State of Alaska Epidemiology Bulletin

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Increase in Invasive Group A Streptococcal Disease — Alaska, January–June 2024

Background

Invasive group A streptococcal disease (iGAS) occurs when *Streptococcus pyogenes* infects a normally sterile site, such as blood or cerebrospinal fluid. Older age, certain chronic medical conditions, childbirth, and skin breakdown from trauma or surgery are known risk factors for iGAS.[1] Outbreaks can occur in healthcare facilities and other congregate settings. Recent community-based outbreaks also have been reported among persons experiencing homelessness and persons who use injection drugs.[2,3] In response to anecdotal clinician reports, we used statewide laboratory-based surveillance data to evaluate whether an increase in iGAS occurred in Alaska during 2024 and to compare changes among subpopulations.

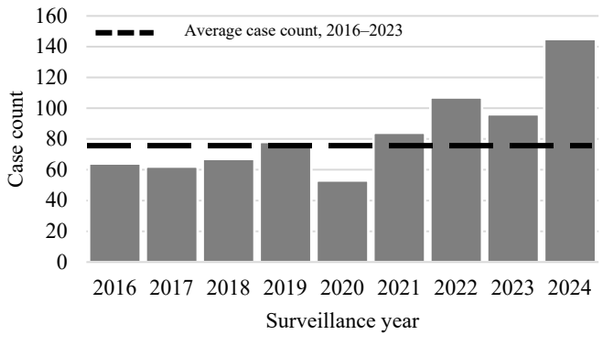
Methods

A case of iGAS was defined as an Alaska resident with the bacteria isolated from, or GAS-specific nucleic acid detected in, a normally sterile body site. For patients with toxic shock syndrome or necrotizing fasciitis, the bacteria could also be isolated from a wound culture. Preliminary data from January 1–June 30, 2024, were compared to final data from January 1–June 30 during 2016–2023. We used Poisson regression to estimate rates per 100,000 persons (overall and by age, location, and race),[4] and calculated rate ratios (RR) comparing 2024 to 2016–2023. Clinical characteristics were compared using Pearson's chi-squared test.

Results

During January–June 2024, 145 iGAS cases were reported in Alaska (19.7 cases per 100,000 persons) compared with an average of 76 cases during January–June of 2016–2023 (10.4 per 100,000) (Table); this represented a rate increase of 89% (95% CI: 55–124%) (Figure).

Figure. Invasive Group A Streptococcal Disease Cases — Alaska, January–June 2016–2024



During 2024, rates increased more than two-fold among people aged ≥60 years (RR: 2.8, 95% CI: 2.1–3.8) and people residing in Anchorage (RR: 2.1, 95% CI: 1.6–2.6) (Table); larger increases occurred among people who were Native Hawaiian/Pacific Islander (RR: 7.4, 95% CI: 4.0–13.8) than people who were White (RR: 2.1, 95% CI: 1.6–2.8) or Alaska Native/American Indian (RR: 1.5, 95% CI: 1.1–1.9). During 2024, rates remained higher among Alaska Native/American Indian people (39.9 cases per 100,000 persons) and Native Hawaiian/Pacific Islanders (113.5 cases per 100,000 persons), compared with people who were White (11.0 cases per 100,000 persons).

Cases during the first half of 2024 were more likely to have certain underlying medical conditions (i.e., diabetes and renal failure) and less likely to have other risk factors (i.e., preceding trauma, tobacco use, alcohol abuse, or injection drug use) than those during January–June 2016–2023 (Table). Clinical syndrome, hospitalization rate, and case-fatality rate did not differ significantly among cases during January–June 2024 and 2016–2023. There was no evidence that the increase in cases in 2024 was associated with a specific facility or event. During 2024, 51% (68/133) of iGAS isolates were *emm* types 1 or 53, compared to only 6% (34/574) during 2016–2023 ($p<0.01$).

Table. Invasive Group A Streptococcal Disease Cases — Alaska, January–June 2016–2024

	January–June 2016–2023 [N=611]		January–June 2024* [N=145]	
Characteristic	**No.**	**Rate†**	**No.**	**Rate†**
All cases±	611	10.4	145	19.7
≥60 years±	155	13.7	60	38.3
<60 years±	456	9.6	85	14.7
Residing in Anchorage±	350	5.9	90	12.2
Residing outside of Anchorage±	261	7.4	55	12.3
Race				
Alaska Native/American Indian±	324	27.1	60	39.9
White±	225	5.3	58	11.0
Asian	13	2.5	3	4.4
Pacific Islander/Hawaiian±	20	15.3	20	113.5
Black/African American	24	0.6	4	0.8
Characteristic	**No.**	**(%)**	**No.**	**(%)**
Underlying medical conditions				
Diabetes**	105	(17)	50	(34)
Renal failure**	21	(3)	17	(12)
Other risk factors				
Preceding trauma**	134	(22)	18	(12)
Tobacco use**	262	(43)	33	(23)
Alcohol abuse**	178	(29)	24	(17)
Injection drug use**	103	(17)	6	(4)
Homelessness	114	(19)	19	(13)
Clinical syndrome				
Soft tissue infection	335	(55)	70	(48)
Bone and joint infection	104	(17)	30	(21)
Pneumonia	90	(15)	20	(14)
Necrotizing fasciitis	83	(14)	17	(12)
Toxic shock syndrome	16	(3)	2	(1)
Hospitalized	574	(94)	139	(96)
Died	35	(6)	13	(9)
Select *emm* types				
1†	33/574	(6)	30/133	(23)
53†	1/574	(<1)	38/133	(29)

**Preliminary data as of November 27, 2024; †per 100,000 persons; ±$p<0.05$ for Poisson regression; **$p<0.05$ for Pearson's χ^2 test*

Discussion

The incidence of iGAS in Alaska increased by 89% during January–June 2024. This increase occurred concurrently with a rise of *emm* type 1 and the emergence of *emm* type 53. The increase was most notable among people aged ≥60 years, people living in Anchorage, Native Hawaiian/Pacific Islanders, and people with certain chronic medical conditions.

Although more fatal cases occurred in 2024, no statistically significant increases were observed in other disease severity measures (e.g., hospitalization and case-fatality rates). Currently, there is no evidence of a focal outbreak. Other states observed iGAS increases during 2023.[5] Healthcare providers should remain alert for iGAS cases, particularly among older adults with underlying medical conditions.

References

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