Notes from the Field

Shigellosis Outbreak Among Men Who Have Sex with Men and Homeless Persons — Oregon, 2015–2016

Jonas Z. Hines, MD[1,2]; Taylor Pinsent, MPH[3]; Kathleen Rees, MSPH[4]; Jennifer Vines, MD[3]; Anna Bowen, MD[5]; Jacqueline Hurd, MPH[5]; Richard F. Leman, MD[2]; Katrina Hedberg, MD[2]

In July 2015, *Shigella sonnei* infections with a specific pulsed-field gel electrophoresis (PFGE) pattern linked to a multistate outbreak were recognized among men who have sex with men (MSM) in the Portland metropolitan area, and an outbreak investigation was initiated. During November 2015, isolates with PFGE patterns indistinguishable from the outbreak strain were identified in cases reported in four women, none of whom had epidemiologic links to other affected persons; however, three reported homelessness. In the ensuing months, additional *S. sonnei* infections were reported among homeless persons in the Portland area.

Shigella is the third most common cause of bacterial gastroenteritis in the United States, resulting in approximately 500,000 infections, 100,000 hospitalizations, and 500 deaths annually (*1*); *S. sonnei* is most commonly reported. *Shigella* is transmitted by the fecal-oral route and is highly infectious, highlighting the importance of hygiene in outbreak control (*2*). In high-income countries, children, travelers to low-income countries, and MSM are groups at increased risk for infection (*3*); in low-income countries, groups with inadequate access to hygiene and sanitation are at increased risk (*4*).

During July 1, 2015–June 30, 2016, a total of 103 *Shigella* infections with indistinguishable PFGE patterns were reported in Oregon. All cases occurred in adults aged ≥18 years; 77 (75%) were men, 38 (49%) of whom self-identified as MSM. Homelessness was self-reported by three (8%) MSM and 41 (63%) of 65 persons who did not self-identify as MSM. Twelve (12%) persons, including two MSM, reported connections to homeless persons (e.g., volunteer work) during their incubation period. During July–October, 2015, 18 (82%) *Shigella* cases occurred in MSM, compared with 20 (25%) during November 2015–June, 2016 (prevalence ratio [PR] = 3.3; 95% confidence interval [CI] = 2.2–5.1); Before November 2015, only three (14%) *Shigella* patients were homeless, including one who self-identified as MSM. After November 1, 2015, 41 (51%) were homeless (PR = 3.7; 95% CI = 1.3–10.9) (Figure).

When the increase in the proportion of *Shigella* infections occurring among homeless persons was recognized in December 2015, outbreak investigation questionnaires were updated to gather information about risk factors in this population. However, contacting these persons for interviews was difficult; only 36% of homeless patients were interviewed compared with 86% of persons who were not homeless (chi-square $p<0.01$). Alternative data collection strategies included auditing electronic medical records and querying homeless outreach workers. The focus of outreach efforts expanded from prevention of sexual transmission among MSM to addressing access to hygiene and sanitation among homeless persons, including distribution of hand sanitizing wipes, site visits to shelters and encampments, and alerts to safety-net providers.

Information about antimicrobial susceptibility was available for 48 (47%) isolates; all were sensitive to ciprofloxacin, the first-line therapy for adults with *Shigella* infection in the United States, and resistant to ampicillin and trimethoprim-sulfamethoxazole. All 13 isolates tested by CDC were resistant to azithromycin. Overall, 46 (45%) persons were hospitalized, including 30 (68%) homeless persons and 16 (27%) who were not homeless (PR = 2.5; 95% CI = 1.6–4.0); none died.

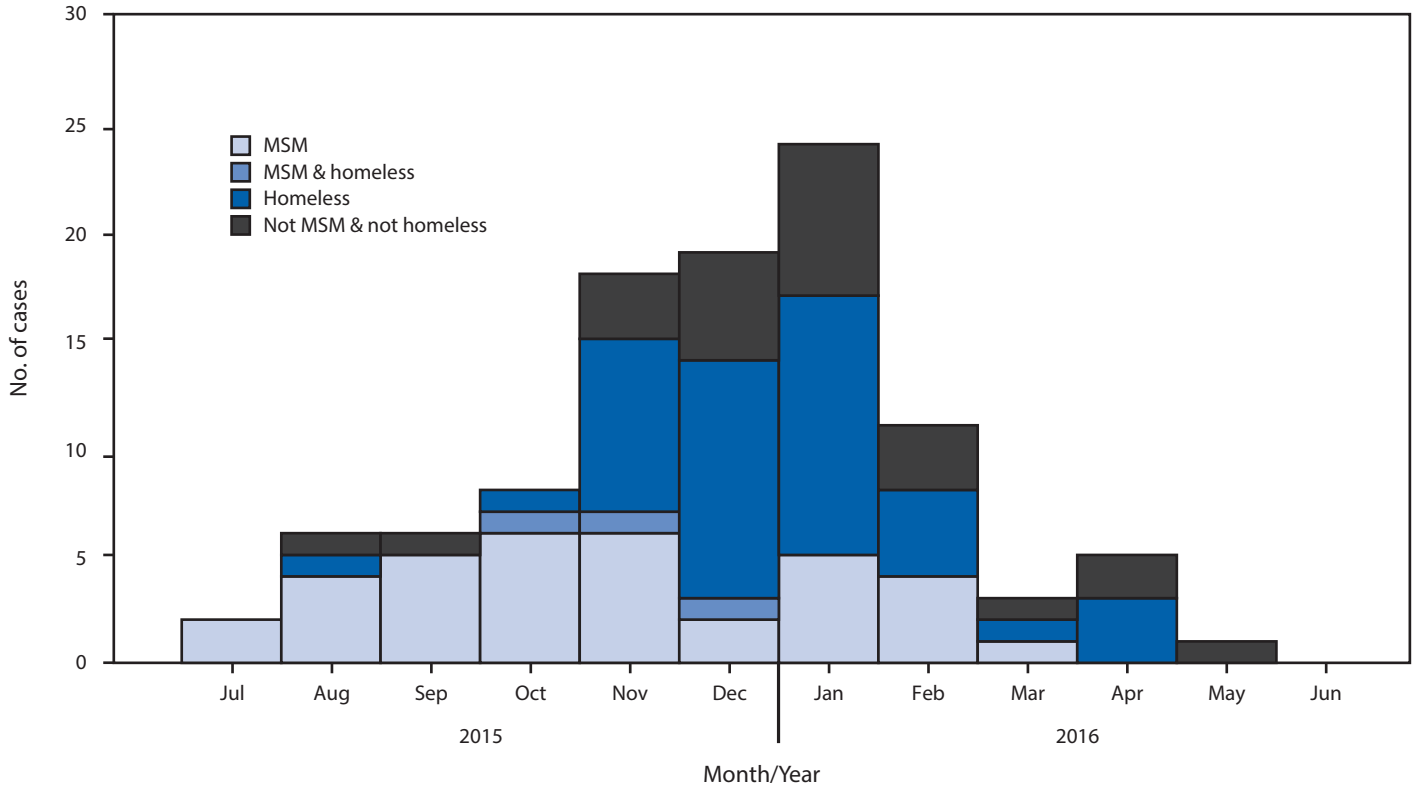
As the outbreak progressed, the percentage of *Shigella* infections among MSM declined, while infections among homeless persons increased. Continuing infections among MSM with no connection to the homeless community indicate ongoing transmission in both populations. In retrospect, reports of illnesses among women were the first indication of *Shigella* infections in homeless persons. Early detection of new populations at risk is important because outbreak investigation and control measures might require revision. Adding questions about sexual practices and housing status to routine *Shigella* questionnaires might help identify outbreaks in these groups.

Although homeless persons experience high rates of tuberculosis, human immunodeficiency virus, and hepatitis C (*5*), shigellosis has rarely been described (*6*). However, in high-income countries, homeless persons face conditions associated with *Shigella* infections among displaced populations in low-income countries, including inadequate access to hygiene and sanitation, overcrowding, and potential exposure to contaminated food and water. Preventing similar outbreaks will require mitigating these risk factors and educating providers who care for homeless persons.

[1]Epidemic Intelligence Service, CDC; [2]Public Health Division, Oregon Health Authority; [3]Multnomah County Public Health Department, Oregon; [4]Washington County Department of Health and Human Services, Oregon; [5]Division of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging, Zoonotic, and Infectious Diseases, CDC.

Corresponding author: Jonas Z Hines, JHines1@cdc.gov, 971-673-1111.

FIGURE. Number of *Shigella* cases by month and year of onset, and percentage of cases in MSM and homeless persons* — Oregon, July 2015–June 2016



Abbreviation: MSM = men who have sex with men.
* Three cases occurred in both MSM and homeless; 24 cases occurred in persons who were neither MSM nor homeless.

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