

Migration and Health

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STUDENT EDITORIAL

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Abstract

Migrants are a significant and diverse population. Many migrants have no different health needs from native people, but multiple health harms can result from the process of migration itself as well as the underlying reasons for migration. There are a number of hurdles in improving the health of migrants and they are sometimes referred to as the 'mobile underserved populations'. This editorial discusses this diverse group of migrants in relation to the individuals' health but also as they impact on the healthcare services in host nations.

Key Words

migrant populations, migration, health needs

"As always on this boulevard, the faces were young, coming annually in an endless migration from every country, every continent, to alight here once in the long journey of their lives."

Brian Moore (Irish Novelist)

Introduction

Approximately 3% of the world population is living outside their area of natural residence.^{1, 2} Global migration is increasing, ² and it is bound to affect all the facets of society including healthcare systems. Healthcare workers in all countries will be subject to the effects of migration, either through the patients that they treat, or through the colleagues they work with.

This opinion piece offers some food for thought when considering this diverse group of people in relation to the individuals' health and to the wider healthcare services in the host nations.

What is migration?

Migration can be defined as:

"A process of moving, either across an international border, or within a State. It is a population movement, encompassing any kind of movement of people, whatever its length, composition and causes"³

Migration has been a feature of human civilizations throughout history and has been frequently witnessed in the past. Jewish immigration in the 20th century was fueled by the Holocaust, which destroyed most of the European Jewish community. The Iraq and Afghanistan conflicts and the recent war in Sri Lanka have created an unmanageable migrant situation.^{4, 5} Partition of the British India into India and Pakistan provoked unprecedented migration of refugees in the recent times. Migration has also occurred as a result of migrants searching for wealth, for example, the American "Gold Rush" in 1849 saw 90,000 people migrate to California in one year after the discovery of gold in 1848.⁶

Types of migrants

Migration may occur through official routes as well as unofficial routes. Migration through legal channels requires official approval and/or a visa. In some countries this involves health checks and/or clearance. Such migrants are "legal" or "formal" migrants. "Irregular", "unauthorized", "undocumented", "clandestine" or "illegal" migrants may enter countries to live without permission and/or appropriate visas. These people may migrate "under the radar" of officials, perhaps using false documents, they might have had outstayed the permitted time limit or breeched the conditions of a legal visa, individuals may have been requested to leave the country but not done so or they may enter the country in a concealed manner, sometimes having difficult and dangerous journeys to reach their destination. The International Labour Organization⁷ estimates that there are 15-30 million irregular immigrants internationally. Apart from these, a third category of migrant also exists, "quasi-legal" migrants. These are individuals who have had authorization to remain in the country but do not



have an "established legal right" to stay. For example, those awaiting decisions on asylum applications or appeals.⁸ Asylum seekers are those individuals who fear persecution, they are granted refugee status once the fear they claim has been proven.²

A plethora of factors can result in migration and these are commonly grouped into "push" and "pull" factors. "Pull" factors may result in migration in search of greener pastures academic, and better occupational and/or social opportunities. Such migrants may be from reasonable social and economic standing and are more likely to come from countries with low prevalence of infectious diseases.² "Push factors" cause people to migrate as they feel forced to flee their home nation due to conflicts, natural calamities and/or food insecurity. The people may be less well prepared, have travelled under less desirable circumstances and be in a worse physical and/or mental state by nature of the reasons they have had to migrate. A recent European survey of 1218 undocumented adult migrants revealed that most had migrated to flee poverty, danger or restrictions on their freedom.⁹

Not all migrants have taken the decision to migrate in a free and/or informed way. Human trafficking involves movement of individuals by threat; force, coercion, abduction or deception into situations of exploitation.¹⁰ Trafficked individuals is often irregular migrants. Women may be trafficked into the sex industry and women, men and children may be forced to work in unacceptable working conditions.¹¹ Sadly, the health harms of human trafficking do not stop when these individuals enter the country and start working. Often such migrants have to depend on traffickers for accommodation, which may be substandard and overcrowded.² The trafficked individuals are also at risk of exploitation as they may feel unable to refuse dangerous work or unacceptable working terms and conditions for fear of being deported if disgruntled traffickers and/or employers report them to authorities.¹²

Due to the variety of factors underlying migration the socioeconomic, physical and mental health status of migrant populations as well as their expectations can be diverse. However, in general terms, it is often the illegal migrants that may have the most significant but unaddressed health needs.²

Benefits of migration to migrants

Improved illness detection and treatment

Migration does not necessarily lead to health harm as it may be a stimulus for positive health changes. The strict legal channels that are maintained by some countries request that formal migrants have adequate vaccination, health screening, acceptable health status and health insurance. Such processes may highlight otherwise undetected illness allowing affected individuals to undergo appropriate treatment. For example, the European commission adopted a five year strategy to reduce the number of new HIV infections, improve access to preventative strategies and improve the quality of life of people with HIV and AIDS in the European Union and countries on its eastern border. Migrants from areas with high levels of HIV infection were a particular target for this initiative, and thus, such people will be better identified, educated about the risks and appropriately treated than perhaps they may have been had they stayed in their native country.¹³

Migrants may move from areas of deprivation or undeveloped nations to richer areas, those that provide free healthcare and/or those with improved healthcare service provision. Should such migrants become ill they may find access to medical help easier and may receive better treatment options than those they may have received in their native country.

Benefits of migration to host nations

Diversity in healthcare services

Migration may benefit host nations in the healthcare setting if it results in an improved and/or increased work force. The extent of migrant workers in healthcare services is significant in some countries, for example, in 2003 in the UK 29% of doctors working in the National Health Service (NHS) had obtained their qualifications outside the UK.² Many doctors migrate with their families in search of new or improved clinical experience. This may relieve the strain of understaffed workplaces in the host nations. In addition, such migration introduces doctors with different skills and expertise which enriches the host nations' service delivery. Regrettably, however, the simultaneous effect of such migration is loss of skilled workers from the migrants' native country which may exacerbate health inequalities for those they leave behind.²

Support of host country infrastructure

If migrants work legally, depending on the funding of healthcare services, they may be paying taxes and insurance that results in more money being placed into the healthcare system

Potential harms of migration to the migrants

Difficult access to healthcare

Access to and availability of healthcare for migrants is variable and non-standardized in most parts of the world. In certain European countries it is restricted to emergency care only (e.g. Germany, Switzerland), while in other countries (e.g. Belgium, France, Italy) the state may cover some or the entire healthcare costs of undocumented migrants who are unable to pay.⁹

Barriers acting against access to appropriate healthcare for undocumented migrants includes is the fear of being reported, arrested or discriminated against.⁹ These fears, healthcare costs and/or service restrictions could potentially result in under management of chronic, nonemergency conditions in undocumented migrants and this carries a significant subsequent health consequence which may result in more costly or intensive treatment



further down the line should health problems escalate to critical and/or emergency situations which could be potentially more costly to the host nation's healthcare service. Access to healthcare can be adversely affected by the same reasons that migration was necessary initially. For example, in conditions of war or natural calamities, health problems increase, at the same time as that services that deliver health care get disrupted due to them being destroyed or rendered non functional.

Suboptimal healthcare provision

Migrants are at risk of lack of continuity of healthcare, particularly if they are particularly mobile or facing deportation. In some circumstances, deportation can result from the identification of certain diseases in migrants, for example HIV.¹⁴ This can result in inadequate or cessation of treatment for chronic health problems. This issue was recently highlighted in relation to HIV treatment as patients facing deportation may be taken to countries where treatment is unavailable or inaccessible.¹⁴ This has individual consequences of inadequate management of disease and subsequent risk of disease progression and potentially premature death, but also a wider social implication through increased likelihood of drug resistant strains of the illness being introduced to the country the migrant has been deported to.¹⁴

Suboptimal disease detection

Migration between different cultures may result in naivety among host healthcare services of certain diseases in the migrant. This may occur through lack of familiarity if a migrant presents with a disease that is uncommon in the host nation. For example, leprosy has been eliminated in many countries, however the World Health Organization (WHO) report that there are still "pockets of high endemicity" in some parts of the world, one of which being Mozambique.¹⁵ Thus if a migrant from this area presents in the countries where leprosy has been completely eradicated for several years already with the features of leprosy, it may pose a major diagnostic challenge to the healthcare staff who are completely new to the presentation, apart from exposing them to a new infection. This may also result in delay in diagnosis and treatment and thus resulting risk of disability in that individual and/or further transmission to others.

There may be racial and/or cultural differences between the way in which individuals present with disease, particularly psychiatric disease, between the home and host nations. Therefore, even common pathology may go undetected or be inappropriately investigated in a migrant if the presentation is "atypical" according to the culture of the host nation. One such example may be anxiety. Anxiety is a common problem; the lifetime prevalence for any anxiety disorder among English-speaking adults, over the age of 18 years, in the coterminous United States is 29%.¹⁶ However, it has been noted that racial differences in the presentation of anxiety may result in under-recognition and failure to provide appropriate treatment to certain ethnic groups.¹⁷

Migrants that move between two countries that speak different languages have the additional problem of language

barriers. Although they may know the language of the host country prior to migrating, or they may learn it quickly, speaking a new language is difficult itself, trying to understand and communicate in medical language is a completely different challenge. Therefore medical consultations may be hindered and potentially result in inaccurate information exchange if the doctor, the patient or both are communicating in a non-native language. Often family members may be brought to consultations of patients who do not speak the host country's language, however the ethical minefield that family interpreters can introduce must be considered by the practitioner and at times it may be deemed inappropriate to proceed without an independent interpreter, thus creating delays in service provision. Regardless of the relationship of the interpreter to the patient, in some cases the quality and form of language is important in making accurate diagnoses, for example, when assessing for thought disorder in psychiatric illness. The use of an interpreter may alter the way in which the words are presented and sentences are constructed, thus masking psychiatric pathology.

Health harms caused by migration itself

By nature of the underlying factors for migration certain populations, for example trafficked individuals and refugees, are at increased risk of physical and mental health problems. Health issues faced by these migrants may result from actual, threatened or witnessed physical, psychological and/or sexual violence, ¹¹ poor nutrition, poor sanitation, and poor access to medical treatment or preventative health measures, transportation methods, overcrowding and lack of health facilities early in the course of disease. The resulting health problems may be caused directly, for example sexually transmitted diseases in those trafficked into the sex industry or those who have been subject to sexual abuse. Another direct harm to health may occur through unsafe transportation methods which could lead to accidents, exposure to extremes in temperature and/or poor access to sanitary food and/or fluids.² Health harms may be delayed in their presentation but direct consequences of the experiences the individuals have endured, for example post-traumatic stress syndrome.¹¹ A further indirect negative effect on the health of such migrants can result from fears about examination resulting from the physical and/or sexual abuse they have previously experienced.¹¹ If migrants have been traumatized to the extent that they refuse medical examinations they risk important clinical signs being noted and thus risk undermanaged disease.

Irregular migrants and trafficked individuals may be inclined or forced to work for unregulated employers to prevent detection. Therefore, health and safety issues may not be appropriately addressed and working hours may be long. This could result in increasing risk of certain conditions, for example, muscle strains, dermatological conditions due to exposure to irritant substances and eye disorders due to chemical exposure or lack of protection. Inappropriately low pay can result in insanitary housing conditions and poor diet, leading to increased risk of infections as well as malnutrition which can have long-lasting effects, particularly in children.²

Dental problems are also abounding in migrant populations. Routine examinations of both children and adults can reveal catastrophic dental sequelae. Bottle mouth caries is a relatively common problem, and gingivitis is rampant among adults.¹⁸

The health problems faced by the migrants do not stop at diseases. They continue to other areas such as pregnancy and immunization too. Prenatal care may be difficult, if not impossible, to provide for mobile populations adding to the difficulty of identifying high risk cases. Contraception and planning of pregnancies may be infrequently practiced^{19, 20} adding not just a burden to the health of the mothers but also financial strains on the family. As a result, in some populations there may be a higher incidence of pre-mature births and pregnancy complications arising from the absence of any screening. $^{\rm 20,\ 21}$ Likewise, immunization of the young ones suffers too. There is a risk of both over-immunization and under-immunization of children. Over-immunization may occur due mobility of the population causing a lack of continuity of care, while others have been missed completely from immunization schedules for the same reason or for other reasons such as conflict disrupting pre-existing immunization schedules.² The latter scenario results in affected children being at risk of preventable diseases.

Finally, migrants may be subject to discrimination and violence based upon their race, culture and/or status as migrants. This may not only prevent access to healthcare, as previously stated, but result directly in mental and/or physical harm. In May 2008, the British Medical Journal reported that "tens of thousands" of migrants in South African shanty towns required medical treatment due to "xenophobic" attacks by neighboring South Africans.²² Recently in Australia too, racially motivated attacks on people of certain communities have been in censure. Such large scale attacks may also overwhelm healthcare systems resulting in suboptimal treatment.

Potential harms of migration to the host nations

Cost

Although it is the duty of doctors to treat anybody requiring care, specific issues regarding treatment of migrants result in additional health costs that must be covered by the host nation if the migrant is unable to pay for treatment. Unfortunately such additional health costs may not be welcomed by natives of the host country, particularly if they rightly or wrongly feel that allocation to migrants is unfair if they have not contributed to the healthcare system and/or they perceive they are loosing out as a result of allocation of funding to migrants.

Already the issue of language barriers and the ethical implications of friend or family interpreters have been raised. Often an independent interpreter may be required. This adds additional healthcare costs to the consultation and/or

intervention.

Additional costs may result from conditions having been unmanaged prior to migration. Non-communicable health diseases such as diabetes, cardiovascular disease, asthma, depression, substance abuse and other psychiatric illnesses can all be present in migrant populations.²³ Left unmanaged, all these conditions have the propensity to worsen and result in the need for an even greater intensity of treatment and follow-up than they would have needed in their infancy. Therefore healthcare services may find themselves undertaking the costly process of "firefighting" the complications of disease initially before allocating resources for follow-up and maintenance of the conditions, if the healthcare service permits this. Such expense may be futile if, in the case of undocumented migrants, emergency complications are treated as per the provisions of the country's healthcare service but follow-up treatment is not provided and the patient subsequently dies anyway due to lack of follow-up health intervention.²⁴ Such a fruitless use of finite resources may be harshly criticized by the native population, particularly if their taxes are funding the healthcare service, as they will be aware that the money to provide the emergency care will have been used instead of providing another area of healthcare that may have benefited a greater number of people.

Potential for harm to the native population

Although most migrants pose no significant increased risk of infectious disease than the native population,² among certain migrant populations, infectious diseases such as parasitic diseases and gastro intestinal diseases may be more prevalent due to higher prevalence of infectious disease in the migrant's native country (e.g. Africa and South Asia²) and current poor sanitation, poor working conditions and overcrowding.²³ It has been found that 56% of African refugee children may be infected with intestinal parasites.² Therefore, there is potential that the "riskier" migrants may spread infectious disease to individuals that they come into contact with. Historically, rare or eradicated diseases be transported within or introduced to the host country by migrants. For example, the spread of tuberculosis has been attributed to migrants since at least the 19th century.²⁵ More recently, the World Health Organization has noted that most migrants travel from countries in which the incidence of tuberculosis is high (>40 cases per 100,000 individuals) to those where it is low (<20 cases per 100,000). Currently in Europe between 20-70% of all cases of tuberculosis occur in foreign-born individuals.²⁵ This problem is further compounded by the levels of drug resistant cases of tuberculosis that occur within some immigrants. This represents a theoretical risk to individuals in the host nation in view of transmission of difficult to treat infection as well as increased costs in treating individuals that carry the drug-resistant strains of tuberculosis.²⁵

Discussion

Migration can occur for a variety of reasons and produces

a diverse population with differing health needs. This paper is not intended to be a discussion about the appropriateness of migration, but to highlight the potential health-related effects migration has on the migrants and host nations. Of course, due to the diversity of migrants, not all benefits and harms will apply in all cases. For legal migrants, the issues regarding healthcare may be identical to those of the individuals who are native to the host country.

What needs to be done?

Already, this paper has touched upon the existence of initiatives that aim to target particular health problems among migrants, for example HIV infection. In addition, in April 2009, the Council of Europe Convention on Action against Trafficking in Human Beings came in to force in the UK. This convention addresses the minimum standards of care that should be provided to "trafficked" individuals.¹¹ Further, international guidance²⁶ has been developed to offer non-clinical advice on treatment approaches for trafficked persons.¹¹ However, despite the development and introductions of initiatives, there is still much that needs to be done if all migrants are to become equal to the native population of the host country with regards to health and healthcare provision.

Although healthcare professionals should be trained to identify those individuals most at risk of health problems and inequalities so they can be proactive at identifying problems and addressing them when such people come into contact with healthcare settings. However, those patients most at risk are generally those who were most disadvantaged prior to migration and are often the irregular migrants. Unfortunately it is precisely these individuals who are the hardest to reach by public health initiatives and often have the most difficult access to healthcare.² Therefore, a wider approach is required. WHO has highlighted that a population health approach is necessary to improve the health status of migrants worldwide.¹ Such an approach involves 4 objectives:

- 1. To avoid disparities in health status and access to health services between migrants and the host population.
- 2. To ensure migrants' health rights. This entails limiting discrimination or stigmatization, and removing impediments to migrants' access to preventive and curative interventions, which are the basic health entitlements of the host population.
- 3. To put in place lifesaving interventions so as to reduce excess mortality and morbidity in migrations resulting from disaster or conflict.
- 4. To minimize the negative impact of the migration process on migrants' health outcomes.

These objectives can be achieved by following some basic strategies. At the World Health Assembly in May 2008, WHO agreed on the following four pronged approach to address the vulnerabilities and healthcare needs of migrants:^{1, 27}

1. Advocacy and policy development: promoting migrant-sensitive health policies that adhere to the

principles of a population health approach aimed at improving the health of migrants

- 2. Assessment, research and information dissemination: assessing the health of migrants and trends in migrants' health; identifying and filling gaps in service delivery to meet migrants' health needs
- 3. **Capacity building**: sensitizing and training relevant policy-makers and health stakeholders involved with migrants' health in countries of origin or return, transit and destination
- 4. **Service delivery**: initiating or reinforcing migrantfriendly public health services and health care delivery methods for migrants with special needs

Reinforcement of migrant-friendly public-health services and establishment of minimum health-care standards for all vulnerable migrant groups is the key to equitable health care delivery. However, this needs to be balanced against the costs of providing such services in a way that ensures that native individuals are cared for and are satisfied with the arrangements otherwise further problems such as prejudice and discrimination may develop. Positive steps are underway for migrants. In the Netherlands migrant health has been the subject of sustained and systematic attention since 2000, while Italy has been setting migrant-related health policy targets since the 1990s. Spain on the other hand has only recently started to include migrant health and health-care issues in national and regional plans for the integration of immigrants. Australia is probably the finest example, with nearly a quarter of its population (5.3 million) born overseas, has a long experience in the delivery of specialized health-care services for migrants. The hope is that this trend is adopted by other countries as well and the world soon becomes truly a global village, at least with respect to delivery of health services.

Conclusion

Migrants are a significant and diverse population. They have vastly different healthcare needs and expectations and bring with them differing expectations and resources. Although many migrants have no different health needs to the people who are native to the host nations, multiple health harms can result from the process of migration itself as well as the underlying reasons for migration. There is a current lack of standardization of access to healthcare services across the world for this population and also difficulty in public health initiatives reaching certain groups of migrants. Allocation of resources to migrants is contentious and not accepted by all. It is hoped that following the guidelines established by WHO and other agencies working on improving the health status of migrants around the globe, health support may be improved for migrant populations and the world shall indeed become a better place for the mobile populations and they shall no longer be called 'undeserved'.



References

- Health of migrants, Report by the Secretariat. Sixty First World Health Assembly accessed at http://apps.who.int/gb/ebwha/pdf_files/A61/A6 1_12-en.pdf on October 19, 2009.
- Health Protection Agency. Migrant health: infectious diseases in non-UK born populations in England, Wales and Northern Ireland. A baseline report – 2006. London: Health Protection Agency; 2006.
- Glossary on Migration, International Migration Law Series, International Organization for Migration, 2004
- Health Reach, The Health of Children in Conflict Zones of Sri Lanka: A study sponsored by Health Reach of McMaster University, Canada Colombo: Sarvodaya Vishva Lekha Press, Sri Lanka, July 1996.
- Rob Chase. Healing and Reconciliation for War-Affected Children and Communities: Learning from the Butterfly Garden of Sri Lanka's Eastern Province. Presented at International Conference on War Affected Children, Winnipeg, CANADA, Sept. 2000
- 6. Wogan J. The American gold rush and global migration. Available at: http://ezinearticles.com/?The-American-Gold-Rush-and-Global-Migration&id=3072977
- 7. Overcoming migrants' barriers to health. Bull World Health Organ. 2008 Aug;86(8):583-4.
- Woodbridge J. Sizing the unauthorised (illegal) migrant population in the United Kingdom in 2001. Home Office; 2005
- 9. Watson R. Migrants in Europe are losing out on care they are entitled to. BMJ. 2009; 339: b3895.
- 10. UN General Assembly. Protocol to prevent, suppress and punish trafficking in persons, especially women and children, supplementing the United Nations Convention against Transnational Organised Crime. 15th November 2000. Available at: http://www.unhcr.org/refworld/docid/4720706c 0.html
- Zimmerman C, Oram S, Borland R, Watts C. Meeting the health needs of trafficked persons. BMJ. 2009; 339: b3326.
- 12. Anderson B, Rogaly B. Forced labour and migration to the UK. Study prepared by COMPAS in collaboration in the Trades Union Congress.
- 13. Watson R. EC launches new strategy to tackle HIV as prevalence continues to rise. BMJ. 2009; 339: b4521.
- 14. Moszynski P. Immigrants with HIV may face death if deported from UK. BMJ. 2009; 339: b3893.
- 15. World Health Organisation. Leprosy elimination. Available from: http://www.who.int/lep/en/
- 16. Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence

and age of onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry 2005;62:593–602

- Brenes GA, Knudson M, McCall WV, Williamson JD, Miller ME, Stanley MA. Age and racial differences in the presentation and treatment of Generalised Anxiety Disorder in primary care. J Anxiety Disord. 2008; 22(7): 1128-36.
- Gina R. Lombardi, "Dental/Oral Health Services" Migrant Health Issues (National Center for Farmworker Health (Accessed October 18, 2009 at http://www.ncfh.org) 2001.
- 19. Zhao DX, Zheng ZZ, Zhang LW, et al: Status and needs of sexual health among women migrant workers in Taiyuan. In Status, perspective and strategy of reproductive health among adolescents and unmarried youth. Edited by: Gao ES, Lou CH, Tu XW, Iqbal S. Shanghai: The second Military Medical University Press; 2002:231-243.
- 20. Lindstrom DP and Muñoz-Franco E, Migration and the diffusion of modern contraceptive knowledge and use in rural Guatemala, Studies in Family Planning, 2005, 36(4):277–288.
- 21. Zhao DX, Zheng ZZ, Zhang LW, et al: Status and needs of sexual health among women migrant workers in Taiyuan. In Status, perspective and strategy of reproductive health among adolescents and unmarried youth. Edited by: Gao ES, Lou CH, Tu XW, Iqbal S. Shanghai: The second Military Medical University Press; 2002:231-243.
- 22. Sidley P. Thousands of migrants need treatment after xenophobic attacks. BMJ. 2008; 336: 1207.
- 23. Eric Hansen, Martin Donohoe. Health issues of migrant and seasonal farmworkers. Journal of Health Care for the Poor and Underserved.2003; Vol 14(2), 153-164.
- 24. Newdick C. Treating failed asylum seekers in the NHS. BMJ. 2009; 338: b1614.
- 25. Migliori G. Tuberculosis and migration. World Health Organisation. 2007.
- International Organization for Migration, London School of Hygiene and Tropical Medicine, United Nations Global Initiative to Fight Human Trafficking. Caring for trafficked persons: guidance for health providers. Geneva: IOM, 2009.
- 27. Alice Ghent. Overcoming migrants' barriers to health. In: Bulletin of the World Health Organization. 8 edition. Vol. 86. 2008:583-4.

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.