MIGRATION NATION

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Social Aspects of Epidemiology
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• 214 Million people migrating worldwide at any time
• From 1960 to 2006 triple the number of international migration (regional > across continents)
• Canada #5 (7.2 Million)
• 2006: 16.2% Canadians visible minority (fastest growing population – 27.2% vs. 5.4% total population growth)
• 90% in 4 provinces, metropolitan areas
History

Up-slope in 1900’s – European/ USA; WWI & Great Depression

- 1785 NA first quarantine station in St. John
- 1815 returning timber ships “coffin ships”
- 1868 Quarantine Act
- 1869 Immigration Act (x physically and mentally infirm), Health Cdn responsibility
- 1906 rev. immigration act: “belonging to any race deemed unsuited to the climate or requirements of Canada”
- 1923 Chinese Immigration Act (rep. 1947)
- 1925 overseas medical screening begins
- 1959 incl. CXR to rule out TB
- 1962-67: rev. immigration act: removes ethnic clauses; point system introduced
- 1966 seasonal agricultural workers program
- 1971 formal multiculturalism policy
- 2002 HIV screening introduced
- 2010 guideline development for 20 high-priority health conditions of immigrants

WWII & 48,000 war brides

Post-WWII – European/ USA

Modern immigration: Asia (China 11.9%, India 9.9%, Philippines 9.6%)

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Types of Migrants

**MIGRANT**: non-national who moves across (international or other) border for various reasons

**IMMIGRANT**: non-national who moves into a country for the purpose of settling.

**PERMANENT RESIDENTS**
- Economic class
  - “contribute to economy” – skilled workers, live-in caregivers, business
- Family class
  - “sponsored by cdn citizen/PR” – spouses, partners, parents, grandparents (excludes fiancés)
- Refugees
  - “fears returning to home country and seeks protection” – government or private sponsors

**TEMPORARY RESIDENTS**
- Visitors
- International students
- Temporary foreign workers (TFW)
  - includes seasonal agricultural workers

*Health Issues (some unique) associated with ANY type of migration!*
Overview

Push Factors:
- Disasters
- Poverty
- Diseases
- Conflict / Political instability

Journey

HOST

Pull Factors:
- Jobs
- Family
- Security

Healthy Immigrant

Language
Social capital
Health literacy
Employment

Loss of Health

Fittest:
- Social connection, skills
- Economic means
- Health
- Coping mechanisms

VFR

Population Health
Public Health vs. Population Health

Protect the host population

• Infectious Diseases (Quarantine act, mandatory screening)
• Mental Health
• Substance abuse
• “vicious classes”

Protect the migrant population

• Infectious Diseases
• Access to Health Care (Interim Federal Health Act)
• Physical and mental needs
• 20 priority conditions

Also: Migrants providing “health” to host population by bringing in education, skills, etc.
The Recent Immigrant

- Younger, M=F but increasing and category dependent
  - F: 60% family class, 70% “live-in caregiver” economic class
- 72% speak either or both official languages
  - >25% don’t speak either!
- Highly educated:
  - Jobs?

![Figure 4: Percentage of Recent and Established Immigrants and the Canadian-Born with a University Degree, by Sex, 2006](source: Galvanez D, Marksaffe R. Immigrants’ education and required job skills. Statistics Canada, Perspectives, December 2008.)
1. Lower mortality
2. Better self-reported health
3. Lower prevalence of chronic diseases, obesity, mental health issues
4. No better health for infectious diseases (TB, HIV)
5. Category dependent (↑ mortality in refugees)

**Self-selection:** fitness to emigrate

**Host-selection:** exclude serious medical conditions; select higher education, language ability, job skills
Acute Issues – Infectious Diseases

1. HIV:
   - Screening begun in 2002
   - Positive test does not exclude applicant from immigration
   - **STIGMA!!!**: community and family support, sexual considerations, access to care
   - Increasing rates in Canada’s Aboriginal population ?role of migration to urban centres

2. TB:
   - Treatable, preventable. Screen by TST and CXR
   - Treatment of latent TB
   - Active TB: **STIGMA!!!** Public Health concern (highly contagious), now MDR-TB and XDR-TB

3. Others: HCV, HBV; Malaria, parasites; vaccine preventable diseases
   - Dec 2010: Measles outbreak in Ottawa
   - General health

4. Issues of VFR, overseas transplants/procedures (MDR organisms)
But, Health Changes....
Figure 1: Proportion of Canadian-Born Population and Immigrants Reporting "Fair" or "Poor" Health, by Arrival Cohort

Source: Newbold KB. Self-rated health within the Canadian immigrant population: Risk and the healthy immigrant effect. Social Science and Medicine, 2005.
Other Health Changes

1. Increase in self-reported poor health
   1. Seniors, women, low-income immigrants, racialized recent immigrants (social supports, health literacy, language?)

2. Increased cancer rates (prevalence and mortality)
   1. Initially lower
   2. Prostate, breast, Hodkin’s lymphoma overall (in contrast to Arnold et al, 2010)
   3. Liver, nasopharyngeal, cervical in Asians (HCV/HBV? HPV?)

3. Cardiovascular disease
   1. Initially lower
   2. Surpass Canadian rates after 20 years (lifestyle? Genetic? Stress?)
   3. ↑HTN in Asian women over time

4. Diabetes
   1. Pronounced ethnic differences: S. Asia, L. America, Caribbean, sub.sah. Africa
   2. Earlier onset
   3. Weight gain after immigration (sub-groups)
Mortality rates change

Figure 5b: Age Pattern of Male Overall Mortality: Canadian Born, Old and New Wave Immigrants (age regrouped)

Figure 5c: Age Pattern of Female Overall Mortality: Canadian Born, Old and New Wave Immigrants (age regrouped)

Ratios of Male Age-Specific Death Rates from Total Mortality

Ratios of Female Age-Specific Death Rates From Overall Mortality

Trovato 2003
Mental Health Snapshot

• Emotional problems F>M (33% vs. 25%)
• Country of origin matters: S. America, Africa, Middle East highest levels of stress
• Refugees highest risk (also higher risk of general poor health), family class lowest
• Higher risk with lower level of income (79% of refugees in 2 lowest income quartiles)
• Perception of settlement process
• Stressors in home country, journey stressors
  • PTSD, adjustment disorders, depression
  • Refugees high-risk: general mental health improves over time, but PTSD persists.

• Acute stressors in host country
  • Arrival, resettlement, economic uncertainty, isolation, language barriers cultural differences

• Mental health problems increase with length of stay
  • Older, Chinese and Taiwanese immigrants at greatest risk
  • Female, low-income immigrants 4x more likely to experience depression than males
Mental Health

Suicide rates are lower in immigrants:

Depression and substance abuse increase since time of immigration:

Table 3
Suicide rates for immigrants and Canadian-born population, by sex and age group, Canada, 1995-1997

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Both sexes</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Immigrant</td>
<td>Born in Canada</td>
<td>Immigrant</td>
</tr>
<tr>
<td>Crude</td>
<td>9.9</td>
<td>13.9</td>
<td>15.0</td>
</tr>
<tr>
<td>Age-standardized</td>
<td>7.9*</td>
<td>13.3</td>
<td>12.0*</td>
</tr>
<tr>
<td>5-14</td>
<td>0.7†</td>
<td>1.2</td>
<td>0.9†</td>
</tr>
<tr>
<td>15-24</td>
<td>6.8*</td>
<td>15.6</td>
<td>10.1*</td>
</tr>
<tr>
<td>25-34</td>
<td>7.8*</td>
<td>18.3</td>
<td>12.3*</td>
</tr>
<tr>
<td>35-44</td>
<td>9.2*</td>
<td>21.5</td>
<td>14.4*</td>
</tr>
<tr>
<td>45-54</td>
<td>11.7*</td>
<td>21.0</td>
<td>18.0*</td>
</tr>
<tr>
<td>55-64</td>
<td>11.7*</td>
<td>15.7</td>
<td>15.6*</td>
</tr>
<tr>
<td>65-74</td>
<td>12.7</td>
<td>13.1</td>
<td>18.8*</td>
</tr>
<tr>
<td>75+</td>
<td>17.9</td>
<td>14.0</td>
<td>32.9</td>
</tr>
</tbody>
</table>

Data sources: Canadian Vital Statistics Data Base; 1996 Census of Population
† Age-standardized to new world population standard (for 2000 to 2025)
‡ Too few cases to test for significance
* Significantly different from rate for Canadian-born population (p < 0.05)

Chart 1
Depression and alcohol dependence, by length of residence in Canada

Data source: Canadian Community Health Survey, cycle 1.1, 2000/01
Note: Rates are adjusted by age and sex to the Canadian-born group.

Malenfant 2004

Ali 2002
Determinants of Health

Macro-determinants
- Government policy, Sociocultural factors

Community Determinants
- Physical environment
- Neighbourhood cohesion
- Access to services

Individual Determinants
- Personal health behaviour
- Coping
- Income and social status
- Education
- Employment

Age
- Gender
- Ethnicity
- Racialization
- SES
- Geography
Social Determinants of Migrant’s Health

1. Adequate income
   - 20% vs 10%: immigrants vs. CDN population living in poverty
2. Employment & Education
   - http://www.youtube.com/watch?v=xO2To3-wQec
   - 42% immigrants underemployed
3. Cultural barriers
4. Language skills
5. Health literacy
6. Social ties to family, friends, social networks
7. Racialization: “social processes whereby certain groups come to be designated as different and consequently subject to differential and unequal treatment”
   - Visible minorities
178,478 temporary foreign workers in 2009
  • Live-in caregivers, oil sands, seasonal agricultural workers (MFW, 13.7%)

<table>
<thead>
<tr>
<th>Occupational and environmental health</th>
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<tbody>
<tr>
<td>Sexual and reproductive health (forced relationships)</td>
</tr>
<tr>
<td>Chronic diseases, infectious diseases</td>
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</tbody>
</table>

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<thead>
<tr>
<th>High demand, low control</th>
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</thead>
<tbody>
<tr>
<td>Unable to freely change employer, fear of loss of work if ill</td>
</tr>
<tr>
<td>Repatriated if ill (no domestic health insurance)</td>
</tr>
<tr>
<td>Loss of social supports</td>
</tr>
<tr>
<td>Cultural barriers, physical barriers to community integration (remote work locations)</td>
</tr>
</tbody>
</table>
60% of Aboriginal population moved (1986-91), 22% outside of their communities

Women, young, and lone-parent families most likely to move (to urban centres)

Migrants have higher personal resources (education), but less likely to be employed than non-migrant Aboriginals

- Living off the land – migration for hunting
- Forced migration – residential school, TB sanatoriums
  - Destruction of community cohesiveness, cultural identity
- Economic drive
  - Work, education in urban centres
  - Loss of community (Vancouver’s IVDU)
- Access to health
  - Baffin part of our LHIN
  - Family support?
- Housing related issues

http://www.youtube.com/watch?v=QZ-x7D47Oao
Wanting to know more

- Cross-sectional studies vs. longitudinal cohorts
- Generational studies
- Comparison group: home country as opposed to host?
- Issues of secondary exposures (VFRs)
- Defining integration and identity

When does a migrant stop being a migrant??

http://www.youtube.com/watch?v=Zge74dWHA3Q
References

- My own clinic!