

INTERNATIONAL MIGRANTS' HEALTH

HEALTH STATUS: COMMUNICABLE DISEASES

SCIENTIFIC LITERATURE REVIEW SUMMARY SHEET

What will you find on this summary sheet?

This document summarizes the scientific literature regarding communicable diseases of international migrants within the Region of the Americas. The information provided here is based upon a broader scoping review of the published scientific literature regarding international migrants' health in the Region of the Americas between January 2016 and October 2021.

This summary sheet is a narrative and descriptive synthesis of several main topics related to the field, with a focus on international migration and health in the Region. It does not fully represent the heterogeneity of information available internationally in terms of type of migrants, countries of origin, and study designs; however, it provides a description of general patterns often found in this literature. In this scoping review, 61 articles addressed communicable diseases of international migrants.

The results presented in the following scientific literature review summary sheet are based on selected articles from the review and is not intended to be an exhaustive review of all current literature. You can find all references in the interactive dashboard located within PAHO's Information Platform on Health and Migration.

[Access the PAHO Information Platform on Health and Migration](#)

Are there other similar scientific literature summary sheets on international migrants' health available?

The scoping review on international migrants' health included a total of 709 academic articles, categorized within three broad themes: health outcomes, health systems and health determinants. All these articles are described and presented in an interactive dashboard along with 11 other similar summary sheets are available that touch upon more specific categories within these three major themes. If you want to learn more about communicable diseases, you can find more information regarding access to services on the summary sheet on Health Care Access and on the summary sheet on Sexual, Reproductive and Maternal Health.

MAIN FINDINGS

What can we learn from the scientific literature so far about International Migrants' Communicable Diseases?

Studies retrieved from the published scientific literature suggest some of the following findings:

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

- Data on HIV and AIDS suggests that the prevalence of this condition among migrants tends to be generally lower than, or similar to locals, with variations based on individual health risks and access to prevention and timely diagnosis and treatment in both countries of origin and receiving countries. For example, one study characterized African, Caribbean and Latin-American migrant women with HIV, showing that a large proportion had detectable viral load and CD4 counts below 500 cells/ μ L. There were differences in CD4 counts by region of origin, for example, a higher proportion of Latin-American women had a count below 350 cells/ μ , followed by African women (1).
- Undocumented migrants with HIV from Central America, the Caribbean, and Sub-Saharan Africa, were identified and explored in one study, showing that this group had lower CD4 counts than patients classified as documented (U.S citizenship or legal status) (2).
- The same studies also indicate that injection drug has been recognized as the main risk factor for HIV among migrants' groups (1,2).
- In Chile, data from a public health institute revealed that 20% of informed HIV cases in 2017 were migrants (3). There was an important increase of HIV cases over the period of 2010-2018, from 41 to 2,580 cases, with a moderate overrepresentation of migrants within all people living with HIV, in comparison with the general migrant population in Chile. In addition, during the first semester of 2018, migrants represented 36% of HIV cases, most of them were from Venezuela, Haiti, and Colombia (4).

TUBERCULOSIS (TB)

- Prevalence and risks of TB among migrant communities vary depending on living conditions, especially poverty and overcrowding, and access to effective care. Epidemiological data from the Region of the Americas has estimated the prevalence of tuberculosis. For example, a systematic review reports a prevalence of Tuberculosis of 20.5% in migrants in U.S. (5).



- Meanwhile, a study shows that in Chile, 12.5% of infected patients were migrants, which reflected an increment of 8% from 2011 to 2016 (3). This was not an overrepresentation of migrants living with TB compared to the total migrant population in the country.
- Specific literature related to intra-regional migration in South America highlights that Venezuelan migrants have more cases of tuberculosis than the local Brazilian population (6).
- A systematic review of studies based in the United States of America (USA), whose participants were stratified in majority foreign born (MFB) or predominantly foreign born (PFB), hypothetical estimations of 100 participants revealed that 26.5% and 15.7% would test positive, respectively (5). Another systematic

review applied the same stratification, focusing on contact investigation (household, workplace, social contacts), and showing that recruitment of contact, valid results, positivity, and treatment completion rates were higher in the PFB group than MFB group. Particularly, estimates for every 100 contacts resulted in 535 and 276 positive tests, respectively. In addition, 354 will complete treatment in PFB group and 134 in MFB (7).

- In Canada, a sample made up of refugees from Africa, the Middle East, and South-East Asia had 36.9% of positive tests from January 2015 to October 2016. Specifically, of those who met treatment criteria, 75.6% started treatment and 79.4% of them completed the intervention. The study identified some intrapersonal facilitators and barriers to treatment such as influence of side effects on adherence, lack of understanding of treatment needs in youth, health literacy and fear (8).
- A study that screened pregnant women for tuberculosis in the USA revealed 5% of positivity among 141 migrant women, even though signs or symptoms were not detectable. This migrant sample reported diverse risk factors such as being born in a high burden country, recent migration, Bacillus Calmette-Guerin vaccine, smoking history, comorbidities (e.g., HIV/AIDS, cancer, diabetes etc.), history of living in shelters and prison (9).

HEPATITIS VIRUS

- There is great heterogeneity in prevalence of the hepatitis virus among migrant populations in the Region. Data from screening tests of the hepatitis B virus in Asian migrants showed that more than half were positive, from which 13.4% had a current infection. Noteworthy, among those with positive test results, a high proportion had a history of hepatitis C virus (83.1%) but only 0.3% had both infections. Positiveness also differs by country of origin, for instance China, Vietnam and Taiwan had the highest rates of ever being infected. Compared to USA native population, migrants elicited a greater percentage of ever being infected and lower immunity from vaccination (10).

- Educational interventions have shown effects on hepatitis B virus screening and vaccination in the migrant population. For instance, Korean migrants obtained relevant short-term effect for screening and vaccination rates by 90.2% and 33%, respectively (11).

PARASITIC INFECTIONS

- Chagas disease is caused by the parasite *Trypanosoma cruzi*. Latin American migrants screened in the U.S, from April 2008 to May 2014, had an estimated prevalence of 1.24% (12).
- According to another study, the likelihood of having Chagas disease increased with housing-related risks, family members, for example, a mother or grandmother, or knowing someone with the disease from an endemic area and having been bitten by triatomine bug (13).



- Other parasitic infection such as strongyloidiasis, mostly caused by *Strongyloides stercoralis*, could lead to fatal consequences. A study shows that among refugees from Cambodia, Laos, and Vietnam living in the U.S and Canada, prevalence in stool samples reached 6.8% (14).
- A case study of a migrant health worker diagnosed with strongyloidiasis described burning abdominal pain, fever, nausea, emesis, and fatigue suggesting helminthic infection. Tropical and subtropical regions are considered endemic, therefore evaluation of potential exposure to this parasite is relevant for timely treatment (15).
- Leishmaniasis and malaria are public health concerns in Venezuelan migrants, particularly

those living in Brazil whose prevalence was higher than the local population, according to one study. There were 207 cases of Leishmaniasis among Venezuelan migrants while 65 cases were detected among the Brazilian population. Cases of malaria have increased during the period of 2015 to 2017 among Venezuelans in Brazil, from 340 to 943 cases. Conversely, the local population elicited 170 to 285 cases (6).

COVID-19

- Within the migrant population, a study shows that being an essential worker, having an infected family member, being female, and living in overcrowded households, were all factors associated with a higher risk of infection (16).
- A study in Chile found a significant association between feeling prepared to face COVID-19 and

international immigrants' country of origin, health system, gender, mood symptoms, and their evaluation of received public information. Compared to Colombians, Venezuelan and Haitian migrants feel less prepared (17).

- One study researched mental health implications of COVID-19 in the migrant population in the USA and found that 48.5% and 45.7% of participants reported worsened anxiety and depression levels due to the pandemic, respectively (18).
- In terms of access to care, a study reports that the Brazilian community living in the USA, in addition to facing exacerbated health risks due to living and working conditions, also faced challenges to COVID-19-related healthcare, such as language, migration status and fear of deportation (19).

Featured Article

A Novel Strategy to Increase Identification of African-Born People with Chronic Hepatitis B Virus Infection in the Chicago Metropolitan Area, 2012-2014 (20)

This study analyzed testing and detection rates of Hepatitis B Virus (HBV) infection among African-born people residing in the Chicago metropolitan area. To do so, an HBV education and prevention program was created for immigrant and refugee populations at risk for HBV. Community health workers employed chain referral sampling targeting African-born participants who were tested in clinical and nonclinical settings.

Results indicate that of 1,000 African-born people who received education, 45% agreed to participate in screening, finding 35 (8%) HBsAg-positive individuals, 37% who had evidence of past infection, and 29% who were immune.

Authors conclude that chain referral sampling identified many at-risk African-born people with chronic HBV infection. The large share of HBsAg-positive people underlines the need for culturally appropriate and community-driven health promotion programs.

Featured Article

Increasing Concentration of COVID-19 by Socioeconomic Determinants and Geography in Toronto, Canada: An Observational Study (21)

This study explored inequities in the burden of COVID-19 in Canada, quantifying the magnitude of risk heterogeneity in Toronto, Ontario (from January to November 2020) through a retrospective, population-based observational study using surveillance data. The researchers generated epidemic curves by social determinants of health and crude Lorenz curves by neighborhoods, visualizing inequities in the distribution of COVID-19 and estimated Gini coefficients.

Results show that there was rapid epidemiologic transition from higher- to lower-income neighborhoods, indicating the necessity of integrating programs and policies to address socioeconomic inequities and structural racism when delivering COVID-19 prevention and vaccination programs.

Featured Article

The Impact of Immigration on Tuberculosis and HIV Burden Between Colombia and Venezuela and Across Frontier Regions (22)

Understanding that human migrations have historically determined the spread of infectious diseases, this study aimed to analyze health indicators related to tuberculosis and HIV/AIDS under the Colombian-Venezuelan migration flow. Researchers conducted a retrospective study using TB and HIV/AIDS data since 2009.

Results indicate that population burden of disease attributable to tuberculosis in Colombia and Venezuela are identical, except for an annual increase in tuberculosis incidence in the Colombian-Venezuelan border from 2009 to 2017 in Santander and Norte de Santander. At the same time, researchers identified a four-fold underfunding for the tuberculosis program in Venezuela, which could explain low-testing rates as well as extended hospital stays. There was a significant increase in DALYs of HIV/AIDS patients in Venezuela compared to Colombia during 2017.

Results suggest that Venezuelan migration and program underfunding might aggravate the dual burden of tuberculosis and HIV in Colombia, especially towards the Colombian-Venezuelan border.

References

1. Adedimeji A, Shi Q, Haddad L, Holman S, Edmonds A, Weber K, et al. Women from afar: an observational study of demographic characteristics and mortality among foreign-born women living with HIV in the Women's Interagency HIV Study (WIHS) in the United States 1994-2016. *Journal of the International AIDS Society*. 2020;23(5):e25486.
2. Ross J, Hanna DB, Felsen UR, Cunningham CO, Patel V v. Emerging from the database shadows: characterizing undocumented immigrants in a large cohort of HIV-infected persons. *AIDS Care*. 2017;29(12):1491–8.
3. Armas R, Cabieses B, Wolff M, Norero C, Rodríguez J, Reyes H. Salud y proceso migratorio actual en Chile. *An del Inst Chile*. 2018;37:131–62.
4. Cabieses B, Sepúlveda C, Obach A. Prevention of vertical transmission of HIV in international migrant women: Current scenario and challenges. *Revista Chilena de Pediatría*. 2020;91(5):672–83.
5. Malekinejad M, Parriott A, Viitanen AP, Horvath H, Marks SM, Kahn JG. Yield of community-based tuberculosis targeted testing and treatment in foreign-born populations in the United States: A systematic review. *PloS One*. 2017;12(8):e0180707.
6. Lima Junior MM de, Rodrigues GA, Lima MR de. Evaluation of emerging infectious disease and the importance of SINAN for epidemiological surveillance of Venezuelans immigrants in Brazil. *Brazilian Journal of Infectious Diseases*. 2019;23(5):307–12.
7. Parriott A, Malekinejad M, Miller AP, Horvath H, Marks SM, Kahn JG. Yield of testing and treatment for tuberculosis among foreign-born persons during contact investigations in the United States: A semi-systematic review. *PloS One*. 2018;13(7):e0200485.
8. Benjumea-Bedoya D, Becker M, Haworth-Brockman M, Balakumar S, Hiebert K, Lutz J-A, et al. Integrated care for latent tuberculosis infection (LTBI) at a primary health care facility for refugees in Winnipeg, Canada: a mixed-methods evaluation. *Frontiers in public health*. 2019;7:57.
9. Molina R, Venkatesh K, Schantz-Dunn J, Meadows A, Nour N, Diouf K. Comparing an interferon gamma release assay with the tuberculin skin test during pregnancy: implications for tuberculosis screening during prenatal care. *Maternal and child health journal*. 2016;20(6):1314–20.
10. Tang AS, Lyu J, Wang S, He Q, Pong P, Harris AM. Disparities in hepatitis B virus infection and immunity among New York City Asian American patients, 1997 to 2017. *American Journal of Public Health*. 2018;108(S4):S327–35.
11. Ortiz E, Scanlon B, Mullens A, Durham J. Effectiveness of interventions for Hepatitis B and C: A systematic review of vaccination, screening, health promotion and linkage to care within higher income countries. *Journal of Community Health*. 2020;45(1):201–18.
12. Meymandi SK, Forsyth CJ, Soverow J, Hernandez S, Sanchez D, Montgomery SP, et al. Prevalence of Chagas disease in the Latin American-born population of Los Angeles. *Clinical Infectious Diseases*. 2017;64(9):1182–8.
13. Connors EE, Vinetz JM, Weeks JR, Brouwer KC. A global systematic review of Chagas disease prevalence among migrants. *Acta Tropica*. 2016;156:68–78.
14. Asundi A, Beliavsky A, Liu XJ, Akaberi A, Schwarzer G, Bisoffi Z, et al. Prevalence of strongyloidiasis and schistosomiasis among migrants: a systematic review and meta-analysis. *The Lancet Global Health*. 2019;7(2):e236–48.

15. Grewal T, Azizi H, Kahn A, Shakir Z, Takkouche S, Aung KN, et al. A case of strongyloidiasis: An immigrant healthcare worker presenting with fatigue and weight loss. *Case Reports in Infectious Diseases*. 2017;2017.
16. Zhang M, Gurung A, Anglewicz P, Yun K. COVID-19 and Immigrant Essential Workers: Bhutanese and Burmese Refugees in the United States. *Public Health Reports*. 2021;136(1):117–23.
17. Cabieses B, Darrigrandi F, Obach A. Factores asociados a sentirse preparado para enfrentar el COVID-19 en migrantes internacionales en Chile. *Revista del Instituto de Salud Pública de Chile*. 2020;4(2).
18. Serafini RA, Powell SK, Frere JJ, Saali A, Krystal HL, Kumar V, et al. Psychological distress in the face of a pandemic: An observational study characterizing the impact of COVID-19 on immigrant outpatient mental health. *Psychiatry Research*. 2021;295:113595.
19. Priebe Rocha L, Rose R, Hoch A, Soares C, Fernandes A, Galvão H, et al. The Impact of the COVID-19 Pandemic on the Brazilian Immigrant Community in the US: Results from a Qualitative Study. *International Journal of Environmental Research and Public Health*. 2021;18(7):3355.
20. Chandrasekar E, Song S, Johnson M, Harris AM, Kaufman GI, Freedman D, et al. A novel strategy to increase identification of African-born people with chronic hepatitis B virus infection in the Chicago metropolitan area, 2012–2014. 2016.
21. Mishra S, Ma H, Moloney G, Yiu KCY, Darvin D, Landsman D, et al. Increasing concentration of COVID-19 by socioeconomic determinants and geography in Toronto, Canada: an observational study. *Annals of Epidemiology*. 2021 Jul.
22. Arenas-Suarez NE, Cuervo LI, Avila EF, Duitama-Leal A, Pineda-Peña AC. The impact of immigration on tuberculosis and HIV burden between Colombia and Venezuela and across frontier regions. *Cadernos de Saude Publica*. 2021;37(5).

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HEALTH AND MIGRATION

MAPPING OF SCIENTIFIC
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