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Global Perspective Article

Infection prevention and control and the refugee population: Experiences from the University of Louisville Global Health Center

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Background: During 2016, approximately 140,000 individuals entered the United States as part of the federal government refugee resettlement program and established themselves in communities in virtually every state. No national database regarding refugee health currently exists; therefore, little is known about existing infectious diseases, conditions, and cultural practices that impact successful acculturation. The objective of this report is to identify what is currently known about refugees and circumstances important to infection prevention and control with respect to their roles as new community members, employees, and consumers of health care.

Methods: Using data from the University of Louisville Global Health Center's Newly Arriving Refugee Surveillance System, health issues affecting refugees from the perspective of a community member, an employee, and a patient were explored.

Results: Lack of immunity to vaccine-preventable diseases is the most widespread issue impacting almost every adult, adolescent, and child refugee resettled in Kentucky. Health issues of concern from an infection prevention and control perspective include latent tuberculosis infection, HIV, hepatitis B, hepatitis C, syphilis, and parasites. Other health conditions that may also be important include anemia, obesity, oral health, diabetes, and cardiovascular disease.

Conclusions: Refugee resettlement provides motivation for collaborative work among those responsible for infection prevention and control in all settings, their public health partners, and those responsible for and interested in community workforce concerns.

Each year, the United States resettles thousands of refugees through the U.S. Refugee Resettlement Program, with numbers of refugees cared for in U.S. communities surging well past 140,000 during the fiscal year 2015.[1] Refugees are resettled in virtually every state in the United States each year. In 1951, the United Nations defined a refugee as a person who "has been forced to flee his or her country because of persecution, war, or violence" and "has a well-founded fear of persecution for reasons of race, religion, nationality, political opinion or membership in a particular social group."[2] The leading countries of nationality for refugees entering the United States over the last several years have been Cuba, Nepal, Burma, Democratic Republic of the Congo, Iraq, and Iran.[1] As refugees settle into their receiving communities, they are expected to integrate into society and become self-sufficient. Refugees join the workforce within their new communities, participate as members of society, and become purchasers and consumers of health care.

Data regarding numbers of refugees and other entrants who are resettled in the United States are maintained by the Office of Refugee Resettlement. Other statistics containing relevant metrics of the resettlement program, including employment, are also kept and are

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markers of success for individual state programs. Health data are gathered and maintained by individual states and are often limited to information obtained during the initial domestic health screen. These health screenings are performed by health care providers in the community as quickly as possible after resettlement, ideally within their first 90 days after arrival. Information from overseas medical examinations is maintained in the Centers for Disease Control and Prevention (CDC) Electronic Disease Notification System and augments health information obtained during those initial domestic health screens. However, at the national level, there is no central data repository that compiles and maintains refugee health data obtained during the domestic health screenings. Each state or local community gathers and maintains data in their own systems without connectivity to other states or communities. In addition, once refugees integrate into their local communities, they often seek care from individual health care providers and are no longer followed as refugees. Therefore, data concerning refugee population-specific and long-term health issues are subsequently unavailable unless an individual state implements a process that enables it. The impact on the infection prevention and control community is that relevant information regarding existing infection(s) or susceptibility to infection is likely not maintained in a manner where that information can be readily retrieved or shared. Given these obstacles and lack of centralization, population-specific risk factor information is not recognized or retained. Conditions may be reported within an individual state in accordance with notifiable diseases statutes, but the refugee status of that individual is likely to be lost in the reporting process; therefore, population-specific risk factor information is not recognized or retained.

Approximately 3,500 refugees are resettled in Kentucky each year.[1] As the diversity of the local population has increased, the need to proactively address the health needs among the refugee population has been recognized as a social and economic necessity. Beginning in 2012, a partnership was formed between the Kentucky Office for Refugees and the University of Louisville Global Health Center (UL-GHC) to better understand the health needs of newly arriving refugees resettling in Kentucky. The goal was to define health issues present in these populations and develop targeted interventions to assist the refugees in their quest toward self-sufficiency. This goal recognized that health is a cornerstone to achieving self-sufficiency and requires broad community partnerships. The UL-GHC began this work by providing domestic health screening and immunization for adult, adolescent, and child refugees.

The domestic health screening follows the guidelines for care provided by the CDC and includes physical and mental health assessments and focus on transmissible and nontransmissible health conditions.[3,4] Immunization recommendations for adult, adolescent, and child refugees are age-appropriate and adhere with the current adult, adolescent, and child Advisory Committee on Immunization Practices immunization schedules. Overseas medical information is used to augment new health information obtained during the domestic health screen and immunization visit. This process serves as a bridge to primary care in support of wellness, disease prevention, and chronic disease self-management. Quickly, the services at the UL-GHC expanded to provision of primary care using a patient-centered medical home, or in this case a refugee-centered medical home, model. This medical home approach has resulted in a robust perspective regarding refugee health care challenges and needs and has enabled identification of areas in need of additional focus that may benefit the refugee, their employers, health care providers, and communities.

Data regarding domestic health screening, immunization, and subsequent primary care are maintained in a secure database entitled the Newly Arriving Refugee Surveillance System (NARSS). This database is maintained in the REDCap platform (Developed at Vanderbilt University Institute for Clinical and Translational Research; Nashville, TN), and annual reports are provided to the Kentucky Office for Refugees and state and federal refugee health partners.[5] The reports are available for access and review online (http://globalhealth.center/rhp/state.php). The NARSS database currently houses health care information for >15,000 refugees who have been resettled in Kentucky since 2012. This database serves as a model for integration of overseas and domestic health screening information into a single location. This resulted in the ability to provide information regarding a newly arriving refugee as a community member, an employee, and a consumer of health care services within the framework of infection prevention and control.

METHODS

Using data from NARSS, a report was developed that identified the most common health care issues found during the domestic health screenings performed at the 5 health screening sites in Kentucky during 2013-2015. These data also included overseas medical information available through the CDC Electronic Disease Network. Using these datasets, specific areas of emphasis regarding infection prevention and control were identified that may be useful to the refugee, their health care providers, their employers, and public health professionals in their communities.

RESULTS

From 2013-2015, a total of 6,114 refugees resettled from 35 countries received a domestic health screening. Summary data are shown in Table 1. Alcohol abuse (21.2%), witnessing or experiencing torture (29.6%), and a positive indicator of stress and depression identified through a mental health assessment, Refugee Health Screener (22.1%), were significant social issues identified. Infection requiring investigation for treatment included parasites identified in stool specimens obtained from refugees during their initial health screening (28.1%) and those who were treated presumptively overseas prior to resettlement. The most commonly identified pathogenic parasites during the domestic health screen were *Blastocystis hominis*, *Giardia lamblia*, and *Entamoeba hystolitica*. Transmissible conditions representing risk to their receiving communities included presence of latent tuberculosis infection (LTBI), which was identified in 8.9% of the refugees seen. Of those individuals diagnosed with LTBI, 56% failed to follow-up with local public health for treatment. Among those who did follow-up and were started on LTBI treatment, only 11% completed treatment. Other transmissible infections identified infrequently included HIV infection (<1%), hepatitis B and C infection (2% and 1%, respectively), and syphilis (<1%).

Susceptibility to vaccine-preventable diseases represents an area of concern for the safety of the refugee and the safety of the receiving community. Titers for rubeola, rubella, mumps, and varicella were gathered as part of the health screening. In addition, information regarding vaccines that may have been given overseas were reviewed. Evidence of receipt of the full complement of age-appropriate vaccines was lacking in virtually all resettled refugees; however, most had received at least one dose of some vaccine(s).

Chronic health conditions of significance included dental abnormalities (22.4%), anemia (8.1%), metabolic syndromes (39.3%), and obesity (21%). Although these conditions may not be directly relevant to infection prevention and control, they raise questions such as the relationships between oral and systemic health, including oral health and pneumonia and cardiovascular disease,[6,7] and anemia as an indication of parasitic infection.[8] Dental care was a health care need recognized across all refugee populations.