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Heritage and genealogy travel health concerns in the era of in-home DNA testing

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Over 1000 companies offer in-home DNA testing kits. These kits enable customers to learn about their genetic history simply by submitting a saliva sample or cheek swab. Customers typically receive an electronic copy of DNA results in 6–8 weeks.[1] The most affordable in-home DNA testing kits are for ancestry and genealogy only, providing a geographically based percentage of genealogy, relatedness to other individuals and possible links to ancestors and family members through testing autosomal DNA genetic variants.[2] These tests are not without their limitations, however, as they cannot correctly identify distant ancestors for some populations, there are associated cost and privacy issues and emotional or social consequences.[3] A secondary effect of in-home ancestry DNA testing is a novel trend in ancestry or genealogy travel (also known as heritage travel) inspired by in home DNA testing results.[4]

Ancestry and genealogy results have prompted individuals to travel to international destinations to learn more about themselves and their ancestors. A number of DNA testing companies provide access to organized genealogy or heritage tours, as well as private tours.[4] There is no industry regulation for these tours, tour package services vary and companies may not suggest that travelers receive a pretravel health consultation with a healthcare provider for needed medications and vaccines before travel. Individuals may also opt to travel without a group or guide; they may plan trips to exotic and possibly unfamiliar and underdeveloped destinations.

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Study design was completed by K.M.A., J.B. and H.M.W. Writing of the manuscript was completed by K.M.A., J.B., H.M.W., J.N. and A.T.W.

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Little is known about the spectrum of travel types, traveler demographics, destinations and destination-specific risks associated with heritage travel. Although these travelers are tourists, heritage travelers may behave more like travelers who visit friends and relatives (VFRs). VFRs are at higher risk of acquiring travel-related infections than other traveler types due to lengthy trips resulting in long-term disease exposure, eating and living as locals do and not following behavioral and preventive practices that help reduce the risk of acquiring illness.[5] Like VFRs, heritage travelers may visit areas lacking typical tourism infrastructure and may immerse themselves in the culture and lifestyle of their ancestral kin. These behaviors put these travelers at a higher risk of infection and injury, particularly for diseases that may not be present in their home country, such as malaria[6,7] or dengue. Vaccine-preventable diseases, such as measles, hepatitis A and typhoid, may also be risks to these travelers. Transmission of these diseases is likelier in areas with low vaccination rates and close contact (for measles) and unclean clean food and water (for hepatitis A and typhoid). Although no formal studies have verified VFR-like travel among heritage travelers, personal traveler reports and available heritage travel itineraries suggest it occurs frequently, including among celebrities.[8,9]

While the demographics of heritage travelers remain uncharacterized, it is likely that both young adults and older adults participate in such trips. Anecdotal evidence suggests that young adults may seek to discover more about their identity, while older adults may use genealogy results for ‘bucket list’ travel or for finding distant relatives. It is also unknown whether heritage travel is more common among specific racial or ethnic groups, or among men or women.

Heritage travelers likely visit a wide range of destinations. Many tours available through established companies are to Europe, but customized tours to all seven continents exist. Tours of former slave trade routes in Africa and to villages with specific clan associations in Asia show the diversity in destinations and suggest potential infectious risks these travelers may encounter. As examples, travelers may be at risk of malaria or yellow fever in West Africa while on a slave trade tour, or Japanese encephalitis in Asia while on a rural clan tour. Heritage travelers may have a little knowledge about the health risks at their destination, particularly if their heritage was previously unknown to them and they have not previously visited the destination. However, even destinations such as countries in western Europe are not without infectious disease risks, as evidenced by record numbers of measles cases in 2018 and 2019.[10] In a GeoSentinel study of ill travelers, only 41% of tourists and 18% of VFRs received a pretravel consultation with a healthcare provider,[6] suggesting that most travelers are inadequately prepared for health issues, including infectious diseases, at their destination. Heritage travelers who are not encouraged by tour companies to seek pretravel care may not consider health-related issues before travel and may be inexperienced travelers planning to visit low-income countries.

Healthcare providers can play an important role in identifying travelers planning heritage travel and informing travelers about the health risks at international destinations. Travelers should research infectious diseases that are endemic or causing outbreaks at their destination and seek pretravel advice from a healthcare provider. The Centers for Disease Control and Prevention (CDC) recommends visiting a healthcare professional at least 1 month before

departure to obtain medications and vaccines necessary for the destination. For example, the proof of yellow fever vaccination is required for entry to some countries, including some non-endemic countries if arriving from endemic areas. CDC's Travelers' Health destinations webpages at www.cdc.gov/travel contain up-to-date destination-specific health information.

No published scientific reports are available on heritage travel and its health implications. Research focusing on this group of international travelers is important to define the extent to which they participate in VFR-like travel, their characteristics and their propensity for seeking pretravel healthcare. Improved surveillance of heritage travel and destinations is needed to better understand health risks specific to these travelers and to mitigate the personal and corporate risks facing poorly prepared travelers.

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Highlight

The rise of in-home DNA testing has led to a novel trend in heritage travel, these travelers may be inexperienced and visit areas lacking tourism infrastructure, which may put them at higher risk of infection and injury. Healthcare providers must identify heritage travelers and inform them about travel-associated health risks.