PERSPECTIVE PIECE

University of Louisville International Travel Clinic: Pivoting During the COVID-19 Pandemic

Dawn Balcom^{1*}, DNP APRN; Subathra Marimuthu¹, PhD; Leslie A. Wolf¹, PhD; Luanne Didelot¹, MSN; Sarah Tan¹, BS; Daniel Hall¹, BS; Ruth Carrico¹, PhD DNP

¹Division of Infectious Diseases, School of Medicine, University of Louisville, Louisville, KY, USA

*dawn.balcom@louisville.edu

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Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic has had a dramatic impact on international travel. According to the US Travel Association, travel expenditure in 2020 declined by 42%, approximately \$500 billion, when compared with 2019.[1] Dwindling international travel paralleled a concomitant decline in the need for services provided by international travel clinics. Nonetheless, relationships between travel clinics and their clientele blossomed during this period. Having expertise in specialized preventive care and public health, travel clinics are equipped with the knowledge of infectious diseases to establish new avenues for patient and community support during the pandemic and beyond. In this perspective, approaches taken at the Division of Infectious Diseases International Travel Clinic at the University of Louisville (UL Travel Clinic) will be used as a model, demonstrating avenues in which travel clinic services might pivot to meet community needs during the ongoing COVID-19 pandemic and beyond.

Pre-Pandemic Travel Clinic Services

Travel clinics in the United States and worldwide have maintained their as primary focus the provision of preventive medical care for anticipating travelers. This preventive care utilizes a risk-based approach that addresses the epidemiology of destinations in a travel itinerary, current health and vaccination history of the traveler, specifics of the travel experience, and the desire of the individual to minimize risks associated with current and future travel experiences. The resultant all-encompassing care plan includes vaccines, medications, and alternative preventive adjuncts and is influenced by guidelines such as the Centers for Disease Control and Prevention (CDC) Yellow Book and World

Health Organization (WHO) recommendations, entailing risk-based guidance concerning COVID-19.[2, 3]

For more than 20 years, the UL Travel Clinic has been operating full-service, providing care for international travelers before, during, and after travel. Clinic personnel—board-certified in infectious diseases, tropical medicine, and infection control and International Society of Travel Medicine-certified in travel health (CTH[®])—work closely with the Division of Infectious Diseases' Clinical Laboratory Improvement Amendments (CLIA)—certified clinical and research laboratory to provide their full spectrum of services. In addition to the on-site availability of all U.S. Food & Drug Administration (FDA)—approved vaccines, vaccine clinical trials are also performed by research investigators within the Division. The storage of these vaccines is under meticulous management by the Travel Clinic personnel due to fine temperature storage and documentation requirements. Physicians, advanced practice and registered nurses, public health professionals, medical technologists, and laboratory scientists working in the UL Travel Clinic have broad competency-based skillsets, including client care, vaccine handling and management, vaccine administration, specimen collection and handling, infection control, public health surveillance and disease reporting, compliance with Vaccine for Children (VFC) program requirements, use of electronic medical records and state immunization information systems, and database development. Supplies maintained in the clinic include those needed for vaccination, as well as personal protective equipment (PPE) for specimen collection. PPE includes gowns, gloves, masks, face shields, and N95 respirators. The combination of an extensive resource pool and well-designed clinic operations has enabled the provision of concierge-level care for travelers, forming the basis of new services provided during the COVID-19 pandemic.

Travel Clinic Services During the COVID-19 Pandemic

By March 2020, international leisure travel had come to a virtual halt. As experts well-acquainted with specimen collection and PPE use and management, UL Travel Clinic personnel switched gears to provide assistance to the local health care scene. They began working with local hospitals and health care facilities to expand testing capacity for in-patients and long-term care residents during the initial wave of the pandemic. In addition, the laboratory personnel began working with Luminex to validate a laboratory-developed polymerase chain reaction (PCR) test for the SARS-CoV-2 virus. This test was validated by FDA emergency use authorization (EUA) in April 2020 [4-6], subsequently enabling Travel Clinic personnel to begin providing COVID-19 PCR tests for the community, as well as businesses engaged in international travel. Bioinformaticians and database managers in the Division of Infectious Diseases were consulted to assist in development of a REDCap® database to facilitate electronic registration for COVID-19 testing and support public health surveillance and report.[7]

Testing is performed via a curbside service (**Figure 1**). Individuals seeking COVID-19 testing are emailed a link to the online registration database. Upon arrival to the clinic parking lot, individuals remain in their cars while clinic personnel perform the nasopharyngeal specimen collection. Thereafter, the PCR laboratory tests are conducted by laboratory personnel, with results made available within 24 hours' turnaround time. With the commencement of international travel in the Fall of 2020, the database was used to provide documentation of test results required by airlines and various international immigration regulations. Face-to-face engagement for travel-related counseling occurred virtually via a HIPAA-compliant Zoom platform, while post-consult vaccinations would be carried out curbside in the parking lot.

In December 2020, when the COVID-19 vaccines were released under EUA, the Travel Clinic was able to increase the capacity of local vaccination efforts. Mass vaccination training was provided as part of the Louisville Vaccination efforts (LouVax), and Travel Clinic personnel assisted with the 17-week operation of LouVax Broadbent, the drive-through community vaccination site (**Figure 2**). At that site, over 105,000 doses of vaccine were administered by a workforce of more than 2,000 health care workers; Travel Clinic personnel developed and coordinated the vaccine handling and vaccine administration training program for that workforce.[8] Due to clinic experience and demonstration of vaccine handling competence evidenced by participation in the state's Vaccines for Children (VFC) program, the Travel Clinic was able to obtain COVID-19 vaccines on site and provide them to members of the community

on a walk-in/drive-up basis.

Community engagement throughout the first year of the COVID-19 pandemic also provided opportunities for research within the Division of Infectious Diseases. With the involvement of researchers, protocols were developed to engage patients seeking COVID-19 testing and/or vaccination at the Travel Clinic in research participation. Personnel of the Travel Clinic assisted with the exchange of information regarding Division research activities and the enrollment of research participants. The drive-up mode of research testing was conducted by the Travel Clinic when in-facility testing was not required by the research protocol. Environmental infection control practices were in place to safely facilitate interactions that required in-facility research testing.

Re-imagining Travel Clinic Services Beyond the COVID-19 Pandemic

The COVID-19 pandemic has both required and enabled a transformation of services provided by international travel clinics. The use of technologies such as those enabling virtual connections for pre-travel counseling (e.g., Zoom), increasing use of laboratory testing (e.g., PCR for COVID-19) as part of travel services, and integration of drive-through or curbside vaccination are just a few examples of services that international travel clinics may encompass in 2022 and beyond.

Based on the experiences gleaned from the 2020–2021 phase of the COVID-19 pandemic and its impact on the UL Travel Clinic, approaches to reimagine the services of international travel clinics are outlined below:

- Develop processes to engage with international travelers using a virtual component (e.g., Zoom).
- Ensure that the virtual engagement process protects the privacy and health information of the client.
- Train clinic personnel in modes of disease transmission and provide them with appropriate PPE, including fit-tested respirators.
- Maintain stock of PPEs, injection supplies, and specimen collection equipment, recognizing the typical long shelf life of many of the aforementioned items upon storage under proper environmental conditions.
- Train clinic personnel to engage with clients, administer vaccines, and perform specimen collection via drive-through or curbside approaches.
- Establish and maintain a working relationship with a CLIA-certified laboratory.

Figure 1. Curbside testing service process for SARS-CoV-2 infection.

Figure 2. LouVax drive-through vaccination for SARS-CoV-2 at Broadbent Arena, Louisville, KY.

- Evaluate current clinic location, space, and capabilities to enable expansion or changes in client engagement.
- Establish and maintain working relationships with local public health departments or districts.
- Train clinic personnel regarding local reportable disease and surveillance regulations, including clinic responsibilities for reporting of results.
- Engage clients, possibly through an informal advisory board process, to better understand needs and expectations.
- Develop and implement competency-based training to ensure clinic personnel are competent to perform every aspect of their work.

- Engage with local university/universities and establish dialogue regarding travel clinic capabilities as a means of furthering local research capabilities and capacities.

These points are by no means all-inclusive but are meant to be a starting point to facilitate discussions across the public health and travel clinic industries. Services provided by international travel clinics are vital for the health and safety of the population. Enabling continuation and expansion of those services to address the current pandemic, as well as emerging pathogens or new pathogens, is crucial for the health and welfare of populations worldwide.

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