Quebec Drug Insurance Pooling Corporation

Société de compensation en assurance médicaments du Québec

DRUG INSURANCE POOLING MECHANISM

PROPOSED BY THE INSURANCE INDUSTRY

TO

THE HEALTH MINISTER

IN ACCORDANCE WITH SECTION 43

OF THE DRUG INSURANCE ACT

25 October 1996

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SUMMARY OF THE PROPOSED POOLING SYSTEM

The government's objective

To ensure that, for group insurance policies and employee benefit plans, the protection of the general drug insurance plan will remain accessible to all Quebec residents, regardless of the experience profile of the group to which they belong.

Objectives of the working group

- To meet the government's objective;
- To respect current market rules;
- To minimise the amounts at stake;
- To keep administration to a minimum.

Fundamental observations

- Large groups already have the financial capacity to assume all risks inherent in drug coverage or to protect themselves through pooling formulas negotiated with their insurer. This form of pooling is widespread in the industry.
- Therefore only small groups are vulnerable to claims fluctuations.
- Pooling does not result in a rate increase for private plans; it levels out the effect of poor experience over a larger population.

Hypotheses

- Claims are pooled when they exceed a pooling threshold.
- Pooling is done on a certificate basis. A certificate means one employee and all his dependents, if they are covered by the plan.
- Reaching the threshold is determined on the basis of claims submitted and eligible according to the contract issued by the insurer or administrator of employee benefits. The pooling threshold is determined in regards to a group's ability to absorb a premium increase.

Pooling schedule

Size of group**	Pooling Threshold	Annual pooling factor* Individual Certificate	Family Certificate
Fewer than 10 certificates	$ 750	$ 50	$ 137
10-24	$ 1,200	$ 32	$ 86
25-49	$ 3,000	$ 8	$ 21
50-124	$ 6,000	$ 3	$ 7
125 and over	Any formula as desired and negotiated between the group and the insurer		

* Applies to Quebec certificates only. Factors do not include administrative costs or taxes.

* * The group size is determined using the number of certificates in Canada.

Administration

A committee formed of members of the industry will oversee the application of the pooling mechanism.

Compensation procedure

Claims are to be equal to contributions. The pooling factor is reviewed during the compensation process and it is calculated in order to ensure total compensation of the amounts at stake. No deficit or surplus is created.

1. ORIGIN

1.1 The Quebec Drug Insurance Act

The Quebec Drug Insurance Act which is to become effective on January 1, 1997 requires coverage for drugs which appear on a list established by the government for every person eligible for group insurance or a non-insured employee benefit plan, his spouse and dependent children, without reference to his age, sex, or state of health.

This provision makes inclusion mandatory for all Quebec citizens eligible for a group insurance plan or employee benefits plan, whatever their state of health; this could affect premium rating in a way which could become intolerable for some consumers.

To compensate for this mandatory inclusion, section 43 has been adopted. This section state :

"All insurers transacting group insurance and all administrators of employee benefit plans who provide coverage for the cost of pharmaceutical services and medications must pool the risks arising from the basic plan coverage they provide according to the terms and conditions they determine.

The terms and conditions must be communicated by the representatives of the insurers and administrators, in writing, to the Minister not later than 1 November each year. Failing that, the terms and conditions shall be determined by government regulation for the period it indicates."

This document presents the pooling methods which were accepted during exchanges and consultations among the various players in the group insurance industry.

1.2 Consultation process

There is no single body representing insurers and benefits administrator or the insurance industry. The Canadian Life and Health Insurance Association (CLHIA) took the initiative of bringing together representatives of the various players. We believe that the resulting committee is representative of the insurance industry. A complete list of the participants is attached (Appendix 3).

The joint committee thus created analyzed the feasibility of risk pooling, identified the parameters of the pooling mechanism, and established a compensation process.

The committee considers the following to be the objectives essential for the success of a pooling process :

1. To meet the government's objective;
2. To respect current market rules;
3. To minimise the amounts at stake;
4. To keep administration to a minimum.

It is important to note that a pooling process would not bring about an increase in premiums for private plans, but serves to level out the effect of poor experience among a larger population.

The draft on pooling which resulted from the committee's work was submitted for comment to all players, and the comments received have been integrated into the project. The final draft reflects the position of the represented parties. However, this is a general formula which, while encompassing the majority of cases, still leaves the possibility for exceptional cases. If such cases were to arise, they would be treated individually in such a way as to meet the objectives of the pooling process.

2. POOLING MECHANISM

2.1 Objective

The pooling of risks is the *raison d'être* of insurance, but in a free market system, certain risks are not assumed because they would cause too great an increase in premium; in a plan where all citizens must enrol, and where all risks must be assumed by a number of players, it is necessary to go further in the pooling of risks so that no member of a group insurance plan or employee benefits plan, his spouse or his dependents, could be deprived of coverage because of an unacceptable premium level, which would result from poor experience of the group to which he belongs.

It must be noted that this document is limited to group insurance; residents of Quebec who are unable to belong to a group of persons determined on the basis of employment status, profession or habitual occupation must register with the public plan administered by the *Régie de l'assurance-maladie du Québec.*

2.2 Levels of pooling

Insurers combine into reasonably predictable portfolios those risks which individuals would have difficulty absorbing alone. Reinsurers, who insure the insurers, in turn combine into reasonably predictable portfolios the various risks which insurers' portfolios would have difficulty absorbing. Retroceding insurers, who insure the reinsurers, also combine into reasonably predictable portfolios those risks which reinsurers would have difficulty absorbing alone.

In group insurance, another level is integrated into this chain. Between individuals and insurers, the contract holder (employer, union or other) groups together individuals exposed to similar risks, and in so doing manages, by means of its own and the participants' contributions, to reduce all of the combined risks into a whole which is reasonably predictable.

Thus, in sequence, individuals, contract holders, insurers, reinsurers, and retroceding insurers group unforeseeable risks together and level them out over larger and larger groups, so that they can be budgeted; the size of each portfolio (of participants, of insurance, of reinsurance or of retrocession) dictates the speed at which each one calls upon a higher link of the chain to ensure the integral security of the system.

Competition is exercised by the ability of each one to identify risks, to bring them together into equitable groups, and to set rates in such a way as to make them self-financing. It is in this way, for example, that employers compete among themselves on the basis of their operating costs (including employee benefits costs) and insurers compete among themselves on the basis of the quality of management of the risks which they group together and the level of premiums which arise out of this advantage of “sorting” risks.

Since predictability varies directly with the size of the portfolio, it follows that certain groups are sufficiently large to be self-insured; other, smaller groups, call upon insurers in order to spread over several years the excess of total claims over premiums; and other, very small groups, leave it up to the insurer to spread the excess of total claims over premiums in one year among other small groups.

The arrival of a universal drug regime brings a new element into the equation: recurring catastrophic risk. This risk creates a new problem at the level of the group and of the insurer. The former desires, insofar as it is tolerable, that a positive claims profile should be reflected in costs, whether direct costs or those for insurance. According to the size of the group, pooling mechanisms which are already in place may become inadequate. On the other hand the insurer, being in the business of “sorting” groups, must now face a risk which is, by its nature, much more certain and full indemnization of the insured occurrence could take several years.

The market rules force us to strike a balance between these two ingredients, and a promising solution appears to be the creation of a neutral portfolio for all insurers, through which they could protect their portfolios, while distributing over a large population the portion of the costs

of heavy risk that groups, according to their size, are not prepared to carry.

Since the industry is well acquainted with the market's tolerance for rate increases based on the claims profile, we have developed a group insurance renewal simulation model in which the charge on the group is moderated according to its size.

2.3 Pooling mechanism adequacy level

Though they may sometimes represent large sums, drug insurance risks are easier to budget. Their financial importance is not at all comparable to the losses arising from a death or disability claim, which can represent sums of the order of several hundreds of thousands of dollars. This fact makes reinsurance hardly interesting for insurers or for reinsurers.

Our search for health care administrative programs care where risks would be managed according to a pooling formula administered by insurance companies proved unfruitful. There is indeed the Quebec auto insurance plan, but it is set up in function of individuals and not of groups; moreover, claims costs are absorbed within a year, whereas in drug insurance the need for a costly medication is often recurring.

We were also interested in the pooling programs of multinational companies operating in several countries which subscribe to group policies from several insurers; this kind of pooling requires the services of a manager able to link the various interveners together. This approach can be applied to a single employer or a group of affiliated companies, and it would be difficult to apply the same to groups formed according to employment status, profession or habitual occupation which subscribe to group coverage from insurers in general. In addition, the character of such programs is not flexible enough for the pooling needs identified in drug insurance.

Stop-loss agreements underwritten by insurers are limited to clients of a single insurer, and require groups of a certain size which have highly credible experience. This kind of contract

provides that above a certain level of risk established in advance as the groups imputable experience level, claims would be reinsured in return for a premium charged for this purpose.

If we want to solve the problem of experience fluctuations for these groups, a large claims type of pooling mechanism seems suitable. This mechanism has demonstrated its validity and its operation is known within the industry.

3. IDENTIFICATION OF PARAMETERS FOR THE POOLING SYSTEM

3.1 Partial or total pooling

3.1.1 Pooling of clientele

What should the level for pooling be? Should we pool all group insurance contracts together, or only those with less credible experience? Either way, pooling must conserve risks at an acceptable level.

A uniform pooling of clientele would not recognize existing agreements, and its impact would be great because it would force the pooling of all clients of different insurers; this is not technically necessary for large groups, considering the high stability of their experience.

Smaller groups are more vulnerable to fluctuations in claims. For these groups it would be possible to maintain premium increases at a comparable level to that which is acceptable for a large group in using financial agreements or in implementing a mechanism for pooling risks which groups all group insurance contracts according to size. Since the probability for a group of 125 certificates for example, that a large claim occurs is of the magnitude of 3 in a 100 000 or once every 266 years, that level is retained for the pooling mechanism application. The success of this “enlarged” pooling mechanism requires that all insurers and all administrators of the plans in question participate.

3.1.2 Pooling of risks

Should all risks in question be pooled, or only the part above a certain level? It does not appear necessary to pool all risks since only those over a certain level are liable to make the premium increase unacceptable. It should be remembered that the purpose of pooling is to ensure that the new risks produced by the introduction of the Quebec Drug Insurance Act will not cause a disastrous increase. In addition, leaving the management of risks below the threshold level

to the underwriting insurer will encourage more responsible management.

Numerous actuarial analyses by different committee members have made it possible to frame an empirical rule which allows an acceptable level to be fixed. According to this rule, a group can bear a major claim up to $120 multiplied by the number of certificates. For a group of 125 certificates, the acceptable level would therefore be $15,000. This process respects the existing stop-loss agreements and minimises the amounts at stake in the pooling system.

For small groups however, pooling from the $15,000 level would not prevent increases in renewal rates. However, pooling from the first dollar would completely eliminate risk as an element of the group's experience. It is desirable to maintain within a group some idea of risk which would make the participants aware of health costs and to require them to contribute to the sharing of risks. It is then possible to obtain a tolerable level of renewal rates for small groups by using intermediate values or levels which would pool a larger portion of the risks for small groups.

3.2 Acceptable risk threshold

To identify the parameters to be used in a multi-level pooling system for groups of fewer than 125 certificates, a study of a drug cost reimbursement sample for participants in a group insurance plan regardless of group size or dependents is found appropriate.

Appendix 1 illustrates the effect of pooling on costs exceeding certain levels for a sample of 511,749 persons in 1995, adjusted to 1997 dollars. This sample is judged to be statistically sufficient to be a good indication of the consumption behaviour of the population.

We see that the value of major claims varies according to the level of threshold. Thus, above a threshold of $15,000 we assign only $0.50 to each participant whereas above a threshold of $500, it is necessary to assign $68.78 per person.

However, if it is necessary to reach a threshold of $15,000 to begin pooling, this could be an intolerable level for groups of fewer than 125 certificates.

Appendix 2 illustrates the effect of a claim of $20,000 on groups of different sizes with various pooling thresholds.

To do this, we assumed certain expense factors required to administer the contract. We also assumed that, logically, insurers would analyze the profitably of the contract separately for the portion of the risk which is not pooled. Once the required premium is determined for this portion of the risk, they would add the pooling factor and related costs, i.e. administrative costs and taxes.

Each insurer will use the method which is appropriate according to its business philosophy and its own particularities; we believe however that the approach illustrated in the appendix is close to reality.

The scenario used is the following: all but one insured member of a group incurs non-pooled claims at exactly the level anticipated by the insurer; the remaining insured, however, incurs a major drug claim of $20,000.

The insurer could consider that this is simply bad luck, and allow a low level of credibility to the claim; this would result in a “tempered” renewal. The insurer might also judge that this is a chronic case and allow full credibility to the claim-in other words giving it its full value in the profitability analysis. This would give a “non-tempered” renewal.

The two last columns of Appendix 2 show the corridor within which the rate increase will vary. Overall, the possible increase varies between 3% and 18%, according to group size, before the addition of the Trend Factor[1]; this is within market tolerances.

The probability that a large claim occurs, is of the magnitude of 3 in 100,000 or once every 266 years. If such cases arise, they will be treated individually in such a way as to meet the objectives of the pooling process.

It should be noted that we are speaking of an increase only for the first year following the claim and not year after year. When the claim ends, a rate reduction will be likely, all else being equal.

3.2.1 Use of pooling levels

In the absence of pooling, a group of 5 participants could experience a premium increase of as much as 742%, while a group of 125 would experience a premium increase of only 25%.

By introducing multi-level pooling, the premium variation can be limited to an increase which is equivalent for all participants, whether they are in a very small or a very large group.

Groups of 125 certificates or more will continue to negotiate the conditions of group insurance contracts in the traditional way, including all methods of protection against unfavourable fluctuations in experience.

Smaller groups will also continue to negotiate the conditions of group insurance contracts in the traditional way for the portion below the pooling threshold, but the insurer will pool a part of the

[1] Each year insurers adjust the increase in their premium rates by the Trend Factor, even for groups which have used their coverage very little. The Trend Factor covers a group of elements, the main ones being inflation and the introduction of expensive new medications on the market.

premium for risks above a certain level with other insurers. This part of the premium or pooling factor will allow evaluation of the amounts at stake in the pooling system.

The following table indicates the thresholds established according to the empirical rule mentioned in section 3.1.2.

For a group of less than 10 certificates, the threshold is established at $750 in accordance with the maximum financial contribution level determined for the General Plan. For the following levels the threshold is obtained by multiplying the smallest number of certificates in the level by $120.

TABLE: RECOMMENDED POOLING THRESHOLD PER CERTIFICATE

Size of group*	Pooling threshold
Fewer than 10 certificates	$ 750
10-24	$ 1,200
25-49	$ 3,000
50-124	$ 6,000

* The group size is determined using the number of certificates in Canada.

A group with fewer than 125 participants will not be considered if it is financially dependent on another group and the two groups together contain 125 employees or more. Financial dependency must be supported by appropriate documentation, for example by a letter of financial agreement. Thus, for example, a Quebec group of 50 certificates, related to a Canadian group of 500 certificates, would not be subject to the pooling.

3.2.2 Pooling factor

We have seen that according to the accepted pooling threshold, a greater part of the premium must be pooled. Thus, according to Appendix 1, a threshold of $500 gives a charge of $68.78.

The pooling factor for the $750 threshold is obtained by interpolating the data from the first two groups of gross expenditures ($1-$500 and $501-$1,000) from Appendix 1. The result is then adjusted to take into account the adaptation of group insurance contracts to risks covered by the Quebec Drug Insurance Act as well as the average percentage of refund according to the size of the group.

In addition when the certificate includes the participant and dependents, the charge must be multiplied by 2.3, which is the average number of persons per family. Furthermore since the probability to reach the claim threshold is higher on a family certificate an additional adjustment is required. Industry experience suggests that the factor be multiplied by 1.2.

The members of the committee agree that the charge should be based on parameters such as no deductible, and a coinsurance of 80% of eligible drugs. Also the members of the committee agree that the reimbursement would be limited to 80% of the first $3,750 of surplus claims and 1 00% after that level.

Therefore, the committee recommends to the industry the following factors:

RECOMMENDED ANNUAL POOLING FACTORS *		
Pooling threshold		
	Individual certificate	**Family certificate**
$ 750	$ 50	$ 137
$ 1,200	$ 32	$ 86
$ 3,000	$ 8	$ 21
$ 6,000	$ 3	$ 7

* Applies to Quebec certificates only. Factors do not include administrative costs or taxes.

The annual pooling factor is the amount of the premium of each participant which is pooled for payment of eligible drug costs above the threshold which is determined according to the size of the group to which he belongs. This factor has a stabilizing effect on the premium paid by the participant whether or not there is a major claim in his group.

The recommended factors in the preceding table include a 10% fluctuation margin as well as administrative costs on the order of 0.25%. However, the actual annual factor will equal the total of claims submitted to pooling plus actual administration costs.

The annual factor is the same for a given level, regardless of the premium charged to insure a list of eligible drugs selected by individual groups.

3.3 Eligible drugs

Pooling can be done on the basis of drugs claimed purchased as well as on the basis of drugs reimbursed by the plan. There is a large consensus for using the basis of claimed drugs since this approach equalises the risk. However, only eligible drugs purchased in Canada must be considered.

The reference list for eligible drugs should ideally be the same for all insurers. A single list would have the effect of promoting neutrality in the system. In fact, if each insurer works with its own list, those whose lists cover a wider range of products may receive a larger compensation from the poling system.

However, it would be difficult to arrive at a common list without uniformity in the medications covered over and above the general plan's formulary, and it would be too costly to submit only the general formulary to pooling since this would presuppose a double administration. The committee therefore proposes to accept all eligible drugs, at least for the first year of the plan.

4. ESTABLISHMENT OF A COMPENSATION PROCEDURE

4.1 Objective

The total of sums claimed under the pooling system should be equal to the total of sums contributed. In this way, no fund will be created. When the compensation process for a given year is finished, no amount should remain on deposit.

The annual pooling factor described in the preceding chapter is established as an indicator for the 1997 calendar year. It can be reviewed and raised or lowered at the time of compensation to ensure total compensation of the sums claimed under the pooling system.

At the time of compensation, each insurer will compile all claims exceeding the threshold for each of the identified levels and the annual factor set for individual and family certificates at the corresponding levels. The compensation will be made level by level.

When the amount thus contributed at one level exceeds the amount of claims submitted, the insurer will owe the excess to the pooling system. On the other hand, the insurer for whom the amount contributed is lower than claims will be entitled to a credit.

4.2 The compensation process

4.2.1 Number of certificates as of June 30

Beginning in 1997, all players involved in the pooling system must furnish to the system administrator by June 30 a list indicating the group insurance contract member as well as the number of individual and family certificates for each defined level.

4.2.2 List of benefits on May 1

A list indicating the eligible claims submitted exceeding the threshold at each pooling level for the year ending the preceding December 31 must be submitted to the system administrator by May 1 of each year. The obligation to furnish this information begins with the list required on May 1, 1998. Administrators may require justification regarding claims for a group not identified on the June 30 list.

4.3 Control

The necessary controls for good management of the compensation process must be implemented. In addition, in no case may these controls become an administrative burden which could influence the level of premiums for drug insurance.

A committee of members of the industry, namely four representatives of insurance companies, one representative of employee benefit plan administrators, and one representative of employers, will act as administrator of the pooling system.

This committee will have the authority, among others:

- to designate a neutral party to manage the compensation process;
- to obtain all necessary information for the smooth operation of the compensation process, including, if necessary, verification by the designated neutral party of contracts submitted for pooling, and the validity of all claims for compensation made by insurers;
- during the compensation process, to levy payments from insurers and payout the approved compensations;
- to receive any request from an insurer for verification of the process and follow up in an appropriate manner;
- to review any verification of the process made by the neutral party as well as overall results of pooling for the past year;
- to obtain any information necessary to justify the updating of thresholds and annual charges;

- to submit pooling methods to the Minister by November 1 each year at the latest.

4.4 Risk pooling obligation

Section 84 of the Quebec Universal Drug Insurance Act states that every insurer and every person administering an employee benefit plan who, in contravention of section 43, fails or neglects to pool the risks presented by insured members is guilty of an offence and is liable to a fine of not less that $1 000 and not more than $10 000.

APPENDIX 1

This appendix presents a claims profile for a population sample of about half a million persons. This sample is judged statistically large enough to be a good indicator of the consumption behaviour of the target groups.

The claims volume has been projected for 1997 to reflect the trend of increasing costs.

APPENDIX 1

ELIGIBLE DRUG CLAIMS SUBMITTED BY EMPLOYEES ONLY

SAMPLE OF 1995 CANADIAN EXPERIENCE, PROJECTED FORWARD TO 1997 (X 1,15)

NO. OF INSURED EMPLOYEES 511,749

(a) gross claim band	(b) no. of claimants in this band	(c) no. of claimants from this band	(d) prob. claiming at least this band	(e) claims in this band	(f) average claim	(g) tot. claimed from this band	(h) Pooling factor for excess expenses starting from next band (*) per ee/yr	(i) as % of tot. claims	(j) total amount
1 - 500	225,123	275,425	53.8%	32,704,735	145	93,052,302	68.78	37.8%	35,196,567
501 - 1000	29,270	50,302	9.8%	20,501,077	700	60,347,567	36.77	20.2%	18,814,490
1001 - 2000	15,189	21,032	4.1%	20,839,219	1,372	39,846,490	14.31	7.9%	7,321,271
2001 - 3000	3,663	5,843	1.1%	8,780,298	2,397	19,007,271	7.20	4.0%	3,686,973
3001 - 4000	1,209	2,180	0.4%	4,121,607	3,409	10,226,973	4.34	2.4%	2,221,366
4001 - 5000	468	971	0.2%	2,065,526	4,414	6,105,366	2.98	1.6%	1,524,840
5001 - 6000	208	503	0.1%	1,131,082	5,438	4,039,840	2.23	1.2%	1,138,758
6001 - 7000	94	295	0.1%	603,811	6,424	2,908,758	1.75	1.0%	897,947
7001 - 8000	62	201	0.0%	464,263	7,488	2,304,947	1.42	0.8%	728,684
8001 - 9000	33	139	0.0%	279,973	8,484	1,840,684	1.19	0.7%	606,711
9001 - 10000	20	106	0.0%	189,370	9,469	1,560,711	1.00	0.5%	511,341
10001 - 11000	19	86	0.0%	199,224	10,485	1,371,341	0.85	0.5%	435,117
11001 - 12000	16	67	0.0%	183,378	11,461	1,172,117	0.74	0.4%	376,739
12001 - 13000	7	51	0.0%	86,467	12,352	988,739	0.65	0.4%	330,272
13001 - 14000	6	44	0.0%	81,059	13,510	902,272	0.57	0.3%	289,213
14001 - 15000	7	38	0.0%	100,845	14,406	821,213	0.50	0.3%	255,368
15001 - 16000	3	31	0.0%	46,415	15,472	720,368	0.44	0.2%	225,953
16001 - 17000	4	28	0.0%	65,674	16,419	673,953	0.39	0.2%	200,279
17001 - 18000	4	24	0.0%	69,780	17,445	608,279	0.35	0.2%	178,499
18001 - 19000	2	20	0.0%	36,947	18,474	538,499	0.31	0.2%	159,552
19001 - 20000	3	18	0.0%	58,654	19,551	501,552	0.28	0.2%	142,898
20001 -	15	15	0.0%	442,898	29,527	442,898	0.00	0.0%	-
	275,425			93,052,302	338				

(*) Example of pooling factor for the first line of this table :

[60,347,567 - (500 x 50,302)] = 35,196,567

[60,347,567 - (500 x 50,302)] / 511,749 = 68.78

35,196,567 / 93,502,302 = 37.8%

APPENDIX 2

This appendix illustrates how, with the proposed pooling thresholds, the premium of an insured group will be adjusted at renewal.

To do this, we have assumed certain expenses required to administer a contract. We have also assumed that, logically, insurers will analyze the profitability of a contract separately for the portion of risk which is not pooled. Once the required premium for this portion of the risk is determined, they will add the pooling factor, plus the insurer's administrative cost and sales tax.

Of course, each insurer will use the method which is appropriate according to its business philosophy and its own particularities; we believe however that the approach illustrated in the appendix is close to reality.

The scenario used is the following: all but one insured member of a group incur non-pooled claims at exactly the level anticipated by the insurer; the remaining insured, however, incurs a major drug claim of $20,000.

The insurer could consider that this is simply bad luck, and allow a low level. of credibility to the claim; this would result in a "tempered" renewal. The insurer might also judge that this is a chronic case and allow full credibility to the claim-in other words giving it its full value in the profitability analysis. This would give a "non-tempered" renewal.

The two last columns of Appendix 2 show the corridor within which the rate increase will vary. Overall, the possible increase varies between 3% and 18%, according to group size, before the addition of the Trend Factor; this is within market tolerances.

The probability that a large claim occurs is of the magnitude of an extreme case is on the order of 3 in 100,000 or once every 266 years. If such cases arise, they will be treated individually in such a way as to meet the objectives of the pooling process.

APPENDIX 2

POOLING OF EXCESS RISKS

HYPOTHESES :

Annual premium single	330	Deductible	-
Annual premium married	825	Drug coverage	80%
Percent married	90%	One large claim	20,000
		Trigger point to pay 100%	3,750
		Total insurance reimbursement	19,250

										No pooling					Pooling of excess risks							
(a)	(b)	(c)	(d)	(e)	(f)	(g)			(h)	(i)	(j)	(k)		(l)	(m)	(n)		(o)					
				Large	Value of	Target claims				(*)	(*)	Renewal rate increase		Claims	Non			Renewal rate increase					
#	Annual	Credibil-	Target	Amount	Large	total	<= Large	> Large	Heavy	Tempered	Non temp	(*)	(*)	after	pooled	Non pooled ratio (4)		Non pooled portion (5)		All the premium (6)			
empl.	premium	ility	Ratio	Level	Claims (1)	=(d) x (b)	Am Level	Am Level	claims (2)	Ratio	Ratio	tempered	non temp.	pooling (3)	premium	tempered	non temp.	tempered	non temp.	tempered	non temp.		
5	3,630	30%	0.68	750	22.2%	2,468	1,920	548	20,786	2.19	6.73	223%	742%	2,136	2,823	0.70	0.76	3%	11%	3%	9%		
10	7,260	42%	0.68	1,200	13.6%	4,937	4,266	671	23,089	1.73	3.18	154%	368%	4,799	6,273	0.72	0.77	5%	13%	5%	11%		
15	10,890	47%	0.68	1,200	13.6%	7,405	6,399	1,006	25,222	1.45	2.32	113%	241%	6,932	9,410	0.71	0.74	4%	8%	3%	7%		
20	14,520	52%	0.68	1,200	13.6%	9,874	8,532	1,342	27,355	1.31	1.84	92%	177%	9,065	12,547	0.70	0.72	3%	6%	3%	5%		
25	18,150	57%	0.68	3,000	3.0%	12,342	11,968	374	30,739	1.26	1.69	85%	149%	13,889	17,599	0.74	0.79	9%	16%	9%	16%		
30	21,780	62%	0.68	3,000	3.0%	14,810	14,361	449	33,132	1.20	1.52	77%	124%	16,282	21,119	0.74	0.77	8%	13%	8%	13%		
35	25,410	67%	0.69	3,000	3.0%	17,533	17,001	532	35,765	1.17	1.41	70%	104%	18,915	24,639	0.74	0.77	8%	11%	7%	11%		
40	29,040	71%	0.71	3,000	3.0%	20,618	19,993	625	38,743	1.15	1.33	62%	88%	21,893	28,159	0.76	0.78	7%	10%	7%	9%		
45	32,670	74%	0.71	3,000	3.0%	23,196	22,492	704	41,242	1.12	1.26	58%	78%	24,392	31,679	0.75	0.77	6%	8%	6%	8%		
50	36,300	75%	0.72	6,000	0.9%	26,136	25,891	245	44,623	1.10	1.23	53%	71%	30,623	35,960	0.82	0.85	14%	18%	14%	18%		
75	54,450	89%	0.77	6,000	0.9%	41,927	41,534	393	60,230	1.07	1.11	39%	44%	46,230	53,940	0.85	0.86	10%	11%	10%	11%		
100	72,600	100%	0.79	6,000	0.9%	57,354	56,817	537	75,498	1.04	1.04	32%	32%	61,498	71,920	0.86	0.86	6%	6%	6%	6%		
125	90,750	100%	0.80	6,000	0.9%	72,600	71,920	680	90,594	1.00	1.00	25%	25%	76,594	89,900	0.85	0.85	6%	6%	6%	6%		

(1) Expressed as % of total premium. This is obtained by interpolation from Appendix 1 col (i), next multiplied by 80% (Appendix 1drugs represent 80% of total costs), by 1.1 (safety margin) and by 1.2 to adjust to a certificate basis

Example for the group of 25 insured : 4.0% x 80% x 1.1 x [1.0 x 20% single + 1.2 x 80% family) =3.0%

(2) Heavy claims = for all insured but one, small claims as expected by the premium underneath the Large Amount Level; for the last insured, the reimbursement for the large claim.

Example for the group of 5 insured : col (g) <=Large Amount Level x (4/5) + 19,250 = 20,786

(*) Tempered values mean the insurer weighs the portion of the large claim which is below the Large Amount Level by the credibility of the account
Non tempered values mean the insurer allots full credibility to the portion of the large claim which is below the Large Amount Level

(3) Claims after pooling

Example for the group of 5 insured : col(g) <=Large Amount Level x (4/5) + .8 x col (e) = 2,136

(4) Non pooled ratio (pooling of excess risks)

Example for the group of 25 insured : [Col (i) x credibility + col(g) <=Large Amount Level x (1-credibility)] / col(m) = 0.70 tempered

[Col(i) / col(m) = 0.76 non tempered

(5) Renewal rate increase, non pooled portion

Example for the group of 25 insured : [Col (n) tempered / col(d) - 1 = 3%

[Col(n) non tempered / col(d) - 1 = 11%

(6) Renewal rate increase, all the premium

Example for the group of 25 insured : [((1 + Col (o) tempered non pooled portion) x col(m) + col(f) x col(b)] / col(b)) - 1 = 3% tempered

[((1 + Col (o) non tempered, non pooled portion) x col(m) + col(f) x col(b)] / col(b)) - 1 = 9% non tempered

APPENDIX 3

Composition of the committee:

Representing health trusts

Gilles Lemire. Quebec Construction Commission (CCQ)
Gaetan Lalumiere. Quebec Construction Commission (CCQ)
Gilles Drapeau. Blue Cross
Gilbert Maltais, Blue Cross

Representing insurers members of the CLHIA and spokespersons for administrators of employee benefit plans:

Denis Morcel, Mutual of Canada
Jacques Parent, Industrial-Alliance
Elise Desrosiers, London Life
Bernard Ouimet, Sun Life
John Koloda, London Life
Frederic Simard, Metropolitan
Pierre Saddik, St Lawrence Reassurance
Claude Di Stasio, CLHIA

Representing insurers members of the RACQ (Quebec-chartered insurers) and spokespersons for administrators of employee benefit plans:

Andre Vincent, Desjardins-Laurentienne Life Insurance Group
Richard Bell, SSQ (Quebec Health Services)
Suzanne Caron, Desjardins-Laurentienne Life Insurance Company Jean-Louis Fiset, Desjardins-Laurentienne Life Insurance Company

Representing employers:

Louise Dufour, Domtar, Regroupement des employeurs du Quebec (Association of Quebec Employers)
Jacques L'Esperance, Mercer

Representing actuarial counseling firms:

Luc Beauchemin, Sedgwick Nobles Lowndes for clients such as joint committees
Bruno Gagnon, Sobeco, Ernst & Young for clients such as medium-sized employers