

# Monitoring Returning Travelers During the Early Weeks of the COVID-19 Pandemic: One US County's Experience



See also Morabia, p. 923, Tarantola et al., p. 925, and the *AJPH* COVID-19 section, pp. 939–977.

During the initial stages of the COVID-19 epidemic, one of the responsibilities assigned to local health departments (LHDs) was to monitor travelers returning from mainland China. The Centers for Disease Control and Prevention (CDC) defined this intervention as “self-monitoring with public health supervision” (a full description is provided at <https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>). This type of self-monitoring under public health supervision for returning travelers was implemented recently with other communicable diseases, such as Ebola.<sup>1</sup>

Individuals with epidemiological exposure were identified through screenings at designated international airports. Once identified, their personal information (including name, birth date, reference ID, passport number, and country of citizenship) and contact information (including e-mail address, home address and telephone number) were forwarded to LHDs with the expectation that these individuals would undergo voluntary self-isolation with monitoring from LHDs. We detail the outcomes of one county health

department and potential ways to improve this important defense mechanism for future efforts.

San Bernardino County is the largest geographical county in Southern California and has a population of 2 171 603.<sup>2</sup> This jurisdiction began receiving names of returning travelers from China daily starting February 8, 2020 and began outreach in the following days. Traveler follow-up efforts began with e-mailing a survey (in both English and Chinese) to all returning travelers to solicit further information regarding travel history and to confirm contact information. Of 62 surveys sent initially, the LHDs received only 3 back. Given the low response rate for e-mailed surveys, telephone-based outreach became the primary mechanism for contacting these individuals.

Overall, 94 of the 503 (18.7%) individuals who gave their names did not give a working telephone number, and 121 (24.1%) provided what appeared to be working numbers but, despite our multiple attempts, never answered the phone or responded to messages. In total, we were unable to contact 215 (42.7%) travelers throughout the follow-up

period. We made additional efforts to find working telephone numbers for these individuals but were largely unable to do so. We categorized the returning travelers and reported them periodically (results are in Table 1).

The work of carrying out this effort required the full-time attention of one individual within the department at a time when many other important public health initiatives were under way. Staff was often limited during the period when traveler lists were being received. In addition, about half of the individuals we identified as medium risk returning travelers had limited English proficiency and required interpretation services. We contracted a professional Mandarin interpreter to assist in communication with new contacts and to engage in ongoing contact at least twice per week. We made early attempts to enroll

in text-based illness monitoring, but enrollment was delayed because of factors outside our control, so this was not available to us during the critical stages of early containment efforts.

Of the individuals that we did contact, 44 of the 503 (8.7%) did not meet the criteria for medium risk exposure. The number of people undergoing active surveillance rose, reaching a peak of 81 persons and then declined slightly as the number of returning travelers decreased because of travel restrictions. The number of individuals cleared, of course, continued to rise throughout the effort as people passed the 14-day isolation period.

By this point it is clear that containment efforts have failed, and we are experiencing endemic spread in the United States. There were travelers from endemic regions who slipped past our monitoring efforts and were not identified until community spread was uncontrollable in several regions across the country. Although we did not identify any returning travelers through our monitoring efforts who tested positive for SARS-CoV-2, we recognize that our efforts were focused only on travelers from China (not other countries where there was known

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TABLE 1—Follow-Up of Returning Travelers Over Time: San Bernardino County, CA

Date	Completed Monitoring Period <sup>a</sup>	Low Risk <sup>b</sup>	Unable to Contact <sup>c</sup>	Still Trying to Contact <sup>d</sup>	Ongoing Monitoring <sup>e</sup>	Total
February 12, 2020	1	7	23	22	19	72
February 13, 2020	5	9	32	10	25	81
February 19, 2020	10	26	67	44	61	208
February 24, 2020	49	39	128	15	81	312
February 28, 2020	107	43	140	19	72	381
March 6, 2020	156	44	151	18	52	421
March 17, 2020	244	44	215	0	0	503

<sup>a</sup>Completed 14 days from last day of exposure without symptoms. The count is cumulative.

<sup>b</sup>Denied ever having been to China or had only a short layover at a Chinese airport. The count is cumulative.

<sup>c</sup>No telephone number or incorrect number provided or no answer after 3 calls. The count is cumulative.

<sup>d</sup>Did not answer but telephone number appears to be functional and less than 3 calls have been attempted.

<sup>e</sup>Contact established and remains within 14-d window for continued monitoring; converted to complete after 14 d.

epidemiological risk), and we were unable to reach a disturbingly large percentage of the names provided; we want to identify these as two potential ways that the current system may have failed in other places.

To emphasize the first point, it is worth explaining that until March 22, 2020, the CDC recommended monitoring by LHDs only for travelers from mainland China (and later Iran) even though the number of new cases coming from China was low compared with other endemic regions, such as most of Europe. The individuals returning from those countries were still instructed to self-quarantine and self-monitor, but the additional measure of LHD involvement was not used in a way that accurately represented which travelers were at increased risk.

In addition, there were eight individuals on our list who identified having traveled with someone who was not reported to us through the screening process. Two more, who were not on our list of names, came to our attention after developing concerning symptoms and were found to have recently traveled to China. It is difficult to estimate

the degree to which people are getting past the airport screenings, but given that 10 individuals were identified through other means in our county, we suspect that the number is not insignificant.

## RECOMMENDATIONS FOR FUTURE EFFORTS

We suggest the following be done in the future:

- During the containment phase of an outbreak, LHDs should receive accurate contact information from the Department of Homeland Security for travelers coming from areas of greatest risk. Guidelines on who merits this extra attention should be updated much more frequently to meet the changing geography of risk.
- Telephone numbers have been by far the most critical information for monitoring, and efforts should be made to increase the quality of this key piece of information.
- Because of the time-intensive process of calls, alternative methods such as text

messaging systems or apps tracking location and symptoms should be evaluated, and effectiveness and response results can be compared with these results as a standard.

- Failure to quickly identify and isolate returning travelers before the development of community spread was an important missed opportunity for public health in preventing endemic spread.
- If another communicable disease threat were to emerge, it would be necessary to improve efforts to identify and monitor all returning travelers at risk given our findings that the current methods are missing a significant number of travelers with moderate risk exposure who may benefit from additional active surveillance supported by LHDs. *AJPH*

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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