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

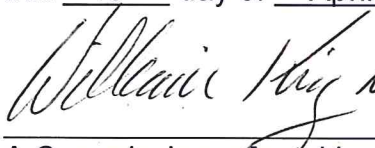
6. For the reasons outlined in the preceding paragraphs, and in my previous affidavits referenced above, I have knowledge of the matters to which I offer answers in the attached "Exhibit A", save for those matters deposed on information and belief. Where I have referred to information obtained from specific 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.