

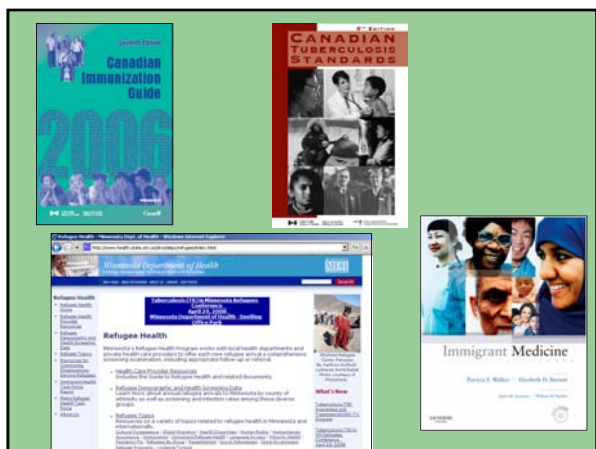
Immigrant and Refugee Health

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With special thanks to Dr. Pierre Plourde for use of some slides

CHICA
June 19, 2009

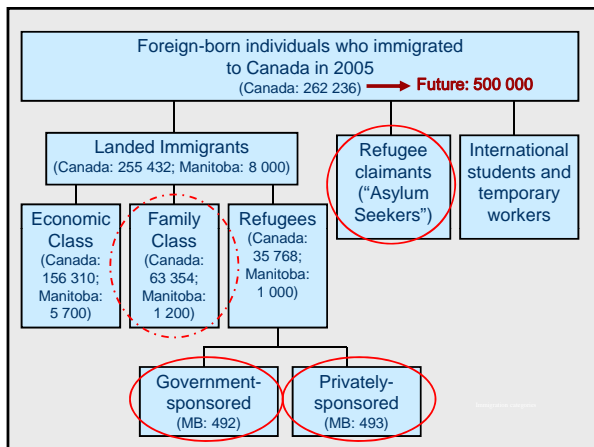
Outline

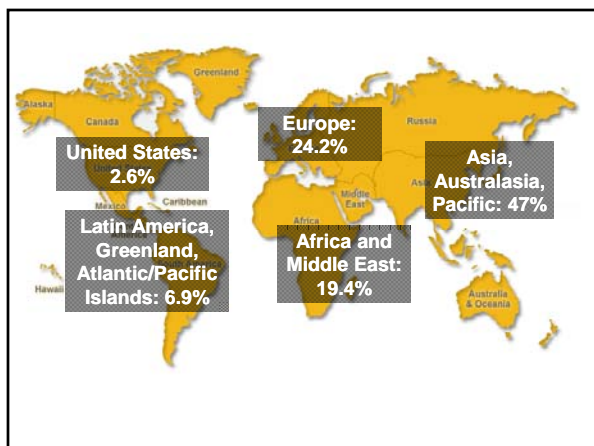
1. Epidemiology
2. Immigration Medical Screening
3. Noteworthy Infections
4. Current/future system in WHR
5. Mass Immigration Settlement Projects

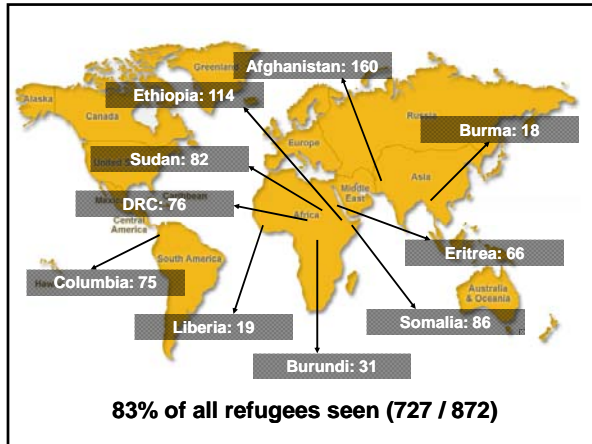


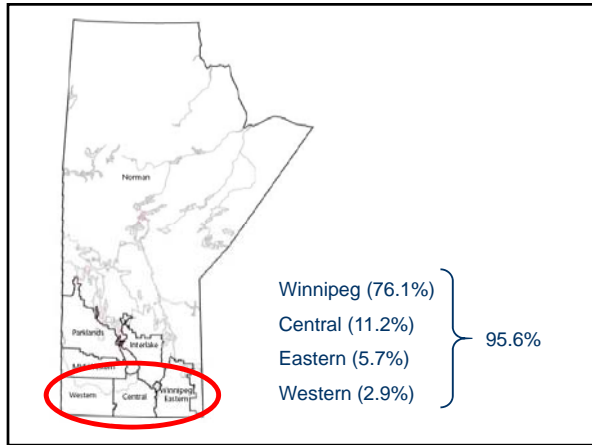
Immigration to Canada

- "A country built on immigration"
 - 1 out of 5 Canadians are foreign-born
- Canada's commitment to immigration
 - Cultural, social, linguistic diversity
 - Fulfill humanitarian commitments
 - Economic considerations
- Unique health and social needs of some
 - The very sick and the very healthy
- Unequal access to health services









Current System

Immigration Process

- IOM, CIC (Health Management Branch)
- *Immigrant Refugee Protection Act* (2002)
- Immigration medical examination (IME):
 - History and physical, mental assessment
 - HIV test (>15 years; younger too if: received blood products, known HIV-positive mother, potential adoptees, or identified risk)
 - Urinalysis (≥ 5 years of age)
 - Chest x-ray (≥ 11 years or high-risk)
 - Syphilis serology (≥ 15 years)
 - Creatinine (for certain conditions)
- **Goal: to protect Canadians, healthcare system**

Immigration Process

- Permanent resident status may be refused if the IME indicates a disease or condition which:
 - A. is a danger to public health or safety, OR (TB; mental illness)
 - B. is likely to cause excessive demand on health or social services in Canada (HIV; cancer)
- Certain permanent resident applicants are exempt from excessive demand assessment
 - Convention refugees and dependent children
 - Family-sponsored spouses and dependent children

Tuberculosis Medical Surveillance

- Screening for active disease part of immigration medical (CXR, not TST)
 - Active TB, or positive syphilis
 - Denied entry until deemed non-infectious
 - Inactive TB: require medical surveillance (2%)
 - Not "enforced"
- Complex communication between CIC, TBC, HSC RSOPD, newcomers

Public Health

Public Health:
 "The science and art of promoting health, preventing disease, prolonging life and improving quality of life through the organized efforts of society." *

- Health Protection
- Health Surveillance
- Disease and Injury Prevention
- Population Health Assessment
- Health Promotion

* Public Health in England; The Report of the Committee of Inquiry into the Future Development of the Public Health

What is Missing?

Possible tests or procedures
Blood lead level
Chest x-ray (active or inactive tuberculosis disease)
Complete blood count (eosinophilia, anemia, etc.)
Complete immunization series
Hepatitis B and C serology
Human immunodeficiency (HIV)
Malaria screening
Papanicolaou (Pap) test (cervical dysplasia or cancer)
Pregnancy test
Stool for ova and parasites
Syphilis serology
Tuberculin skin test (latent tuberculosis infection)
Urinalysis (screen for renal disease)
Urine chlamydia/gonorrhoea (sexually transmitted infections)
Other "routine" recommended preventive health measures that would apply to the general Canadian population as well (e.g. diabetes, blood pressure, cholesterol screening, etc)

6-12 months old? ...and does it matter?

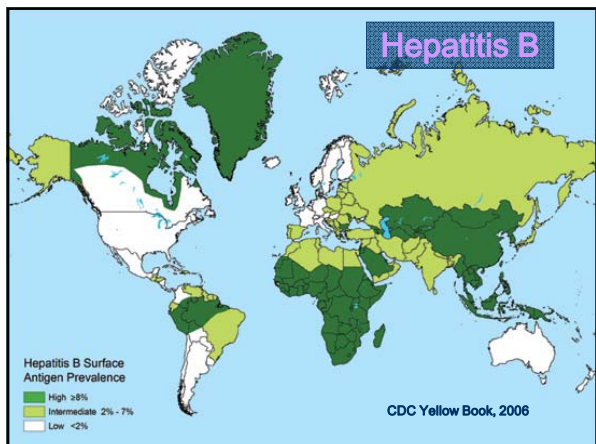
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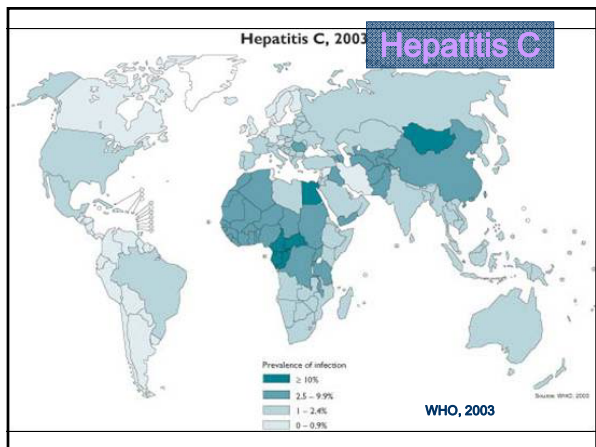
Health Concerns

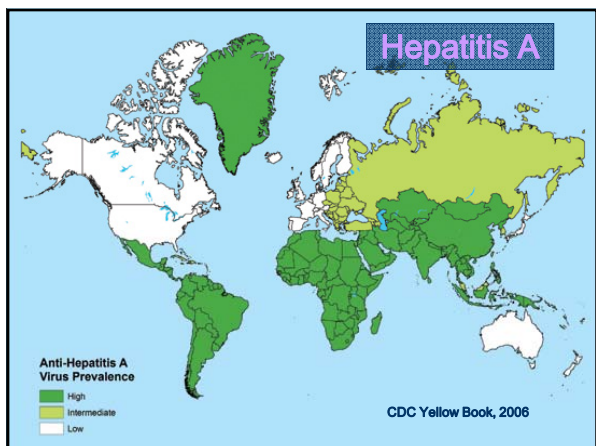
- **Nutritional problems and food insecurity**
 - Anaemia, iron, folate, B12 and vitamin A deficiency
 - Inadequate caloric intake
- **Congenital, developmental problems**
- **Mental health concerns**
- **Infectious diseases**
- **Lack of access to medical care**

Specific Health Concerns

- **Hepatitis B infection**
 - 10 –25% of immigrants from endemic areas
 - Cirrhosis, liver cancer
- **Hepatitis C infection**
 - 5 – 25% of immigrants from endemic areas
 - Cirrhosis, liver cancer







Tuberculosis

- **Tuberculosis infection or disease**
 - Latent TB infection (LTBI): 50% or greater in foreign-born individuals
 - Canada: 66% of active TB in foreign-born (2007)
- **Chest X-ray**
 - Detects active "infectious" TB or remnants of infection
 - Does not detect "sleeping" LTBI

Tuberculosis

- **Tuberculin Skin Test (TST or Mantoux)**
 - Positive in many due to past TB exposure; BCG; NTM
 - INH prophylaxis (without TST testing) not cost effective (toxicity; INH resistance)
 - Screen high-risk for reactivation LTBI → active TB (exposure in refugee camp; recent immigration; high-risk medical conditions)
- **?Role of interferon gamma release assay (IGRA)**

Beware...

- **> 3 wk cough (+/- fever, weight loss, etc)**
 - High risk (5 – 15%) reactivation (LTBI → TB disease) first five years after immigration
 - CXR, sputum x 3 (TB smear/culture)
 - *TST usually NOT helpful in adults*
 - Consult TB expert as needed (e.g., HSC Chest Medicine)

Syphilis Screening

- Bacterium *Treponema pallidum*
- Primary, secondary, tertiary, congenital
- Screening detects “infectious” and “non-infectious” syphilis (relies on medical history)
- Easy to treat with 1-3 injections of benzathine penicillin
- Potential major risk to public health

HIV Screening

- Introduced into IME January 2002
- < 1% immigrants from SSA testing positive
 - ?falsified documents, ?self-selection
 - 10% world's population; 63% of HIV infections
- Refugees: no medical exemption
- Potentially a major risk/cost to public health?

Vaccine-Preventable Diseases

- **Tetanus:** one million cases; 400,000 deaths
- **Diphtheria:** “most resurgent disease”
- **Pertussis**
- **Hib:** Major cause RTIs developing countries
- **Polio:** 1,310 cases (2007); eradication?
- **Measles:** 500 000 deaths
- **Mumps**
- **Rubella**
- **Varicella**
- **Hepatitis B:** 2 billion infected; 350 million chronic carriers
- **Tuberculosis:** 2 billion infected; 20 million cases; 1.6 mil deaths

Immigrant Immunization Rates

- Varies by region:
 - Sub-Saharan Africa 55%
 - South Asia 70%
 - Latin America 90%
 - Eastern Europe 92%
- Immunization status difficult to confirm:
 - Lack of records: assume incomplete
 - Incomplete records
 - Falsified records
 - Inadequate potency of vaccines used (?cold chain)
- Start/complete routine immunization schedules
 - Children and adults (*Canadian Immunization Guide*)

Approach to Immunizations

- General rule:
 - Few indications for pre-vaccination serology (expense; time; correlation with protection?)
 - Simply follow age-appropriate recommendations
- Serology useful for some conditions
 - e.g., > 5 y, no history VZV
- Hepatitis A, B: immunize *if indicated*
- Concerns over tetanus/diphtheria/pertussis "over-immunization"
- Live vaccines contraindicated if pregnant, severe immune-compromise (MMR, varicella)

Complete Blood Count

- Nutritional status
 - Iron, folate, B12 deficiency anemia
- Detect eosinophilia
 - Parasitic infections

Parasitic Infections

- **Intestinal and tissue parasites**
 - Ascaris (> 1 billion), *Entamoeba histolytica* (480 million), *Trichuris* (500 million), Schistosomiasis (250 million)
 - Blood loss, iron deficiency anemia, malnutrition
 - Obstruct intestines, bile ducts, lymph channels, capillaries of brain and other organs
 - Growth retardation, death
- **Lice, scabies**

Stool Parasite Prevalence in Immigrants

- Protozoa (1997-2003 data):
 - Giardiasis 5-30%
 - Amebiasis 1-5%
- Helminths (1997-2003 data):
 - Trichuriasis 10-30%
 - Hookworm 1-20%
 - Ascariasis 5-10%
 - Schistosomiasis 0-17%

Minnesota Department of Health

Strongyloides Prevalence in Immigrants

- Varies by region (1989 data):
 - South America 15-85%
 - Southeast Asia 25-40%
 - Sub-Saharan Africa 25-50%
 - Central America 1-20%
 - Eastern Europe 1-7%

Minnesota Department of Health

Approach to Parasitic Infections

- Not treated, no symptoms? CBC, 2 stool O&P (>24h)
 - SSA refugees to US: 56% positive stool O&P
 - Protozoa 52% (Giardia 14%, E. histolytica 5%)
 - Helminths 14%
- Eosinophilia not explained by stool; persists
 - Serology: Strongyloides (all refugees); Schistosoma (SSA)
- ?Cost effectiveness
 - Universal screening vs. mass treatment (overseas documentation?) vs. "watchful waiting"
- Albendazole presumptive treatment?

Malaria

- *Plasmodium* parasites (protozoa)
 - *P. falciparum*, *P. vivax*, *P. ovale*, *P. malariae*
- 400 million infections, 1 million deaths ("#2")
 - SSA: 60% cases, 80% deaths
- Cyclical fevers/chills/sweats, cough, aches, nausea, vomiting, diarrhea
- Adults: natural immunity possible
- Children: most vulnerable
- SSA: presumptive treatment pre-departure
- All others: **if symptoms**: blood smears q 12h x 3; PCR

Beware...

- **Fever (within first 1 – 6 months)**
 - Malaria until proven otherwise (stat malaria blood smear – HSC or SBGH)
 - Potential medical emergency (children, pregnancy)
 - Consult Infectious Diseases

Beware...

- **Eosinophilia on CBC**

- Think of tissue helminths (schistosoma, filaria, onchocerca, strongyloides)
- Stool O&P not very useful (except for strongyloides and "hookworm")
- Serological testing
- Consult Infectious Diseases or Tropical Medicine

Human Papillomavirus (HPV)

- < 50% female immigrants to US report ever having had Pap
- Cervical cancer incidence 5 – 10 x higher in immigrant women vs. women born in Canada
- Worldwide, second most common female cancer
- Highest rates in South and Central America, Caribbean (esp. Haiti), sub-Saharan Africa, and Asia (esp. China, Korea, Philippines, Vietnam)

Other Specific Health Concerns

- **Sexually transmitted diseases**
 - Chlamydia, gonorrhea, HIV/AIDS, syphilis
- **Mental health issues**
 - Fleeing conflict, victims of war, torture and rape
 - Acute and chronic post traumatic stress disorder (PTSD) and depression
- **Substance use**
- **Family violence**

Future Screening?

- Liver enzyme tests
 - Hepatitis B
 - Hepatitis C
 - Renal function tests (vs. urinalysis)
 - Malaria blood test (PCR) in SSA refugees
- } Chronic hepatitis

Access to Health Services

Access to Health Services

- Immigrants: similar to other Canadians
 - "Healthy migrant effect"
- Labour and Immigration
 - "Entry Program"; includes one week of health orientation as part of four-week course
- Settlement agencies; family/friends
- Family Doctor Connection Line
- RHA resources

Manitoba Interfaith Immigration Council (Welcome Place)

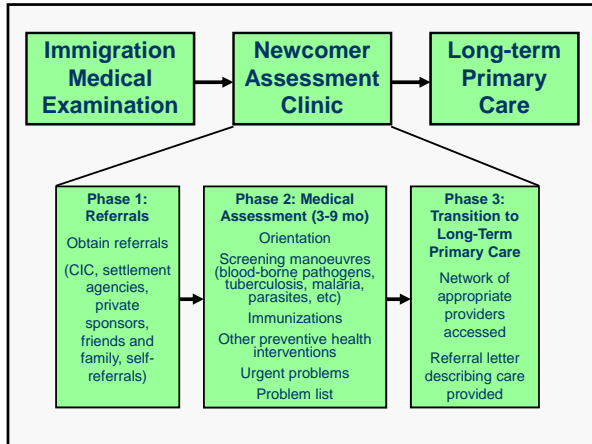
- Contracted by CIC for GARs
- Largest settlement agency
 - Range of settlement services
- Various partnerships for healthcare
 - WRHA, HAC, medical students (previously)
 - Peace Village (previously)
 - Nine Circles, Klinik
 - Other Community Health Centers, FFS physicians

Barriers to Care

- Undocumented status; "no-shows"; system navigation
- Transportation; child-care
- Exams lengthy in duration, things missed
- Language barriers
 - Cost, availability of high-quality interpreters
 - Use of family and friends
- Low remuneration
- Lack of clinical guidelines
- Complex and confusing system requiring navigation
- Lack of communication between providers, medical and non-medical

WRHA Activities


- Immigrant and Refugee Populations Working Group
 - PC, PH, Klinik, NCCHC, HAC, Youville, SERC
 - Theoretical frameworks
- Language Access Services
- Medical guidelines
 - Letter to physicians
 - Local and national work
- ? Newcomer assessment clinic



Mass Refugee Settlement Projects

Mass Refugee Settlement Projects

- **Karen** (Burmese) Refugees
- Northern Thailand refugee camps >10y
- **Canada:**
 - 2006: 810
 - 2007: 2000 additional
- Nfld, PEI, Ont, MB, SK, AB, BC
- Revision of CIC Health Mgmt Branch protocol
 - Due to health outcome data of group, based on advice from PHAC and CTC (TB)
 - Pre-departure and post-departure



Tuberculosis Statistics Amongst Refugees in Thailand

- TB prevalence in Thailand refugee camps over the past two years: 2,674/100,000 (IOM Regional Medical Official in Bangkok, personal exchange)
- **MDR-TB:**
 - 76/100,000 for the Burmese refugees - 10% of all positive cultures;
 - 126/100,000 for the Hmong refugees - 30% of all positive cultures.
- **Active TB diagnosed amongst the 805 Karen refugees coming in Canada:**
5 cases/805 refugees: 621/100,000
- **WHO estimated sputum smear positive pulmonary TB rate per 100,000 (3 year average for 2004/2005/2006):**
 - Thailand: 61/100,000
 - Myanmar: 73/100,000

Mass Refugee Settlement Projects

- Future: **Bhutanese** refugees
- Residing in Nepal camps
- Projected 5000 immigrant to Canada over next 3-5 years

