Health Canada Santé Canada

Update: Vaccine-Preventable Diseases

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Current News

Epidemiology of Measles Cases in Canada, 1998

M Litt, Division of Immunization, Bureau of Infectious Diseases, LCDC, Ottawa

In October 1997, the Working Group on Measles Elimination in Canada (WGMEC) asked the Laboratory Centre for Disease Control (LCDC) to modify the weekly Enhanced Measles Surveillance System into an e-mail format to facilitate reporting for all those involved. Since its introduction in February 1998, the electronic Enhanced Measles Surveillance System has averaged a weekly response rate between 76% to 81%.

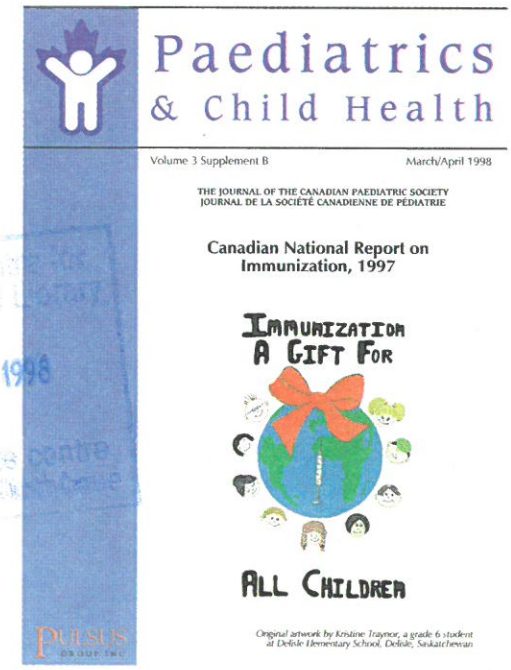
For the time period January 1 to June 1, 1998, a total of eight confirmed cases of measles have been reported to LCDC through the electronic system. The cases have occurred sporadically and have been distributed across Canada. Ontario has reported three cases, British Columbia two, and Alberta, Saskatchewan and Quebec one case each. The mean age of the cases is 6 years (range: 9 months to 16 years) (Table 1). One case was hospitalized for 3 days.

Table 1

Ages* and Sex Breakdown of Measles Cases in Canada
January 1 – June 1, 1998

Age *(rounded off to highest number)*	Male	Female
9 months	1	
11 months	1	
1 year	1	
3 years		1
6 years	1	
10 years	1	
12 years		1
16 years	1	

*Note: calculated from date of onset



Copies of the Canadian National Report on Immunization, 1997, shown above, published in the March/April 1998 issue of Paediatrics & Child Health, (Vol 3, Suppl B) may be obtained from the Division of Immunization, LCDC, Tel.: (613) 957-1340, FAX: (613) 946-3878.

Canada

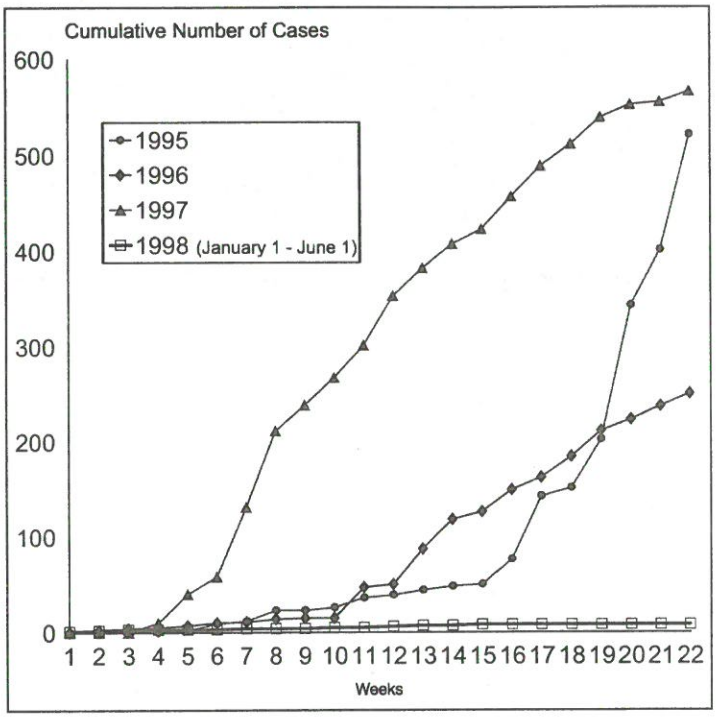
No outbreaks have been associated with any of the cases and two of the eight have been identified as being imported into the country[a].

Six of the eight cases were laboratory confirmed and two were clinical cases. Three of the six laboratory-confirmed isolates were forwarded to LCDC and verified with IgM capture assay. No urine or nasopharyngeal/throat swabs from any of the cases have been submitted for molecular analysis despite the recommendations from WGMEC stating that "virus isolation should be attempted for all sporadic cases of measles and for cases occurring early in an outbreak"[1].

Of the eight confirmed cases[b], three received their first dose of measles-mumps-rubella (MMR) vaccine at ≥ 12 months of age and one received the first dose at 8 months of age while living in a developing country. At the time of the rash onset, three cases were ≤ 1 year of age and subsequently had not received their first MMR vaccination; one case (3 years old) was identified as not being vaccinated due to an egg allergy. Only one of the eight cases was documented as receiving a second dose of MMR vaccine. Further details on this case are pending.

When one compares the number of measles cases reported between January 1 to June 1, 1998, to previous years it is evident that 1998 has seen a dramatic decrease in cases for that time period (Figure 1). It remains to be seen whether the decreasing trend will continue throughout the rest of the year. Catch-up campaigns have been initiated in nine of the 12 provinces and territories and completed in only seven, although large cohorts of susceptible children remain in certain regions across the country.

Figure 1
A Four-Year Comparison of the Cumulative Totals for Measles Cases



Reference

1. Working Group on Measles Elimination in Canada, Laboratory Issues Subgroup. *Measles surveillance guidelines for laboratory support.* CCDR 1998;24:33-43.

[a] Importation is defined as when a case "has travelled from another country 7 to 21 days prior to the onset of rash, and for whom there has been no local exposure to measles". Adapted from the October 1996 minutes of the Working Group on Measles Elimination in Canada.

[b] The measles clinical case definition is as follows: fever > 38.3° C and cough, coryza or conjunctivitis followed by a generalized maculopapular rash for at least 3 days.

Relocation of the Viral Exanthemata Laboratory

The Viral Exanthemata Laboratory at the Bureau of Microbiology, LCDC, has relocated to new facilities in Winnipeg. Michael Garbutt and Michael Gray are the new technical staff for the laboratory. The Viral Exanthemata Laboratory includes measles, rubella and human herpes virus 6 serological and molecular diagnostics. Contact information is as follows:

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Canadian Consensus Conference on a National Immunization Records System

Adapted from the report prepared by Dr. R Schabas, Chair of the Canadian Consensus Conference, Schabas Associates Inc., Toronto

Health Canada sponsored the Canadian Consensus Conference on a National Immunization Records System held in Ottawa on March 2-3, 1998. The conference was intended to follow up on the recommendations of the 1996 Canadian National Immunization Conference which identified that "an immunization tracking system is urgently needed in Canada". The conference was attended by 60 participants representing key stakeholder groups including consumers, health-care providers, privacy experts and federal/provincial and local public-health officials.

The National Immunization Registry goal was defined as facilitating the control and elimination of vaccine-preventable diseases in Canada by ensuring the provision of information and knowledge necessary to achieve the best possible immunization coverage for Canadians. The conference was marked by strong and speedy consensus in support of the utility and feasibility of such a registry.

Registry Components

The participants determined that an effective national immunization registry would require the following components:

- Universal enrollment, including the entire target population and all immunization providers. Canadian immunization registries should include all children in Canada. As a minimum start-up, they should include all children from birth to 7 years of age. They should be expanded in short order to include all school-age children. These registries should have the capacity to include other target populations such as travellers, candidates for influenza and pneumococcal immunization, and residents in long-term care facilities. There should be a lifelong retention of information.
- Recording of all immunization events, with the ability to link to information about adverse vaccine reactions and incidence of vaccine-preventable diseases.
- Individual provincial/territorial systems, with the federal government providing central support. The operation of the registries should be locally-based, where data entry should occur and the capacity for report generation exist. These systems need a common set of data elements and standards, including immunization logic.
- Common elements that are nationally consistent (i.e., consistent within the provincial/territorial registries and between provincial/territorial systems).
- Ability to interact with other health information systems, including those dealing with disease surveillance, and adverse vaccine reactions.
- Capacity to draw enrollment directly from birth records, provincial/territorial health insurance enrollment records, school and day nursery enrollment records and immigration notifications.

Registry Design

For the system to function effectively it was determined that:

- Registries should be based at the provincial or territorial level.
- These provincial/territorial registries should conform to clear national data elements and technical standards.
- Health Canada should promote the development of national standards, providing a national clearinghouse function and providing developmental funding.
- The registries should have a solid foundation in public health and privacy legislation. This legislation should make participation mandatory.
- Privacy interests must be involved at every stage of development and implementation.
- The registries must be flexible in design and, in particular, be able to accommodate data entry from multiple sources.
- Provider support is critical, particularly in those provinces with private or mixed immunization delivery systems, and should be based on incentives to participate.
- The registries must support reporting functions that assist in ensuring an efficient immunization system with maximum population coverage.

Next Steps

At the end of the conference, three immediate recommendations for action were suggested:1) a National Working Group on Immunization Registries should be developed; 2) each province and territory should establish an Immunization Registry Working Group; and 3) Health Canada should offer tangible support to assist provinces/territories in the development of registries on condition they conform to the national standards and data elements.

In 1998, Health Canada will be establishing a *National Working Group on Immunization Registries* to further the agenda laid out at the Consensus Conference. One of the immediate priorities for the National Working Group will be to establish data elements and technical standards, and to create a national clearinghouse function.

The working group will have representation from the provinces and territories, provider groups, consumers, private interest and immunization advisory groups (e.g., National Advisory Committee on Immunization). Regular updates on the National Immunization Records System will be published in upcoming issues of the *Update*.

Any persons interested in participating in the development of the National Immunization Records System, should contact Margaret Litt, A/Head, Surveillance and Technical Support Section, Division of Immunization, Bureau of Infectious Disease, LCDC, Health Canada, Tel.: 613-954-1612 (e-mail: margaret_litt@hc-sc.gc.ca). Minutes from the conference are available by calling the same number.

Vaccine Safety Notes

Vaccine Safety Resource Materials for Providers and the Public

R Pless, Division of Immunization, Bureau of Infectious Diseases, LCDC, Ottawa

The purpose of this *Vaccine Safety Update* is to suggest available materials and reference sources to respond to vaccine safety concerns, and offer a framework to teach the rational evaluation of information obtained from the Internet.

Information on the safety and effectiveness of vaccines is available from many different sources. Regular readers of the *Update*, especially those who work in public health and immunization, will be familiar with a number of them, which include the *Canadian Immunization Guide*, provincial or territorial immunization guidelines as well as a variety of leaflets and brochures. Patients and parents of patients who are receiving vaccinations, as well as the general public, generally share limited access to comprehensive immunization-related materials. They may receive only simple pamphlets given at the time of an immunization visit or during the perinatal period. Yet with the evolving climate of the "informed health care consumer", more comprehensive information is being sought. Vaccination was once considered a health miracle and as such was not questioned; with its success came complacency. It is now time to reaffirm its benefits over any potential risks.

Unfortunately, the information vacuum created by complacency has been eagerly filled by material on vaccines that is often misleadingly critical, if not completely opposed, to this vital public health intervention. These materials include not only several books readily available at the local bookstore, but also a veritable explosion of Internet sites devoted to denouncing vaccination. Using a combination of intentionally misleading, inaccurate or even false information, they urge the reader not to forgo immunization (as this could potentially expose authors of these sites to liability), but to "make up your own mind" after reading their "undisputed facts". The relative ease with which these materials are accessible makes them readily available to patients or parents – who are increasingly apt to appear for an immunization visit armed with printouts or questions based on such readings. At the same time, their requests for advice and materials to counter the claims of these anti-vaccination web sites or books are met with either silence or the usual limited print pamphlets that some parents or patients have complained are inadequate.

The amount of information available that discusses vaccine safety remains overshadowed by the volume of information circulating that opposes vaccination. The increasing needs of communication in vaccine safety are finally being addressed by several countries as well as the World Health Organization, and more resources are being produced and existing ones enhanced. Good material is also increasingly becoming available on the Internet. Readers are invited to submit additional references and Internet sites that they wish to share. As new materials are received and evaluated, they will be shared in future issues of the *Update*.

References

Core reference materials for providers:

Adverse Reactions

1. Stratton KR, Howe CJ, Johnston RB, eds. *Adverse events associated with childhood vaccines: Evidence bearing on causality*. Washington DC: National Academy Press, 1994.

2. Stratton KR, Howe CJ, Johnston RB, eds. *Adverse effects of pertussis and rubella vaccines*. Washington, DC: National Academy Press, 1991.

3. CDC. *Update: Vaccine side effects, adverse reactions, contraindications, and precautions: recommendation of the Immunization Practices Advisory Committee (ACIP)*. MMWR 1996; 45(RR-12).

Together, these references form a comprehensive review and overview of the causality relationship between serious adverse events and immunization. An expert committee convened by the Institute of Medicine assessed available literature and outlined conclusions based on strength of evidence. The core material is contained in the two books (#1 and #2), with some updates in the *Morbidity and Mortality Weekly Report* (MMWR) article (#3). **Of interest, these three references are available for browsing on the Internet.** All issues of MMWR are accessible through the Centers for Disease Control and Prevention (CDC) Internet site described below. The two books are available for reading

(#2 now, #1 is anticipated) through the Internet site of the National Academy Press at: **www.nap.edu** in the "Reading Room" (simply select the option to "search" to locate the titles).

Immunization and Vaccine-Preventable Diseases Guides

4. National Advisory Committee on Immunization. *Canadian Immunization Guide*. 5th ed., Ottawa, ON: Minister of Supply and Services Canada, 1998.

Fortunately, the latest edition of the Canadian Immunization Guide will be available on the Internet at the LCDC web site, and therefore can be accessed directly from the Division of Immunization Internet site, listed below. Several provinces/territories publish their own immunization guides for their public health clinics or vaccine providers. Readers are encouraged to inquire at their local health units for the availability of such a guide in their province/territory.

General Vaccine Information and Monographs

5. Gillis MC, ed. *Compendium of pharmaceuticals and specialties*. Ottawa, ON: Canadian Pharmacists Association, 1998.

6. Grabenstein JD, ed. *ImmunoFacts: Vaccines and immunologic drugs*. St. Louis, MO: Facts and Comparisons, 1998.

7. Plotkin S, Mortimer E, eds. *Vaccines*. Philadelphia, PA: W.B. Saunders Co., 1994.

The first two references contain product monographs. The blue "CPS" (#5) should be familiar to many as a drug reference, but is not a comprehensive reference for all vaccine products licensed in Canada. ImmunoFacts (#6), is a 3-ring binder of standardized vaccine monographs, routinely updated, which lists "all licensed drugs whose action is wholly or largely immunologic in nature" (p. ix). The editors based most of their selections on Canadian and US products, but have included international immunologic drugs as well. The textbook by Plotkin and Mortimer (#7) is a well recognized and well respected reference on vaccines. Although the notations on safety are not as comprehensive as the other sources suggested in this article, it is an excellent overall reference on vaccines and vaccination. A new edition is in preparation.

Books for Parents

8. Canadian Paediatric Society. *Your child's best shot: A parent's guide to vaccination*. Ottawa, ON: Canadian Paediatric Society, 1997. (Also available in French).

9. Offit PA, Bell LM, eds. *What every parent should know about vaccines*. New York: Macmillan, 1998.

For parents who wish to read material that is more complete and more comprehensive than any of the brochures and pamphlets available, these two small books are ideal. The first one (#9) is more "sophisticated" and some parents may find it too difficult to digest. The book by Offit and Bell, though targeted at a simpler reading level and more readily available in bookstores, is written for a US audience and therefore some of the data and vaccine information presented may not be relevant. The Canadian Paediatric Society book can be ordered through their Internet site, www.cps.ca or by calling (613) 526-9397 ext. 245. A table of contents and description of the book is also provided at the site.

Internet Resources

10. **Division of Immunization**, Laboratory Centre for Disease Control – Canada
Home page: www.hc-sc.gc.ca/hpb/lcdc/bid/di

    Links to the sites listed here as well as new ones will be added to the section "Vaccine Safety". There is also a link to the Canada Communicable Disease Report (CCDR) where all current National Advisory Committee on Immunization statements are published – statements that serve to update the Canadian Immunization Guide between editions.

11. **National Immunization Program**, Centers for Disease Control and Prevention – USA
Home page: www.cdc.gov/nip

    This is the starting point of the CDC's vaccine information materials. Documents for the public and health care provider are continually being added. The site also links to the CDC Home Page from where access to the MMWR is just a link away. The MMWR publishes statements from the Advisory Committee on Immunization Practices, the parallel to our National Advisory Committee on Immunization.

12. **Immunization Action Coalition**
Home page: www.immunize.org

    A nonprofit organization working to boost immunization rates. The Coalition promotes physician, community, and family awareness of, and responsibility for, appropriate immunization of all people of all ages against all vaccine-preventable diseases. The Advisory Board includes many well known experts in the field of immunization.

13. **Global Program for Vaccination (GPV)** – World Health Organization
Home page: www.who.ch/gpv-safety

    WHO is beginning to provide more accessible information on the issue of vaccine safety, risk and communications. The following excerpt is from the introduction to the relevant section of their GPV site:

    "The information below is designed to provide information to parents, health care providers and others who are interested. The intent is to provide accurate, unbiased information on this subject that can be trusted and seen to be authoritative by all. WHO is not an organ of government, nor does it represent industrial interests. The Organization is impartial, wishing only to provide the best possible technical advice to everyone."

14. **Institute for Vaccine Safety** – Johns Hopkins University, USA
Home page: www.vaccinesafety.edu

    This site is currently under construction, but good material is already available and more will be added before the official launch later in 1998. From their site:

"The purpose of the Institute for Vaccine Safety is to obtain and disseminate objective information on the safety of recommended immunizations. The Institute will

- provide a forum for dissemination of data regarding specific issues concerning the safety of immunizations,
- investigate safety questions where insufficient data are available to provide definitive conclusions,
- conduct methodologic and empiric research on post-licensure vaccine safety evaluation, and
- undertake individual research projects to obtain specific information regarding vaccine safety when existing information about the safety of a specific vaccine is insufficient or flawed."

Some Points to Raise When Discussing Internet Information With Patients or Parents

These few suggestions should help counsel readers of Internet information to be more critical of what is available on an unregulated medium. There is no obligation to be accurate or truthful on the Internet. More comprehensive advice regarding critical appraisal skills for the Internet will be available on sites that are still under construction. When they are on line, they will be presented in an upcoming *Update*.

1. **Be wary of sites that do not take responsibility for their own posted information**

   If vaccination is such a controversy and vaccines are so dangerous, then why would there be a disclaimer telling readers that the information is only being provided for information, not to suggest a course of action?

2. **Invoke critical appraisal skills and teach these to parents and patients**

   Information provided on an Internet site should be referenced with sound scientific papers or books based on scientific evaluations. Responsible use of published papers includes describing any limitations, and does not include taking details out of context. Many sites purportedly use "scientific studies" to prove their points, but misinterpret the real conclusions. Also be wary of findings ascribed to "noted researchers": if they are truly competent and renowned, why would their names not be available to be listed?

3. **Be reminded that conspiracy theorists abound**

   Be wary of people who proclaim that they have discovered the "hidden truth" about the dangers of vaccines, and the "medical-industrial complex" is out to suppress this truth. Why would WHO, along with respected public health, medical and pediatric authorities around the world, want to conspire to harm children? Why would sound research be suppressed, and indeed how does anyone actually suppress a scientifically sound and important finding anyway? Why would researchers want to withhold publication of their findings?

4. **The motives of the site should be clear**

   Be wary of sites that denounce vaccination in order to sell an alternative "healthy lifestyle" or a "natural, completely safe alternative". If their "product" is indeed of value, why can it not stand on its own merit?

5. **Ask yourself "Are the statements believable?"**

   Are the findings "too good to be true" (we have the cure for cancer!), or too awful to be true (vaccines are killing millions of children!)? How would such "facts", if true, escape public attention around the world and have to depend on an individual Internet site or single book to be disseminated?

SPOTlight on Research

This issue of the *Update* presents a spotlight on the Field Epidemiology Training Program (FETP) offered by the Laboratory Centre for Disease Control. Abstracts 1 to 3 were presented at the Field Epidemiology Training Program, Public Health Schools Without Walls, and the Network of Training Programs in Applied Epidemiology and Public Health Interventions – Directors Meeting and Scientific Conference, held in Atlanta, Georgia, from April 13-17, 1998. Abstract 4 was presented at the 47th Annual Epidemic Intelligence Service Conference held in Atlanta, Georgia, from April 20-24, 1998.

Additional information about the LCDC's FETP may be obtained by visiting the program website at http://www.hc-sc.gc.ca

1. ***Prenatal Rubella-Susceptibility in Manitoba with Reference to Descriptive Epidemiology of Two Manitoba Rubella Outbreaks and Vaccination Policy***

   CA Craig[1], JF Blanchard[2]

Introduction: Infection with rubella virus during pregnancy can cause congenital rubella syndrome (CRS). To prevent CRS,

Manitoba, a Canadian province of 1.1 million people, implemented a policy in 1979 to vaccinate only pre-adolescent females. In 1983, the province commenced routine infant immunization against rubella in both males and females. This left a cohort of susceptible males born between 1967 and 1981, resulting in two large rubella outbreaks (OB1: 1992-93, OB2: 1996-7) which primarily affected males in this cohort. However, from 1991-1997 there were 565 rubella cases in females of childbearing age (15 to 44 years). In response to this large number of adult female cases, we reviewed the rubella susceptibility of prenatal women with reference to recent occurrence of rubella in Manitoba.

Methods: We analyzed the 1985-1996 data from the Manitoba Public Health Laboratory Rubella Susceptibility Screening Program and 1991-1997 data from the Manitoba Health Communicable Disease Surveillance System. We determined incidence rates and prenatal susceptibility rates in three birth cohorts based on vaccination policy (BC1: 1947-1966, no routine immunization; BC2: 1967-1981, only females eligible at 12 years; and BC3: 1982-1991, routine immunization at 1 year).

Results: From 1991-1997, 5,202 cases of rubella were reported; OB1 and OB2 accounted for 5,153 (99%) of these. Less than 15% of the cases were female and 76% of these were females of childbearing age. For both outbreaks, the attack rates per 1,000 person/years for BC1, BC2, and BC3 respectively, were 0.8, 12.5, and 0.6 in males, and 0.3, 1.6, and 0.3 in females. From 1985-1996, the percent of prenatally screened females susceptible to rubella increased with birth year (3.4%, 6.5%, and 28.5% for BC1, BC2, and BC3 respectively).

Discussion: The burden of illness experienced in the female population of childbearing age may have resulted from a combination of an increasing proportion of rubella-susceptible females and exposure to rubella-infected males who were previously unvaccinated. The high rates of rubella susceptibility among females who should have received vaccination may indicate incomplete vaccination, vaccine failure or waning vaccine-induced immunity in an era of declining, natural infection. Since many in the BC3 cohort are now entering reproductive age, we recommend the following: 1) Vaccination against rubella for males in the 1967-1981 birth cohort if the prevalence of serosusceptibility remains high; and 2) Evaluation of high susceptibility rates in the female vaccinated population by measuring rubella vaccine effectiveness in Manitoba.

2. *Influenza A Outbreak among High-Risk Passengers on a North American Cruise Ship*

TWS Tam[1], JM Miller[3], C Afif[3], S Maloney[3], K Fukuda[4], A Kilmov[4], H Hall[4], D Kertesz[5], J Hockin[1], M Cetron[3]

Introduction: Over 4 million international travellers take North American cruise ship vacations annually. Cruises are potential settings for rapid spread of respiratory viruses, with large numbers of persons in enclosed spaces. However, outbreaks of influenza on cruise ships have not been well described. On September 10, 1997, after a 10-day cruise from New York city (NY) to Montreal (voyage A), six of 1,445 passengers were hospitalized with respiratory illness. The ship departed for NY the following day (voyage B) with 1,448 new passengers and the same crew. We were invited to determine the extent and the cause of ongoing respiratory illness during voyage B, and to recommend control measures. On September 14, influenza A antigen was detected from one passenger from voyage A.

Methods: We reviewed the medical records of passengers and crew on both voyages. Our case definition for influenza-like illness (ILI) was fever $\geq 37.8^{\circ}$ C and either sore throat or cough. We conducted surveys to determine the extent of ILI and risk factors for complications of influenza among passengers and crew on voyage B. We collected nasopharyngeal swabs (NPS) from new cases of ILI. Control measures included: active surveillance for ILI among crew, confining ill crew to cabins, providing rimantadine therapy for persons with new onset ILI, providing rimantadine prophylaxis for well crew, offering rimantadine prophylaxis to well passengers, and vaccinating the crew.

Results: Among passengers, 39 (2.7%) of 1,445 on voyage A and 19 (1.3%) of 1,448 on voyage B presented with ILI. Of the 631 crew, 20 (3.2%) presented with ILI. Of 1,284 passengers surveyed on voyage B, 994 (77.4%) were $\geq$ 65 years of age, 336 (26.2%) had medical conditions predisposing to complications of influenza, and 54 (4.1%) had fever and either sore throat or cough since boarding. After implementation of control measures, only one crew member but no passengers on the next cruise had ILI. Influenza A/Sydney/05/97-like(H3N2), a variant first detected in Australia but new to North America, was confirmed in 13 of 33 NPS.

Discussion: As the cruise industry caters to elderly persons with risk factors for complications of influenza, companies need to develop vaccination programs for crew and contingency measures for controlling outbreaks, similar to those used during influenza outbreaks in nursing homes. Given the mingling of international travellers on cruise ships, persons at risk for influenza-related complications destined for cruises should consider vaccination, irrespective of the influenza activity at ports of call. The Canadian influenza surveillance system (FluWatch) will monitor for circulation of the new influenza variant.

Editor's Note: A full report on this outbreak investigation has been published in the Canada Communicable Disease Report. (J Miller, T Tam, C Afif et al. *Influenza A outbreak on a cruise ship*. CCDR 1998;24:9-11.)

3. *Response to an Acute Hepatitis A Outbreak in a High Risk Rural Community*

SM Isaacs[1], J Hockin[1], D Kittle[6], S Tamblyn[7], N Bailey[8], R Hart[8], B Marshall[6]

Introduction: On January 14, 1997, public-health officials were notified of a laboratory-confirmed case of hepatitis A in a 16-year-old male. His mother had been ill with gastric distress and jaundice over the 1996-1997 Christmas period, when she had also participated in the preparation of several community meals.

The family was part of a rural religious community in the province of Ontario.

Methods: Officials proceeded to trace all persons involved in these events, and to offer immune globulin (IG) prophylaxis to eligible contacts. A case was defined as anyone living in the affected community who had serologic confirmation of anti-hepatitis A virus IgM, or who became jaundiced within 6 weeks of contacting a known case. It became apparent after identification of several more cases, with other contacts too late to benefit from IG, that the potential for a continued community-wide outbreak existed. Education was offered to community members concerning prevention and early symptom identification. A registry of contacts was created to monitor outcomes. As periodic cases continued to be identified, a decision was made to initiate an hepatitis A vaccine campaign directed at community members between the age of 2 and 45.

Results: Twenty-one cases of hepatitis A, representing four generations of illness, occurred within the community over a period of 4 months. All cases were linked to the mother of the index case. During the first 3 months of 1997, the incidence of hepatitis A in the outbreak community was 316 per 100,000 (19/6,000) compared to the provincial rate of 1.3/100,000 for the same period. The number of contacts averaged 30 per case. The lack of opportunity to give IG to 35% of contacts suggested that an IG response alone would not guarantee containment of the outbreak. All new cases were known contacts who had not received IG prophylaxis. The attack rate among contacts who missed IG was 10%. The vaccine campaign resulted in a 69% coverage of the target group, with no new cases subsequently identified.

Discussion: The risk of transmission of hepatitis A in this community was high given the lack of running, or hot water in many of the homes, and a tradition of sharing meals during regular community gatherings. An early and intensive response by health officials aided in arresting the outbreak. To what degree the use of vaccine contributed to this success cannot be evaluated. The use of hepatitis A vaccine in an acute outbreak has merit where other control measures demonstrate potential for failure. Community-based measurement of susceptibility is required to refine decision processes for using vaccine in future outbreaks.

4. *Control of an Hepatitis A Outbreak in an American Indian Population Using Hepatitis A Vaccine*

DA Thoroughman[9], J Cheek[10], D Hunt[10], S Matt[11]

Background: Control of hepatitis A outbreaks in American Indian (AI) communities has shifted from reliance on immune globulin to hepatitis A vaccine. Limited data exists, however, regarding the appropriate target population and level of vaccination coverage needed to stop an outbreak. In a southwestern AI population, 50 cases of hepatitis A (rate: 518/100,000 in children aged ≤16 years of age) were reported from January through April 1997, at which time a vaccination campaign targeting preschool through eighth grade children was implemented. Vaccination coverage and hepatitis A rates were evaluated over the following 6 months.

Methods: Suspected hepatitis A cases were serologically confirmed. Pre-existing immunity was evaluated serologically in a convenience sample of children in grades five through eight. Vaccination coverage was calculated using population estimates derived from 1990 US census data and school enrolment rosters.

Results: Of an estimated 2,891 children aged 2 through 16 years of age living on the reservation and with no history of hepatitis A, 1,648 (57%) received the first dose of vaccine in April. Approximately 28% (168/604) of preschool children and 65% (1480/2287) of school-age children were vaccinated. Incidence decreased to one case in May and no cases in June. The serosurvey indicated that 60% (95% CI, 53% to 67%) of children aged 11 through 14 years of age were immune before vaccination. For this age group, estimates of overall immunity (natural and vaccine-induced after the first dose) were 80%.

Conclusion: Despite low-vaccine coverage of preschool-age children, the outbreak ended after a mass vaccination of school children. Community-wide outbreak control may be possible in highly endemic communities by targeting the most accessible children.

1 Field Epidemiology Training Program, LCDC
2 Epidemiology Unit, Manitoba Health
3 Division of Quarantine, National Center for Infectious Diseases, CDC
4 Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC
5 Division of Respiratory Diseases, LCDC
6 Wellington-Duffering-Guelph Health Unit, Ontario
7 Perth County Health Unit, Ontario
8 Waterloo Regional Health Unit, Ontario
9 Epidemiology Program Office, State Branch, Indian Health Service Head Quarters, Albuquerque, New Mexico
10 Epidemiology Branch, Indian Health Service Head Quarters, Albuquerque, New Mexico
11 Tucson Area Office, Indian Health Service, Tucson, Arizona

Vaccine-Preventable Diseases Summary

Cumulative number of cases reported* for selected vaccine-preventable diseases, Canada January 1996 – April 1998

Divisions of Immunization and Disease Surveillance, Bureau of Infectious Diseases, LCDC, Ottawa

Disease	1996	1997	1998
	Jan-April	Jan-April	Jan-April
Diphtheria	0	1	0
Haemophilus influenzae type b	16	12	15
Measles[§]	206	382	8
Mumps	128	154	35
Rubella[¶]	58	2,305	41
Congenital rubella syndrome	1	1	1
Pertussis	1,483	1,114	772
Paralytic poliomyelitis	0	0	0
Tetanus	1	1	0

* Based on cases reported to the Notifiable Disease Reporting System, Division of Disease Surveillance, LCDC; 1997 and 1998 data are provisional. Also cumulative totals for the current year to date may not represent national totals due to incomplete reports from the provinces/territories.

§ Measles data are based on cases reported to the Enhanced Measles Surveillance System, Division of Immunization. The majority of cases in 1997 were reported from British Columbia (47%) and Alberta (43%).

¶ Approximately 98% of rubella cases reported in 1997 were reported from Manitoba where an outbreak of rubella occurred, starting October 1996 through December 1997.

Announcement

3rd Canadian National Immunization Conference

Partnerships for Health Through Immunization

The Calgary Convention Centre, Calgary, Alberta, Canada
December 6 - 9, 1998

Organized By

The Laboratory Centre for Disease Control, Health Canada, and the Canadian Paediatric Society

Objectives

To present a forum for discussion and information exchange related to the practical aspects of immunization programs in Canada, and means of improving them. This will cover issues such as vaccine supply and delivery, education, assessment of vaccine programs, regulations and legislations, and global immunization efforts. The conference will look at both programmatic and disease-related issues, with primary focus being on programmatic issues. The main focus will be on childhood immunization. There will also be an examination of progress toward the achievement of established Canadian national goals for the reduction of vaccine-preventable diseases of infants and children.

CALL FOR ABSTRACTS
DUE DATE: JULY 31, 1998

Time has been allotted within the conference for peer-reviewed presentations (poster and oral) that relate to the objectives of the conference.

To access the Instructions for Completing Abstracts, or other conference-related information as it becomes available, or to be put on the conference mailing list, visit the Conference Website at:

http://www.hc-sc.gc.ca/hpb/lcdc/events/cnic/index.html

Or fax your request to:
Chuck E. Schouwerwou, BA, CMP
Conference Coordinator
Fax: (613) 952-7948

Note that the proceedings of the previous Canadian National Immunization Conferences can also be accessed at that Website.

Our mission is to help the people of Canada maintain and improve their health.
Health Canada

Submissions of pertinent reports/epi notes are welcome and the success of this endeavor depends upon the readers' interest and cooperation. Priority for inclusion in the newsletter is determined by the article's relevancy. This is not a formal publication, and the views and interpretation may not necessarily reflect Health Canada's position. Distribution is free of charge. Anyone wishing to receive a copy on a regular basis should contact the Division of Immunization, Bureau of Infectious Diseases, LCDC, Ottawa, Ontario, K1A 0L2; telephone (613) 957-1340; FAX (613) 952-7948. This publication can also be accessed electronically via Internet using a Web browser at http://www.hc-sc.gc.ca/hpb/lcdc

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