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Irregular migration and health

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Global Commission on International Migration

In his report on the 'Strengthening of the United Nations: an agenda for further change', UN Secretary-General Kofi Annan identified migration as a priority issue for the international community.

Wishing to provide the framework for the formulation of a coherent, comprehensive and global response to migration issues, and acting on the encouragement of the UN Secretary-General, Sweden and Switzerland, together with the governments of Brazil, Morocco, and the Philippines, decided to establish a Global Commission on International Migration (GCIM). Many additional countries subsequently supported this initiative and an open-ended Core Group of Governments established itself to support and follow the work of the Commission.

The Global Commission on International Migration was launched by the United Nations Secretary-General and a number of governments on December 9, 2003 in Geneva. It is comprised of 19 Commissioners.

The mandate of the Commission is to place the issue of international migration on the global policy agenda, to analyze gaps in current approaches to migration, to examine the inter-linkages between migration and other global issues, and to present appropriate recommendations to the Secretary-General and other stakeholders.

The research paper series 'Global Migration Perspectives' is published by the GCIM Secretariat, and is intended to contribute to the current discourse on issues related to international migration. The opinions expressed in these papers are strictly those of the authors and do not represent the views of the Commission or its Secretariat. The series is edited by Dr Jeff Crisp and Dr Khalid Koser and managed by Rebekah Thomas.

Potential contributors to this series of research papers are invited to contact the GCIM Secretariat. Guidelines for authors can be found on the GCIM website.

Introduction

The regulation or control of transnational movements of non-citizens is one of the defining characteristics of a state and an expression of its sovereign right to manage its borders. Historically, national identities have been shaped by shared regional similarities in terms of ethnicity, language, culture and history. At the same time it is the differences associated with 'foreignness' that define the boundaries of nationality to the "outside world". This concept - that the international geopolitical border can delineate the boundaries of a nation - has always been affected and challenged by the migration of people from other locations. Some of those challenges have been, in part, related to or affected by concerns and fears related to health and disease.

A significant factor in the evolution of how migration and population mobility have impacted on border control or regulatory processes, and consequently on national responses to migratory health issues, has been the nature of travel itself. In millenniums past, the slow migration of people on foot, using beasts of burden or limited capacity passenger riverside or coastal ships was associated with gradual changes and delineations in the spectrum of regional differences.

The introduction of foreigners was a slow process and depending on the circumstances was met with the full range of openness and integration to fear and xenophobia. Patterns of health and disease that may have differed between geographical locations, were only appreciated or recognized in situations of serious epidemic. The fact that many "imported" epidemics in ancient history were associated with the movement of the military or returning nationals did not focus great attention on foreigners and disease.

In a broad consideration of global migration, the movements of people, their chattels, and conveyances can be viewed as the beginnings of what is modernly considered as globalization. Population mobility can be considered both the precipitant and determinant of the global relationships in trade and foreign exchange, human capital as a commodity to be recruited and competed for the purposes of labour market and population growth, international security, and the inter-regional movement of language, culture, and ideological beliefs in spirituality, religion, philosophy, politics, environment and others.

Historically the process of these initial inter-regional movements, whether motivated by exploration and exchange or exploitation and expansion of traditional territories, differed very much from the forced movements due to environmental catastrophes or civil disturbances in both their magnitude and rapidity of evolution. As a measurement of consequences, for any type of movement the interactions between host populations and migrant populations can be quantified by the tolerance related to imported differences: the volume impact of the migration on the social and environmental capacity to accommodate an increased population load without negatively impacting on the local population; the degree of strangeness in cultural expression, language, religious beliefs

and practices; the benefits and risks associated with trade and economy; and the real and the perceived influences on security and public health outcomes.

Social and civil security considerations that mitigated the impacts from environmental conditions and also provided protection from predation were benefits associated with communal living. Human marauding, raiding and pillaging of neighbouring communities historically became a source of inter-regional exchange between non-allied communities. As empires evolved into kingdoms and more defined national entities, the approach to imported epidemic disease changed in a parallel manner. Commercial and mercantile exchanges expanded and the means and nature of travel and transportation grew. Economic and social differences between political and "national" communities and states became more defined allowing for a greater public appreciation of differences. New outbreaks of disease became more and more focused on those who were not part of the community.

Whatever the precipitant cause of the human mobility; and centuries before the recognition of germs as a cause of disease, the importation of communicable diseases; such as leprosy, cholera, epidemic syphilis and other plagues and pestilences from affected regions to disease naïve locales, was clearly linked to the movement of people, their goods, and their conveyances. The recognition of these significant importation events of disease, and the devastating public health consequences associated with them, resulted in some of the earliest regulatory controls on population movements which were intended to protect the health of the locals without significantly impeding the international movement of people, goods and conveyances.

Developed as a response to plague, quarantine, the holding off at a distance from the community for a defined period of time and the isolation of people with potential transmissible disease-risks, became commonplace interventions in Europe by the mid-17th century, particularly in international trading ports, such as Genoa and Venice. Repeated outbreaks of plague challenged the effectiveness and validity of these activities throughout the 18th century. The practice of quarantine followed the European colonial extension to the Americas[1].

By the 19th Century it is possible to find evidence of the use of medical criteria as instruments of determining fitness for the acceptance of new immigrants in the Americas. Those immigration health activities and practices were expanded during the great waves of immigration to the Americas in early 20th Century and further refined after the Second World War. Despite these local interventions, significant epidemics of disease continued to appear that were associated with the occurrence of military conquests and crusades, exploration, trade and settlement. All of these brought greater contact between previously disparate and distant regions in Europe, Africa, and Asia; and subsequently Oceania and the Americas.

[1] Bailey C. The Medical Inspection of Immigrants. Public Health Journal 1912;3:433-439.

The interest in health and population mobility was not limited to immigration receiving nations. Following the outbreaks of Asiatic cholera in Europe in the early to mid-1800's, twelve European states met for six months in Paris and negotiated 137 regulations related to international public health and maritime sanitation[2]. The regulations were intended to prevent unreasonable barriers to trade while providing regulatory protection in public health.

These regulations have evolved to become the International Health Regulations[3] under the World Health Organization. As such, they represented the formalized beginning of the international application of the rights of states to regulate the movement of people, to examine both exiting and in-coming international migrants (immigration screening) and to exclude, detain or treat individuals, goods or conveyances deemed to pose a public health threat (quarantine).

In 1851, by defining the regulatory tools related to migration and public health, the evolution to the current practice of border controls, immigration and inspection was set in place. With little modification related to the re-defining of specific disease conditions, these regulations remain largely unchanged and in effect today. The last regulatory amendments to the International Health Regulations occurred in 1969, although another revision process is currently underway[4].

These two components, national border health activities and quarantine practices, and the international standardization of those activities form the origin and rationale for modern immigration health practices[5]. Many states that regulate the movement of people for immigration purposes, will find relationships between their immigration health and quarantine policies and legislation and the International Health Regulations.

International population mobility: being an irregular migrant

Due to the very nature of irregular migration; often associated with the criminal activity of human smuggling and trafficking, it is difficult to estimate the world-wide burden of this activity. In the U.S. Department of Justice May 1, 2004 document[6], "Report to Congress from Attorney General John Ashcroft on U.S. Government Efforts to Combat

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[2] Howard-Jones N. The scientific background of the International Sanitary Conferences, 1851 – 1938. WHO Chron. 1974;28:495-508.

[3] World Health Organization. The International Health Regulations (1969). Also available at url: http://policy.who.int/cgi-in/om_isapi.dll?infobase=Ihreg&softpage=Browse_Frame_Pg42 (accessed May 19, 2004).

[4] World Health Organization. International Health Regulations Revision Proposals. Available at url: http://www.who.int/csr/ihr/revisionprocess/working_paper/en/ (accessed on May 19, 2004).

[5] Maglen K. 'The First Line of Defence' British Quarantine and the Port Sanitary Authorities in the Nineteenth Century. Soc Hist Med 2002;15:423-428.

[6] U.S. Department of Justice. Report to Congress from Attorney General John Ashcroft on U.S. Government Efforts to Combat Trafficking in Persons in Fiscal Year 2003. (May 1, 2004) Also available at url: http://www.usdoj.gov/ag/speeches/2004/050104agreporttocongresstvprav10.pdf (accessed on June 8, 2004)

Trafficking in Persons in Fiscal Year 2003" it is stated that "between 600,000 to 800,000 persons are trafficked across international borders each year and that between 14,500 and 17,500 of these persons arrive annually in the U.S.

In a similar estimate, the International Organization for Migration stated in 1999, that of 100 million international migrations per year that 4% of the movements were facilitated by trafficking. In economic terms, the U.S. Homeland Security Department estimated this year that human trafficking generates some $9.5 billion worldwide annually for criminal organizations.

There are three interactive and dynamic components related to population movement. These are the precipitants for mobility; the process of the movement, and the population itself.

The precipitants for mobility represent the "push and pull" factors in the decision to leave the existing location to move to another region in the world. In the most basic of analysis, the benefits of moving to a host destination should exceed the risks of remaining in the source country. At an individual and community decision-making level, this risk-benefit consideration takes into account multiple factors, including environmental conditions; civil and political stability; opportunities for language, religious and cultural expression, education, and economic well-being; health and welfare and the security of the individual, family or community. Each of these factors can be expressed from the micro to the macro level as a "prevalence gap"; that is the perceived or measured differential between the origin and the host destination. Any single factor, or combination of factors, must add up to a net benefit to initiate a movement.

Counter-balancing the drive to move internationally, are the national regulatory practices to control international population movements. In the simplest form, these are represented by the need for personal identification and internationally recognized travel documents (e.g., citizenship identity cards, passports and visas). These or similar documents are the minimum requirements for international cross-border movements. An interesting phenomenon in human mobility is that the experiences of the first migrating populations will influence the decisions related to subsequent movements from the same region. Established and successful colonies both attract and support the next wave of migrants.

The World Trade Organization (WTO)[7] reported that in 2003 there were 694 million international tourist arrivals, a decrease of 1.2% compared to 2002. The decrease was related to world events affecting the global economy and security. The WTO reiterated its expectation for growth in the international tourist market. In addition to this highly mobile population of temporary residents, there are approximately 176 million people

[7] World Tourism Organization. News Releases: Global troubles took toll on tourism in 2003, growth to resume in 2004. Madrid, 27 January 2004
Available at url:
http://www.world-tourism.org/newsroom/Releases/2004/janvier/data.htm (accessed on May 19, 2004)

who are permanent residents outside of their country of birth. This represents about 2% of the global population, which while small on a percentage basis is the size of many large nations.

As well, it is estimated by the International Labour Organization that there are another 15 – 30 million persons who are illegal migrants internationally[8]. Overall, these estimates represent approximately 12% of the global population who are either temporary or permanent migrants on an annual basis. On a volume effect alone this is an enormous international movement, but the additional effects associated with the differences between these populations is at least if not more significant.

Each of these mobile populations has distinct sub-sets of populations representing differentials in risk and benefits for the host destination. These risks and benefits are often seen as separate and stove-piped issues due to the structure of governance and regulatory agencies at the level of the national authority. For example, human resource and development (i.e. skilled labour market requirements; population sustenance and growth) policy and program needs may be developed outside of education, language and training requirements, which may not be considered in the same policy context as security screening or health services impacts. Yet, the nature of rapid and large volume of diverse population movements across prevalence gaps associated with pre-existing disparities will bring with it by its very nature demands for horizontal and integrated policy consideration and program design.

The drivers of irregular migration are very different from those that are associated with regular migration for tourism, business, temporary or permanent residency. In addition to the same assessment of risk and benefits in making a decision to initiate the movement, there is a tacit acceptance that the regular and regulated processes are not sufficient in timeliness, degree of required effort, resource allocation, or procedural design to permit success. Seeking asylum or claiming refugee status; often through the process of human smuggling or trafficking, must at least be perceived as a lower-risk mechanism to achieve the desired outcome of international relocation. Similarly, over-staying a legitimate visa and either applying for re-classification of migrant status through the regular process or "going underground" to avoid or minimize interaction with official authorities is a balancing of risks associated with the existing mechanism for regular migration.

The process of movement has been described in three phases for international migrants: pre-departure, transition and post-arrival. For irregular migrants each of these phases poses risks that have consequences for the receiving host nations and for the migrant. The pre-departure phase is associated with self-selection, or identification by another party, that the process associated with the regular routes of migration is less likely to succeed or has already failed. Or alternatively, due to the clandestine or illegal intent of the migration, the individual, smuggler or trafficker has determined, in the pre-departure phase, that selection of the process of migration must be irregular.

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[8] International Labour Organization. Fair Globalization. Creating opportunities for all. 2004. Available at url: http://www.ilo.org/public/english/wcsdg/docs/report.pdf (accessed on May 19, 2004)

Knowledge or experience of the host nation selection and examination processes related to immigration may lead to this decision; if such policies and programs exist. Most of the immigrant receiving nations that perform pre-arrival selection for immigrants have screening criteria associated with desired characteristics in the migrant (e.g., education, skills, language, ability to integrate, wealth) or undesired factors (e.g., security risk, criminality, negative impacts of illness or disease on public health, public safety, or excessive demand on health, social services or existing waiting lists for health services) that are balanced in making a determination on inadmissibility.

The absence, or the potential absence, of a positive immigration determination will in some cases paradoxically promote illegal or irregular migration. Hence, the pre-departure migrant conditions; including health and security, may be a barrier to the desired outcome of the established process of regular migration and may actually promote irregular international movements.

Or perversely, existing immigration policies and procedures may require that migrants take advantage of irregular or illegal means to undertake migration. It is estimated that the majority of persons seeking illegal entry into the United States of America use the services of human smugglers or traffickers[9]. The link between illegal arrivals through irregular means and the use of human traffickers or smugglers to effect the arrival process may be significant in all regions of the world.

The transit phase for irregular migration may also differ significantly from that undertaken by regular, permanent or temporary, migrants. Some may initiate the transit phase as a regular migrant for temporary purposes. Post arrival they may make an application to change their temporary status by seeking asylum or claiming refugee status. In these cases, the mechanism of transition between source and host destinations may not be significantly different from regular migrants such as tourist or business travellers.

Some of these migrants will arrive without international travel documents and immediately interact with the national authorities for border security, customs or immigration. Depending on national policy and procedures, and the assessment of the risk related to the individual, a process to determine the status of the migrant will be initiated that may include exclusion, deportation, or detention. In some jurisdictions, the migrant is allowed to proceed into the host population with expectations that a process of asylum or refugee determination will follow.

Aside from the administrative expectations that these migrants will attend for immigration status determination, which separates them from the host population, they are often at least partially integrated into the host society through direct population

[9] James O. Finckenauer and Jennifer Schrock. Human Trafficking: A Growing Criminal Market in the U.S. International Center , National Institute of Justice. United Nations Activities. Also available at url: http://www.ojp.gov/nij/international/ht.html (accessed on June 8, 2004)

contact and access to social services such as housing, education or by contributing to the work force or by requiring health services. Alternatively, regular, temporary migrants may simply over-stay their permitted time in the host country and "go under-ground" as irregular migrants and remain below the detection level of the national authorities.

The highest risk process for irregular migration occurs in human smuggling and trafficking[10]. Only a slight nuance may separate these two mechanisms; human smuggling or trafficking in persons, for international movement in terms of migrant voluntary participation and economic, physical, or psychological exploitation. Often the means of transportation used by human smugglers or traffickers will pose significant risks to the migrant. These risks may be due to the tortuous routes taken; the hazardous exposures of extreme environmental conditions; disease exposure in transit; the physical risk of injury or death related to the conveyance[11]; and abuse by the smuggler or trafficker[12] or interdiction by civil security authorities.

The post-arrival phase for irregular migrants can vary enormously compared to regular migrants. In some jurisdictions, refugee claimants are screening for validity of their claim at the border and are either permitted to continue on to a determination process or immediately refused entry into the country. This interaction with national border authorities has an enormous range of outcomes of relevance to the migrant and of significance to the host destination population. Some national jurisdictions provide the migrant with access to social services while their claim is being evaluated. This may include state provision of social and health benefits during the period of determination and appeal up to state sponsored detention or deportation.

Irregular migrants, who are successfully smuggled or trafficked to their destination, must live outside of the protection of normal society[13]. Social services; including education, welfare services, and health care, generally are state sponsored or at least regulated by civil authorities. Any interaction with official national authorities will run the risk of detection and the consequences associated with their illegal status. The lack of access to social services may also preclude the irregular migrant from availing the protection afforded by the police and judicial processes.

Typically, smuggled and trafficked persons are at increased risk for labour and economic exploitation, and physical, psychological and sexual abuse due to a fear of prosecution, persecution, and the potential consequences of interacting with the police and court

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[10] Gushulak BD, MacPherson DW. Health issues associated with the smuggling and trafficking of migrants. J Immigrant Health 2000; 2: 67-78.

[11] Jerry Breeden. The Trucker Staff. Human smuggling trial delayed; gag order issued. June 1, 2004. Also available at url: http://www.thetrucker.com/stories/06_04/0601_trial_delay.html (accessed June 8, 2004).

[12] Busza J, Castle S, Diarra A. Trafficking and Health. Br Med J 2004; 328: 1369-1371.

[13] Curt Anderson, Associated Press Report details human smuggling. Thousands forced to work in the US. The Boston Globe. May 19, 2004. Also available at url: http://www.boston.com/news/nation/washington/articles/2004/05/19/report_details_human_smuggling/ (accessed on June 8, 2004)

system. In addition, any injury or illness that does in this socially marginalized population occur may be associated with a delay in access or health services delivery or a refusal to access or provide required care. The result may be a poorer clinical outcome for the individual but also a greater risk of transmissible disease for the host population or higher health services costs associated with a delay in diagnosis and management.

Another consequence of irregular migration is the inability to return to the ancestral destination without the potential hazards of interacting with the civil, legal and justice authorities in the host destination or those in the source country. There is the potential for an adverse reception on return to the source country if the irregular migrant has contravened laws in his home country related to illegal migration or was actually motivated to undertake a hazardous course of irregular migration due to the risk of prosecution or persecution in the source country.

Health consequences associated with irregular migration

As for other migrants, the paradigm of mobility in phases can be applied to the journey of the irregular migrant. The determinants of health during each phase may vary significantly for irregular migrants depending on the process of the movement (e.g., a regular temporary migrant applying for a change in status, smuggled migrants without physical or psychological abuse or coercion, or migrants who are trafficked). An additional challenge to program delivery and policy makers in health, is the very nature of irregular migration and the paucity of health outcome measurements stratified for the risk determinants relevant to health (e.g., prevalence gaps, process of movements, population factors).

Pre-departure determinants of migration and health

In general terms, the drivers for irregular migration are very different from those that are associated with regular migration. Each of these drivers, which can be expressed as risk determinative factors could be discussed from the micro to the macro level as a "prevalence gap"; that is the sum of differentials between the factors at the origin of the migrant and those in the host destination. In a three-dimensional construct the arms of prevalence gap include the spectrums of the individual irregular migrant to populations of irregular migrants; health determinant differentials between source, transit and destination countries; and the impact of the processes of migration.

i. Defining the population of Interest. By Convention[14], a refugee is someone "who is outside his or her country of origin; has a well-founded fear of persecution due to his or her race, religion, nationality, or membership in a particular social group or political opinion; and is unable or unwilling to avail him or herself of the protection of that

[14] United Nations High Commission for Refugees. Convention and Protocol Relating to the Status of Refugees. 1951. Available at url: http://www.unhcr.org/ (accessed September 16, 2004)

country, or to return there, for fear of persecution." In addition, some States may consider refugee status for persons compelled to leave their country "owing to external aggression, occupation, foreign domination or events seriously disturbing public order in either part or the whole of his country of origin or nationality" (Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa, 1969), or "because their lives, safety or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violations of human rights or other circumstances that have seriously disturbed public order" (Cartegena Declaration, 1984)[15].

None of these definitions include the absence of health as a criterion in the determination of refugee status. Specifically, the determinants of health (environmental, behavioural, socio-economic, and genetic-biological factors); including existing illness or disease, the quality of national health care systems on prevention and management related to availability, accessibility and affordability, and the differentials between international regions are not currently considered in the determination of refugee status.

ii. Defining the health risk profiles and measurements. The source regions for persons requiring international protection as defined by the United Nations High Commission for Refugees (UNHCR)[16] represent the health demographic and biometric differential between their region of origin and the host country. Currently, UNHCR reports the following estimates of asylum seekers, refugees and others of concern: 6,187,800 in Asia, 4,285,100 in Africa, 4,268,000 in Europe, 1,316,400 in Latin America and Caribbean, 962,000 in North America, and 74,100 in Oceania for a global total of 17,093,400 persons. "Where these people started, under what influences was their transit conducted, where they are, and under what conditions are they currently" reflect some of the required non-clinical factors to be assessed in determining health status that differentiate this population from endemic, non-migratory populations.

Other indirect measures of health relevant to mobile populations; such as the Healthy Life Expectancy and Disability Adjusted Life Years[17], [18], [19] show significant differences between migrant source countries and migrant receiving nations in life expectancy outcomes. There are few examples of published health assessments in pre-departure populations of refugees, but each of these indicates significant differences in health status

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[15] Protecting Refugees. A field guide for NGOS. Produced by UNHCR and its NGO partners. 1999. ISBN 92-1-101005-5. Also available at url: http://www.unhcr.org/ (accessed September 16, 2004).

[16] United Nations High Commission for Refugees. Estimated number of asylum seekers, refugees and others of concern to UNHCR – 1st January 2004. Available at url: http://www.unhcr.org/ (accessed September 16, 2004).

[17] World Health Organization. Healthy Life Expectancy. The World Health Report 2001. Available at url: http://www3.who.int/whosis/hale/hale.cfm?path=whosis,hale&language=english

[18] World Health Organization. Country - Indicators. Available at url: http://www.who.int/countries/en/

[19] World Health Organization. Management of Substance Abuse. Available at url: http://www.who.int/substance_abuse/facts/en/

and disease outcomes directly relevant to both public health and population health as would be expected in this mobile population[20], [21].

Transit phase determinants of health

The transit phase for irregular migration may also differ significantly from that undertaken by regular, permanent or temporary migrants. Some irregular migrants may initiate the transit phase as a regular migrant for temporary purposes and a change in circumstances or status may occur during the travel phase. Post arrival applications to change their temporary status by seeking asylum or claiming refugee status would also be an irregular arrival.

In these cases, the mechanism of transition between source and host destinations may not differ from regular migrants such as tourist or business travellers. It is possible that some of these migrants will arrive having destroyed their documents en route. These individuals will likely immediately interact with the national authorities for border security, customs or immigration. Depending on national policy and procedures, and the risk assessment of the individual, the process to determine the status of the migrant will be initiated that may include admission, exclusion, deportation, or detention. In some jurisdictions, the migrant may be allowed to proceed into the host population with minimal public health or security constraints.

Exposure to contagious infectious diseases may occur during this phase of irregular migration. Long incubation infections; such as tuberculosis[22] and HIV/AIDS[23], [24], acquired before or during transit may remain quiescent well into the post-arrival phase and affect not only the health of the migrant but also be of concern to public health authorities. Short-incubation infections; such as malaria[25] or viral haemorrhagic fevers, can present during the transition phase or shortly after arrival with potentially lethal consequences for the migrant, cause significant resource implications for health systems

[20] MacPherson DW, Weekers J, O'Rourke TF, Stiles C, Gushulak BD. Health of displaced Albanian Kosovars in the Former Yugoslav Republic of Macedonia: Fitness to travel and health outcomes. Prehospit Disast Med 2002; 17: 53-58.

[21] Miller JM, Boyd HA, Ostrowski SR, Cookson ST, Parise ME, Gonzaga PS, Addiss DG, Wilson M, Nguyen-Dinh P, Wahlquist SP, Weld LH, Wainwright RB, Gushulak BD, Cetron MS. Malaria, intestinal parasites, and schistosomiasis among Barawan Somali refugees resettling to the United States: a strategy to reduce morbidity and decrease the risk of imported infections. Am J Trop Med Hyg. 2000; 62: 115-121.

[22] Diel R, Rusch-Gerdes S, Niemann S. Molecular epidemiology of tuberculosis among immigrants in Hamburg, Germany. J Clin Microbiol 2004; 42: 2952-2960.

[23] Kennedy K, MacPherson DW, Zencovich M, Gushulak BD. Immigration Medical Screening and Human Immuno-deficiency Virus. Abs 341 at the Canadian Conference on HIV/AIDS Research, May 13-16, 2004, Montreal.

[24] Hamers FF, Downs AM. The changing face of the HIV epidemic in western Europe: what are the implications for public health policies? Lancet. 2004; 364: 83-94.

[25] Ndao M, Bandyayera E, Kokoskin E, Gyorkos TW, MacLean JD, Ward BJ. Comparison of Blood Smear, Antigen Detection, and Nested-PCR Methods for Screening Refugees from Regions Where Malaria Is Endemic after a Malaria Outbreak in Quebec, Canada. J Clin Microbiol 2004; 42: 2694-2700.

to respond to rare or exotic diseases[26], and create public health concerns due to the potential for local transmission[27].

There are other transit acquired or exacerbated health conditions; such as post-traumatic stress disorder[28] or physical disabilities, may impact negatively on health services utilization and accessibility through competitive demand levels between the host population and the irregular migrant. Health care systems planning[29], including sustainability, that have not factored in the system consequences related to migration and irregular arrivals may be missing the determinants that are of significance in terms of national funded public health and population health systems.

Post-arrival determinants of health

The immediate, post-arrival phase for irregular migrants may vary in significant ways compared to regular migrants depending on their process of arrival and whether they interact with immigration or border security officials. This interaction with national border authorities has an enormous range of potential outcomes of health relevance to the migrant that are also of importance to the host population. National jurisdictions may provide the irregular migrant with defined access to social services while their claim is being evaluated. This may include complete social and health benefits[30] during the period of status determination and appeal, up to state-sponsored detention or deportation with essential health services (i.e., emergency care) provided during this period of time, only.

Successful smuggling or trafficking usually requires that the migrant live outside of the protection of normal society[31]. Educational, social, and health care services are generally state sponsored or at least regulated by official authorities. Any interdiction by national authorities will run the risk for the migrant of detection and the consequences associated with their illegal status. The lack of access to social services may also preclude the irregular migrant from accessing the protection afforded by the police and judicial processes. Smuggled and trafficked persons are at increased risk for segregated

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[26] Loeb M, MacPherson D, Barton M, Olde J. Implementation of the Canadian contingency plan for a case of suspected viral hemorrhagic fever. Infect Control Hosp Epidemiol 2003; 24: 280-283.

[27] Lusina D, Legros F, Esteve V, Klerlein M, Giacomini T. Airport malaria : four new cases in suburban Paris during summer 1999. Euro Surveill 2000; 5: 76-80.

[28] Sinnerbrink I, Silove DM, Manicavasagar VL, Steel Z, Field A. Asylum seekers: general health status and problems with access to health care. Med J Aust 1996; 165: 634-637.

[29] Commission on the Future of Health Care in Canada. Building on Values: The future of health care in Canada. Also available at url: http://www.hc-sc.gc.ca/english/care/romanow/hcc0023.html

[30] Citizenship and Immigration Canada. Guide to the Private Sponsorship of Refugees Program Appendix B: Interim Federal Health Program. Also available at url: http://www.cic.gc.ca/english/pub/ref%2Dsponsor/section%2Dappb.html

[31] Curt Anderson, Associated Press Report details human smuggling. Thousands forced to work in the US. The Boston Globe. May 19, 2004. Also available at url: http://www.boston.com/news/nation/washington/articles/2004/05/19/report_details_human_smuggling/ (accessed on June 8, 2004)

urbanization[32]; labour[33], economic and sexual exploitation[34]; and physical, psychological[35] and sexual abuse[36]. A fear of prosecution, persecution, and the potential consequences of interacting with the police and court systems augment these adverse health outcomes.

Any injury or illness that does occur may be associated with a delay in access or health services delivery or a refusal to access or provide required care. The result may be a poorer clinical outcome for the individual but also a greater risk of transmissible disease for the host population or higher health services costs associated with a delay in diagnosis and management.

Another consequence of irregular migration maybe the inability to return to the country of origin or of citizenship without the potential legal hazards of interacting with the civil and justice authorities in either the host destination or those in the source country. Related to the irregular process of leaving the source country, there is the potential for an adverse reception on return to the source country if the irregular migrant has participated in illegal acts or contravened the laws in his home country related to illegal migration or the choice of irregular migration was due to the risk of prosecution or persecution in the source country.

The health consequences for the local population are difficult to assess, but would be expected to include indirect outcomes such as regression away from the mean level of health in the community, an increase in the acute and chronic burden of disease; and greater communicable disease risks due to undetected or untreated transmissible infections. Due to the illegal nature of irregular arrivals, and the lack of documentation permitting regular access to publicly funded health services, there may be an impact: on how the irregular migrant solves the requirement for health services affordability, accessibility, availability. Underground or black market health services by unregulated or unqualified practitioners may rise to meet these needs.

Policy considerations

As a consequence of international barriers to migration that require compliance with regulated processes, there will be counter-balancing forces promoting irregular migration; particularly to satisfy persistent market demands for inexpensive labour or other labour

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requirements that can not, or will not, be met by the local population. In a policy paradox, for some individuals the existing processes will promote illegal or irregular migration. For each component of the irregular migration process; including the migrant, smugglers and traffickers, and the source, transit and host destinations, there are consequences.

Irregular migration represents a significant burden of mobile populations at differential risk in personal health, public health and population health determinants as they move through the process of international migration. Significant gaps in empirical knowledge currently exist in the formation of national and international policy on health and irregular migration, but the direction of impact for migration receiving nations is at best neutral and more probably negative in terms of health and health systems considerations.

For clinical practitioners, sensitivity to the circumstances associated with irregular migration is important from the patient perspective. Medical education providers in under-graduate, post-graduate, and continuing education for health professionals will increasingly be pressed to provide evidence-based instruction to respond to the demands of this marginalized, migrant group.

For national and international policy makers, the requirement for evidence-based technical advice on health and irregular migrants will only increase with the political recognition that this marginalized group of mobile populations represents the unregulated bridging of prevalence gaps in health determination. Given the convergence of transportation capacities and the ingenuity of migrants, smugglers and traffickers the global burden of irregular migrants should only be anticipated to increase as the disparities between regions are increasingly exposed through the process of globalization.