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POUR TOUS

Focus On Infectious Diseases

Summer 2005
Pandemic Flu

Focus On Infectious Diseases

Correctional Service of Canada's Infectious Diseases Newsletter

Pandemic Flu: Contingency Planning Under the Threat of a Global Outbreak

The threat of a global influenza pandemic has been sounded by the World Health Organization, and many countries, including Canada, have been busy preparing contingency plans for an outbreak that could affect millions, cause massive morbidity and mortality, and wreak havoc on industrial society. The Public Health Agency of Canada is leading the way with a dedicated team, led by Dr. Teresa Tam and Dr. Ron St John. For CSC, one of six federal departments with a specific mandate for health care delivery, this means working with federal, provincial, and local levels of government, along with internal divisions and sectors, and with unions and senior executives.

The threat of a pandemic has been heightened by the emergence of the H5N1 z-strain virus in Asia. The virus has been found in fowl (which includes chickens, ducks and geese), and pigs, and documented human infection has occurred. More importantly, documented human-to-human transmission, albeit inefficient, indicates that the possibility of genetic mutation or viral reassortment is more than just theoretical.

This volume of CSC's *Focus on Infectious Diseases* presents some background on the potential of a pandemic flu with a focus on the epidemiology of H5N1 to date, along with CSC's response to the threat.

Influenza Pandemics and the Potential Emergence of Avian Flu

By Jonathan Smith

Epidemiologist, CSC-NHQ Health Services, National Infectious Diseases Program

There have been three major influenza pandemics in the last century. The Spanish Flu, in 1918, has the notoriety of being one of the worst pandemics in history, taking the lives of an estimated 20-40 million people around the world. Similar pandemics, of lesser pathogenicity and virulence occurred in 1957 ('Asian Flu'), and again in 1968 ('Hong Kong Flu'). Each was caused by a novel type of influenza A virus.¹

Influenza is an acute viral disease of the respiratory system, characterized by fever, headache, myalgia, sore throat and runny nose. It is spread via suspension of contaminated droplets in the air, and is particularly virulent in crowded places, where there is relatively close contact among individuals, such as buses, elevators, shopping malls and prisons. Another mode of transmission is through fomites and contaminated objects such as computer keyboards, telephones, door handles and light switches. In conditions of low humidity and cold temperature, such as the Canadian winter, influenza may persist outside the body for hours².

The influenza virus is encapsulated by two key glycoproteins: hemagglutinin (H), and neuraminidase (N). The virulent and pathogenic potential of the particular strain is determined by the morphological sub-types of 15 H and 9 N subtypes. The particular subtypes that have caused global pandemics to date have been H1N1 (1918), H2N2

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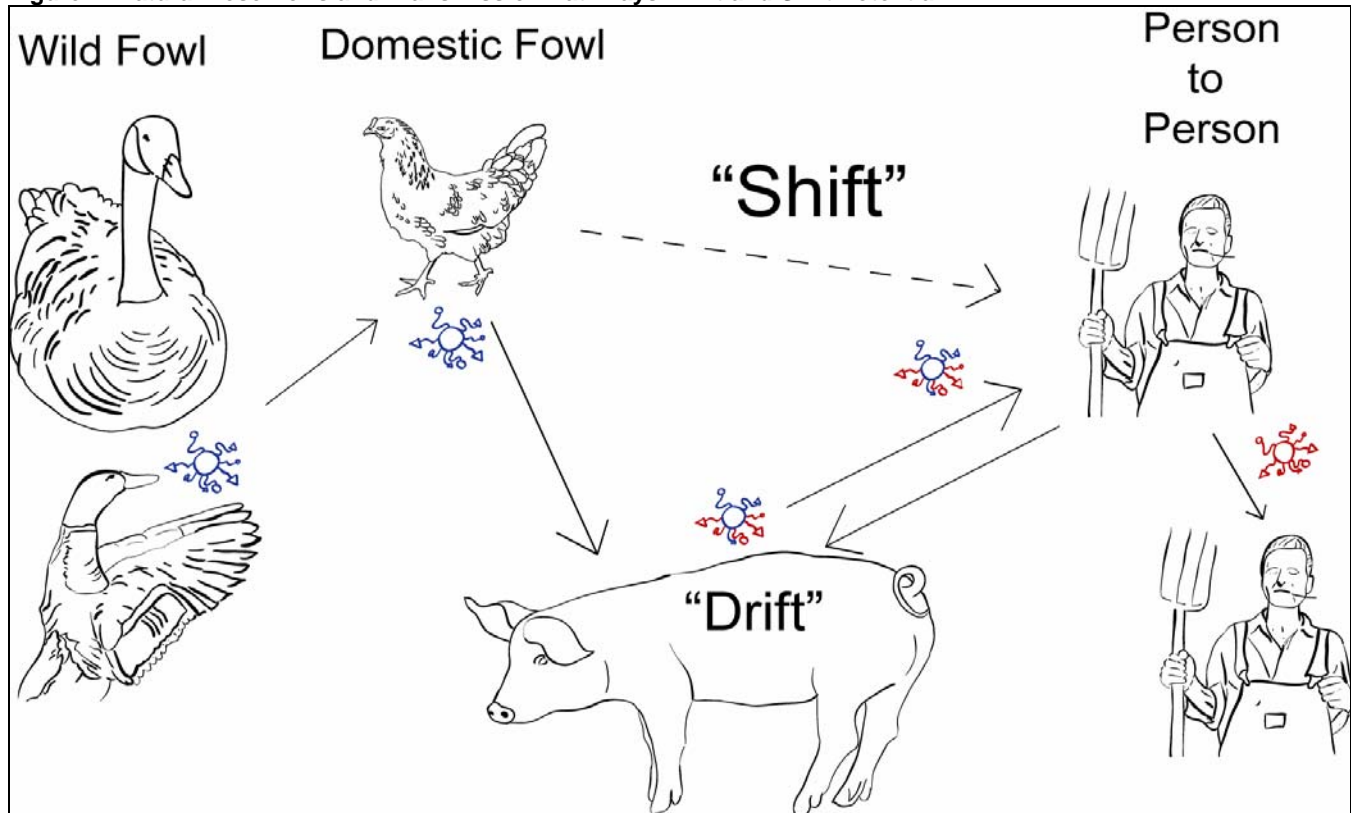
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(1957), and H3N2 (1968). The natural reservoir of human influenza are fowl and pigs (see Figure 1). Influenza types that affect wild and domestic birds infect pigs, as do influenza types that infect humans; thus human and avian influenza types literally 'mix' inside the pig and new genetic variants emerge. A pandemic strain of influenza may arise by one of two processes: 1) a genetic mutation, whereby a human influenza virus spontaneously mutates and acquires pandemic potential ('shift'); or 2) a genetic reassortment of avian and human glycoprotein inside natural reservoirs ('drift')¹.

Figure 1: Natural Reservoirs and Transmission Pathways: Drift and Shift Potential



Avian Flu (H5N1)

An avian influenza virus, H5N1, first identified in 1997 in Hong Kong and Fujian province, China, was responsible for several documented clinical cases ($n=18$) and a number of deaths ($n=6$) among humans in ten Asian countries. Human infection and mortality from avian influenza virus types are rare events¹. The H5N1 virus was also increasingly known to be highly pathogenic among fowl. More human infections and associated mortality were reported in February of 2004³. Up until then, all the human infections were believed to have resulted from exposure to infected fowl. A massive culling operation was undertaken and by March 2004, more than 120 million birds had been destroyed in an attempt to limit the spread of the virus⁴. Investigations among workers involved in an earlier cull in Vietnam found a 3% prevalence of serological antibodies to H5N1; however, there were no reports of respiratory illness among this group⁵.

The possibility of human-to-human transmission of the H5N1 virus was reported in September 2004⁶. A young girl, likely exposed via indirect contact with infected chickens on the farm she was living at, had an onset of fever, cough, and sore throat 3 days after the last chicken had been culled. A diagnosis of pneumonitis was made 4 days later and she died the next day. Her mother, while providing palliative care, was exposed to respiratory and oral secretions; she had an onset of fever and headache 3 days post-exposure; 10 days after exposure she was diagnosed with severe dyspnea and fever and died 13 days post-exposure⁶. The study authors conclude that although human-to-human transmission is the most likely explanation for their findings, genetic analysis of the virus did not find any indications that the virus had acquired binding-site capabilities for human receptors that would confer efficient transmission; rather, the secondary infections were likely due to the contact with infected fluids during the provision of clinical care⁶.

The Global Threat

Combined with i) high pathogenicity among fowl; ii) high pathogenicity among humans infected with the H5N1 virus; and iii) evidence of human-to-human transmission, another finding has raised concerns about a pandemic threat. Since 1997, the virus has undergone several genetic mutations, and the current predominate "z-strain" of H5N1 is resistant to amantadine and rimantidine, antivirals used against influenza; the z-strain remains susceptible to oseltamavir (Tamiflu®). The H5N1 virus was isolated from diseased pigs in 2003⁴, and among ducks and other fowl with no visible signs of illness. These findings suggest that culling of infected birds, especially in rural areas among asymptomatic fowl, may become increasingly difficult.

Weir et al⁵ have pointed out that pandemics occur when three conditions are met: i) the emergence of a new viral subtype; ii) a high proportion of susceptible people in the community; and iii) the efficient capability of person-to-person transmissibility of the virus. A strong public health response, in keeping our communities vaccinated to increase the chances of (even) weak cross-immunity, and constant vigilance in the surveillance and research aspects of influenza and influenza-like illnesses, are essential factors in determining the final outcome of a pandemic flu outbreak, should it happen.

Lessons from previous outbreaks in Canada have demonstrated the need to be prepared for such pandemic events; the Public Health Agency of Canada (see <http://www.phac-aspc.gc.ca/cpip-pclcpi/index.html> for more details), along with the provinces and territories and other federal departments, has already begun the task of contingency planning for such a scenario. CSC is also in the process of contingency planning in the event of a flu pandemic. See the article, Pandemic Influenza Contingency Planning: CSC Update, on page 4 of this newsletter.

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Pandemic Influenza Contingency Planning: CSC Update

By Sylvie-Anne Lavigne

A/Senior Project Officer, CSC-NHQ Health Services, National Infectious Diseases Program

In 2001, a Pandemic Influenza Committee (PIC) was created with the mandate to develop the *Canadian Pandemic Influenza Plan*. The Plan was released in February 2004. Members of PIC consisted of federal, provincial and territorial representatives, and community organizations. The goal of the Plan is to minimize serious illness and death in the event of an influenza pandemic and to ease any social and economic disruptions. In addition to background information, the Plan includes guidelines, checklists, and other documents to assist all jurisdictions in planning and responding to a pandemic. Specifically, Annex G, Section 6.2 of

Inmate Health Survey Planned for 2005

CSC's Research Branch, with input from Health Services Branch and the Public Health Agency of Canada, is developing an inmate survey. The last inmate survey was conducted in 1995 and covered a broad range of issues. The present survey will focus only on health issues, related to HIV, hepatitis C, and sexually transmitted infections.

Jointly funded by CSC and the Public Health Agency of Canada's Hepatitis C prevention, Support, and Research Section, the objectives of the survey include:

- estimates on the prevalence of risk behaviours;
- information on inmates' knowledge of what constitutes risk behaviour and how infection can be prevented; and
- information on awareness and utilization of health education programs such as the Reception Awareness Program, Peer Education and Counselling Program, Circles of Knowledge Keepers, and Choosing Health in Prisons.

Data gathered from the survey will help CSC to determine what prevention and health promotion efforts are working well and identify areas that need improvement.

It is expected that the survey will be conducted in late Fall 2005 and will include inmate representation from across the country, across security classifications and will include both men and women offenders. In addition, there will be specific questions regarding Aboriginal health. Completion of the survey will be voluntary.

Health

the document acknowledges health care service requirements for correctional institutions. To view the Plan, please visit the Public Health Agency of Canada (PHAC) website at: <http://www.phac-aspc.gc.ca/cpip-pclcpi/index.html>

In February 2004, a series of meetings involving all Federal Government Departments took place. The purpose of these meetings was to discuss the growing global concern regarding the spread of the virus H5N1 to East Asia and to ensure that every level of government continues the pandemic influenza preparedness process. The outcome of these meetings was the development of a document entitled *Roles & Responsibilities of Other Government Departments during Pre-Pandemic & Pandemic Phases of Influenza*, March 2004. The document outlines various actions that Federal Departments would undertake for Health Canada (now known as the Public Health Agency of Canada) and reciprocally what actions and services Health Canada would provide to federal and provincial/territorial governments.

In May 2005, Dr. Ron St. John and Dr. Art Davies from PHAC were invited by CSC management to informally discuss pandemic influenza. Dr. St. John provided an overview of activities completed by PHAC in preparation for an outbreak in any Canadian community, gave an update on the Avian Flu activity in East Asia, and expanded on the expected revisions to the Canadian Pandemic Influenza Plan.

Consequently, under the direction of the Acting Assistant Commissioner, Correctional Operations and Programs (A/ACCOP), CSC has established a National Pandemic Influenza Contingency Planning Working Group that will develop a comprehensive strategy for responding to a pandemic influenza outbreak within a correctional environment. The group will be working jointly with Public Safety and Emergency Preparedness Canada and PHAC. Ms Teresa Garrahan, Regional Infectious Diseases Coordinator (Ontario Region) is representing the Health Services Branch on the Working Group.

Increased Federal Funding for HIV in CSC

By Mary Beth Pongrac

Project Officer – HIV/AIDS – CSC-NHQ Health Services, National Infectious Diseases Program

In May 2004, the federal government announced that it would be doubling the funding to the Canadian Strategy on HIV/AIDS (CSHA) from \$42.2 million annually to \$84.4 million by 2008-09.

CSC, as a partner in the CSHA, has been receiving \$600,000 annually since 1998. As a result of the increased funding, this fiscal year (2005-06), CSC will receive an additional \$1 million. There will be incremental increases each year, as follows, until 2008-09, at which time the total funding (\$4.187 million) will be ongoing:

2006-07 - \$2.4 million
2007-08 – \$3.1 million
2008-09 - \$4.187 million

In January 2005, the CSHA was replaced by *The Federal Initiative to Address HIV/AIDS in Canada*. The goals of the Federal Initiative are as follows:

- reduce the social inequities, stigma and discrimination that threaten people's health and well being;
- prevent the spread of HIV;
- provide timely, safe and effective diagnosis, care, treatment and support for all people living in Canada with HIV/AIDS; and
- contribute to global efforts to fight the epidemic and find a cure.

Priority populations include gay men, Aboriginal people, injection drug users, inmates, youth, women, people from countries where HIV is endemic, and people living with HIV/AIDS.

In fiscal year 2004-05, CSC used CSHA / Federal Initiative funds for the following activities:

- the development of the "Safer Tattooing Practices Initiative" and the training of inmate tattooists;
- the development of a draft infectious disease strategy for Aboriginal offenders;
- continuation of the delivery of the National HIV/AIDS Peer Education and Counselling Program (PEC), Circles of Knowledge Keepers (Aboriginal PEC), and the Reception Awareness Program;
- support for two meetings of the FPT Working Group on Health;
- national coordination of Aboriginal Health Initiatives, HIV/AIDS prevention initiatives and federal/provincial collaboration;
- continuation of the anonymous testing projects at Westmorland Institution and Saskatchewan Penitentiary;
- support for several nurses to attend the Canadian Association of Nurses in AIDS Care conference.

PEC and CHIPS Health Education Programs Updated

By **Linda Bellerose** Registered Nurse, Federal Training Centre, Quebec Region; and
Ginette Mireault Administrative Assistant, Federal Training Centre, Quebec Region

Health Promotion in CSC institutions remains an important public health tool in the prevention and control of infectious diseases. Anecdotal information from nurses involved in delivering health promotion programs confirms the positive relationship between education and the uptake of screening, and participation in harm reduction programs. CSC has recently updated the content and presentation of some of its health education programs.

National HIV/AIDS Peer Education and Counselling Program (PEC)

The process of updating the PEC manual was completed in March 2005. A review of the manual was conducted and various sections were re-written. The revised manual is currently undergoing final reading. Once the manual is approved, it will be translated, printed and copied onto CD-ROM for distribution to all CSC institutions and key stakeholders. The manual should be available by Fall 2005.

Choosing Health in Prisons (CHIPs)

CHIPs also got a “facelift” this year. The revised manual addresses subjects such as cancers, cardiovascular and respiratory diseases, diseases transmitted by mammals and insects (rabies, body lice, West Nile Virus, etc.), resistant germs, diabetes, aging, health practices, various aspects of sexuality (women and men, as well as a module specifically for women). The manual should be ready for final editing by the fall of 2005. Once completed, CD-ROM copies will be distributed to all CSC institutions.

New Look for the Reception Awareness Program (RAP)

By **Aaron Perras**
Project Officer, Methadone / Harm Reduction Program, CSC-NHQ Health Services, Nursing and Clinical Services

The Reception Awareness Program (RAP) is being transformed into a more dynamic and “attention holding” Power Point presentation. Animation, dynamic text, and graphics have been added to the presentation. The content will also be reviewed to ensure consistency of the health information with PEC and CHIPS. A projector, screen and laptop will be required to run the presentation.

Aboriginal Peer Coordinators and Volunteers Trained

By **Gil Carriere**
Aboriginal Health Coordinator – CSC-NHQ Health Services, National Infectious Diseases Program

One goal shared by all regions in the last two years has been the training of Aboriginal Peer Coordinators and Volunteers. Peers helping peers has proven to be a very effective approach in increasing knowledge and preventing and/or reducing infectious diseases in institutions. With the involvement of Aboriginal AIDS Service Organizations and nursing staff as trainers, CSC has now trained Aboriginal Peer Coordinators in most regions.

Report on the 2004-2005 Special Initiatives Program

By **Mary Beth Pongrac**

Project Officer - HIV/AIDS – CSC-NHQ Health Services, National Infectious Diseases Program

The Special Initiatives Program was again a success in 2004-05. Nine projects were funded, with inmate participation in four regions.

In Atlantic Region, peer counselors at Westmorland Institution organized an “HIV testing blitz”, in which t-shirts with an Aboriginal logo designed by one of the Aboriginal peer counsellors were given to inmates who agreed to undergo testing. Two inmates at Atlantic Institution painted images with HIV prevention as the subtext. The paintings were transformed into a calendar, with a different painting for each month of the year. The calendars were distributed to all Atlantic Region institutions, as well as some institutions in other regions.

In Quebec Region, inmates at Cowansville Institution organized HIV and HCV awareness activities focussing on prevention, treatment, and services provided by HIV/AIDS service organizations. Peer counsellors at La Macaza Institution designed and printed t-shirts and key chains with the message “Sécuri-Tatoo”. Inmates at Federal Training Centre and Montée Saint-François Institution produced a publication, *Virus en Pen*, containing articles, drawings, and poems by inmates, with HIV prevention messages.

In Ontario Region, inmates at Grand Valley Institution for Women produced drawings, poetry, paintings and sculpture to express how HIV/AIDS has affected their lives.

In Prairies Region, inmates at Stony Mountain Institution held a “Chalk the Walk” contest in which HIV prevention images were drawn with chalk on the outside track. The winning design was printed on t-shirts which were given as prizes to inmates during World AIDS Day activities. Inmates at Drumheller Institution created a deck of playing cards with HIV awareness drawings and messages on each card. At the Regional Psychiatric Centre, an inmate designed t-shirts with messages such as the importance of HIV prevention, support for those infected and non-judgemental attitudes towards those infected.

Aboriginal People Make up an Increasing Proportion of HIV and AIDS cases in Canada

By **Gil Carriere**

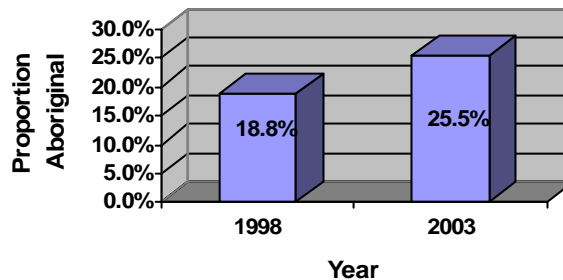
Aboriginal Health Coordinator – CSC-NHQ Health Services, National Infectious Diseases Program

Strategy for Aboriginal Inmates: Response to Infectious Diseases

In Canada, the proportion of new HIV cases that are Aboriginal continues to increase (see figure). In response, CSC Health Services is developing an infectious disease strategy for Aboriginal inmates. The draft strategy, now in its final stage of development, is the result of collaboration among Aboriginal stakeholders, CSC staff and NGOs. The strategy is based on a peer education and counselling model with the main goal of training Aboriginal Peer Coordinators and Volunteers.

The five main components of the draft strategy include Prevention and Education, Care and Treatment, Harm Reduction, Research Promotion and Partnership Building. The workplan accompanying the strategy outlines specific activities for the next four years with the main goal of reducing the incidence of infectious diseases. The final stage of the development will involve a review of the strategy by CSC’s Aboriginal Initiatives Branch, other Aboriginal stakeholders and CSC Health Services.

Figure 1: HIV in Canada**



**Represents the proportion of positive HIV test reports for which ethnicity is known. Data on ethnicity is available for approximately 30% of positive HIV test reports in Canada.

Source: Public Health Agency of Canada; HIV/AIDS Epi Updates May 2004

Conference Report: Canadian Association of Nurses in AIDS Care (CANAC)

The 13th annual CANAC conference was held in Banff, Alberta, April 30 – May 3, 2005. The theme of the conference was “Looking Forward: Health Promotion in the Context of Living with HIV”. CSC-NHQ Health Services sponsored two nurses from each region to attend the conference. Two of the nurses who attended, Joanne Belliveau and Tracey Clifford-Brown, contributed the following articles describing their experiences at the conference.

By Joanne Belliveau

Infectious Disease Nurse, Westmorland Institution, Atlantic Region

The conference sessions began Sunday morning with “AIDS 101”. The next session was presented by Ron Rosenses from Toronto who is on the organizing committee for XVI International Aids Conference to be held in Toronto in August 2006. Mr. Rosenses presented the advertising video for the conference and spoke about plans being made.

Ms. Deloris Russell – Canadian Nurses Association (CNA) Project Manager gave a presentation, “HIV Pandemic – Developing a Nursing Response”. Ms. Russell has been doing international nursing in Uganda, and South Africa. CNA is the leading association of AIDS care in Africa. Ms. Russell also presented “Caring for the Carer Model.”

Several “break-out” sessions were held including the following:

1. International nursing experiences: This was presented by two nurses who worked in South Africa for 1-6 months.
2. Making the most of teachable moments: Presented by two nurses from St. Paul's Hospital who are trying to set up a program of health teaching.

By Tracey Clifford-Brown

Millhaven Institution, Ontario Region

The mood of the conference was one of hope and healthy living. There were presentations on a wide range of topics, including reducing the barriers to care and treatment, nurses addressing the challenges in HIV care, and multi-disciplinary approaches to HIV and treatment. We were fortunate that the organizing committee was able to bring together expertise, not only locally and nationally, but internationally as well.

On a local level, there was a presentation on the management of persons who are unwilling or unable to disclose their HIV status, and “Using Without Losing”, a presentation that focused on the holistic interventions required to help individuals infected with HIV. In addition, the presenters described and distributed an excellent teaching tool on HIV.

On the national level, “No one left behind: Labour Force Participation Opportunities for People Living with Episodic

3. HIV and Vancomycin Resistant Enterococci (VRE) Co-infection: Presented by nurses from St. Paul's Hospital on how they are trying to cope with this co-infection.

I took to the conference with me a few of the shirts from our Special Initiatives Project at Westmorland Institution this past year. I gave one to the Aboriginal nurses working in healing centers in Manitoba and Saskatchewan. Ms. Russell from the CNA requested a shirt after she saw me wearing mine - she is going to put the shirt on display at the CNA headquarters.

Following my experience at this meeting, I have the following recommendations:

1. CSC is at the forefront in diagnosis, care and treatment of HIV- and Hep C-infected inmates. We should be letting this group of nurses from other agencies know what we do.
2. CSC could have an exhibit booth at the next conference displaying some of our HIV/AIDS initiatives, pamphlets developed by our institutions, and our statistics.
3. CSC should sponsor an international nursing initiative and send a nurse to South Africa to teach/work for a month.

Disabilities”, was a presentation looking at the future potential changes to disability pensions and benefits in order to accommodate those whose health status fluctuates as a result of their illness.

And finally, on the international level, “Living with HIV – A Health Promotion Approach for Nurses Infected and Affected by HIV”, provided a look at the nurses' plight in Africa and the phenomenal challenges they face on a daily basis.

Between the Plenary Sessions and the Abstract presentations, participants had a chance to view poster presentations and exhibits set up by the sponsors.

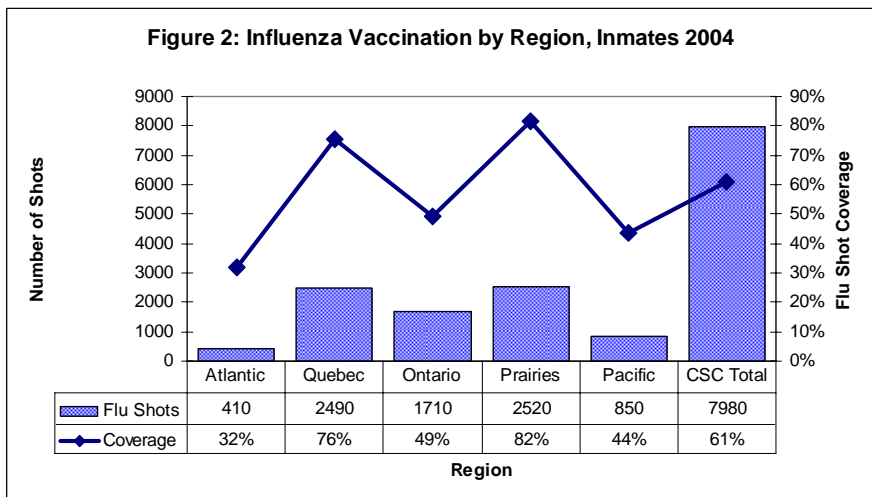
On a personal note, it was a pleasure to meet CSC nurses from outside the Ontario Region.

Influenza Vaccination 2004

By Jonathan Smith

Epidemiologist – CSC-NHQ Health Services, National Infectious Diseases Program

Routine immunization against circulating influenza strains is an important public health tool. In the pandemic flu contingency planning context, routine immunization has benefits: it keeps an exposed population relatively free from influenza and healthy; and it has the potential of providing some immunological cross-reactivity with a pandemic strain. Figure 2 shows the number of flu shots given in the 2004 flu season by region; overall, some 61% of inmates were given the flu shot.



CSC works closely with provincial health partners in vaccinating inmates. Where there is a provincially funded immunization program in place, inmates are vaccinated as residents of that province (e.g., Ontario).

While staff vaccination is certainly of concern for public health, and part of the planning process for a pandemic outbreak involves ensuring that staff are vaccinated, provincially funded immunization for staff is not currently available. This issue is under review.

Tuberculosis in Canadian Penitentiaries 1999 - 2001

By Jonathan Smith

Epidemiologist – CSC-NHQ Health Services, National Infectious Diseases Program

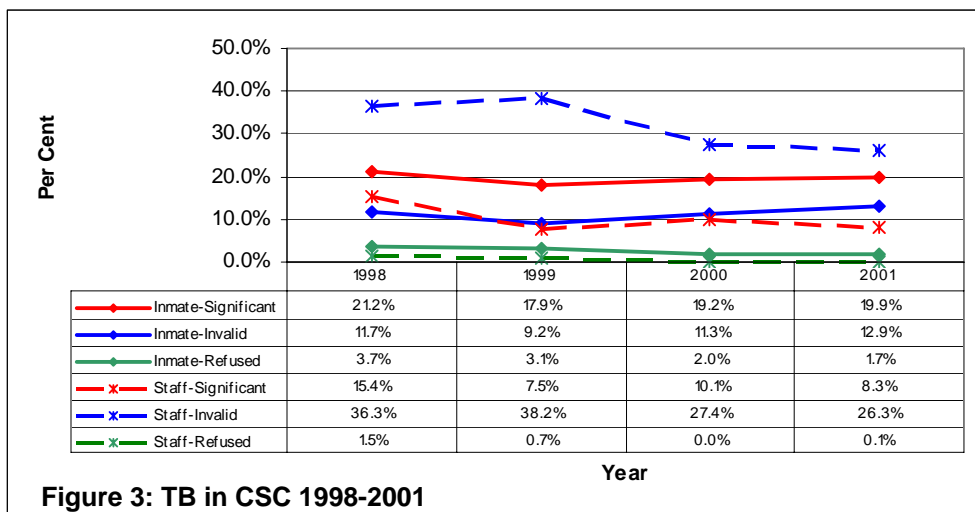


Figure 3: TB in CSC 1998-2001

Tuberculosis (TB) remains a serious public health concern for CSC. The TB prevention and control program in CSC ensures that all new admissions are offered a two-step tuberculin skin test (2-step TST), a symptom check, and risk check. Inmates are screened on an annual basis for signs of latent TB infection (LTBI - a significant TST) or active TB disease (for example, coughing, fever, weight loss, night sweats). A strict protocol, involving testing sputum samples for TB, and precautionary respiratory isolation, is invoked for any inmate suspected of having

active TB (see the Provisional TB Prevention and Control

Guidelines for Federal Correctional Facilities [2004] for more information). Data from the CSC Tuberculosis Tracking System (TBTS) for the years 1999 – 2001 have been analyzed and a report is expected in the fall of 2005. Preliminary data from the initial two-step TST Assessment is shown in Figures 3.

Tattoo Pilot Update

By Joanne Barton

Senior Project Manager, CSC-NHQ Health Services, Nursing and Clinical Services

As announced in March 2004, CSC has initiated a pilot on safer tattooing practices, in an effort to enhance our infectious disease management and control activities in prisons. Objectives of the "Safer Tattooing Practices Initiative" are to minimize the risk of transmission of infectious diseases in the inmate population and to the community at large; to minimize the risk of CSC staff injuries; to educate inmates regarding the transmission of infectious diseases; and to promote health and wellness while maintaining security. The pilot is being conducted in all regions, in the following institutions: Atlantic Institution, Cowansville Institution, Bath Institution, Rockwood Institution, Matsqui Institution, and Fraser Valley Institution for Women.

The Safer Tattooing Practices Initiative includes two components:

1. Education to all inmates about safer tattooing practices and the provision of safer tattooing services in a secure environment.
2. Inmate tattooists receive training on infectious diseases and infection prevention and control practices.

A national steering committee, composed of representatives of CSC, the Unions, the Public Health Agency of Canada, and the community, is overseeing the training and education, implementation, and evaluation of the pilot initiative. The evaluation will assess the feasibility, costs, and impact of this initiative in order to inform decision makers about full implementation.

From the Regions

By Kim Andreassen

RIDC, Pacific Region

CSC - Pacific Region continues to build its relationship with the British Columbia Centre for Disease Control (BCCDC) and Public Health. Twelve Nurses participated in an HIV pre- and post-test counselling workshop, as well as a "Partner Counselling Referral Services" workshop led by the BCCDC STD/HIV Control Education and Training Division. An invitation was extended to the local public health units within Fraser Health, and one public health nurse attended.

The Chiefs of Health Services and the nurses who attended the workshop implemented a mentorship program designed to share their new skills and knowledge with their colleagues. Through a collaborative effort by the Regional Infectious Disease Coordinator and the expertise of the BCCDC facilitators, this program was adapted to serve the needs within the context of an institution.

We hope to continue this collaborative effort so that Infectious Disease Nurses can continue to improve their proficiency and so that the training provided by BCCDC can be extended to other nursing staff in CSC.

Regional Infectious Disease Coordinators (RIDCs)

The RIDCs play a vital role in infectious disease prevention and control in CSC, acting as a liaison between NHQ and the institutions. Each CSC Region has an RIDC.

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Prairie Region Richard Johnson
(306) 975-4162

Pacific Region Kimberly Andreassen
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News From NHQ

Alan Sierolawski, Coordinator of the National Infectious Disease Program, is pleased to announce the addition of Debra Gaskell to the team at NHQ. Debra comes to NHQ from the Pacific Region where she has had extensive experience both as a line member and as Chief of Health Services. Debra will serve as the Clinical Supervisor in the National Infectious Disease Program, as well as the Senior Project Manager for the Safer Tattooing Practices Initiative. She can be reached at (613) 943-7844.

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The views expressed in this newsletter do not necessarily reflect those of CSC. CSC does not necessarily endorse any events, programs or research presented in this publication.

Probable Person-to-Person Transmission of Avian Influenza A (H5N1)

K Ungchusak, P Auewarakul, S Dowell, R Kitphati, W Auwanit, P Puthavathana, et al;

Background: During 2004, a highly pathogenic avian influenza A (H5N1) virus caused poultry disease in eight Asian countries and infected at least 44 persons, killing 32; most of these persons had had close contact with poultry. No evidence of efficient person-to-person transmission has yet been reported. We investigated possible person-to-person transmission in a family cluster of the disease in Thailand. **Methods:** For each of the three involved patients, we reviewed the circumstances and timing of exposures to poultry and to other ill persons. Field teams isolated and treated the surviving patient, instituted active surveillance for disease and prophylaxis among exposed contacts, and culled the remaining poultry surrounding the affected village. Specimens from family members were tested by viral culture, micro neutralization serologic analysis, immunohistochemical assay, reverse-transcriptase–polymerase-chain-reaction (RT-PCR) analysis, and genetic sequencing. **Results:** The index patient became ill three to four days after her last exposure to dying household chickens. Her mother came from a distant city to care for her in the hospital, had no recognized exposure to poultry, and died from pneumonia after providing 16 to 18 hours of unprotected nursing care. The aunt also provided unprotected nursing care; she had fever five days after the mother first had fever, followed by pneumonia seven days later. Autopsy tissue from the mother and nasopharyngeal and throat swabs from the aunt were positive for influenza A (H5N1) by RT-PCR. No additional chains of transmission were identified, and sequencing of the viral genes identified no change in the receptor-binding site of hemagglutinin or other key features of the virus. The sequences of all eight viral gene segments clustered closely with other H5N1 sequences from recent avian isolates in Thailand. **Conclusions:** Disease in the mother and aunt probably resulted from person-to-person transmission of this lethal avian influenza virus during unprotected exposure to the critically ill index patient.

NEJM, Vol 352 No. 4: 333-340 January 27, 2005

Drug use and risk of bloodborne infections: A survey of female prisoners in British Columbia.

Elwood Martin R., Gold F., Murphy W., Remple V., Berkowitz J., Money D.

Background: Clinicians working in a women's prison in British Columbia observed hepatitis C sero-conversion among inmates, prompting this study to determine: the characteristics of women who do and do not report illicit drug use in prison; patterns of drug use inside prison; factors associated with illicit drug use that might contribute to bloodborne transmission inside prison. **Methods:** A cross-sectional observational data set was created using an anonymous 61-item self-administered survey. **Results:** Eighty-three percent (104/126) of eligible inmates participated. Seventy-four percent (77/104) reported their current prison sentence was related to illicit drug use and 25% (26/104) reported their ethnicity as Aboriginal. Ninety-three percent (97/104) reported a prior history of illicit drug use, of whom 70% (68/97) reported a history of injection drug use. Thirty-six percent (37/104) reported illicit drug use in prison, and 21% (22/104) reported injection drug use in prison. Fifty-two percent (54/104) reported hepatitis C sero-positivity, and 8% (8/104) reported HIV sero-positivity. Of the 22 women who reported prison injection drug use, 91% (20/22) reported hepatitis C infection and 86%

(19/22) reported injecting with shared needles inside prison, with or without bleach cleaning. Women were more likely to report illicit drug use in prison if they had had illegal sources of income prior to incarceration ($p=0.0081$, OR 3.19), had previously injected drugs ($p=0.036$, OR 2.97), and had first injected drugs at a friend's house ($p=0.066$, OR 2.70). **Interpretation:** The majority of women reporting prison injection drug use also reported hepatitis C sero-positivity and shared needle use. Canadian prisons are risk situations for transmission of bloodborne pathogens, and provide opportunities for harm reduction strategies.

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