

# EpiNORTH

The Northwest Territories Epidemiology Newsletter

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## The Graying of the NWT – a Look Ahead

With *EpiNorth's* new look, it seems timely to consider the changing demographic face of the NWT. Although the Territorial population is comparatively young, it is in fact aging. A few figures will help to illustrate the changing scenario. In 1996, 37% of the NWT population was under 20 years of age, compared to 27% nationally, while only 4% were 65 years of age and older, compared to 12% nationally. According to the 1996 census figures, men (52%) slightly outnumbered women (48%), especially in the 40 to 54 age group. Women, however, outnumbered men in older cohorts (80+) due to a longer life expectancy.

By 2020, the number of seniors 60 years of age and older is expected to more than double from approximately 2,400 to over 5,600, representing an increase of 135%. In the same time frame, the number of young people less than 20 years of age is expected to increase from just over 14,700 to approximately 16,900, representing an increase of 15%.

Between 1981 and 1996 the proportion of the population less than 20 years of age declined. In 1981, young people less than 20 years of age made up 42% of the population, however, this cohort is expected to represent only one third (31%) of the population by the year 2018. In 1981, those 40 to 59 years of age made up 15% of the population, however this cohort is expected to make up a quarter (25%) of the NWT population by 2018.

Historically, NWT crude birth rates (the ratio number of live births to total population) and fertility rates (number of births divided by number of women of childbearing age in the population) have been higher than Canadian rates. During the 1980s and early 1990s, Canada's crude birth rate was approximately 14 per 1,000 population, while in the NWT it was 24 per 1,000 population. Since the mid 1980s, the NWT has experienced a downward trend in birth rates. Between 1985 and 1995, 850 births per year were registered, compared with an average of 780 births for the years 1996 to 1998. This trend was reflected in the crude birth rate which went down to 18 per 1,000 in 1997 and 1998.

If these trends persist we can expect the NWT age structure to look significantly different in the foreseeable future, as older persons will make up an increasingly larger proportion of the overall population. From a demographic viewpoint, the age pyramid will take on a more robust appearance as its base (younger population) will narrow, while middle and top segments (older population) acquire width – an all too familiar sign of aging.

Demographers tell us that the structure and composition of a population has a definite impact on population health. We know that the incidence of some diseases is tied to age and sex. For example, respiratory tract conditions such as RSV or ear infections tend to occur during childhood, whereas injuries and sexually-transmitted diseases predominate in younger cohorts,

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# A Changing Demographic – Health Determinants and Health Status of NWT Seniors

This article highlights several health determinants that relate to the growing number of seniors in the Territories. Selected health status indicators are also presented.

## A Rapidly Growing Population

Seniors constitute one of the fastest growing population groups in the Northwest Territories. In 2000, an estimated 1,709 residents were 65 years of age and older, up 47% from 1,159 in 1991. In contrast, the population under age 65 grew by 8% in the same period. As a result of these trends, the share of the overall Northwest Territories population accounted for by seniors has steadily risen in the past decade. In 2000, seniors made up 4% of the total population, up from 3% in 1991.

Seniors will make up a larger percentage of the total NWT population as large numbers of baby boomers get older, while fertility continues to decrease and life expectancy continues to increase. The number of seniors is expected to more than double from about 1,709 in 2000 to 4,471 in 2019. This represents an increase of 162%. In contrast, the population less than 65 years of age is expected to increase by 17% during this period. By 2009, people age 65 and older are expected to make up 6% of the total population and by 2019, 9% of all Northwest Territory residents will be 65 years of age and older.

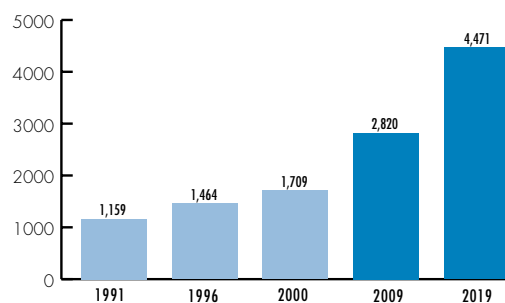
## Characteristics of the Senior Population

The senior population in the Northwest Territories is not a homogenous group. People aged 65 to 74 are more likely to resemble those between 55 and 64 than they do those aged 75 and older. The population aged 75 and older is more likely to be characterized by many of the conditions associated with old age. Table 1 shows that

most seniors are between the ages of 65 and 74, (66%). Given current life expectancy at age 65, the number of older seniors will likely increase significantly in the next ten to twenty years.

Figure 1

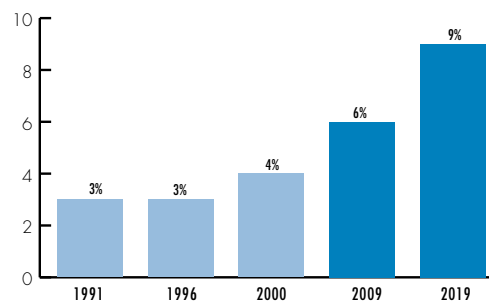
Number of NWT Seniors 65 Years & Older, 1991-2000 & Projections to 2019



Source: NWT Bureau of Statistics.

Figure 2

NWT Seniors 65 Years & Older as a Percentage of the Total Population, 1991-2000 & Projections to 2019



Source: NWT Bureau of Statistics.

Table 1

NWT Senior Population by Age, Sex & Ethnicity, 2000

	Total	Male	Female	Aboriginal	Non-Aboriginal
<b>Total</b>	1,709	847	862	1,151	558
65-69	38%	39%	37%	34%	45%
70-74	28%	28%	27%	28%	28%
75-79	16%	15%	16%	16%	15%
80+	19%	18%	20%	21%	13%

Source: NWT Bureau of Statistics.

In Canada the senior population is predominately female – 57% of seniors between 65 and 74 years of age and 62% of those 75 and older are women. However in the Northwest Territories the proportion is more evenly divided. Here, women make up 49% of seniors between 65 and 74 years and, given their longer life expectancy, they make up 53% of seniors aged 75 and older. It is not expected that this distribution will change much in the next two decades. By 2019, it is estimated that women will make up 50% of seniors aged 65 years and older.

About 67% of seniors aged 65 and older in the Territory are Aboriginal (First Nations, Inuit and Metis) and the proportion increases with age, such that 77% of those 80 years and older are Aboriginal (See Table 1).<sup>\*</sup> However, it is estimated that by the 2019, half of seniors 65 years and older will be non-Aboriginal. Approximately 62% of the people between 45 and 59 years of age now living in the Territory are Non-Aboriginal. It is expected that an increasing number of these individuals will remain after retirement. If these projections hold, non-Aboriginal people will be the fastest growing segment of the senior population in the next two decades. Between 2000 and 2019, the Aboriginal senior population is expected to increase by 93% from 1,151 persons to 2,221. Meanwhile, the non-Aboriginal senior population is expected to grow from 558 to 2,250 persons – an increase of 303%.

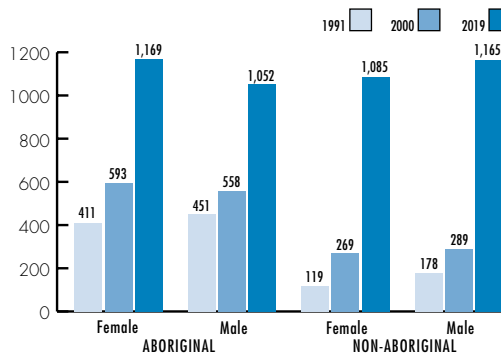
### Where Seniors Live

In 2000, of the estimated 1,709 seniors in the Northwest Territories, 48% lived in one of the smaller communities, 31% lived in the regional centres of Fort Smith, Hay River and Inuvik and the remaining 21% lived in Yellowknife.<sup>\*\*</sup> Seniors in the smaller communities made up 6% of the total population in those communities. They made

up 5% of the total population in the regional centres and 2% in Yellowknife. Older seniors were even more likely to be living in one of the smaller communities. About 57% of seniors aged 75 years and older lived in these communities, 24% lived in one of the regional centres and 19% lived in Yellowknife.

Figure 3

Number of NWT Seniors 65 Years & Older, by Sex & Ethnicity, 1991, 2000, Projected to 2019



Source: NWT Bureau of Statistics.



Table 2

NWT Senior Population by Age & Community Type, 2000

	Total	Yellowknife	Regional Centres*	Other Communities
<b>Total</b>	1,709	361	521	827
65-69	38%	38%	38%	38%
70-74	28%	29%	33%	24%
75-79	16%	16%	14%	17%
80+	19%	16%	12%	24%

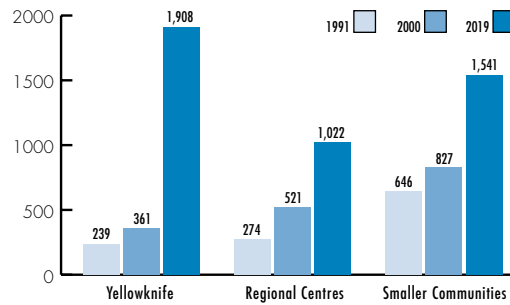
\* Includes Fort Smith, Hay River and Inuvik  
Source: NWT Bureau of Statistics.

In Yellowknife, it is expected that the number of seniors will increase by about 429% between 2000 and 2019, from about 361 to 1,908 persons. In the regional centres, the senior population is expected to grow by 96%, from 521 to 1,022 persons. Meanwhile, the senior population in the smaller communities is expected to increase from about 827 to 1,541 persons in 2019, an increase of 86%.

### NOTES

\* Currently, Aboriginal peoples make up 51% of the overall population.  
\*\* Percentages may not add to 100 due to rounding.

**Figure 4**  
 Number of NWT Seniors 65 Years & Older by Community Type, 1991, 2000, Projected to 2019



Source: NWT Bureau of Statistics.

### Determinants of Health

From a population health perspective there are a wide-range of factors, many of which operate outside of the health care system, that contribute to seniors' health or put them in situations of risk. These determinants of health include income, social status, education, physical and social environments, personal health practices, along with biology and genetic endowment.

There is good evidence that education and income affect health status.<sup>1</sup> Poor, less-educated seniors are more likely to suffer from ill health than are those with significant economic and educational resources.

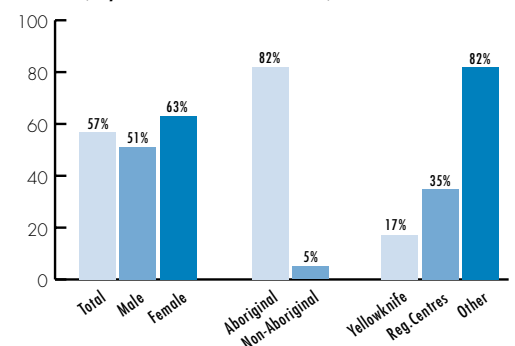
According to the 1996 Census, an estimated 49% of NWT seniors 65 years and older had an annual income below \$20,000, and 59% had an annual income below \$30,000.<sup>2</sup> Seniors in the Northwest Territories have, on average, relatively low levels of formal educational training. For example, 7% of all Territorial residents aged 65 and over had a university degree in 1999, compared with 18% of people between the ages of 25 and 59. In fact, the majority of seniors (62%) never completed high school and 57% have completed less than grade nine in school. While grade level achievement is not a perfect measure of literacy, many seniors with less than a grade nine education have difficulty reading, writing and carrying out basic adding and subtraction.



Poorly developed literacy skills may affect seniors' ability to access health and social services, take medication, respond to emergency situations and manage finances. As figure 5 shows, low levels of education is especially prevalent among Aboriginal seniors where 82% had less than grade nine in 1999. And since most seniors living in the smaller communities in the NWT are Aboriginal, it is not surprising that 82% have less than a grade nine education.

Many of the determinants of health rarely exist separately. For example, seniors with low incomes and literacy skills are also more likely to be socially isolated, which in turn, reduces seniors' sense of self-esteem and impairs their ability to access important information. There is good evidence that social support helps to promote the health of seniors.<sup>3</sup> An estimated 65% of seniors in the Territories indicated they had high level of social support, compared to 77% of their Canadian counterparts.<sup>4</sup> Moreover, seniors with low levels of education and income are also more likely to engage in negative health practices such as tobacco use. The prevalence of smoking among people aged 60 and older in the NWT was 31% in 1999, compared to 12% in Canada as a whole.<sup>5</sup> The high smoking rate certainly has a negative impact on the health status of seniors. The next section looks at a number of health status indicators for seniors in the NWT.

**Figure 5**  
 NWT Seniors 65 Years & Older with Less Than Grade 9, By Various Characteristics, 1999



Source: 1999 NWT Labour Force Survey, NWT Bureau of Statistics.

## Health Status

### Life Expectancy

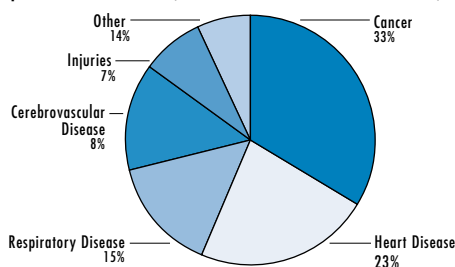
Overall, life expectancy at birth in the Northwest Territories increased between 1981 and 1997 from 71 years to 77 years. This increase was due mainly to an increase in life expectancy at birth among Aboriginal females (from 68 to 75 years), Aboriginal males (from 61 to 70 years) and non-Aboriginal males (from 70 to 75 years). At 80 years, non-Aboriginal females had the highest life expectancy at birth in 1997.<sup>6</sup> Despite these improvements, seniors in the Northwest Territories still tend to live shorter lives than do seniors in the general Canadian population. Preliminary Statistics Canada estimates indicate that in 1996, remaining life expectancy for Canadians at age 65 was 18.4 years compared to 17.6 years for seniors in the NWT.<sup>7</sup>

### Causes of Death

Cancer and heart disease account for half of the deaths of Territorial residents. In 1997, 33% of all deaths among people aged 65 and over were attributable to cancer and 23% were caused by heart disease. Another 15% of deaths among seniors were caused by respiratory disease, mainly pneumonia and chronic airway obstruction. Cerebrovascular disease, primarily strokes, accounted for 8% of all deaths and injuries accounted for 7%. The leading causes of death, in part, result from some of the lifestyle choices made by people in the NWT. Thirteen of the 25 cancer deaths were due to lung cancer, most of which are smoking-related. It is also likely that smoking contributed to a large number of the deaths due to chronic airway obstruction, heart disease and strokes.

**Figure 6**

Major Causes of Death, NWT Seniors 65 Years & Older, 1997



Source: Statistics Canada.

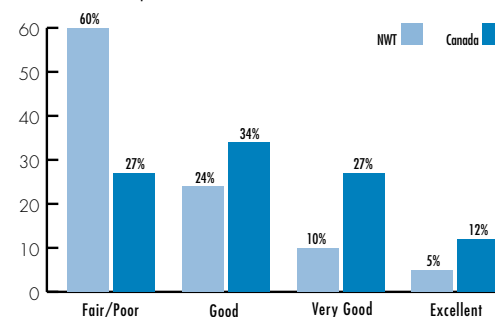
### Perceived Health of Seniors

Research indicates that self-rated health status is a useful indicator of overall health, as it correlates strongly with several 'objective' measures of health status. Figure 7 shows that, unlike seniors in Canada as a whole, most seniors living at home in the Northwest Territories describe their health in negative terms. In 1994-95, about 60% said their health was either fair or poor, compared to 27% of their Canadian counterparts. Just 15% of NWT seniors indicated they had very good or excellent health, while 40% of Canadian seniors rated their health in this way. While NWT seniors do not perceive their health in positive terms when compared to Canadian seniors as a whole, this is not true for younger age groups. For example, an estimated 52% of NWT residents and 56% of Canadians as a whole between 45 and 64 years of age indicated they had very good or excellent health.<sup>8</sup>



**Figure 7**

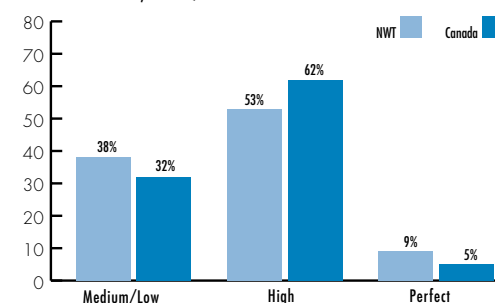
Self-Rated Health Status, Seniors 65 Years & Older NWT & Canada, 1994/95



Source: 1994/95 NWT National Population Health Survey, NWT Bureau of Statistics.

**Figure 8**

Functional Health Status, Seniors 65 Years & Older NWT & Canada, 1994/95



Source: 1994/95 NWT National Population Survey, NWT Bureau of Statistics.

### Functional Health Status

Functional health status is another indicator of overall health. The index provides an indication of a person's ability to carry out everyday independent living by looking at eight attributes: vision, hearing, speech, mobility (ability to get around), dexterity (use of hands and fingers), cognition (memory and thinking), emotion (feelings), and pain or discomfort. These eight attributes are summarized into a value between 0 and 1, with 1 indicating perfect functional health. Anyone with a score of 0.80 or more can be considered to have a high level of functional health.<sup>9</sup> In 1994/95, only 53% of NWT seniors had a high level of functional health, while 38% indicated they had a medium to low level of functional health. This compared to 32% of Canadian seniors. Meanwhile, 9% indicated they had perfect functional health, compared to 5% of Canadian seniors.

### Conclusion

With people living longer and a large segment of the population now approaching their senior years, people over the age of 64 will make up a larger share of the Territorial population over the next 20 years.

As seniors' life expectancy lengthens, the prevalence of chronic diseases and long-term disabilities will likely increase. Medical advances are prolonging life which means that seniors are living longer with these conditions. This will likely translate into greater demand for health care and an expansion of services. Given that illnesses in old age tend to be chronic rather than acute, a health care system that stresses short-term, medical, acute care in hospitals may not be the best solution. In 1996, an estimated 67% of NWT seniors living in households indicated they had a long-term chronic illness such as arthritis, heart disease, and respiratory problems diagnosed by a health professional.<sup>10</sup>

The greatest need among seniors is for services that will help them cope with chronic conditions. Long-term care and

support is often more appropriate than acute medical short-term care.<sup>11</sup> While health does decline with age, many seniors are often able to adjust and continue to function. Even though 67% indicated they have a chronic condition, 38% indicated they have less than high functional abilities. This does not mean that seniors do not require acute health care. They will continue to utilize acute health care at a greater rate than the rest of the population, and the demands on the system will increase as the population ages.

The challenge is to develop a health care system that is appropriate and responsive to the needs of seniors. Given the interactions among health determinants, multifaceted strategies should be employed. For example, health promotion messages need to take seniors' education levels into account. Health service programs for seniors need to examine issues such as existing levels of social support available and work with other sectors to increase these levels where needed.

### REFERENCES

1. Federal, Provincial and Territorial Advisory Committee on Population Health, "Toward a Healthy Future: Second Report on the Health of Canadians", 1999.
2. 1996 Census, NWT Bureau of Statistics.
3. Chappell, Neena L., "Maintaining and Enhancing Independence and Well-being in Old Age" in *Determinants of Health: Adults and Seniors*. SteFoy: Editions Multimondes, 1998.
4. 1994/95 National Population Health Survey, NWT Bureau of Statistics.
5. 1999 NWT Labour Force Survey, NWT Bureau of Statistics & 1999 Canadian Tobacco Survey, Public Use Micro Data File.
6. Government of the Northwest Territories, Department of Health and Social Services, *NWT Health Status Report*, 1999.
7. Statistics Canada, Health Statistics Division.
8. Government of the Northwest Territories, Department of Health and Social Services, *NWT Health Status Report*, 1999.
9. Government of the Northwest Territories, Department of Health and Social Services, *NWT Health Status Report*, 1999.
10. 1996/97 National Population Health Survey, NWT Bureau of Statistics.
11. Chappell, Neena L., "Maintaining and Enhancing Independence and Well-being in Old Age" in *Determinants of Health: Adults and Seniors*, SteFoy: Editions Multimondes, 1998.

## Our Aging Society – Future Health Service Implications

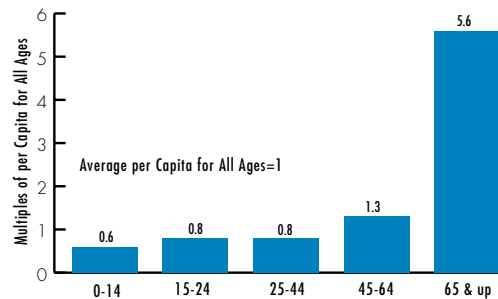
In various parts of Southern Canada aging is an issue which has received a good deal of attention, but as a demographic phenomenon it has only recently begun to attract notice in the Northwest Territories. This analysis provides a forward glance into the some of the anticipated changes, growth and utilization demands which the NWT's health care system will most certainly face in the next twenty years.

The senior population, on average, requires more health care than any other age group, including newborns. This is due to the fact that, overall, seniors face higher rates of cancer, circulatory diseases, nervous system and sense organ diseases, injuries, and respiratory diseases, compared to the population as a whole. When seniors do become ill or injured, they face longer recovery times. Moreover, disease is more likely to be of a chronic nature than acute, requiring on-going or extended treatment.<sup>1</sup> The increased risk of disease, susceptibility to injury, longer recovery times, and the chronic nature of disease occurring later in life all translate into greater needs for health care resource by seniors on a per capita basis as compared to other age groups in the population. This trend has serious implications for health care costs and system capacity for service delivery. This article summarizes some of the implications of an aging population on the Territorial health care system.<sup>2</sup>

The Department of Health and Social Services is currently developing a report on the utilization of health services by the residents of the Northwest Territories. The report examines services provided by hospitals, physicians, health centres and public health units, and medical travel which is used to access some of these services. Preliminary findings reveal significant age differences in demand for health care resources when measured by cost. Figure 1 shows that health care costs for seniors are 5.6 times higher than the NWT average for all age groups.

**Figure 1**

**Health Care Cost per Capita - Multiples by Age Group  
Annual Average 1994/95 to 1998/99**



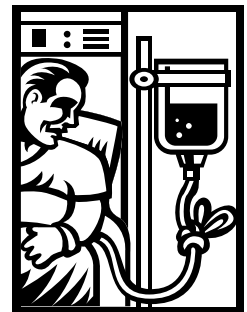
*Note: Based on estimates for Hospitals, Physicians, Health Centres, Public Health Units and Medical Travel.  
Source: Department of Health and Social Services and NWT Bureau of Statistics.*

Health care cost projections are based on three key assumptions: First, that the average demand on health care resources on a per capita basis between 1994/95 to 1998/99 will continue over the next twenty years; Second, that all age groups will continue to use health services in a like manner in future years; Third, that the population will continue to grow and age at a comparable rate to the past ten years.

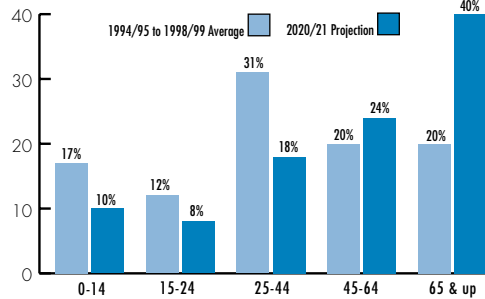
The anticipated impact of an aging population on the health care utilization will increase over the next two decades. Requirements for direct health care (eg., surgery and treatment) as well as indirect health care (eg., long term-care and home care) will rise. By 2020/21, seniors will require 40% of services provided by hospitals, health centres, physicians, including those associated with medical travel. These services, for all ages combined, will grow by approximately 140% from the annual average for 1994/95 to 1998/99 (See Figure 2).

The cost of health services for seniors varies considerably over type of disease or medical condition. Figure 3 presents the top seven conditions by relative degree of cost comparing seniors and the total population. On a cost per capita basis, diseases of the circulatory system, mainly heart disease and stroke, affect seniors

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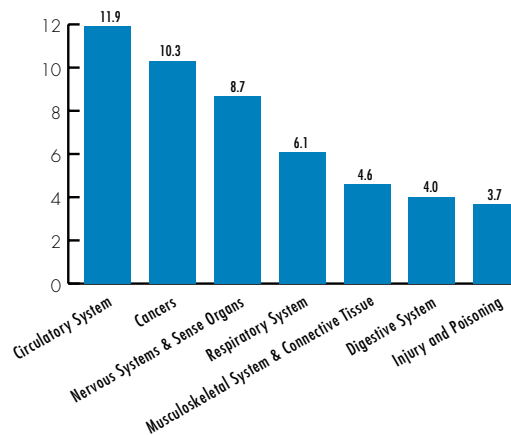
**Figure 2**  
**Proportion of Health Service Costs by Age Group**  
**NWT, 1994/95-1998/99, Projected to 2020/21**



*Note: Based on estimates for Hospitals, Physicians, Health Centres, Public Health Units and Medical Travel.*  
*Source: Department of Health and Social Services and NWT Bureau of Statistics.*



**Figure 3**  
**Health Service Cost Ratios - Seniors to All Ages**  
**Annual Average 1994/95 - 1998/99**



*Note: Based on estimates for Hospitals, Physicians, Health Centres, Public Health Units and Medical Travel.*  
*Source: Department of Health and Social Services and NWT Bureau of Statistics.*

nearly twelve times as much as they do for all other ages groups combined. Cancer is number two at a per capita rate 10 times that for all other ages groups combined. The cost of treating diseases of the nervous system and sense organs is almost 9 times higher for seniors.

The ratios expressed in Figure 3 foreshadow future levels of demand on health care services for the population as whole. Another way to illustrate this change in demand is to examine the top conditions by cost for seniors, as compared with the total population, between 1994/95 and 1998/99,

and to compare the past to the future – 2020/21 (See Figure 4) for all ages.

Between 1994/95 and 1998/99, circulatory diseases were the top group of medical conditions requiring health services for seniors. These ranked seventh for the population as a whole. By 2020/21, circulatory diseases will predictably continue to take top ranking for seniors, but will also jump to second place for all ages combined.

Respiratory diseases ranked second by cost of treatment for seniors and first for the population as a whole between 1994/95 and 1998/99. By 2020/21, respiratory diseases will be the top condition by cost of health care for the total population. Respiratory diseases figure prominently within the senior population, but are also common among young children (eg., colds, acute bronchitis, asthma etc.).<sup>3</sup> For seniors, respiratory diseases are typically chronic in nature and are often related to the long-term use of tobacco (smoking and/or exposure to second-hand smoke).

Diseases of the nervous system and sense organs mainly include Alzheimer and Parkinson as well as sight and hearing problems. Diseases of the nervous system and sense organs rank third for seniors and sixth for all other ages combined. By 2020/21, these are expected to become the fourth most expensive to treat for the total population.

Cancer ranks fourth for seniors, but drops to eleventh place for the population as a whole. By 2020/21, cancer treatment and costs are expected to grow by 200%, moving it into ninth place for all NWT residents. Unlike circulatory diseases, cancer does not move as many levels up in terms of conditions affecting the population as a whole. So, while cancer is more likely to occur in seniors than in younger age groups, it is not as common as circulatory diseases within the population as a whole.<sup>4</sup> As well, cancer will often take a person's life faster than would a circulatory disease.<sup>5</sup>

Pregnancy and childbirth is a 'condition'



which is not applicable when considering utilization by seniors, but demonstrates the change in demand for health care services for the population at large. Between 1994/95 and 1998/99, health care costs for pregnancy and childbirth ranked third highest. Due to the aging of the NWT population, pregnancy and childbirth is expected to move down to seventh place in terms of health care costs by 2020/21.

By their sheer numbers, and the inevitable effects of an aging population, tomorrow's senior population will collectively have a significant impact on the Territorial health care system.<sup>6,7</sup> To some degree, the future burden on the health care system can be lessened by changes in individual behaviour. For instance, quitting smoking, improvements in diet, and engaging in active living will contribute to a reduction in chronic respiratory, circulatory diseases, diabetes and cancer. This could have a significant impact on the overall health status of the NWT population which would, in turn, impact the cost, intensity (long-term or short-term) and type of health service utilization.

While more research is required, it is clear that health administrators and policy makers at all levels must act today if they are to adequately meet the growing and distinct health care needs of an aging society.

## NOTES AND REFERENCES

1. Government of Canada, National Advisory Council on Aging, 1999 and Beyond: *Challenges of an Aging Canadian Society*, 1999: 19.
2. Source for all statistics is the NWT Bureau of Statistics. Numbers are subject to future revisions. All health care utilization statistics are preliminary based on the estimates from the *NWT Health Services Report* (Internal Draft).
3. Some respiratory ailments in children can be exasperated or caused by direct exposure to second-hand tobacco smoke.
4. The incidence rate among residents age 60 years of age and older was six times the average rate for the general population, between 1994–1998 (Source: Department of Health and Social Services, NWT Cancer Registry and NWT Bureau of Statistics).
5. The *NWT Health Status Report* estimated the potential years of life lost (PYLL) before age 70 for males and females (1991-1996). In both cases, more PYLL were attributed to cancer when compared to circulatory diseases (Department of Health and Social Services, 1999: 34).
6. Government of Canada, National Advisory Council on Aging, 1999 and Beyond: *Challenges of an Aging Canadian Society*, 1999: 19.
7. In a recent report, *Understanding Canada's Health Care Costs*, it is noted that the public has increased its expectation for treatments which require the use of the latest technologies and pharmaceuticals. New technology and newly developed pharmaceuticals are beneficial but they are both, typically, more expensive than current treatments when first introduced to the general health care system. These medical advances, recent and future, will keep some people who might have otherwise died prematurely from chronic illnesses alive longer (Provincial and Territorial Ministers of Health, Final Report, August 2000: 40-47).

**Figure 4**

Top Health Conditions by Cost, 1994/95 – 1998/99, Projected to 2020/21

Condition	Top Seven Conditions by Health Care Costs, Seniors, 1994/95 to 1998/99 Average	Top Seven Conditions by Health Care Costs, All Ages, 1994/95 to 1998/99 Average	Top Seven Conditions by Health Care Costs, All Ages, 2020/21 Projection
	Rank	Rank	Rank
Circulatory Disease	1	7	2
Respiratory Disease	2	1	1
Nervous System and Sense Organs	3	6	4
Cancer	4	11	9
Injury and Poisoning	5	4	5
Digestive Disease	6	5	6
Mental Disorders	7	2	3
Childbirth and Pregnancy	N/A	3	7

Note: Based on estimates for Hospitals, Physicians, Health Centres, Public Health Units and Medical Travel.  
Source: Department of Health and Social Services.

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## TB – Focus on Seniors

Tuberculosis has been a persistent health problem in many communities of the Northwest Territories. This problem holds special significance when we examine the burden of TB in the elderly population. Comparatively, the First Nations population of the NWT has stable TB rates of 192/100,000 while the national rate of TB is significantly less at 6 cases/100,000.

During the 1940's and 1950's many cases of TB were successfully treated, but on average, every case of infectious tuberculosis infected 10% of household contacts. Many of the elders in the NWT, particularly those 60 years and older, are infected with *Mycobacterium tuberculosis* (MTB), the bacteria causing tuberculosis. All those infected with TB who have either not been treated or for whom treatment was inadequate for this dormant infection are said to have Latent TB Infection (LTBI). This places him/her at risk for developing active tuberculosis. The number of elders with untreated LTBI in the NWT may be as high as 40% in some communities. The normal process of aging causes the immune system to gradually decline, placing many at risk for developing active tuberculosis and potentially spreading the disease to others in the community.

### Pathogenicity

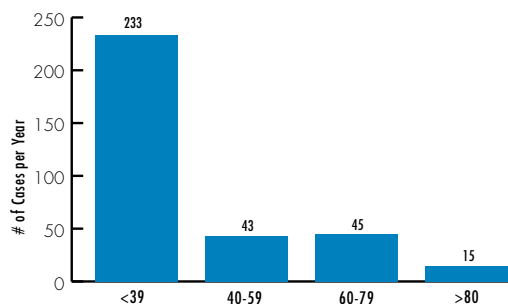
The bacterium that causes tuberculosis, *Mycobacterium tuberculosis*, is transmitted from person to person in minute droplets of moisture produced during coughing, sneezing, etc. A susceptible host inhales the minute droplets that carry the tubercle bacilli. Often the host immune system will expel this droplet in secretions from the lung and infection does not occur. However, others will become infected and the tubercle bacilli will manage to lodge itself most commonly in the lung or less frequently in other organs and remain viable. Of this portion of infected hosts, 10% will progress to active tuberculosis in their lifetime.

In the case of seniors, tuberculosis most often arises as a result of previously dormant tubercle bacilli growing and multiplying to cause disease. "Recent animal studies suggest that diminished cell-mediated immune response occurs with increasing age and is probably the major reason for increased susceptibility of the elderly to tuberculosis infection."<sup>3</sup> In other words, declining immunity places seniors at a higher risk for developing tuberculosis either from latent infection or from a new infection. Other influences which may adversely affect the immune system are concurrent disease, malnutrition, and drugs.

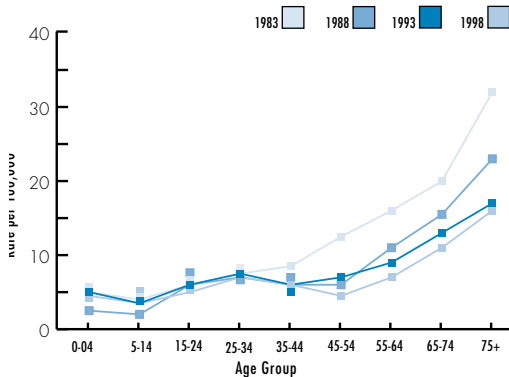
Figure 1 shows that there were 233 cases of TB in those under 39 years of age and 60 cases in those over 60 years for the report period 1990 to 2000 in the NWT. There were TB outbreaks in two Dogrib communities between 1993 and 1994, and another outbreak in Lutselk'e between 1995 and 1996. It should be noted that these outbreaks resulted from source cases with infection originating in elders. The outbreaks during those three years accounted for many of the cases in those 39 years of age and younger. Figure 2 shows the national upward trend of TB between 1983 to 1998 for those 44 years of age and older.

**Figure 1**

**TB by Age, Cumulative Data for 1990-2000, NWT**



**Figure 2**  
Reported New Active and Relapsed Tuberculosis Incidence Rate per 100,000 by Age Group, Canada, 1983-1998



### Case Studies

The following case studies illustrate typical TB disease in seniors and the subsequent public health efforts undertaken to control its spread.

#### CASE 1

A 63 year old man was diagnosed with pulmonary tuberculosis, smear and culture positive for MTB, through contact tracing of a 20 year old man from the same community. The elderly man only reported weight loss and loss of appetite. He did not complain of cough, hemoptysis or night sweats. He was a trapper. As well, he had evidence of LTBI, a 35 mm Mantoux test (skin test) in 1969, with no record of treatment. Contact tracing involved household members, fellow card players, and residents from the community; a total of 41 contacts. Results of contact tracing identified one additional case of active tuberculosis, also with a history of LTBI in 1995. Two children under the age of five years were given three months of INH chemoprophylaxis until infection was ruled out. DNA fingerprinting revealed all three cases were identical strains of *Mycobacterium tuberculosis*.

#### CASE 2

A 71 year old Dene man was diagnosed with pulmonary tuberculosis, smear and culture positive for MTB. He reported to the health center complaining of dyspnea and cough with a history of tuberculosis in 1951 and 1975. He has been treated on both occasions

but not using observed therapy. He had a history of alcohol abuse. Prior to diagnosis he had traveled on a bus while infectious and was also a frequent visitor at the local elder's home. Extensive contact tracing was done in the NWT and also in Alberta. The total number of contacts investigated was 156, two of which requiring treatment for LTBI.

#### CASE 3

A 70 year old Dene woman was diagnosed with pulmonary tuberculosis, smear and culture positive. She reported to the health center complaining of a cough, chest pain, night sweat and weight loss for one month. She had pulmonary tuberculosis in 1954. She lived with her husband, daughter, and two grandchildren aged 3 and 13 years. Extensive contact tracing was done since there were many regular visitors to the home, for a total of 162 contacts. The 3 year old grandchild was given 3 months of chemoprophylaxis until infection was ruled out. Two other grandchildren under 5 years of age were both infected, one requiring treatment for primary tuberculosis and the other one for LTBI.

### Conclusion

These case summaries illustrate the effect of TB on the community. As a general rule, seniors located in remote communities in the NWT tend to have close contact with extended family members. Children have a greater chance to develop tuberculosis after exposure and are, therefore, the most vulnerable group to this infection. The seniors who are becoming ill may spread this infection to their families and friends in the community, allowing TB to thrive. Elders are, therefore, a high-risk group for tuberculosis and health care providers must have a high degree of suspicion and be vigilant about screening for tuberculosis.

*The Health Protection Unit continues to work with health care providers in the NWT to enhance TB screening for this high-risk group. Further inquiry may be directed to the Health Protection Unit at (867) 920-8646.*

...continued on page 17

### TB Signs and Symptoms:

- Weight loss
- Fatigue
- Chronic cough
- Hemoptysis
- Dyspnea
- Chills/night sweats
- Anorexia

### Elders at High-Risk for Developing Active Tuberculosis:

- Those with a history of LTBI, who have not received treatment or have been inadequately treated;
- Those with a history of active tuberculosis or with a chest radiograph suggestive of past tuberculosis, who have not received adequate therapy.
- Those with high-risk medical conditions, including chronic renal failure, immunosuppressive therapy, silicosis, and diabetes mellitus, particularly those who are also at high risk of latent infection.

### Recommended Screening for those over 60 years of age:

- 2-step Mantoux (see *Tuberculosis Protocol for the Northwest Territories*) if no history of Mantoux result greater than 10mm.<sup>4</sup>
- If history of Mantoux results greater than 10mm, perform chest x-ray, sputa for AFB x 3 and symptom enquiry.

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 Health Protection Unit  
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## Vaccines – Protecting the Elderly



**Rylie Hamilton**  
 Harry Camsell School,  
 Northwest Territories  
 Winning NWT entry, National  
 Immunization Poster Contest

NWT's *Adult Immunization Schedule* contains recommendations to prevent and protect the elderly from many vaccine preventable diseases. These diseases include diphtheria, tetanus, influenza, and streptococcus pneumoniae. Most elderly adults are protected from measles, mumps, rubella through natural immunity, or from being vaccinated as young adults. Diphtheria and tetanus are vaccines that the elderly will continue to need at ten year intervals. Pneumococcal vaccine is recommended to all adults over the age of sixty-five to protect them from streptococcus pneumoniae. It is usually only given once to most adults. If an elderly adult has a compromised immune system then a second dose of vaccine may be required (Consult with the Chief Medical Health Officer or the Communicable Disease Consultant for further advice in these circumstances).

Influenza vaccines are given at yearly intervals in the Fall. This vaccine is recommended for everyone over sixty-five years of age. A yearly vaccine is required in the elderly for two reasons: (i) new strains of influenza occur almost on a yearly basis, and (ii) the vaccine response of elderly wanes quickly. Influenza prevention is vital for the elderly in particular, since they are more likely to have severe consequences from the disease, such as pneumonia and even death.

A universal influenza vaccine program for those over sixty-five is now four years old. It is the newest vaccine program for the elderly in the NWT. The vaccine is free and is offered to all adults over sixty-five years of age.

Influenza immunization is 70-90% effective in preventing influenza in healthy, working age adults (Nichol, 1998). However, an elderly person's immune response is much weaker, and vaccine effectiveness ranges from 30 to 85% (CCDR, 2000). Therefore, in order to protect all elderly in continued care facilities the Health Protection Unit recommends that all health care workers (HCWs) in long-term care facilities (LTCFs) be immunized. This prevents staff of LTCFs from exposing the elderly to influenza. When more than 60% of staff in a facility are immunized against influenza, there is a much lower risk of death and hospitalization for the residents (Odelin, 1993). In fact, achieving high HCW immunization is an important measure to further protect LTCF residents who may have a weaker response to the vaccine than HCWs.

In 2000/2001, the NWT experienced the highest coverage rates to date. The influenza coverage rates of residents in LTCF ranged from 90 to 100%, with a mean of 99%. Influenza coverage rates for LTCF employees ranged from 30 to 100%, with a mean of 72%. This is a substantial increase from 1999/2000, which was 90% for residents and 35% for employees. The coverage rates for the flu season of 1997/1998 were even lower than 1999/2000. Four deaths resulted in LTCFs related to influenza. This year's coverage rates provided good protection to residents of LTCF. Influenza activity was widespread in the general population, but very little activity was reported in the protected elderly and no outbreaks were reported in the LTCFs.

...continued on page 15

**Figure 1**  
 Routine Immunization of Adults

Vaccine/Toxoid	Indication	Further Doses
Diphtheria (adult preparation)	All Adults	Every 10 years; preferably given with Tetanus toxoid (TD)
Tetanus	All Adults	Every 10 years, preferably given asTD
Influenza	Adults ≥ 65 years; adults ≤ 65 years at high risk of influenza-related complications	Every year using current vaccine formulation
Pneumococcal	Adults ≥ 65 years; conditions with increased risk of Pneumococcal diseases	None usually

*Graying of the NWT...continued from page 1*

and cancers and heart disease usually appear in later stages of life. We also know that the older a population the higher the incidence of chronic disease. Senior women are more likely to suffer from certain chronic conditions such as osteoporosis and incontinence, and although cardiovascular disease is the leading cause of death for both sexes, it is more likely to go undiagnosed and untreated in women. These trends reveal the extent to which a population's overall health status is contingent upon age structure and composition. As the NWT population ages the health status of its residents will change.

It is helpful to think of aging within a national, even global, perspective. Aging is a phenomenon occurring in nearly all Western, post-industrialized democracies. In Canada, aging is not a transient or episodic phenomenon since persistent low fertility rates will maintain a high ratio of seniors to the rest of the population for the foreseeable future. The reality that seniors are living longer simply works to accentuate the aging of society. In 1998, 3.7 million (12.3%) of the population was 65 years of age and older. This figure represents an increase of 1 million seniors over the past decade, however, the dramatic increase just lies ahead of us: By 2016, baby boomers will begin to enter the so-called 'third stage' in life counting in at about 6 million, accounting for 16% of the population. By 2020, there will be as many seniors as children (19%). By 2041, the numbers will have grown to 10 million, making up 22.6% of Canada's population.



Research on aging is conclusive about two things: firstly, that tomorrow's seniors will be different from today's; secondly, they will be a more diverse group. On an aggregate level, tomorrow's seniors will be in better physical and mental shape and, consequently, they will live longer lives; they will be better educated and will possess more flexible work skills which will help to account for an improved economic situation; they will be better informed citizens, and more receptive to health promotion messages; they will be more active in voluntary associations and activities, and more conscious of their political rights as a group.

Such anticipated changes suggest that the direction of social and health policy must broaden if the goal is to maximize seniors' roles in society. Policies governing labour force participation, specifically mandatory retirement, will require some adjustment if, as a society, we wish to recognize the valuable contributions seniors continue to make beyond the arbitrary retirement age of 65. Community development programs designed to improve quality of life issues and promote social cohesion may also help to prevent social isolation amongst seniors and may indirectly work to reduce health and social services costs – thus, these need to be conceived from a broader, more inclusive perspective. Policy analysts and health system administrators must also adapt information to reflect the specific needs of disabled seniors, seniors who may belong to different ethno-cultural groups, or homosexual seniors who may have limited access to mainstream care.

To some extent, the challenges faced by health professionals, educators, and the private sector in dealing with the 'new' seniors are magnified in rural and Northern communities where timely access to educational resources, housing and healthcare can, even in the best of times, be a trying experience. A greater proportion of investment will be required by all sectors in order to accommodate this shift in age structure.

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## Results of a Five Year Retropubic Urethropexy (Burch Sling) Audit, 1994-1998 Stanton Regional Hospital, Obs/Gyn Department

The Burch Sling is a surgical procedure used to correct urinary stress incontinence in women. From January 1, 1994 to December 31, 1998, 84 Burch procedures were performed at Stanton Regional Hospital:

**1994: 15 1995: 7 1996: 16 1997: 22 1998: 24**

Of the total sample of 84 patients, 23 were Dene, 17 Inuit, 5 Metis and 39 non-Aboriginal. Thirty-six patients were from Yellowknife, 13 from the Kitikmeot Region, 11 from Hay-River, 10 from the Inuvik Region, 6 from the Dogrib communities, 5 from Fort Smith and 3 from the Deh Cho communities. The youngest patient was 31 years old and the oldest was 67.

There were four surgeons (gynecologists) involved. The majority of the cases (67 or 80%) were done by one surgeon (Dr. L.). In the last 17 months of the audit, 31 cases were done with the two gynecologists assisting each other for all the procedures. A consent and risk form was reviewed and signed by all patients. All procedures were preceded by cystometrogram and cystoscopy. Patients were given trimethoprim-sulphamethoxazole postoperatively and all had a transurethral catheter. Most of Dr. S's patients had a cystoscopy before fascial closure, to ensure absence of bladder trauma.

Seventeen patients (20%) had a coincidental procedure: 7 abdominal hysterectomies, 4 laparoscopic sterilizations, 1 posterior repair, 2 dilatation/curettages, 1 vulvar excisional biopsy, 1 hemorrhoidectomy and 1 laparotomy (LSO). No patient required a blood transfusion and there were no gastrointestinal complications. Two patients developed a UTI and two others had respiratory complications (1 atelectasis and

one ARDS; both were fine at discharge). One patient had an allergic reaction to demerol and another developed a wound infection. One patient had a suture put through the bladder, which was removed uneventfully a year later by the urologist by cystoscopy. Nine patients (11%) went home with a catheter because of urinary retention, and for eight of these, the problem was short-lived (less than 3 weeks). One patient took 20 weeks to settle her urinary retention.

The average length of stay is difficult to assess over the course of the study as we went from prior day to same day admit, from laparotomy to mini-laparotomy and, lastly, there was a trend towards earlier removal of the trans-urethral catheter from 5 to 2-3 days. For the first 53 cases, the length of stay in hospital was 7.6 days and for the last 31 cases (since the arrival of Dr. S.), 5.6 days. There were 6 patients undergoing coincidental hysterectomy in the first group and 1 in the second group in addition to the patient undergoing the laparotomy and one patient developing ARDS post-operatively.

Seventy-five patients were interviewed by telephone 24 months post-operatively. The interviews were conducted by a clinic nurse. Four interviews were conducted with the help of an interpreter. Nine patients (10.7%) relocated or could not be found. Of the 75 patients, 44 were Aboriginal and 31 non-Aboriginal.

Among the 44 Aboriginal patients, 31 reported they were completely cured of their incontinence, 10 felt much improved and 3 found no difference between pre- and post-op status. The two-year cure rate for this group was 70% and the improvement rate was 93%.

Among the 31 non-Aboriginal patients, 27 reported they were completely cured of their incontinence, 3 felt much improved and 1 found no difference between pre and post-op status. The two year cure rate for this group was 87% and the improvement rate was 97%.

Overall, the average two-year cure rate was 77% and the average improvement rate was 95%. A review article on the Burch Procedure quotes a long-term success rate of 69-90%.<sup>1</sup> Our cure rate of 77% falls within those parameters. The numbers used pre-operatively with patients in regards to the cure rate are: 7 out of 10 will be cured, 2 will be much improved and for one, it will not be successful. The difference in cure rates between the Aboriginal and the non-Aboriginal groups is difficult to explain (increased parity, increased level of activity post-op). Numbers are small and a longer period of observation may be required to confirm or invalidate these findings.

The main complaints at 24 months post-op were: slight incontinence (13), urgency (7), recurrent UTI's (6), new pelvic pain (6) and difficulty to empty the bladder (2). One patient required a urethral dilatation and has since been doing well. Patients perceived pre-operative, intra-operative and post-operative care to be excellent, and most (71/75) were satisfied with their outcomes.

## Conclusions

Audit of patient satisfaction and cure rate following surgical procedures has the potential to improve care and the provision of patient education. Although the results were reassuring, the process of the audit itself was perceived by patients to improve overall treatment and contribute to positive outcomes. Such audits should be undertaken as part of provision of care and continuous quality improvement.

## REFERENCES

1. *Obstetrical & Gynecological Survey*, Volume 54, Number 1 (January) 1999.

Protecting the Elderly...continued from page 12

**Figure 2**  
NWT Influenza Coverage in LTCF (2000/2001)

Institution	Residents	Staff
Stanton Yellowknife LTC	90%	30%
Aven's Manor	100%	77%
Hay River Hospital	100%	42%
Woodland Manor	100%	31%
Ft. Simpson	100%	100%
Northern Lights	100%	76%
Ft. Rae Seniors Home	100%	93%
Joe Greenland Seniors	100%	90%
Charolette Vehus Home	100%	33%
Inuvik Regional Hospital	100%	70%
Hill Group Home	100%	100%
<b>TOTAL</b>	<b>99%</b>	<b>68%</b>

Adults do not receive recalls for vaccines, but the health care provider is expected to offer

these vaccines when patients present for care to the health care system (See Figure 2). The above mentioned vaccines are free of charge at all Community and Public Health Centers and are available on request.

## REFERENCES

1. Health Canada, "Statement on influenza vaccination for the 2000/2001 season", *CCDR*, (ACS-2) (DDC-2), Volume 26, 2000: 141-147.
2. Odelin M.F, Pozzetto B., Aymard M. *et al.* "Role of influenza vaccination in the elderly during an epidemic of A/H1N1 virus in 1988 - 89: clinical and serological data", *Gerontology*, Volume 29, 1993: 109-116.
3. Nichol, K.L., "Efficacy/Clinical Effectiveness of Inactivated Influenza Virus Vaccines in Adults", Nicholson KG, Webster RG and Hay AJ (eds), *Textbook of Influenza*, Blackwell Science, Oxford, 1998: 445-453.

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## Skin Cancer – On the Rise in the NWT

Skin cancer is the most common kind of cancer and can develop in almost any part of the human body. The face, neck, forearms, and backs of hands, however, are most susceptible because of typically extended exposure. Long-term exposure to ultraviolet radiation from the sun is the most common cause of skin cancer.

The NWT Cancer Registry contains data from 1950 to the present. All types of malignant cancers were made reportable through the Disease Registries Act in the latter part of 1990. The first case of malignant skin cancer was reported to the registry in 1968. Figure 1 shows that since 1992 the NWT has experienced a dramatic increase in skin cancer reports.

### Types of Skin Cancer

- *Basal cell carcinoma* is the most common and least dangerous.
- *Squamous cell carcinoma* is faster growing and can spread throughout the body.
- *Malignant melanoma* is less common but the most fatal.

Both basal and squamous cell carcinoma were first linked to overexposure to the sun – the more sun, the greater the risk. By the late 1960s research showed a relation between malignant melanoma and the ultraviolet radiation in sunlight.

### Symptoms

- Any spot that forms a scab, re-scabs and fails to heal;
- A scaly skin thickening that develops in a small area, usually on the face, neck or hands;
- A mole-like growth that increases in size, darkens, becomes ulcerated, bleeds easily;
- A pearly or waxy growth;
- Any sore, blister, patch, pimple or other blemish that does not show any signs of healing within two to three weeks.

Figure 1

NWT Skin Cancer, 1995-2000  
(excluding Malignant Melanoma)

	15-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	TOTAL
1992				3		1			4
1993	1		3	3	4	3	4	2	20
1994			2	5	2	3	2		14
1995			1	5	7	4	1		18
1996			2	4	6	4	1	3	20
1997	1			8	5	7	3	2	26
1998			1	3	10	10	1	3	28
1999		2	2	2	3	3	5	1	18
2000			4	5	5	4	9	1	28
<b>TOTAL</b>									176

Figure 2

NWT Malignant Melanomas, 1995-1999

	15-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	TOTAL
1992	-		1						1
1993	-					1			1
1994	-				2				2
1995	-	1	1				1		3
1996	-	1		2	1				4
1997	-	1						1	2
1998	-		1	2	2				5
1999	-		1	1		2			4
<b>TOTAL</b>									22

Source for Figures 1 & 2: NWT Cancer Registry.

### Lag Time and Onset of Cancer

There is a presumption that melanoma has a long lag time. However, some research indicates that the lag time could be as low as *two years*. Lung cancer, heart disease, and other conditions with long lag times are diagnosed at a steady rate year-round, without seasonal distinction. Melanoma diagnoses, on the other hand, do reflect seasonality. At least five studies of melanoma (Hawaii, U.S., Sweden, Norway, and England and Wales) all agree that melanoma diagnoses follow a seasonal pattern, showing up at a considerably higher rate in summer than in winter. Seasonality is a hallmark of biological events with short lag times.





## Sunscreens – Are they Effective? Are they Safe?

Sunscreen was first introduced in the early 1940s as tanning lotion. A few years later, the melanoma rate began to rise. Improved tanning lotions came on the market in the early 1960s, and a few years after that, the North American melanoma rate dramatically increased and melanoma became a public health concern.

*Manufacturers* of tanning lotions re-positioned their products as a "sunscreen," and developed an awareness campaign which advocated the use of sunscreen as a preventive measure against sun-induced skin cancers. In recent years, it has become clear that to prevent melanoma, sunscreen must do more than block UV-B rays—it must also protect against UV-A. As a result, sunscreen makers have tinkered with their formulae, and now most claim that their products provide broad-spectrum UV-A and UV-B coverage. Only one ingredient, avobenzone, is "clearly proven" to block UV-A sunlight, yet according to the Food and Drug Administration its inclusion is not required in sunscreens in order for manufacturers to claim that their products offer broad-spectrum protection.

Basal cell and squamous cell skin cancer are caused primarily by UV-B light, the kind that causes sunburn, and there is credible evidence that sunscreen helps prevent those two types of cancer (as well as offering protection against

premature aging of skin). The Food and Drug Administration's SPF (or sun protection factor) rating program measures UV-B protection. But most sunscreens do not offer protection against UV-A, the harmful, longer-wavelength UV light. UV-A penetrates right through the outer skin – and through sunscreen – down to the melanocytes, the cells that become cancerous in melanoma cases.

Some research strongly suggests that sunscreen may, in fact, impair the body's production of vitamin D and hence remove its capacity to defend against cancer. Vitamin D has a hormone-like effect which can work to prevent the onset of tumour growth associated with melanoma, colon and breast cancer. Milk and cold-water fish provide small amounts of Vitamin D, though the main source of supply is produced when skin is exposed to UV-B. By blocking UV-B, sunscreens interfere with vitamin D synthesis. Habitual sunscreen users have been shown to exhibit unusually low vitamin D levels.

Epidemiological research conducted at Sloan-Kettering Cancer Center shows that strong determinants for melanoma are genetically determined characteristics such as number of moles and pigmentary phenotype, combination of skin, eye and hair colour.

The only proven way to prevent melanoma is to cover up.



*TB and the Elderly...continued from page 11*

## REFERENCES

1. White, W.M., and L. Heinzig, "Socioeconomic Conditions Contributing to the Transmission of Tuberculosis in the Northwest Territories, Canada", *The International Journal of Tuberculosis and Lung Disease*. Volume 2, 1998.
2. Long, Richard, *Canadian Tuberculosis Standards*, 5th ed. Government of Canada, 2000.
3. Reichman, L.B. and E. Hershfield, *Tuberculosis - A Comprehensive International Approach*. Marcel Dekker Inc., 1993.
4. GNWT Health and Social Services, *Tuberculosis Protocol for the Northwest Territories*, 1997.

# IN brief...

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## Pandemic Influenza – Update

Between January and March, 2001 four regional workshops were held to facilitate emergency preparedness planning for a health disaster such as pandemic influenza. The workshops were co-sponsored by Departments of Health and Social Services and Municipal and Community Affairs. Attendees included health representatives and municipal emergency planners. A total of 21 communities participated in one of the four regional workshops.

### Workshops were held in:

- Yellowknife for communities in Dogrib Community Services Board and Lutselk'e Health and Social Services Board, January 15 and 16, 2001
- Hay River for communities in Hay River Community Health Board, Fort Smith Health and Social Services Board and Deninu Community Health and Social Services Board in Hay River, February 6-7, 2001;
- Fort Simpson for communities in De Cho Health and Social Services Board in Fort Simpson, February 22-23, 2001, and
- Inuvik for communities in Inuvik Regional Health and Social Services Board in Inuvik, March 7-8, 2001

The regional workshops served to continue the work already begun during the NWT Pandemic Influenza Contingency Planning Workshop held on October 30-31, 2000. The territorial workshop was attended by a range of representatives including health care workers, emergency measures, environmental health officers, medical health officer, coroner, long term care, municipal planners, as well as delegates from Health Canada, Emergency Preparedness Canada and the Salvation Army.

During the regional workshops, many of the health and municipal emergency planners collaborated to draft a health annex plan for a health emergency such as pandemic influenza. Health and municipal participants plan to continue establishing links between local health care workers, emergency planning and response and the general public. An event such as pandemic influenza may have devastating effects on a community and its residents, therefore, informing and involving people at the community level is critical to containing, and perhaps avoiding all together, the pandemic influenza "fall-out".

At the territorial level, more work needs to be done on issues specific to pandemic influenza, including the distribution and use of vaccines and antivirals, a communication strategy, and clinical guidelines and protocols.

# CONFERENCES & workshops

## Global Aging: Working Together in a Changing World 17th Congress of the International Association of Gerontology, July 1-6, 2001 Vancouver, British Columbia

### For more information contact:

Congress Secretariat  
Gerontology Research Centre  
Simon Fraser University  
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Tel: (604) 268-7972  
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## Children's Environmental Health II: A Global Forum for Action Georgetown University Conference Center, Washington, D.C., September 8-11, 2001

The Canadian Institute of Child Health and U.S. Children's Environmental Health Network will co-host this global forum which builds on the momentum generated at the 1998 First International Conference on Children's Environmental Health held in Amsterdam.

The central theme of the four day event will address the special vulnerabilities children face and how environmental factors affect children in the places they live (home environments), learn child care, school), work (occupational environments) and play (recreational spaces). The forum will attract

public health specialists, medical practitioners, scientific researchers, government officials, policymakers, industry, advocacy groups and community-based organizations world-wide.

### Goals and Objectives:

- Integrate pediatric environmental concerns into international public health delivery, sustainable development practices and medical research;
- Explore frameworks for understanding environmental impact on children;
- Promote action, policy change and collaboration among sectors world-wide;
- Highlight best practices in policy and programs;
- Facilitate participation from developing countries;
- Build momentum for sustained action from stakeholders at the global, regional, national and local level.

Electronic satellites will be set up around the world for the benefit of those not able to attend.

For more information scheduled activities contact:

Canadian Institute of Child Health & Social Services, Ottawa, Ontario.

Tel: (613) 798-8029  
Fax: (613) 798-2422  
Email: [scall@magma.ca](mailto:scall@magma.ca)

Registration can be completed on the conference website:

<http://www.cich.ca/global.htm>



# NOTIFIABLE diseases

by Region: for the Northwest Territories (NWT) January 2001 – March 2001\*

	January - March 2001	Cumulative Totals - 2001	Regional Cumulative Total - 2000			
	NWT	NWT	Inuvik	Fort Smith		
<i>Vaccine Preventable Diseases</i>	Hepatitis B	0	0	0		
	Haemophilus Influenzae	0	0	0		
	Influenzae A	3	3	0	3	
	Influenzae B	17	17	9	8	
	Pertussis	0	0	0	0	
<i>Sexually Transmitted/ Bloodborne Diseases</i>	Chlamydia	107	107	40	67	
	Gonorrhea	42	42	13	29	
	Hepatitis C	15	15	2	13	
	Hepatitis, Other	0	0	0	0	
	Syphilis	0	0	0	0	
<i>Diseases by Direct Contact/ Respiratory Route</i>	Chicken Pox	21	21	13	8	
	Group A Strep	0	0	0	0	
	Invasive Strep Pneumoniae	3	3	0	3	
	Legionellosis	0	0	0	0	
	Meningitis, Pneumococcal	0	0	0	0	
	Meningitis, Other Bacterial	0	0	0	0	
	Meningitis, Unspecified	0	0	0	0	
	Meningitis, Viral	0	0	0	0	
	Meningococcal Infections	0	0	0	0	
	Respiratory Syncytial Virus	12	12	4	8	
	Tuberculosis	2	2	0	2	
	<i>Enteric, Food and Waterborne Diseases</i>	Botulism	0	0	0	0
		Campylobacteriosis	1	1	0	1
Cryptosporidiosis		0	0	0	0	
E.Coli O157:H7		0	0	0	0	
Food Poisoning		0	0	0	0	
Giardiasis		4	4	0	4	
Hepatitis A		0	0	0	0	
Salmonellosis		2	2	1	1	
Shigellosis		0	0	0	0	
Tapeworm Infestation		0	0	0	0	
Trichinosis		0	0	0	0	
<i>Yersinia</i>	Yersinia	0	0	0	0	
	<i>Vectorborne/ Other Zoonotic Diseases</i>	Brucellosis	0	0	0	0
		Malaria	0	0	0	0
		Rabies Exposure	0	0	0	0
<i>Antibiotic resistant microorganisms</i>	Methicillin-resistant Staph.Aureus	0	0	0	0	
	Vancomycin-resistant Enterococci	0	0	0	0	

## HIV Infections Reported by Year

	1987	88	89	90	91	92	93	94	95	96	97	98	99	2000
NWT	2	1	1	2	1	8	0	2	0	2	0	1	0	0

\*Statistics are based on currently available data and previous data may be subject to change.