EPI NORTH

The Northwest Territories Epidemiology Newsletter

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EpiNorth Communication

Telephone: (403) 920-3162

Fax: (403) 873-0442

cc:Mail: EpiNorth, H&SS

Mail:
Health Protection Unit
Health and Social Services
Government of the NWT
Yellowknife, NT X1A 2L9

E-mail: Epi_North@gov.nt.ca

EpiNorth Staff

Managing Editor:
Lona Heinzig

Scientific Advisor:
Dr. André Corriveau

Production Assistants:
Marilyn Kenny, Joanne Tsetta
Barbara Warkentin

Internet access:

www.hlthss.gov.nt.ca

Northwest Territories Health and Social Services

Reportable Diseases in the NWT:

Another year has come and gone, and the time has come to once again review communicable disease incidence in the NWT. This section will highlight TB, STD's (chlamydia and gonorrhea) and Hepatitis C. As the numbers for most of the other diseases (eg. vaccine-preventables and enterics) are relatively small, they will not be reviewed in-depth. Individual reviews will continue to be one of the highlights in each issue of EpiNorth this year for those diseases which occur less frequently.

Tuberculosis

1996 TB statistics show the lowest numbers in three years. This can largely be attributed to good surveillance, case-finding and diligent contact tracing at the field level. Well done!!

Figure 1 illustrates TB Cases by Gender. Over the past seven years (illustrated below), 59% of the TB cases have been male and 41% female.

TB in 1996:

- **Number of TB cases is down**
- **No new outbreaks in 1996**
- **Largest # of cases is in Mackenzie Region**
- **More males than females**
- **Almost 50% of cases occurred in 20-39 year group**

TB Cases By Gender

Figure 1: 1990 to 1996

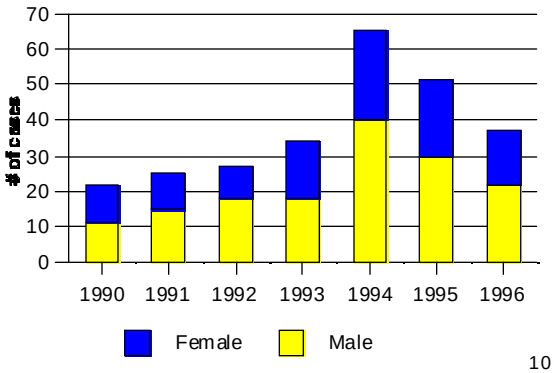
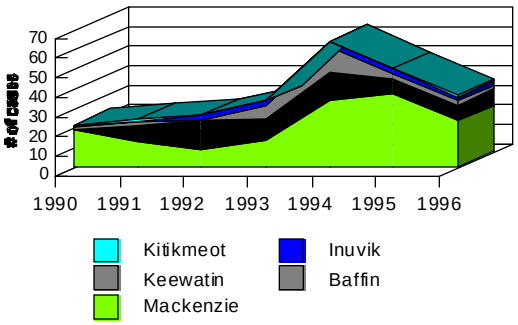


Figure 2 shows the number of cases by Region.

TB Cases By Region

Figure 2



The majority of cases (65%) were from the Mackenzie Region. While 9/24 cases were linked to the 1995 outbreak in Lutselk'e, the remainder of the cases in the Mackenzie were distributed in five other communities. The eight Baffin cases were isolated, and occurred in four different communities.

Figure 3 shows the percent cases by Ethnicity (cumulative since 1990). Over the past seven years, 52% of the NWT TB cases have been within the Dene population, while 39% have occurred among Inuit people. The remaining 9% of cases have been Metis or non-status.

TB Cases By Ethnicity

Figure 3: 1990 to 1996 (n=257)

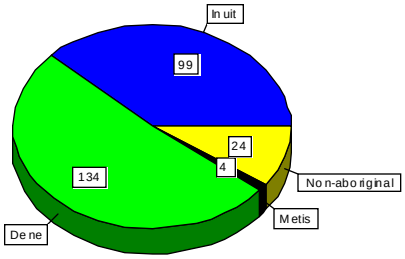
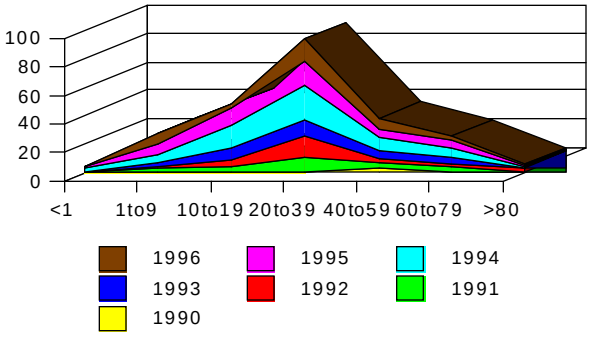


Figure 4 shows the largest number of cases for 1996 to be in the 20-39 age group. This is consistent with the findings for previous years.

TB Cases By Age

Figure 4



While the drop in TB cases in 1996 is encouraging, it is by no means an indication that we can let down our guard against TB. Surveillance of school children and at-risk populations must continue as well as developing an annual follow-up list of old TB patients who received inadequate treatment in the past.

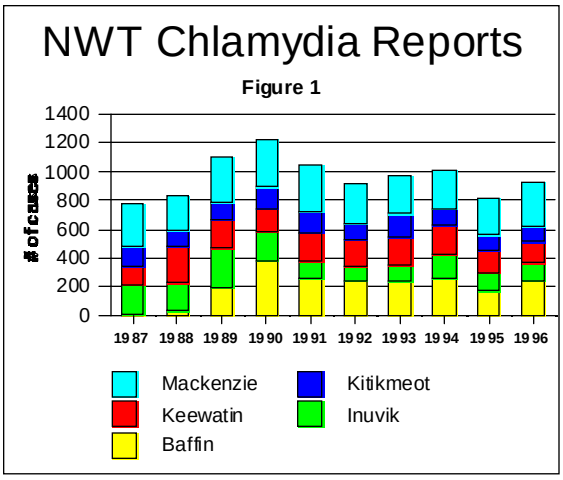
Let us continue our fight against TB in the NWT!

A Look At 1996

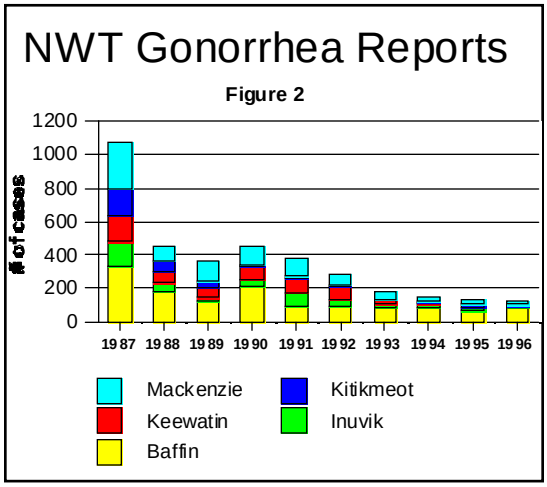
Lona Heinzig, RN BSN
Communicable Disease Analyst
Health Protection Unit

STDs: Chlamydia & Gonorrhea

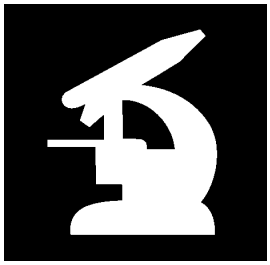
1996 marked the first complete year following the implementation of one-dose treatment for chlamydia and gonorrhea, although some regions continued to use the old protocol for several months into the new year. As noted in Figures 1 & 2, there has been little change in overall chlamydia and gonorrhea reports in 1996.



It was hoped that one-dose treatment would increase compliance, thereby improving STD rates, and new medications would help combat the increasing resistence that gonorrhea is achieving against penicillin. For chlamydia, there has been slight decreases noted in the Kitikmeot & Keewatin regions and slight increases in the Baffin and Mackenzie regions. Overall gonorrhea cases have decreased in all regions, except the Baffin. While regional differences may be attributed to improved contact tracing, and improved treatment, lower numbers could also be affected by lower testing rates than other regions, or under reporting. While penicillin resistent gonorrhea (PRNG) has not become a problem yet in the NWT, more intermediate resistance has been noted. Also, not all laboratories are completing the sensitivities. Therefore, it is paramount that the currently recommended treatment regimes be followed.



Baffin Region Introduces LCR Testing for Chlamydia & Gonorrhea



Greg Stark, Regional Public Health Officer
Sylvia Healey, Chief Laboratory Manager
Baffin Regional Health Board

Background

At the end of January 1997, the Baffin Region introduced a new diagnostic testing procedure for Chlamydia and Gonorrhea known as Ligase Chain Reaction (LCR). This relatively new technology is primarily based on the concept of DNA amplification.

The sample which may contain Chlamydia and Gonorrhea DNA is heated along with LCR probes. Heating causes the 2 strands of DNA to separate. When the temperature is lowered, the LCR probes align themselves with each strand of DNA. Two thermostable enzymes, Polymerase and Ligase are added to join the LCR probes and DNA strand together. As a result, the amount of target DNA is doubled during one cycle of the amplification process. Following 30 to 40 cycles of amplification, the target DNA can be copied up to one billion fold. The increased amount of DNA makes it easier to detect evidence of Chlamydia or Gonorrhea in a suspected case.

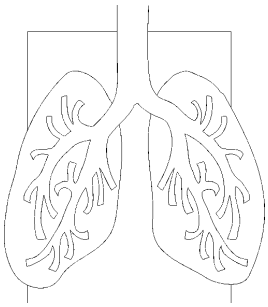
LCR testing has a sensitivity of > 95% compared to the 60 to 70% acheived with the ELISA method and culture, which is 70%-85% sensitive but is quite dependent on specimen transport conditions. For detection, LCR requires 1 to 5 particles of Chlamydia, whereas for ELISA it is 10,000 particles. The specificity for LCR is > 99%, which is similar to culture and superior to confirmed ELISA.

Significance to clinical practice

Chlamydia trachomatis is the most common sexually transmitted disease in the NWT. In 1994, the NWT rate was 1558.3 per 100,000 population, compared to the Canadian rate of 141 per 100,000 population. The medical consequences and costs of infection are greatest in women, who may develop urethritis, cervicitis, or pelvic inflammatory disease which is an important cause of infertility and ectopic pregnancy. Asymptomatic carriers, up to 50% of men and 70% of women, serve as an important reservoir for new infections.

Other than its high sensitivity and specificity, another advantage of LCR technology is that urine samples can be used for testing. This non-invasive method of specimen collection is advantageous over endocervical and endourethral swabs which are uncomfortable, time consuming and act as barrier for STD testing. Urine samples are frozen and can be processed up to 60 days after the time of collection.

All of the advantages of LCR testing raise the exciting possibility of developing large scale screening programs which could target high risk groups and reservoirs of asymptomatic infection. It is hoped that the combination of single dose therapy, LCR testing, and health promotion strategies will begin to produce lower prevalence rates of Chlamydia and Gonorrhea in the Baffin Region.



Lung Cancer in the Northwest Territories

During the period from 1989 to 1995, lung cancer was the most commonly reported type of cancer in the Northwest Territories, by itself representing 21% of all reports received by the Cancer Registry. As lung cancer is largely preventable, it is useful to look at this disease in some details. Table 1 shows the numbers of reported cases on a yearly basis.

Table 1: Lung Cancer By Year of Diagnosis and Gender in the NWT, 1989-1995

	1989	1990	1991	1992	1993	1994	1995	Total
Male	13	19	19	17	13	12	10	103
Femal	11	13	7	8	8	15	6	68
Total	24	32	26	25	21	27	16	171

"During the period from 1989 to 1995, lung cancer was the most commonly reported type of cancer in the Northwest Territories..."

Because these remain relatively small numbers in absolute terms, year-to-year fluctuations would not necessarily represent true changes in incidence rates. It is important to point out that the Cancer Registry unfortunately still suffers from under-reporting and delayed reporting, the importance of which may also change from one year to the next. This is the most likely explanation for the apparent drop in numbers for 1995. As late reports continue to come in, we should expect that the figures for 1994 and 1995 will be greater. These data therefore only represent a rough estimate of the true picture and for this reason, average yearly rates over the entire period will be used for purposes of analysis.

Incidence

By Region/Ethnicity

The Keewatin and Kititmeot regions reported the highest crude incidence rates over that period, with the Mackenzie region showing the lowest (Figure 1). This is consistent with the fact that higher rates are currently being observed amongst Inuit people (Figure 2). A recently published study of circumpolar cancers over the 1969-1988 period has noted that lung cancer rates for Inuit people were among the highest in the world[1]. These observations also correlate with smoking prevalence in the NWT. In the 1993 Youth Smoking Survey, it was found that by the age of 19, 69% of Inuit, 60% of Dene and 30% of non aboriginals have become smokers.[2]

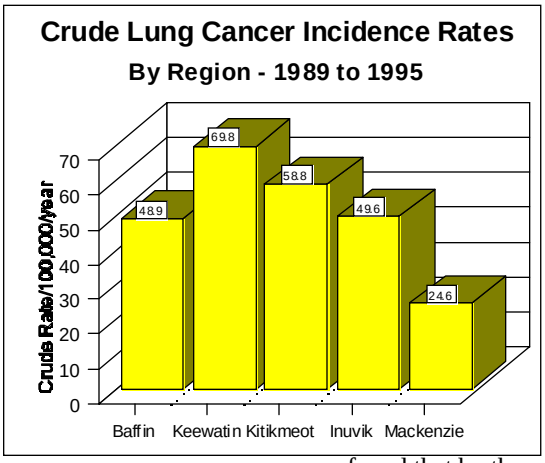
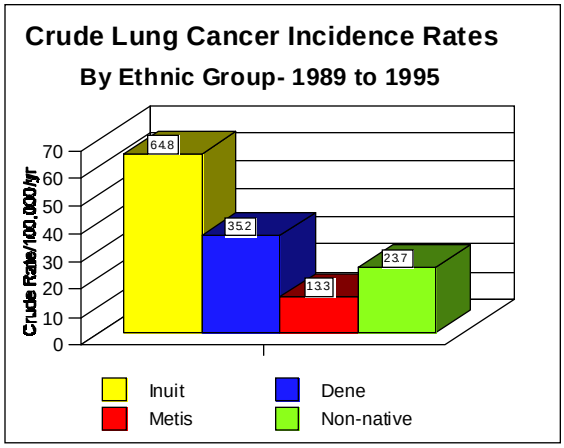


Figure 1:

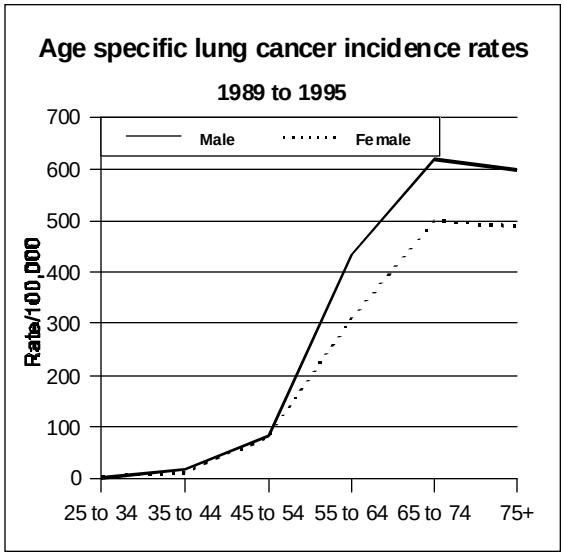
Figure 2:



By Age

Although the average age at time of diagnosis is 62 years, the rate of occurrence of this cancer continues to rise in the 65 to 74 year old group (Figure 3).

Figure 3:



The Northwest Territories' average age-standardized incidence rate over this 7-year period has therefore been of 110.8/100,000/year for males and 104.2/100,000/year for females. This compares unfavorably with that of Canada as a whole, being 20% higher than the 92.4/100,000 rate of Canadian males and nearly 3 times that of Canadian females estimated around 38.5/100,000 during that same period.

Discussion

Lung cancer takes many years to develop; the rates being recorded now reflect effects of exposure to causal factors over the past 20 to 30 years. Worldwide, the incidence of lung cancer is strongly

From 1989 to 1995

Dr. André Corriveau
Medical Health Officer
Health Protection Unit
GNWT - H&SS

correlated with tobacco smoking. While prevalence of smoking has decreased significantly elsewhere in Canada over the past 3 decades, it has remained high in the NWT, particularly among Inuit, and is increasing also among the Dene people; the outlook for the next twenty years is therefore not encouraging, unless dramatic changes occur in the way tobacco smoking is perceived and dealt with in homes, in communities and at the Territorial level. The NWT still lags far behind in tobacco control initiatives, at a time when we can least afford to do so and our high rates of smoking-related diseases should be prompting us to be leaders in this area.

Possible co-factors for higher lung cancer rates may include diets deficient in Vitamin A, exposure to dust from ground rocks (mining, carving), and to other sources of indoor air pollution (smoke from kerosene stoves, seal oil lamps, etc.). However, eliminating exposure to tobacco smoke (direct and indirect) would be expected to prevent the greatest majority of lung cancers.[3]

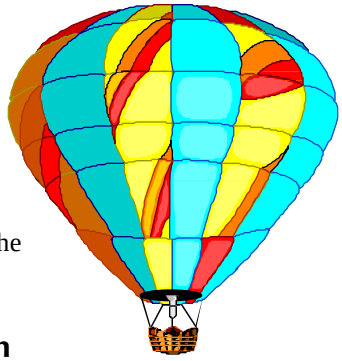
References

[1] Miller AB, Gaudette LA. *Cancer of the respiratory system in circumpolar Inuit*. Acta Oncologica, 1996;35(5):571-576.

[2] Tremblay R. *Youth and Tobacco Use*. EpiNorth, 1996;8(2):8

[3] Heinzig L. *Cancer Prevention in the 90's*. EpiNorth,1996;8(3):12

Site-seeing on the 'Net



So, now do you want to know how to have healthier lungs? Let's set our "sites" on some fresh, clean air. Up, up and away...

Destination: *http://www.lung.ca/*

Where are we? The Canadian Lung Association website

What's there?

Resources for the Canadian Lung Association:

Air Quality--Clean Air Now - Facts about clean air and what you can do to improve your air quality

Asthma Resource Centre - Facts about what asthma is, how it affects other conditions (such as pregnancy) and how to live with asthma

COPD: An Introduction - Description of what COPD is, causes, management, etc.

COPD: A Patient's Guide - Facts for teaching patient's what COPD is and how to live with it

A Health Lifestyle Means Getting Your Flu Shot - This page explains what influenza is, who is at risk and the benefit of the influenza vaccine

How To Keep Your Lungs Healthy - Anatomy and physiology of the lungs and respiratory system, warning signs of lung disease and what they mean; common lung hazards and how to protect oneself from them

National Clearinghouse on Tobacco and Health (NCTH) - Fact sheets series on Youth & Tobacco, Environmental Tobacco Smoke (ETS), Tobacco industry in Canada and other documents

School Health - Teaching information on anatomy, irritants and tobacco

Where does it link to?

- American Lung Association
- Addresses for Provincial branches of the CLA and sponsoring agencies

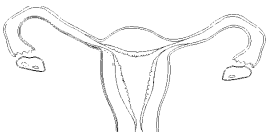
Special Attraction: School Health

This page was designed in Saskatewan for elementary level students. It can be used by both students and teachers (via separate paths). The student path offers the broad topics of Lungs, Tobacco and Indoor Air Pollution. The graphics are good and there is a maze you can follow to test your knowledge, but beware the predators that are out to get you like the dust mite and the flu germ!

The Teacher path deals with a number of topics based on Saskatewan curriculum. Learn about lung anatomy and physiology, lung illnesses, the common cold,, mold and microbes, tobacco and air pollution. Games and quizzes are teaching tools included to help test student's knowledge and have fun while learning!

Road blocks? A few of the pages have dark writing on a dark background, making them difficult to read. Otherwise roadblocks are minimal.

Overall Rating: This site is full of valuable information that is useful for the health professional and lay person alike. Many of the pages have good graphics and it is easy to navigate around. There are also French versions of the asthma (under constuction), COPD and Tobacco sections. Anyone who has a lung condition, knows someone who does, or wants to keep their lungs healthy should check out this site.



Loop Electrosurgical Excision Procedure for CIN:

This article is scheduled to be published in the May 1997 issue of the journal SOGC (Society of Obstetrics & Gynecologists). It has been printed in EpiNorth with permission of the authors and the SOGC.

Introduction

Cervical intraepithelial neoplasia (CIN) is a major cause of morbidity in the Northwest Territories (NWT). There is no centralized and formally organized cervical smear screening program, but Pap smear screening with call and recall is done by physicians in the larger centres, and by community health nurses in smaller settlements, the latter having the advantage of population registers. Acceptance rates are high, particularly by Dene and Inuit women, and the quality of smears compares favourably with southern Canadian experience.[1] Conventional management of CIN requires multiple visits to Yellowknife for diagnosis and treatment. These visits are emotionally disturbing for the patient and her family, and very expensive for the health system (which provides medical travel benefits to the nearest source of medically necessary services). There is thus considerable incentive to manage CIN more efficiently and economically.

Patients and Methods

In April 1992, use of the loop electrosurgical excision procedure (LEEP) was introduced at the colposcopy clinic of Stanton Yellowknife (now Regional) Hospital (SRH) with the aim of decreasing the frequency of visits and the costs of treating CIN. One of the advantages of an excisional, rather than an ablative approach, is that it allows patients to undergo both diagnosis and treatment during a single visit — "See and Treat".

"...advantages of an excisional [approach], is that it allows patients to undergo both diagnosis and treatment during a single visit — "See and Treat"..."

The conventional protocol requires that patients with an abnormal smear be evaluated colposcopically at their first visit, at which time cervical biopsies and an endocervical curettage are obtained. The patient is then sent home, pending receipt of pathology reports, at which time the patient is scheduled for another visit to decide on the best treatment. Although this approach has been highly successful in the past[1], the "See and Treat" protocol seems to be adapted better to the Western Arctic where a high proportion of patients reside in communities hundreds of air kilometres from SRH, the only facility where the LEEP currently is available.

The use of the loop electrosurgical excision procedure is reported to be a safe and effective method for treating CIN, with comparably low rates of recurrence to ablative treatment[2]. Its main advantage is the ability to examine the tissue histologically, which should increase both the accuracy of grading CIN, and the ability to detect occult invasive lesions[3]. Furthermore, the endocervical margin of a biopsy removed by the LEEP can be accurately assessed pathologically, and can provide an indication of the potential for persistent dysplasia.[4]

Study subjects were selected from the colposcopy clinic of SRH between April 1992 and July 1994. Most of the surgery (92/127) was performed by one gynaecologist. Patients with CIN III or CIN II lesions and those with CIN I lesions greater than one cm. in diameter were considered for inclusion in the study.

Exclusion criteria were:

- pregnancy,
- known or apparent cevicitis,
- extensive lesions covering much of the cervix
- the squamo-columnar junction not seen.

Thirty women were thus excluded, or electively were treated by cryotherapy.

Slightly more than half the patients in the study group (65 of 127) were from Yellowknife; the remainder were residents of four regions encompassing 23 other Western Arctic communities. Patients were from the three major ethnic groups in the NWT — Dene, Inuit, and non-Status, which includes Metis and non-Aboriginal residents.

The distribution of the study group was comparable to the 1991 Census population distribution in the Western Arctic, by ethnicity, of females aged 15 years or older (Chi square = 1.38, p = 0.5).

After colposcopic evaluation, reactive areas of the cervix were identified with Lugol's solution. Local analgesia was accomplished by cervical block with Lidocaine 0.5 percent and Vasopressin 0.15 u/ml at the nine, 12, three and six o'clock positions.

Table 1: Loop Electrosurgical Eligible and Study Patients

Distribution by Region of Residence

Category	Fort Smith*	Inuvik	Kitikmeot	Yellowknife	Other	All
All CIN cases	29	31	13	77	7	157
Excluded	8	8	1	12	1	30
Study Patients	21	23	12	65	6	127

* excluding Yellowknife

The loop electrosurgical excision procedure was effected with a Cooper surgical model 6000 unit equipped with a smoke evacuation system. Resection of the transformation zone and all externally visible cervical lesions was accomplished using the 15 mm by seven mm loop. Excision was performed using the blend setting at a power output of 36 watts; cautery was done using a five mm cautery ball at a power output of 50 watts. In general, two or more sequential passes were made to remove the entire lesion. After removal of the lesion, the endocervical canal was inspected and endocervical curettage performed using a Kevorkian endocervical curette. Haemostasis was achieved using ball cautery and ferric subsulfate aqueous solution.

After the procedure, the sample was sent in formalin to a private pathology laboratory in Edmonton. The laboratory reported results using the CIN classification, and attempted to identify the internal margin of the lesion. No sample presented thermal damage severe enough to make interpretation difficult. The endocervical curettage was considered positive if dysplastic cells were identified.

Patients with reports of persistent CIN III with a positive margin (1), microinvasion (1) and with suspicious basal layer breakdown (1) underwent hysterec-

Experience in the Western Arctic

Fabien A. Simard, MD FRCSC
Pierre L. Lessard, MD FRCSC
Consultants, Gynecology(SRH)

David R. Kinloch,MD, DPH (Lond),SMHyg
Former Special Advisor for Health (GNWT)

tomy six weeks after LEEP. Patients with negative margin reports were followed at six and at 12 months with colposcopy and ECC, and Pap smear, using a cytobrush. Patients with a positive endocervical margin (5) were seen earlier for further evaluation.

Of the 157 eligible women, 127 women, from 18 to 74 years of age, were included in the study. Histologic diagnoses are shown in *Table 2*.

Table 2: Histologic Findings for Study Group by Ethnicity

Result	*Dene*	*Inuit*	*Non Status*	*All*
Negative	2	3	8	13
All CIN cases	6	4	16	26
Excluded	5	4	22	31
Microinvasion	0	0	2	2
All	**24**	**18**	**85**	**127**

Twelve results (9%) were negative for CIN in spite of positive Pap smear results and colposcopy. This proportion is less than experienced elsewhere in North America, where proportions of up to 30 percent have been reported[6].

Of the 127 entrants, 114 were reached for a six month follow-up. Of the 13 others, three had undergone hysterectomy as noted above, two others had hysterectomy for other reasons, and eight had moved to another jurisdiction. Among the 114 women examined at six months, only one case of persistent CIN III was found (in a 74 year old woman). Cold knife conization was not possible for technical reasons, so hysterectomy was performed.

Cervical Intraepithelial Neoplasia type I was found in biopsy specimens from three other women previously treated for CIN II or CIN III.

At 12 months, 96 women were examined (18 women, all negative at six months, were lost to follow-up). Cervical intraepithelial neoplasia I was identified in a biopsy from a patient previously treated for CIN II, and one CIN I lesion identified at the six month follow-up, and treated by biopsy removal (a very small lesion). Follow-up experience is summarized in *Table 3*.

Discussion

Geography, high risk, transient populations, patient convenience, difficulties with compliance, and health care costs have prompted clinicians to find safe but more efficient approaches to the management of precancerous lesions of the cervix[7,8,9]. All of these factors are applicable to practice conditions in the Western Arctic, and appear to have yielded to the "See and Treat" approach.

Results at six and 12 months of follow-up indicate a rate of persistent or new cervical dysplasia after LEEP of three percent, which compares favourably with rates reported with conventional treatment[3].

Among the five women with a positive endocervical margin, we observed two patients with negative ECC. All these patients had negative colposcopy and Pap smears at six and 12 months follow-up. Even the three patients with positive margins and positive ECC had no persistent or recurrent disease on colposcopy and ECC at six weeks, four months, eight months, and by the end of the observation period (12 months), contrary to expectation, but spontaneous resolution of CIN lesions has been observed[5]. These patients were less than 24 years old.

Table 3: Summary of Follow-up

	Initial	*6 months*	*12 months*
Examined	127	114	95
Hysterectomy	5	1	0
Lost to follow up	N/A	8	18
CIN at follow up	N/A	4	2

The clinical findings from this study have important implications for the management of CIN in the NWT. In view of the low incidence of recurrence following LEEP, it appears medically acceptable and cost-beneficial to see the patient just once if the endocervical margin and the ECC are negative. The first visit, the patient has to be seen by an experienced gynaecologist in colposcopy clinic and the follow-up could be done by a nurse or family physician in the home community with a Pap smear, using the cytobrush.

In 1995/96 nearly 15 percent of the health services budget of the NWT was expended for medical travel — a total of about $24 million. The purpose of this expenditure is to assist patients in traveling to the nearest centre at which they may receive medically necessary insured services. What we believe is demonstrated by this study is that the "nearest centre" can be much closer to home for most patients, at greater convenience to the patient, and less cost to the system, while maintaining the same standard of care.

For the cases studied, the "See and Treat" approach would have reduced air travel costs for patient residing in communities outside Yellowknife by $100,000. Accommodation and meal costs would also have been avoided. Thus, the potential for future savings are significant.

"...the "See and Treat" approach would have reduced air travel costs for patients residing in communities outside Yellowknife by $100,000..."

Conclusion

It may soon be possible to further refine the selection of patients through the use of DNA typing[12] to identify the high risk patients from those with a low grade positive screening Pap smear, with further opportunities for providing necessary services locally, and additional reduction in medical travel and associated costs.

Increasingly in the future, money will be the main issue in the health care system in Canada. While we believe it is our duty to provide the same standard of care for CIN everywhere in the country (remote communities included), there are opportunities to improve efficiency, reduce costs, and maintain high standards of care by applying what we know and can learn from the application of new technology. We believe our experience is relevant to other sparsely populated areas of Canada. ***(...continued on page 9 - References)***

Reprint requests or questions to:

Dr. P. Lessard,
Stanton Regional Hospital
10 Byrne Road
P.O. Box 10
Yellowknife, NT
X1A 2N1

The Warm Crab and Us-No Encore for Oncos

Cancer is an old Latin word for a crab, which is an animal that reaches out with lots of legs and claws, with which it bites and holds on. The Greeks used the word *oncos*, which too can mean a hook or a claw, but also a tumour or a mass, to describe cancer. Northwest Territories languages similarly have different ways of naming the conditions that the medical system calls cancer: for instance in Dogrib Dene, it is often called the warm disease or *gòò tàda*; in Inuinnaqtun/Inuktitut, *aaniaq nagohilimiatok*, or disease that is incurable.

These are useful words in helping us to understand what goes on when a malignancy (another Latin word suggesting something nasty that tends to get worse) starts in a person's body.

Yet people who live along a seashore know that there are many different kinds of crabs, of different sizes, colors, shapes and behaviours, and the same is true for what we call cancer - there are, in fact, many cancers that can be very different from each other. In general they get labelled by two things: one is the part of the body that they start in, and the second is the way that they affect the cells in which they start. For instance, we can have a small-cell carcinoma of the lung, an adenocarcinoma of the large bowel, a malignant lymphoma of the lymph nodes, a leukemia of blood, an in-situ carcinoma of the cervix, an intraductal carcinoma of breast, etc. In fact there are hundreds of descriptions of the cancers that we see each year.

"...[cancers] get labelled by two things: one is the part of the body that they start in, and the second is the way that they affect the cells in which they start..."

Understanding Our Cancers

These labels are then a first important step to solving the growing problems of cancer. Why? Well because although we still have a whole lot to learn about many cancers, others have come to be understood quite well, both as to how to prevent them, and as to the best treatments for them.

"This law <u>requires</u> that any doctor or nurse who sees a person with cancer, report the case to a Registrar of Disease Registries..."

Let us take an example of cancers that we understand. When I was a medical student, I learned how, if you kept putting a spot of tar on a rabbit's ear, after a while a cancer would develop right at that spot. In the same way, we are now clear that if people's skin keeps getting sunburned, after a few years, cancer will develop on it. Or, if people keep sucking cigarette tar into their lungs, cancers will develop there. Because we understand these things we are able to act to control many kinds of cancer.

There are other cancers about which we have some clues to their cause, but not the complete answer. One of these, for example, is colon (or bowel) cancer, which seems to be becoming more common in the NWT. We know that this is a very rare tumour among Africans living a traditional lifestyle, but that it is a common cancer among persons of African origin living in the United States. It appears as though the difference is in what Africans and Afro-Americans eat, which is responsible for much higher incidence of cancer in the United States. It may be that changes in diet in the NWT are also responsible for a growing bowel cancer problem, but more work is needed to be clearer on this.

Cancer Registries

Very often the easiest way to understand something is to look at as many examples as you can get. The science of epidemiology is one that is always studying differences in illness and wellness in populations or groups of people. In 1985, keeping track of one rare type of cancer led to an important finding. It was noticed that there was a sudden increase in the number of cases of a cancer called Kaposi's sarcoma, which is supposed to be rare. It turned out that Kaposi's sarcoma is a cancer that grows quite easily in people infected with the new HI or (AIDS) virus.

It was exactly the same kind of numbers tracking that led Ernst Wynder to make clear the influence of cigarette smoking on lung cancer, several years earlier.

Now, the United Nations has set up the International Agency for Research on Cancer. National centres for cancer work also exist at Health Canada, Statistics Canada, and the Canadian Institute for Health Information. In addition, every province and territory has a Cancer Registry, collecting information on, and trying to understand and prevent the cancers affecting their populations. All of these agencies are connected, and constantly share information as the challenge of cancer is tackled around the world.

The NWT Disease Registries Act

The NWT Disease Registries Act was brought in by the Legislative Assembly in 1990.

This law **<u>requires</u>** that any doctor or nurse who sees a person with cancer, report the case to a Registrar of Disease Registries. A short reporting form is used to make this report, and usually a laboratory pathology report should be attached to it by the health professional making the registration.

The forms received by the Registry, give data that enable us to better understand the kinds of cancers we are getting in the NWT, as well as where, and why. Another article in this edition of Epi-North spells that information out with regard to lung cancer.

Cancer in the Northwest Territories

F. Ian Gilchrist, MD, DPH
Chief Medical Health Officer, GNWT

Still, it needs to be noted that cancer reports are not always completed. Fortunately as physicians and nurses are getting much better at this, the completeness and quality of our understanding of cancer continues to improve in the NWT.

Oncophobia

None of us understands all the kinds of cancer perfectly. In many parts of the World, especially where people are under a lot of pressure and experience changes in culture, environment and living conditions, cancer seems particularly scary. This has been called *oncophobia* (fear of tumours).

As in all parts of Canada, some NWT individuals and communities can express oncophobia. Health and Social Services Regions, as well as health and social services professionals, can take some of the edge off of that fear by focussing on the fact that:

- the greatest number of our cancers *are* understood, and *are preventable*.
- In addition, through the cervical cancer screening program, we have been able, over the past seven years, to find many pre-cancerous conditions, and treat them early, so that they never went on to become cancers.
- Some work is also being done to similarly find early breast cancers with mammography, breast self-examination, and clinical checkups.
- The NWT also has encouraging good-news stories, such as low breast cancer rates among Inuit women, perhaps related to healthier traditional lifestyles and foods eaten.

What is certain, is that NWT people can take satisfaction from knowing:

- some cancers are rare in the NWT and are somehow prevented by traditional foods and lifestyles
- some kinds of cancers which are very common and a big problem here (lung, skin), can be prevented almost completely
- screening programs are working well in preventing cervix cancer and that other screening programs, combined with teaching, can also drop the numbers of breast cancers
- bowel cancers can be brought down by changes in food trends
- We can get much closer to understanding and controlling the rest of our cancers by using our Cancer Registry well.

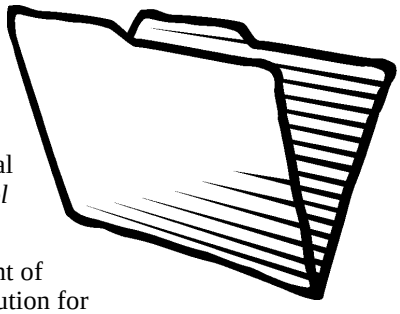
We want no encore of Oncos.

NWT Cancer Registry forms:

GNWT Warehouse:
(403) 873-7175 (phone)
(403) 873-0212 (fax)

 # NWT 6226/0292

Loop...(continued from page 7)



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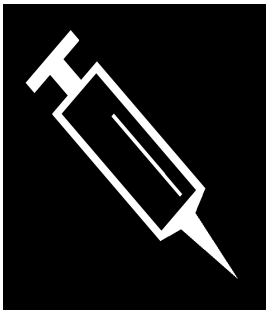
[10] Wright TC, Gagnon S, Richart RM, Ferenczy A. Treatment of cervical intraepithelial neoplasia using the loop electrosurgical excision procedure. *Obstet Gynecol* 1992; 79: 173-8.

[11] Felix JC, Muderspach LJ, Duggan BD, Roman LD. The significance of positive margins in loop electrosurgical cone biopsies. *Obstet Gynecol* 1994; 84: 996-1000.



*Immunization News*Immunization News*

- *Influenza vaccine for travellers*
- *The Cost of vaccines*
- *MMR and Egg Allergies*

Travel and Influenza Vaccine

The National Advisory Committee on Immunization (NACI) and The Committee to Advise on Tropical Medicine and Travel (CATMAT) have recently released new guidelines on influenza vaccination for travellers:

1. Pre-departure influenza immunization for prevention of disease in travellers should be considered for anyone leaving Canada during the local influenza transmission season.
2. Pre-departure influenza immunization for prevention of disease in travellers should be offered to anyone leaving Canada who will be exposed during the influenza transmission season at the destination.
3. To reduce the risk of influenza in the individual, Canadians who are abroad and will be returning to Canada from a influenza transmission zone, and who were not or could not be vaccinated against the disease before leaving Canada, should consider being vaccinated during their stay at their destination, and before returning to Canada.

FYI: The Cost of Vaccines

Here is a list of the *approximate* cost of some of the commonly administered vaccines.

Vaccine	Cost per dose
Pentavalent	$18.46
Act Hib/Diluent	6.45
MMR (with diluent)	8.38
BCG	1.85
Td plain	1.59
IPV	10.51
Hep A	27.80
Hep B (adult dose)	16.75
Typoid	19.00
Rabies Inactivated	65.92
Pneumovax	12.80
Influenza	1.82
Tetanus Immune globulin	7.51
Rabies Immune globulin	32.14
Botulism antitoxin	624.81

MMR and Egg Allergy

The National Advisory Committee on Immunization has released new recommendations regarding egg allergy and MMR vaccine. These recommendations and a summary of the studies supporting the change in recommendations were published in the Canadian Communicable Disease Report. In summary : Anaphylaxis after administering measles-containing vaccine is rare and has been reported in individuals with anaphylactic hypersensitivity to eggs as well as those with no history of egg allergy[1]. The following are the recommendations which will be published in the next edition of The Canadian Immunization Guide.

As previously recommended by NACI, all immunizations should be administered by persons capable of managing vaccine-associated adverse reactions such as anaphylaxis and should take place in appropriate facilities.

Egg allergy is not a contraindication to immunization with MMR. In individuals with histories of anaphylactic hypersensitivity to hens' eggs (urticaria, swelling of the mouth and throat, difficulty breathing or hypotension), measles immunization can be administered in the routine manner without prior skin testing. However, immunization should take place where adequate facilities are available to manage anaphylaxis. Persons at risk should be observed for 30 minutes after immunization for any signs of allergic reaction. No special precautions are necessary for children with minor egg hypersensitivity, such as a rash or hives. No special measures are necessary in children who have never been fed eggs prior to MMR immunization. Prior egg ingestion should not be a prerequisite for MMR immunization.

Measles vaccine is contraindicated in individuals with previous anaphylactic reaction to a measles-containing vaccine. If there is a compelling reason to re-immunize an individual who has had a prior anaphylactic reaction to measles vaccine, MMR skin testing and graded challenge in an appropriately equipped facility can be considered. However, the possibility of a hypersensitivity reaction to the MMR skin test or during the graded challenge must be considered.

Surveillance for post measles vaccine anaphylaxis should be improved and prospective studies should be initiated to better define the risk in individuals with egg allergy.

References

[1] National Advisory Committee on Immunization. Supplementary statement MMR vaccine and anaphylactic hypersensitivity to egg or egg-related antigens. Canadian communicable Disease Report.1996:22-14:13.

Straight to the point

When it comes time to immunize their children, parents want straight answers to pointed questions:

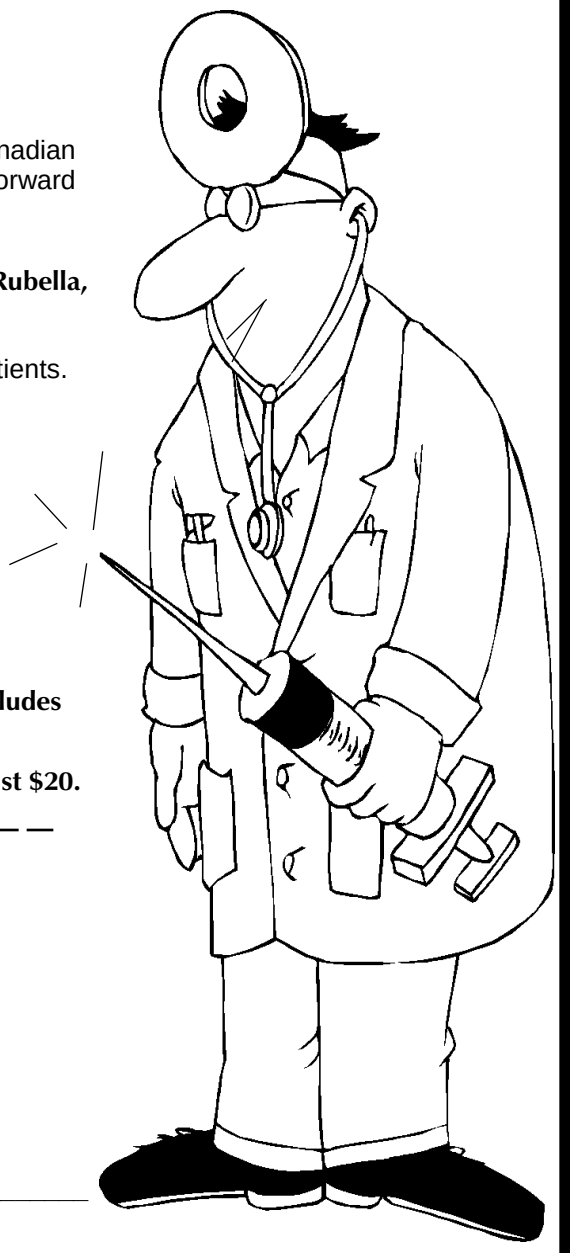
- Why is vaccination important?
- What are the side effects?
- Are there people who should not be vaccinated?
- After a vaccination, when should I call my doctor?

Getting Your Shots, a series of 6 pamphlets produced by the Canadian Paediatric Society, answers parents' questions in simple, straightforward language.

New to the series is an updated version of **Measles, Mumps and Rubella,** which explains why a second dose is now recommended.

Getting Your Shots is essential for physicians with paediatric patients. Available are:

- Diphtheria, Pertussis, and Tetanus (DPT) Vaccine
- Tetanus and Diphtheria (Td) Vaccine
- Polio Vaccine (oral)
- Measles, Mumps, and Rubella.
  New! Updated information on second dose
- Haemophilus b Conjugate Vaccine
- Diphtheria, Pertussis, Tetanus, and Polio (DPT-Polio) Vaccine



Getting Your Shots costs just $5 for a pack of 50 pamphlets (includes shipping and handling).

BEST VALUE! Order a set of all six pamphlets (50 of each) for just $20.

ORDER FORM

	Quantity
Diphtheria, Pertussis and Tetanus (DPT)	_____
Measles, Mumps and Rubella	_____
Tetanus and Diphtheria (Td)	_____
Haemophilus b	_____
Polio (oral)	_____
DPT - Polio	_____

TOTAL=_____ package(s) @$5 per pack=$ _____ (GST exempt)

Please send me _____ set(s) of all six pamphlets @ $20/set = $_____

❑ Cheque ❑ MasterCard ❑ Visa

_____
Credit card number Expiry date

Name

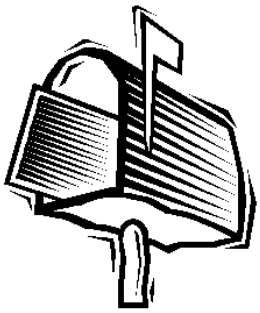
Address

City/Town Province Postal Code

Signature

Send to: **Canadian Paediatric Society**

401 Smyth Road, Ottawa ON K1H 8L1; Fax: (613) 737-2794; Tel.: (613) 737-2728



Health Protection Unit Mailbox

Chickenpox (Varicella-Zoster) Infection and Travel

Q: ***If there is chickenpox in the community can children still go on medical travel to the Regional Hospital for elective procedures (i.e. dentals).***

A: Chickenpox in a healthy child is a self limiting disease, usually characterized by mild fever, and a generalized, pruritic, vesicular rash, and mild systemic symptoms. In the immunocompromised child the disease can manifest itself with progressive eruption of lesions and high fever beyond two weeks duration. Encephalitis, pancreatitis, hepatitis or pneumonia can also develop. Exposure to pregnant women in the first trimester or early in the second can result in congentital varicella syndrome (limb atrophy and scarring of the skin of the extremities). Exposure in late pregnancy, 5 days before to 2 days after delivery could result in severe varicella of the newborn infant with a fatality rate as high as 30% (1994 Red Book).

For all the reasons listed above it is good practice to assess the chicken pox status of those children who are travelling for medical reasons, when there is chickenpox in the community. If a family member or a school mate has chickenpox, check dates of exposure. If the child is within the 10 to 21 days incubating period for chickenpox, review the history with parents and look for signs or symptoms of chickenpox. If there is a question as to whether the child has had chickenpox in the past and no records can be found then check with the Health Protection Unit.

All cases of chickenpox are reportable using the Chickenpox Report Form, which should be submitted monthly to the Health Protection Unit.

Recently we had a call from a community experiencing chickenpox activity. Twelve children who were scheduled to go to Stanton Yellowknife Hospital for dental procedures, had exposure to identified cases. When we checked our database two of those children had documented histories of chickenpox, so, those children were not at risk. The other children had to be assessed carefully prior to departure to determine their risk for infectivity.

Patients are most contagious for 1 to 2 days before and up to 5 days after eruption of rash. Therefore taking the incubation period into consideration and the child's current physical status it can be decided if the child can travel or not. If there is any question about the child's infectiousness call your Public Health Unit or Medical Health Officer, or the Communicable Disease Consultant at (403) 920-3430 for further direction.

Once Varicella is introduced in a hospital setting or exposure occurs to the immune compromised the issue of varicella immune globulin has to be considered and a number of control measures may have to be instituted. As always, it is better and easier to prevent than to cure.

Doing the two step

Q. What is a "two step" mantoux and when should it be done?

A. The two step is not a dance. In some of us older citizens our immune systems, like our brains, sometimes forgets. When asked by the tuberculin skin test (Mantoux), if it has ever encountered tuberculin, our immune system may say "no" when the correct answer is really "yes". If we ask again within about 3 weeks, we often get the correct answer. That is the principle behind the two step. The first test jogged the immune memory.

A problem which often arises, is that the second test might follow some months later, after a possible exposure to tuberculin. The positive test might then be interpreted as a new positive (conversion) following contact, rather than an old positive recalled after the first nudge of the immune system. Such a misinterpretation could lead to the unnecessary prescription of a course of isoniazid (INH), which can produce significant side effects in some of us over 50 years of age.

For many elderly and for other people from endemic area whose probability of past exposure is high it is important that we know the true tuberculin status when entering extended care facilities or doing contact tracing. Do the two step if the first test is negative and you will keep in step with modern guidelines.

Questions???

Contact:

Wanda White

Communicable Disease Consultant
Health Protection Unit

GNWT - H&SS

(403) 920-8646

Attention...All holders of the NWT TB Manual

Have you received your updates yet?

Updates of the following sections were sent out from the Health Protection Unit in late January 1997:

Part IV - Management of Tuberculosis

Part V - Contacts of Tuberculosis

Part VI - Figures

Part VIII - Appendices: 2A First Line Drugs
2B Second Line Drugs
2C Standard Treatment
2D INH Prophylaxis
4A Collection of Lab Sp.
4B Gastric Lavage

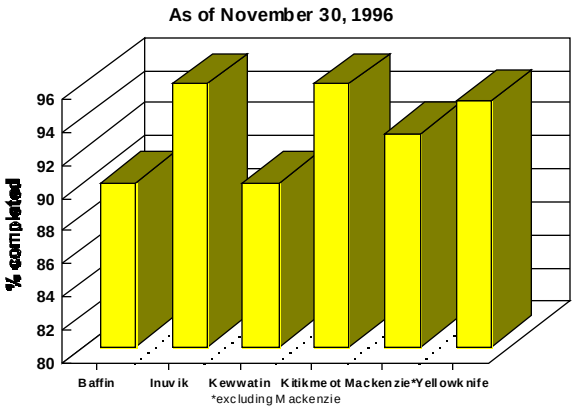
If you have not received these, contact you SNO or senior nursing supervisor.

Measles Elimination Program Update

The Measles Elimination Program which was initiated in the NWT in April 1996 was completed in most NWT communities by October 1996. The goal of at least 90% coverage with the MR vaccine in the 19 month olds to Grade XII has been achieved across the NWT. Figures which were updated November 1996 indicate that overall coverage was closer to 95% territory-wide. The lower numbers in the Keewatin and the Baffin region was due to difficulties in a few of the larger communities, which affected the region's overall statistics.

In light of the current measles outbreak in British Columbia (see "News Clips" - page 16), the completion of this program was indeed timely. Across Canada no cases of measles have occurred in individuals who participated in the two-dose campaign, and there has been a noticeable drop in the number of measles cases across Canada since the 2nd dose campaign was initiated.

NWT Measles Elimination



Once again, those who participated in the success of this campaign are to be commended. Well done everyone!!

"...at least 90% coverage...was achieved across the NWT..."

Canadian Public Health Association
Second National Conference on
Communicable Disease Control
9 - 11 April 1997, Westin Harbour House, Toronto, ON

Objectives

- To review current and anticipated trends in communicable diseases in Canada and elsewhere
- To discuss measures for prevention and control of communicable disease, including surveillance, screening and management of outbreaks
- To highlight public health issues around emerging and reemerging infections and growing antibiotic resistance
- To focus on communicable disease problems, e.g. bloodborne, waterborne and foodborne diseases

Target Audience

This conference is for public health and other practitioners interested in communicable disease including public health physicians, communicable disease managers, public health nurses and inspectors involved in communicable disease control, staff of provincial and federal health departments, public health laboratory staff, infectious disease specialists, researchers and teachers in public health, as well as public health trainees, dentists and oral surgeons

Pre-Conference Workshops

- Risk Communication and the Media
- Communicable Disease on the Internet
- Advanced EPI-info

Conference Topics

- Antibiotic Resitance in Canada
- Surveillance - Evolution and Response to Emerging and Reemerging Infectious Diseases
- Coping with International Outbreaks
- New Lab Tools for Communicable Disease Surveillance
- Bloodborne Infections
- The Role of Public Health in Light of the Krever Commission
- Communicable Disease Control in Aboriginal Populations
- The Global TB Situation and Its Impact in Canada
- Prenatal Screening -- Opportunities for Public Health Action
- Foodborne, Waterborne and Other Enteric Diseases
- STDs
- Public Health Approach to Invasive Group A Strep

For more information, contact:

CPHA, Conference Department

Phone: (613) 725-3769

Fax: (613) 725-9826

e-mail: conferences@cpha.ca

www: http://www.cpha.ca

Notifiable Diseases By Region For Nov & Dec 1996

	DISEASE	Month	Cumulative		REGIONS (YTD - 1996)				
		Nov & Dec 1996	1995 YTD	1996 YTD	Baffin	Fort Smith/ Mackenzie	Inuvik	Keewatin	Kitikmeot
Vaccine Preventable Diseases	H. influenzae B	0	1	2	0	0	0	2	0
	Influenzae	1		1	0	1	0	0	0
	Measles								
	Mumps	0	0	1	0	0	0	1	0
	Pertussis	8	12	48	5	31	7	5	0
	Rubella								
Enteric Diseases	Amoebiasis	0	2	0					
	Botulism	0	1	1	0	0	0	0	1
	Campylobacteriosis	6	16	20	1	18	0	1	0
	Cryptosporidiosis	9	0	11	10	1	0	0	0
	E.Coli 0157:H7								
	Giardiasis	5	28	22	2	9	1	7	3
	Salmonellosis	3	25	28	1	12	5	5	5
	Shigellosis		2	0					
	Tapeworm Infestation	0	3	1	1	0	0	0	0
	Trichinosis	0	8	3	0	0	0	1	2
Sexually Transmited Diseases	Chlamydia	139	914	926	243	312	127	145	98
	Gonorrhea	23	125	125	81	17	13	1	13
	Syphillis								
Viral Hepatitis	Hepatitis A	1	0	2	0	1	0	1	0
	Hepatitis B	0	2	5	1	3	0	1	0
	Hepatitis C	5	23	35	5	28	1	1	0
	Hepatitis, Other	0	1	1	0	1	0	0	0
Other Systemic Diseases	Brucellosis	0	1	1	0	0	0	1	0
	Chickenpox	96	884	678	131	420	2	36	89
	Malaria		1	0					
	Meningitis/Encephalitis	0	6	4	2	1	0	1	0
	Meningococcal infection	0	1	2	0	1	1	0	0
	Rabies Exposure								
	Tuberculosis	5	51	37	8	24	2	2	1

HIV INFECTIONS BY YEAR SEEN IN NWT RESIDENTS

YEAR	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
NUMBER/YEAR	3	2	2	3	3	8	4	2	0	**2**
CUMULATIVE	3	5	7	10	13	21	25	27	27	**29**

Notifiable Diseases Reported By Community

November 1996

Campylobacteriosis, 5: Yellowknife, 4; Hay River, 1.

Chickenpox (varicella), 70: Cambridge Bay, 26; Gjoa Haven, 20; Pond Inlet, 11; Igloolik, 5; Rankin Inlet, 4; Bathurst Inlet, 2.

Chlamydia, 72: Yellowknife, 11; Rae, 7; Inuvik, 5; Cape Dorset, 4; Pond Inlet, 4; Repulse Bay, 4; Arctic Bay, 3; Baker Lake, 3; Iqaluit, 3; Sanikiluaq, 3; Tuktoyaktuk, 3; Ft. Liard, 2; Ft. Providence, 2; Gjoa Haven, 2; Igloolik, 2; Pangnirtung, 2; Arviat, 1; Coral Harbour, 1; Deline, 1; Ft. Resolution, 1; Ft. Simpson, 1; Ft. Smith, 1; Hall Beach, 1; Luselk'e, 1.

Cryptosporidiosis, 8; Pangnirtung, 5; Kimmirut, 2; Iqaluit, 1.

Giardiasis, 4: Ft. Liard, 1; Ft. Resolution, 1; Gjoa Haven, 1; Yellowknife, 1.

Gonorrhea, 13: Pond Inlet, 3; Arctic Bay, 1; Ft. Smith, 1; Hall Beach, 1; Igloolik, 1; Inuvik, 1; Iqaluit, 1; Kimmirut, 1; Pangnirtung, 1; Tuktoyaktuk, 1; Yellowknife, 1.

Hepatitis C, 3: Deline, 1; Ft. Liard, 1; Yellokwnife, 1.

Pertussis, 5: In Yellowknife.

Salmonellosis, 1: In Yellowknife.

Tuberculosis, 1: In Hay River.

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December 1996

Campylobacteriosis, 1: In Yellowknife.

Chickenpox (varicella), 26: Gjoa Haven, 19; Pangnirtung, 3;Yellowknife, 2; Hay River, 1; Iqaluit, 1.

Chlamydia, 67: Rankin Inlet, 8; Rae, 7; Wha Ti, 6; Yellowknife, 5; Arviat, 4; Cambridge Bay, 4; Iqaluit, 4; Ft. Resolution, 3; Ft. Simpson, 3; Inuvik, 3;Repulse Bay, 3; Baker Lake, 2; Whale Cove, 2; Arctic Bay, 1; Cape Dorset, 1; Coral Harbour, 1; Deline, 1; Ft. Good Hope, 1; Gjoa Haven, 1; Hall Beach, 1; Igloolik, 1; Taloyoak, 1; Tuktoyaktuk, 1.

Cryptosporidiosis, 1; In Pangnirtung.

Giardiasis, 1: In Yellowknife.

Gonorrhea, 10: Iqaluit, 2; Tuktoyaktuk, 2; Clyde River, 1; Hall Beach, 1; Igloolik, 1; Kugluktuk, 1; Pelly Bay, 1; Yellowknife, 1.

Hepatitis A, 1: In Yellowknife.

Hepatitis C, 2: In Yellowknife.

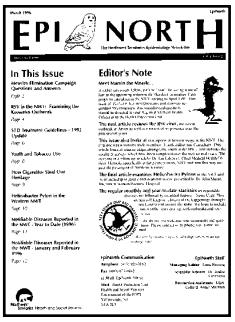
Influenza: 1, In Rae.

Pertussis, 3: Yellowknife, 2; Rae Lakes, 1;

Salmonellosis, 2: Resolute, 1; Yellowknife, 1.

Tuberculosis, 4: Hall Beach, 1; Igloolik, 1; Lutselk'e, 1; Yellowknife, 1.

Notifiable disease information reported in **EpiNorth** on a monthly basis reflects reports ***received*** in the ***Health Protection Unit*** during the current month, not the month in which the cases occurred. Health professionals who suspect or diagnose a Notifiable disease are required to report it to their ***Regional Medical Health Officer*** within the time frame legislated in the Public Health Act/Communicable Disease Regulations.


EPI NORTH

In This Issue

Editor's Note

EpiNorth is a publication of the Health Protection Unit, Division of Population Health, Department of Health and Social Services.

Contributions are welcome and should be sent to the Managing Editor. Articles should be in WordPerfect format. Inclusion of material in **EpiNorth** does not preclude publication elsewhere.

Views expressed are those of the authors and do not necessarily reflect departmental policy.

News Clips:

- Pneumococcal pneumonia: NWT
- Respiratory Virus Activity: Keewatin
- Measles: BC
- Influenza: World Overview
- Ebola: Gabon (update)
- Hantavirus: Canada
- Measles: Guadeloupe

Pneumococcal Pneumonia in the NWT

There were six document cases of pneumococcal infection diagnosed at Stanton Regional Hospital in December, 1996. None of these patients had received Pneumovax vaccine previously. On review of these 6 cases, 2 would have been eligible because of their age (> 65 years) and 2 others because of chronic medical conditions placing them at risk.

Strep. pneumoniae remains an important cause of morbidity and mortality for certain high-risk groups. Identifying those individuals and ensuring they are being offered immunization therefore represents a worthwhile investment. The time of discharge from hospital following an acute episode of illness should be one opportunity that is not missed for this public health intervention.

Source: Health Protection Unit -Yellowknife, NT

Respiratory Virus Activity: Keewatin

According to Cadham Laboratory in Winnipeg, Manitoba, respiratory virus activity has been detected in several Keewatin communities. As of January 21, 1997 there had been 1 case of Adenovirus in Baker Lake, 1 case of Influenza A in Rankin Inlet, several cases of Influenza A in Repulse Bay and 1 case of RSV in Arviat. Across Canada, sentinel laboratories have noted a drop in influenza, parainfluenza and adenovirus over the past week, and an increase in RSV reports in Quebec, Ontario and the Praires. *Source: Cadham Laboratory, LCDC*

Outbreak of Measles: British Columbia

As of February 4th, >40 cases of measles had been reported, involving university students (born between 1971 and 1976) from Simon Fraser University. Six cases were laboratory confirmed. The first reported case had onset of symptoms on January 21, 1997. Epidemiological investigation is in progress. In response to the outbreak, the BC Ministry of Health planned an immunization campaign on campus using MR. The vaccine is being offered to all students and staff who are considered susceptible to measles (born <1956 who have not had two doses of MMR). *Source: British Columbia, CDC*

Measles: Guadeloupe

The Ministry of Health of France has notified PAHO of a measles outbreak on the island of Guadeloupe, in the Caribbean. As of January 15, a total of 12 laboratory cases have been confirmed. The majority of cases have occurred among unvaccinated adolescents in the city of Francois. The first reported measles case had rash onset in mid-October 1996 and most recent in mid-Jan 1997. *Source: WHO*

Influenza: World Overview

The World Health Organization reports that influenza activity in parts of France and Spain has reached epidemic levels. Ten states in the USA have reported widespread or regional activity at the end of November. Local outbreaks have also been reported in Japan, and Columbia has experienced a severe epidemic. In Columbia, the epidemic started in August and continued throughout October with an estimated 10 million people affected. Most laboratory confirmed cases of influenza have been type A (H3N2) which was in the recommended vaccine this year.

In Canada, as of January 22, 1997, 24 influenza isolates have been characterized nationally at the Bureau of Microbiology . Of these, 22 have been A/Wuhan (H2N3)-like, 1 A/Johannesburg (H2N3)-like and 1 Influenza B (B/Beijing)-like). Johannesburg was a component in the 1995-6 influenza vaccine and Wuhan and Beijing were both part of the 1996-7 influenza vaccine.

The FluWatch surveillance project which has physicians from across Canada reporting influenza-like illness (ILI) to LCDC saw a peak in ILI reported nationally during the last week of 1996. Surveillance continues at sentinel sites across the country.

Source: WHO/LCDC

Hantavirus: Canada (update)

Sixteen cases of hantavirus pulmonary syndrome have now been confirmed in Canada. The most recent case was diagnosed retrospectively and occurred in a 32 year-old female from Mission, BC in 1994. Six cases have been confirmed in British Columbia, 8 in Alberta and 2 in Saskatchewan. Nineteen percent (3/16) of cases are female; mean age is 43 years (range 31-58 years). Mortality rate in Canada is 37.5% compared with 47.7% in the US. Of the 15 cases for whom exposure information is available, 7 were exposed occupationally during farm or ranch activities.

Source: Zoonotic Diseases Laboratory, LCDC

Ebola: Gabon (update)

The latest report from Gabon informs that a total of 59 cases with 44 deaths have occurred in the outbreak up to January 15, 1997. The last fatal case occurred on January 8, 1997. 15 have recovered since the outbreak began in July 1996. 106 cases remain under daily surveillance (which lasts 21 days.) *Source: WHO*