



RÉGIE RÉGIONALE
DE LA SANTÉ ET DES
SERVICES SOCIAUX
DE MONTRÉAL-CENTRE

*1999 Annual Report on the Health
of the Montreal Population*

Prevent, Cure, Care Challenges of an Ageing Society



**DIRECTION
DE LA SANTÉ
PUBLIQUE**

*Garder notre
monde en santé*

*1999 Annual Report on the Health
of the Montreal population*

Prevent, Cure, Care

Challenges of an Ageing Society



A publication of
Direction de la santé publique
Régie régionale de la santé et des services sociaux
de Montréal-Centre
3725, rue Saint-Denis, Montréal (Québec) H2X 3L9
Téléphone : (514) 528-2400

Version française
disponible sur demande

© **Direction de la santé publique**
Régie régionale de la santé et des services sociaux
de Montréal-Centre (1999)

Legal deposit : 1st quarter 2000
Bibliothèque nationale du Québec
National Library of Canada
ISBN : 2-89494-221-4

Acknowledgements

Many of the professionals working for the Department participated in preparing this annual public health report. I would first like to mention the teams that compiled the thematic documents.

Though not all these documents were included in the final version, they all played an essential role in the production process.

Special thanks go to the project team for guiding the whole process, from choice of content to revisions of the various drafts of the text.

These persons are listed at the end of the report. Finally, we thank all who, either directly or indirectly, made it possible to bring this project to its successful conclusion.

Richard Lessard, M.D.

Director of Public Health

Summary

In its second annual report on public health in Montreal, the Montreal-Centre Public Health Department focuses on the question of ageing. As in many other urban areas, the residents of Montreal have already started to enter their golden years, but more rapidly than elsewhere in Quebec and Canada. Montreal's demographic figures bear witness to this reality: whereas, today, those 65 and over constitute 15% of Montreal's population, in 2016, when baby-boomers will have reached retirement age, the 65+ will account for 20% of Montrealers.

In the context of North America's strong baby boom, Quebec, more rapidly than other societies, has plummeted from a very high to a very low fertility rate. In parallel, life expectancy has increased significantly, while migratory movements have done little to offset the ageing of Montreal's population.

Another fact: the current generation of the elderly has benefited from the waves of progress characterizing the second half of the 20th century, but, unfortunately, all have not profited equally. We too often forget that Montreal is still a city with glaring social inequalities, notably among those over the age of 65.

Contrary to still prevailing statistical categories, people, today, are no longer old at 65. Old age is being pushed further and further ahead. This is a result of generally improved personal health; considerable advances in prevention, promotion, and medical treatment; and improvements in major health indicators. Not unlike the young, the elderly can also improve their state of health. Today, what counts most is not one's age, but one's health.

Yet despite constant improvements in the population's health, we must, paradoxically, at the same time deal with a significant increase in the diseases of ageing which are and will continue to be on the upswing. This report analyses the determinants and impacts of these diseases. It also examines the various aspects of a changing physical and social environment: family dynamics, the trend towards early retirement, and the urban environment and living conditions.

This annual report postulates that it is possible for people to grow old in good health if the various social actors are adequately prepared to meet the challenges posed by an ageing population. In the new demographic context, the goal is to keep people in good health for as long as possible, while maintaining their functional autonomy and quality of life. Reaching such objectives means acting — whenever possible — before risks and problems or their consequences appear.

The report divides the population into three groups: those who consider themselves in excellent or very good health (most Montrealers); those who consider themselves in good health (a third of Montrealers); and those who consider their health to be average or poor (one Montrealer in ten). The latter are recipients of a very large share of the health and social services provided by the system, and contrary to popular opinion, scarcely a quarter of elderly Montrealers belong to this group.

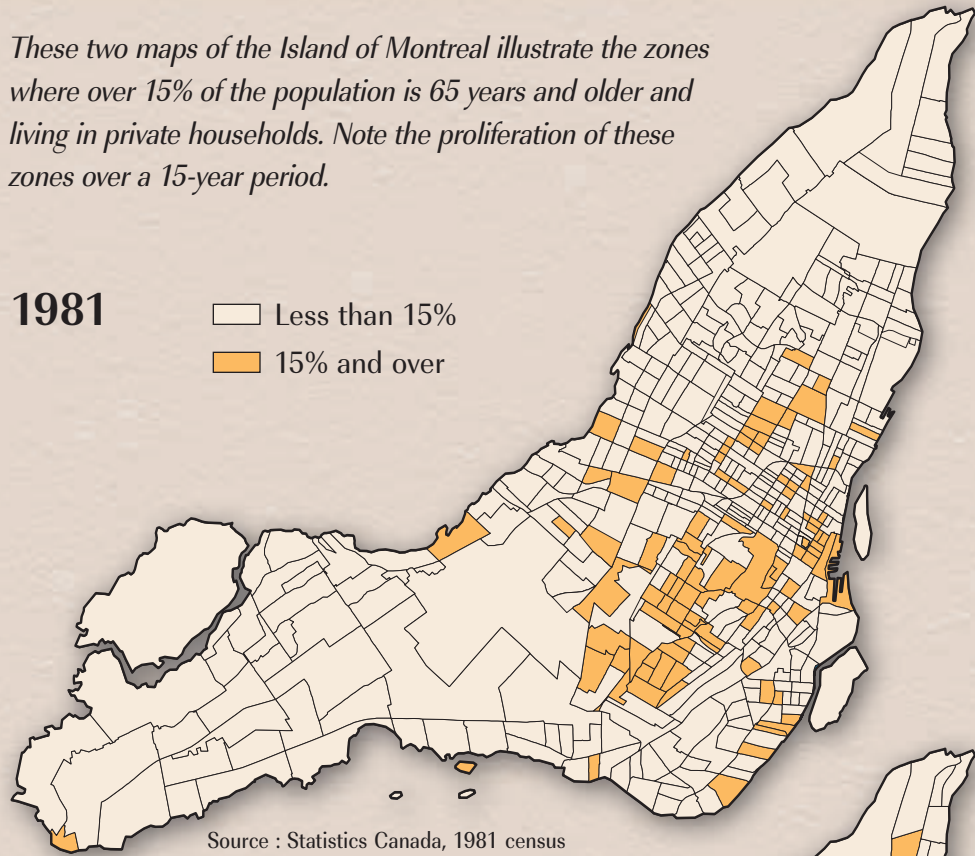
In order to cultivate the above-indicated “health capital,” the report proposes a preventive management approach which uses prevention, cure or care to act on three health determinants (see diagram B, p. 47) as they apply to any of the subgroups in question. The report explores different ways of developing the potentials of individuals and communities; of managing the environment and living conditions; and of adapting health and social services to changing needs.

For more than a few, the rapid ageing of Montreal’s population, with its presumed impact on health, raises new questions and even anxieties concerning our collective capacity to maintain our social policies and our public health system, in particular. This report tries to shed some light on what is really at stake in the questions being raised; it also tries to project a vision of positive action that can serve as an antidote to the too often fatalistic view of the phenomenon of ageing. We see the situation as an opportunity that Montrealers should seize, in order to get a head start on the coming dramatic shift in demographics.

These two maps of the Island of Montreal illustrate the zones where over 15% of the population is 65 years and older and living in private households. Note the proliferation of these zones over a 15-year period.

1981

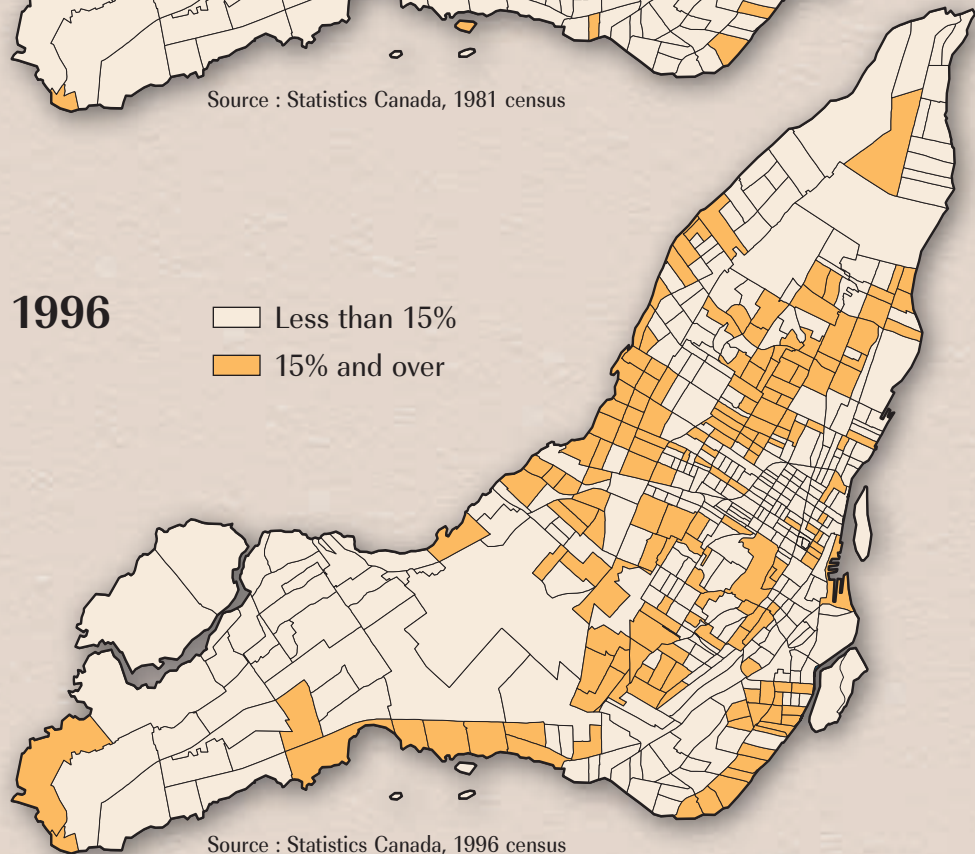
Less than 15%
15% and over



Source : Statistics Canada, 1981 census

1996

Less than 15%
15% and over



Source : Statistics Canada, 1996 census

Foreword

Our second annual report deals with a phenomenon whose already visible effects will go on to shape the coming decades. Montreal's population is ageing and this demographic trend (clearly apparent in the two maps on the facing page) will only gather strength.

This report also follows up on the issues raised in the first report concerning social inequalities and their impact on the health of the population. In Montreal, where levels of poverty are twice as high as those in the rest of Canada, our elders are not immune to these inequalities.

To get a firm hold on the issues, we will analyse the foreseeable impacts of ageing on the health and social services network. In the process, we will see why it is ever more necessary for citizens, professionals, and managers to help the health system adapt to the new demographic reality of our society.

“The challenge is to ‘keep people healthy’ for as long as possible.”

Prevention and health promotion quickly emerge from the analysis as key factors. The challenge is to “keep people healthy” for as long as possible. And this raises issues which cannot be strictly confined to the organization of services but which branch out into all sectors of activity. It is useful not to lose sight of the central role played by social and environmental determinants such as education, employment, and the environment. The health of a population depends largely on how healthy these determinants are. Whether in the public or private sphere all those involved will thus have a role to play in turning these challenges into achievements — challenges having to do with social and environmental policies as well as with pro-social corporate decisions.

Prevent, cure, care: three objectives that we must pursue simultaneously in responding to the global health needs of an ageing population. Visibly, the field of action is vast and we are thus urgently required to prepare and fine-tune a far-reaching strategy.

We in the Public Health Department have already set our sights on what seem to us promising paths of action for the whole community. Could not our ageing population be seen as a new opportunity to improve the health and well-being of the population as a whole? As the International Year of the Elderly draws to a close, in light of all that has been said and written, and of our own analyses, we remain firmly convinced of a positive outcome.

The Director of Public Health

A handwritten signature in black ink, appearing to read 'R. Lessard', written in a cursive style.

Richard Lessard, M.D.

Table of Contents

<i>Adapting to an Ageing Population</i>	12
<i>1. Substantial Achievements</i>	14
Why is Montreal ageing so rapidly?	15
The key factor: fewer children in Montreal	15
Increased life expectancy	16
Migration does little to slow ageing	17
Today's elderly: times are changing	17
Ageing with fewer and fewer disabilities	18
Among the top OECD countries in education	18
Higher employment rate, but fewer older workers	19
Rise in seniors' income, despite wide gaps	20
<i>2. A Paradox</i>	22
Health is improving, but age-related health problems are on the rise	23
Health problems associated with ageing	24
Ageing in a changing social and physical environment	33
Family dynamics in disarray	33
The trend towards early retirement	37
The urban environment	39

3. Growing Old in Good Health: a Real Possibility	42
Getting ready for the greying of Montreal	43
Keeping an eye on the population's health	44
Needs, age, and health	45
Acting on health determinants	47
Developing individuals and communities	48
Promoting lifestyles that reinforce the health capital	48
Rethinking the role of family and community caregivers	49
Encouraging seniors' social participation	51
Improving the urban environment	54
Mobilizing to improve urban development	54
Transportation for all ages	56
Better adapted housing	56
Adapting health and social services	57
An ongoing process	57
A preventive management approach	62
 <i>Getting a Head Start on Demographic Change</i>	 66
 <i>Bibliography</i>	 68
 <i>List of Maps, Figures, Tables and Diagrams</i>	 72
 <i>Acknowledgements</i>	 74

Adapting to an Ageing Population

The World Health Organization chose 1999 as the International Year of the Elderly because ageing is an issue in many countries, both developing and developed, and we are, in many ways, still poorly prepared to face this fact. In our region, this fact is a pressing reality, since Montreal's¹ still relatively young society will age so quickly that just 20 years from now it will be among the oldest in Canada.

The effects of the Island's ageing population are already being felt in the field of health as in other areas. We must examine all the consequences of this trend without being either alarmist or over-confident. However, there is no denying that the marked social inequalities characterizing Montreal will amplify the challenges we must face.

In this context, what would then be the major health issue? It would be to establish conditions allowing this ageing society to assure the well-being of its youngest as well as its oldest members. Prevent, cure, and care: this means stepping up promotion and prevention at all stages of life. It also means reaffirming the importance of community-based primary care and of working to minimize the impact of chronic illnesses and disabilities. Therefore we must focus on creating physical and community environments fostering greater autonomy.

These changing issues and demographics present an opportunity to revisit the vital role of prevention and health promotion: reduce morbidity, delay mortality, and increase years of life in good health. From healthy lifestyles to vaccination or screening, prevention and promotion are still the best medicine — the most effective and least costly — at all ages and even for chronic diseases. Though the economic and social challenges of ageing are unavoidable, they are neither catastrophic nor insurmountable. Rather than adopt a defensive stance, we intend to see beyond stereotypes and focus on positive factors, while pinpointing the specific tasks we must perform.

¹ The term Montreal here refers to the Island of Montreal or the Montreal-Centre administrative region and the 29 municipalities of the Montreal Urban Community.

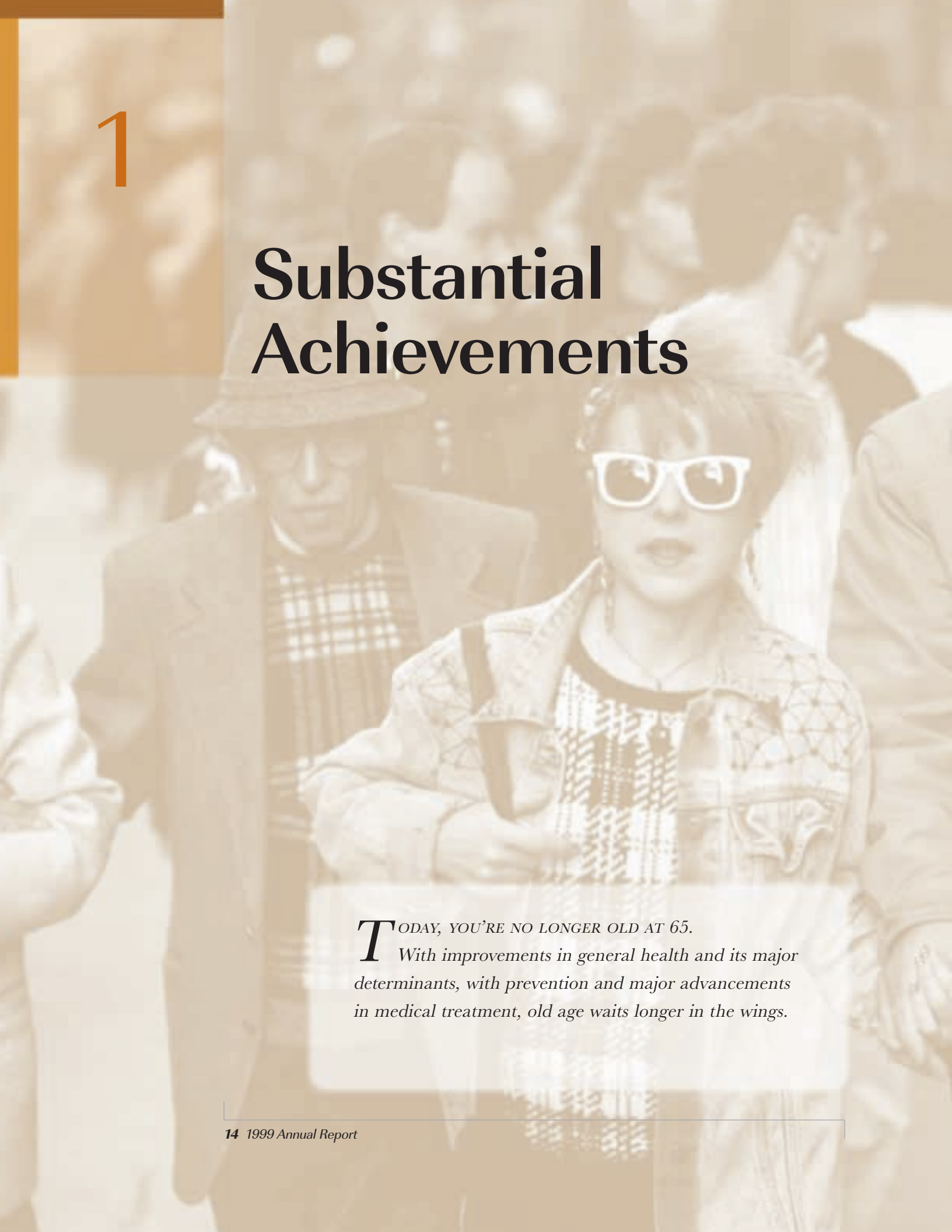
One of the primary and most pressing questions is that of financing health and social services in a society where the number of elderly — the biggest users of health care — will rise from year to year. The problem is undeniable, but so is the knowledge that we can substantially counter its negative effects.

Several factors could play a role in slowing down rising costs: improvements in the population's health; increased fiscal contribution from the elderly; and a healthier job market. We also know that education, employment, and income — three interrelated health factors — have gained ground over the century. Looking at the characteristics of the baby boomers who will soon be our elderly, we can already perceive what a different (and perhaps beneficial) impact their culture and numbers will have on society. Current questions of ageing must be viewed in light of these new trends.

In the following pages, we shall first trace the evolution of the age pyramid up to 2016. We shall use a few indicators to track the evolution of various public health problems and try to define the issues specific to our region. We will also try to identify the broad challenges involved in offering all, youth and the elderly², the opportunity to thrive. We shall, of course, pay special attention to matters concerning the adaptation and funding of health and social services, while bearing in mind that the financial component exceeds the scope of our mandate. Finally, as this report is based on a host of data and studies that it would be impractical to cite, we refer readers who would like more details to the Department's web site³.

² The term "elderly" here refers to those 65 and over.

³ The Public Health Department's Internet address is <http://www.santepub-mtl.qc.ca>



1

Substantial Achievements

***T**ODAY, YOU'RE NO LONGER OLD AT 65.
With improvements in general health and its major
determinants, with prevention and major advancements
in medical treatment, old age waits longer in the wings.*

Why is Montreal ageing so rapidly?

Our 1998 report already noted that Montreal's population is ageing more quickly than elsewhere in Quebec which will, itself, soon outstrip Canada in this regard. The figures are clear: with 15% of its population classified as elderly in 1996, Montreal stands out from both Quebec and Canada where the rate is 3% lower. And though Montreal's total population will have increased by 10% by 2016, its elderly component will have climbed 30%.

These statistics bring the question more sharply into focus. The baby boom was particularly marked in North America, and Quebec has moved more rapidly than other societies from a high to a very low birth rate.

The ageing of our society is the result of three factors:

- a drop in the birth rate (a visible trend over the last 30 years),
- increased life expectancy,
- a persistently negative migration pattern.

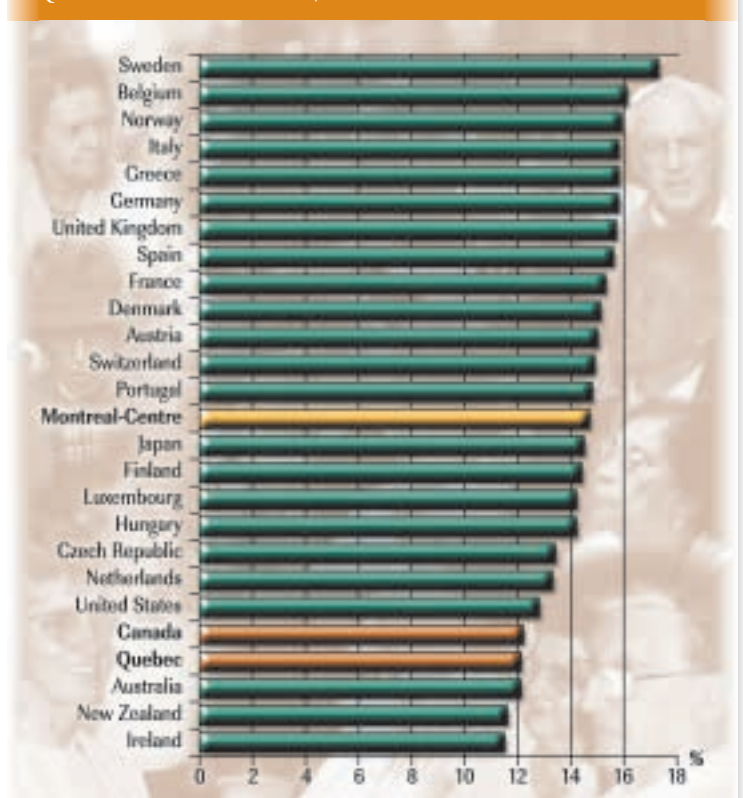
The key factor: fewer children in Montreal

After rising throughout the first half of the century, the birth rate has been in steady decline since 1961, despite a few upswings.

The average number of children per woman dropped from 4 in 1956 to below the replacement threshold in 1970, and has stabilized at 1.6 since 1991. The drop was even sharper among Montrealers, but by 1996 their rate again coincided with that of the population of Quebec as a whole.

fig. 1

Proportion of persons aged 65 and over, Montreal-Centre, Quebec and OECD countries, 1996



Currently, seniors, mostly born in the 20s, can still count on the support of more than three children. However, in 2016, for those born in the 30s and 40s there will be only two. And the trend is

more pronounced with baby boomers, the generation born between 1946 and 1966, who have even fewer descendants.

This situation will soon lead to a reversal of the two age groups, youth and those 65 and over. In 2001, the under-15 age group will still slightly outnumber the elderly, but by 2006 the number of elderly will start to surpass that of youth.

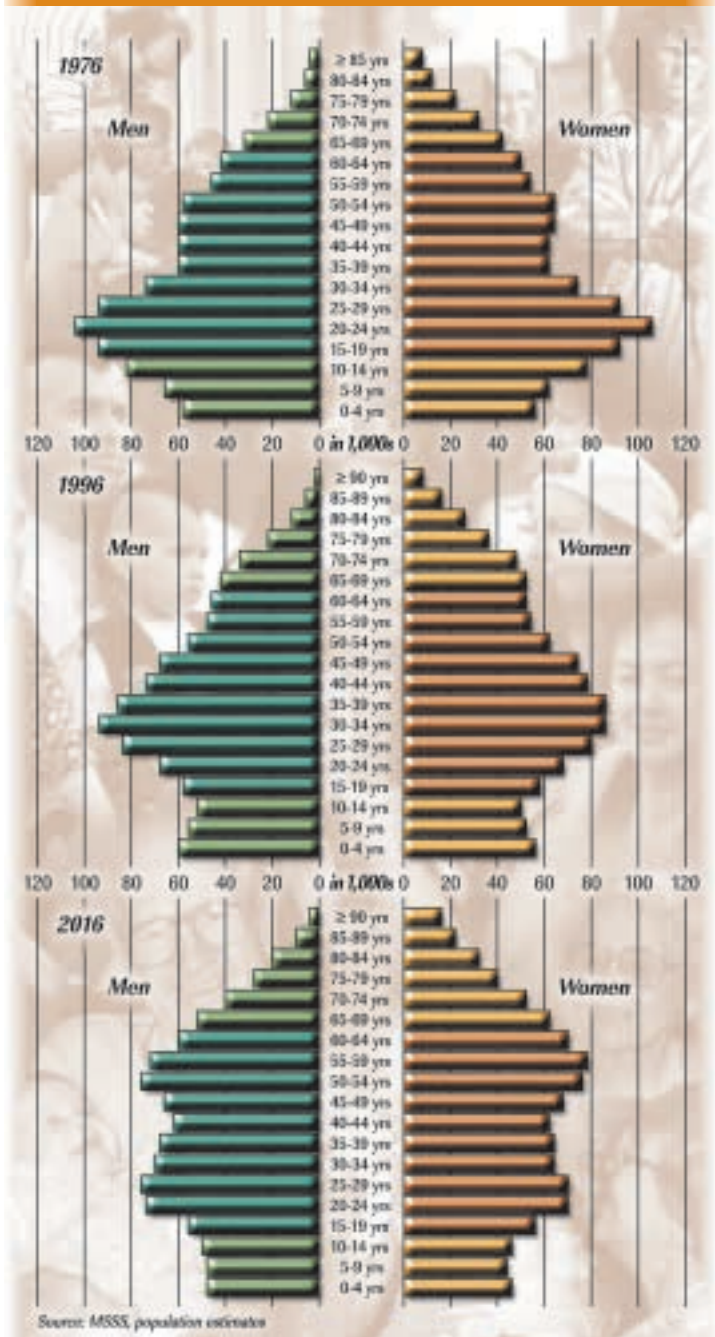
Increased life expectancy

Another factor explaining the ageing of the population is the notable increase in life expectancy. Among women, since 1992-1994, it has climbed to 81 from less than 70 in 1950-1952 and remains stable. Among men it was only 74.8 years in 1995-1997. But this gap between men and women is narrowing.

These marked gains partly explain the bulge in the 65-and-over age category, and the trend will continue. As mortality among youth is naturally very low, it is the 65+ group which profits most from improvements in living conditions and advancements in medical science. For example, from 1996 to 2016, the 85+ age group will grow by 86%, taking this group from 9% to more than 14% of the elderly.

fig. 2

Age pyramid, Montreal-Centre, 1976, 1996, 2016



Migration does little to slow ageing

The third factor is migration: the number of persons entering and leaving the Island. In Montreal, the large number of immigrants from other countries is modifying the age structure: immigrants are mainly young adults (53% in the 25-to-49 age bracket) and children (41% under 25) and very few elderly.

Yet the total outcome is negative.

There is a population loss of 35,000 every five years: departures for other provinces, flight of young families to the suburbs, and departures of the 55+ are replaced neither by the arrival of immigrants nor by that of 15-to-19 year olds from the regions. These population movements do however play a role in slowing Montreal's ageing process; without them the percentage of elderly would have been 15.4% rather than 14.7% in 1996.

Today's elderly: times are changing

Today, you're no longer old at 65, notwithstanding the generational markers used in statistics. With improvements in general health and its major determining factors, with prevention and major advancements in medical treatment, old age waits longer in the wings. The majority of elderly people consider themselves in good health, though they perceive themselves as less healthy than younger people: in 1993, more than 18% of the 65+ felt dissatisfied with

fig. 3

Life expectancy at birth, according to gender, Montreal-Centre, 1950-1952 to 1995-1997

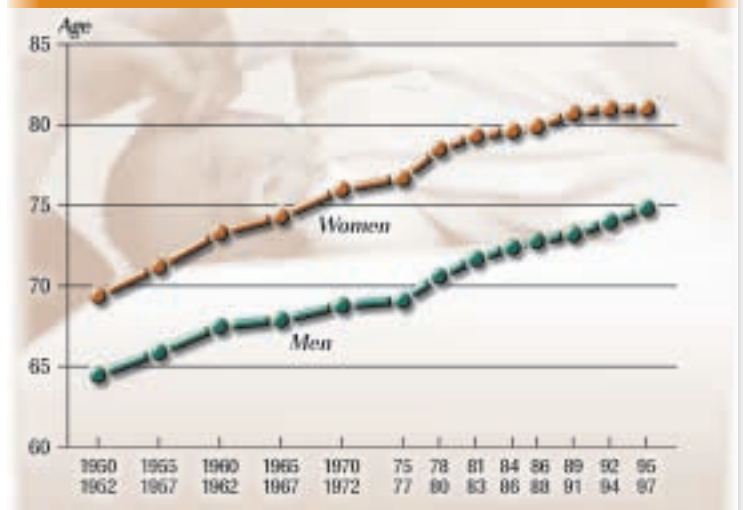


fig. 4

Migratory population movements, according to components, Montreal-Centre, 1991-1996



their health as compared with 13% of those 45 to 64. But, just like the younger generation, the elderly can also improve their health.

Ageing with fewer and fewer disabilities

Health has been improving at all stages of life throughout the century and this trend is already being felt among the older cohorts, for most causes of illness. This positive trend has been the focus of a number of American studies: from 1982 to 1994, the percentage of elderly afflicted with a disability dropped 3.5% and this trend is growing stronger.

Ageing does however bring an increase in disabilities and chronic diseases. But we often forget that a good number of elders still live active and independent lives. On the one hand, we tend to underestimate peoples' capacity to adapt to living with disabilities and, on the other hand, to overestimate the number of seniors who live with major disabilities.

Among the top OECD countries in education

Although the level of education has been improving since the start of the century, it has been even more apparent since the 50s. In the

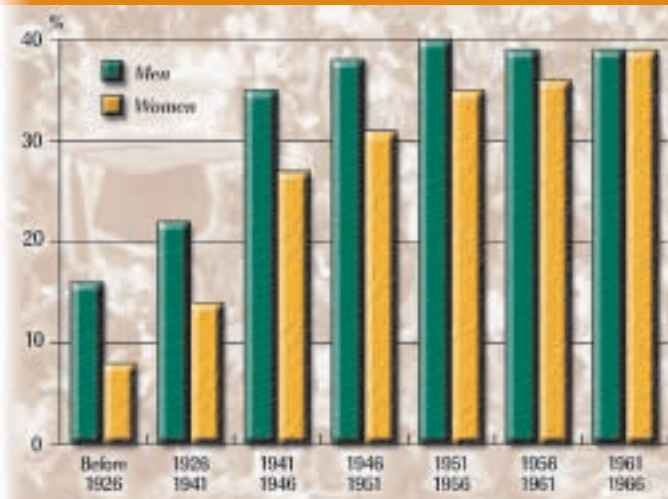
generation prior to 1926, only 16% of men attended university and half as many women. Over the century, women have been catching up: their attendance has risen from 14% pre-war to more than 25% post-war and to 39% today — equaling that of men, whose attendance reached a plateau in 1961.

This is a clear indication that the elderly of the next century will be better educated than those of previous generations. Continuing education is another growing phenomenon. For example, Sherbrooke

University has opened its doors to retirees, creating made-to-order programs and joining what seems to be a permanent trend.

fig. 5

Proportion of population having done university studies, according to generation, Montreal-Centre, 1991



Today, Quebec and Canada are among the top member countries (i.e. Europe, North America, and Japan) of the Organization for Economic Cooperation and Development (OECD). Despite widespread opinions to the contrary, the educational picture is not as gloomy as it may seem. According to the *ministère de l'Éducation*, out of a 1998 cohort of 100 students, 99 reached the secondary level and 82 obtained their diploma. At the next level, of the 63 students who went on to a college degree (DEC), 37 will graduate. Of this number, 28 will obtain a university degree.

Finally, to highlight the link between education and employment, one should note how much the situation had progressed by 1996: there were 20% fewer people with no training for the job market than in 1975. However, this figure should not distract us from the fact that in 1995 almost one man in two had not obtained at least one professional or technical training diploma; women have a better score.

Higher employment rate, but fewer older workers

We had not seen the like of it in 10 years: a substantial drop in the number of Montreal's unemployed. This number fell below the 100,000 threshold in 1998. The unemployment rate also moved down to 10% — a level not seen on the island since 1990. The employment situation was thus looking up: there was a strong rise in the number of jobs and the unemployment period shrank by 30%. It also looks as if traditional sectors are making way for sectors in the new economy.

The active population has declined 1.7% among men and increased 1.9% among women. We also know that Quebec has seen an increase in its inactivity rate. This can be explained by the ageing of the

fig. 6

Unemployment rate, Montreal-Centre and Quebec as a whole, 1991 to 1999

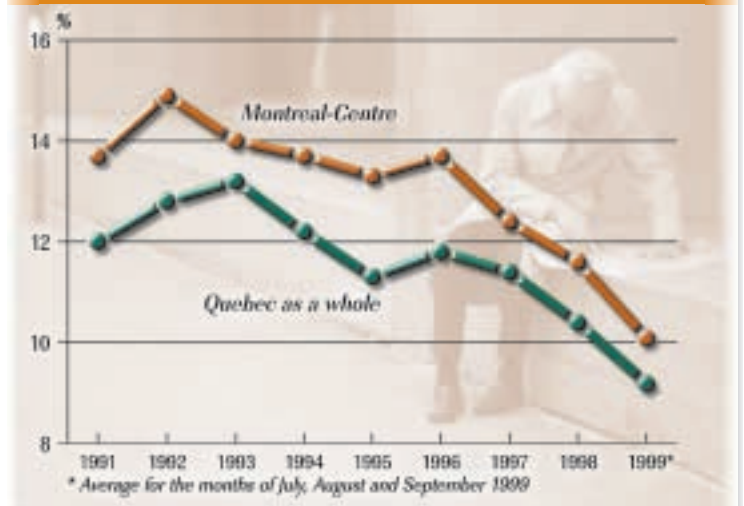
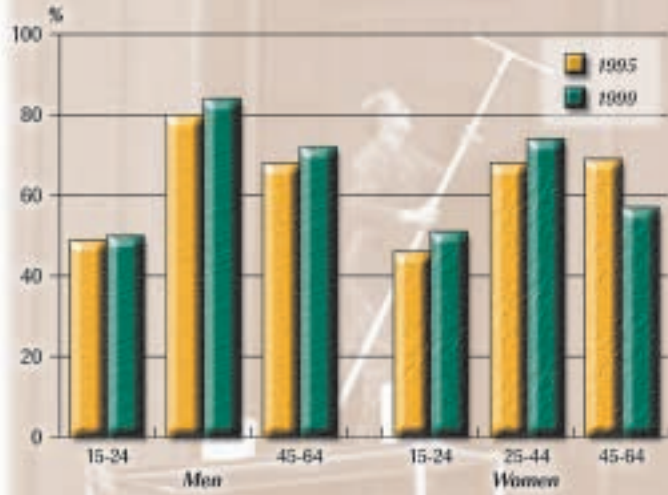


fig. 7

Employment rate according to gender and age,
Quebec, 1995 and 1999



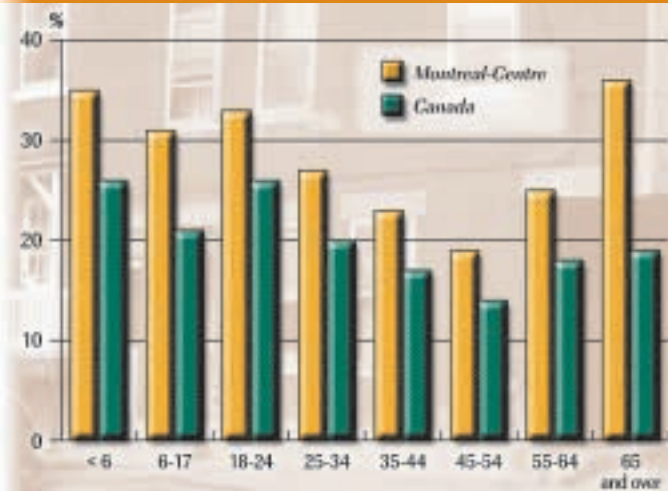
population since 79% of those 55 and over are no longer on the job market. Among the 50+, the inactivity rate is shooting up because of early retirements and unemployment. This cohort will probably lose the gains observed over the last few years. From 1995 to 1999, the sharpest drop in employment is observed among women in the 45-to-64 age group. The government's voluntary retirement program had a strong impact on this group, composed notably of civil servants, nurses, and teachers.

Rise in seniors' income, despite wide gaps

Although low-income Canadians now make up only 19% of the elderly population, in Montreal 36% of elders live below the poverty line.

fig. 8

Proportion of population living below the low-income threshold,
according to age, Montreal-Centre and Canada, 1995



The wide gaps have not disappeared. According to 1995 data, there are more Montrealers of all age groups (except the elderly) living below the poverty line than in 1990. The better situation of the elderly can be explained by the guaranteed income supplement received by the poorest elders. In this group, we can, however, already see that poverty is especially the lot of women in their 80s — specifically because they have been long widowed, they have never worked, and they have no pension.

As for those living on welfare, after a rise in numbers over recent years, there is a current downward trend: they make up 14.4% in Montreal and 10% in Quebec, a situation similar to that in 1992 and an obvious sign of widespread poverty on the Island. It should be remembered that those 65 and over are not eligible for

welfare, but receive instead the guaranteed income supplement. It should also be noted that eligibility criteria for welfare have been tightened.

A significant economic role

The elderly play a significant economic role: they are consumers with considerable buying power. According to Health Canada, the 21% of households designated as “elderly” in 1996 accounted for 21% of sums spent on health care; 14% of those spent on personal care; 13% on transportation; and 11% on leisure activities. Elders are also known for their generosity in both gift giving and charitable contributions: 20% of all elderly households spend at least 10% of their net income in these categories as compared to 7% for households in the 35-to-54 age bracket.

As we just saw above, elders do not form a homogeneous group, as the WHO has so competently pointed out. The vast majority of elders are in good health and lead active and satisfying lives. We now speak of active ageing, referring to the fact that seniors are more present on the social scene and more active on all fronts. In addition to their traditional roles (roles which are themselves evolving), they are taking on a broader social role: they study and they participate in social debates.

fig. 9

Proportion of population living below the low-income threshold, according to age, Montreal-Centre, 1990 and 1995

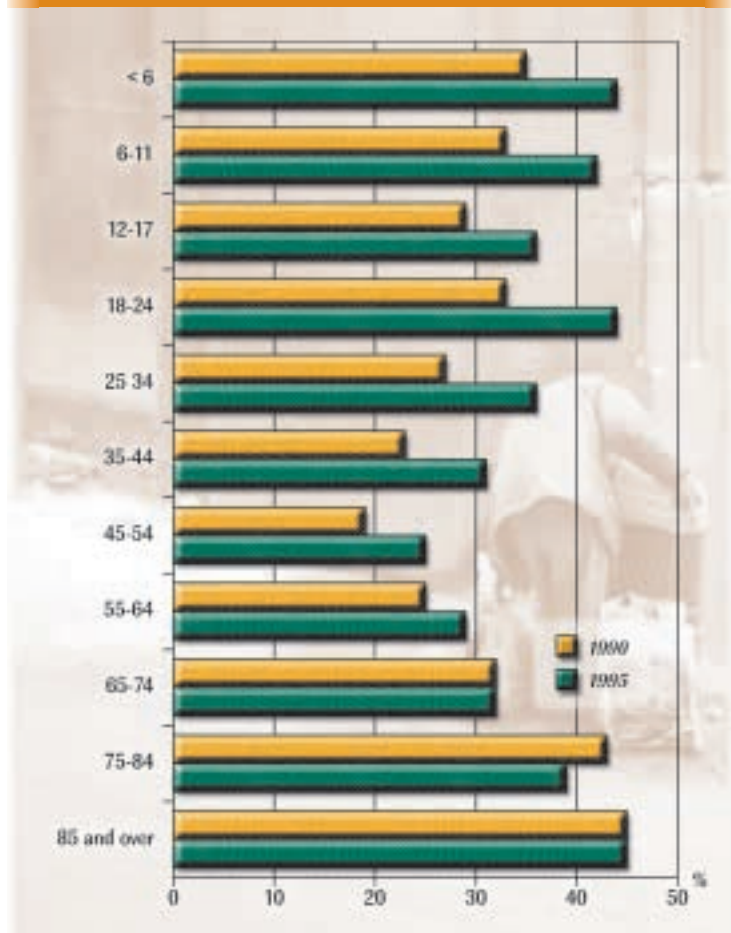
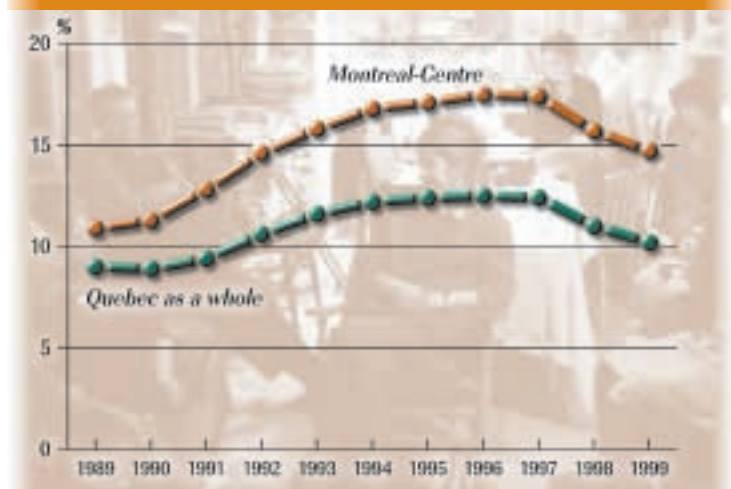


fig. 10

Proportion of persons receiving welfare, Montreal-Centre and Quebec as a whole, 1989 to 1999



2

A Paradox

***T**HE CONSIDERABLE GAINS in life expectancy due to improved living conditions and medical progress are accompanied by a growing burden of age-related illnesses which exert ever greater pressure on health systems, families and family caregivers.*

Health is improving, but age-related health problems are on the rise

There are two contradictory observations that at first seem hard to reconcile: increased life expectancy reflecting improvement in the population's health stands in contrast to a growing burden of age-related illnesses and health problems exerting ever greater pressure on health systems. The explanation is very simple. Statistical methods used to track trends in health problems are based on *age-adjusted* rates which, by eliminating the effect of the changing age structure, make it possible to track the evolution of a given health problem (see box). As we have seen, the age structure in our region is evolving in such a way that the oldest age groups are continually expanding and account for a greater proportion of the population.

Why a crude rate and an adjusted rate?

In the following figures, data are presented either as crude rates or as adjusted rates. The crude rate reflects the effect of the population's ageing, showing the impact of the increased number of seniors on various health problems. The adjusted rate eliminates the effect of ageing so as to illustrate how much the various factors mentioned above are improving the health of the population.

Based on current data, we also present projections up to 2016 (paler section of the curve). These projections ride on the hypothesis that rates per age observed for the most recent period (circa 1996) will remain stable up to 2016. This assumption is needed to isolate the effect of ageing. It should be remembered that this is only a hypothesis and that results may be modified by the effect of various factors, such as increased prevention, societal adaptation, etc. And this is exactly what we would hope.

Let's take an example. For 30 years, we have seen adjusted rates of cardiovascular mortality drop by about 3% a year. We attribute this downward trend to better lifestyles (less smoking, better eating habits, etc.) combined with improvements in health care (treatment for high blood pressure, pre-hospital emergency care, acute coronary care, etc.). This trend is illustrated in figure 11. However, if age is taken into

fig. 11

Adjusted mortality rate according to cause,
Montreal-Centre, 1975-1977 to 2016

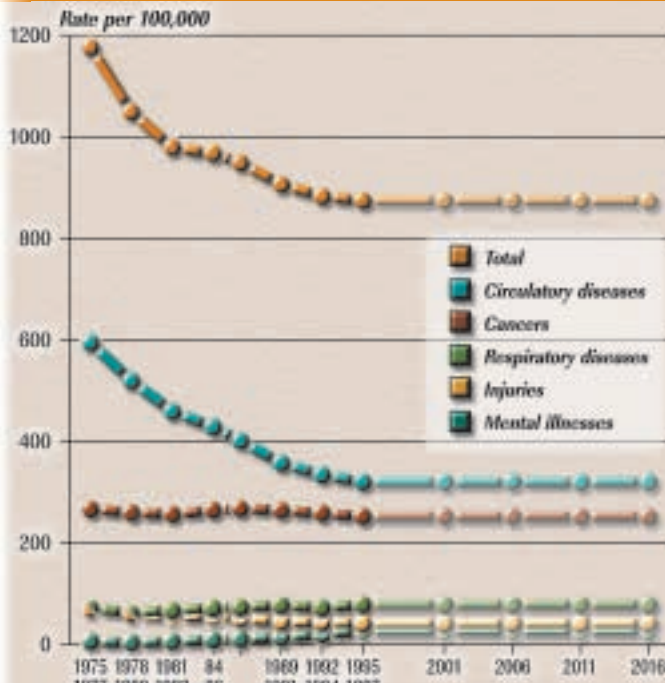
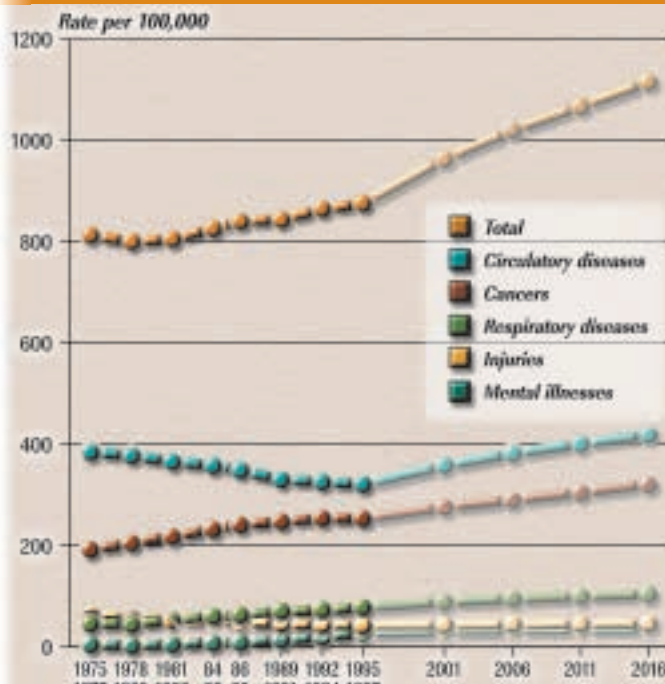


fig. 12

Crude mortality rate according to cause,
Montreal-Centre, 1975-1977 to 2016



account, as seen in figure 12, we note the reverse trend. The strong increase in the number of elderly people who are more prone to heart disease, makes it apparent that real rates are climbing and will continue to do so. This same observation is valid for total mortality and many other causes of mortality.

Thus, despite our successful efforts and the positive trends seen in broader health issues, the rapid ageing of the population will increase the need for health and social services at least in the short term.

The foregoing factors have obvious consequences on planning. They make it imperative to progressively transform the health and social services network so as to meet the needs of an ageing society. But, as we shall see in chapter 3, the impacts of ageing go far beyond the fields of health and social services; they call for a global review of social policies, with the stated objective of adapting them to the new reality.

Health problems associated with ageing

Cancer: disease of ageing?

Though cancer can strike at any age, its incidence is very strongly linked to advancing age. The annual 2% to 3% growth of cancer rates observed over the past few years is thus likely to persist. When we consider that 1 person in 3 will have some form of cancer in the course of life and that about 40 new cases are

diagnosed each day in Montreal hospitals, we realize the full scope of the problem. (see figures 13 and 14)

Though we commonly speak of cancer as a single disease, different forms of tumours are known, each with its own characteristics and specific causes. That the prevalence of cancer increases with age may be explained by factors such as length of exposure to cancer-causing agents combined with a progressive decline in the body's ability to fight cancerous cells.

More than half the deaths from cancer are due to three forms of cancer or tumorous sites: lungs, prostate, and colon-rectum in men; lungs, breast, and colon-rectum in women. Cigarette smoke inhaled directly or second hand causes 85% of lung cancers. Without smoking, lung cancer would practically disappear. Since 1994, lung cancer has moved ahead of breast cancer as the primary cause of death from cancer among women. Do we need a reminder that smoking is the biggest modifiable health risk and that many anti-smoking measures can and must be applied by society as a whole? On this score, Montreal and Quebec as a whole cut a poor figure compared with the rest of Canada. Among Canada's urban centres, Montreal posts the highest rate of lung cancer after Quebec City. (see figure 15).

fig. 13

Crude rate of incidence of cancer among men, according to site, Montreal-Centre, 1984-1988 to 2016

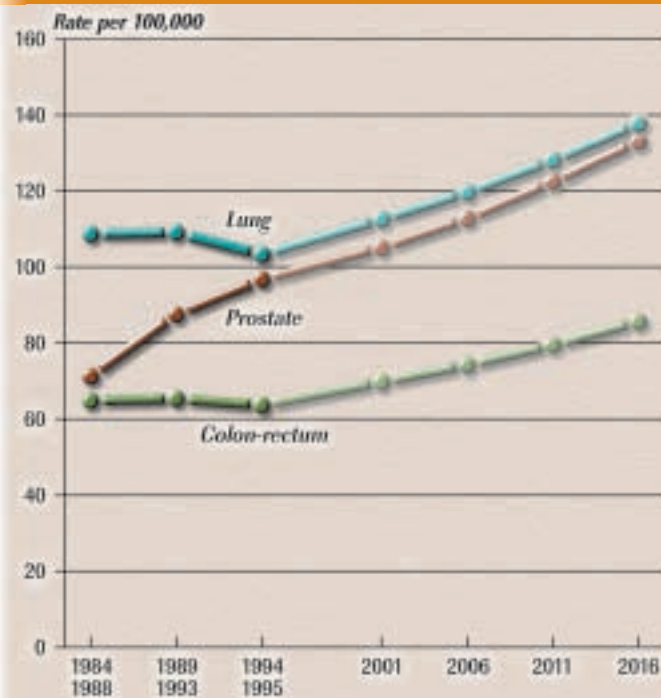
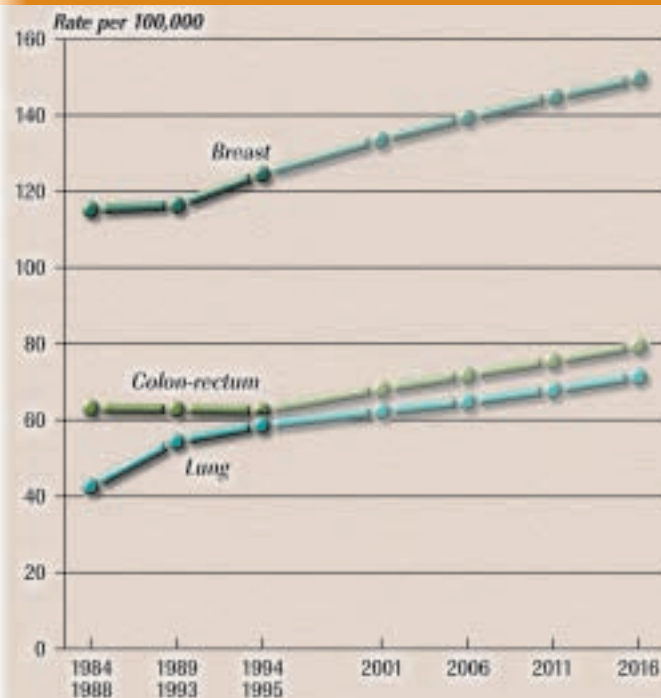


fig. 14

Crude rate of incidence of cancer among women, according to site, Montreal-Centre, 1984-1988 to 2016



Since we still know little about the causes of breast cancer, the focus is on screening — a measure shown to be effective with women aged 50 to 69. Implementation of the Quebec screening program may

fig. 15

Mortality rate for lung cancer, according to urban region, Canada, 1996



reduce mortality from breast cancer by about 30% within 10 years. But there are many hurdles to clear in reaching this goal and the demand for services — screening, diagnosis, and treatment — are escalating rapidly. The demand for services linked to prostate cancer is also increasing, but for different reasons. There is now a laboratory technique which makes it much easier to detect this form of cancer. However, the utility of providing systematic and universal screening is still controversial since there is no proof it will result in a reduction of mortality.

Finally, there is cause for serious concern in the area of colon-rectum cancer. Though the causes of this disease are also poorly understood, studies conducted by our Public Health Department show that in Montreal the mortality rate from this cancer is 25%

higher than the Canadian average. This calls for priority action: a review of service delivery is needed, especially since a recent study by the *Conseil d'évaluation des technologies en santé du Québec* reported that systematic screening could, in this case, reduce mortality.

In sum, various forms of cancer are already taking a heavy toll on Montreal's health system. The ageing of the population combined with the establishment of systematic screening programs will mean continued growth in this sector's activities. Adapting oncology services to the new demographics must thus constitute one of our short-and long-term priorities.

Circulatory diseases

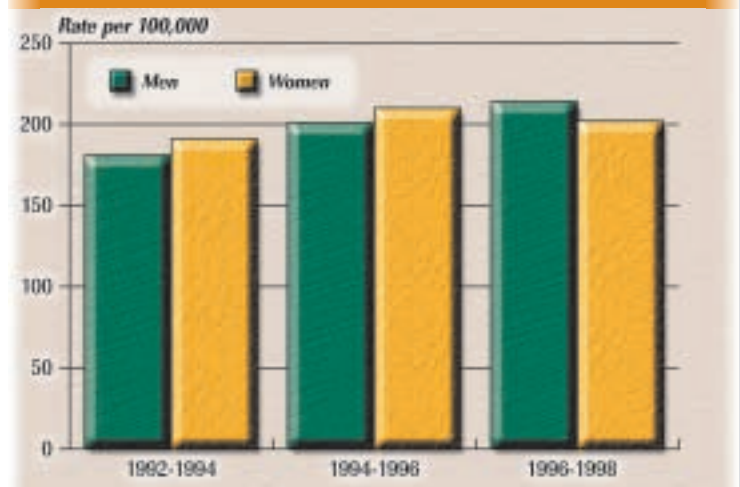
As we have seen above, our region and Quebec as a whole have achieved noteworthy success in the field of vascular diseases. When compared with other Canadian regions, Montreal joins Halifax, Toronto, and Vancouver at the top of the list. This success is all the more noteworthy as smoking still remains so prevalent in Quebec. We cannot be sure whether these positive results stem from prevention and high-quality medical services in this area, or from what could be called the “Latin effect” — the greater immunity people of Latin origin seem to have with regard to cardiovascular mortality.

Whatever the reasons, the ageing of the population forces us to remain vigilant. And our success has given rise to a new reality: an increase in heart failure. Improved care for heart problems and high blood pressure has allowed more people with these ailments to live longer and thus run the risk of heart failure. This is why the rate of hospitalization for this condition is growing so rapidly (see fig. 16). Accent on Access 1998-2002⁴ proposes preventive measures to manage this problem.

As for cerebral vascular diseases, we see the same downward trend in mortality, owing to better control of high blood pressure, healthier lifestyles, and use of antiplatelets to prevent strokes. Despite the considerable effectiveness of such preventive measures, cerebral vascular diseases are still frequent and they require high-quality acute care involving treatment with new medications (fibrinolytic agents) at the first appearance of symptoms and, if needed, rehabilitation services at a later phase. These needs are met by multidisciplinary teams composed of doctors, nurses, occupational therapists, and physiotherapists,

fig. 16

Crude rate of hospitalization for heart failure, Montreal-Centre, 1992-1994 to 1996-1998



⁴ Accent on Access, *Plan to Improve Health and Social Services, 1998-2002*, Régie régionale de Montréal-Centre, p.23.

teams known for their excellence. But much remains to be done to link the activities of all the institutions and people involved: acute-care centres; geriatric centres involved in short-term rehabilitation; hospital day centres; CLSC home care; long-term-care hospitals responsible for maintaining rehabilitation; and, of course, the family in its role as caregiver.

Despite notable progress, there is still a high incidence of cerebral vascular diseases and chances are this rate will increase. Preventive management of these diseases looks very promising, but the Montreal network can do better. The epidemiological data, as shown in figure 17, highlight the need to redouble our efforts in this area.

Respiratory diseases

Owing largely to smoking, respiratory diseases are a very current problem. As our society ages, the burden of chronic obstructive lung diseases will require our attention. Once described as chronic bronchitis or emphysema, these diseases are characterized by obstruction of respiratory passages and increased vulnerability to infections. Still uncommon

in women until quite recently, these diseases are now very frequent among this population because of increased smoking. Air quality, both outdoors and indoors, also has a powerful impact on the quality of life victims of these diseases can expect to enjoy.

Projections for the rate of hospitalization for respiratory diseases also suggest a sharp increase in both men and women (see fig. 18). This is also illustrated by data on the use of emergency rooms and the overcrowding observed there every winter (see fig. 19).

fig. 17

Rate of hospitalization for vascular brain diseases, Montreal-Centre, 1992-1994 to 1996-1998

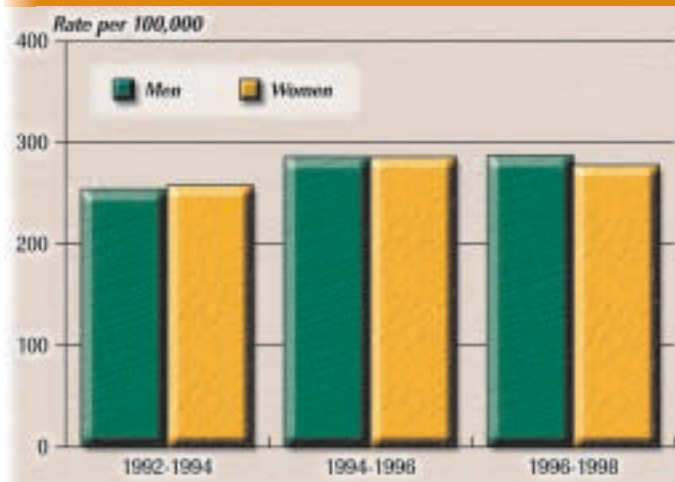
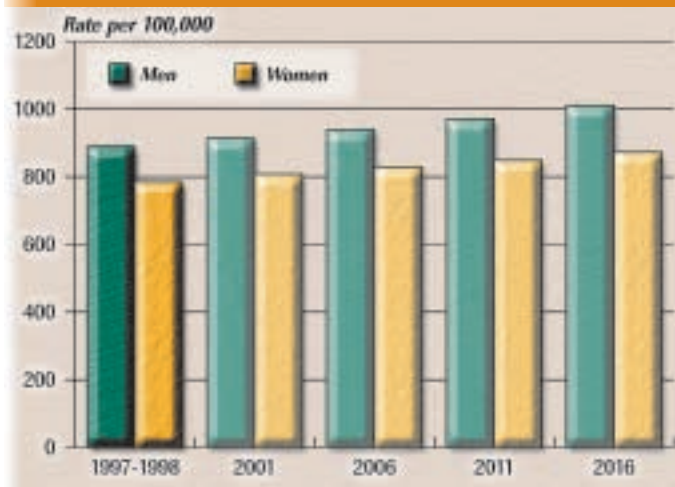


fig. 18

Rate of hospitalization for diseases of the respiratory system, according to gender, Montreal-Centre, 1997-1998 to 2016



According to our analyses, a third of the increase stems from respiratory diseases, particularly superinfections, pneumonia, and flu. The rate of influenza immunization reached a plateau of about 40% a few years ago and the vaccine against pneumococcus (the bacteria most frequently linked to pneumonia) has, up to now, been underutilized. Continuity in services to guide patients in the proper use of their medication is also badly in need of improvement.

Respiratory diseases constitute one of the most pressing issues facing our health care system. Far from losing ground, this problem is expanding, especially among women. Existing methods to prevent and fight against these diseases are still underutilized. Here again, preventive management of a whole set of medical and environmental factors is a potentially promising approach.

Diabetes

Sugar diabetes, a disorder affecting the metabolism of glucose, brings long-term complications affecting small blood vessels, complications which may entail circulatory problems, blindness, kidney failure, amputation, etc. Two main forms of the disease are known: juvenile diabetes and adult diabetes. The latter is strongly linked to excess weight.

Many studies report an increase in the frequency of adult diabetes in industrialized countries. The hypotheses which may explain this phenomenon are related

fig. 19

Average daily number of stretchers occupied, according to health problem, Montreal-Centre, April 1995 to March 1999

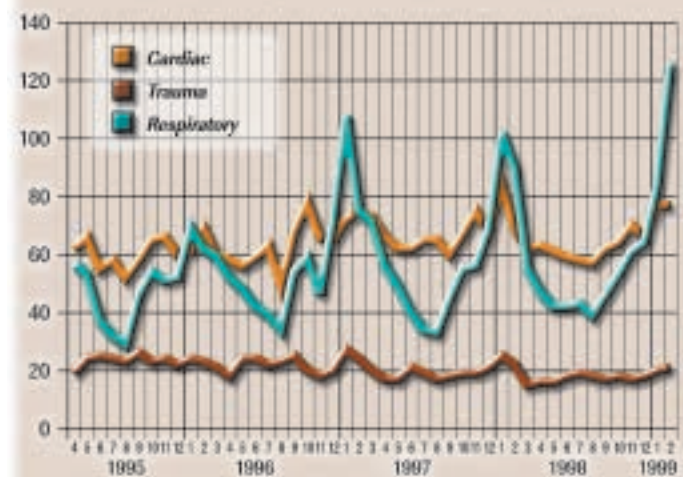


fig. 20

Proportion of population overweight, according to age, Montreal-Centre, 1987 and 1992-1993

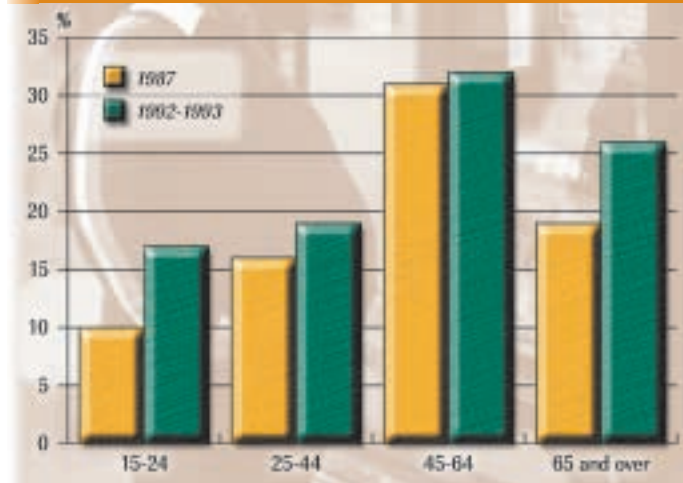
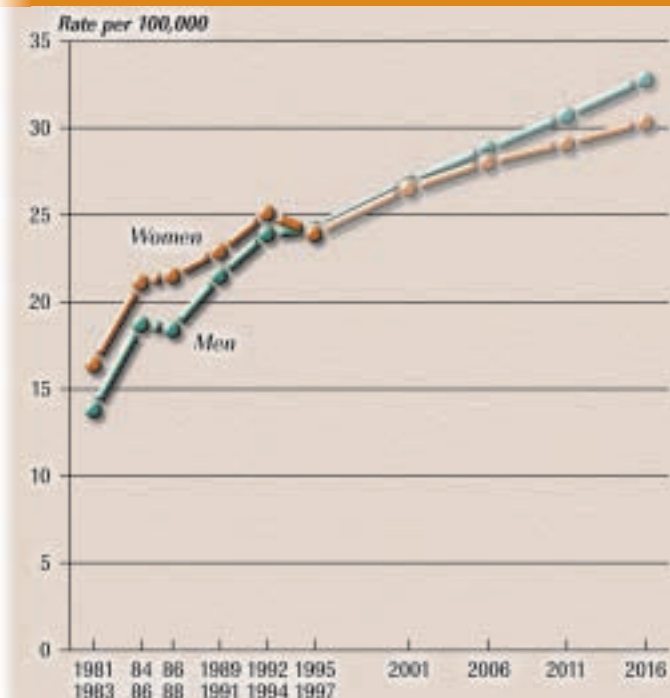


fig. 21

Crude mortality rate for diabetes, according to gender, Montreal-Centre, 1981-1983 to 2016



to changes in lifestyles, especially eating habits and inactivity. In Montreal, an increase in obesity among people 65 and over, as well as in other age groups, highlights these changes (see fig. 20).

Treatment revolves mostly around the capacity of diabetics and their families to manage the following: strict diet; regular physical activity; self-monitored blood-sugar level; personal care; regular preventive medical appointments, etc. Some establishments have set up special programs to support diabetics and offer them self-management tools. Unfortunately, these programs are not available throughout the Montreal region; making them available could constitute a valuable improvement in our system.

Adult diabetes is a growing challenge in our ageing society (see fig. 21) and increased obesity may heighten this problem. It is thus urgent to invest more in preventing diabetes from developing and in its management, should it develop.

Mobility problems

Mobility problems are the most common disabilities among seniors: according to the *Enquête sur la santé et les limitations d'activité*, close to 30% of seniors experience such problems. Chronic diseases such as arthritis and rheumatism, and heart and brain diseases are in large part responsible for mobility problems followed immediately by hip fractures.

The latest data show that our region has the highest rate of hospitalization for hip fractures in Canada's urban regions (see fig. 22). These fractures are most often the result of falls, but other factors such as osteoporosis make seniors more vulnerable. Why such a high rate in Montreal? The hypotheses currently under study point to a higher risk of osteoporosis (due to poor nutrition, smoking, and medication use);

local weather conditions; and exterior staircases.

Public health efforts have always targeted the major causes of mortality. Our efforts have been rewarded by increased life expectancy. However, if we want these extra years to be healthy ones, more attention must be paid to the prevention of disabilities.

The major causes of morbidity or disabilities must also be considered if we are to enhance the quality of the years gained and face the challenges of an ageing society. This broader perspective should allow us to work harder on certain well-known factors: balance, medication, hormonal agents, lesions from repetitive movements, physical environment, diet, etc.

Degenerative brain diseases

No other illness brings more sharply into focus the often somber portrait of tomorrow's ageing society. Whatever its clinical form (e.g. Alzheimer's, Korsakoff dementia), the progressive loss of higher intellectual functions — the distress this causes to victims, their entourage, and their professional and nonprofessional caregivers — surely represents one of the most complex challenges of the next century (see fig. 23). Despite our growing research efforts to better understand the causes of these diseases, we must concede that our knowledge is still embryonic. The true challenge is

fig. 22

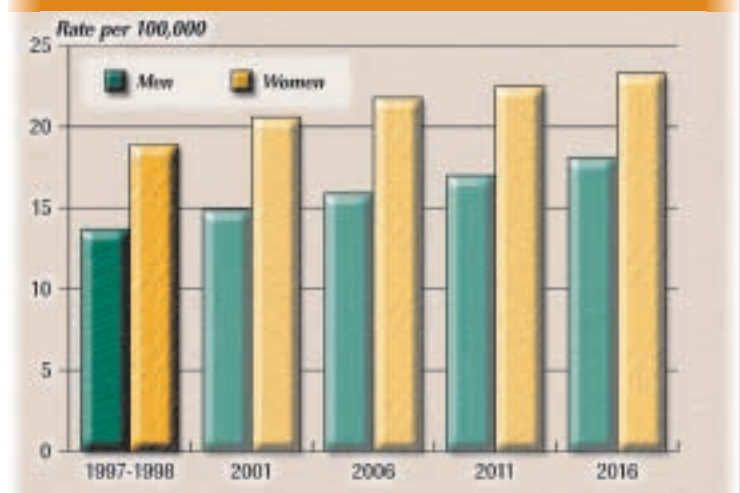
Adjusted rate of hospitalization for hip fracture among those 65 and over, urban regions of Canada, 1996-1997



The Canadian Institute for Health Information and the Montreal Public Health Department are currently undertaking a detailed analysis of the differences between these urban regions.

fig. 23

Rate of hospitalization for cerebral degeneration (i.e. Alzheimer), according to gender, Montreal-Centre, 1997-1998 to 2016



in striving to provide care and services (housing, respite, etc.) designed to support the victims and their families and to improve their quality of life.

Changing the health system to help people experiencing loss of autonomy

Since 1995, substantial efforts have been devoted to adapt the organization of services to the growing number of persons experiencing loss of autonomy. More than 14,000 beds in long-term-care hospitals are currently available in the region; close to half of these bed are occupied by patients requiring 2.5 h/care and more per day.

Improved CLSC home care programs have helped us reach more than 23,000 users in 1997-1998, totalling 725,000 visits: an average of slightly more than 30 visits per user. According to regional data⁵, the number of clients jumped 20% in three years and the total number of visits increased 50%. Though these visits are not all linked to degenerative brain diseases, the latter account for a large share and raise many new questions. Faced with an ageing population and drastic modifications of the family unit, we must turn our attention to helping family caregivers avoid burn out as they are in a high-risk situation.

The Board of Directors of the Régie régionale has already approved the SIPA program (*Services intégrés aux personnes âgées en perte d'autonomie*: Integrated services for seniors experiencing loss of autonomy), a pilot project aimed at defining innovative mechanisms to assist frail elders in their community. Several services connected with coordinating senior care and placement in nursing homes are now well established: one example is the evaluation and screening service for placement of seniors (guichet unique). Given the growing pressures on the care system for seniors, there is one imperative priority: the organization of services must be more carefully scrutinized to ensure even higher-quality, active geriatric services for seniors who experience loss of autonomy and suffer from a degenerative brain disease.

⁵ Tableau de bord central du *Plan d'amélioration des services de santé et des services sociaux 1998-2002, État de situation : le point de départ*, RRSSS-MC, 29 janvier 1999

Sensory disorders

Sensory problems are undeniably more frequent among elders than in other age groups. The causes are diverse. Sometimes they involve environmental factors (prolonged exposure to noise); sometimes diseases of ageing (macular degeneration, glaucoma, strokes...); and sometimes a normal process of ageing. These sensory problems will in certain cases respond well to preventive or corrective measures designed to compensate for communication problems and counteract the resulting tendency to withdraw from social life.

Dental health

Over the past twenty years, adults have been more successful in keeping their teeth. The proof is that the number of completely toothless elders has dropped from 76% in 1980 to 58% in 1993. The rising demographics of this age group will produce strong growth in the volume of dental care and create a demand for more varied and complex treatment. Given the links between dental health and nutrition, preventive measures must be stepped up and access to care facilitated. It is worth remembering that the vast majority of dental services provided to elders are not insured by Quebec's *Régie de l'assurance-maladie*.

Ageing in a changing social and physical environment

A number of other factors can also have a significant impact on health and well-being—notably, family dynamics, the trend towards early retirement, and the environment and living conditions. We shall explore these three elements in the next pages.

Family dynamics in disarray

The ageing of the population means marked changes in the composition of families. Owing to lower fertility rates and increased longevity, it is no longer unusual to find four-generation families, where each generation is, however, composed of fewer and fewer siblings.

“The ageing of the population means marked changes in the composition of families.”

“... we have been witnessing a rediscovery of family solidarities, especially in the family’s major role in supporting the elderly.”

Whereas, a third of 50-year-olds still had a living parent in 1960, by 1990 this percentage had climbed to 50% and ten years from now it should have reached 60%. Women born around 1930 and now in their early 70s had 3.4 children; those born around 1950 had only 1.8; and those born around 1970 will probably have only 1.6.

In addition to this structural change, families are also subject to a change in the way researchers and political authorities perceive them. At the end of the 70s, all foresaw the dissolution of family ties, except for those uniting parents and their children and, as a corollary, the abandonment of elderly parents. Since then, we have been witnessing a rediscovery of family solidarities, especially in the family’s major role in supporting the elderly. Over the past 20 years, the vitality of these ties has been clearly demonstrated.

According to a 1991 Canadian survey, 84% of elders have at least two close relatives or friends. A considerable amount of services are exchanged between elderly parents, their adult children, and even their grandchildren: a third of elders lend a helping hand to a daughter, and a quarter to a son. According to a 1992 French study of three-generational families, 89% of elders received help from their children and more than half from their grandchildren. Conversely, half of elders lent a hand to their children and more than a third to their grandchildren.

According to this same French study, 94% of seniors who need help and have descendants receive help from them. In Canada, 19% of women and 11% of men 45 to 64 as well as 9% of elders help others who are ill or handicapped, usually a relative. A quarter of households offer support to a relative over 50 who is in poor health. Confirming their traditional role, half of women 35 to 64 will help an ailing parent. Finally, all the studies agree that 70% to 80% of services received by frail seniors living at home are provided by relatives or friends. Caring for frail ageing relatives is not only common but the care provided is often intensive in nature.

Observing this “rediscovery” of family solidarity, governments in America and Europe have changed their tune. The family unit is now seen as solid and naturally willing to support its fragile members. Founded on warmth and closeness, the services rendered by family members are likely to be more personalized and of better quality than public services. Faced with the crises in public finances and demographics, governments are also increasingly depending on family solidarity. We may, however, justifiably wonder whether families can live up to these new expectations. Do they have the means to do so? How will their situation evolve? These questions are both crucial and strategic when we look at the changes families are undergoing.

“Faced with the crises in public finances and demographics, governments are also increasingly depending on family solidarity.”

The first change has to do with the size and structure of families, as these factors relate to providing a large enough pool of caregivers. When an ageing relative needs support, the burden falls mostly on the shoulders of one person: the spouse or, if the relative is widowed, a child — most often a daughter— with some, but less reliable support, from other family members, friends or neighbours. Narrowing the gap between the life expectancy of men and that of women will entail a reduction in the number of widows and an increase in the number of persons living with a spouse. However, the fragility of marriage bonds may have the reverse effect: the percentage of divorces among the elderly has climbed from almost 0% in 1961 to about 5% in 1991, and could soon go up to 10%, which would of course increase pressure on children. But, though the ranks of the latter will continue to shrink, there will be fewer childless elders: in 1991, 21% of women in the 80-to-84 age group were childless, but only 7% of those aged 40 to 45.

Another change has to do with family dynamics: the norms of solidarity between family members are evolving. The obligation to help an ailing parent appears more and more to stem from the bonds of affection linking parent and child. Both parents and children treasure values of independence and reciprocity in their relations. Thus, we not only find some elders who cannot count on their children for help, but many others who prefer turning to professional services for assistance.

“Although the vast majority say they are happy to help their parents, caregivers also experience many difficulties, notably in juggling their many responsibilities.”

The health of family caregivers

Another factor limits the level of support families can provide to their ageing relatives: the toll on the life and health of caregivers. Although the vast majority say they are happy to help their parents (they feel useful, they feel they are repaying a debt, they gain in self-confidence), caregivers also experience many difficulties, notably in juggling their many responsibilities. Close to 35% of caregivers have a job and more than half of them have to miss work, take unpaid leaves of absence, refuse promotions, take part-time employment, and even quit the job market (more than 7%). All this leads to a reduction in their retirement benefits. Furthermore, nearly 7% of these caregivers have both jobs and young children. Therefore it will come as no surprise that more than half of caregivers drop or curtail their social and leisure activities. The result is fatigue, stress, and health problems: 29% of caregivers say they have trouble sleeping and 21% report a deterioration in their health. According to Santé-Québec, twice as many people who provide care to a parent (as compared with those who do not) consider their health to be only average or poor, and the level of psychological distress is 25% higher among caregivers. Finally, whereas 20% to 30% of those taking care of parents with physical problems show signs of depression, this percentage climbs to 40% among those caring for a parent with some form of dementia.

Alzheimer's disease and other forms of dementia pose very serious behaviour problems requiring constant supervision. The quality of care is also influenced by the affection and motivation of the caregiver. When several family members collaborate and share responsibilities, the individual burden is reduced.

Most of the services provided to elders with disabilities can also be considered a boon to caregivers. Housekeeping services leave family caregivers free to concentrate on giving socio-affective support: it is a known fact that professional services do not reduce the time spent by family caregivers but rather reorient it. Help with housekeeping thus appears to be the most appreciated and most often used: 20% of family caregivers have recourse to domestic help and 6% to personal care services, but these figures

more than double if the parent suffers from Alzheimer. If administered at the first signs of the disease, medication to slow the progression of the symptoms of Alzheimer's disease is of great help to family caregivers.

The trend towards early retirement

The drop in the population active on the job market raises concern about the economic trends in employment, income, and living conditions. How will a relatively small labour force be able to support a growing number of retirees? Active life could be prolonged and retirement postponed, especially considering improvements in the population's state of health (at the time when the retirement age was first set at 65, workers enjoyed an average of three years as retirees; today, workers retiring at 65 will probably enjoy close to 15 years of retirement).

But it is rather the reverse trend which is being observed: workers leave the labour market earlier and earlier, and there is a great increase in the proportion of inactive members in the 55-to-64 age group. Business firms and governments seem to be working at cross purposes. While certain states push the official retirement age up — the United States gradually pushed it up to 67 — early retirement has become one of the major strategies for handling personnel levels in business. It is worth noting that the Quebec government, as an employer, has adopted a similar strategy to reduce its total payroll expenditures.

What are we to think of such a situation? On the one hand, early retirement may be just what some workers want. According to a 1991 Canadian survey, the main reasons for retirement are the desire to stop working (53%) and having the monetary means to afford early retirement (38% among those aged 45 to 64); 75% of retirements are voluntary. The early retirement strategy does work to the advantage of some. Employers can thus reduce the number of jobs as well as eliminate high-salaried employees. Unions see it as a lesser evil: older workers nearing retirement are in a better financial situation than their younger counterparts. Finally, older workers find early retirement a form of protection against professional downgrading, job closings, unemployment, and instability. Unfortunately, such a strategy makes workers "old" at fifty or even in their mid-forties: many firms create barriers to prevent hiring those over forty.

"Active life could be prolonged and retirement postponed, especially considering improvements in the population's state of health..."

"... such a strategy makes workers 'old' at fifty or even in their mid-forties..."

“... retirement and prolonged unemployment join forces, leading sometimes to marginalization, stigmatization, isolation and loss of self-esteem.”

The early retirement strategy does, however, prove favourable if the worker benefits from union protection and a pre-retirement program. Quitting work can then be a voluntary move, since the retirement income, though reduced, still remains comfortable. Moreover, through early retirement the worker gains a legitimate status and avoids being stigmatized. But retirement does not always occur in such favourable conditions. Firings, plant and firm closings, or poor health may leave workers with few savings, no union protection, and no retirement plan. According to Statistics Canada, in 30% of cases retirement is justified by poor health and in 13% of cases by lack of work.

In these situations, retirement and prolonged unemployment join forces, leading sometimes to marginalization, stigmatization, isolation, and loss of self-esteem. Anxiety and depression often follow. It is difficult for workers to accept being confronted with a *fait accompli*: they experience it as an attack on their identity and dignity and the situation is compounded by the financial problems involved. Long-term unemployment benefits drop by half after the age of 45 (sliding from

Reinforcing the bridge between generations⁶

“More and more youth and elders are living on the fringe of society. Pre-retirement workers are leaving their jobs without passing on their expertise...

At a time of so many early retirements, the problem of transmission [of know-how] between generations arises...

We may also wonder about the decision to offer workers in the public, parapublic, and private sectors early retirement rather than invite them to move gradually along that path. Workplaces were suddenly emptied of a large number of experienced workers who never had the chance to pass on their know-how, their memory, and the irreplaceable knowledge of their milieu...”

Le Devoir, 11 November 1999

⁶ “Le pont entre les générations” composed of young and elderly people has been meeting over recent months to discuss intergenerational links.

\$23,000 to \$12,000): 60% of people in this category live on income security benefits; 34% go into debt. People must often liquidate possessions, savings, and RRSPs, thus mortgaging their future security.

Early retirement (or prolonged unemployment) is likely to push seniors' income lower. We may ask if this trend does not partially explain why there has been, over the last 10 years, an upsurge of income inequalities among those over 65 and a drop in income, between the 80s and the 90s, among those 65 to 69—the latter group, sliding from \$26,500 to \$24,000, in fact returns to its average income in the mid-70s, thus wiping out some of the gains achieved.

The evolutionary trend is thus towards shortening the years of professional life and lengthening the years of retirement. Yet, in our society, people still tend to base their identity on work status. A job, a position, professional responsibilities, power: these are the parameters of an individual's social role. And for many, pursuing a career has meant negotiating a route full of obstacles to attain a desired level. Consequently, involuntary early retirement at an age where one is experienced and productive can be disastrous: when cut off from their reference milieu, retired people suffer from isolation, loss of self-esteem, marginalization, and even mental health problems.

Several questions arise. How do we negotiate the transition from working life to retirement? How can we foster feelings of social usefulness when no pay is involved? How can we encourage the participation of retirees? How can we recognize their abilities and wealth of knowledge so that they and society benefit?

The urban environment

Much like young children and those with chronic diseases (heart, lungs...), the elderly are more vulnerable to environmental pollution. There is a consensus in the scientific community that pollution plays a major role in exacerbating the symptoms of diseases, especially in vulnerable persons who are seriously at risk for premature death. Any increase in pollution in Montreal could thus lead to a deterioration in health and increased demand for medical care among these people.

“... people still tend to base their identity on work status.”

“Any increase in pollution in Montreal could thus lead to a deterioration in health and increased demand for medical care among these people.”

On the planetary level, the increase in green house gases (GHG) — with carbon dioxide (CO₂) as the leading culprit — will also take its toll. With the growing use of fossil fuels (oil, coal, gas), the average temperature of the globe has climbed 0.5 °C in 100 years. The Intergovernmental Panel on Climate Change predicts that, if no remedy is applied, there will be a gradual warming of 0.3 °C per decade, and even more in northern latitudes such as Quebec. According to this scenario, the level of CO₂ can be expected to double and southern Quebec would see its temperatures rise 1 to 4 °C and its precipitation increase as much as 10%. Violent weather conditions (draughts, floods, heat waves, winter storms) would also increase.

Increased road traffic

Deterioration in air quality stems from the continued growth of motor traffic and its contribution to pollution. According to the ministère des Transports, total emissions of atmospheric pollutants from road traffic, now more or less stabilized by technological progress, will start to increase again in 2001 in Greater Montreal⁷. Furthermore, CO₂ emissions, which no anti-pollution devices can reduce or eliminate, will keep pace with the growth of road traffic.

In 1994, transport vehicles were the source of 47.1% of the greenhouse gas emissions caused by human activity: some 12.6 million tonnes, about evenly divided between lightweight private cars and heavy-weight trucks. Vehicle traffic has grown 23% from 1987 to 1993, totalling almost a million vehicles during morning rush hour. Over this same period, the use of public transit fell 5% to the level of 19%, leaving the car as king of the road with 81%. According to the Montreal transportation plan, from now until the year 2010, vehicle traffic can be expected to continue its growth: a 25% kilometer-vehicle growth for private vehicles (with an equivalent rise in emissions of greenhouse gases) and an even greater growth in trucking. Conversely, use of public transit can be expected to drop another 3%.

⁷ This refers to the Montreal Urban Community (1.7 M inhabitants in 1994), the North Shore and the South Shore (1.4 M inhabitants in 1994).

High temperatures are very hard on the elderly who, with their weaker physiological reactions, are predisposed to heat stroke. A rise in mortality has been observed during heat waves around the world, demonstrating that above a threshold temperature there would be increased deaths. According to a recent study, this temperature is 29°C in Montreal: 69 deaths would thus be caused by heat every summer. During a normal summer, the 29°C threshold is exceeded 13% of days, but if CO₂ concentrations should double, this figure would climb to 55%.

Heat waves also have a strong impact on the underprivileged. They live in the most polluted zones where urban architecture and landscape are heat traps: a lot of asphalt and concrete and few green spaces. They have no means of relief (e.g. air conditioning) and often have other health problems which make them more vulnerable. With close to a half million people living below the poverty line in Montreal in 1995, we may consider our region particularly vulnerable.

Other impacts of planetary warming can also be predicted: it will catalyze atmospheric chemical reactions, increase pollution from photochemical oxidants (ozone⁸ included) and acid aerosols, and lead to greater vaporization of volatile organic compounds. We can also expect a rise in the frequency and duration of smog, with its higher concentrations of ground-level atmospheric pollutants. Extreme weather conditions will also increase mortality and morbidity rates — accidental injuries, infectious diseases, and psychological distress. All these conditions and situations would further compromise the state of health of the most vulnerable members of our society.

⁸ Pollutant formed by reaction between nitrogen oxides and volatile organic compounds. Conditions conducive to the formation of ground-level ozone: direct sunlight and temperatures above 29°C.

3

Growing Old in Good Health: A Real Possibility

***F**ROM A PUBLIC HEALTH PERSPECTIVE, all social policies must be analyzed anew in light of the ageing of the population: the key question now becomes how will such an incentive or policy help us meet the challenge of an ageing society?*

Getting ready for the greying of Montreal

In the previous chapters, we saw that substantial changes are taking place in the composition of the population. The ageing of the population will result in an increase in the health problems we call “the illnesses of ageing.”

A superficial analysis of the situation could lead one to expect an inexorable deterioration of the population’s overall health and, consequently, an increased burden on families, the health system, and society as a whole. This is not the viewpoint of the Public Health Department. We believe, in fact, that this demographic transition can be a source of improvement of the population’s “health capital.”

We now know that it is possible to grow old in good health to the extent that one remains physically, mentally, and socially active. We also know that it is not only possible to add years to one’s life, but also to add quality to those extra years, which is already happening in our community. Finally, we know that the living environment can be adapted, whether through home improvements, urban development, transportation systems, or the organization of health services. These adaptations, which have a positive impact on the entire population’s health, are already underway in Montreal.

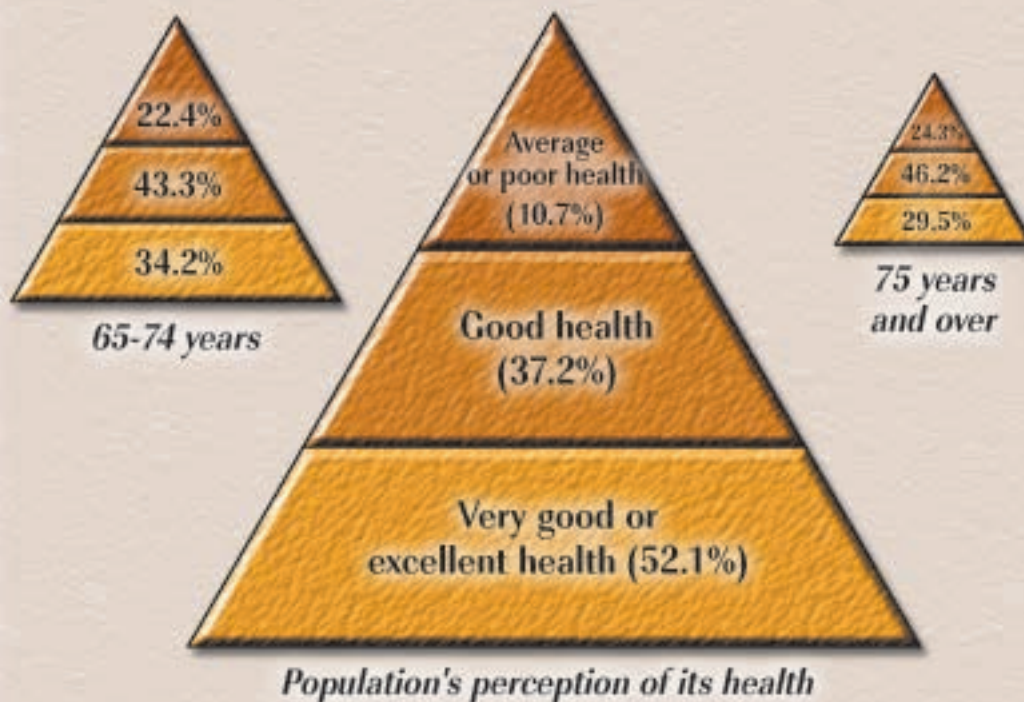
But faced with the speed of the demographic change ahead, we must also be aware that efforts at adaptation must be accelerated. We must do more and better. We must also involve a wider range of social actors, because the scope of the changes required extends beyond the strict mandate of the health system. From a public health perspective, all social policies must be analyzed anew in light of the ageing of the population: the key question now becomes how will such an incentive or policy help us meet the challenge of an ageing society? In this chapter, therefore, we shall explore the avenues most likely to help us get ready for the greying of our city.

Keeping an eye on the population's health

In the new demographic context, our goal is to keep people in good health for as long as possible, and to optimize their functional autonomy and quality of life. Such an objective prompts us to act, whenever possible, before the risks and problems or their consequences arise. In short, the challenge is to reduce avoidable mortality and morbidity.

Diagram A

State of health as perceived by the population of Montreal*



* Source: Enquête Santé-Québec, 1992-1993 (data excludes the institutionalized population)

Diagram "A" offers a useful illustration of this approach. The population can be seen as composed of three separate sub-groups. The first is made up of people who see themselves as being in excellent or very good health: they have no or few risk or vulnerability factors, clinical symptoms or illnesses. This group represents the majority of Montreal's population. The second sub-group, comprising one-third of Montrealers, perceives its health as good. However, people in this group have some risk or vulnerability factors (high blood pressure, excessive weight, inactivity, smoking habit, etc.), and even symptoms

of incipient health problems. In the last and much smaller sub-group, which accounts for one Montrealer in ten, people see their health as being average or poor, and suffer from one or more active health problems. The activities of the health and social services system are, in very large part, aimed at this last group.

It would be wrong to conclude that there is no movement between the three sub-groups, quite the opposite. Prevention is designed to keep as many people as possible at the base of the pyramid, or to help them return there. The goal of health care is to enable a movement from the upper levels of the pyramid to the bottom. Our current level of knowledge can support us in attaining this goal.

It is also enlightening to see how the 65+ group fits into this framework. Whereas one might expect most seniors to fall into the sub-group with average or poor health, figures indicate quite the opposite. In fact, 33% of seniors perceive their health as excellent or very good; 44% see themselves as being in good health; and fewer than one in four see their health as average or poor. Moreover, among those 75 and over, the proportion of people (23.4%) who see their health as average or poor is roughly the same. These figures should keep us from making snap judgements establishing a direct link between old age and failing health. The case is rather the reverse: most seniors believe they are in good — even very good or excellent health. Preserving this health capital in seniors must be our objective at the dawn of the next century.

Needs, age, and health

Now, let's consider the link between age and health needs in light of a few indicators. Table 1 contains data that are frequently used to determine the level of the population's health needs. These data prompt us to review certain pre-conceived ideas. We notice that the first explanatory factor of needs is health and not age. In fact, when groups with comparable health are compared, the age effect is much weaker. In cases like that of psychological distress, advanced age is even "protective": among people whose health is average or poor, seniors show less psychological distress.

Table 1

Health needs of the population in terms of age and perception of health

Needs' indicators	Age	Very good or excellent health	Good health	Average or poor health
Activity limitations	15-64 years	1.8 %	6.5 %	38.4 %
	65 years and over	3.4 %	10.2 %	48.2 %
High psychological distress	15-64 years	21.0 %	32.0 %	48.0 %
	65 years and over	8.1 %	12.8 %	23.8 %
Weak social support	15-64 years	14.9 %	24.2 %	34.1 %
	65 years and over	13.2 %	14.5 %	27.6 %
Regular smokers	15-64 years	26.5 %	36.3 %	41.3 %
	65 years and over	16.3 %	15.0 %	19.2 %
Physical activity less than once a week	15-64 years	39.9 %	51.8 %	60.2 %
	65 years and over	37.6 %	44.0 %	58.3 %
Took at least one medication during the last two days	15-64 years	44.4 %	54.0 %	72.7 %
	65 years and over	70.6 %	80.2 %	92.6 %
Consulted a professional during the last two weeks	15-64 years	20.7 %	25.6 %	40.2 %
	65 years and over	25.6 %	29.3 %	50.3 %
Income: poor or very poor	15-64 years	13.3 %	18.3 %	33.0 %
	65 years and over	28.6 %	34.1 %	39.7 %

Source: *Enquête Santé-Québec 1992-1993, Montreal region*

People 65 and over can also count on a better social support network, they smoke less, etc. However, they use health services more frequently, and are more likely to live in poverty.

In short, advanced age does not always go hand in hand with greater health needs. It is health that matters first and foremost. And it is possible to better preserve the population's health capital by delaying the onset of disease, disability, or loss of autonomy. This is the compression of morbidity hypothesis formulated by James Fries: since the natural life span is predetermined, and since it is possible to delay the appearance of morbidity caused by health problems, it may be assumed that effective steps can be taken to obtain an absolute reduction in the burden of morbidity in the population. Various studies support this hypothesis, and show the effectiveness of preventive measures and appropriate medical care. In fact, a *Santé Québec* survey confirms a drop in the level of disability in Montreal, which suggests that we are already heading along this path.

Acting on health determinants

What can we do to maintain and even make the health capital of seniors of today and tomorrow work to their advantage?

We suggest adopting the so-called preventive management approach, that is:

1. Increasing the number of people who are and who remain in good health.
2. Ensuring that people at risk can start preventive actions or receive the services required by their condition without delay, thus reducing the need to resort to more expensive and less efficient services at some later stage.
3. Providing persons who are sick or disabled, as well as their caregivers, with services adapted to their needs, and in the most relevant and efficient manner.

Diagram B
Possible courses of action



The approach suggested is not new, but much remains to be done in developing it to its full potential. To be effective, the desired course of action must bank on the development of human potential (both at the individual and community levels), healthy environmental and living conditions, as well as the organization of health services (Diagram “B”). Let’s take a more concrete look at what could be done.

Developing individuals and communities

Promoting lifestyles that reinforce the health capital

Activities and programs fostering healthy lifestyles are among the most effective means of achieving high levels of health among seniors and our oldest citizens. As a recent exhaustive study by the International Union for Health Promotion and Education points out, there is more and more evidence to recommend that health promotion activities for the elderly should focus on good nutrition, regular physical activities, and no smoking.

Dietary guidelines do exist, but the effectiveness of programs designed specifically for the elderly has not been systematically demonstrated. However, the positive impact of such programs on social integration has been clearly shown. There are, moreover, truly promising prospects in the field of food security, specifically those initiatives targeting shut-ins, men living alone, people with low incomes, the very old, or those suffering from chronic diseases. What is most desirable is a food policy which takes into account the specific needs of seniors and, more broadly, the needs of an ageing society.

The benefits of regular physical activity in preventing cardiovascular diseases, falls, hip fractures, and even depression, are undeniable. Data show that programs promoting physical activity among the 50-and-over age group have the most success. We also know that loss of functional ability is more the result of inactivity than of the ageing process as such. This is why programs promoting physical activity, such as *ViActive* and the *Programme Intégré d’Équilibre Dynamique*

“... loss of functional ability is more the result of inactivity than of the ageing process... programs promoting physical activity, such as ViActive and the Programme intégré d’équilibre dynamique, should be extended.”

(a balanced exercise program), already up and running in our region, should be extended. These programs could be backed up by community-wide initiatives aimed at making the urban environment safer and more conducive to physical activity. Partnerships with volunteer organizations and the private sector could spark useful developments in this direction.

Finally, in regard to smoking, one can only emphasize the benefits of quitting, whatever the age at which one decides to do so. The fact that some of the harmful effects of smoking can be reversed should encourage us to keep up our efforts to quit, regardless of age.

Rethinking the role of family and community caregivers

Even though the *ministère de la Santé et des Services sociaux* recognizes caregivers as clients and partners, the latter do not really seem to enjoy such a status for the following reasons: practically no mechanisms for consultation and coordination of support services; no systematic assessment of caregivers' situation; and inadequate and poorly designed respite services. In the final analysis, caregivers are a resource we need to respect, motivate, and train. Because of the move to ambulatory care, family caregivers have inherited a number of complex tasks (intravenous line, irrigation of wounds, etc.) which increase their burden whereas their capacity to perform such tasks has never been assessed.

“... family caregivers have inherited a number of complex tasks... which increase their burden whereas their capacity to perform such tasks has never been assessed.”

The State seems to want families to take on a greater share of support. Since the evolution of the family flies in the face of this strategy, we must take another look at its role in providing the support needed by the elderly. First, recognize the principle of free choice; then, support families in their commitment and establish ways to consult about the services needed; and then recognize respite as a right and as a preventive service.

Measures for compensating caregivers should also be considered, especially for caregivers on the job market. These measures could include unemployment insurance, elimination of penalties for unpaid contributions to pension plans, refundable tax credits, etc. The last

“... if we keep overburdening families, we run the risk of creating other public health problems.”

provincial budget established a tax credit for those taking care of parents with disabilities. This first step should be improved, as it is regressive. Uniform solutions must give way to free choice which is alone capable of tailoring services to the varying needs of caregivers. Increased and more flexible support is necessary because if we keep overburdening families, we run the risk of creating other public health problems.

It would be entirely wrong to think that the elderly, as a group, all experience the same degree of isolation. On the whole, 65-to-79 year olds compare, sometimes quite favourably, to those in the 45-to-65 age group. It is only among people aged 80 and over that social integration problems become more acute: only 50% of them still have two or more friends, only 24% visit with friends or family. Whereas 69% of those 65 to 75 lend a hand to people around them and 59% get help, after the age of 80, only 54% give help, while 73% receive it.

Seniors are vital members of their communities; they remain active in society, particularly within their families, and make a noteworthy contribution to the well-being of society. Solidarity between neighbours must be supported and developed. There is a great deal of exchange of services between neighbours: next to spouses, friends and neighbours are the main beneficiaries of the services rendered by seniors. And caregivers greatly appreciate the support offered. Lateral solidarities among the elderly deserve support, as they could compensate for the growing fragility of families. But we must also avoid counting too much on them. Because relationships between neighbours and friends are based on equity and reciprocity, they will not withstand any great degree of imbalance.

We must also remain aware of the plight of the old (people 80 and over), as they struggle with physical disabilities and watch death reduce their circle of family and friends. For these persons, we must develop social activities to which they will have access, in spite of their disabilities.

Faced with the growing demand for home care, the role of social and family networks and the harmonization of natural and formal networks both become crucial. In fact, family and community

support play several roles: monitoring of health, instrumental support, maintenance of identity, and family and social integration.

As we shall see later, various types of action must be taken in regard to services and social development. We must do more than provide occasional support and respite services. We must adjust institutional constraints to family routines and professional judgements to the needs dictated by identity; we must provide adequate support to volunteer groups; and make home care services responsive to the needs and wishes of families. Promising initiatives to consider might be organizing paid vacations for informal caregivers or supporting intergenerational projects.

As a matter of fact, this last approach is already well under way and gaining ground in Quebec. For example, an association like *L'Amitié n'a pas d'âge* has been measuring its success in revitalized neighbourhood relations, demystified notions of old age, shared values, and activities that bridge the gap between young and old.

“Promising initiatives to consider might be organizing paid vacations for informal caregivers or supporting intergenerational projects.”

Encouraging seniors' social participation

Complex situations arise when ageing is combined with other social issues such as marriage breakdowns, increasing numbers of immigrants, the generation gap, and the marginalization and impoverishment of certain neighbourhoods. How can we, as a society grappling with the current economic context, help create conditions which welcome the social participation of all, newcomers and disadvantaged, youth and ageing citizens alike?

In our region, the strategy which emerged in the wake of the *Forum sur le développement social* is opening up promising prospects. By making individuals feel they belong to and have a stake in their community, while also developing their potential and improving their environment, each citizen's social participation is at the very heart of all orientations.

Similarly, we suggest that the ageing of our population be met with approaches which not only encourage elders to participate in and feel a part of society, but which also highlight their social responsibilities with regard to the education of youth, family life, work, retirement, and community life.

Providing the right conditions

Integration and social participation require that citizens have the ability, opportunity, and support to do things that are both meaningful to them and recognized as useful to society. For seniors, this comes down to certain objective conditions: financial security, adequate housing adapted to their needs, relatively good health, access to adequate information, transportation services, and a safe environment (streets and sidewalks in good condition, a sense of security).

Other more subjective conditions are also essential for supporting seniors' participation: level of autonomy or dependence, possibility of meeting essential needs, access to resources, respectful and rich relationships, opportunities for participation. For example, linguistic, cultural, and technological barriers to the use of resources must be detected and removed. Lack of respect for seniors, treating them like children, and other negative attitudes on the part of people around them (who quite often exclude seniors from decisions affecting their lives) should no longer be tolerated.

Acknowledging their larger social roles

Seniors do not wish to be “civic drop-outs”. They do not want to be isolated or passive; to be an added drain on the public purse, or to be society's scapegoats — for instance, with regard to the national debt. They are organized not only to defend their rights, but also to take up their responsibilities as free and responsible citizens. Seniors wish to make the most of their knowledge and experience, and to be part of the decision-making process in various domains. However, the failure to acknowledge this new social role compromises their participation in social life.

They represent a group of citizens who are trained and experienced in any number of sectors and who would like nothing better than to discover new, socially useful roles to play. As active participants in community organizations, they already contribute in many ways to social development. Their actions extend to all generations and into areas as diverse as mutual aid, support, prevention, social justice, religion, culture, and even the fight against poverty.

“Seniors do not wish to be ‘civic drop-outs’. They do not want to be isolated or passive; to be an added drain on the public purse, or to be society’s scapegoats...”

Increasing opportunities for participation

Even if the fields of action open to them are limited, seniors still find a number of sectors in which to remain active, such as in their families: more than 80% of seniors render services to their children (baby sitting, financial assistance, emotional support, etc.). When no longer able to remain in their own homes, seniors can also take an active part in running new housing facilities (senior residences, private homes, and low-income housing) where they can have an influence on creating lively physical and social environments.

Associations are most certainly ideal for attracting seniors' participation. We are talking about senior and volunteer associations and participation in decision-making or providing services. Associations are great places for exchanging information and services; they offer various (leisure, social, cultural) activities and opportunities to defend the rights and promote the interests of seniors.

New retirees appear to be less attracted by purely recreational activities than by groups devoted to advocacy or intergenerational and community-based social activities. Seniors are often the mainstay of volunteer centres: about 20% of seniors work in such organizations. Seniors are also involved at different levels of decision-making in a number of sectors. Seniors are socially allied with other generations, whether on boards of directors of public and private institutions or of organizations and social clubs, or in promotion campaigns, social action or even out in the field.

“New retirees appear to be less attracted by purely recreational activities than by groups devoted to advocacy or intergenerational and community-based social activities.”

Promising lines of action

Seniors are increasingly full partners in decision-making arenas or, at least, aspire to be recognized as such. Their involvement in the Regional Forum on Social Development helped to put their group's social participation on the agenda. They even persuaded their partners at the Forum to consider ageing as an issue cutting across all future social development orientations. Moreover, the question of prevention-promotion designed for the elderly, in a context of rapid ageing, was picked as one of the six major issues with regard to population health and well-being.

“All of us, young and not-so-young, have a large part to play in restoring seniors to their rightful place in society, in valuing their participation, and in recognizing their new social roles as engines of social development.”

The priorities for Montreal’s seniors were defined as follows: information on services and prevention programs; programs for persons experiencing loss of autonomy and living at home as well as support for their natural caregivers; activities and programs for seniors in cultural communities (more likely to be isolated and victims of violence); recruitment of new volunteers and additional funding for community organizations working with seniors; increased participation of seniors in the decision-making and planning of the services that affect them.

There would be good reason to redefine our entire approach to this segment of the population in order to make greater room for the social participation of new seniors who are autonomous and wish to contribute to community life. This would call for in-depth reflection on the role and place of seniors in our society, their present and future needs, as well as new ways of meeting these needs. All this must be done in conjunction with national and regional senior representatives, such as the Senior Citizens’ Forum and the *Table de concertation des aînés de la Ville de Montréal*.

All of us, young and not-so-young, have a large part to play in restoring seniors to their rightful place in society, in valuing their participation, and in recognizing their new social roles as engines of social development. We must change our ways of doing things, modify conditions to invite their full and total participation in terms of their individual abilities, aptitudes, and interests, so that even if unemployed or retired, each citizen will always have a place in society and be able to contribute to the community’s social development.

Improving the urban environment

Mobilizing to improve urban development

Modifying current trends is a considerable challenge: planetary in scale, the issue of greenhouse gases requires everyone’s participation — citizens, governments (health, environment, transportation, energy,

urban development...), municipal administrations, environmental and university groups, etc. In playing for such enormous stakes, it is imperative that we all adopt common objectives and joint strategies.

Attempts are currently being made across Canada to set up action plans to stabilize or even perhaps reduce the emission of greenhouse gases.

In 1992, in Rio de Janeiro, Canada signed the United Nations framework agreement to stabilize greenhouse gases and, at the 1997 Kyoto conference, Canada promised that by 2010, it would have reduced its 1990 level of emissions by 6%. In Quebec, task forces — including the one for transport on which public health sits — are seeking a consensus on the means of reaching that goal.

In the fight to reduce greenhouse gases, which often implies the reduction of other pollutants, there are various promising courses of action: information and public awareness campaigns to increase public awareness (essential to establish new values and behaviour patterns) as well as adoption of official measures to promote and facilitate changes in behaviour. Such measures could, for example, encourage the use of less energy-consuming modes of transportation — public transit, cycling, walking — and/or the choice to live closer to work and services. Some action is also needed to modify the harmful effects of growing truck traffic; this would mean revitalizing other means of shipment (rail, boat...) and improving fuel efficiency (e.g.: standards consumption and emission).

Measures applied to reduce emissions of pollutants will benefit all strata of the population, seniors in particular. In fact, climate changes not only damage seniors' health but also create conditions (e.g.: intense heat, icy sidewalks and roads) that further reduce their mobility by adding to factors already limiting their movements such as heavy traffic, stairs, and distances to cover.

To better understand the very diverse health impacts of climate changes and to respond more effectively in crisis situations, a number of indicators must be monitored. This approach has been proven useful. For example, in Philadelphia, a surveillance/monitoring system provides early warning

“... measures could, for example, encourage the use of less energy-consuming modes of transportation — public transit, cycling, walking — and/or the choice to live closer to work and services.”

of heat waves, allowing the time to take various steps to reduce morbidity and mortality, especially among people at risk (e.g.: access to air-conditioned premises, distribution of air conditioners to the destitute). Epidemiological surveillance can also be envisaged for health indicators (e.g.: mortality/hyperthermia, morbidity/heat wave, excess crude mortality rate).

Urban planning strategies can be adopted: planting trees which offer shade and coolness and even absorb certain pollutants; providing green spaces; using materials with a high albedo⁹ factor in the construction of roads and parking lots.

However, these palliative measures can only be seen as complementary to government actions: governments must come up with a set of local and global promotion/prevention strategies designed to reduce emissions of greenhouse gases.

Transportation for all ages

The new context will engender a strong need for new transportation services, such as buses and metros for all ages. For now, means of transportation are designed for an intermediate age, and urban planning favours urban sprawl and dependence on automobiles. Since quality of life is closely tied to social activities which are, in turn, linked to mobility and communications, we need to rethink our transportation infrastructures and make them friendlier to the senior clientele. Loss of physical ability hinders seniors in their social participation: relationships, cultural events, neighbourliness, volunteer work, and all types of outdoor activities.

***“... despite an increase in the target clientele (retirees), demand for low-income housing has dropped.*”**

Better adapted housing

Occupancy patterns of people aged 65 and over is in full metamorphosis: despite an increase in the target clientele (retirees), demand for low-income housing has dropped. Some see this as a sign that retirees are financially better off, others as evidence that low-income housing

⁹ Tar, because of its colour, has a zero level of albedo: it stores heat and thus contributes to urban warming; conversely a light coloured material will not absorb heat.

is less popular. Public and private nursing homes are serving a much older clientele (4.5% of seniors), a percentage similar to that in Europe. The point is that there is no statistical link between the number of seniors and the demand for specialized housing. A host of variables come into play: home care services; new retirees' educational and financial status; as well as changes in family structure. Not-for-profit housekeeping businesses are also increasingly popular (80 new ones in Quebec), providing a financially accessible service that helps people stay in their homes longer.

Adapting health and social services

An ongoing process

A growing population of seniors in poor health could well impose enormous demands on resources. According to a study done for the European Community, seniors' health problems account for 50% of total health expenditures. So, in the short term, it is imperative to do something about the organization of health services.

Wintertime's overflowing emergency rooms remind us that the rapid ageing of the population requires that we increase our efforts to adapt health services.

Since regional decentralization was introduced in 1994, most of the efforts spent on reforming the health system were devoted to its structural aspects and to establishing mechanisms for coordinating activities. In Montreal, adoption of the first plan to reform the health and social services network (1995-1998) made it possible to transfer resources from institutions to the community. Mechanisms have been set up to better orchestrate network activities as a whole, with certain more fragile clienteles in mind — for example, the evaluation and screening service for the placement of seniors (guichet unique). But in addition to modifying the network's structure and establishing the coordination mechanisms just mentioned, we find there is a need to adopt an approach targeting the population's health needs.

“... there is a need to adopt an approach targeting the population's health needs.”

Prevent

We have seen that maintaining health in those who already enjoy excellent or very good health (no matter their age) is not just a major challenge but, indeed, an imperative. Even if this is partly the individual's responsibility, universal measures for the entire population are still a judicious choice. We have already mentioned actions designed to develop human potential and foster social development and those which advocate appropriate adaptations of the living environment and living conditions. We could also mention the array of more or less long-term activities offered by the public health regional program to maintain the population's health-capital. But we would like to stay focused on the importance of measures more specifically aimed at the organization of health services.

“With the shift to ambulatory care and the explosion in health-related knowledge, citizens are, as never before, called upon to take an active role in managing their own health and health care.”

With the shift to ambulatory care and the explosion in health-related knowledge, citizens are, as never before, called upon to take an active role in managing their own health and health care. This will involve disseminating more lay knowledge about risks and illnesses and even more about ways of preserving or regaining health. The objective is to equip citizens with full, accurate, up-to-date, and credible information, so as to help them understand and undertake actions that are within their reach. We still have a long way to go before reaching this goal. But such a democratization of knowledge will, in future, constitute the basis of a new alliance between citizens and professionals, an alliance within which citizens will learn to act in an increasingly more informed and autonomous manner. An ageing population will have more time to seek the information they need. In line with what was done for the *Info-Santé* service, the public health system should explore other means of using the power of information and education to improve health.

Another measure is related to community medical services, which we consider universal, since about 70% of the population consults a general practitioner each year. Several factors — scientific, economic, demographic, and social — have produced profound changes in the organization of front-line medical services. Group practice in a private office or a CLSC (community health clinic) has gradually replaced the doctor who used

to handle consultations alone, with or without appointment, in the office or at home, during the day, in the evening, and on weekends. Current quality-of-life criteria and the increasing number of female general practitioners have resulted in a reduction in office hours. At the same time, with the steady influx of new knowledge, it is becoming quite onerous for community doctors to keep up with the latest developments because they are constantly in demand by ageing clients, often suffering from several health problems. This is where we witness, especially in urban areas, a sort of “specialization” in general medicine, and observe that people are finding it harder and harder to obtain the services of family doctors who know their patients well and agree to follow them over time.

How can we counteract this jeopardization of access to front-line services in urban areas? Health ministry and medical authorities are currently discussing possible adjustments in targets for numbers of doctors; the recruitment and training of young doctors; as well as the possibility of adopting new administrative and organizational procedures. There is also the need to re-examine methods of compensation, with the idea in mind that it might be advisable to put a premium on the medical services most effective for the management of the diseases of ageing.

Looking beyond these administrative aspects, we see the need to intensify the support given to community medicine. The agreement between the *Association des médecins omnipraticiens de Montréal* and the Public Health Department, which focuses on preventive services, is a first step in this direction. In an effort to build solidarity between sectors involved in medical education and those centres producing knowledge, it would be useful to devise ways of synthesizing and disseminating new medical knowledge to general practitioners so that they can assimilate the huge amounts of information and knowledge required to offer their patients appropriate clinical treatment.

“... the need to intensify the support given to community medicine.”

Cure

For persons at risk for or actually suffering from one or another of the illnesses of ageing, the goal is to optimize care: the right approach, at the right time, provided by the right resource and in the right way.

In short, the judicious use of treatments proven to be effective, not on a population-wide basis, but as addressed to specific groups with identifiable health risks or conditions such as high blood pressure, hypercholesterolemia, asthma, osteoporosis, and diabetes. The treatments in question would modify the evolution of health conditions, prevent or slow down complications or even restore health. This is the group expected to benefit most from the technological advancements of scientific medicine and, more generally, from professional know-how.

What we are proposing to do with these so-called selective measures is to proceed more systematically, adopting a program approach. We now know enough about the natural history of health problems and about the effectiveness of treatments to try such an approach. Numerous guidelines have been established, protocols have been finalized in certain sectors, agreements have been concluded between some establishments, but in spite of these efforts, data still reveal wide variations in practice. While taking care not to make approaches to illnesses of ageing too uniform, we must ensure equality of access to health services by checking to see which practices have proven useful and which have not. The scope of challenges in a region such as ours requires that we intensify and systematize our efforts to translate knowledge into community practices and services. We believe that a dialogue among practitioners, researchers, decision-makers, and citizens, guided by a program and preventive management approach, is the way to go.

*“... a dialogue
among practitioners,
researchers, decision-
makers, and citizens,
guided by a program
and preventive
management
approach,
is the way to go.”*

Such an approach should not be seen as a strictly administrative strategy. Appropriate programs should be designed to help translate this approach into concrete action, while encouraging and supporting the active participation of ordinary people and their families; the empowerment of front-line workers; access to and collaboration with specialized services (investigation, treatment, and rehabilitation, etc.) — based on needs. In short, a full range of services with proven effectiveness, which run along a continuum aiming at specific health objectives and quality care.

Care

The third sub-group is made up of persons whose health has deteriorated irreversibly, causing permanent disabilities and loss of autonomy. In this case, the challenge is to help them adapt to the limitations they must face and of rearranging their living environment according to their needs and constraints. The people here concerned often have several medical problems (cognitive problems, heart failure or respiratory problems, diabetes, eating problems, incontinence, etc.), social problems (poverty, social isolation, etc.), sensory deficiencies, limitations in common everyday activities, etc. For such people, who are often quite old, the most crucial services are: making available technical aids (visual, hearing, for walking, for bathing...), providing support services making it easier to live independently at home (meals, housekeeping, company for errands and medical appointments...), as well as access to adapted recreational activities. A number of other elements also play a determining role in quality of care: nursing, social, and medical services along with the presence of family caregivers and of a pivotal professional worker who, knowing the system, can ensure the continuity of services.

“... other elements also play a determining role in quality of care: nursing, social, and medical services along with the presence of family caregivers and of a pivotal professional worker who, knowing the system, can ensure the continuity of services.”

As mentioned above, the region has seen a pronounced increase in home care services since 1995. The SIPA (Integrated Services for the Elderly Experiencing a Loss of Autonomy) pilot project, already in progress, should help us better understand the added value of an integrated interdisciplinary approach for the frail elderly. But the challenge will remain great over the next years, and any new insights or knowledge about this integrated approach should be concretely reflected in the organization of services for the entire population as quickly as possible. To this end, the dialogue initiated between researchers, practitioners, and decision-makers should be maintained and, indeed, extended to the entire geriatric community.

For the sub-group at the apex of the pyramid, we must also contemplate the question of care at the end of life. According to American authors, more than 27% of the total cost of health services for seniors was used for care given to the 5% of them who died during the year of the study.

More recently, a comparison of care at the end of life in the United States, British Columbia, and Quebec revealed that, in the last six months of life of those 65 and over, there is definitely a greater use of all types of medical procedures, including those truly beneficial only to those in good enough health to enjoy them (hip replacements or the insertion of intraocular lenses). This illustrates the preponderance of technological medicine at the end of life. It also questions the relevance of such medical practices when facing the inevitability of death and the considerable human and financial costs involved: this calls for serious ethical reflection on our approaches to the end of life.

A preventive management approach

How do we go about moving forward in the direction that we have just described? Several roads lead to Rome, as we know. Many have already set out, in their own way, using different road maps and guided by different views about the best route to take. Yet, there is no denying the importance of agreeing on a shared vision of the direction to take and the best way of getting there. In the spirit of encouraging this shared vision, we suggest an approach borrowed from the management cycle; it is both simple and systematic and it has largely demonstrated its usefulness (Diagram “C”).

The preventive management cycle should guide us through the following steps:

1. Analyzing the problem with its causes and consequences, and studying how these are handled in various circles. Such an analysis is essential to identify opportunities for action, to protect health whenever possible, and to decide what studies and surveys to conduct when further information is required.
2. Deciding on proven interventions that can make a difference. This means opting for a global examination of recognized interventions, whether backed by research or by experience, and figuring out what would be the ideal way of combining them if one really wanted to change the course of the disease's

Diagram C

Preventive management approach



natural history. The need for research and development activities (fine-tuning interventions, pilot projects, evaluative research, etc.) could also be specified.

3. Applying proven interventions by promoting those known to be useful over those which are not and reviewing the organization of activities so as to encourage and facilitate use of those most beneficial to health, such as preventive measures.
4. Following up on results concludes the sequence and is based on information gathered through documenting the implemented interventions and analysing the files and records on the population's health. Feedback, aimed at key actors, concerning data on their actions and the results achieved are a powerful stimulus to critical reflection revealing possibilities for improvement.

In spite of the present limitations of some information systems, it is nevertheless possible to document certain practices and major health results, to set new goals for improvement and, thus, to keep repeating the cycle until our ultimate goals are reached.

We are therefore proposing the preventive management cycle because it is designed to help us take preventive action, whenever possible.

The approach is modelled on clinical procedures, which operate on a case-by-case basis. In short, we seek a global view and a comprehensive grasp of each problem to be handled. Do we have a common vision of the problem? What needs to be done? What is the current practice?

What changes should be introduced? What are the observable results? What tangible improvements can be planned?

In practice, such an approach could be adopted for each of the main issues raised in the report: any of the illnesses of ageing; the frail elderly; care at the end of life; and each of the health determinants on which we wish to act. Working groups, made up of citizens, community workers, practitioners of various disciplines, researchers, and decision-makers, could obtain the mandate to develop, discuss, and validate this vision, and then have it adopted by the Régie régionale. In a second mandate, they could work to give concrete expression to the vision, by collaborating to convert it into action, setting up networks with organizational, professional, political, and community authorities, all of whom have the power to act at their own level.

“The approach is modelled on clinical procedures, which operate on a case-by-case basis.”

Getting a Head Start on Demographic Change

For a number of people, the rapid ageing of Montreal's population and its presumed impact on the population's health raises new questions and even some anxiety about our ability to perpetuate our social policies, including, of course, those surrounding our public health care system.

As the International Year for the Elderly draws to a close, the Public Health Department is publishing this report, based on available data and analyses, to make known its views on this whole complex issue and to point out certain paths leading to promising horizons in future years.

At a time when the health system is under a great deal of pressure (and in some sense it does need to evolve), we, first of all, warn all concerned not to jump to the conclusion that ageing equals failing health. To the contrary, data suggest that health gains are possible even at an advanced age, a fact that we can already observe in our region. Next we discuss the scientific evidence which supports the relevance of reinforcing different strategies contributing to prevention: remaining active as we grow older; good lifestyles; participation of seniors in community life and social development; adaptation of residential and urban environments; preservation of air quality, etc. Finally, we stress the need to continue and even accelerate reform of the health system by completing the structural changes already in progress with measures centred on the main health needs of an ageing population. In this sense, we recommend a preventive management approach, programmed in terms of the diseases of ageing with the greatest impact on the health of the population.

Faced with the demographic transition in which we are already engaged — and with the knowledge that it will intensify — we could take a laissez-faire approach, opting to make occasional adaptations as the need arises. Our analysis prompts us instead to get a head start on demographic change, relying on available knowledge,

the promising experiments in progress, and our own power of initiative. We are confident that citizens, practitioners, researchers, and decision-makers can work together to make a difference.

Preparing for ageing means living each phase of life fully, counting on the strengths of health, wisdom, and serenity. Isn't this an aspiration that we all share? The Montreal-Centre Public Health Department will be glad to offer its assistance to those who, through concrete actions, also want to do their part.

Bibliography

ATTIAS-DONFUT, C. (1995). *Les solidarités entre générations. Vieillesse, familles, État*. Paris: Nathan, 352 pp.

CONSEIL DE LA SANTÉ DU BIEN-ÊTRE (1997). *La participation comme stratégie de renouvellement du développement social*, pp. 9, 105, 109.

D'AMOURS, M. and L. BISSON (1998). *L'expérience du chômage de longue durée chez les travailleurs et travailleuses de 45 ans et plus : entre blessure identitaire et construction de nouvelles identités*. Québec, INRS-Culture et Société, 212 pp.

DAVID, H. (1997). "Le vieillissement au travail et en emploi : bilan synthèse des travaux récents." *Lien social et Politiques*, 38, 51-61.

DELFINO, R.J. et al. (1998). "Emergency Room Visits for Respiratory Illness among the Elderly in Montreal: Association with Low Level Ozone Exposure." *Environmental Research*, 76: 67-77.

DUCHARME, F. (1998). "Les aidantes naturelles âgées et la virage ambulatoire." *Le Mésange*, 3, 5-6.

DIRECTION DE LA SANTÉ PUBLIQUE (1998). *1998 Annual Report on the Health of the Population, Social Inequalities in Health*. Régie régionale de la santé et des services sociaux de Montréal-Centre, 92 pp.

ENVIRONNEMENT CANADA (1997). *Chapitre québécois de l'étude pan-canadienne sur les impacts et l'adaptation à la variabilité au changement du climat*. Tome V. Résumé synthèse. Ottawa, Environnement Canada, 19 pp.

ETAN (Expert Working Group for the European Commission) (1998). *The Ageing Population and Technology: Challenges and Opportunities*, 34 pp.

FIRBANK, O. (1997) "Avancement en âge, ressources économiques multiples et situations de vulnérabilité." *Lien social et Politiques*, 38, 87-99.

FLETCHER, A., E. BREEZE and R. WALTERS (1999). *The Evidence of Health Promotion Effectiveness: Shaping Public Health in a New Europe*. International Union for Health Promotion and Education, European Commission.

FRIES, J.F. (1980). Aging, Natural Death and the Compression of Morbidity. *New England Journal of Medicine*, 303: 130-5.

GAULLIER, X. (1997). "Emploi et retraite. Du risque 'fin de carrière' à la pluri-activité à tout âge." *Lien social et Politiques*, 38, 63-73.

GOUVERNEMENT DU CANADA (1993) *Vieillissement et autonomie : Aperçu d'une enquête nationale*. Ottawa, Approvisionnement et Services Canada. 169 pp.

GUBERMAN, N. (1999). *Caregivers and Caregiving: New Trends and Their Implications for Policy*. Ottawa, Health Canada. 144 pp.

IPCC (Intergovernmental Panel on Climate Change) (1996). *Climate Change 1995: the Science of Climate Change*. Contribution of Working Group 1 to the second assessment report of the Intergovernmental Panel on Climate Change. New York, Cambridge University Press.

JUTRAS, S. and J.P. LAVOIE (1991) *L'état de santé des corésidents de personnes âgées en perte d'autonomie*. Enquête Santé Québec 1987, vol. 5. Montréal, ministère de la Santé et des Services sociaux, Gouvernement du Québec.

KALKSTEIN, L.S. (1991). "A New Approach to Evaluate the Impact of Climate upon Human Mortality." *Environmental Health Perspective*, 96: 145-50.

KALKSTEIN, L.S. (1993). "Health and Climate Change: Direct Impact in Cities." *Lancet*, 342: 1397-99.

KATSOUYANNI, K. et al. (1993). "Evidence for Interaction between Air Pollution and High Temperature in the Causation of Excess Mortality." *Archives of Environmental Health* 48 (4): 235-42.

KUNTS, A.E. et al. (1993). "Outdoor Air Temperature and Mortality in the Netherlands: a Time-Series Analysis." *American Journal of Epidemiology*, 137(3): 331-41.

LATIMER, E.A., D. VERRILLI, and W.P. WELCH (1999). "Utilization of Physician Services at the End of Life: Differences between the United States and Canada." *Inquiry* 36: 90-100.

LAVOIE, J.P., L. LEVESQUE and S. JUTRAS (1995). "Les aidants familiaux" chapitre dans *Aspects sociaux reliés à la santé, Rapport de l'Enquête sociale et de santé 1992-1993*, vol. 2, Montréal, Santé Québec; C. LAVALLÉE, C. BELLEROSÉ, J. CAMIRAND, P. CARIS (sous la direction de) ministère de la Santé et des Services sociaux, Gouvernement du Québec, pp. 45-80.

LAVOIE, J.P., J. PEPIN, S. LAUZON, P. TOUSIGNANT, N. L'HEUREUX and H. BELLEY (1998). *Les relations entre les services formels et les aidantes naturelles. Une analyse des politiques de soutien à domicile du Québec*. Direction de la santé publique de Montréal-Centre, Université de Montréal et Regroupement des aidantes et aidants naturel(le)s de Montréal, 82 pp.

LEDUC and GAGNON (1992); McKendry (1993) cité dans *Pollution atmosphérique et impacts sur la santé et l'environnement dans la région de Montréal. RMQA*. Direction de la santé publique. RRSSS de Montréal-Centre, 356 pp.

LONGSTRETH, J. (1999). "Public Health Consequences in Global Climate Change in the United States — Some Regions May Suffer Disproportionately." *Environmental Health Perspective*, 107 (Suppl.): 169-79.

LUBITZ, J.D., and F.R. RILEY (1993). "Trends in Medicare Payments in the Last Year of Life." *New England Journal of Medicine*, 328: 1092-6.

MINISTÈRE DES TRANSPORTS DU QUÉBEC (1995). *Vers un plan de transport pour la région de Montréal, Phase 1 : Choisir — Diagnostic et orientations*. Document de référence. Montréal, Direction régionale de Montréal, 458 pp. + annexes.

ORY, M.G., R.R. HOFFMANN III, J.L. YEE, S. TENSTEDT, and R. SCHULZ (1999). "Prevalence and Impact of Caregiving: A Detailed Comparison between Dementia and Nondementia Caregivers." *The Gerontologist*, 39, 177-185.

PHILLIPSON, C. (1997). "La prise en charge des parents âgés en Grande-Bretagne : perspectives sociologiques." *Lien social et Politiques* 38, 165-173.

PRADES, J.A., R. LOULOU, and J.P. WAAUB (1998). *Stratégies de gestion des gaz à effet de serre. Le cas des transports urbains*. Sainte Foy, Presses de l'Université du Québec. 277 pp.

RAIZENNE, M. et al. (1998). "Les effets de l'exposition à la pollution atmosphérique sur la santé des enfants. *Revue canadienne de santé publique*, 89 (Suppl.1) : S47-S53.

RAMLOW, J.M. and L. H. KULLER (1990). "Effects of the Summer Heat Waves of 1988 on Daily Mortality in Allegheny County, PA." *Public Health Reports*.

RÉGIE RÉGIONALE DE LA SANTÉ ET DES SERVICES SOCIAUX DE MONTRÉAL-CENTRE (1995). *Portrait de santé des Montréalais : rapport de l'enquête sociale et de santé 1992-1993 pour la région de Montréal-Centre*.

RÉGIE RÉGIONALE DE LA SANTÉ ET DES SERVICES SOCIAUX DE MONTRÉAL-CENTRE (1998) *Accent on Access, Plan to Improve Health and Social Services, 1998-2002*.

RÉGIE RÉGIONALE DE LA SANTÉ ET DES SERVICES SOCIAUX DE MONTRÉAL-CENTRE (1999). *Tableau de bord central, Plan d'amélioration des services de santé et des services sociaux 1998-2002, État de situation : le point de départ*.

RICHER, F. (1999). *Impacts santé des changements climatiques. Conséquences des épisodes de chaleur intense sur la santé*. Document de travail. Montréal, unité de Santé au travail et environnementale. Direction de la santé publique de Montréal-Centre, 51 pp.

RMQA (Regroupement montréalais pour la qualité de l'air) (1998). *Pollution atmosphérique et impacts sur la santé et l'environnement dans la région de Montréal*. Direction de la santé publique. RRSS de Montréal-Centre, 356 pp.

ROCHON, Madeleine (1997). *Vieillesse démographique, état de santé et financement des dépenses publiques de santé et de services sociaux*, Université de Montréal.

ROSENTHAL, C.J. (1997). "Le soutien des familles canadiennes à leurs membres vieillissants : changements de contexte." *Lien social et Politiques*, 38,123-132.

ROWE, John W. and Robert L. Kahn (1998). *Successful Aging*, New York, Dell Publishing, Random House, 265 pp.

SCHULZ, R., A.T. O'BRIEN, J. BOOKWALA and K. FLEISSNER (1995). "Psychiatric and Physical Morbidity Effects of Dementia Caregiving: Prevalence, Correlates, and Causes." *The Gerontologist*, 35, 771-791.

STATISTIQUE CANADA (1992). *Vieillesse et autonomie. Faits saillants*. Ottawa, Statistique Canada, 20 pp.

VITA, A.J., R.B. TERRY, H.B. HUBERT and J.F. FRIES (1998). "Aging, Health Risks and Cumulative Disability," *New England Journal of Medicine* 338: 1035-41.

WHO, WMO and UNEP (World Health Organization, World Meteorological Organization, United Nations Environment Programme) (1996). *Climate Change and Human Health*. Genève, A.J. McMichael, A. Haines, R. Sloof and S. Kovats, 297 pp.

List of Maps, Figures, Tables, and Diagrams

Maps	Island of Montreal: Percentage of persons 65 and over residing in private households in the population as a whole (Statistics Canada, 1981 and 1996)p.6
Figure 1	Proportion of persons aged 65 and over, Montreal-Centre, Quebec and OECD countries, 1996.....p.15
Figure 2	Age pyramid, Montreal-Centre, 1976, 1996, 2016p.16
Figure 3	Life expectancy at birth, according to gender, Montreal, 1950-1952 to 1995-1997.....p.17
Figure 4	Migratory population movements, according to components, Montreal-Centre, 1991-1996p.17
Figure 5	Proportion of population having done university studies, according to generation, Montreal-Centre, 1991p.18
Figure 6	Unemployment rate, Montreal-Centre and Quebec as a whole, 1991 to 1999p.19
Figure 7	Employment rate according to gender and age, Quebec, 1995 and 1999p.20
Figure 8	Proportion of population living below the low-income threshold, according to age, Montreal-Centre and Canada, 1995p.20
Figure 9	Proportion of population living below the low-income threshold, according to age, Montreal-Centre, 1990 and 1995p.21
Figure 10	Proportion of persons receiving welfare, Montreal-Centre and Quebec as a whole, 1989 to 1998.....p.21
Figure 11	Adjusted mortality rate according to cause, Montreal-Centre, 1975-1977 to 2016.....p.24
Figure 12	Crude mortality rate according to cause, Montreal-Centre, 1975-1977 to 2016.....p.24
Figure 13	Crude rate of incidence of cancer among men, according to site, Montreal-Centre, 1984-1988 to 2016p.25

Figure 14	Crude rate of incidence of cancer among women, according to site, Montreal-Centre, 1984-1988 to 2016	p.25
Figure 15	Mortality rate for lung cancer, according to urban region, Canada, 1996.....	p.26
Figure 16	Crude rate of hospitalization for heart-failure, Montreal-Centre, 1992-1994 to 1996-1998.....	p.27
Figure 17	Rate of hospitalization for vascular brain diseases, Montreal-Centre, 1992-1994 to 1996-1998.....	p.28
Figure 18	Rate of hospitalization for diseases of the respiratory system, according to gender, Montreal-Centre, 1997-1998 to 2016	p.28
Figure 19	Average daily number of stretchers occupied, according to health problem, Montreal-Centre, April 1995 to March 1999.....	p.29
Figure 20	Proportion of population overweight, according to age, Montreal-Centre, 1987 and 1992-1993	p.29
Figure 21	Crude mortality rate for diabetes, according to gender, Montreal-Centre, 1981-1983 to 2016.....	p.30
Figure 22	Adjusted rate of hospitalization for hip fracture among those 65 and over, urban regions of Canada, 1996-1997	p.31
Figure 23	Rate of hospitalization for cerebral degeneration (i.e. Alzheimer), according to gender, Montreal-Centre, 1997-1998 to 2016.....	p.31
Table 1	Health needs of the population in terms of age and perception of health	p.46
Diagram A	State of health as perceived by the population of Montreal.....	p.44
Diagram B	Possible courses of action.....	p.47
Diagram C	Preventive management approach	p.63

Acknowledgements

Steering committee

Richard Lessard
Director of public health

Denis Roy
interim director
up to August 1999

Michel Mongeon
Report coordinator

John Carsley
Louis Drouin
Marie-Claire Laurendeau
Jean-Luc Moisan
Gloria Sacks-Silver

Technical committee

Michel Mongeon, coordinator
Denis Allard
Deborah Bonney
Robert Choinière
Lise Guérard
Solange Lapierre
Monique Letellier
Yolande Marchand
Jean-Luc Moisan
Louis Patry
Francine Trickey

Special contributions

Denis Roy
Robert Choinière
Gerontology team

Collaborators

André Bergeron
Marie-Claude Boivin
Jacques Durocher
Jean-Pierre Lavoie
Michel Morel
François Thérien
Michelle Tremblay

and

Madeleine Rochon
ministère de la Santé et
des Services sociaux du Québec
Economic aspects of this report
drew largely upon her research.

Writing consultant

Solange Lapierre

Design and layout

Paul Cloutier

Photography

Jean Bruneau

English translation

Sybil Murray-Denis

Production and distribution

Deborah Bonney
Jean-Luc Moisan