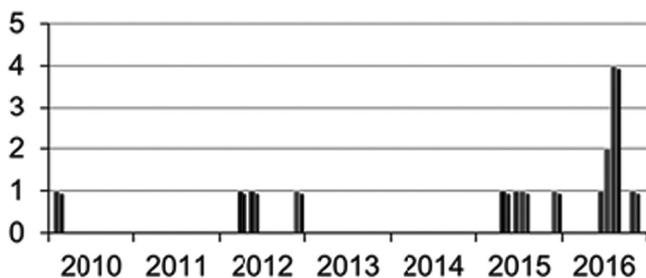


disease (2/16) were also identified. The most common treatment regimen used was doxycycline/rifampin +/- gentamicin.

**Figure 1: Brucellosis Cases by Month and Year**



**Conclusion.** This case series represents one of the largest contemporary *Brucella* experiences described in the US. While not endemic in the US, the diagnosis of Brucellosis requires a high index of suspicion and should be considered in patients presenting with a febrile illness and a compatible travel history or exposure history, particularly to unpasteurized dairy products.

**Disclosures.** All authors: No reported disclosures.

**652. Underreporting of Necrotizing Fasciitis and Streptococcal Toxic Shock Syndrome in Invasive Group A *Streptococcus* Cases in New York State, 2007–2016**  
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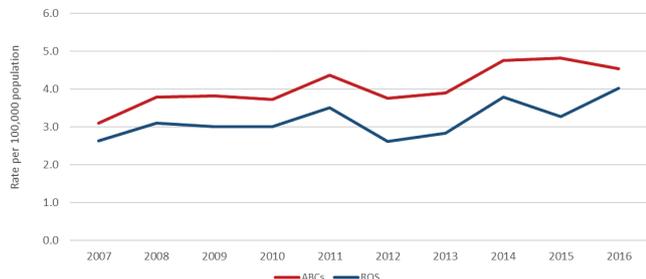
**Background.** In New York State (NYS) invasive group A *Streptococcus* (iGAS) is a reportable disease. Necrotizing fasciitis (NF) and streptococcal toxic shock syndrome (STSS) are severe presentations of iGAS, associated with significant morbidity and mortality. However, these syndromes are not effectively captured through passive laboratory reliant surveillance systems, making it difficult to obtain accurate estimates.

**Methods.** Through the Emerging Infections Program collaboration between CDC and ten state health departments and academic partners, NYS Active Bacterial Core surveillance (ABCs) conducts active population-based surveillance for iGAS in 15 counties (pop 2.1 million). iGAS is defined as isolation of GAS from a normally sterile site, or from a wound specimen of a patient with NF or STSS. In contrast to passive surveillance, iGAS cases in ABCs counties receive extensive medical chart review to establish case classification as STSS or NF. To assess completeness of reporting of iGAS cases with NF and/or STSS, we compared incidence between 2007 and 2016 in ABCs counties to counties in the rest of the state (ROS; pop. 9.1 million) excluding NYC.

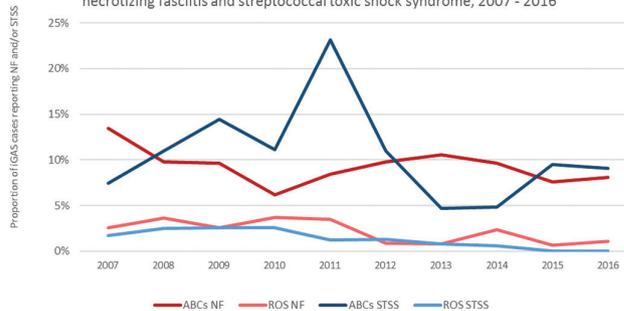
**Results.** Between 2007 to 2016, iGAS incidence rates increased by 46% and 53% in ABCs and ROS counties respectively, with consistently higher incidence in the ABCs catchment area (Figure 1). There are substantially lower proportions of iGAS cases with NF and STSS in ROS compared with ABCs counties (Figure 2). Among all iGAS cases, NF and STSS rates in ABCs compared with ROS counties are over four (9.2% and 2.2%) and eight times higher (10.6% and 1.3%) respectively. An estimated additional 376 cases of NF and/or STSS among iGAS cases (418% of reported) would be expected in ROS if rates of NF and/or STSS reported in ABCs counties are applied (Figure 3).

**Conclusion.** Based on ABCs data, NF and STSS among iGAS cases represent a significant disease burden in contrast to substantially lower rates in the ROS. These data demonstrate the limitations of using passive surveillance systems, particularly when clinical information is essential for case classification in addition to lab-based data. These data show the critical importance of active surveillance, such as the ABCs, which can be used to provide more accurate national estimates.

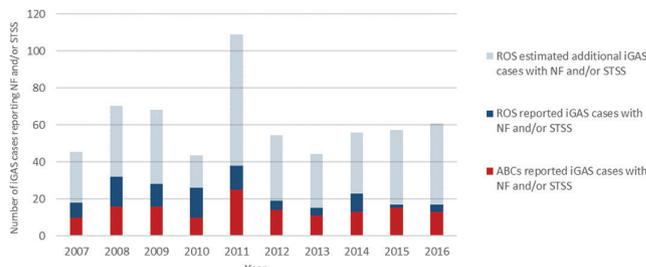
**Figure 1. Incidence rate of invasive group A *Streptococcus* in ABCs and ROS counties, 2007–2016**



**Figure 2. Proportion of invasive group A *Streptococcus* cases reporting necrotizing fasciitis and streptococcal toxic shock syndrome, 2007–2016**



**Figure 3. Estimated additional iGAS cases reporting necrotizing fasciitis and/or streptococcal toxic shock syndrome, 2007–2016**



**Disclosures.** All authors: No reported disclosures.

**653. Use of Single-dose Azithromycin to Control a Community Outbreak of *emm26.3* Group A *Streptococcus* Invasive Disease—Alaska, 2017**

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**Background.** In July 2016, invasive infections caused by a rare subtype of group A *Streptococcus* (iGAS; subtype *emm26.3*) were detected among the estimated 700–1000 homeless persons in Anchorage, Alaska. An increase in case numbers of *emm26.3* iGAS was detected in October, including one death. We implemented a mass antibiotic intervention at homeless service facilities in Anchorage to prevent further cases of *emm26.3* iGAS.

**Methods.** We defined cases as the isolation of *emm26.3* GAS from a normally sterile body site, or nonsterile sites in the case of necrotizing fasciitis or toxic shock syndrome. We identified cases through routine laboratory-based surveillance and conducted antimicrobial susceptibility testing on all invasive isolates. From February 13–18, 2017, we evaluated persons accessing homeless services at six facilities in Anchorage and offered a single oral dose of 1 gram of azithromycin for iGAS prophylaxis. We concurrently collected oropharyngeal (OP) and wound swab specimens on a subset of participants. The swab collection was repeated at the same locations 4 weeks after the intervention. Swabs were cultured for GAS and *emm*-typed.

**Results.** From October 1, 2016 through February 18, 2017, we detected 31 cases among homeless persons. All *emm26.3* iGAS isolates were erythromycin susceptible. We evaluated 484 persons at homeless services facilities and provided azithromycin to 394 (81%). Of 289 swab participants, 9 (3.1%) had baseline *emm26.3* OP colonization. Of participants with wounds, 3/71 (4.2%) had *emm26.3* wound colonization. At follow-up, 3/298 (1.0%) participants had *emm26.3* OP colonization and 1/63 (1.6%) had *emm26.3* wound colonization (*P*-value for change in any colonization = 0.05). Colonization by other *emm*-types, primarily erythromycin non-susceptible *emm11*, was 5.1% at baseline and 5.0% at follow-up. In the 6 weeks post-intervention, we detected 1 case among homeless persons (0.2 cases/week post- vs. 1.6 cases/week pre-intervention, *P* = 0.01 for change).

**Conclusion.** We reached a substantial proportion of the Anchorage homeless population with an antibiotic intervention to prevent iGAS. While possible that the outbreak was waning, the intervention was temporally associated with reduced case counts and colonization prevalence.

**Disclosures.** All authors: No reported disclosures.