International Notes

Update: Cholera — Western Hemisphere, 1992

Epidemic cholera continues to spread throughout Central and South America (Figure 1) (1). This report updates the surveillance of this problem during 1992.

In 1992, 339,561 cholera cases and 2321 cholera-related deaths were reported from 21 countries in the Western Hemisphere, bringing to 731,312 cases and 6323 deaths the total numbers reported since the beginning of the epidemic in January 1991 (Table 1).


* Initial Epidemics: January 1991

August 1991

February 1992

December 1992
### TABLE 1. Cholera cases reported to the Pan American Health Organization — Western Hemisphere, 1991-1992

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Peru</td>
<td>206,565</td>
<td>709</td>
<td>322,562</td>
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<tr>
<td>Ecuador</td>
<td>31,870</td>
<td>208</td>
<td>46,320</td>
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<tr>
<td>Brazil</td>
<td>24,039</td>
<td>312</td>
<td>2,101</td>
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<tr>
<td>Bolivia</td>
<td>21,324</td>
<td>383</td>
<td>206</td>
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<tr>
<td>Guatemala</td>
<td>15,178</td>
<td>207</td>
<td>3,674</td>
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<td>Colombia†</td>
<td>15,129</td>
<td>158</td>
<td>11,979</td>
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<tr>
<td>El Salvador</td>
<td>8,109</td>
<td>45</td>
<td>947</td>
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<td>Mexico</td>
<td>7,814</td>
<td>99</td>
<td>2,690</td>
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<td>Nicaragua</td>
<td>3,067</td>
<td>46</td>
<td>1</td>
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<td>Venezuela</td>
<td>2,456</td>
<td>62</td>
<td>13</td>
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<td>Panama</td>
<td>2,416</td>
<td>49</td>
<td>1,178</td>
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<tr>
<td>Argentina</td>
<td>553</td>
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<td>0</td>
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<tr>
<td>Honduras</td>
<td>384</td>
<td>17</td>
<td>11</td>
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<tr>
<td>Guyana</td>
<td>290</td>
<td>4</td>
<td>0</td>
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<tr>
<td>Belize</td>
<td>154</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>United States</td>
<td>102</td>
<td>1</td>
<td>26</td>
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<tr>
<td>Chile</td>
<td>71</td>
<td>1</td>
<td>41</td>
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<tr>
<td>French Guyana</td>
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<td>1</td>
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<td>Surinam</td>
<td>12</td>
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<td>0</td>
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<tr>
<td>Costa Rica</td>
<td>12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>339,561</strong></td>
<td><strong>2,321</strong></td>
<td><strong>391,751</strong></td>
</tr>
</tbody>
</table>

*1991 deaths=4002.
† Data for 1992 are preliminary.

### FIGURE 2. Reported cholera cases, by year — United States, 1965-1992

![Cholera Cases Chart](chart.png)
In 1992, 102 cases of cholera were reported in the United States—more than in any year since CDC began cholera surveillance in 1961 (Figure 2). Cases were reported from 12 states: California (64 cases), Nevada (15), Texas (four), Maryland (three), New York (three), Arizona (two), Connecticut (two), Florida (two), Hawaii (two), Louisiana (two), Washington (two), and New Jersey (one). Seventy-five cases occurred among passengers who had been served contaminated seafood salad on an airplane arriving in Los Angeles from South America in February 1992; one person died (2).

Reported by: Div of Communicable Disease Prevention and Control, Pan American Health Organization, Washington, DC. Enteric Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: During the current Latin American epidemic, no cases of cholera have been reported from countries in the Caribbean; however, because all adjacent Latin American countries have been affected, spread to the Caribbean is likely to occur as the epidemic continues.

Since the beginning of the epidemic, cholera cases have been reported in 14 states in the United States, representing all regions of the country. Because persons who have returned from travel in cholera-affected countries may seek medical care in areas throughout the United States, health-care providers should consider cholera as a possible diagnosis in any patient with watery diarrhea who has recently returned from a cholera-affected country. Stool specimens from patients with suspected cholera should be cultured on thiosulfate citrate bile salts sucrose agar, and suspected cases should be reported to local and state health departments. Effective treatment of cholera requires rapid and appropriate replacement of fluid and electrolytes (3, 4).

References

Epidemiologic Notes and Reports

Isolation of Vibrio cholerae O1 from Oysters — Mobile Bay, 1991-1992

On July 2, 1991, during routine monitoring, the Food and Drug Administration (FDA) isolated toxigenic Vibrio cholerae O1, serotype Inaba, biotype El Tor from oysters and intestinal contents of an oyster-eating fish taken from closed oyster beds in Mobile Bay (1). This isolate was indistinguishable from the Latin American epidemic strain and differed from the strain of V. cholerae O1 that is endemic to the Gulf Coast. This report summarizes the public health response to this isolation of V. cholerae O1.

On July 18, Gulf Coast residents were advised by the Mobile County Health Department and the Alabama Department of Public Health (ADPH) to wash their hands after handling raw seafood and to eat seafood well cooked. FDA and ADPH initiated biweekly sampling of oysters from Mobile Bay, and on July 22 and September 16, 1991,
the Latin American strain was again isolated from oysters. The Mobile Bay oyster
beds, initially closed on May 31, 1991, remained closed to harvesting until Novem-
ber 4, 1991. On June 15, 1992, toxigenic \textit{V. cholerae} O1 was again isolated from a
sample of oysters from a restricted shellfish-growing area, and the adjacent growing
areas were closed to harvesting. On August 19, 1992, the oyster beds were reopened
after samples were repeatedly negative. No toxigenic vibrios have been isolated since

Toxigenic vibrios have not been isolated from Moore swabs that were placed in
effluent from sewage treatment plants in the Mobile Bay area after each isolation of
\textit{V. cholerae} O1 from oysters. FDA and ADPH continue monitoring of shellfish obtained
or harvested from the Mobile Bay area, and ADPH maintains surveillance for cases of
cholera.

\textit{Reported by: BH Eichold, II, MD, JR Williamson, MPH, Mobile County Health Dept, Mobile;
CH Woernle, MD, State Epidemiologist, Alabama Dept of Public Health. RM McPhearson, ScD,
Food and Drug Administration. Enteric Diseases Br, Div of Bacterial and Mycotic Diseases,
National Center for Infectious Diseases, CDC.}

\textit{Editorial Note:} No cases of cholera have been identified in Alabama in recent decades.
Surveillance for clinical cases has increased since the beginning of the Latin American
outbreak in 1991, and many clinical laboratories now routinely culture diarrheal stool
specimens on culture media appropriate for isolation of \textit{V. cholerae}. The strain respon-
sible for the epidemic in Latin America can be distinguished in the laboratory from the
endemic \textit{V. cholerae} O1 strain that is unique to the U.S. Gulf Coast (2).

The isolation of the Latin American strain of \textit{V. cholerae} O1 from Gulf Coast oysters
during two successive summers illustrates the potential for this organism to be re-
peatedly introduced or to persist in the environment at least transiently after a single
introduction. However, there have been no recognized cases of cholera in the United
States caused by the Latin American strain as a result of consumption of seafood har-
vested from the Gulf of Mexico. It is unknown how the Latin American strain was
introduced into Mobile Bay. Surveillance using Moore swabs would have detected
clinical cases and asymptotically infected shedders of \textit{V. cholerae} O1 (3). However,
repeatedly negative Moore swabs indicate that municipal sewage was probably not
the source of the strain.

Introduction of toxigenic vibrios into Mobile Bay may have resulted from discharge
of contaminated ballast water from freighter vessels. To control buoyancy, ships take
on large volumes of ballast water in a harbor and discharge it in other locations. This
process may have been responsible for the introduction of other harmful species such
as the zebra mussel in the Great Lakes (4). In 1991, the FDA isolated toxigenic \textit{V. cholerae}
O1 from the ballast tanks of ships that had originated from Latin American ports
and arrived at Mobile Bay (5). To reduce the risk of introducing harmful organisms
through contaminated freighter ballast water, the International Maritime Organization
has recommended that freighters empty and refill their ballast water tanks twice on
each voyage while in international waters (6). The efficacy of ballast water exchanges
in reducing the level of contamination of ballast water has not been assessed. Al-
though ballast water exchanges may decrease the risk of introduction of \textit{V. cholerae}
O1 from other ports into U.S. harbors, this approach would not eliminate the strain
already endemic in U.S. Gulf Coast waters.
Since 1973, 91 cases of cholera have occurred in the United States that were unrelated to international travel. Most of these followed consumption of raw or undercooked seafood harvested from the U.S. Gulf Coast contaminated with the Gulf Coast strain of *V. cholerae* O1. The risk for transmission of cholera can be reduced by avoiding consumption of raw or undercooked seafood.

References

**International Notes**

**Update: Dracunculiasis Eradication — Ghana, 1992**

The reported incidence of dracunculiasis (i.e., Guinea worm disease) in Ghana declined substantially during 1992—the third consecutive year in which reports of known cases declined. This report summarizes 1992 surveillance data for Ghana that are being used to monitor progress toward eradication of this disease (1).

During 1992, 33,464 cases of dracunculiasis were reported in 3185 villages, compared with 66,697 in 3718 villages in 1991 (a decline of 49.6%) and 179,556 in 6873 villages (a decline of 81.4%) in 1989 (1). In addition, when compared with 1991, the percentage reduction in cases reported by month increased from 20.1% in January to 34% in March, 59.9% in June, 81% in September, and 55.6% in December (Figure 1).

During 1992, at least 84% of the known affected villages reported surveillance findings to national authorities on time each month (i.e., within 20–30 days after the end of the reporting month), compared with 61% during 1991. In seven of 12 months during 1992, more than 90% of the villages reported on time. Data from villages reporting late are included in the subsequent month’s report.

Data for 1991 and 1992 were based on monthly reports from trained village-based health workers in villages where the disease is endemic. These workers used visual aids (e.g., flip charts and posters) to provide health education in all villages where the disease is endemic. School teachers in areas where the disease is endemic were provided 10,000 teacher’s manuals; in addition, they were provided one million pamphlets about prevention of dracunculiasis for distribution to schoolchildren beginning in December 1992.

By October 31, 1992, approximately 456,720 (66%) of the 692,000 households in villages where the disease is endemic had received cloth filters, and villagers had been instructed on use of these for filtering unsafe drinking water. A collaborative effort has been initiated to provide rehabilitated sources of safe water in 2024 villages.
where dracunculiasis is endemic. Unsafe water sources in 266 of the villages were being treated with temephos (Abate®).


Editorial Note: Because of the rapid reduction in endemicity of dracunculiasis, Ghana has declined from the second to the third most highly endemic country for this problem. The number of prevalent cases is less than in Nigeria and Uganda (2).

During 1992, more than 33,000 cases of dracunculiasis were prevented as a result of control interventions in 1991. As part of the goal to interrupt transmission of dracunculiasis completely by the end of 1993, Ghana has begun implementing intensive case-containment measures in all remaining areas with endemic disease.

References

*Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

FIGURE 1. Dracunculiasis cases, by month and year — Ghana, 1991-1992