"Mitigating the Impact of Rising Health Care Costs in Canada: A Discussion of Partial Prefunding Alternatives"

Doug Andrews
Canada

Summary

The paper examines prefunding alternatives to mitigate the impact of the expected sharp increase in health care costs as a percentage of gross domestic product, in Canada, over the next 30 years. The projected cost increases are compared to those in other industrialized countries to put the Canadian situation in context globally. The paper suggests that an alternative to mitigate potentially unaffordable cost increases or tax increases is to provide mechanisms now to encourage prefunding.

The paper examines the use of defined contribution health accounts in the United States and suggests modifications to this design to address projected health care cost increases in the Canadian context. The paper also looks at the reasons leading to the decision to have partial prefunding of the Canada Pension Plan (CPP). It examines the experience with partial prefunding of CPP and makes observations relevant to prefunding health care costs.

KEY WORDS: Baby Boomers,Canada Pension Plan,Canada Pension Plan Investment Board,Canadian Institute of Actuaries,Demographics,Employer-sponsored Programs,Health Care ,Health-spending Account,Individual Savings Accounts,Prefunding,Publicly-sponsored Programs, Registered Retirement Savings Plan, Roth Individual Retirement Accounts,Seniors Health Account,Society of Actuaries,Tax-Prepaid Savings Plan.

"Une Discussion Sur Des Mécanismes De Capitalisation Partielle Anticipée"

Doug Andrews
Canada

Résumé

L'exposé présente des mécanismes de capitalisation anticipée qui permettraient d'atténuer l'impact de la hausse vertigineuse que sont susceptibles de connaître, au cours des 30 prochaines années, les coûts liés aux soins de santé au Canada en pourcentage produit intérieur brut du Canada. Les augmentations de coûts prévues sont comparées à celles d'autres pays industrialisés en vue de donner un aperçu de la situation du Canada dans un contexte global. L'exposé avance qu'un moyen de réduire le risque de devoir assumer des augmentations exorbitantes de coûts ou de taxes et d'impôts est d'adopter dès maintenant des mesures d'incitation à la capitalisation anticipée.

L'exposé étudie la formule des comptes de soins de santé à cotisation déterminée qui est pratiquée aux États-Unis et il propose une version modifiée de cette formule pour composer avec les hausses de coûts prévues au Canada. De plus, il se penche sur les motifs de la décision d'instaurer un mécanisme de capitalisation partielle anticipée dans le cas du Régime de pensions du Canada (RPC). À la lumière de l'enseignement qu'on peut tirer de l'expérience avec le RPC, l'exposé soulève certaines considérations particulières à la capitalisation anticipée des coûts liés aux soins de santé.

INTRODUCTION

As an individual grows older, generally the need for medical care and a secure source of future income (other than from employment) increases. Employee benefit plans are established by employers, associations, or sponsors to provide for these needs as they occur, or to assist in preparing financially to meet the need when it occurs after the employment relationship is ended. (Hereafter, such plans are referred to as employer-sponsored programs to distinguish them from publicly-sponsored programs. It is recognised that the sponsor need not be the employer.) Employee benefit plans typically provide coverage only to members of well-defined groups and for specified periods, such as to age 65.

On the other hand, in Canada publicly-sponsored programs also provide assistance for similar needs, but generally on a broader, less restricted basis. The term "publicly-sponsored programs" is used to describe programs which are established by a government regardless of how they are funded. These include provincial hospital and medical programs, which are funded from general tax revenues and, the Canada Pension Plan, which is funded jointly by employers and employees. In Canada, the majority of basic hospital, physicians, surgeons and certain other medical services, varying by province, are available to the population without charge. For those over age 65 or on welfare, extensive coverage of prescription drugs is also provided. The Canada Pension Plan is a mandatory pension plan for employees, requiring contributions, and providing pensions of 25% after a full career, on earnings up to approximately $37,000 in 2001. Well-designed employee benefit programs and publicly-sponsored programs complement each other and share the costs. However, due to the way these programs fit together, as longevity increases, there is a disproportionate allocation of the changing cost structure.

The Canadian population is aging for a number of reasons including:

- greater accessibility of quality medical care;
- increased focus on healthier lifestyles and fitness;
- healthier environment and better nutrition;
- broader network of social support programs;
- advancements in medical treatment and equipment; and
- lower birth rates.

The aging population's impact on the sharing of costs between employee benefit programs and publicly-sponsored programs will add to the costs borne by the publicly-sponsored programs which are paid fully from general revenue, i.e. tax revenues. There are alternatives to consider to reduce the likelihood of future tax increases.

In a paper written for the Society of Actuaries entitled "Policy Implications Of Aging For Canadian Health Care And Retirement Programs", I reach the following conclusion:

"The aging population, accentuated by Canada's demographic bulge, will create increased costs for both employer-sponsored and publicly-sponsored programs. However, the greater proportion of cost increases will be borne by publicly-sponsored programs. Action will be taken to reduce benefits and strengthen eligibility conditions required for publicly-sponsored programs while

raising tax levels. As a result, employer-sponsored programs will be redesigned to give employees more choice as to which benefits are covered and at which stage of their life cycle. Canadians can expect to see changes in social policy with respect to universal accessibility to social programs and may also expect to see changes in policy with respect to treatment of the elderly who are terminally ill.

Without productivity improvements, the economy will operate at a lower level and there will be less savings overall, creating greater uncertainty about future security. The Canadian standard-of-living will reduce slightly. There will be shifts in employment toward smaller businesses, particularly in the service and non-durable consumer goods industries."

A policy alternative identified, but not explored in that paper, is the introduction of a tax-effective vehicle for saving for future health care costs. Such a vehicle would help mitigate potentially unaffordable cost increases or tax increases and encourage savings, which might also mitigate the tendency for a reduction in standard-of-living. This paper explores further this alternative.

CANADIAN HEALTH CARE SPENDING IN THE GLOBAL CONTEXT

According to the Canadian Institute of Actuaries, among countries surveyed in 1996, Canada spent the fourth largest percentage of gross domestic product (GDP) on total health care expenditures, 9.2 per cent; following the United States, 13.6 per cent; Germany, 10.5 per cent; and France, 9.8 per cent. This is a somewhat crude measure since it depends on the strength of a country's economy. However, when health care consumption is expressed in terms of our ability to produce goods and services, Canada is already one of the bigger spenders in the world.

It is well documented that average health care costs increase with age, rising significantly at age 65 and older. When we compare the percentage of the Canadian population age 65 and over (12.3 per cent in 1997) to the other countries mentioned above, Canada only compares favourably to the United States (12 per cent). Both Germany (16.2 per cent) and France (15.5 per cent) have different demographic distributions which may explain their higher expenditures on health care as a percentage of GDP.

Canada spends a significant portion of its GDP on health care – both absolutely and relative to the world community.

Moreover, according to estimates made by the World Bank in its 1994 report "Averting The Old Age Crisis", the percentage of the Canadian population over age 60 is expected to increase by 80% during the first 30 years of the twenty-first century, from 16.8% in 2000 to 30.2% in 2030. The simple average for OECD countries for the same period is an increase of 54% from 20.0% in 2000 to 30.8% in 2030. The pressures on health care costs will be significant in all OECD countries. But pressures on Canadian health care costs will be greater than the average.

According to the World Bank report Canadian public spending for health care and pensions is just below the average for a country with its percentage of the population over age 60. This suggests that Canadians should have some room to increase spending. However, the World Bank reports spending on health and pensions increases exponentially as the population ages. Accordingly, while Canada may be in a not uncomfortable position now, the financial discomfort can be expected to increase and at a more painful rate than in many other countries.

MEDICAL AND HEALTH BENEFITS
COST ANALYSIS AND IMPLICATIONS

The costs for medical and health benefits are relatively stable through age 40 and then continue to rise gradually with age. The majority of the cost for the employer-sponsored programs relate to drug care.

Many employer-sponsored programs already limit the age to which benefits are provided, typically to age 65. A number of plans which, in the past, have provided benefits to retirees are being restructured to eliminate or significantly reduce such benefits. (This restructuring has been driven, in part, by changes in accounting rules regarding how costs are to be recognized on a company's financial statements and the timing of cost recognition).

The increased focus on healthier lifestyles and fitness combined with the healthier environment and better nutrition available reduce the average annual cost for medical care per capita over an individual's lifetime. On the other hand, greater accessibility of quality medical care and advancements in medical treatment and equipment increase the average annual cost for medical care per capita. Diseases or illnesses which were once fatal may now result in chronic conditions requiring regular health maintenance programs.

Because employer-sponsored programs tend not to provide coverage beyond age 65, the net impact of these two factors is somewhat offsetting, and the cost impact of aging on employer-sponsored benefit plans is minimal.

The effect is quite different for publicly-sponsored programs. Canadian programs provide for basic medical care to the population at all ages, as well as basic drug care for those over age 65 in some provinces.

With increasing longevity, there is an extended period of time above age 65 during which benefits, especially drug benefits and hospital benefits, will be provided. This will be at a significant cost to the publicly-sponsored programs, unless the conventional retirement age of 65, and the prevalence of earlier retirement (particularly from employers in the public and para public sectors) is similarly deferred. There has been no indication in Canada that such deferral will occur.

Moreover, new drugs, specialized equipment and new treatments are being developed, many of which add significantly to the cost of treatment. In some cases, these drugs, equipment and treatment sustain and extend life, but it is questionable whether they enhance it. The Canadian Institute of Actuaries for its submission to the Senate Committee, entitled "Health Care in Canada: Impact of Population Aging" observed "various sources report that between 30 and 50 percent of total lifetime health care expenditures occur in the last six months of life". With increasing life expectancy, more and more this occurs beyond age 65 and is primarily at the expense of the publicly-sponsored programs.

Health care costs tend to be "stacked" near the end of an individual's lifetime. As life expectancy increases, the expected time of incurring these expenses is shifted further into the future, producing a deferral effect. This deferral effect means that the true extent of the increase in costs is not fully evident from tabulated statistics. This is a reason for great concern regarding those programs.

In other words, the sharp spike in the cost curve is moved out to the right.

The foregoing analysis assumes that there will be no change to our social approaches to the aged. Should it be decided, for example, that care for the terminally ill should be revoked or that some policy of euthanasia should be adopted, then the cost bulge in the last six months of life might be significantly reduced. The CIA submission refers to a study indicating that costs in year of death reduce significantly if the patient has been involved in advance decisions about palliative care. Such changes in social policy would mean that the cost for medical and health care might in fact decline, even though the population was still aging.

One of the reasons the population as a whole is aging is due to the reduced birth rates which have occurred since the legendary baby boom birth years, i.e. 1946 to 1965. The effect of this reduction in birth rates is to produce a bulge in the demographic "triangle".

The baby boomers were starting to enter the workforce in the 1960s about the time of the establishment of the Canada Pension Plan. The large size of this group compared to the size of their grandparents' generation who were retiring meant that relatively low contributions were required to pay benefits to retirees.

Because baby boomers have not maintained the birth rates enjoyed by their parents, it is now apparent that the ratio of retirees to workers contributing will increase significantly over the next thirty-five years as the boomers retire. See the ratios in Table 1 which are taken from the projection shown in the Canada Pension Plan Seventeenth Actuarial Report as at 31 December 1997 made by the actuary to the Canada Pension Plan.

For publicly-sponsored programs, this demographic factor exacerbates the increases in costs due to increases in longevity.

In fact, recognition of the implications of this demographic bulge in funding publicly-sponsored programs has renewed interest in the idea of increasing the amount of advanced funding of CPP benefits, and doing it before the boomers retire. The Canada Pension Plan has increased sharply its contribution rates to exceed the pay-go cost of pensions and other benefits, leading to the development of a fund invested and administered by the Canada Pension Plan Investment Board, which may be expected to provide for approximately 1/6 of future costs. The scheduled 9.9% contribution rate for 2003 and later is more than 3 times the initial rate of 3.2% applicable during the 1960's and 1970's.

The concern is that as the population ages both due to greater life expectancy and especially due to the demographic bulge, the system will break down. Contributors in the early stages of the system, the boomers, have only had to pay for the cost of the current retirees' benefits (a relatively small group), and not to prefund the cost of their benefits. A point will be reached at which the cost to a future generation of contributors will be well in excess of the cost to prefund their own benefits. When that point is reached, current contributors may resist making contributions at the level required to fund retiree benefits and either overturn the system or modify it significantly.

While the theoretical answer to the impact of aging on publicly-sponsored retirement programs is that there will be a sharp increase in cost, this assumes the programs remain unchanged. The social reality may be that such sharp increases will not be borne by taxpayers/contributors and modifications to the programs will take place. In fact the recent reforms to the Canada Pension Plan not only significantly increased the contribution rate, but also reduced the average benefits by lengthening the final averaging period to five years from three years.

However, there are interesting political dynamics in such modifications. As the population ages, there is a greater proportion of retirees in relation to the contributors. These retirees continue to be voters even though they are not contributors and it will be difficult for governments to make changes to retiree benefits in view of this large proportion of the population. In this respect, governments will be much better placed to make changes now before there is such a large percentage of retirees.

EXPECTED DIRECTIONS FOR SOCIAL POLICY

Due to the Canadian demographics in the 1960s about the time of the launch of publicly-sponsored medical/health and retirement programs, it was appropriate to pay the benefits arising under these programs as they fell due. Due to the large number of individuals entering the workforce from the baby boom generation, there was only a small ratio of benefit recipients to workers. However, with changing demographics, there may be reason to prefund some of these benefit promises, particularly retirement benefit promises but also health care benefits.

In the 1980s, Canadian governments, at all levels, were showing large deficits. This was true even though Canada has one of the highest rates of personal taxation within the G-7 countries. In the 1990s, Canadian governments have been taking action to reduce the rate at which the deficits are continuing to increase. There is little room for tax rate increases. Also, due to the lower birth rates, the personal income tax base is not growing at rates anticipated in the 1960s.

It is clear that as the population ages the current levels of medical/health and retirement benefits cannot be supported by current tax revenues. The policy choices are:

- reductions in benefit levels;
- changes in conditions for eligibility for benefits;
- raising revenues through increased taxation;
- permitting government deficits to increase; and
- inducing longer participation in the labour force as a taxpayer.

A policy alternative accompanying any of these actions could be to provide greater tax assistance to those who save to prefund the future costs associated with health care and retirement.

It has been argued that better administration of publicly-sponsored programs could be an answer. For the purpose of this paper, it is assumed that governments will take the necessary steps to operate the programs in an efficient manner, including "spending smarter" as advocated by the Canadian Institute of Actuaries submission.

These are unpleasant options which are discussed in a paper I submitted to the Society of Actuaries entitled "Policy Implications of Aging For Canadian Health Care and Retirement Programs". In this paper, only the prefunding alternative is considered.

PREFUNDING HEALTH CARE – PUBLIC APPROACH

In a paper entitled "Will The Baby Boomers Bust The Health Budget? Demographic Change and Health Care Financing Reform", William Robson considers a mechanism for the Canadian federal and provincial governments to use to prefund a portion of the projected increases in health care costs. Robson talks about splitting the current financing arrangements between the federal and provincial government into two parts: a seniors health grant for each person age 65 and over, and the health tax transfers currently in place. Robson suggests that a trust fund be created by the federal government, what he calls a "seniors health account". This fund would receive annual payments from the federal government to take into account expected future growth in the seniors health grant. Withdrawals would be made from the fund in respect of differences between payments in respect of seniors health care grants and the transfers that would have been made otherwise.

Robson considers both full funding of the differential, which he suggests would likely lead to too great a fund being established to be politically acceptable, and to partial funding using some target of a stable ratio of fund assets to annual disbursements over the long term. He estimates that if annual payments commenced in 2001 at "a little less than two-thirds of a percentage point of GDP – around $6.7 billion in the first year [that] by the time the pressure of the baby boomers on health care budgets reaches its greatest intensity, in the late 2020s, payouts from the seniors health account – which at that point would roughly equal its investment earnings – would cover about one-sixth of the projected health spending on people age 65 and over, an appreciable lightening of the burden that would otherwise confront taxpayers".

Robson and others present the following argument for prefunding or partial prefunding. When economic growth rates are lower than returns on saving, prefunding is attractive. In Canada, with its prospect of lower growth, in part due to the baby boomers' failure to have children in the numbers their predecessors did, it is reasonable to expect the baby boomers to provide relatively more financial and physical capital, through savings, to support the economy from which they expect to draw benefits in their future years. This author agrees with this argument and recommends the consideration of partial prefunding alternatives for future health care costs.

PREFUNDING HEALTH CARE – PRIVATE APPROACH

This author supports the suggestions made by Robson to consider prefunding mechanisms of the publicly sponsored programs. However, at present, approximately 30% of Canadian health care costs are borne by the individual or through employer-sponsored programs. The recent tendency has been for cost-shifting from publicly-sponsored programs. This can be expected to continue as the costs increase due to demographic changes. Accordingly, this author recommends that consideration be given to the establishment of tax-assisted savings plans which an individual could use to save for and to pay future health care costs. Two alternatives are considered.

The first would be similar to or could be an extension of the Registered Retirement Savings Plan (RRSP) which is already in place in Canada. The RRSP permits individuals with earned income to contribute annually up to prescribed limits and receive a tax deduction in respect of their contribution. The investment earnings on the funds are not taxable. By the end of the year of attaining age 69, withdrawal of funds must commence. Any payments from the RRSP are fully taxable; although, there are other tax-sheltered vehicles available to provide protection from tax while withdrawal occurs in annual instalments. The prescribed contribution limits are complicated because they are defined as a residual after considering other tax-assisted savings through registered pension plans and deferred profit sharing plans. However, in the absence of these other plans, they are 18% of earned income to a maximum of $13,500. The dollar limit is scheduled to increase over time to $15,500, and thereafter in line with average wage increases.

While the RRSP is designed to provide income in retirement, it would be an easy argument to make that it does not consider how future costs in retirement can be expected to increase due to cost-shifting of health care expenses from the publicly-sponsored programs. A simple change would be to increase the RRSP savings limits, for example to 25% of earned income, with an appropriate increase in dollar limit. There has been significant criticism that the current dollar limits are inadequate for middle and higher income earners and this criticism needs to be considered in establishing an appropriate dollar limit.

A second model which might be considered are Tax-Prepaid Savings Plans (TPSP). Jonathan Kesselman and Finn Poschmann give a good description of these plans in their paper "A New Option For Retirement Savings: Tax-Prepaid Savings Plans". In a TPSP, contributions to set limits are permitted but are not tax deductible. Investment income is not taxable and withdrawals are not subject to tax. There could be requirements for mandatory termination at age 69. Kesselman and Poschmann consider TPSP with respect to retirement savings, i.e. in a pension context; however, as discussed above with respect to RRSP, it would be easy to consider them as a vehicle to help mitigate the expected increase in health care costs. If used for this later purpose consideration should be given to modifying any provision for mandatory termination at age 69. Requiring some minimum annual amount be withdrawn commencing at an age such as 69 would make TPSP more suitable for meeting health care costs.

As noted by Kesselman and Poschmann, precedents exist both in the United Kingdom with its "Individual Savings Accounts" (ISA) and in the United States in the form of "Roth Individual Retirement Accounts" (Roth IRA). The ISA are far more flexible and provide much greater savings limits than the Roth IRA. As such the design of the ISA would be a better one to consider in developing a vehicle which could be used for health care expenses (as well as retirement income).

In the United States and in Canada, some employer-sponsored programs include a health-spending account with some provision for carry forward of unused balances. These accounts are typically part of a flexible benefit program. Employees are permitted to allocate a portion of their employer-provided allotment for benefits' coverage to such an account. According to information presented at the Spring meeting of the Society of Actuaries in Dallas, these plans have not yet become as widely utilized in the United States as anticipated.

In considering how such programs might be used in the Canadian context to provide for health care costs in later years, one would need a mechanism for carrying forward unspent balances so that an accumulation would be available during retirement. If RRSP were modified and/or TPSP introduced as discussed above, then a provision permitting a rollover of an unspent balance in a health-spending account could work well in creating savings for future health care expenses.

A potential objection to modifying RRSP and/or introducing TPSP to permit their use for saving in respect of future health care expenses, is that such arrangements are solely intended for the purpose of obtaining tax deferrals. To address such an objection, certain restrictions could be placed on withdrawals from such funds, such as the following:

- unless the withdrawals are used to pay expenses which are eligible for the medical exemption under the Income Tax Act they would be subject to a special tax at a high rate; and

- withdrawals (not subject to a special tax) would not be permitted before a certain age, such as age 65, unless the individual could qualify for a disability or hardship exemption.

CANADA PENSION PLAN INVESTMENT BOARD

During 1996 and 1997 consultations were held between the federal and provincial governments, which included information sessions with the public, regarding possible changes to the Canada Pension Plan (CPP). A number of changes were made, but the one of interest for this paper, was the decision to establish the Canada Pension Plan Investment Board (CPP Investment Board) to invest a portion of the assets to be used to provide CPP benefits. The CPP Investment Board was established and began to receive money late in 1998.

A number of advantages were presented for the establishment of such a board including:

- the likelihood of earning the rate of return assumed by the actuary in valuing CPP benefits or a higher rate of return;

- creating a more visible basis to support CPP benefits;

- establishing a clear division of responsibilities among governments, board of directors, and management for the effective operation of the CPP; and

- strengthening public confidence that the CPP was well managed and would deliver the benefits promised.

Certainly all of the above advantages could be put forward for managing any public funds identified for prefunding future health care costs. In fact, establishing an independent board to invest and administer the "seniors health account" suggested by Robson would provide additional credibility to the proposal.

In terms of the success of the CPP Investment Board in delivering the advantages cited, it is really too early to make a full assessment. The appointments to the Board of Directors have been generally accepted by the public as being prudent and appropriate, as have the key management hirings by the Board. The Board's work in the governance area has been laudable.

The investment return on the assets in the first full fiscal year of operation, which ended March 31, 2000, were a stellar 40.1% (versus a benchmark of 39.3%). Canadian, as well as global, equity markets declined sharply in the second complete fiscal year resulting in a negative rate of return of 9.4% (versus a benchmark of negative 17.8%).

Hence although the governance aspects of the Board and its relative investment performance have been commendable and should be strengthening public confidence, it is too early to say whether the required return objectives will be achieved.

CONCLUSION

The Canadian population will age at a faster rate than the OECD average over the next 30 years. Canadians may be willing to accept some tax increases accompanied by some reduction in benefits or service; however, it is unlikely that they are prepared for the extent of the tax increases and/or benefit and service reductions that will be required in the absence of other policy actions.

Much of the reason for increased pressures can be explained by demographic factors, such as the baby boom and declining fertility rates of baby boomers. Combined with these factors are the increasing health costs which accompany an aging population. These demographic factors will raise issues of intergenerational equity and will place governments in an uncomfortable political situation, as ever increasing taxes are paid by workers to support the increasing cost burden of seniors health benefits or as seniors health benefits are reduced to maintain tax levels.

A partial solution to these issues lies in the partial prefunding of health care costs. This should be considered with respect to both public spending and private saving alternatives. It is recommended that governments consider establishing an entity similar to the CPP Investment Board in respect of health care funds. Also consideration should be given to modifying tax legislation to make RRSP and TPSP available to enable individuals to save in respect of future health care costs which they may face. Modifying the legislation to permit rollovers of unspent balances in health-spending accounts to RRSP or TPSP would further enhance the savings environment.

Partial funding of health care costs, if appropriately implemented, can mitigate the financial misery which is looming.

TABLE 1

Projected Dependency Ratios[1]

Canada Excluding Quebec

Year	Seniors[2]
1996	19.9
2000	20.3
2025	33.6
2050	40.7
2075	41.9
2100	44.0

1. As shown on p.83 of the Canada Pension Plan Seventeenth Statutory Actuarial Report as at 31 December 1997.

2. Population aged 65 years and over as a percentage of population aged 20 to 64 years.

REFERENCES

1. Submission by Canadian Institute of Actuari**es** to the Standing Senate Committee On Social Affairs, Science And Technology - March 21, 2001
   - **Health Care in Canada: The Impact of Population Aging**

2. Doug Andrews paper submitted to the Federated Press at the 2nd Annual Financial Executives Summit -November 20 & 21, 1996
   - **Impact of Aging On Employee Benefit Costs: A Macroperspective**

3. James H. Murta and Frederick K. Holmes
   - **Impact of Aging on Benefit Plans: Measures Must be Taken to Alleviate Skyrocketing Pension Costs.**

4 The Urban Futures Institute
   - **Healthy Choices: Demographics and Health Spending in Canada, 1980 to 2035**

5. Thomas E. Getzen of the Centre for Health Finance, Temple University, Philadelphia, Journal of Gerontology: Social Sciences 1992, Vol. 47, No.3, S98-104
   - **Population Aging and The Growth of Health Expenditures**

6. Health Economics – April 1999
   - **Aging of Population and Health Care Expenditure: A Red Herring?**

7. North American Actuarial Journal – April 2000
   - **Development of the Last-Year-of-Life Valuation Model for Retiree Medical Plans**

8. Marie Demers
   - **Facteurs explicatifs de la hausse des services médicaments chez les personnes âgées entre 1982 et 1992 RAMQ, 1995**

9. C.D. Howe Institute's **Commentary - February, 2001**

10. Doug Andrews – Benefits and Pensions Monitor 2000
    - **New Thinking Should Accompany New Health Care Spending**

11. **Canada Pension Plan Seventeenth Statutory Actuarial Report as at December 31, 1997**

12. Doug Andrews paper submitted to the Society of Actuaries July 2001 for discussion at a seminar entitled Retirement Implications of Demographic and Family Change
    - **Policy Implications Of Aging For Canadian Health Care and Retirement Programs**

13. William B. P. Robson – C. D. Howe Institute
    - **Will The Baby Boomers Bust The Health Budget?**
      Demographic Change And Health Care Financing Reform

14. Jonathan Kesselman and Finn Poschmann – C.D. Howe Institute
    - **A New Option For Retirement Savings: Tax-Prepaid Savings Plans**

15. CPP Investment Board
    - **Annual Report Fiscal Year Ended March 31, 2000**

16. CPP Investment Board

- **Annual Report Fiscal Year Ended March 31, 2001**

17. World Bank, Oxford University Press 1994

- **Averting the Old Age Crisis**