

## IMPLEMENTATION OF A CURRICULUM TO OPTIMIZE HYGIENE BEHAVIORS AMONG REFUGEES AND MIGRANTS BEING RESETTLED

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### Abstract

Health knowledge and behaviors can impact well-being and promote community integration post-arrival for refugees and migrants being resettled. Health and hygiene curricula are efficient and accessible mechanisms to mitigate the risk of chronic and infectious diseases in populations being resettled. This report summarizes a successful interagency/interdisciplinary Uganda-based collaboration between the International Organization for Migration, U.S. Centers for Disease Control and Prevention, and the University of Minnesota. The project's objective was to co-create and align a health curriculum and education messages across the resettlement continuum. Due to timing, the curriculum expanded to include COVID-19 prevention education, thus broadening the initiative's impact. Since the initial implementation, thousands of US-bound applicants have had exposure to the curriculum modules. The curriculum is now the primary tool for health education during pre-departure procedures in Kampala, Uganda, with implementations planned in other countries. The modular format and standardized non-technical language facilitated uptake by medical and non-medical personnel. Incorporating end users in curriculum development supports the early adoption and sustainability of the project. The interagency/interdisciplinary partnership strengthens systems and supports resource sharing to optimize the health and well-being of persons resettling in the United States.

**Keywords:** Refugee Health Promotion; COVID-19 Hygiene Practices; Refugee Health Behaviors; Refugee Health Education

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## **INTRODUCTION**

Migration is a complex, multifaceted social determinant of health that impacts refugees before and after resettlement (Davies et al., 2009). That vulnerability has been amplified directly and indirectly by the COVID-19 pandemic (Guadago, 2020; Kluge et al., 2020). Individuals in refugee and immigrant communities are at risk of contracting COVID-19 once resettled due to difficulty navigating complex health and transportation systems, language barriers, and lack of awareness of rights and services available (Clarke et al., 2021; Davies et al., 2009; Matlin et al., 2018). Interventions to ensure that individuals being resettled are prepared through health and hygiene education focused on well-being are one way to mitigate these risk factors (Matlin et al., 2018).

## **BACKGROUND**

In 2017 a collaboration between the United Nations International Organization for Migration (IOM), U.S. Centers for Disease Control and Prevention (CDC), and the University of Minnesota was formalized. The interagency partnership was built to enhance the training of providers in assessing, screening, and treating US-bound refugees and migrants (referred to as "applicants") to improve population health (Bampoh et al., 2020; Mann et al., 2020). This partnership decentralizes the educational burdens of the IOM and their sites in variable resource settings and allows for collaborative decision-making that facilitates continuous dynamic education based on the self-identified needs of the sites. The University of Minnesota supports this

overall goal by building systems, resources, and staff capacity, while focusing on the mutual nature of the projects (Mann et al., 2020).

The IOM was created in 1951 to respond to the needs of millions of displaced people after World War II by aiding in the redistribution of refugees from war (Pécoud, 2018). The organization's responsibilities grew to include resettling victims of subsequent wars and natural disasters and providing housing, health screenings, treatment, and education in integrating into the new country (IOM, 2020; Pécoud, 2018). The U.S. Refugee Admissions Program (USRAP), managed by the U.S. Department of State (USDOS), has been one of IOM's most extensive resettlement programs worldwide. Still, resettling to the U.S. can take two years or more, and in 2019 less than 0.25% of refugees (1 in every 500) were resettled globally (United Nations High Commissioner for Refugees [UNHCR], 2020; USDOS, 2020).

In March 2020, the IOM halted resettlements due to fear of COVID-19 spread. Despite suspending resettlement activities, COVID-19 cases still rose in the US (Hill et al., 2021; Kluge et al., 2020). History and research have shown that travel restrictions, for example during SARS and Ebola outbreaks, do little to impact the spread of infections, and only increase stigma (Brickhill-Atkinson & Hauck, 2021). The reality is that resettled members of refugee and immigrant communities are at low risk of transmitting infectious diseases to the host population, due in part to pre-departure health assessments and presumptive treatments provided by the IOM and guided by CDC standards (IOM, 2020; CDC, 2012, 2019). Hygiene promotion education, supportive environments, and consistent messaging pre- and post-migration are vital for refugee outcomes (Matlin et al., 2018; Olson & Anderson, 2018; World Health Organization [WHO] Regional Office for Europe, 2018). Health and hygiene promotion activities can be implemented efficiently, with an appropriate curriculum delivered in person during the pre-departure period, which was especially essential with COVID-19.

## **Previous Approaches to Preparing Refugees for Resettlement**

Once an applicant's resettlement is approved, the USDOS will refer them to one of nine resettlement agencies to facilitate the transition. During the pre-departure period, the resettlement agency offers cultural orientation, health and hygiene education, financial assistance, language and vocational training, and an introduction to the American health-care and school systems (UNHCR, 2018). Once the applicants are in the US, they receive additional orientation from the resettlement agency covering a range of topics, including the role of the local agency, community services and public assistance, housing and transportation, employment and education, health and hygiene, budgeting and personal finance, cultural adjustment, and U.S. laws (Abrams et al., 2013).

Before this project, the IOM did not routinely deliver a standardized hygiene curriculum across all transit center sites. Moreover, as with many health-care facilities in settings with variable resources, there is a wide variance in the scope of practice, and staff come to the organization with diverse practice and educational backgrounds (Bampoh et al., 2020, Mann et al., 2020). The health and hygiene promotion curriculum is intended to support nurses and hygiene promoters (collectively referred to as HPs) and other transit center staff in teaching health and hygiene promotion to applicants during the pre-departure period. The curriculum complements the cultural orientation and the education applicants receive after resettlement, while preparing them for safe and healthy transit.

## **THE CURRENT INITIATIVE**

The goal of the curriculum developed in this project is different from simply offering health education; it focuses on capacity building for both the applicant and the HP. Utilizing experiential learning theory and the WHO's technical guidance for health promotion (WHO Regional Office for Europe, 2018), the curriculum teaches and

encourages behavior changes, provides the rationales and explanations behind recommendations, and encourages learner participation. The curriculum suggests that HPs evaluate learning through return demonstration, teach-back, and informal assessment such as observations, drawing pictures, and role-play. HPs are encouraged to use the information and tools in the manual to develop a practical, hands-on approach that meets their local needs.

### **Objectives**

- Develop a comprehensive health and hygiene promotion curriculum to be delivered to resettling applicants under USRAP during the COVID-19 pandemic and beyond.
- Incorporate principles and best practices of adult learning theory in the curriculum for hygiene promoters and nurses.
- Ensure that the curriculum and supplements are continuously and reliably accessible and conducive to regional adaptation to aid in implementation across international operations sites.

### **Setting**

The IOM operates in more than 70 countries and, in 2019, conducted nearly 430,000 health assessments worldwide, and offered counseling at several stages of the migration health assessment, including pre- and post-test counseling and multimodal health education such as posters, pamphlets, and videos (IOM, 2020). The IOM transit center in Kampala, Uganda, was the initial site for curriculum implementation. Uganda hosts more than one million refugees and is home to one of the world's largest refugee settlement camps, Bidi Bidi (USA for UNHCR, 2019). As of January 2020, roughly 30% of refugees in Uganda were from the Democratic Republic of Congo (DRC), the major country of origin of refugees resettled in the US in 2019 (UNHCR, 2020). The Kampala transit center, which can house up to 200 applicants, is responsible for infectious disease surveillance, pre-departure screening, health education, and presumptive treatment for U.S.-bound applicants. It is staffed by physicians, nurses, HPs, operations employees, and other support and maintenance

staff. The pre-departure stay at the transit center allows HPs and nurses time to empower applicants to improve their health by increasing their health and hygiene knowledge and influencing their health behaviors and attitudes.

HPs assess, develop, implement, and supervise health promotion activities in the transit center. Curriculum activities aim to increase applicants' knowledge of well-being and health risks and improve their current health practices. HPs recognize that applicants have varied life experiences, coping strategies, and cultural and behavioral norms. HPs are responsible for imparting vital information to maintain proper hygiene and infection control in the transit center and help prepare applicants to resettle. However, awareness of the curriculum content must not be limited only to HPs who provide the training. Cross-training between HPs and other staff members can support the reinforcement of key messages to applicants.

### **Partners**

This project was situated within the collaboration among the IOM, CDC, and the University of Minnesota and was based in Kampala, Uganda. At this site, the HPs are part of an IOM team responsible for ensuring that applicants are fit to travel when resettling to the U.S. and do not pose a health risk to themselves or other travelers or the receiving communities. For this project, the interdisciplinary group initially sought to co-create culturally appropriate health promotion content consistent with what applicants receive in the US. After the onset of the pandemic, the content was expanded to include COVID-19 content.

### **Conceptual Framework**

Kolb's Experiential Learning Theory was used to conceptualize the curriculum. Most HPs and nurses do not have formal instruction in adult education principles or adult learning theory. When teaching adults, one may be prone to deliver information by only lecturing, a passive learning method. As a resource to HPs for whom adult

learning concepts are new, the curriculum includes a brief overview of adult learning principles and instructional methods, and how to apply them. The curriculum incorporates active/hands-on experiences followed by guided reflections and discussions, which lead to the formation of concepts through analysis, generalizations, and conclusions. Participants can then test these concepts and generalizations in the learning setting, leading to hypotheses for future situations and new experiences. This functional curriculum design ensures that the HP actively facilitates collaborative learning and critical thinking skills and encourages participants to relate their own experiences to learning objectives (Kolb et al., 2000).

## **KEY ELEMENTS OF THE HEALTH AND HYGIENE PROMOTION CURRICULUM**

The health and hygiene promotion curriculum comprised three main sections:

1. An introduction to working with adult learners that includes working with interpreters, giving and receiving feedback, and guides on conducting learning and needs assessments.
2. A curriculum and user guide that walks through lesson plan implementation, assessment, and how to modify.
3. Observer checklists with essential/minimal skills and actions that must be observed with each module to ensure consistency.

The nine lesson plans, contained in the curriculum and user guide section, provide a framework for teaching and assessment of health promotion. Figure 1 shows the general format of each lesson plan module and the corresponding activity icons. The lessons build on applicants' knowledge of risk and disease prevention to promote defined health behaviors. The curriculum is designed to be delivered in a classroom setting to learners once a day over the typical five-day transit center stay, modified based on time, resources, and needs assessments.

**Figure 1.** Format of Health and Hygiene Promotion Curriculum Lesson Plan Modules

<p>🕒 <b>Estimated Minimum Time:</b> The minimum amount of time to deliver the key messages, meet objectives, and debrief. Time may be double when an interpreter is required, and/or when more resources and activities are incorporated.</p> <p>💡 <b>Key Messages:</b> Main messages and points to convey. The HP should read this before the session to ensure the most critical messages are delivered to applicants.</p> <p>🎯 <b>Objectives:</b> Purpose of the module and what applicants should know and perform after the lesson. The objectives help the HP plan which session activities and discussion points to include.</p> <p>📁 <b>Materials:</b> Available or suggested materials are listed. These materials support the activities and discussions in the module; the HCP may use one or more of these if time allows.</p> <p>📖 <b>English Vocabulary:</b> Relevant English words related to the topic are included to promote English language skills. This section is optional if time permits.</p> <p>👤 <b>Introduction of Topics to Applicants:</b> A list of introductory points and facts related to the topic. HP reads ahead of time and can paraphrase to the applicants as time permits.</p> <p>👥 <b>Introductory Exercise:</b> Introduces the activity to applicants and encourages them to interact with one another. HP may select one or more of these if time allows.</p> <p>👥 <b>Active Learning:</b> Activities or discussion topics for the group that incorporate adult learning principles. The HP may select one or more of these as time allows.</p> <p>🗣️ <b>Debriefing:</b> Questions that encourage discussion and clarification among the HP and applicants. Debriefing enhances understanding and allows the HP a chance to conduct informal learning assessments.</p>
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Source: Adapted from Abrams et al., 2013. Used with permission.

### **Curriculum Lesson Plans**

The nine lesson plans focus on behaviors essential to safe transit for resettlement, minimizing the risk of contracting a respiratory illness such as COVID-19, and what to anticipate immediately after arrival. The curriculum also considers that not all HPs have the same amount of time to teach, due to variations in regional protocols and length of stay in the transit center. Modular lesson plans can be shortened or expanded as needed, with additional materials and content available. Lesson plans include activities, visual aids, and videos with subtitles that familiarize applicants with the subject and follow a consistent format. Table 1 describes the content of each module in the curriculum, and the user guide's suggested modules to include in situations where the HP has less time to provide the curriculum rather than the



typical five days or, in some instances, two weeks. The one-day curriculum modules include the essential topics of hand hygiene, infection prevention, travel and flight hygiene and safety, and health care and emergencies in the US.

Each of the lesson plans includes **Key Messages** considered most important for applicants. These essential activities and critical messages take less time to deliver and are for shorter stays in the transit center. Additional activities and resources allow HPs to expand the module according to the needs of applicants and as time allows. The **Key Messages**, **Objectives**, and **Debriefing Questions** are the critical content covered in each session. The curriculum suggests that the HP read these ahead of time and select one or more materials or activities to support their learning goals. When time permits, incorporating the additional content and activities is encouraged. Still, due to time, technology, and resource constraints, not all materials may be used in a session, and not all activities or exercises may be included.

**Table 1.** Topics for Lesson Plan Modules

Module	Lesson Plan Topic
1	Activities of the transit center - surveillance, presumptive treatment, pre-embarkation check*
2	Hand hygiene <sup>*,†</sup>
3	Infection prevention - infectious illnesses overview, cough/sneeze hygiene, mask-wearing, changing, and disposal <sup>*,†</sup>
4	Aspects of personal hygiene - bathing, laundry, toothbrushing, toilet <sup>†</sup>
5	Travel and flight hygiene and safety <sup>*,†</sup>
6	Accessing healthcare in the U.S. and emergencies in transit and post-arrival <sup>*,†</sup>
7	Medication safety in transit and post-arrival <sup>†</sup>
8	Pregnancy health in transit and post-arrival <sup>†</sup>
9	Infant and child nutrition in transit and post-arrival <sup>†</sup>
Operations ("Ops")	Key messages of health, hygiene, and infection prevention during travel that a member of the Operations team can deliver in the event there is not a transit center stay

\*module suggested to include if single day transit center stay

†module suggested to include if three days transit center stay

‡optional modules if pregnant women, children, or medical applicants are traveling or for longer transit center stays

## **Curriculum Development**

A Kampala-based team lead engaged with HPs, nursing, and leadership to identify existing processes, resources, and needs and to work toward co-creating the curriculum. The entire curriculum development and implementation occurred through four phases over twelve months, including a five-month implementation period.

**Phase One.** First, the curriculum team gathered and systematically consolidated a comprehensive collection of the organization's health promotion resources. This was accomplished through extensive site visits, records searches, and email. Resources were organized by topic and distributed to regional leadership and transit center staff for validation and feedback. Edits were made based on feedback from HPs and IOM leadership; additional refinements were accomplished through multiple consults with the Kampala-based HPs, nursing staff, and curriculum workgroup. This iterative development process empowered nurses and HPs to participate and added an essential practice-based perspective to the interventions. Once final topics were approved and edited, they were inserted into lesson plan formats.

**Phase Two.** The curriculum introduction and user guide with adult learning theory concepts were developed and lesson plan templates were created. The introduction and the user's guide were circulated among regional staff and organizational leadership and edited for plain language and regional needs. Observer checklists were developed, to ensure that a minimum set of skills and actions are incorporated into the delivery of each module and that the objectives are met.

**Phase Three.** The third phase involved finding visual aids and media to enhance the lesson plan delivery. Culturally appropriate photos, animations, and pamphlets from multiple sources including the IOM, CDC, and health departments were gathered, vetted, and consolidated. Additionally, more than fifty 1 to 4-minute health videos with English subtitles were purchased to supplement instruction. English is one of the

IOM's official languages, and the subtitles allowed translators and interpreters to see what is being said, to create a language-appropriate script.

**Phase Four.** The final phase was to format an online platform through a learning management system to ensure continued shared access to the materials and the ability to modify them over time and per regional needs. Constructing the online platform and uploading of content took three weeks.

### **Technology Barriers Addressed**

Early in the development phases, potential barriers to accessing the curriculum due to variable internet access were identified, and necessary modifications were made. The modules were developed to require the smallest bandwidth to open to manage varying internet speeds. Copies of the curriculum and media supplements were loaded onto thumb drives in case of internet failure.

### **Preparing Hygiene Promoters to Teach**

The curriculum encouraged the HPs to conduct formal and informal assessments and evaluations as an essential facilitation element before and throughout the sessions. The curriculum includes guidance on conducting a needs assessment, a critical component of effective teaching/learning sessions. Steps in the needs assessment process include exploring learner views, knowledge, and experience regarding a topic; identifying what learners want and need to learn; and identifying other factors (culture, age, language) that may impact the sessions (Abrams et al., 2013; Kolb et al., 2000). A needs assessment aids the HP in identifying and prioritizing relevant content to establish goals for the sessions and plan for resources they might need. More importantly, they can identify ways to build on participants' abilities, experiences, and accomplishments.

Another critical element in the introduction and preparation section is instruction on how to conduct learning evaluations. Brief informal evaluations throughout a session

can help the promoter adjust delivery to meet learning goals. Outcome evaluations at the end of a learning session support adjustments to future sessions or guide follow-up with current learners. The curriculum evaluation methods included open-ended questions, reflections on the session content in the learner's own words, surveys, developing a story, a picture, role-play with instructional content, and teach-back. The teach-back method involves the learner teaching or showing the HP or another learner how to physically perform a task (ex: handwashing, mask-wearing, or cough hygiene) (Figure 2 and 3).

**Figure 2.** Applicants receive the classroom portion of the handwashing curriculum.



Figure 3. Applicants receive a live handwashing demonstration before performing a return demonstration.



The curriculum was disseminated to HPs before a one-day session that introduced the structure and concepts and allowed HPs to provide feedback before piloting the delivery. The HPs were early drivers of this project and critical partners in curriculum development. In the past, HPs have adapted to meet the needs of highly educated applicants and those with little or no literacy, and to consider the needs of subgroups such as youth, women, LGBTQIA+ applicants, the elderly, and those with physical and mental disabilities. Therefore, they were uniquely positioned to advocate on behalf of their learners, and quickly identified and adopted three qualities of an effective HP:

1) ability to identify the needs and interests of applicants; 2) ability to understand and respect cultural differences; and 3) ability to make sessions learner-centered.

## **IMPLEMENTATION**

Due to the COVID-19 pandemic and subsequent transit center closure, the curriculum implementation was adapted to reflect the limited flow of departures and the need to include COVID-19-specific guidance. The flexibility inherent in the modular format was crucial to implementation, allowing for the needs of the departure group and the time available. The IOM's migration health division (MHD) implemented COVID-19-specific protocols in the transit center and at the point of departure. Hygiene travel kits of masks, tissues, and hand sanitizer were distributed to applicants, and instruction was included in the curriculum. A one-page quick reference guide, to be used as a laminated tri-fold pocket tool for operations staff who assist applicants in the final stages of travel readiness, was developed from the curriculum operations module. Webinar training was designed and delivered to Africa region IOM staff to introduce the tool and promote its use.

Since the initial implementation, thousands of U.S.-bound applicants have had exposure to the curriculum modules (see Table 2). The modular format and standardized, non-technical language facilitated uptake by medical and non-medical personnel. Finally, the team developed an observer checklist for site supervisors to improve trainers' performance, increase the efficiency of any given session, and facilitate bidirectional feedback.

**Table 2.** Implementation Phases of the Curriculum

Phase	Timeline	Site Focus	Module(s)	Number of IOM staff using curriculum	Number of applicants exposed to curriculum
Preliminary phase	September 2020	Uganda departure group	1, 2, 4-7, 9	2	22
	September 2020	Resettlement group	2, 4	2	11
	October 2020	Resettlement group	2, 3, 4, 8, 9	2	26
Revisions	November 2020				
First phase rollout	November 2020 - June 2021	Uganda departure group	1-9	4	468
	May 2021 - ongoing	Tanzania departure group	1-8	4	1370
Operations rollout	Training webinar June 17, 2021	IOM Africa Region	Quick reference guide	96	–

### Next Step: Tanzania

Implementation began in Tanzania after a nurse and an HP were identified to incorporate parts of the curriculum. A team from Tanzania, the Ugandan focal nurse, and an IOM project team coordinator meet monthly for updates to support the rollout. Once the team in Tanzania team has had ample opportunity to use the curriculum in the field, updates will be made based on any additional feedback.

The curriculum was disseminated to IOM leadership and stakeholders with the plan of potential global implementation. Regional modifications to module content, such as images, language, or equipment lists, were advised to promote the universality of the curriculum. The curriculum was uploaded to the University's learning management system, accessible by IOM staff and available as a smartphone application. Observer checklists accompany each lesson plan module and can be used as a primary competency tool or built upon to fit the organization's needs. Observer checklists can

also be used for active surveillance and audit of competency and understanding, which are essential to prevent a decline in skills and comprehension after introducing new skills (Rowe et al., 2005; Wall et al., 2009).

The hygiene promotion curriculum will be sustained through collaboration and handoff with the Regional Chief Nurses, HPs, and IOM leadership. It will be uploaded to the IOM intranet site after the initial rollout is completed and any necessary adjustments to the curriculum are adapted. The curriculum conceptualized with the IOM's migration health leadership and the CDC has been reviewed by IOM global nurse leadership to further enhance sustainability.

## **DISCUSSION**

Over the past five years, while the number of U.S.-bound applicants has decreased, the percentage of those with significant medical conditions has remained steady (IOM, 2020). Ensuring safe, healthy, and successful resettlement is essential, and a robustly prepared health workforce is a critical part of that goal (WHO, 2018). The curriculum project was designed to be highly collaborative and focused on capacity building for applicants and HPs. Positioning HPs as critical participants in curriculum development, iteration, and implementation supported mutual ownership and the development of interprofessional skills. This level of involvement is essential in all learning stages of Kolb's Experiential Learning Theory (Kolb et al., 2000), where the goal is to ensure that knowledge has been created and learning has taken place. This level of capacity building for HPs promotes the curriculum's sustainability and may improve applicants' learning outcomes. Health workers in low-resource areas have identified factors associated with improved role performance, such as experience, skills, and formal and informal education opportunities (Rowe et al., 2005; WHO, 2018).



Leveraging partnership was a significant strength in this endeavor. Using this approach facilitated all phases of the project and enhanced communications. The HPs were involved in key aspects of development and rollout and were able to suggest necessary edits. The project coordinator quickly collected feedback from the HPs, and revisions were made in real time, including reordering modules for shorter stays, adapting words and phrases to meet regional needs, and adding culturally and linguistically appropriate supplemental materials. Early feedback highlighted the importance of the HPs being familiar with the curriculum ahead of time, and the challenges of the variable internet connection. In response to internet concerns, the content was printed out during the preliminary phase.

### **Limitations**

Limitations of the project include the regional focus of implementation in Uganda, impacting generalizability to sites beyond East Africa. The project was implemented at a site where highly motivated HPs, nurses, and leadership played an active role in conceptualizing and operationalizing the curriculum; this may limit understanding of the feasibility and sustainability in a broader context.

### **Considerations of Cost**

While the interagency/interdisciplinary partnership was designed to improve the health and wellness of US-bound applicants by focusing on building staff capacity in in-person interactions and activities at multiple points in the continuum of resettlement (Bampoh et al., 2020; Mann et al., 2020), cost-effectiveness was also taken into consideration. One way was by hosting the curriculum on a learning management system already in place, paid for by the academic partner and accessible by partners. Using an online platform or learning management system is a simple, low-cost way to support organizational changes and education, and is just as effective as traditional methods of instruction (Rowe et al., 2005). The project team also envisions that the curriculum could decrease health-care costs both for applicants and for the country of resettlement, improve individual health, and promote community

integration. Low health literacy among resettled applicants is associated with increased emergency room use and hospital admissions, and less engagement in prevention and adherence (WHO, 2018). It is well documented that health and hygiene promotion and reinforcement can impact health after arrival in the US, significantly decrease costs, improve individual well-being, and promote community integration (Matlin et al., 2018; Olson & Anderson, 2018; WHO, 2018).

## **CONCLUSION**

The U.S. President announced that in fiscal year 2022 refugee admissions ceiling would be 125,000, with an estimated 40,000 refugees arriving from Africa (U.S. Office of the Press Secretary, 2021). A concern from this increase in migration, and perhaps one of the most damaging indirect impacts of COVID-19, is the rise in xenophobic rhetoric and hate crimes. Globally, the pandemic has been used as an opportunity to foster racism and discriminatory attitudes towards refugee and immigrant communities (Guadagno 2020). In the US, racist attacks against those of Asian descent have increased. In other parts of the world, reports of African immigrants being forcibly tested for COVID-19, evicted from homes, and refused service from businesses have surfaced (Addo, 2020; Karalis Noel, 2020). The belief that migrants who are being resettled spread communicable diseases are xenophobic, as these groups are among the most medically vetted populations entering the U.S. Applicants arriving under USRAP undergo strict medical screening and treatments through the IOM. CDC-mandated migration health assessments identify and treat any medical issues, focusing on public health concerns in the US (CDC, 2017; UNHCR, 2018). Over weeks to months before departure, the applicant undergoes a comprehensive series of medical screenings and procedures, infectious disease surveillance, and presumptive treatment for parasites before embarkation (CDC, 2012, 2019; UNHCR, 2018).

In conjunction with health and hygiene promotion education, COVID-19 prevention-specific self-management, COVID-19 testing and vaccination, and stringent health screenings ensure that populations being resettled are well enough to travel and that the migration process will not endanger the refugee or the public health of the US. Nurses and HPs currently use the curriculum as a primary tool for health education during pre-departure procedures. The curriculum helps applicants engage in a participatory approach to their health by building their understanding of illness and prevention, awareness of sources of support pre-and post-transit, knowledge of how to access care in case of an emergency, and what to expect when they arrive at their new home. Furthermore, the curriculum builds the capacity of HPs, ensuring that they are engaged with the applicants and are culturally responsive, thus increasing their learners' trust. We believe that implementing this curriculum in transit centers can reduce the impact of COVID-19 and other health burdens on applicants and their new communities and facilitate integration.

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## References

- Abrams, D. M., Burt, M., Cheema, Z., Duguay, A., & Sugarman, J. (2013). *Making your way: A reception and placement orientation curriculum*. <https://coresourceexchange.org/making-your-way-a-reception-and-placement-orientation-curriculum>
- Addo, I. Y. (2020). Double pandemic: Racial discrimination amid coronavirus disease 2019. *Social Sciences & Humanities Open*, 2. <https://doi.org/10.1016/j.ssaho.2020.100074>
- Bampoh, V., Thongkhamkitcharoen, M., Dicker, S., Dalal, W., Frerich, E., Mann, E., Porta, C., Siddons, N., Stauffer, W. M., & Hoffman, S. J. (2020). Nursing practice and global refugee migration: initial impressions from an Intergovernmental-Academic Partnership. *International Nursing Review*, 1-7. <https://doi.org/10.1111/inr.12588>
- Brickhill-Atkinson, M., & Hauck, F. R. (2021). Impact of COVID-19 on resettled refugees. *Primary Care*, 48(1), 57-66. <https://doi.org/doi: 10.1016/j.pop.2020.10.001>
- Clarke, S. K., Kumar, G. S., Sutton, J., Atem, J., Banerji, A., Brindamour, M., Geltman, P., & Zaaed,

- N. (2021). Potential impact of COVID-19 on recently resettled refugee populations in the United States and Canada: Perspectives of refugee healthcare providers. *Journal of Immigrant and Minority Health, 23*(1), 184-189. <https://doi.org/10.1007/s10903-020-01104-4>
- Core Group on Durable Solutions. (2004). Framework for durable solutions for refugees and persons of concern. In *Refugee Survey Quarterly*. <https://doi.org/10.1093/rsq/23.1.179>
- Davies, A. A., Basten, A., & Frattini, C. (2009). Migration: A social determinant of the health of migrants. *Eurohealth, 16*(1), 10-12. <https://migrationhealthresearch.iom.int/migration-social-determinant-health-migrants>
- Guadago, L. (2020). Migrants and the COVID-19 pandemic : An initial analysis. *Migration Research Series, 60*, 1-28. <https://publications.iom.int/books/mrs-no-60-migrants-and-covid-19-pandemic-initial-analysis>
- Hill, J., Rodriguez, D. X., & McDaniel, P. N. (2021). Immigration status as a health care barrier in the USA during COVID-19. *Journal of Migration and Health, 100036*. <https://doi.org/10.1016/j.jmh.2021.100036>
- International Organization for Migration [IOM]. (2020). *Migration health assessments and travel health assistance: 2019 overview of pre-migration health activities*. <https://publications.iom.int/books/migration-health-assessments-and-travel-health-assistance>
- Karalis Noel, T. (2020). Conflating culture with COVID-19: Xenophobic repercussions of a global pandemic. *Social Sciences & Humanities Open, 2*. <https://doi.org/10.1016/j.ssaho.2020.100044>
- Kluge, H. H. P., Jakab, Z., Bartovic, J., D'Anna, V., & Severoni, S. (2020). Refugee and migrant health in the COVID-19 response. *The Lancet, 395*(10232), 1237-1239. [https://doi.org/10.1016/S0140-6736\(20\)30791-1](https://doi.org/10.1016/S0140-6736(20)30791-1)
- Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2000). Experiential learning theory: Previous research and new directions. In R. . Sternberg & L. F. Zhang (Eds.), *Perspectives on Cognitive, Learning, and Thinking Styles* (pp. 227-247). Lawrence Erlbaum. <https://doi.org/10.4324/9781410605986-9>
- Mann, E. M., Klosovsky, A., Yen, C., Olson, A. P. J., Hoffman, S. J., Mamo, B., Frerich, E. A., Weinberg, M., Mayali, H., McCoy, M., Prasad, S., Dunlop, S. J., Stauffer, W. M. (2020) Health challenges in refugee resettlement: an innovative multi-sector partnership to improve the continuum of care for resettled refugees. *Journal of Travel Medicine, 27*(7). <https://doi.org/10.1093/jtm/taaa103>
- Matlin, S. A., Depoux, A., Schütte, S., Flahault, A., & Saso, L. (2018). Migrants' and refugees' health: Towards an agenda of solutions. *Public Health Reviews, 39*(1), 1-55. <https://doi.org/10.1186/s40985-018-0104-9>
- Olson, S., & Anderson, K. M. (2018). Immigration as a social determinant of health: Proceedings of a workshop. *Roundtable on the Promotion of Health Equity*. <https://doi.org/10.1146/annurev->

publhealth-032013-182419

- Pécoud, A. (2018). What do we know about the International Organization for Migration? *Journal of Ethnic and Migration Studies*, 44(10), 1621-1638.  
<https://doi.org/10.1080/1369183X.2017.1354028>
- Rowe, A. K., de Savigny, D., Lanata, C. F., & Victora, C. G. (2005). How can we achieve and maintain high-quality performance of health workers in low-resource settings? *Lancet*, 366(9490), 1026-1035. [https://doi.org/10.1016/S0140-6736\(05\)67028-6](https://doi.org/10.1016/S0140-6736(05)67028-6)
- Sironi, A., Bauloz, C., & Emmanuel, M. (2019). Glossary on Migration. In *International Immigration Law*. <https://doi.org/10.1017/CBO9781107415324.004>
- United Nations High Commissioner for Refugees [UNHCR]. (2018). Country Chapter: USA. *UNHCR Resettlement Handbook*. <http://www.unhcr.org/protection/resettlement/4a2ccf4c6/unhcr-resettlement-handbook-country-chapters.html>
- United Nations High Commissioner for Refugees [UNHCR]. (2020). *Resettlement in the United States*. Refugee Resettlement Facts. <https://www.unhcr.org/en-us/resettlement-in-the-united-states.html>
- University of Minnesota Center for Global Health and Responsibility [CGHSR]. (n.d.). UN Migration Agency Project: Center for Global Health and Social Responsibility - University of Minnesota. Retrieved April 3, 2020, from <https://globalhealthcenter.umn.edu/capacity/un-migration-agency-project>
- USA for UNHCR. (2019). *Refugee Facts: What is a Refugee Camp?*  
<https://www.unrefugees.org/refugee-facts/camps/>
- U.S. Centers for Disease Control and Prevention [CDC]. (2012). *Refugee health guidelines: Immigrant and refugee health*. <https://www.cdc.gov/immigrantrefugeehealth/guidelines/refugee-guidelines.html>
- U.S. Centers for Disease Control [CDC]. (2016a). Laws and Regulations. Immigrant and Refugee Health. <https://www.cdc.gov/immigrantrefugeehealth/laws-regulations.html>
- U.S. Centers for Disease Control [CDC]. (2016b). Refugee Health Guidelines: *Immigrant and Refugee Health*. <https://www.cdc.gov/immigrantrefugeehealth/guidelines/refugee-guidelines.html>
- U.S. Centers for Disease Control [CDC]. (2016c). Technical instructions for panel physicians and civil surgeons. <https://www.cdc.gov/immigrantrefugeehealth/exams/ti/index.html>
- U.S. Centers for Disease Control and Prevention [CDC]. (2017). *Vaccination Technical Instructions for Panel Physicians*. [https://www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/vaccination-panel-technical-instructions.html#anchor\\_1505834848733](https://www.cdc.gov/immigrantrefugeehealth/exams/ti/panel/vaccination-panel-technical-instructions.html#anchor_1505834848733)
- U.S. Centers for Disease Control and Prevention [CDC]. (2019). *Immigrant and Refugee Health*. Guidelines for Overseas Presumptive Treatment of Strongyloidiasis, Schistosomiasis, and Soil-Transmitted Helminth Infections.

<https://www.cdc.gov/immigrantrefugeehealth/guidelines/overseas/intestinal-parasites-overseas.html>

U.S. Department of State [USDOS]. (2020). *About Refugee Admissions*. <https://www.state.gov/refugee-admissions/about/>

U.S. Office of the Press Secretary. (2021). *Presidential Determination on Refugee Admissions for Fiscal Year 2022: October 08, 2021*. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/10/08/memorandum-for-the-secretary-of-state-on-presidential-determination-on-refugee-admissions-for-fiscal-year-2022/>

Wall, S. N., Lee, A. C., Niermeyer, S., English, M., Keenan, W. J., Carlo, W., Bhutta, Z. A., Bang, A., Narayanan, I., Ariawan, I., & Lawn, J. E. (2009). Neonatal resuscitation in low-resource settings: What, who, and how to overcome challenges to scale up? *International Journal of Gynecology & Obstetrics*, 107(Supplement), S47-S64. <https://doi.org/10.1016/j.ijgo.2009.07.013>

WHO Regional Office for Europe. (2018). Health promotion for improved refugee and migrant health. In *Technical guidance on refugee and migrant health*. [https://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0004/388363/tc-health-promotion-eng.pdf](https://www.euro.who.int/__data/assets/pdf_file/0004/388363/tc-health-promotion-eng.pdf)

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