

International Travel is Not a Significant Risk of Exposure for Patients at a Midwestern United States Travel Clinic

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Short report

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Abstract

The Novel Coronavirus (SARS-CoV-2) was introduced into the United States due to travel from Asia and Europe, although the extent of the spread of the disease was limited in the early days of the Pandemic. International travel may have played a role in the transmission of the disease into Iowa. Persons planning international travel likely modified their travel plans as a result of the viral outbreak. This study, documenting the travel destinations of patients from a clinic in Bettendorf, Iowa, seeks to determine how preferences for international travel changed as Coronavirus Disease (COVID-19) spread throughout the world and if any of these patients developed COVID-19 as a result of their travel. From October 2019 to March 2020, four hundred twelve (n=412) patients presented for pre-travel advice. Intended travel to the Western Pacific region (China, Japan, Korea, etc.) decreased dramatically during the study period. Of the 412 patients, only three (3) presented for COVID-19 testing during the follow-up period. Two (2) tested positive, and both of these infections were linked to workplace exposures and not due to travel. News of the growing pandemic and travel warnings likely altered patient's travel plans and fewer intended travel to the most affected regions of the world in the early months of the COVID-19 pandemic. Travel was not a significant source of COVID-19 exposure for patients seen at this clinic.

Main Text

The Novel Coronavirus (SARS-CoV-2) has spread worldwide, exacerbated by rapid, international transportation. SARS-CoV-2 was introduced into the United States due to travel from Asia and Europe, although the extent of the spread of the disease was limited in the early days of the Pandemic.¹ International travel may have played a role in the introduction of Coronavirus disease (COVID-19) disease into Iowa. Additionally, as the disease spread worldwide, we would expect that patients would alter or cancel their plans for international travel.

This study documented the intended travel destinations for all patients presenting between October 2019 and March 2020 to a travel medicine clinic in Bettendorf, Iowa, United States. During this time four hundred and twelve (n = 412) patients ranging in age from one to eighty-two (mean = 42) presented for pre-trip guidance, vaccines, and prophylactic medications. Intended destinations of the patients were recorded and the countries were categorized into each of the six World Health Organization (WHO) regions (Africa, Americas, Europe, Eastern Mediterranean, Western Pacific, and South-East Asia). Patients had planned travel throughout all six regions of the world with an average of 22% of patients planning travel to multiple WHO regions in a given month (Fig. 1). In October 2019, 26 patients intended to travel to the Western Pacific region (i.e. China, Japan, Korea, etc.) while in March 2020, 0 patients planned on visiting this region. Furthermore, before January 2020, 11 patients planned travel to China, while in January 2020, only 3 patients planned to travel to China. In February and March 2020, no patients planned travel to China. This change in planned travel preferences is likely attributable to the news of the emerging COVID-19 epidemic and the imposition of a level 4 travel warning ("Do Not Travel") to China on February 2, 2020 by the U.S. Department of State. From October 2019 to February 2020, travel to all other WHO regions remained fairly constant with an abrupt reduction in March 2020. Notably, on March 11, 2020, COVID-19

was officially declared a pandemic by the World Health Organization (WHO), and most travel bans were implemented during this month.

Follow up was conducted on each of these 412 patients at least 60 days following their clinic visit. The electronic health record (EHR) (EPIC, Verona, WI) for the University of Iowa was accessed and each patient was searched for a report of a COVID-19 test. The University of Iowa is the local referral hospital for the area and handled the majority of COVID-19 testing in the early months of the epidemic. Of the 412 patients, 118 had visits at the hospital or affiliate clinics in the time period following their travel clinic appointment. Three (3) patients had been tested for COVID-19, and two (2) tested positive. Both positive tests were determined to be due to workplace exposure (meat packing plants) and not related to a history of international travel.

In closing, it is apparent that little effort was devoted to mitigating the disease prior to its establishment as a pandemic. Until March 2020, almost all travel behavior remained constant despite the first US case arising in mid-January. Patients at this clinic in Iowa altered their travel plans, but only late in the development of the pandemic. It is indiscernible whether social factors such as media and press are efficacious in discouraging travel since the disease was originally confronted with skepticism instead of concern. Fortunately, international travel seems to have had little impact on the COVID-19 epidemic in Iowa, as only 2 of 412 tested positive for the disease, and neither was related to travel. This study is limited by utilizing one EHR for the follow-up on patient outcomes, as it is possible that the patients visited one of the few health centers in the region not using EPIC.

List Of Abbreviations

1. SARS-CoV-2: Novel Coronavirus
2. COVID-19: Coronavirus Disease
3. WHO: World Health Organization
4. EHR: Electronic Health Record

Declarations

Ethics approval and consent to participate

A request was submitted for "Human Subjects Determination." The Internal Review Board (IRB) at the University of Iowa determined that this study is not human subjects research. (IRB reference number 202003626

Consent for publication

Not applicable

Availability of data and materials

The data used in this study were obtained from a travel clinic in Bettendorf, Iowa. It is available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

HH obtained the data set and edited the final manuscript. PP analyzed the data, developed the figure, and composed the draft manuscript. All authors read and approved the final manuscript.

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Figures

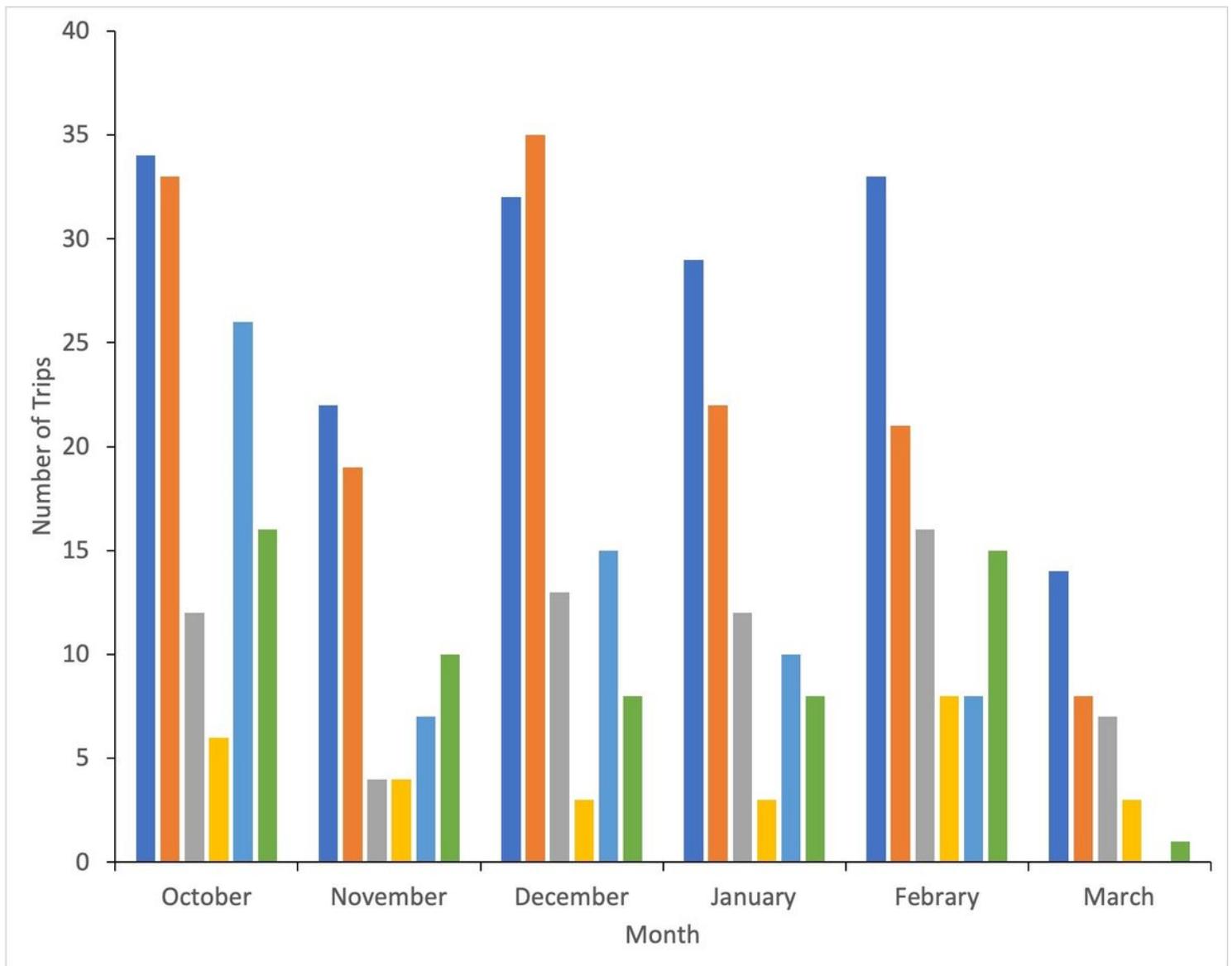


Figure 1

Number of trips planned to each WHO region by month, 2019-2020. The columns show the number of trips planned to each region by month of travel clinic visit. The regions are Africa, Americas, Europe, Eastern Mediterranean, Western Pacific, and South-East Asia