries' Standards of Practice;

f. This report has been prepared and my opinions given in accordance with accepted actuarial practice in Canada;

g. There are no subsequent events other than those discussed in this report that I am aware of that would have an impact on the results presented herein; and

h. This report conforms to my duty to:

(i) provide opinion evidence that is fair, objective and non-partisan and related only to matters that are within my area of expertise;

(ii) if called upon to give oral or written testimony, I will give that testimony in a fair, objective manner and without advocacy for either party; and

(iii) assist the court and provide such additional assistance as the court may reasonably require to determine the matter at issue.

211. I am available to answer any questions or to provide additional information regarding this report.

Respectfully submitted,
MORNEAU SHEPELL LTD.

Peter J. M. Gorham
Fellow, Canadian Institute of Actuaries
Fellow, Society of Actuaries

APPENDIX A LOSS OF GUIDANCE, CARE & COMPANIONSHIP IN CANADA

Loss of Guidance, Care and Companionship 2000

Comparison of Canadian Legislation and Common Law

Jurisdiction	Applicable Legislation	Spouses	Parents	Children	Siblings	Grandparents	Grandchildren	Specific Comments/Notes
Manitoba	Section 3(4) of the Fatal Accidents Act	10,000	10,000	10,000	2,500	10,000	10,000	Discretion of the courts; cap of $100,000 initially indexed to inflation which would be about $270,000 (in 2000). Inflation adjustment no longer carried out; the Act also declared that a claim for loss of guidance, care and companionship does not survive, in case of death, to the benefit of the claimant's estate
Ontario	Section 61(2) of the Family Law Act	30,000 - 50,000	25,000 - 40,000	25,000 - 30,000	7,500 - 10,000	Not in Document		Discretion of the courts; generous and not conventional awards
Nova Scotia	Section 5(2) of the Fatal Injuries Act	20,000	2,500 - 25,000	20000	N/A	Not in Document		Discretion of the courts
New Brunswick	Section 3(4) of the Fatal Accidents Act	N/A	30,000*	N/A	N/A	N/A	N/A	Discretion of the courts; consistency; 15,000 for grief and 15,000 for companionship
Prince Edward Island	Section 3(c) of the Fatal Accidents Act	Not Addressed				Not in Document		Discretion of the courts; extensive range of allowed claimants
Alberta	Section 3(1) of the Fatal Accidents Act	43,000	43,000*	27,000	N/A	N/A	N/A	Set by legislation and may be adjusted periodically by regulation; spouse or "cohabitant" in agreement with definition; restricts the definition of eligible children to being minors or between the ages of 18 and 26 and not living with a cohabitant at the time of the parent's death
British Columbia	No discrete legislation in Family Compensation Act			Not in Document				Non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Newfoundland	No discrete legislation in Fatal Accidents Act		10000		N/A	Not in Document		Non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Saskatchewan	No discrete legislation in Fatal Accidents Act	Not in Document		<1,000 - 25,000	N/A	Not in Document		Non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Northwest Territories and Nunavut	No discrete legislation in Fatal Accidents Act			Not in Document				Non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Yukon	No discrete legislation in Fatal Accidents Act			Not in Document				Non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Quebec	Not in Document							

Key and General Comments/Notes:
N/A means not an eligible claimant.
Definitions of spouses, parents, children and siblings vary among provinces/territories.
**These amounts are for the parent or parents, to be split equally where the action is brought for the benefit of both persons.*

Source: Assessment of Damages under the Fatal Accidents Act for the Loss of Guidance, Care and Companionship (Report #105) by the Manitoba Law Reform Commission dated October 2000

Loss of Guidance, Care and Companionship 2014

Comparison of Canadian Legislation and Common Law

Jurisdiction	Applicable Legislation	Spouses	Parents	Children	Siblings	Grandparents	Grandchildren	Specific Comments/Notes
Manitoba	Section 3.1 of the Fatal Accidents Act	36,930	36,930	36,930	12,310	12,310	12,310	Set by legislation; indexed with inflation; appears to use exact numbers from 2012 source but mistakenly not adjusting for inflation since then
Ontario	Section 61 of the Family Law Act	7,500 - 100,000 with 50,000 avg	11,250 - 125,000 with 59,000 avg	3,000 - 50,000 with 31,000 avg	21,000	Not in Document	9,000	Discretion of the courts; grandchild - 9,000
Nova Scotia	Section 5 of the Fatal Injuries Act	65,000	No recent case law	4,000 - 40,000 with 26,000 avg	N/A	No recent case law	4,000 - 40,000 with 26,000 avg	Discretion of the courts; granddaughter - 4,000
New Brunswick	Section 3 of the Fatal Accidents Act	N/A	25,000	N/A	N/A	25,000	N/A	Discretion of the courts; assuming classification mistake of eligible claimant of compensation in source
Prince Edward Island	Section 6 of the Fatal Accidents Act		No case law		N/A	Not in Document		Discretion of the courts
Alberta	Section 8 of the Fatal Accidents Act	82,000	82,000*	49,000	N/A	N/A	N/A	Set by legislation and may be adjusted periodically by regulation; applicable since 2002
British Columbia	No discrete legislation in Family Compensation Act			Not in Document/Not Addressed				No discrete legislation; non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Newfoundland	Section 6 of the Fatal Accidents Act		No case law		N/A	No case law		Discretion of the courts
Saskatchewan	Section 4.1 of the Fatal Accidents Act	60,000	30,000	30,000	N/A	N/A	N/A	Set by legislation
Northwest Territories and Nunavut	No discrete legislation in Fatal Accidents Act			Not in Document/Not Addressed				No discrete legislation; non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Yukon	No discrete legislation in Fatal Accidents Act			Not in Document/Not Addressed				No discrete legislation; non-pecuniary losses often restated as pecuniary losses to allow for recovery and this is accepetable under the Act
Quebec	Solatium Doloris under Civil Code articles 1053 and 1056	5,000 - 150,000 with 54,000 avg	6,250 - 125,000 with 43,000 avg	2,000 - 125,000 with 32,000 avg	13,000	6,000	3,400	Discretion of the courts; no set list of eligible claimants; grandparent - 6,000; grandchild - 3,400; aunts - 2,000
Canada	Section 6 of the Marine Liability Act	75,000	No case law	25,000 - 75,000 with 37,000 avg	15,000	Not in Document		Discretion of the courts

Key and General Comments/Notes:

means the amounts are not generalized and only representative of a few cases.

N/A means not an eligible claimant.

Definitions of spouses, parents, children and siblings vary among provinces/territories.

**These amounts are for the parent or parents, to be split equally where the action is brought for the benefit of both persons.*

According to the Bank of Canada's website, the Consumer Price Index for January 2014 is 123.1 over 2002 dollars.

Source: Proposed Amendments to the Fatal Accidents Act Discussion Paper by the Government of Yukon Department of Justice dated February 2014

APPENDIX B COMPENSATION SCHEDULE FOR HVC INFECTED PERSONS

DISEASE LEVEL	MEDICAL CONDITIONS CAUSED BY HCV	COMPENSATION (indicates 2013 proposed amounts)[36]					
		Fixed Payments As Compensation for Pain	Loss of Income or Compensation for Loss of Home	Additional Payment If You Take Compensable	Reimbursement For Uninsured Treatment And	Reimbursement For Out-of-Pocket Expenses	Reimbursement For Care Costs
6	You are considered a Level 6 claimant if: 1. you receive a liver transplant; or 2. you develop: a) decompensation of the liver; b) hepatocellular cancer; c) B-cell lymphoma; d) symptomatic mixed cryoglobulinemia; e) glomerulonephritis requiring dialysis; f) renal failure	You will receive $100,000 at this level. ($110,000)	Yes	Yes, $1,000 per month of completed therapy.	Yes	Yes	Yes, up to $50,000 per year. ($60,000)
5	You are considered a Level 5 claimant if you develop: (a) cirrhosis (fibrous bands in the liver extending or bridging from portal area to portal area with the development of nodules and regeneration); (b) unresponsive porphyria cutanea tarda which is causing significant disfigurement and disability; (c) unresponsive thrombocytopenia (low platelets) which is associated with purpura or other spontaneous bleeding, or which results in excessive bleeding following trauma or a platelet count below $30x10^9$; or (d) glomerulonephritis not requiring dialysis.	You will receive $65,000 at this level. ($71,500)	Yes	Yes, $1,000 per month of completed therapy.	Yes	Yes	Not applicable
4	You are a Level 4 claimant if: you develop bridging fibrosis (i.e. fibrous tissue in the portal areas of the liver with fibrous bands bridging to other portal areas or to central veins but without nodular formation or nodular regeneration).	There is no fixed payment at this level.	Yes	Yes, $1,000 per month of completed therapy	Yes	Yes	Not applicable
3	You are considered a Level 3 claimant if: 1. you develop non-bridging fibrosis (i.e. fibrous tissue in the portal areas of the liver with fibrous bands extending out from the portal area but without any bridging to other portal tracts or central veins); or 2. you receive Compensable HCV Drug Therapy (i.e. interferon or ribavarin); or 3. you have met a protocol for Compensable HCV Drug Therapy even though you have not taken the therapy.	OPTION 1: You will receive $30,000 at this level. ($33,000)	OPTION 2: If you waive the $30,000 payment, you may claim loss of income or compensation for loss of services in the home if HCV has caused you to be at least 80% disabled.	$1,000 per month of completed therapy	Yes	Yes	Not applicable
2	You are considered a Level 2 claimant if: you test positive on a polymerase chain reaction (PCR) test demonstrating that HCV is present in your blood.	You will receive $20,000 at this level. ($22,000)	Not applicable	Not applicable	Yes	Yes	Not applicable
1	You are considered a Level 1 claimant if: your blood test demonstrates that the HCV antibody is present in your blood,	You will receive $10,000 at this level. ($11,000)	Not applicable	Not applicable	Yes	Yes	Not applicable

36 All amounts shown are in 1999 dollars and subject to annual adjustments for inflation. The adjustment for 2013 is 1.345774. So an amount of $10,000 in 1999 dollars would be $13,457.74 if paid in 2013.

37 Fixed payments are cumulative—for example, a Level 3 claimant choosing Option 1 will receive (in 1999 dollars) Level 1- $10,000 plus Level 2 $20,0000 plus Level 3 - $30,000, for a total of $60,000.

38 You may elect one or the other. Loss of Income is only available to claimants under age 65.

APPENDIX C AVERAGE FUNERAL EXPENSE IN CANADA

FROM MONEYSENSE MAGAZINE

www.moneysense.ca/spend/how-to-plan-a-funeral/

212. Funerals range from basic to lavish, with price tags to match. In Ontario, the average cost of funeral home services comes to approximately $4,100, plus another $2,200 for a casket or container. But this does not cover extras such as flowers, clergy, a burial plot or death notices.

FROM THE HALIFAX CHRONICAL HERALD

thechronicleherald.ca/business/133001-it-costs-a-lot-to-die-in-nova-scotia-survey-says

213. A 2012 article references survey data from Everest, a funeral service company in Texas that had recently surveyed funeral homes across Canada to determine average costs by location. We were unable to locate a copy of the survey results online. In the article, the following average costs are provided by province:

Province	Traditional	Cremation
BC	$ -	$ 1,917
Alberta	10,387	-
Saskatchewan	-	2,401
Ontario	10,091	-
New Brunswick	-	2,322
Nova Scotia	10,495	2,250
PEI	9,117	-
Halifax	11,152	-
Canada	**9,790**	**-**

214. We believe that the above costs for cremation are for the basic required services only whereas the traditional costs are for all normal services. For example, the cremation costs appear to not include a visitation at the funeral home but the traditional costs do include it.

BASIC FUNERALS AND CREMATION CHOICES INC.

basicfunerals.ca/your-options/funeral/traditional-cremation-pricing/

215. We include this company as it provides online pricing and appears to position itself to be at the low end of the pricing range.

216. This company provides online pricing of $4,680 plus taxes for a basic funeral with cremation. For a traditional funeral with burial, the cost is $5,235 plus taxes, but the cost of a cemetery plot, marker and perpetual care is extra. The included services meet the definition of dignified funeral set out below, with the exception of a Canadian Flag and possibly no viewing room. The company presently only operates within Ontario.

LAST POST FUND

217. The following is excerpted from Evaluation of the Funeral and Burial Program – January 2009 prepared for the Audit and Evaluation Committee of Veterans Affairs Canada[39]. The program is operated by the Last Post Fund ("LPF").

Table 3 - Summary of Benefits Payable

Item	Maximum reimbursement amount*
Funeral Services This includes the following: • Normal preparation of the remains for viewing • A casket, if the remains are to be buried • A rental casket, if the remains are to be cremated • The use of a viewing room and a chapel • The use of a hearse and up to two vehicles for mourners and pallbearers • The attendance at the place of burial or cremation by funeral home officials • Local transportation of the remains from the place where the death occurred to the nearest funeral home and from there to the nearest place of burial, up to a maximum of 16 km for each stage (in the case of cremation, an additional transportation from the funeral home to the place of cremation)	$3,600 for one funeral director $4,100 when two funeral directors are required
Cremation Urn	$350
Cost to cremate the body	Paid at cost (approx $675 on average)
Last Sickness	$75
Regional Transportation Regional transportation is reimbursed up to a maximum amount, but only if the service of two funeral directors is required.	$500
Special Preparation of the Body (If required)	$210
Grave liner	570
Grave plot The rate is called "lowest cost earth burial" and is set by the LPF Branches in the various provinces after consulting with one or more cemeteries. The plot is located in a section of the cemetery designated for Veterans, or in a section of a cemetery designated as a "Field of Honour", or a plot that would ensure a dignified funeral.	Rate set by LPF **
Opening and Closing of Grave	At cost **
Grave Marker& Installation Rate is negotiated with local suppliers	Negotiated rate **
Perpetual Care of Grave	At cost **

* Detailed numbers, if not in the VBRs, were taken from policy submissions and the LPF database
** These four items are approximately $2,000, on average.

39 www.veterans.gc.ca/eng/about-us/reports/departmental-audit-evaluation/2009-01-evaluation-funeral-burial

Unmet Client Needs

The evaluation team conducted a case file review of 39 approved applications made after the funeral and burial. The file review revealed that there were frequently items that were listed as a funeral expense, but were not eligible expenses under the Funeral and Burial Program. Specifically, 77% of applicants claimed obituaries as an expense (average amount $318); 46% claimed an honourarium for clergy (average amount $225); and 44% claimed amounts for flowers (average amount $240). Interviews with LPF and Funeral Directors supported these findings; that is, in the view of applicants, obituaries, clergy, and flowers are often items associated with a dignified burial.

Dignified Funeral

The components for funeral and burial assistance, as outlined in the VBRs, include the following:

- *a casket made of solid wood or wood veneer with a swelled or tiered top, a satin or high gloss exterior finish, an eggshell satin lining and extension bar handles;*
- *a cremation urn;*
- *preparation of the body for viewing;*
- *a viewing of the body for two days;*
- *a Canadian flag to cover the casket while it is on public view;*
- *appropriate clothing;*
- *clergy services;*
- *a grave marker;*
- *a plot in a cemetery;*
- *perpetual care of grave.*

The items listed above provide the Department's de facto definition of a dignified burial, as these are the specific items which will either be provided (Type I) or reimbursed (Type II).

Funeral industry experts agreed that the items listed above constitute a dignified burial, but there are other definitions of a dignified burial. According to funeral industry representatives, the dignity is not in the components of the funeral, but rather the manner in which the family wishes to memorialize their loved one. One funeral industry representative stated that "funerals are about a community's care, compassion, respect and most importantly spiritual beliefs. A funeral allows the family to face the reality of death and provides a climate to mourn, share sorrows and celebrate the achievements of loved ones in a dignified manner."

Society's views on funerals are changing. For example, the funeral directors interviewed noted that some families choose not to have a religious service for the deceased. Many families place more emphasis on the luncheon than the visitation. Often, families employ a funeral celebrant, who helps plan the celebration of the person's life. There is also a trend toward "green funerals" which may include a shroud, biodegradable caskets, and environmentally friendly embalming fluids.

Although the definition of a dignified funeral is based on individual beliefs, the consensus among key informants interviewed was that a dignified funeral for a Veteran should be more elaborate than a social services funeral. There should be a grave marker and perpetual care of the grave in order to ensure that the grave site is maintained and thus the memory of the sacrifices of the Veteran would be recognized for generations to come.

Inflation Effect on Costs

Certain items in the FBP are reimbursed at cost, such as cost of cremation and perpetual care. Other items, such as Funeral Director Services and caskets, have maximum allowable limits. The limits have not increased since 2001. Although the FBP is successful in providing financial assistance, the rates at which the Department reimburses either the funeral directors (Type I) or the applicants (Type II) are not keeping pace with inflationary changes. VAC reimburses $3,600 for the services of a Funeral Director and a casket. A recent survey provided to the Department from the Funeral Services Association of Canada indicated that the average retail cost of the funeral director service fee and a casket is $5,892. This is supported by statistics in the LPF database, where the average retail costs for the same services claimed in approved Type II cases was $5,337.

Program Costs

The table below itemizes the costs paid to the recipients and/or to the funeral and burial service providers.

Table 7 - Program Costs

Disbursements	2002	2003	2004	2005	2006	2007
Burials	$1,497,557	$1,402,808	$1,212,048	$1,190,085	$1,296,822	$1,132,274
Grave Markers	$513,788	$599,719	$532,956	$576,523	$526,343	$480,104
Transportation	$61,114	$51,908	$41,391	$35,817	$37,975	$35,438
Funeral Director Services	$8,132,780	$7,423,670	$6,694,344	$6,176,138	$6,321,480	$5,571,874
Cremation	$673,900	$648,662	$595,323	$611,419	$668,999	$640,611
Last Illness	$10,605	$11,108	$8,482	$8,271	$8,452	$6,976
Total Program Costs	$10,889,744	$10,137,875	$9,084,544	$8,598,253	$8,860,071	$7,867,277
Average program cost per Approved Case	n/a	$3,817	$3,709	$3,887	$4,258	$4,368

Source: Consolidated Auditor's Reports of the Last Post Fund Corporation

Program costs include all monies paid out for approved cases to applicants to cover the categories of expenses listed in Table 7. It is unlikely that savings can be had in this area.

The cost forecasts indicate the amount expended per year will remain between $8 million and $9 million up to 2010-11.

With the exception of 2004, the average program cost per approved application is increasing steadily. This is due to the increase in costs for items reimbursed at cost; such as burial, grave markers and cremation. The costs for funeral director fees have remained steady due to the set maximum amount of $3,600.

APPENDIX D DOCUMENTS PROVIDED

218. We were provided with the following documents that we utilized in the preparation of this report. We also utilized other documents as listed in the 2013 Morneau Shepell Sufficiency Report.

a. Notice of Motion submitted by the Joint Committee dated 16 October 2015;

b. Notice of Application together with Appendices A and B submitted by the British Columbia Joint Committee Member dated 16 October 2016 (the "**Notice of Application**")

c. Affidavit #13 of Heather Rumble Peterson sworn 16 October 2015, together with Exhibits A through F;

d. Affidavit #5 of Richard Border sworn 14 October 2015 together with Exhibit A (the "**Eckler Costing Report**");

e. Affidavit #1 of Alan Melamund sworn 15 October 2015;

f. Affidavit #1 of Arnaud Sauve-Dagenais, sworn 15 October 2015;

g. Affidavit #1 of Chya Mogerman sworn 16 October 2015;

h. Affidavit #1 of Shelly Woodrich sworn 15 October 2015;

i. Actuarial Report to the Joint Committee Assessing the Financial Sufficiency of the 1986-1990 Hepatitis C Trust as at December 31, 2013 prepared by Richard Border and Wendy Harrison and dated 11 March 2015 (the "**2013 Eckler Sufficiency Report**");

j. Motion Record of the Joint Committee regarding the financial sufficiency of the HCV Trust Fund dated 16 March 2015;

k. Affidavit of Dr. Vince Bain sworn 11 March 2015;

l. A series of data files in excel format prepared by the administrator was provided to us by Eckler along with a document detailing the calculation of a loss of income benefit;

m. A data file prepared by the administrator listing the claims for uninsured medications that involved any of the drugs Telepravir, Boceprevir, Simeprevir, Sofosbuvir, Harvoni & Holkira Pak up to 15 October 2015;

n. Affidavit #1 of Dr. Samuel S. Lee, sworn 26 January 2016 (the "**Lee Affidavit**");

o. Estimating the Number of Blood Transfusion Recipients Infected by Hepatitis C Virus in Canada, 1960-85 and 1990-92 by Dr. Robert S. Remis dated 22 Jun 1998 (the "**1998 Remis Report**");

p. Epidemiology of Transfusion-Associated Hepatitis C Virus Infection in British Columbia, 1955-1986 by Dr. Robert S. Remis dated 2 September 1998;

q. Estimating the Number of Potential Beneficiaries of the Canadian HCV Class Action Settlement for Persons Infected by Transfusions Received from January 1986 to July 1990 by Dr. Robert S. Remis dated 6 July 1999 (the "**1999 Remis Report**");

r. Estimating the Number of Persons Infected by Hepatits C Virus Through Blood Transfusion in Canada from 1986-90: An Update Incorporating Results from the Testing of Retained Specimens, by Dr. Robert S. Remis dated 16 May 2002;

s. Transfusion Related Hepatitis C in Canada: 1986 to Mid 1990 Occurrence and Natural History, a report to LCDC by Stephen A Marion, Murray Krahn, Jutta Preiksaitis, Robert Hogg, Morris Sherman and Robert Remis, revised 15 January 1998;

t. Estimating the Prognosis of Hepatitis C Patients Infected by Transfusion in Canada between 1986 and 1990 by the Canadian Association for the Study of the Liver Working Group on Hepatitis C Prognosis, together with a transmittal letter from Dr. Samuel S. Lee dated 6 April 1999, (the "**CASL Report**");

u. Letter from Dr. Murray Krahn to J. J. Camp dated 16 June 1999 clarifying and commenting on items in the CASL Report;

v. Actuarial Report on 1986-90 Hepatitis C Settlement by Jacob Levi, Murray Segal and Francois Vachon dated 9 July 1999 (the "**1999 Eckler Report**");

w. Letter from J. Levi to Mr. Harvey T. Strosberg dated 26 July 1999 providing a breakdown of the assets, liabilities and expenses along with some other items between each of the three class actions, as well as the inflation adjusted upper limit for non-pecuniary damages;

x. Letter from Mr. Murray A. Segal to Mr. H. T. Strosberg dated 30 July 1999 providing examples of Loss of Support calculations and the potential financial consequences of a claimant possibly being unable to purchase individual life insurance;

y. Letter from Mr. Murray A. Segal to Mr. H. T. Strosberg dated 3 August 1999 providing details about the Canada Pension Plan disability and pension benefits;

z. Letter from Mr. Murray A. Segal to Mr. H. T. Strosberg dated 3 August 1999 providing details about how the Loss of Income calculations are affected by the initial limits on lost income;

aa. Letter from J. Levi to Mr. J. J. Camp dated 13 October 1999 providing a correction to the asset values presented in the 1999 Eckler Report;

bb. Letter from J. Levi to Mr. Harvey T. Strosberg dated 1 November 1999 providing additional calculations to those contained in the 1999 Eckler Report;

cc. Affidavit of Dr. Frank Anderson sworn 8 July 1999;

dd. Report of Frank Anderson to the Joint Committee of the 1986-1990 Hepatitis C Settlement Agreement, dated July 2005;

ee. Affidavit number 3 of Dr. Frank Anderson, sworn 6 October 2010;

ff. Hepatitis C Class Action Settlement 1986-1990 Year 15 Report of the Joint Committee for the Period Ending December 31, 2014 dated 24 July 2015. In addition, we referenced the various annual reports of the Joint Committee from years 1 to 14 which had previously been provided to us or were obtained by us from the administrator's web site (www.HepC86-90.ca).

219. In addition, we utilized a number of documents that are in our files from previous consultations and sufficiency review work:

a. Reasons for Decision of the Ontario Superior Court of Justice in the matters of Parsons et al v. Canadian Red Cross Society et al and of Kreppner et al v. Canadian Red Cross Society et al by Winkler J dated 22 September 1999;

b. Judgment of the Ontario Superior Court of Justice in the matters of Parsons et al v. Canadian Red Cross Society et al and of Kreppner et al v. Canadian Red Cross Society et al by Winkler J dated 22 October 1999;

c. 1986 – 1990 Hepatitis C Settlement: Settlement Agreement and Funding Agreement made as of 15 June 1999, including Schedules A through E (the "**Agreement**" or "**Settlement Agreement**";

d. Court Approved Protocol: Recent HCV Diagnosis Exception to the 2010 First Claims Deadline dated May 2012;

e. Court Approved Protocol: Issuance of Initial Claims Packages after the June 30, 2010 First Claim Deadline dated May 2012;

f. Estimating the Prognosis of Canadians infected with the Hepatitis C Virus through the Blood Supply, 1986-1990, fifth revision by Wendong Chen, Qilong Yi, William Wong and Murray Krahn dated September 2014;

g. Estimating the Prognosis of Canadians infected with the Hepatitis C Virus through the Blood Supply, 1986-1990, fourth revision by Hla-Hla Thein, Qilong Yi, and Murray Krahn dated April 2011;

h. Estimating the Prognosis of Canadians infected with the Hepatitis C Virus through the Blood Supply, 1986-1990, third revision by Murray Krahn, Hla-Hla Thein and Qilong Yi dated January 2008; and

i. Estimating the Prognosis of Canadians infected with the Hepatitis C Virus through the Blood Supply, 1986-1990, second revision by Murray Krahn, Peter Wang, Qilong Yi, Linda Scully, Morris Sherman and Jenny Heathcote dated May 2005.

220. In addition to the above documents, we obtained the following documents from the Internet:

a. "Portrait du marché de la retraite au Québec" published March 2010 by the Régie des rentes du Quebec, [http://www.rrq.gouv.qc.ca/en/services/publications/etudes/retraite/Pages/portrait_marche_retraite_qc.aspx];

b. Compensation Programs for Individuals with HIV or Hepatitis C, published by the Canadian Hemophilia Society on 14 November 2014 [http://www.hemophilia.ca/en/hcv-hiv/hepatitis-c-and-hiv-compensation/];

c. How to Plan a Funeral, by Peter Shawn Taylor, published in MoneySense Magazine, 15 April 2011 [www.moneysense.ca/spend/how-to-plan-a-funeral/];

d. It Costs a Lot to Die in Nova Scotia Survey Says, an article by John Demont in the Halifax Chronical Herald, 5 September 2012 [thechronicleherald.ca/business/133001-it-costs-a-lot-to-die-in-nova-scotia-survey-says]

e. Evaluation of the Funeral and Burial Program – January 2009 prepared for the Audit and Evaluation Committee of Veterans Affairs Canada, dated 3 December 2014 [www.veterans.gc.ca/eng/about-us/reports/departmental-audit-evaluation/2009-01-evaluation-funeral-burial];

f. Assessment of Damages Under the Fatal Accidents Act for the Loss of Guidance, Care and Companionship, a report for the Manitoba Law Reform Commission prepared by Prof. Philip Osborne dated October 2000, [http://www.manitobalawreform.ca/pubs/pdf/archives/105-full_report.pdf];

g. Review of Damage Amounts under Section 8 of the Fatal Accidents Act by the Government of Alberta Justice and Solicitor General dated May 2012, [https://www.justice.alberta.ca/programs_services/law/Documents/FAA-Discussion-Paper-May-2012.pdf];

h. Proposed Amendments to the Fatal Accidents Act Discussion Paper by the Government of Yukon Department of Justice dated February 2014, [www.justice.gov.yk.ca/pdf/Discussion_Paper_-_Proposed_Amendments_to_the_Fatal_Accidents_Act.pdf];

APPENDIX E CURRICULUM VITAE OF PETER GORHAM, F.C.I.A., F.S.A.

Position & Responsibilities

Peter is President and Actuary of JDM Actuarial Expert Services Inc. (JDM Actuarial). He provides pension and actuarial consulting advice, expert testimony, retirement planning and governance services.

Areas of Specialization

Peter has provided expert advice and testimony to the legal profession since 1987. His experience includes determining:

- certification of criminal rates of interest,
- lost benefits for wrongful dismissal,
- the present value of future income and future care costs,
- valuation of life estates,
- present value of future trust plan benefits and present value of past funds under various possible investment scenarios,
- present value of future contingent events,
- family law pension valuations.

He has provided expert testimony to the Ontario Superior Court of Justice, the Supreme Court of British Columbia, Court of Queen's Bench of Alberta, the Ontario Unified Family Court, the High Court of Justice of Trinidad and Tobago, the Supreme Court of Bermuda, Ontario Employment Standards Tribunal, Ontario Workplace Safety and Insurance Tribunal and the Canadian Institute of Actuaries Disciplinary Tribunal.

Within the pension and actuarial consulting practice, Peter's main areas of expertise include the design, financing, administration and governance of pension and benefit plans. His strengths lie in providing innovative and workable solutions that address a client's needs. He is effective in communicating actuarial concepts in simple and understandable terms.

Peter is an experienced public speaker and an author of numerous articles related to pensions and benefits.

Background

Peter is an actuary, receiving his fellowship in 1980. He attended the University of Toronto, graduating with a B.Sc. in Actuarial and Computer Sciences. Prior to joining JDM Actuarial, Peter spent 13 years as a partner at Morneau Shepell, and prior to that, 20 years with Aon Consulting, (formerly MLH + A inc), serving clients in the area of pension and employee benefits.

Professional & Other Affiliations

Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries
Faculty, Humber College PPAC program
Past-President, Rotary Club of Whitby Sunrise

APPENDIX F FORM 53 – ACKNOWLEDGEMENT OF EXPERT'S DUTY

FORM 53

Courts of Justice Act

ACKNOWLEDGMENT OF EXPERT'S DUTY

(General heading)

ACKNOWLEDGMENT OF EXPERT'S DUTY

1. My name is Peter Gorham *(name)*. I live at Town of Whitby *(city)*, in the Province *(province/state)* of Ontario *(name of province/state)*.

2. I have been engaged by or on behalf of the Department of Justice of Canada *(name of party/parties)* to provide evidence in relation to the above-noted court proceeding.

3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:

   (a) to provide opinion evidence that is fair, objective and non-partisan;

   (b) to provide opinion evidence that is related only to matters that are within my area of expertise; and

   (c) to provide such additional assistance as the court may reasonably require, to determine a matter in issue.

4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date 29 January 2016

Signature

NOTE: This form must be attached to any report signed by the expert and provided for the purposes of subrule 53.03(1) or (2) of the *Rules of Civil Procedure*.

RCP-E 53

(November 1, 2008)

This is Exhibit "B" referred to in the
affidavit of Peter Gorham
sworn before me at Toronto, ON
this 29th day of January, 2016

William Knight

A Commissioner for taking affidavits
within the Province of Ontario

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Claim ID	Disease Level	Claim Type	Age	Gender	Prov	Therapy Type	Total Cost of Drugs	Total Reimbursed by Province and/or Insurance	Amount Reimbursed by Hep C Fund	Insurance Plan
6	3	Hemo	62	M	MB	Boceprevir + Peginterferon/Ribavirin & Harvoni	$ 11,458.25	$ 4,299.85	$ 7,158.40	Assure Health
7	4	Hemo	70	M	MB	Harvoni	$ 77,064.99	$ -	$ 77,064.99	None
8	3	Hemo	65	M	MB	Boceprevir + Peginterferon/Ribavirin & Harvoni	$ 6,156.67	$ 5,142.13	$ 1,014.54	GreenShield & Provincial Plan
47	5	Tran	86	M	ON	Galexos, Sovaldi & Ibavyr	$ 109,768.96	$ -	$ 109,768.96	None
100	5	Tran	59	F	NB	Harvoni	$ 154,122.78	$ -	$ 154,122.78	None
159	3	Tran	29	F	NS	Galexos & Sovaldi	$ 109,657.92	$ -	$ 109,657.92	None
180	3	Tran	33	M	NS	Sovaldi & Ribavirin	$ 1,039.71	$ -	$ 1,039.71	Unknown
189	5	Tran	61	F	NS	Galexos & Sovaldi	$ 104,714.44	$ -	$ 104,714.44	None
219	3	Tran	49	F	NS	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
492	6	Tran	57	M	AB	Galexos & Sovaldi	$ 143,414.53	$ -	$ 143,414.53	None
512	3	Tran	52	M	AB	Galexos, Sovaldi & Pegasys	$ 139,406.79	$ -	$ 139,406.79	None
525	3	Tran	62	F	AB	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
586	5	Hemo	51	M	AB	Harvoni	$ 96,481.44	$ -	$ 96,481.44	None
623	3	Hemo	59	M	QC	Harvoni + Ibavyr	$ 163,108.56	$ -	$ 163,108.56	None
684	3	Tran	43	F	AB	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
740	3	Hemo	34	M	ON	Galexos & Sovaldi	$ 116,023.50	$ -	$ 116,023.50	None
777	5	Hemo	61	F	QC	Sovaldi & Ribavirin	$ 33,952.10	$ 27,725.87	$ 6,226.23	Brunet
827	5	Hemo	60	M	QC	Sovaldi & Ribavirin	$ -	$ -	$ -	Manulife

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837	3	Tran	53	M	NS	Harvoni	$ 77,084.49	$ -	$ 77,084.49	None
869	5	Tran	26	F	QC	Telaprevir + Peginterferon/Ribavirin	$ 16,703.40	$ 15,953.40	$ 750.00	Private Insurance Plan
1068	3	Tran	56	F	NS	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1129	5	Hemo	58	M	ON	Boceprevir + Peginterferon/Ribavirin	$ 43,970.64	$ 36,278.11	$ 7,692.53	Private Insurance Plan
1241	3	Hemo	66	F	ON	Harvoni	$ 81,323.73	$ -	$ 81,323.73	None
1307	3	Tran	71	M	QC	Harvoni	$ 78,390.00	$ -	$ 78,390.00	None
1319	3	Tran	65	F	AB	Galexos & Sovaldi	$ 107,561.01	$ -	$ 107,561.01	None
1326	4	Tran	77	M	ON	Galexos, Sovaldi & Ibavyr	$ 111,307.53	$ -	$ 111,307.53	None
1386	3	Hemo	53	M	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1401	3	Tran	57	F	AB	Galexos & Sovaldi	$ 107,561.01	$ -	$ 107,561.01	None
1543	3	Tran	19	M	BC	Harvoni	$ 49,157.80	$ -	$ 49,157.80	None
1886	4	Hemo	36	M	QC	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1914	3	Hemo	42	F	QC	Sovaldi & Ibavyr	$ 63,567.15	$ -	$ 63,567.15	None
2142	3	Tran	57	F	SK	Harvoni	$ 140,041.38	$ 111,956.76	$ 28,084.62	ESI Canada
2290	3	Hemo	43	M	ON	Harvoni	$ 84,834.00	$ -	$ 84,834.00	None
2304	5	Hemo	40	M	ON	Galexos & Sovaldi	$ 111,144.23	$ -	$ 111,144.23	None
2381	5	Hemo	52	M	ON	Harvoni	$ 144,791.94	$ -	$ 144,791.94	None
2458	3	Tran	31	M	NS	Harvoni	$ 77,084.49	$ -	$ 77,084.49	None
2628	3	Hemo	35	M	ON	Harvoni	$ 154,123.96	$ -	$ 154,123.96	None
2790	3	Tran	29	F	ON	Harvoni	$ 77,084.94	$ -	$ 77,084.94	None
2802	4	Hemo	68	M	ON	Harvoni	$ 76,496.26	$ -	$ 76,496.26	None
2853	5	Hemo	60	F	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
2892	5	Tran	40	M	MB	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
2957	5	Hemo	45	F	QC	Galexos & Sovaldi & Harvoni	$ 188,511.24	$ 65,121.79	$ 123,389.45	SunLife
3108	6	Hemo	68	M	ON	Galexos & Sovaldi	$ 108,373.15	$ -	$ 108,373.15	None
3113	6	Hemo	46	M	SK	Sovaldi	$ 135,718.14	$ -	$ 135,718.14	None
3135	3	Hemo	56	M	AB	Harvoni	$ 77,085.96	$ 60,060.72	$ 17,025.24	Assure Health
3235	3	Tran	26	F	ON	Harvoni	$ 49,915.47	$ 44,922.85	$ 4,992.62	Assure Health

3730	6	Hemo	50	M	ON	Galexos & Sovaldi	$ 106,260.27	$ -	$ 106,260.27	None
3818	5	Hemo	35	M	ON	Harvoni	$ 153,781.51	$ 152,320.55	$ 1,460.96	Manulife
3883	5	Hemo	54	M	AB	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
3901	3	Tran	20	M	ON	Harvoni	$ 25,481.71	$ -	$ 25,481.71	None
3928	3	Tran	26	F	AB	Telaprevir + Peginterferon/Ribavirin	$ 9,735.41	$ 8,401.94	$ 1,333.47	Private Insurance Plan
3957	3	Hemo	43	M	AB	Galexos & Sovaldi	$ 107,561.01	$ -	$ 107,561.01	None
4301	3	Tran	26	M	BC	Telaprevir + Peginterferon/Ribavirin	$ 46,665.20	$ 1,397.65	$ 45,267.55	BC Pharmacare
4337	5	Tran	25	M	AB	Harvoni + Ribavirin	$ -	$ -	$ -	Unknown
4537	3	Hemo	39	M	NB	Sovaldi & Pegasys	$ 80,060.22	$ -	$ 80,060.22	None
5279	6	Tran	55	M	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
5722	3	Hemo	43	M	ON	Harvoni	$ 75,745.97	$ 60,060.77	$ 15,685.20	Assure Health
5861	3	Hemo	55	M	QC	Galexos, Sovaldi & Ibavyr	$ -	$ -	$ -	Unknown
6256	4	Tran	52	F	ON	Boceprevir + Peginterferon/Ribavirin	$ 69,184.18	$ 67,200.16	$ 1,984.02	Private Insurance Plan
6991	3	Tran	49	F	NL	Harvoni	$ 77,085.99	$ -	$ 77,085.99	None
7039	6	Hemo	33	M	NT	Harvoni	$ 73,736.66	$ -	$ 73,736.66	None
7233	6	Tran	70	F	BC	Sovaldi	$ 7,575.45	$ 6,406.89	$ 1,168.56	BC Pharmacare
7717	5	Tran	55	F	ON	Harvoni	$ 77,085.96	$ 61,656.78	$ 15,429.18	Express Scripts
7839	6	Tran	50	F	ON	Boceprevir + Peginterferon/Ribavirin & Holkira Pak	$ 84,772.28	$ -	$ 84,772.28	None
7932	5	Hemo	52	M	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
8046	3	Tran	29	M	AB	Sovaldi & Pegasys	$ 71,827.15	$ -	$ 71,827.15	None
8099	3	Tran	57	F	QC	Sovaldi + Ibavyr	$ 134,028.00	$ 5,983.92	$ 128,044.08	Private Insurance Plan
8114	3	Tran	28	F	ON	Galexos & Sovaldi	$ 105,594.21	$ -	$ 105,594.21	None
8211	3	Tran	20	M	MB	Galexos & Sovaldi	$ 109,461.27	$ -	$ 109,461.27	None
8232	5	Tran	60	F	AB	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
9331	3	Tran	88	M	AB	Harvoni	$ 71,356.35	$ -	$ 71,356.35	None

9337	4	Tran	67	M	AB	Telaprevir + Peginterferon/Ribavirin	$ 50,415.12	$ 45,374.67	$ 5,040.45	Private Insurance Plan
9770	5	Tran	52	F	AB	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
10100	3	Hemo	51	F	QC	Telaprevir + Peginterferon/Ribavirin	$ 15,134.30	$ 14,457.67	$ 676.63	SSQ Group Financier
10151	4	Tran	64	F	QC	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
10362	3	Tran	59	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
10679	3	Tran	56	F	AB	Harvoni	$ 69,346.89	$ -	$ 69,346.89	None
10690	3	Tran	52	F	NS	Harvoni	$ 72,395.97	$ -	$ 72,395.97	None
10774	3	Tran	50	M	AB	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
10926	3	Tran	41	F	AB	Holkira Pak	$ 61,198.71	$ 14,084.31	$ 47,114.40	Private Insurance Plan
11163	4	Tran	60	F	ON	Sovaldi & Pegasys	$ 68,369.54	$ -	$ 68,369.54	None
11543	5	Hemo	38	M	ON	Galexos & Sovaldi & Harvoni	$ 189,961.71	$ -	$ 189,961.71	None
12054	6	Tran	81	M	ON	Sovaldi & Pegasys	$ -	$ -	$ -	Unknown
12123	5	Tran	46	M	ON	Boceprevir + Peginterferon/Ribavirin	$ 545.53	$ -	$ 545.53	Private Insurance Plan
12130	5	Tran	35	M	SK	Harvoni	$ 70,650.00	$ -	$ 70,650.00	None
12806	4	Tran	60	F	QC	Holkira Pak	$ 27,820.98	$ 26,802.98	$ 1,018.00	Private Insurance Plan
12955	3	Hemo	41	F	QC	Harvoni	$ 18,201.30	$ 17,195.30	$ 1,006.00	Private Insurance Plan
13071	3	Tran	66	M	ON	Telaprevir + Peginterferon/Ribavirin	$ 65,907.18	$ -	$ 65,907.18	None
13569	3	Hemo	41	M	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
13825	3	Hemo	49	F	NS	Harvoni	$ 25,694.83	$ 24,970.93	$ 723.90	Private Insurance Plan
14491	3	Tran	31	F	BC	Harvoni	$ 50,218.85	$ -	$ 50,218.85	None
14574	4	Hemo	52	M	PE	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown

14679	5	Tran	59	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
15484	3	Tran	55	M	SK	Harvoni	$ 44,829.16	$ -	$ 44,829.16	None
15908	5	Tran	51	M	ON	Harvoni	$ 148,720.00	$ -	$ 148,720.00	None
15933	5	Tran	51	F	ON	Sovaldi & Pegasys	$ 68,906.93	$ -	$ 68,906.93	None
16652	5	Tran	65	M	ON	Harvoni	$ 77,284.95	$ -	$ 77,284.95	None
17006	3	Tran	43	M	NS	Sovaldi + Ibavyr	$ 66,412.26	$ -	$ 66,412.26	None
17040	3	Tran	54	M	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
17133	6	Hemo	68	M	AB	Sovaldi & Ribavirin	$ -	$ -	$ -	Unknown
17750	3	Tran	29	M	ON	Faldaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
18091	5	Tran	43	M	ON	Galexos & Sovaldi	$ 108,373.19	$ -	$ 108,373.19	None
18138	5	Tran	70	M	AB	Telaprevir + Peginterferon/Ribavirin	$ 50,120.54	$ 49,870.54	$ 250.00	Private Insurance Plan
18143	4	Tran	26	M	ON	Galexos & Sovaldi	$ 108,373.15	$ -	$ 108,373.15	None
18427	5	Tran	63	M	AB	Boceprevir + Peginterferon/Ribavirin & Harvoni	$ 194,567.14	$ -	$ 194,567.14	None
18495	5	Tran	57	M	QC	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
18599	5	Hemo	56	M	ON	Boceprevir + Peginterferon/Ribavirin & Galexos + Sovaldi	$ 108,749.57	$ -	$ 108,749.57	None
18612	3	Tran	32	M	ON	Harvoni	$ 92,034.00	$ -	$ 92,034.00	None
19062	3	Tran	27	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
19082	5	Hemo	36	M	ON	Galexos	$ 15,430.51	$ 15,430.51	$ -	Private Insurance Plan
19229	4	Tran	48	M	QC	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
19258	3	Tran	57	M	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown

19400	3	Tran	57	F	ON	Boceprevir + Peginterferon/Ribavirin	$ 63,415.82	$ 3,964.98	$ 59,450.84	Private Insurance Plan
19529	3	Tran	51	F	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
19623	3	Tran	41	F	AB	Holkira Pak	$ 63,740.19	$ -	$ 63,740.19	None
19767	5	Tran	54	M	NS	Telaprevir + Peginterferon/Ribavirin & Harvoni	$ 154,169.28	$ -	$ 154,169.28	None
19771	4	Tran	59	F	AB	Faldaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
19819	3	Tran	57	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
19968	3	Hemo	51	M	QC	Boceprevir + Peginterferon/Ribavirin	$ 22,963.46	$ 21,068.45	$ 1,895.01	Private Insurance Plan
20476	5	Tran	52	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
20517	6	Tran	58	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
20578	3	Tran	28	M	SK	Telaprevir + Peginterferon/Ribavirin	$ 43,950.30	$ 43,510.81	$ 439.49	Private Insurance Plan
20773	5	Tran	63	M	ON	Telaprevir + Peginterferon/Ribavirin & Harvoni	$ 194,215.13	$ -	$ 194,215.13	None
1000074	3	Tran	23	F	ON	Harvoni	$ 84,857.99	$ -	$ 84,857.99	None
1000123	5	Tran	50	F	ON	Harvoni	$ 77,085.99	$ 61,668.81	$ 15,417.18	Private Insurance Plan
1000137	3	Tran	28	M	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
1000207	3	Tran	44	M	ON	Harvoni	$ 77,082.63	$ 65,520.24	$ 11,562.39	Private Insurance Plan
1000219	3	Tran	48	M	NS	Telaprevir + Peginterferon/Ribavirin	$ 58,266.73	$ 42,633.55	$ 15,633.18	Private Insurance Plan
1000225	5	Tran	63	F	ON	Galexos & Sovaldi	$ 119,323.50	$ -	$ 119,323.50	None
1000271	6	Tran	64	F	ON	Sovaldi & Ribavirin	$ 64,853.83	$ -	$ 64,853.83	None
1000288	3	Tran	63	M	ON	Galexos & Sovaldi	$ 108,373.15	$ -	$ 108,373.15	None
1000381	5	Tran	61	F	MB	Sovaldi + Ibavyr	$ 138,093.06	$ -	$ 138,093.06	None

1000507	3	Tran	59	F	ON	Galexos & Sovaldi	$ 105,772.17	$ -	$ 105,772.17	None
1000512	3	Tran	59	M	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
1000574	3	Tran	56	F	ON	Harvoni	$ 25,481.71	$ -	$ 25,481.71	None
1000656	3	Tran	64	F	ON	ABT 450 ABT 267 ABT 333 + Ribavirin	$ -	$ -	$ -	Unknown
1000680	3	Tran	51	M	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1000718	3	Tran	44	M	ON	Telaprevir + Peginterferon/Ribavirin	$ 52,025.27	$ 41,620.21	$ 10,405.06	Private Insurance Plan
1000754	3	Tran	61	F	ON	Galexos, Sovaldi & Ibavyr	$ 111,067.11	$ -	$ 111,067.11	None
1000789	5	Tran	45	F	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1000824	3	Tran	45	M	SK	Boceprevir + Peginterferon/Ribavirin	$ 40,868.21	$ 38,896.51	$ 1,971.70	SK Prescription Drug Plan + Private Insurance Plan
1000837	6	Tran	65	M	On	Telaprevir + Peginterferon/Ribavirin	$ 49,413.42	$ 28,360.64	$ 21,052.78	Private Insurance Plan
1000850	5	Tran	86	M	ON	Sovaldi + Ibavyr	$ 90,376.75	$ -	$ 90,376.75	None
1000910	3	Tran	73	M	AB	Harvoni	$ 72,361.08	$ -	$ 72,361.08	None
1100008	5	Hemo	48	M	ON	Harvoni	$ 77,082.57	$ 69,363.48	$ 7,719.09	Private Insurance Plan
1100009	4	Hemo	58	M	ON	Telaprevir + Peginterferon/Ribavirin	$ 63,099.70	$ -	$ 63,099.70	None
1100010	5	Hemo	61	F	ON	Harvoni	$ 79,995.99	$ -	$ 79,995.99	None
1100016	6	Hemo	77	M	ON	Harvoni	$ 76,447.00	$ -	$ 76,447.00	None
1100028	3	Hemo	55	M	ON	Galexos & Sovaldi	$ 108,373.19	$ -	$ 108,373.19	None
1100039	6	Hemo	64	M	NS	Sovaldi + Ibavyr	$ 133,309.13	$ -	$ 133,309.13	None
1100044	6	Hemo	55	M	NS	Harvoni	$ 77,084.64	$ -	$ 77,084.64	None
1100045	4	Hemo	30	M	NS	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100048	4	Hemo	62	M	NB	Boceprevir + Peginterferon/Ribavirin	$ 8,421.19	$ 7,621.24	$ 799.95	Great West
1100054	4	Hemo	45	M	PE	Harvoni + Ibavyr	$ 20,549.25	$ 17,642.42	$ 2,906.83	Private Insurance Plan
1100065	3	Hemo	69	M	AB	Sovaldi & Pegasys	$ 65,851.16	$ 46,086.75	$ 19,764.41	Private Insurance Plan

1100077	4	Hemo	51	M	AB	Galexos & Sovaldi	$ 107,561.01	$ -	$ 107,561.01	None
1100079	3	Hemo	62	M	AB	Harvoni	$ 72,361.08	$ -	$ 72,361.08	None
1100082	4	Hemo	67	M	BC	Sovaldi & Ribavirin	$ 66,521.13	$ -	$ 66,521.13	None
1100106	6	Hemo	76	M	QC	Boceprevir + Peginterferon/Ribavirin	$ 11,091.16	$ 10,856.81	$ 234.35	RAMQ
1100149	3	Hemo	43	M	QC	Harvoni	$ 85,855.68	$ 68,684.54	$ 17,171.14	Private Insurance Plan
1100163	6	Hemo	57	M	ON	Harvoni	$ 19,023.24	$ 16,023.24	$ 3,000.00	Private Insurance Plan
1100175	3	Hemo	57	M	BC	Harvoni	$ 73,736.68	$ -	$ 73,736.68	None
1100193	3	Hemo	49	M	BC	Galexos & Sovaldi	$ 51,053.54	$ 8,761.04	$ 42,292.50	Private Insurance Plan
1100215	3	Hemo	38	M	MB	Harvoni	$ 25,735.85	$ -	$ 25,735.85	None
1100224	6	Hemo	53	M	SK	Harvoni	$ 134,487.48	$ -	$ 134,487.48	None
1100226	4	Hemo	64	M	ON	Boceprevir + Harvoni	$ 133,313.51	$ 5,172.96	$ 128,140.55	Private Insurance Plan
1100246	6	Hemo	58	M	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100268	3	Hemo	40	M	On	Harvoni	$ 77,062.08	$ -	$ 77,062.08	None
1100276	5	Hemo	39	M	QC	Galexos & Sovaldi	$ 101,423.88	$ -	$ 101,423.88	None
1100301	4	Hemo	51	M	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
1100328	5	Hemo	50	M	On	Harvoni + Ibavyr	$ 81,332.59	$ 79,983.72	$ 1,348.87	Private Insurance Plan
1100351	5	Hemo	47	M	NS	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100398	3	Hemo	54	M	ON	Telaprevir + Peginterferon/Ribavirin	$ 30,192.51	$ 28,755.23	$ 1,437.28	Private Insurance Plan
1100409	5	Hemo	56	F	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100417	6	Hemo	62	F	ON	Harvoni	$ 52,551.98	$ -	$ 52,551.98	None
1100455	3	Hemo	49	M	ON	Telaprevir + Peginterferon/Ribavirin	$ 67,761.41	$ 67,431.41	$ 330.00	Private Insurance Plan
1100460	3	Hemo	47	M	AB	Galexos & Sovaldi	$ 107,112.88	$ -	$ 107,112.88	None
1100478	5	Hemo	60	M	NB	Harvoni & Holkira Pak	$ 139,106.61	$ 1,566.27	$ 137,540.34	Private Insurance Plan

1100495	3	Hemo	37	M	ON	Harvoni	$ 77,061.39	$ -	$ 77,061.39	None
1100498	6	Hemo	48	M	AB	Galexos, Sovaldi & Pegasys	$ 102,790.37	$ -	$ 102,790.37	None
1100504	3	Hemo	51	M	NB	Boceprevir + Peginterferon/Ribavirin	$ 83,217.74	$ -	$ 33,217.74	None
1100506	3	Hemo	76	M	ON	Sovaldi + Ibavyr	$ 67,048.12	$ -	$ 67,048.12	None
1100554	4	Hemo	63	F	ON	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100565	6	Hemo	44	M	BC	Harvoni + Ibavyr	$ 163,975.56	$ -	$ 163,975.56	None
1100581	5	Hemo	65	M	ON	Galexos & Sovaldi	$ 102,899.40	$ -	$ 102,899.40	None
1100584	3	Hemo	56	M	NL	Sovaldi & Pegasys	$ -	$ -	$ -	Unknown
1100591	3	Hemo	33	M	BC	Harvoni	$ 74,853.39	$ -	$ 74,853.39	None
1100595	3	Hemo	44	M	ON	Harvoni	$ 72,361.08	$ -	$ 72,361.08	None
1100605	5	Hemo	50	M	AB	Telaprevir + Peginterferon/Ribavirin	$ 8,296.85	$ 6,473.14	$ 1,823.71	BC Pharmacare
1100611	3	Hemo	47	M	ON	Galexos, Sovaldi & Ribavirin	$ 111,980.51	$ -	$ 111,980.51	None
1100637	6	Hemo	64	M	NB	Harvoni + Ibavyr	$ 158,771.76	$ -	$ 158,771.76	None
1100656	6	Hemo	48	M	NB	Galexos & Sovaldi	$ 109,609.51	$ -	$ 109,609.51	None
1100665	3	Hemo	38	M	ON	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100739	4	Hemo	56	M	QC	Harvoni + Ibavyr	$ 82,741.83	$ -	$ 82,741.83	None
1100762	4	Hemo	57	M	QC	Sovaldi + Ribavirin	$ -	$ -	$ -	Unknown
1100772	4	Hemo	51	M	ON	Galexos & Sovaldi	$ 208,844.70	$ -	$ 208,844.70	None
1100780	3	Hemo	67	F	ON	Sovaldi & Ibavyr	$ 68,475.14	$ -	$ 68,475.14	None
1100781	3	Hemo	40	M	BC	Telaprevir + Peginterferon/Ribavirin	$ 20,526.06	$ 12,967.12	$ 7,558.94	Private Insurance Plan
1100787	6	Hemo	62	M	NB	Galexos, Sovaldi & Pegasys	$ 114,224.19	$ -	$ 114,224.19	None
1100806	5	Hemo	60	M	ON	Harvoni + Ibavyr	$ 90,445.47	$ 5,878.62	$ 84,566.85	Private Insurance Plan
1100826	3	Hemo	29	M	ON	Boceprevir + Peginterferon/Ribavirin	$ 23,354.14	$ -	$ 23,354.14	None
1100835	3	Hemo	44	M	NB	Sovaldi + Ibavyr	$ 134,295.34	$ -	$ 134,295.34	None
1100843	3	Hemo	38	M	SK	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None

1100850	5	Hemo	62	M	BC	Harvoni	$ 147,483.61	$ -	$ 147,483.61	None
1100865	3	Hemo	59	M	BC	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1100866	5	Hemo	50	M	AB	Telaprevir + Peginterferon/Ribavirin	$ 22,100.64	$ 21,506.56	$ 594.08	Private Insurance Plan
1200003	3	Hemo	44	F	QC	Harvoni	$ 51,737.46	$ -	$ 51,737.46	None
1200076	3	Tran	81	M	QC	Harvoni	$ 78,390.00	$ -	$ 78,390.00	None
1200114	3	Tran	50	F	QC	Galexos & Sovaldi	$ 107,194.47	$ -	$ 107,194.47	None
1200142	5	Hemo	45	F	QC	Telaprevir + Peginterferon/Ribavirin	$ 10,303.30	$ 9,383.26	$ 920.04	Private Insurance Plan
1200172	4	Tran	59	F	QC	Holkira Pak + Ibavyr	$ 68,328.87	$ -	$ 68,328.87	None
1200177	6	Hemo	58	F	QC	Boceprevir + Peginterferon/Ribavirin	$ 35,931.60	$ 34,978.91	$ 952.69	RAMQ
1200192	5	Tran	58	M	QC	Harvoni	$ 152,806.50	$ -	$ 152,806.50	None
1200204	4	Tran	73	M	QC	Harvoni	$ 26,130.00	$ 25,600.00	$ 530.00	Private Insurance Plan
1200225	5	Tran	63	M	QC	Sovaldi + Ribavirin	$ -	$ -	$ -	Unknown
1200241	5	Tran	61	M	QC	Galexos & Sovaldi	$ 107,194.47	$ -	$ 107,194.47	None
1200311	3	Tran	71	M	QC	Sovaldi + Ibavyr	$ 83,219.75	$ -	$ 83,219.75	None
1200374	3	Tran	32	F	QC	Galexos & Sovaldi	$ 60,479.99	$ 60,249.11	$ 230.88	Private Insurance Plan
1200382	6	Tran	27	F	QC	Harvoni	$ 11,905.85	$ 11,812.34	$ 93.51	Private Insurance Plan
1300095	3	Tran	60	F	BC	Holikira Pak	$ 61,198.71	$ -	$ 61,198.71	None
1300137	4	Tran	32	M	BC	Telaprevir + Peginterferon/Ribavirin	$ 9,700.52	$ 8,825.83	$ 874.69	BC Pharmacare
1300162	5	Tran	78	M	BC	Galexos & Sovaldi	$ 103,834.25	$ -	$ 103,834.25	None
1300166	3	Tran	66	F	BC	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1300235	6	Tran	46	F	BC	Harvoni	$ 79,740.00	$ -	$ 79,740.00	None
1300310	3	Tran	71	M	BC	Sovaldi + Ibavyr	$ 133,746.08	$ -	$ 133,746.08	None
1300403	5	Tran	58	F	BC	Harvoni	$ 8,385.00	$ 7,010.60	$ 1,374.40	Private Insurance Plan

1300503	3	Tran	54	M	ON	Boceprevir + Peginterferon/Ribavirin	$ 44,042.03	$ 35,597.85	$ 8,444.18	Private Insurance Plan
1300598	4	Tran	59	F	BC	Boceprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1300626	3	Tran	72	F	BC	Galexos & Sovaldi	$ 105,287.52	$ -	$ 105,287.52	None
1300704	4	Tran	66	M	BC	Boceprevir + Peginterferon/Ribavirin	$ 26,927.81	$ 3,645.25	$ 23,282.56	Private Insurance Plan
1300769	3	Tran	57	M	BC	Sovaldi + Ribavirin	$ 52,650.88	$ 51,650.88	$ 1,000.00	Private Insurance Plan
1400134	6	Tran	66	M	ON	Galexos & Sovaldi	$ 105,810.98	$ -	$ 105,810.98	None
1400217	5	Tran	62	M	MB	Galexos & Sovaldi	$ 101,852.43	$ -	$ 101,852.43	None
1400269	6	Tran	59	M	ON	Sovaldi & Pegasys	$ 96,743.68	$ -	$ 96,743.68	None
1400545	5	Tran	74	M	ON	Harvoni	$ 77,061.98	$ -	$ 77,061.98	None
1400765	4	Hemo	52	M	NS	Telaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1400841	3	Tran	68	F	QC	Harvoni	$ 78,390.00	$ -	$ 78,390.00	None
1400905	5	Tran	77	F	ON	Galexos & Sovaldi	$ 108,373.15	$ -	$ 108,373.15	None
1400937	5	Tran	69	M	BC	Harvoni	$ 73,736.64	$ -	$ 73,736.64	None
1401184	3	Tran	58	M	ON	Boceprevir + Peginterferon/Ribavirin	$ 29,045.23	$ 14,522.60	$ 14,522.63	Private Insurance Plan
1401397	5	Tran	65	M	ON	Galexos & Sovaldi	$ 99,943.74	$ -	$ 99,943.74	None
1401466	3	Tran	49	M	NS	Harvoni	$ 11,690.87	$ 11,098.74	$ 592.13	Private Insurance Plan
1401517	5	Tran	69	M	ON	Telaprevir + Peginterferon/Ribavirin & Galexos + Sovaldi & Ribavirin	$ 116,023.50	$ -	$ 116,023.50	None
1401600	6	Tran	46	F	AB	Galexos, Sovaldi & Ibavyr	$ 109,574.70	$ -	$ 109,574.70	None
1401619	5	Tran	73	M	ON	Sovaldi + Ibavyr	$ 157,308.36	$ -	$ 157,308.36	None
1401641	3	Tran	31	M	BC	Galexos & Sovaldi	$ 103,765.66	$ -	$ 103,765.66	None
1401651	5	Tran	67	F	QC	Harvoni	$ 99,597.82	$ 25,270.18	$ 74,327.64	Private Insurance Plan
1401768	5	Tran	59	F	BC	Harvoni	$ 73,736.64	$ -	$ 73,736.64	None
1402031	3	Tran	63	M	ON	Harvoni	$ 76,016.97	$ -	$ 76,016.97	None
1402151	3	Tran	68	M	ON	Rotpmavor & Ribavirin	$ -	$ -	$ -	Unknown

1402180	3	Tran	59	F	AB	Galexos & Sovaldi	$ 107,897.90	$ 15,389.65	$ 92,508.25	Private Insurance Plan
1402193	3	Tran	22	M	AB	Galexos & Sovaldi	$ 107,561.01	$ -	$ 107,561.01	None
1402355	3	Tran	52	F	ON	Harvoni	$ 18,354.43	$ 17,354.50	$ 999.93	Private Insurance Plan
1402408	3	Tran	29	F	ON	Faldaprevir + Peginterferon/Ribavirin	$ -	$ -	$ -	Unknown
1402494	6	Tran	53	F	QC	Galexos & Sovaldi & Ribavirin	$ 236,100.74	$ -	$ 236,100.74	None
1402495	4	Tran	57	M	ON	Boceprevir + Peginterferon/Ribavirin & Galexos + Sovaldi	$ 180,683.20	$ -	$ 180,683.20	None
1402528	3	Tran	45	M	ON	Harvoni	$ 74,660.04	$ -	$ 74,660.04	None
1402565	3	Tran	60	M	QC	Sovaldi & Pegasys	$ 10,449.60	$ 9,567.05	$ 882.55	Private Insurance Plan
1402594	3	Tran	51	M	QC	Galexos & Sovaldi	$ 93,980.04	$ 93,814.72	$ 165.32	Private Insurance Plan
1402677	3	Hemo	68	M	QC	Sovaldi + Ribavirin	$ -	$ -	$ -	Unknown
1402735	3	Tran	31	M	AB	Harvoni	$ 48,240.99	$ -	$ 48,240.99	None
1500088	5	Tran	65	F	BC	Harvoni	$ 153,474.93	$ -	$ 153,474.93	None
1500123	5	Tran	74	F	BC	Sovaldi & Ribavirin	$ 64,107.12	$ -	$ 64,107.12	None
1500157	4	Tran	56	F	BC	Galexos & Sovaldi	$ 105,287.52	$ -	$ 105,287.52	None
1500172	3	Tran	44	M	BC	Telaprevir + Peginterferon/Ribavirin	$ 1,153.83	$ 923.15	$ 230.68	Private Insurance Plan
Total Claims (265)							**$ 17,397,606.01**	**$ 2,201,790.42**	**$ 15,195,815.59**	

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Duration of Treatment (Months)	Drug Therapy Claimed	Drug Therapy Reimbursed by Hep C Fund	Successful Response to Therapy	Claims for benefits subsequent to Treatment?	Type of Subsequent Costs	Total Reimbursed by Hep C Fund for Subsequent Costs
3	Yes	$ 4,001.10	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Other meds	$ 223.56
3	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	Yes	Travelling Expense	$ 2,822.11
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Other Meds	$ 902.25
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
6	No	$ -	Unknown	Yes	Other Meds	$ 5,021.53
6	Yes	$ 8,074.62	Unknown	Yes	Mileage	$ 627.15
6	Yes	$ 8,074.62	Unknown	No	N/A	$ -
5	No	$ -	Unknown	Yes	Other Meds & Travelling Expenses	$ 7,332.96
6	Yes	$ 8,219.52	Unknown	Yes	Travelling Expense	$ 1,332.77
9	Yes	$ 11,344.68	Yes	Yes	Other meds, mileage, parking & meals	$ 5,856.08
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,219.52	Unknown	Yes	Other Meds & Travelling Expenses	$ 2,967.53
4	Yes	$ 5,383.08	Unknown	No	N/A	$ -

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3	No	$ -	Unknown	Yes	Travelling Expenses	$ 1,578.51
7	Yes	$ 9,335.90	No	Yes	Mileage, Meals, Parking	$ 1,286.75
7	Yes	$ 9,335.90	Unknown	Yes	Mileage	$ 5,300.05
12	Yes	$ 14,803.51	Unknown	Yes	Other Meds & Mileage	$ 2,479.31
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Mileage	$ 45.60
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
12	Yes	$ 16,149.24	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Other Meds	$ 911.85
2	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,002.20	Yes	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
5	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
5	No	$ -	Unknown	Yes	Travelling Expenses	$ 1,194.76
3	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Other Meds	$ 1,911.90
3	No	$ -	Unknown	No	N/A	$ -
9	Yes	$ 12,003.30	No	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	Yes	Other Meds + Travelling Expense	$ 2,465.33
3	No	$ -	Unknown	No	N/A	$ -
2	No	$ -	Unknown	No	N/A	$ -

3	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
4	Yes	$ 5,334.80	No	Yes	Mileage & parking	$ 319.20
1	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,074.62	Unknown	Yes	Mileage	$ 360.23
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,002.20	Yes	No	N/A	$ -
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
3	Yes	$ 4,109.76	Unknown	Yes	Mileage & Parking	$ 31.91
6	Yes	$ 7,863.90	Unknown	Yes	Mileage	$ 439.59
3	No	$ -	Unknown	No	N/A	$ -
4	Yes	$ 5,455.53	Unknown	No	N/A	$ -
12	Yes	$ 15,866.10	Unknown	Yes	Bus fare, other medications, form completion	$ 1,076.62
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	Yes	Other Meds	$ 399.10
3	No	$ -	Unknown	No	N/A	$ -
13	Yes	$ 17,495.01	Unknown	Yes	Other Meds	$ 16,217.26
5	Yes	$ 6,668.50	No	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
6	Yes	$ 8,219.52	Unknown	Yes	Travelling Expenses	$ 376.38
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Mileage, Meals & Parking	$ 1,818.82
12	Yes	$ 16,149.24	Unknown	Yes	Mileage & Parking	$ 5,325.94
3	No	$ -	Unknown	No	N/A	$ -

6	Yes	$ 8,002.20	Yes	No	N/A	$ -
6	Yes	$ 8,002.20	No	No	N/A	$ -
6	Yes	$ 8,002.20	Unknown	Yes	Other Medications, Mileage, Meals, Parking	$ 4,061.92
11	Yes	$ 14,670.70	Unknown	Yes	Taxi's & Other Meds	$ 1,739.37
12	Yes	$ 16,004.40	Yes	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Travelling Expenses	$ 112.26
9	Yes	$ 12,039.51	Yes	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Mileage, Meals & Parking	$ 1,167.13
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Other Meds	$ 33.35
11	Yes	$ 14,532.40	Unknown	Yes	Other meds, mileage, parking, meals, blood tests	$ 8,788.64
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
12	Yes	$ 15,866.10	Unknown	Yes	Mileage, meals, hotels, other medications	$ 15,374.89
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
2	No	$ -	Unknown	Yes	Traveling Expenses	$ 403.60
2	Yes	$ 2,667.40	Unknown	Yes	Mileage & meals	$ 1,347.88

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12	Yes	$ 16,004.40	No	Yes	Other meds, mileage, parking, & meals	$ 1,755.13
2	No	$ -	Unknown	Yes	Traveling Expenses	$ 78.90
6	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Traveling Expenses	$ 488.80
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 2,678.77
11	Yes	$ 14,532.40	No	No	N/A	$ -
6	Yes	$ 8,074.62	Unknown	Yes	Travel Expenses & Other Meds	$ 21,058.60
6	Yes	$ 8,002.20	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Travel Expenses	$ 1,365.63
6	Yes	$ 8,074.62	Unknown	Yes	Other meds, mileage, parking	$ 175.04
3	No	$ -	Unknown	No	N/A	$ -
12	Yes	$ 16,149.24	Unknown	No	N/A	$ -
12	Yes	$ 15,866.10	Yes	Yes	Mileage & Parking	$ 1,854.25
15	Yes	$ 20,259.00	Unknown	Yes	Traveling Expenses	$ 271.20
3	No	$ -	Unknown	No	N/A	$ -
12	Yes	$ 16,004.40	Unknown	Yes	Other Meds, Mileage & Parking	$ 1,973.08
3	No	$ -	Unknown	Yes	Travel Expenses	$ 1,240.86
7	Yes	$ 9,174.55	Unknown	Yes	Mileage, meals & parking	$ 4,455.95
18	Yes	$ 24,368.76	No	Yes	Mileage	$ 600.00

3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 816.95
1	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Mileage, meals & parking	$ 405.43
6	Yes	$ 8,002.20	Unknown	Yes	Mileage, Meals, Parking	$ 1,916.98
6	Yes	$ 7,863.90	Yes	Yes	Mileage, hotels, other medications	$ 1,809.85
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
1	Yes	$ 1,333.70	No	No	N/A	$ -
7	Yes	$ 9,335.90	Yes	Yes	Mileage, Parking, Other Medications	$ 235.09
7	Yes	$ 9,420.39	Yes	Yes	Other Meds, mileage, meals	$ 9,770.21
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 1,081.30
13	Yes	$ 17,338.10	No	Yes	Other medications, massage, physiotherapy	$ 38,113.24
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,219.52	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 810.76
13	Yes	$ 17,315.05	Unknown	No	N/A	$ -
11	Yes	$ 14,670.70	Yes	Yes	Mileage & Parking	$ 144.45
1	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -

3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Yes	Yes	Travel Expenses	$ 684.25
7	Yes	$ 9,335.90	No	Yes	Meals, mileage, parking, other medications	$ 9,098.01
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 240.75
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 1,640.65
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
7	Yes	$ 9,589.44	Unknown	No	N/A	$ -
1	Yes	$ 1,310.65	No	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
2	Yes	$ 2,691.54	Unknown	No	N/A	$ -
6	Yes	$ 7,863.90	Unknown	Yes	Other medications, mileage, parking	$ 311.32
6	Yes	$ 7,863.90	Yes	No	N/A	$ -
2	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 7,863.90	Unknown	Yes	Other medications, mileage, meals, parking	$ 1,835.60
3	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -

1189

3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
12	Yes	$ 16,076.82	Unknown	Yes	Mileage, parking, meals, other medications	$ 309.73
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 7,863.90	Unknown	Yes	Other meds, mileage & meals	$ 1,652.57
6	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	Yes	Travel Expenses	$ 619.84
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
11	Yes	$ 14,731.05	No	Yes	Other Meds, Mileage, Parking	$ 382.63
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
11	Yes	$ 14,670.70	Unknown	No	N/A	$ -
3	Yes	$ 4,109.76	Unknown	Yes	Traveling Expenses	$ 239.50
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,109.76	Unknown	Yes	Travel Expenses	$ 86.12
6	Yes	$ 8,002.20	Unknown	Yes	Parking	$ 22.50
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 126.50
12	Yes	$ 16,004.40	Unknown	Yes	Mileage	$ 570.00
7	Yes	$ 9,589.44	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -

6	No	$ -	Unknown	Yes	Traveling Expenses	$ 395.08
12	Yes	$ 16,149.24	Unknown	No	N/A	$ -
12	Yes	$ 16,004.40	Unknown	Yes	Other medications	$ 6.62
2	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 138.60
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 828.89
12	Yes	$ 8,002.20	Unknown	Yes	Mileage, parking, meals, other medications	$ 10,661.44
3	No	$ -	Unknown	No	N/A	$ -
10	Yes	$ 12,039.51	Unknown	Yes	Mileage , Parking, Meals, Hotel, Other Meds	$ 10,782.95
6	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	Yes	Traveling Expenses	$ 966.31
1	Yes	$ 1,369.92	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
11	Yes	$ 14,670.70	Unknown	Yes	Other Medications	$ 43.78
3	No	$ -	Unknown	Yes	Travel Expenses	$ 1,371.14
6	Yes	$ 8,002.20	Unknown	Yes	Other meds, mileage & parking	$ 3,550.35
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,219.52	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -

6	Yes	$ 8,002.20	Unknown	No	N/A	$ -
6	Yes	$ 8,074.64	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
11	Yes	$ 14,670.70	Yes	Yes	Other medications	$ 492.90
3	Yes	$ 4,109.76	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
4	Yes	$ 5,479.68	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 2,618.00
2	Yes	$ 2,667.40	Unknown	Yes	Other meds, mileage & parking	$ 2,244.21
3	No	$ -	Unknown	Yes	Traveling Expenses	$ 30.02
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
7	Yes	$ 9,335.90	Unknown	Yes	Mileage	$ 73.46
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
9	Yes	$ 12,039.51	No	Yes	Other Meds, mileage, parking	$ 405.20
6	Yes	$ 8,219.52	Unknown	Yes	Travel Expenses	$ 402.00
6	Yes	$ 8,219.52	Unknown	Yes	Traveling Expenses	$ 2,911.26
3	No	$ -	Unknown	Yes	Travel Expenses	$ 1,318.28
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,074.62	Unknown	No	N/A	$ -

3	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	No	N/A	$ -
1	No	$ -	Unknown	No	N/A	$ -
6	Yes	$ 8,002.20	Unknown	Yes	Other Meds, mileage, parking & meals	$ 2,101.46
6	Yes	$ 2,691.54	Unknown	No	N/A	$ -
11	Yes	$ 14,670.70	No	Yes	Mileage, parking, meals	$ 1,666.42
3	No	$ -	Unknown	No	N/A	$ -
3	Yes	$ 4,037.31	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Travel Expenses	$ 357.59
3	Yes	$ 4,037.31	Unknown	Yes	Other Meds + Travelling Expense	$ 350.52
2	No	$ -	Unknown	No	N/A	$ -
6	No	$ -	Unknown	No	N/A	$ -
3	No	$ -	Unknown	Yes	Other Meds	$ 157.00
3	No	$ -	Unknown	No	N/A	$ -
4	Yes	$ 5,334.80	Unknown	No	N/A	$ -
		$ 1,137,125.40				**$ 289,825.87**

This is the 6th Affidavit
of Richard Border in this case
and was made on 31/March/2016

Court File No. 98-CV-141369 CP00

ONTARIO
SUPERIOR COURT OF JUSTICE

B E T W E E N:

DIANNA LOUISE PARSONS, MICHAEL HERBERT CRUICKSHANKS, DAVID TULL, MARTIN HENRY GRIFFEN, ANNA KARDISH, ELSIE KOTYK, Executrix of the Estate of Harry Kotyk, deceased and ELSIE KOTYK, personally

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO and THE ATTORNEY GENERAL OF CANADA

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT and THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the *Class Proceedings Act, 1992*

Court File No. 98-CV-146405

B E T W E E N:

JAMES KREPPNER, BARRY ISAAC, NORMAN LANDRY, as Executor of the Estate of the late SERGE LANDRY, PETER FELSING, DONALD MILLIGAN, ALLAN GRUHLKE, JIM LOVE and PAULINE FOURNIER as Executrix of the Estate of the late PIERRE FOURNIER

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, THE ATTORNEY GENERAL OF CANADA and HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT AND THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the *Class Proceedings Act, 1992*

No. C965349
Vancouver Registry

In the Supreme Court of British Columbia

Between:

Anita Endean, as representative plaintiff

Plaintiff

and:

**The Canadian Red Cross Society
Her Majesty the Queen in Right of the Province of
British Columbia, and The Attorney General of Canada**

Defendants

and:

**Prince George Regional Hospital, Dr. William Galliford,
Dr. Robert Hart Dykes, Dr. Peter Houghton, Dr. John Doe,
Her Majesty the Queen in Right of Canada, and
Her Majesty the Queen in Right of the Province of
British Columbia**

Third Parties

Proceeding under the *Class Proceedings Act*, R.S.B.C. 1996, C. 50

CANADA PROVINCE OF QUÉBEC DISTRICT OF MONTRÉAL	**SUPERIOR COURT** **Class action**
NO : 500-06-000016-960	**DOMINIQUE HONHON** Plaintiff -vs- **THE ATTORNEY GENERAL OF CANADA** **THE ATTORNEY GENERAL OF QUÉBEC** **THE CANADIAN RED CROSS SOCIETY** Defendants -and- **MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec** PETITIONER -and- **FONDS D'AIDE AUX RECOURS COLLECTIFS** -and- **LE CURATEUR PUBLIC DU QUÉBEC** Mis-en-cause

CANADA PROVINCE OF QUÉBEC DISTRICT OF MONTRÉAL	**SUPERIOR COURT** **Class action**
NO : 500-06-000068-987	**DAVID PAGE** Plaintiff -vs- **THE ATTORNEY GENERAL OF CANADA** **THE ATTORNEY GENERAL OF QUÉBEC** **THE CANADIAN RED CROSS SOCIETY** Defendants -and- **FONDS D'AIDE AUX RECOURS COLLECTIFS** -and- **LE CURATEUR PUBLIC DU QUÉBEC** Mis-en-cause

AFFIDAVIT

I, RICHARD BORDER, of 980-475 West Georgia Street, Vancouver, British Columbia SWEAR ~~(OR AFFIRM)~~ THAT:

1. I am a Principal and Shareholder of Eckler Ltd. ("Eckler").

2. Attached hereto and marked as **Exhibit "A"** is Eckler's Actuarial Report to the Joint Committee, *"Response to the Morneau Shepell 2013 Allocation Report".*

3. The Eckler actuarial personnel involved in the review of the data and the actuarial work in preparation of the report are myself, Wendy Harrison, Dong Chen and Kevin Chen. The opinions are those of Wendy Harrison and me and we are the authors of the report.

4. There have been no material changes to the curriculum vitae appended to my fourth affidavit sworn on March 11, 2015.

SWORN ~~(OR AFFIRMED)~~ BEFORE ME)
at Vancouver, British Columbia, on)
31/March/2016.)
)
)
)
)
)
A Commissioner for taking)
Affidavits for British Columbia)

RICHARD BORDER

SHARON D. MATTHEWS, QC
BARRISTER & SOLICITOR
856 Homer Street, 4th Floor
Vancouver, BC V6B 2W5
Tel: 604-689-7555 Fax: 604-689-7554

RE-SWORN BEFORE ME)
at Vancouver British Columbia, on)
9/May/2016.)
)
)
A Commissioner for taking)
Affidavits for British Columbia)

RICHARD BORDER

SHARON D. MATTHEWS, QC
BARRISTER & SOLICITOR
856 Homer Street, 4th Floor
Vancouver, BC V6B 2W5
Tel: 604-689-7555 Fax: 604-689-7554

This is Exhibit" A "referred to in the
affidavit of Richard Border
sworn before me at Vancouver, BC
this 31 day of March 2016

A Commissioner for taking Affidavits
for British Columbia

This is Exhibit "A" referred to in the Affidavit of Richard Border resworn before me at Vancouver, BC this 9th day of May, 2016.

A Commissioner for taking Affidavits for British Columbia

Eckler

Actuarial Report to the Joint Committee

Response to the Morneau Shepell 2013 Allocation Report

1986-1990 Hepatitis C Trust

Prepared by:

Richard Border, FIA, FCIA Wendy Harrison, FSA, FCIA

Vancouver, B.C.

March 31, 2016

Eckler

CONTENTS

1 INTRODUCTION

1. Our assessment of the financial sufficiency of the 1986-1990 Hepatitis C Trust as at December 31, 2013 was documented in our report ("Eckler 2013 Sufficiency Report") dated March 11, 2015.

2. Our 2013 Sufficiency Report concluded that, after allowing for an appropriate level of Required Capital, there was Excess Capital, or actuarially unallocated assets, of $236,341,000. As set out in our subsequent report (Proposed Allocation of the 2013 Sufficiency Assessment Actuarially Unallocated Assets or "2013 Allocation Report") dated October 14, 2015, we were instructed by the Joint Committee to calculate an additional sufficiency liability in respect of level 2 class members who are reclassified as level 3 class members. That amount is equal to $29,421,000. This amount would reduce the Excess Capital to $206,920,000.

3. The Settlement Approval Orders give the Courts discretion to allocate the actuarially unallocated assets "for the benefit of class members and family class members", referred to in our 2013 Allocation Report as "Allocation Benefits". Our 2013 Allocation Report provided analysis of the potential Allocation Benefits identified by the Joint Committee to be funded by the Excess Capital, or actuarially unallocated assets. Our 2013 Allocation Report was included in the set of documents filed by the Joint Committee in their Motion of October 16, 2015 regarding the allocation of the actuarially unallocated assets.

4. Subsequently, the Attorney General of Canada ("Canada") filed several documents in response to the Joint Committee's Motion, including the Actuarial Report on Proposed Allocation of the Actuarially Unallocated Funds as of 31 December 2013 ("Morneau Shepell 2013 Allocation Report") and the Affidavit of Samuel S. Lee ("Lee Affidavit"), both sworn January 29, 2016.

5. We were asked by the Joint Committee to respond to certain statements made in the Morneau Shepell 2013 Allocation Report and the Lee Affidavit, and have set out our reply in this report. We have not commented on other less significant issues that we noted in these documents.

2 TREATMENT IMPLICATION FOR CLAIMANTS

6. Section C of the Morneau Shepell 2013 Allocation Report discusses treatment implications for claimants, starting with the Medical Model Working Group ("MMWG") assumptions (used in both the Eckler 2013 Sufficiency Report and the 2013 Morneau Shepell Sufficiency Report), and notes that "the MMWG assumptions about treatment result in about 85% of the claimants at levels 2 to 5 being cured of the disease by 2019"[1] and "applying the MMWG assumptions will leave about 11% of the claimants at levels 2 to 5 untreated".[2]

7. Section C of the Morneau Shepell 2013 Allocation Report references the Lee Affidavit, in particular, paragraph 25, which states "On January 16, 2016, Health Canada granted regulatory approval for another all-oral DAA combination drug, Zepatier, for treatment of patients with HCV genotypes 1 and 4. I expect to see regulatory approval granted later in 2016 for yet another generation of DAA medications that will offer even greater advantages for patient care, including those few patients who have had the misfortune to be infected with one of the less prevalent HCV genotypes that have proven to be more treatment resistant to earlier regimens. With the arrival of the next generation of DAA medications, very few cases will be seen where the virus cannot be eradicated".

8. The statement that Dr. Lee makes in paragraph 25 of the Lee Affidavit may follow from his paragraph 18 where he opines that "within a very short time, new drug therapies will be available to eradicate HCV from almost 99% of all infected patients…". However, the basis for the "99%" figure is not clear from the Lee Affidavit. He does make the statement in paragraph 22 that "Current DAA treatment consists of… a cure rate exceeding 90%".

9. The Morneau Shepell 2013 Allocation Report states "Our understanding (Lee Affidavit paragraph 25) is that those claimants will likely be eligible medically for treatment when the new drugs are approved within a very short time. While the liabilities set aside in 2013 did not contemplate these claimants being treated, the reduction in future claims is expected to be more than enough to pay for their treatment without having to touch any of the surplus".[3]

10. In our opinion, there are two key issues to assess regarding this conclusion:

    (a) Is the statement "very few cases will be seen where the virus cannot be eradicated" substantiated and appropriate to form the basis for an actuarial assumption? and

    (b) Is it necessary or appropriate to restate the 2013 Sufficiency Assessment to account for medical developments that are still unfolding?

11. We discuss these questions below.

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[1] Morneau Shepell 2013 Allocation Report paragraph 21

[2] Morneau Shepell 2013 Allocation Report paragraph 26

[3] Morneau Shepell 2013 Allocation Report paragraph 26

2.1 Evidence for New DAAs

12. Actuarial practice involves the setting of assumptions regarding future events, which may or may not happen, and for which the timing may be unknown. Actuaries generally look to evidence, often in the form of historical experience, to set the best estimate assumptions, and then incorporate a Provision for Adverse Deviation ("PfAD") as an additional liability to address uncertainty. Specifically, one purpose of the PfAD is to provide for the risk of mis-estimation of the best estimate assumption. The more uncertainty there is about an estimate or assumption of future experience, the larger the PfAD should be.

13. Eckler's 2013 Sufficiency Report and 2013 Allocation Report, and the 2013 Morneau Shepell Sufficiency Report, all utilized the MMWG assumptions regarding probability of treatment with several different HCV drugs and treatment efficacy of each drug, based on whether the class member was previously treated and whether the class member is coinfected with HIV. The MMWG based these assumptions on a range of published medical studies.[1] The MMWG report reflected the expected utilization of two new DAA drugs: "sofosbuvir-based doublets" (trade name Harvoni) and "3D regimen plus RBV" (trade name Holkira Pak). These are the two drug regimens referenced by Dr. Lee as already in use in Canada.[2]

14. The treatment efficacy assumptions developed by the MMWG for these two DAA options are set out in the following table, and range from 80.2% to 96.3%. These treatment efficacy rates were adopted by Eckler and Morneau Shepell as best estimates for the purpose of the 2013 Sufficiency Assessment.[3]

Treatment Efficacy – Best Estimate	Treatment Naïve without HIV	Treatment Naïve with HIV	Previously Treated without HIV	Previously Treated with HIV
Sofosbuvir-based doublet (Harvoni)	94.6%	80.2%	95.4%	80.9%
3D regimen plus RBV (Holkira Pak)	96.2%	81.6%	96.3%	81.7%

15. The distribution of known alive class members in levels 2 to 5 (levels where treatment is anticipated to be provided to a high proportion of class members) as at December 31, 2013 was as follows:

	Treatment Naïve without HIV	Treatment Naïve with HIV	Previously Treated without HIV	Previously Treated with HIV
# known alive class members in levels 2 to 5	1,691	76	1,058	51

16. The weighted average efficacy rates[1] for this group of class members are 94.5% for Harvoni and 95.4% for Holkira Pak. These weighted averages are close to the high end of the range because there are relatively few class members who, due to HIV co-infection, are expected to have lower cure rates.

---

[1] Section 2.2.2 of the Fifth Revision of Hepatitis C Prognostic Model Based on the Post-Transfusion Hepatitis C Compensation Claim Cohort page 21

[2] Lee Affidavit paragraph 23

[3] An explicit PfAD was calculated by multiplying the best estimate treatment efficacy rates by 80%; in other words, the sufficiency liability reflected an assumption that 20% fewer class members would be cured, than would be the case based on the best estimate assumptions.

17. While these weighted average efficacy rates are very high, they are still less than the 99% figure cited by Dr. Lee in his paragraph 18. Dr. Lee did not cite specific evidence, such as the results of clinical trials, to substantiate this belief.

18. From an actuarial perspective, an assumption that is based on past experience, such as published clinical trials, has greater credibility than an assumption based on an event that is anticipated to occur in the future or which is speculative in nature. Customary actuarial practice would be to base model assumptions on historical evidence when it is available, and on more speculative views of future experience only when other evidence is not available. The evidence in Lee's Affidavit is insufficiently detailed to build into a practical actuarial model, and does not provide a basis for measuring the financial impact of emerging DAA therapies.

2.2 Subsequent Events

19. The DAA therapy Harvoni was approved for use in Canada on October 14, 2014 and Holkira Pak was approved on December 22, 2014.

20. According to the Lee Affidavit, another DAA combination drug, Zepatier, was approved for use in Canada on January 19, 2016.[2]

21. While the Eckler 2013 Sufficiency Report sets out the financial position of the Trust as at December 31, 2013 (the calculation date), the report was issued March 11, 2015 (the report date).

22. Thus the two drugs Harvoni and Holkira Pak were approved between the calculation date and the report date, while Zepatier was approved after the report date.

2.3 Actuarial Practice Regarding a "Subsequent Event"

23. Subsection 1110 of the Canadian Institute of Actuaries' Standards of Practice defines a subsequent event as "an event of which an actuary first becomes aware after a calculation date but before the corresponding report date." The calculation date is defined as the "effective date of a calculation; e.g., the balance sheet date in the case of a valuation for financial statements. It usually differs from the report date." The report date is defined as the "date on which the actuary completes the report on his or her work. It usually differs from the calculation date."

24. Subsection 1520 of the Standards of Practice provides guidance regarding the possible effect of subsequent events on the work of actuaries. Paragraph 1520.02 states that. . . the actuary should take a subsequent event into account (other than in a pro forma calculation) if the subsequent event

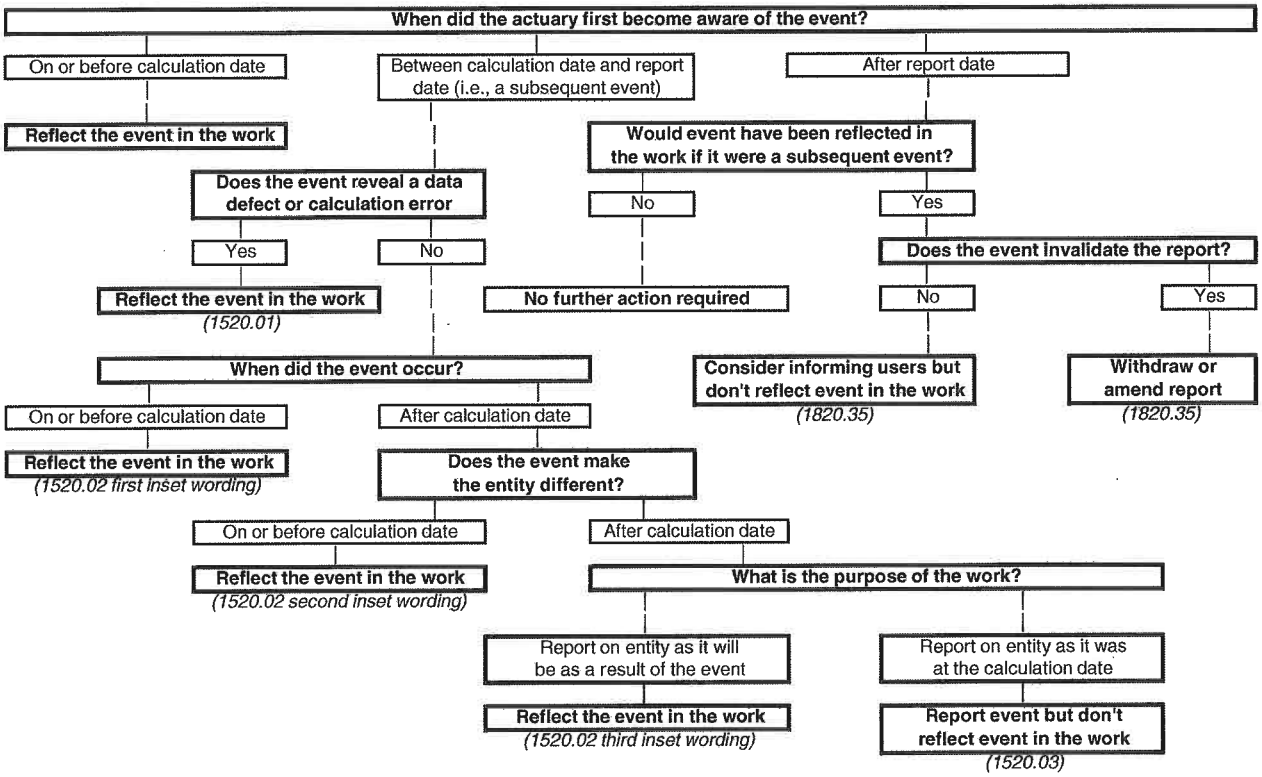
    - provides information about the entity as it was at the calculation date,

[1] Weighted by the number of class members assumed to receive the treatment in question
[2] Lee Affidavit Paragraph 25

- retroactively makes the entity different at the calculation date, or
- makes the entity different after the calculation date and a purpose of the work is to report on the entity as it will be as a result of the event.

25. The following decision tree is provided to assist an actuary in deciding how to reflect an event in the work:

EVENT DECISION TREE



2.4 Recognition of new DAA therapies in 2013 Sufficiency Assessment and Allocation Report

26. It is our understanding that the sufficiency of the Trust was confirmed to the courts based on the Eckler 2013 Sufficiency Report and the Morneau Shepell 2013 Sufficiency Report, and that the discussion regarding the actuarially unallocated assets should follow directly from the methods, assumptions, analysis and results set out in those reports.

27. Such an approach is entirely consistent with the CIA's Standards of Practice as they relate to a Subsequent Event in that while the approval of the use in Canada of Harvoni and Holkira Pak occurred between the calculation date and the report date (and as such could be considered a Subsequent Event), these DAA therapies were reflected in the MMWG model, and the assumptions regarding the efficacy of these drugs was based on published clinical trials cited by the MMWG.

28. Under the CIA's Standards of Practice, the emergence of the new DAA therapies after the issuance of our 2013 Sufficiency Report does not qualify as a subsequent event that needs to be taken into account in the

2013 Sufficiency or Allocation Benefit Reports, nor is it an event that invalidates the report, as there is not yet a basis for measuring their financial impact.

29. In the context of an entity which undergoes an actuarial assessment at periodic intervals (for example, a pension plan that is valued every three years), events often occur between assessments that give rise to gains or losses, or which change the expectations regarding the future experience of the entity. There may be instances where emerging adverse experience is so detrimental to the entity that it is appropriate to trigger a new assessment. It would be highly unusual for emerging positive experience to do so. Customary actuarial practice is to wait until the next scheduled valuation, and at that time, update the assumptions and methodology as appropriate to reflect the experience or information then available.

30. In our opinion, the impact of new DAA therapies, and any additional information about those approved in 2014, should be incorporated into the medical model used for the December 31, 2016 Sufficiency Assessment, rather than reflected in an ad hoc adjustment to the previously agreed-to Sufficiency Assessment as of December 31, 2013.

3 INCREASE LUMP SUM PAYMENTS BY 10% AND FAMILY MEMBER PAYMENTS BY $5,000

31. The Joint Committee had asked us to calculate the cost of increasing the lump sums payable by 10%. With respect to retroactive payments, for the purpose of our 2013 Allocation Report, we were instructed to do this on a "non-indexed" basis, i.e. payments were to be 10% of the actual amount received.

32. As pointed out by in the Morneau Shepell 2013 Allocation Report,[1] this approach has the effect that the top up amount to be paid to a member for a specific lump sum depends on the year in which the original lump sum was paid (lump sum payments are indexed to increases in the CPI, and hence increase each year) and therefore different top up amounts will be paid to different class members for nominally the same benefit.

33. An alternative approach is to calculate the 10% top up based on the associated lump sum in the year of the top-up payment is made, i.e. indexed to the year of payment, as suggested by Morneau Shepell. In our 2013 Sufficiency Report, retroactive payments are payments related to amounts paid prior to the December 31, 2013 valuation date. In that report, the lump-sum payments indexed to January 1, 2014 were taken into account. The retroactive payments are therefore based on the lumpsums payable from January 1, 2014.

34. The Joint Committee has instructed us to calculate how the costs would increase if top-up payments are similarly indexed to January 1, 2014. This approach increases the previously reported retroactive cost of $40.701 million by $9.112 million to $49.813 million.

35. The Joint Committee also asked us to calculate the increase in the lump sums that would have the same cost as the originally calculated $51.266 million (comprising $40.701 million for retroactive payments and $10.565 million for future payments) if the retroactive payments were indexed to January 1, 2014. We have calculated this percentage as 8.5%.

36. A similar issue arises with the increase in payments to family members of $5,000 (in 1999 dollars). The Joint Committee has instructed us to calculate how the costs would increase if the additional $5,000 payments to family members are similarly indexed to January 1, 2014. This approach increases the previously reported retroactive cost of $11.197 million by $1.938 million to $13.135 million

37. The Joint Committee also asked us to calculate the increase in the payments to family members that would have the same cost as the originally calculated $22.162 million (comprising $11.197 million for retroactive payments and $10.965 million for future payments) if the retroactive payments were indexed to January 1, 2014. We have calculated this to be $4,600.

[1] Morneau Shepell 2013 Allocation Report paragraph 20 a. and b.

4 CALCULATIONS WITH SIGNIFICANTLY DIFFERENT RESULTS

38. We were asked to comment on three items where the Eckler and the Morneau Shepell calculations as to the cost were significantly different. These are discussed below.

4.1 Do not deduct other sources of income in calculating loss of income and loss of support

39. Eckler calculates the cost of not deducting other sources of income in calculating loss of income and loss of support to be $27.539 million while Morneau Shepell calculates the cost to be $36.094 million.

40. We have identified two significant differences in the calculations between Eckler and Morneau Shepell, set out below.

41. To calculate the cost of retroactive loss of income payments, Eckler reviewed the actual class member data for the three years 2011 to 2013, and assumed that these years would be representative of prior years, a methodology that we believe will produce a reasonable estimate of the cost of these retroactive payments. Morneau Shepell made a specific adjustment in respect of one factor, HIV payments to deceased co-infected haemophiliacs. This resulted in an increase in the Morneau Shepell figures of about $3.9 million for Loss of Income[1] and $2.5 million for Loss of Support,[2] for a total of $6.4 million relative to the Eckler figures. We are not convinced that it is appropriate to adjust our method for one factor, without considering whether there are other offsetting factors that should be taken into account.

42. In calculating the loss of support adjustment percentage (the percentage increase in loss of support payments if the identified deductions were no longer deducted), Morneau Shepell added back 100% of the underlying income deductions. However loss of support is calculated as 70% of the income loss, therefore only 70% of the underlying income deductions should have been taken into account. We calculate that this caused the Morneau Shepell result to be overstated by approximately $3.8 million.

4.2 Increase Cost of Care limit from $50,000 to $60,000 (1999 dollars)

43. Eckler calculated the cost of lifting this limit to be $0.627 million, while Morneau Shepell calculated the cost to be $2.684 million.

44. Both calculations agreed that the retroactive cost will be $121,000, so the difference arises on the future costs of lifting this limit.

45. In our calculation, we took into account actual claimed amounts that exceeded the current limit (both the proportion that exceeded the current limit and the amount of the excess) and we assumed that a similar pattern would apply in the future. On this basis, we calculated that average future cost of care would increase by 1% relative to that assumed in our 2013 sufficiency review.

[1] Morneau Shepell Allocation Report table 148

[2] Morneau Shepell Allocation Report table 149

46. Morneau Shepell assumed that anyone who was within 6%[1] of the current limit had deliberately curtailed their cost of care costs to ensure they were less than the limit and that these claims would therefore all increase by $10,000 (1999 dollars) in the future. As result they assumed that future cost of care would increase by 5.1%[2] as a result of increasing the limit.

47. While it is possible that some class members limited their cost of care to avoid exceeding the $50,000 limit, the historic data shows only the actual claims submitted. It is not possible to know with any certainty how class members have managed their costs of care. There is no evidence to support the assertion that everyone who was close to the limit in the past will automatically increase their claim amounts by the full $10,000 (1999 dollars) increase. In our opinion, such an assumption is not reasonably supported by the data for actuarial purposes.

4.3 Provide $200 (2014 Dollars) Per Diem to Family Members for Out of Pocket Expenses

48. Currently out of pocket expenses are covered only for class members, not for the family of class members. We were asked to calculate the impact of an additional $200 (2014 dollars) per diem being provided to cover losses associated with family members accompanying claimants to medical appointments on a prospective basis. We have interpreted the per diem to be applied per visit, rather than per day per visit (some visits may take more than a day if a claimant is traveling from a remote area).

49. Based on out of pocket claims data, we estimated that on average there have been 1.8 medical appointments per year per class member.

50. We calculated the cost of the proposed $200 payment to family members to be $1.957 million, while Morneau Shepell calculated the cost to $8.370 million.

51. In our calculation, we assumed the number of medical appointments for which out of pocket expenses would be claimed would not increase as a result of this additional payment amount.

52. Morneau Shepell report that the 7,412 claims paid for out-of-pocket expenses from 1999 to 2013, and that of these claims 187 (2.5%) were for less than $20 and 73 (1%) were for less than $10.[3] They speculate that many class members do not currently bother to claim for out of pocket expenses, as the expenses are too small to justify the effort. This is not the only logical explanation for the relative infrequency of small amounts claimed; another plausible explanation is that when individuals incur out-of-pocket claims, they are for larger amounts.

[1] They assumed anyone over $47,000 in 1999 dollars would be affected by the $50,000 limit. The 6% figure is calculated as 1 minus (47 divided by 50).

[2] Morneau Shepell 2013 Allocation Report paragraph 178 b

[3] Morneau Shepell 2013 Allocation Report paragraph 187

53. Further in their view, claiming out of pocket expenses will now be worthwhile as a result of the $200 per visit payable to a family member.[1] Morneau Shepell assumed that there would be a significant increase in the number of visits for which out of pocket expenses would be claimed.

54. As we understand it, Morneau Shepell is not suggesting that the number of doctor visits will increase as a result of the additional $200 per family member, but rather the number of visits for which an out of pocket expense will be claimed will increase significantly. This may be plausible, but the data to date is inconclusive. There is no evidence to support Morneau Shepell's position that people have not been claiming out of pocket expenses as the current amounts are not worth the effort. In our opinion, such an assumption is not reasonably supported by the data for actuarial purposes.

[1] Morneau Shepell 2013 Allocation Report paragraph 186

5 EXCESS ASSETS AROSE BECAUSE OF CANADA PREFUNDING

5.1 Impact of Investment Strategy

55. Paragraph 87 of the Morneau Shepell 2013 Allocation Report states "In our opinion, the excess assets are entirely due to the agreement by Canada to pre-fund the federal contribution obligation."

56. While there have been significant gains and losses affecting the liability, these gains and losses impact both the Federal and the Provinces/Territories ("P/T") portion of the liability proportionally to their share (discussed further below). Thus the only difference in the funded position of the Federal versus the P/T portion arises from the asset side of the balance sheet.

57. Therefore at first glance Morneau Shepell's comment would appear to be true, but in fact it is incorrect. Prefunding was a necessary precursor to the achievement of excess assets, but it is not the prefunding that caused the surplus, rather it was the investment strategy that was employed with those prefunded assets that caused the excess assets.

58. The Morneau Shepell 2013 Allocation Report proves this point when it considers in paragraph 83 what would have happened if the Federal share of the settlement had been funded in the same way as the P/T share was funded. The P/T share of the settlement is funded on a "pay as you go" basis, but the maximum amount that the P/Ts are liable for is limited by a notional fund invested entirely in 3-month treasury bills. The rate of return on 3-month treasury bills has been insufficient for the notional fund to keep pace with the P/T's 3/11ths share of the liabilities (despite a much smaller than expected claim cohort and significantly better than originally expected health outcomes). As a result, as shown by the Morneau Shepell 2013 Allocation Report, if the Federal prefunded assets had also been invested in 3-month treasury bills, the fund as a whole would have been insufficient. Thus, the reason that there are excess of assets is that the prefunding permitted a different investment strategy on behalf of the class members and that investment strategy has paid off.

59. Had the investment strategy been to invest the money paid by the Federal government in 3- month treasury bills, Morneau Shepell estimates that there would have be a $348 million shortfall in the fund, with no obligation on the part of the Federal government to fund any part of that shortfall.

5.2 Sources of Gains and Losses

60. As discussed above, the estimate of the financial position of the fund has changed over time as a result of a number of different factors. For ease of reference, we have summarised the gains and losses at each sufficiency review in the table below.

Sources of Gains and Losses ($ millions)					
	2001	2004	2007	2010	2013
Investment gains	0	132	24	62	22
Discount rate change	-18	-99	-12	-92	0
Cohort update	222	329	148	-42	17
Medical model update	-84[1]	5[1]	-44	-62	305
Experience gains / losses			-34	15	14
Other assumption and method changes	-78	-127	19	-38	2
New Drug Cost					-146
Remove aggregate model simplifying assumptions/implicit margins				64	
Initial stage distribution changes			-89	75	
Excess HCV mortality below level 6 recognised				-92	
Increase Loss of Income cap			-27		
Lift holdbacks and caps		-145			
Remove opt-outs	10				
Delay in unknowns coming forward	46	4			

[1] For the 2001 and 2004 sufficiency reviews, the medical model update and other experience gains or losses were aggregated. Experience gains or losses include items such as actual loss of income being different to that assumed, actual deaths different to that assumed, etc.

6 COMPARISON OF 1999 COHORT AND 2013 COHORT

61. Morneau Shepell discusses the differences between the 1999 cohort estimates and the 2013 cohort in section E of the Morneau Shepell 2013 Allocation Report.

62. The two unknown aspects of the 1999 cohort that are very significant from an actuarial perspective were the total number of class members and the disease distribution of these class members. Given that there was no claimant data of any sort when the settlement was agreed, the estimates of the total number of class members, and their disease distribution, was necessarily based on the then current medical knowledge, which incorporated estimates of the total number of people who could have been exposed to HCV by blood transfusion between 1986 and 1990, together with estimates of disease progression available at the time.

63. With the benefit of hindsight, it is clear that the original 1999 estimate of the number of class members is much higher than the actual number of approved class members as at December 31, 2013. It is an interesting question as to whether this is due to fewer people being infected than originally estimated, or whether this is due to fewer people coming forward to claim despite being infected. As discussed in the Lee Affidavit, chronically infected HCV sufferers can remain asymptomatic for many years,[1] so it is quite possible that the cohort is smaller than expected as a result of people still not knowing that they are carrying the virus. In this regard, we note that the difference between the Morneau Shepell projection to 2013 and the actual 2013 cohort with regard to those who are deceased due to HCV is quite small (Morneau Shepell projects 338 HCV deceased, plus 450 Excess HCV Mortality for a total of 788, compared to the actual 2013 cohort of 715), while the differences between the Morneau Shepell projection to 2013 and the actual 2013 for those alive is very much larger.

64. Morneau Shepell made a number of assumptions in order to produce a projected cohort as at December 31, 2013, including the assumption "that the transition rates developed by the MMWG in their 2013 Report applied in each year from 1986 to 2013"[2] and states that this assumption "reflects the various transition rates from slow to fast as well as the various comorbidity factors that are present in some claimants".[2] This simplifying assumption would appear to apply transition rates that are developed as averages over time and over different morbidity profiles of class members to the overall group. In our opinion, additional analysis would be useful in understanding the appropriateness of this approach. Similarly, the projected 2013 distribution "allowed for treatment based on the assumptions from the 2007 MMWG Report".[3] Again, this approach assumes that a treatment protocol from a specific point in time is representative of the average treatment protocols over many years. Without additional analysis, it is not possible to determine the appropriateness of this simplifying assumption. At this time, given the magnitude of work required to investigate this approach, we have not been instructed to carry out this additional analysis.

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1 Dr Lee's affidavit paragraphs 39 and 42

2 Morneau Shepell 2013 Allocation Report paragraph 61

3 Morneau Shepell 2013 Allocation Report paragraph 66

65. Morneau Shepell notes in paragraph 68 that the Cohort distribution assumed in 1999 was more advanced in the disease than would be predicted by the 2013 estimates of the disease transition rates applied to the original estimates of those infected in 1986 to 1990. Morneau Shepell then goes on to conclude that this "overstatement would serve to add a significant provision for adverse deviations to the initial liabilities of the Agreement". We do not agree with this characterization. The 1999 cohort and its distribution was a best estimate of the number of class members and their disease distribution made on the basis of the information that was available at that time. The fact that the current cohort is smaller than expected does not mean that there was a deliberate overstatement in 1999.

66. As the claimant data has accumulated over the years, both the medical model and the actuarial liability has been adjusted to reflect this. The reduction in the cohort has resulted in actuarial gains as shown in section 5.2 above. We note that despite these gains, the P/T has a shortfall relative to their notional fund, and that Morneau Shepell calculates that the invested fund would also be insufficient if it had been invested in 3-month treasury bills. It thus appears that these gains have been insufficient to offset other non-investment losses.

7 CERTIFICATION

67. This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

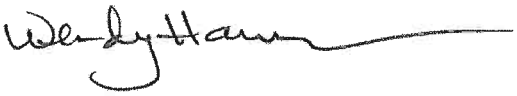
68. To the best of our knowledge, there are no material subsequent events that would affect the results and recommendations of this report.

69. On behalf of the Eckler actuarial personnel who worked on this report, we certify that we are aware that our duties are:

    (c) to provide opinion evidence that is fair, objective and non-partisan and related only to matters within our area of expertise; and

    (d) to assist the Courts and provide such additional assistance as the Courts may reasonably require to determine a matter in issue.

70. We are aware that the foregoing duties prevail over any obligation we may owe to any party on whose behalf we are engaged and we are aware that we are not to be an advocate for any party. We confirm that the report conforms with the above-noted duties. We further confirm that if called upon to give oral or written testimony, we will give such testimony in conformity with these duties.



Richard A. Border
Fellow of the Canadian Institute of Actuaries[1]
Fellow of the Institute and Faculty of Actuaries

Wendy F. Harrison
Fellow of the Canadian Institute of Actuaries
Fellow of the Society of Actuaries

[1] Canadian Institute of Actuaries is the Primary Regulator

Court File No. 98-CV-141369 CP00

ONTARIO
SUPERIOR COURT OF JUSTICE

B E T W E E N :

DIANNA LOUISE PARSONS, MICHAEL HERBERT CRUICKSHANKS, DAVID TULL, MARTIN HENRY GRIFFEN, ANNA KARDISH, ELSIE KOTYK, Executrix of the Estate of Harry Kotyk, deceased and ELSIE KOTYK, personally

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO and THE ATTORNEY GENERAL OF CANADA

Defendants

and.

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT and THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the Class Proceedings Act, 1992

Court File No. 98-CV-146405

B E T W E E N:

JAMES KREPPNER, BARRY ISAAC, NORMAN LANDRY, as Executor of the Estate of the late SERGE LANDRY, PETER FELSING, DONALD MILLIGAN, ALLAN GRUHLKE, JIM LOVE and PAULINE FOURNIER as Executrix of the Estate of the late PIERRE FOURNIER

Plaintiffs

and

THE CANADIAN RED CROSS SOCIETY, THE ATTORNEY GENERAL OF CANADA and HER MAJESTY THE QUEEN IN RIGHT OF ONTARIO

Defendants

and

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF ALBERTA, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF SASKATCHEWAN, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF MANITOBA,
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEW BRUNSWICK, HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF PRINCE EDWARD ISLAND HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NOVA SCOTIA
HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF NEWFOUNDLAND,
THE GOVERNMENT OF THE NORTHWEST TERRITORIES,
THE GOVERNMENT OF NUNAVUT AND THE GOVERNMENT OF THE YUKON TERRITORY

Intervenors

Proceeding under the Class Proceedings Act, 1992

No. C965349
Vancouver Registry

In the Supreme Court of British Columbia

Between:

Anita Endean, as representative plaintiff

Plaintiff

and:

**The Canadian Red Cross Society
Her Majesty the Queen in Right of the Province of
British Columbia, and The Attorney General of Canada**

Defendants

and:

**Prince George Regional Hospital, Dr. William Galliford, Dr.
Robert Hart Dykes, Dr. Peter Houghton, Dr. John Doe,
Her Majesty the Queen in Right of Canada, and
Her Majesty the Queen in Right of the Province of British Columbia**

Third Parties

Proceeding under the Class Proceedings Act, R.S.B.C. 1996, C. 50

CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL

NO : 500-06-000016-960

SUPERIOR COURT
Class action

DOMINIQUE HONHON

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

MICHEL SAVONITTO, in the capacity of the Joint Committee member for the province of Québec

PETITIONER

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL

NO : 500-06-000068-987

SUPERIOR COURT
Class action

DAVID PAGE

Plaintiff

-vs-

THE ATTORNEY GENERAL OF CANADA
THE ATTORNEY GENERAL OF QUÉBEC
THE CANADIAN RED CROSS SOCIETY

Defendants

-and-

FONDS D'AIDE AUX RECOURS COLLECTIFS

-and-

LE CURATEUR PUBLIC DU QUÉBEC

Mis-en-cause

AFFIDAVIT OF PETER GORHAM
(Sworn April 19, 2016)

I, Peter Gorham, of the Town of Whitby, in the Province of Ontario, MAKE OATH AND SAY AS FOLLOWS:

1. I am a fellow of both the Canadian Institute of Actuaries and the Society of Actuaries, which is the professional association for actuaries in the United States of America. I attained my designation as Associate, Society of Actuaries, in 1977 and attained both fellowships as an actuary in 1980.

2. I have previously sworn various affidavits in these matters including my affidavits in relation to the 2013 Sufficiency and Allocation proceedings sworn respectively on April 8, 2015 and January 29, 2016. As those affidavits fully detail my professional qualifications and experience and attach a copy of my *Curriculum Vitae* I do not repeat them here.

3. Although I am offering my expert evidence pursuant to my engagement by Canada, I understand that the evidence to be provided by me herein must be fair, objective and non-partisan, and that my duty to tender evidence in accordance with these principles prevails over any obligations I may owe to the Attorney General of Canada ("**Canada**") under the terms of my engagement. I also understand that the evidence I am offering must relate only to areas within the scope of my professional expertise. In the event that the courts find they require additional assistance from me in determining this matter, I am ready, willing and able to offer such assistance.

4. As noted, I swore an affidavit on January 29, 2016 at the request of counsel for Canada which appended as an Exhibit my report entitled Actuarial Report on the Proposed Allocation

of the Actuarially Unallocated Funds as of 31 December, 2013.

5. I have been advised by counsel for Canada that I am now required to provide written answers to cross-examination questions which arise from that affidavit and Report. Attached as **Exhibit "A"** to this my affidavit are the cross-examination questions which I have been asked to answer, together with my answers to each of those questions

6. For the reasons outlined in the preceding paragraphs, and in my previous affidavits referenced above, I have knowledge of the matters to which I offer answers in the attached "Exhibit A", save for those matters deposed on information and belief. Where I have referred to information obtained from specific sources, I believe that information to be true. Where I have referred to information without expressly disclosing the source, the information was derived either from my first-hand knowledge or as a result of my many years of experience in the field of actuarial science.

SWORN before me at the City of Toronto, in the Province of Ontario, this 19th day of April, 2016.

A Commissioner for taking affidavits within the Province of Ontario

PETER GORHAM

This is Exhibit "A" referred to in the
affidavit of Peter Gorham
sworn before me at Toronto, ON
this 19th day of April, 2016

A Commissioner for taking Affidavits and
Notary Public in the Province of Ontario

MORNEAU SHEPELL

ANSWERS TO CROSS EXAMINATION QUESTIONS

BY PETER GORHAM

Prepared by:
Peter Gorham, F.C.I.A., F.S.A.
Morneau Shepell
895 Don Mills Rd., Suite 700
Toronto, ON M3C 1W3

Prepared 19 April 2016

Cross Examination Answers by Peter Gorham
On Affidavit Sworn January 29, 2016

The questions set out below all reference Exhibit "A" to the Affidavit of Peter Gorham sworn January 29, 2016, "Actuarial Report on Proposed Allocation of the Actuarially Unallocated Funds as of 31 December 2013", which will be referred to as the "Morneau Shepell 2013 Allocation Report". Where a reference is made to a paragraph number, it is a paragraph number in the Morneau Shepell 2013 Allocation Report unless referenced otherwise.

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1. *With regard to paragraph 7 of the Morneau Shepell 2013 Allocation Report, identify the reference in the 2013 Report of the MMWG that "fewer than 10% of the claimants" have HCV genotypes for which the new drugs are contraindicated and where a regimen including interferon and/or ribavirin is still the indicated treatment."*

Answer: My apologies. In reviewing my notes, I realise that the reference should have been to an email from Sharon Matthews to Wendy Harrison, Dong Chen and Richard Border on 30 January 2015 together with assumptions agreed between Morneau Shepell and Eckler for the 2013 Sufficiency Review.

That email listed information about genotypes, treatment regimen and length of treatment. That information was combined with data obtained from the internet about the prevalence of the genotypes in Canada to develop, jointly with Eckler, assumptions for the 2013 Sufficiency Review about the average length of treatment.

The internet information about distribution of genotypes was obtained from three sites

- Wikipedia, where distribution by genotype in the USA was listed;
- An article "Genetic Variation and HCV Genotyping" at Hepatitis Central[1] which listed distribution by genotype in the USA;
- "Distribution of hepatitis C virus genotypes in Canada: Results from the LCDC Sentinel Health Unit Surveillance System", RK Chaudhary, PhD, M Tepper, MD, S Eisaadany, and Paul R Gully, MD; Can J Infect Dis. 1999 Jan-Feb; 10(1): 53–56[2], which listed distribution by genotype in Canada split between intravenous drug users and non users.

In discussions with Eckler, we decided to utilise the third set of distributions and in particular the distribution for non-intravenous drug users.

We combined the distribution of genotypes with the treatment regimens, together with some additional assumptions about the percent of claimants who are cirrhotic, previously treated (both determined from a review of the claimant data) and have a low viral count (arbitrarily assumed by Morneau Shepell and Eckler to be 5% based on the statement in Sharon Matthews'

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[1] www.hepatitiscentral.com/hcv/genotype/genotyping/
[2] www.ncbi.nlm.nih.gov/pmc/articles/PMC3250747/

email that the "vast majority of patients will get 12 weeks of therapy" combined with the advice that those with a low viral count would get 8 weeks of therapy).

The result gave us a distribution for the various therapies that could be utilised and the average expected treatment length.

Genotype	Cirrhotic?	Previously Treated?	Low Viral Count	Tolerate Ribavirin?	Tolerate Interferon?	Drug	Treatment Length	Percent	Cost
1	N	N	Y			Harvoni	8	2.4%	50,000
1	Y	Y		Y		Harvoni & Ribavirin	12	0.2%	80,000
1	Y	Y		N		Harvoni	24	0.2%	150,000
1a	Y	Y				Holkira Pak - for 12 to 24 weeks	24	1.1%	140,000
2	Y				Y	Sofosbuvir & Peg-Int/RBV	12	0.4%	85,000
2	Y			Y		Sofosbuvir & Ribavirin	16	0.4%	100,000
3	Y	Y			Y	Sofosbuvir & Peg-Int/RBV	12	0.3%	85,000
3	Y	Y			N	Sofosbuvir & Ribavirin	24	0.3%	150,000
3	all others	all others				Unspecified drug, but incl. Peg-Int and/or Ribavirin	24	9.3%	170,000
all others (presumably with exception of genotypes 4 to 12)						Harvoni or Holkira Pak	12	85.4%	75,000
Totals							**13.2**	**100.0%**	**84,443**

From the above table, the percent of claimants estimated to be eligible to receive therapies without interferon and ribavirin is 89.1%. When I prepared the Morneau Shepell 2013 Allocation Report, I mistakenly included last line of genotype 3 (with 9.3%) as being a treatment that did not include ribavirin or interferon. (The description I had used in my notes at that time was different from that shown in the above table). It is clear that from the information I used, the statement I made is wrong and should have said either "about 10%" or better, "is estimated to be between 10% and 12%".

2. *With regard to paragraph 7 of the Morneau Shepell 2013 Allocation Report, do you agree that the reference to "fewer than 10% of the claimants" does not include the following claimants:*

   a. deceased prior to successful treatment; and

   b. Level 1 claimants?

Answer: The "fewer than 10%" reference was with respect to all claimants alive at 31 December 2013. Any claimant who was deceased prior to that date was not included. Any claimant who dies after that date was included. Whether a currently alive claimant dies prior to treatment does not alter which treatment regimen is indicated.

Claimants at level 1 were not included in the calculation of "fewer than 10%". If they had been included, then despite the error I made by including many genotype 3 claimants (see question 1), my statement would have been true, (assuming that level 1 claimants are cured and treatment is not required). However, I believe to include level 1 claimants within the calculation of the 10% would be inappropriate unless they are to be considered as eligible for treatment.

3. *With regard to paragraphs 8 and 24 of the Morneau Shepell 2013 Allocation Report and your statement that new drugs in the pipeline would have "very high success rates for all genotypes", provide particulars of what precise success rate you understood, at the time you prepared the Morneau Shepell 2013 Allocation Report, to apply to each genotype.*

Answer: As stated in paragraph 24, I understood success rates will be in excess of 90% for all genotypes. For purposes of paragraphs 9 and 27, I specifically assumed that the success rate of these new drugs would be between 90% and 95%. The 95% was taken to be approximately the upper limit of the success rates for the current DAA treatments (Harvoni and Holkira Pak) as estimated in the MMWG Report in Table 12 for those without HIV. The 90% to 95% was based on the referenced paragraph 25 in Dr. Lee's affidavit where he stated "very few cases will be seen where the virus cannot be eliminated". I chose that range believing that Dr. Lee's "very few" would actually mean more than 95% of infected persons would be cured. My intention was to include a margin in my estimates and thereby slightly understate the actual cure rate.

I did not require and did not make any additional assumptions about the success rate by genotype.

4. *With regard to paragraph 9 of the Morneau Shepell 2013 Allocation Report, provide the calculations you prepared prior to reaching the conclusion stated in the paragraph.*

Answer: I assumed that treatment with the new 2016 expected therapies would be available for all claimants at level 2 through 5 as well as those at level 6 with lymphoma, renal failure, cryoglobulinemia and glomerulonephritis. Other than level 2, that is the same group of claimants that I understood would be eligible for treatment as part of the 2013 Sufficiency Review based on information supplied to Eckler and Morneau Shepell by Dr. Krahn.

For claimants at level 1, I considered them as already cured. For claimants who had received drug therapy prior to December 2013, I assumed that 60% of them were cured, the same assumption used in the 2013 Sufficiency Review by both Eckler and Morneau Shepell. For the rest of the claimants, I assumed they all would be eligible for treatment with one of the DAA therapies (Harvoni, Holkira Pak, Zepatier or one of the other therapies expected to receive

Health Canada approval in 2016) and that the average efficacy would be 95%.

For the approximately 150 alive haemophiliac claimants who are coinfected with HIV[3], I was not sure whether the efficacy rate for the new drugs would be as high as 95%. For the results in paragraph 9, I utilised a 95% efficacy for coinfected haemophiliacs, but I also tested the results based on an efficacy of only 75%. That reduced the percentage of all claimants who are expected to be cured by less than 1% compared to the values shown in the table below.

		Transfused		Haemophiliac		All Claimants	
Level	Disease Stage	Cured	Not Cured	Cured	Not Cured	Cured	Not Cured
Alive Claimants							
1	F0 – RNA-	542	-	148	-	690	-
2	F0 – RNA+	1,002	53	185	10	1,188	63
3	F1	458	19	159	7	617	26
3	F2	458	19	159	7	617	26
4	F3	179	7	79	3	258	10
5	Cirrhosis	161	7	80	3	241	10
6	Decompensated	-	40	-	27	-	67
6	Lymphoma	-	5	-	3	-	8
6	Renal	8	0	-	-	8	0
6	Cryoglobulinemia	10	1	4	0	13	1
6	Glomerulonephritis	2	0	1	0	3	0
6	Transplant	-	17	-	6	-	23
6	HCC	-	11	-	10	-	21
	Other	-	-	-	-	-	-
Total Alive		**2,819**	**179**	**815**	**76**	**3,634**	**255**

Summary			
Percent of all alive claimants cured	94.0%	91.5%	93.4%
Percent of all alive claimants L1 to L5 cured	96.4%	96.5%	96.4%
Percent of all alive claimants L2 to L5 cured	95.6%	95.7%	95.6%

In developing the above values, I started with the alive claimant distribution as of 31 December 2013 (see Tables 146a and 146b of the Morneau Shepell 2013 Sufficiency Report). For each disease level, the number of claimants who had previously been treated was determined by examining the data provided by the administrator. That showed the following number of claimants for disease levels 1 to 6: 0, 0, 302, 84, 53, 19. The 302 at level 3 were split equally between stages F1 and F2. The assumption that 60% of them had been cured was applied. The balance of claimants (previously treated and treatment naïve) are all assumed to be treated with a 95% efficacy rate.

[3] The approximately 150 coinfected alive haemophiliac claimants was determined by examination of the data provided by the administrator. I note that Table 1 in the 2013 MMWG Report shows on page 69 that 227 of the alive haemophiliac claimants are coinfected with HIV. I am unable to reconcile that difference.

5. *With regard to paragraphs 11 and 47 of the Morneau Shepell 2013 Allocation Report:*

   a. *did you rely on any data or direct information in coming to your understand[ing] that under the current drug regimens, only about 60% of claimants at level 2 would require ribavirin and only if they were prescribed Holkira Pak"?*

   b. *if you relied on any data or direct information in coming to your "understand[ing] that under the current drug regimens, only about 60% of claimants at level 2 would require ribavirin and only if they were prescribed Holkira Pak", identify it and produce it.*

Answer: I relied on information contained in paragraphs 23 and 24 of Dr. Lee's affidavit of 26 January 2016, Dr. Vince Bain's affidavit of 11 March 2015, the product monograph for Holkira Pak as published by Abbvie, the product monograph for Harvoni as published by Gilead Sciences Inc, and information about the distribution of genotypes 1a and 1b.

Dr. Lee indicated that the vast majority of treatment is provided by use of Harvoni which does not require ribavirin. He also indicated that Holkira Pak is quite effective and less expensive, but may need to be supplemented with ribavirin when treating certain genotypes. In paragraph 24, Dr. Lee states that "If for some reason … a patient were to request specifically that he or she be treated with Holkira Pak rather than Harvoni, most clinicians would accede to his or her request." My understanding from that paragraph is that currently Harvoni is the regimen of choice in Canada but that Holkira Pak could be utilised and likely would be utilised if a patient should so request.

That raised the question of what is the maximum percentage of level 2 claimants who could be treated with Holkira Pak and would require it in combination with ribavirin?

Paragraph 46 of Dr. Bain's affidavit sets out the recommended treatment regimens. Since claimants at level 2 are not cirrhotic, we can ignore subparagraphs (b), (c), and (d) as they apply only to cirrhotic patients. Genotype 3 patients will be treated with drugs that include interferon and/or ribavirin. Genotype 1 patients who are not cirrhotic and who have a low viral count (a group that I arbitrarily assumed would be less than 5% of patients) are treated with Harvoni for 8 weeks. That leaves genotypes 1 and 2 to fall under the phrase "The majority of patients will receive 12 weeks of treatment with either Harvoni or Holkira Pak."

So the question "what is the maximum percentage of level 2 claimants who could be treated with Holkira Pak and would require it in combination with ribavirin?" could be turned around to "What is the percentage of patients for whom Holkira Pak would *not* require a combination with ribavirin"? That would give us the percentage of level 2 patients for whom treatment would not qualify as Compensable HCV Drug Therapy regardless of what recommended treatment regimen is used.

The Abbvie product monograph indicates that Holkira Pak is for treatment of genotype 1 only and that genotype 1a requires it in combination with ribavirin. Genotype 1b does not require it in combination with ribavirin. Dr. Bain's affidavit appears to suggest that genotype 2 in non-cirrhotic patients is treated with Harvoni or Hokira Pak. However, by reference to the product monographs for Harvoni and Holkira Pak, I noted that neither therapy is indicated for patients with genotype 2. I therefore assumed that the only genotype for which treatment is

recommended without combination with ribavirin or interferon is genotype 1b.

I referenced a graph published by Hepatitis Central[4] that showed genotype 1 was about equally split between type 1a (36%) and type 1b (38%). I utilised the estimate of 38% of patients being genotype 1b, and hence not requiring ribavirin, in arriving at my conclusion that "only about 60% of claimants at level 2 would require ribavirin."

Subsequent to receiving the questions for cross examination, I realise that the distribution by genotypes that I used for paragraphs 11 and 47 differs from the distribution used in the Morneau Shepell 2013 Sufficiency Report as well as the distribution used for paragraph 7. Had I used that same distribution as in paragraph 7, I would have concluded that at most about 80% of claimants at level 2 would require ribavirin.

I believe that had I recognised that possibly as many as 80% of level 2 claimants could receive treatment including interferon or ribavirin, I would have reached the same conclusion that there is no need to restate the amount of actuarially unallocated funds to account for the possibility that level 2 claimants could receive a $30,000 (1999 dollars) lump sum by virtue of receiving treatment. However, I recognise that it is certainly more conservative and possibly prudent to recognise a reduction in the actuarially unallocated funds, as was done by Eckler, in case the $30,000 (1999 dollars) does become payable to possibly 60% to 80% of level 2 claimants. If those additional funds are found to not be required, they will be restored to the actuarially unallocated funds in a subsequent sufficiency review.

In preparing this answer, I have examined the various distributions of genotypes as referenced in my answer to question 1 as well as that contained in Dr. Bain's affidavit of 11 March 2015. The estimates appear to be somewhat similar in some respects but quite different in a few specifics (the split between genotypes 1a and 1b and the percentage of patients with genotype 3). If future sufficiency reviews are to make use of treatments by genotype, it may be appropriate to determine, if possible, the actual distribution of genotypes within the class. However, once the vast majority of the class members have been treated and cured, there is little actuarial need for details of the claimants' genotypes.

6. *With regard to paragraphs 14 and 50 of the Morneau Shepell 2013 Allocation Report, advise:*

   a. *what liabilities set aside as part of the 2013 Morneau Shepell Sufficiency Report pertain to the payment of the level 3 lump sum to claimants at level 2 who undergo treatment as described in paragraph 13 of the Morneau Shepell Allocation Report;*

[4] http://www.hepatitiscentral.com/hcv/genotype/genotyping/

Answer: Zero. (See footnote 6 in the Morneau Shepell 2013 Allocation Report).

Both the 2013 Morneau Shepell Sufficiency Report and the 2013 Eckler Sufficiency Report made no provision for a level 2 claimant to advance to level 3 solely as a result of being eligible for compensable HCV treatment.

Some of the level 2 claimants were assumed to advance in the disease to level 3, but not as a result of being eligible for treatment. The liability set aside (including provision for adverse deviations) for the $30,000 lump sum payment to these claimants in the 2013 Morneau Shepell Sufficiency Report was $12.4 million for transfused and $2.1 million for haemophiliac claimants for a total of $14.5 million.

b. which part or parts of the 2013 Morneau Shepell Sufficiency Report discusses or identifies a margin for adverse deviation or a provision for adverse deviation specifically pertaining to Level 3 lump sum payments based on transition from level 2 to 3 triggered by Compensable HCV Therapy.

Answer: There is no such discussion because there was no such margin or provision made.

7. *With regard to paragraph 21 of the Morneau Shepell 2013 Allocation Report, advise of the total number of approved primarily infected class members who are not eligible for treatment or who will not be cured broken down as follows:*

	Answers[5]:
a. deceased;	All of them - 1,674[6]
b. sustained an SVC;	All level 1 – 690
c. those at level 6 who will not qualify for treatment;	Decompensated – 40[7] Transplant – 23 HCC – 21
d. those who will not be cured by the treatment;	Levels 1 to 5 – 559 Levels 1 to 6 – 683
e. those for whom the treatment is contraindicated.	467[8]

5 The answers given are for both primarily and secondarily infected persons. In our review of the class member data, we make no distinction between approved primarily and approved secondarily infected persons.

6 I note that the deceased infected class members are not referenced in paragraph 21, since that paragraph specifically references only alive class members.

7 In discussions with Eckler and Dr. Krahn as part of the 2013 Sufficiency Review, it was agreed that we would assume treatment would be available to those at level 6 with lymphoma, renal failure, cryoglobulinemia and glomerulonephritis utilizing the same treatment assumptions as for infected claimants at levels 3 to 5.

8 The 467 are included in the 683 at levels 1 to 6 shown in 7(d) above.

8. *With regard to paragraph 25 of the Morneau Shepell 2013 Allocation Report, do you agree that the 89% referred to is not 89% of all approved primarily infected persons?*

Answer: I agree. The 89% refers to claimants at levels 3 to 5 inclusive, both primarily and secondarily infected.

I note that in paragraph 26, I stated that 11% of claimants at levels 2 to 5 are untreated. That should have referenced levels 3 to 5 since the MMWG treatment assumptions applied to levels 3 to 5 only.

If we include all claimants at level 1 (who are considered to be cured), level 2 (who are addressed in paragraphs 33 to 53) and all claimants at level 6 (many of whom are considered not eligible for treatment), the 89% would become 88% (that is, 12% would remain untreated – the 467 referenced in answer 7(e) divided by the 3,889 total number of alive infected claimants.

9. *With regard to paragraphs 22 and 23 of the Morneau Shepell 2013 Allocation Report, advise how the numbers reported in those paragraphs change if calculated for levels 2 to 5 consistent with paragraphs 21 and 26.*

Answer: Paragraph 22 would become "Of the almost 3,050 claimants alive at levels 2 to 5 at the end of 2013, about 2,500 will be cured and about 550 will remain infected. There are a further 130 claimants at level 6 who are assumed to not qualify for treatment or who are not cured and a further 690 at level 1 who are assumed to already be cured."

Paragraph 23 would remain unchanged other than changing the reference from level 1 to level 2.

10. *With regard to paragraphs 24 and 39 of the Morneau Shepell 2013 Allocation Report:*

    a. *did you rely on any literature, data or other information, at the time you prepared the Morneau Shepell 2013 Allocation Report, pertaining to the assumption that these new drugs will be priced competitively, or even below the current drugs [Harvoni and Holkira Pak as referred to in para. 29]?*

    b. *if you relied on any literature, data or other information, identify it and produce it.*

Answer: No.

As stated in paragraphs 24 and 39, the assumption about pricing was made based on the new drugs competing against Harvoni and Holkira Pak. It was my assumption that the drug companies would price their products to be attractive to all infected patients in relation to the existing products.

It is of course possible that the new drugs might decide to forego selling to those who can benefit from existing drugs and instead target only those for whom the existing drugs are not effective. That would give the drug companies an almost free hand at setting the price at any level they want. I assumed this would not happen.

Subsequent to swearing my affidavit on 29 January 2016, I learned that the latest drug approved for use in Canada, Zepatier, has been priced in the US market below the discounted prices for Harvoni and Holkira Pak[9]. I do not know what the price will be for future drug approvals, but as stated in the Morneau Shepell 2013 Allocation Report, I assumed they would be priced competitively or below the current drugs Harvoni and Holkira Pak.

11. *With regard to paragraphs 26, 27, and 28 of the Morneau Shepell 2013 Allocation Report, do you agree that the percentages of "claimants" expected to be treated and/or cured do not include deceased class members and family members of deceased persons?*

Answer: Yes. The percentage of claimants who are expected to be treated and/or cured is a percentage of the infected claimants (primarily or secondarily) who are alive as of 31 December 2013. No family members, dependants or deceased persons were included (for what I assume are obvious reasons).

12. *With regard to paragraphs 26, 27, and 28 of the Morneau Shepell 2013 Allocation Report, do you agree that the 2013 MMWG Report predicts that 14.4% of primarily infected class members will die of liver related causes by 2060?*

Answer: Yes. That is found in Table 13.1 of the 2013 MMWG Report (page 83).

13. *With regard to paragraphs 26, 27, and 28 of the Morneau Shepell 2013 Allocation Report, do you agree that that the 2013 MMWG Report predicts that 19.8% of alive primarily infected class members will develop cirrhosis by 2060?*

[9] www.bloomberg.com/gadfly/articles/2016-01-29/merck-zepatier-hepatitis-c-drug-price-could-be-a-game-changer

Answer: Yes.

Based on Table 13.1 of the 2013 MMWG Report, that would be the 14.1% of the primarily infected class members who are alive in 2013 and have already developed cirrhosis plus those who are who are expected to develop cirrhosis in the future, which I calculate to be an additional 5.7% of the alive and primarily infected claimants in 2013.

Specifically, as I understand the MMWG Report, the 19.8% does not refer to the percentage of primarily infected claimants who are alive in 2060, but is a percentage of the claimants who were alive in 2013. Further, it is my understanding that the 19.8% includes claimants who remain alive in 2060 plus those who die sometime between 2013 and 2060.

14. *With regard to paragraphs 27, and 28 of the Morneau Shepell 2013 Allocation Report, advise whether level 6 claimants are included in the opinion expressed.*

Answer: Level six claimants *are* included in paragraph 27 (refer to the table in answer 4 for specific details of percentages).

As stated in paragraph 28, level 6 claimants *are not* included in paragraph 28.

15. *With regard to paragraph 28 of the Morneau Shepell 2013 Allocation Report, advise of the number and percentage of level 6 claimants who will remain infected after 2018.*

Answer: I estimate 120 level 6 claimants will remain infected after 2018 with 24 level 6 claimants cured. Details of the numbers can be found in the table included in the answer to question 4.

The 120 level 6 claimants who are expected to remain infected are about 83% of all level 6 claimants. The 24 level 6 claimants who are cured are about 17% of all level 6 claimants.

16. *With regard to paragraph 45 of the Morneau Shepell 2013 Allocation Report:*

    a. *did you assume that "the chance of being cured" has ever been a factor in determining whether any class member was entitled to a Level 3 lump sum payment or the $1,000 per month compensable drug therapy payment provided for under the terms of the Settlement Agreement?*

    b. *if you made such an assumption, identify the basis for the assumption.*

Answer: No.

17. *With regard to paragraph 52 of the Morneau Shepell 2013 Allocation Report, do you agree that there is no evidence in the record that the costs of HCV treatment will be reduced due to an established bulk purchasing plan by federal and provincial governments?*

Answer: I have not seen the entire record and so am unable to answer that question as posed. I can say that I am not aware of there being anything in the record with regard to bulk purchasing.

Please note that paragraph 52 is a broad statement that applies to all prescription drugs in Canada that are funded by a government or insurance company. In an article for Benefits Canada in January 2016[10], I suggested that including all prescription drugs sold in Canada under a bulk buying scheme would be a better goal for the discussions and would serve those Canadians who do not enjoy drugs funded by governments or insurers – that is, those who pay personally.

18. *With regard to paragraph 52 of the Morneau Shepell 2013 Allocation Report, do you agree that matters such as that reported in paragraph 52 do not provide an appropriate substantiation of costing decrease such that the actuarial projections in the 2013 Morneau Shepell Sufficiency Report could be adjusted?*

Answer: Paragraph 52 did not enter into my opinion in paragraph 53. Paragraph 52 was provided as an indicator of a potential positive development in reducing the cost of drugs. But to assume that the bulk buying discussions among the Canadian governments (with or without the insurance industry at the table) will come to fruition and result in reduced drug costs would not be appropriate at this time.

Your question asks about "matters such as that reported in paragraph 52". If you mean matters that are currently starting discussion where the eventual outcome is unknown or speculative, then the answer is yes. For any other matters, it would depend on the specifics of the matter and I am not prepared to make a blanket statement.

For greater clarity, the opinion in paragraph 53 is based on the discussion at paragraphs 47 to 51.

19. *With regard to paragraph 61 of the Morneau Shepell 2013 Allocation Report, do you understand the issue of slow and fast progression rates to be such that the group of class members who have died from HCV to date contains a higher proportion of fast progressers than those still alive, and therefore the 2013 MMWG model's transition rates reflect a larger proportion of slow progressers than previous models?*

Answer: No.

If the group of class members who have died from HCV to date does include a higher proportion of fast progressers than those still alive, then that would mean that the current alive infected claimants contain *fewer* fast progressers and is more heavily weighted to the slow and moderate progressers. The transition rates have been developed from the history of all infected class members, both those currently alive and those who have died. If this were the

[10] www.benefitscanada.com/news/national-drug-bulk-buying-agreement-should-represent-all-canadians-76285

case, the 2013 MMWG model's transition rates would be based on more fast progressers than are currently alive and one would expect the transition rates would be slightly (or somewhat) higher than the alive claimants will actually experience. If that is the case, then the transition rates would likely include a (possibly unintentional) provision for adverse deviation.

I am not aware of any opinion in the MMWG Reports or an any affidavit from any medical expert that suggests the percentage of fast progressers in the past is any different than the percentage of fast progressers among the current alive claimants. In making the assumption discussed in paragraph 61, we did not consider whether there are differences in the potential progression rates of the current alive claimants and the progression rates in the past of the deceased claimants. Any difference, if one exists, would be irrelevant, unless the MMWG modified the 2013 transition rates to take that into account. I am not aware of the MMWG indicating that such an adjustment was made, and since it would have been material to the purpose of their report, I have assumed there was no such adjustment.

In my opinion, since the data utilized by the MMWG in developing the 2013 transition rates included the data on disease progression for all alive and deceased infected class members from infection to date, the 2013 transition rates represent the best estimate of the average progression rates experienced by the infected class members to date modified by the MMWG to also reflect progression rates from other literature.

Through discussions with Dr. Lee, I understand that the grouping of infected patients into slow, medium and fast progressers is mainly a function of other factors, such as age, obesity, alcohol consumption and auto-immune conditions. Consequently, the classification of infected persons by speed of progression is dynamic and can change over time. A person who was a slow progresser in the past could now be a moderate or fast progresser, and vice versa.

20. *With regard to paragraph 62 of the Morneau Shepell 2013 Allocation Report, do you agree that the MMWG models are state transition models which express transition rates in terms of the percentage of the cohort which transitions year over year as opposed to the time to progress to a disease state?*

Answer: Yes.

21. *With regard to paragraph 62 of the Morneau Shepell 2013 Allocation Report, do you agree MMWG models allow for the user to determine the time to progression based on the chance of progression as an alternate presentation to annual transition rates between states?*

Answer: Yes. That is what I did to determine the 36 to 41 years I reference in paragraph 62.

22. *With regard to paragraph 62 of the Morneau Shepell 2013 Allocation Report, do you agree that as between the fourth and fifth revisions, the outputs dropped markedly including, for example, that the percentage of the cohort expecting to develop cirrhosis over time has decreased from 38.5% to 19.8%?*

Answer: Yes. The reduction in the modelled outcomes is further illustrated in Table 18 of the 2013 MMWG Report where the outcomes from the fourth and fifth revision are compared for non-haemophiliac claimants.

23. *With regard to paragraph 68 of the Morneau Shepell 2013 Allocation Report:*

a. *were you aware, at the time you prepared the 2013 Morneau Shepell Allocation Report, of any data that was available in 1999, that suggested in 1999 a more accurate distribution of the cohort than the one assumed in 1999?*

b. *If you were aware of any such data, identify it and produce it.*

Answer: No.

24. *With regard to paragraphs 74 and 76 of the Morneau Shepell 2013 Allocation Report, identify the source of your assumption that payments, that you characterize as pecuniary payments, made pursuant to the settlement of a personal injury lawsuit are subject to income tax.*

Answer: That has been my understanding for a long time. However, to answer the question, I did some research and I now understand that while pecuniary damages are taxable in many situations, they are not taxable when they are as a result of a personal injury.

25. *With regard to paragraph 170 b. of the Morneau Shepell 2013 Allocation Report:*

a. *did you have any data or direct information at the time you prepared the Morneau Shepell 2013 Allocation Report to support the assumption that class members who reported between 20 and 22 hours of loss will update their reported loss to at least 22 hours for the future?*

b. *If you had any such data or direct information, identify it and produce it.*

Answer: No. I considered it prudent to recognize that there was a possibility that updating the hours lost may occur and would therefore result in additional payments to claimants. For example, I specifically considered the possibility that a claimant who had a loss of, say 30 hours, would only report 20 hours since that was the maximum that would be reimbursed.

Should none, or only a few update their hours, the reduction in liabilities will be recognised in a subsequent sufficiency review.

c. *do you agree that you have made an unstated assumption that those class members who previously reported fewer than 20 hours per week, and so previously reported fewer hours than the maximum allowable, will update their reported loss to at least 22 hours for the future?*

d. *If the answer to question 25(c) is yes, did you have any data or direct information you had at the time you prepared the Morneau Shepell 2013 Allocation Report to support such an assumption?*

e. *If the answer to 25(d) is yes, identify and product the data or direct information.*

Answer: No. I made an assumption that all future loss of services would be paid at the maximum of 22 hours per week and disclosed it. In my opinion, "all" includes those who previously reported less than 20 hours, those who previously reported exactly 20 hours and those who previously reported more than 20 hours.

f. *how do you anticipate, or what facts have you assumed about how a class member would have the opportunity to "update" his or her already reported pre-disability loss?*

Answer: In my opinion, such a process would be irrelevant for the purposes of the assumption I made and so I did not make any assumption about how a class member would go about doing it.

26. *With regard to paragraphs 93 and 176 of the Morneau Shepell 2013 Allocation Report:*

a. *did you rely on any data or direct information, at the time you prepared the Morneau Shepell 2013 Allocation Report, that class members who incurred expenses close to but not over the current $50,000 (1999 dollars) maximum did so because they could not afford to pay for services out of their own pocket, even though such services were required?*

b. *If you relied on any data or direction information, identify it and produce it.*

Answer: No. I considered it prudent to recognise the possibility that there may have been some claimants who restricted past care to the amount reimbursed by the Fund because they were unable or unwilling to incur a personal expense. Should the assumption prove to be unnecessary, the reduction in liabilities will be recognised in a subsequent sufficiency review.

27. *With regard to paragraph 176 of the Morneau Shepell 2013 Allocation Report, do you agree that your review of the data demonstrated that in the years 2011, 2012 and 2013 the proportion of claims for cost of care that were equal to or less than 95% of the $50,000 (in 1999) dollars maximum were 90%, 84% and 93% respectively and the claims that were equal to or less than 90% of the $50,000 (in 1999) dollars maximum were 86%, 80% and 85% respectively?*

Answer: Yes.

28. *With regard to paragraph 177 of the Morneau Shepell 2013 Allocation Report:*

a. *did you have, at the time you prepared the Morneau Shepell 2013 Allocation Report, any data or direct information that class members who require significant amounts of care but are not able to afford it, will increase the amount of care they incur in the future to stop just short of the new maximum?*

b. *If you did have any such data or direct information, identify it and produce it.*

Answer: No. I considered it prudent to recognise the possibility that there may have been some claimants who restricted past care to the amount reimbursed by the Fund because they were unable or unwilling to incur a personal expense. Should the assumption prove to be unnecessary, the reduction in liabilities will be recognised in a subsequent sufficiency review.

29. *With regard to paragraph 184 of the Morneau Shepell 2013 Allocation Report, does your statement that you believe that there will be an increase in the number of accompanying family members include those circumstances where the family member cannot afford to accompany the class member without a $200 allowance but will be able to afford to accompany the class member with a $200 allowance?*

Answer: For clarity, I did not assume there "will" be an increase, but rather there is a risk that there may be an increase. And yes, my statement does include any family members who may not be able to afford to accompany a class member under the current compensation scheme but who will be able to afford to accompany the class member with a $200 allowance.

30. *With regard to paragraphs 184 and 186 of the Morneau Shepell 2013 Allocation Report:*

a. *did you have any data or direct information, at the time you prepared the Morneau Shepell 2013 Allocation Report, that supported the assumption that providing a $200 allowance for family members to accompany class members to medical appointments will lead to an increase in the number of accompanying family members from what would have happened in the absence of such compensation?*

Answer: No.

b. *did you have any data or direct information, at the time you prepared the Morneau Shepell 2013 Allocation Report, that supported the assumption that currently there is a large number of infected claimants who do not bother filling out an out-of-pocket claim because the amount is minimal and not worth the effort?*

Answer: I had no direct information. But there is data about the out-of-pocket claims that was provided by the Administrator as part of the data file for the 2013 Sufficiency Review which I reviewed. The results of my review are provided in paragraph 187.

In my opinion, it is likely that there has been more than an average of 2 visits per infected

claimant for medical reasons over the 15 years. In particular, I understand that a medical statement is required to be submitted prior to any infected person being approved. I understand that any out-of-pocket expenses associated with obtaining the required medical statement is eligible for reimbursement. Assuming there are only a small or moderate number of claimants who do not file an out-of-pocket claim following a medical visit, then that means on average there has been only one medical visit per claimant since being approved. In my opinion, that is highly unlikely.

I assumed that the geographic distribution of the claimants was likely to be reasonably similar to the Canadian population. That would place the majority of claimants in major metropolitan centres. I considered it reasonable to assume they would usually have no or minimal expenses for a medical visit. In my opinion, it is extremely unlikely that there would only be 2.5% of all out-of-pocket expenses being less than $20 when I have assumed there is such a large proportion of claimants living in a major metropolitan area.

c. *if the beliefs stated by you in those paragraphs and reproduced above were supported by any data or direct information to which you had reference at the time you prepared the Morneau Shepell 2013 Allocation Report, identify it and produce it.*

Answer: The data I referenced is contained in the claimant data files prepared by the Administrator for the 2013 Sufficiency Review, specifically the payment file. I understand that the Joint Committee already has that data and production of it should not be necessary. However, if required, I will produce a copy.

31. *With regard to paragraph 189 of the Morneau Shepell 2013 Allocation Report:*

a. *did you have data or direct information, at the time you prepared the Morneau Shepell 2013 Allocation Report, that supports the assumptions set out in 189(b)(i), 189(b)(ii), and 189(b)(iii)?*

b. *If you had reference to any such data or direct information, identify it and produce it.*

Answer: No.

PARSONS et al.	vs. THE CANADIAN RED CROSS	Court File No. 98-CV-141369 CP00
KREPPNER et al.	SOCIETY et al.	98-CV-146405
Plaintiffs	Defendants	

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SUPERIOR COURT OF JUSTICE

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JOINT MOTION RECORD
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(Joint Committee Motion to Allocate 2019 Excess Capital)

PODREBARAC BARRISTERS
PROFESSIONAL CORPORATION
402-1246 Yonge Street
Toronto, ON M4T 1W7

KATHRYN PODREBARAC
LSO#: 35640P
kp@PodrebaracMediation.com
Tel: 416.568.1299

STROSBERG SASSO SUTTS LLP
Lawyers
1561 Ouellette Avenue
Windsor ON N8X 1K5

HARVEY T. STROSBERG, Q.C.
LSO#: 12640O
harvey@strosbergco.com
Tel: 519.258.9333
Fax: 866.316.5308

Members of the Joint Committee