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To: Medical and Nursing Directors
Massachusetts' Long-Term Care Facilities

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RE: Invasive group A streptococcal infections

The Massachusetts Department of Public Health (MDPH) is committed to working with long term care facilities (LTCF) across the Commonwealth to provide guidance on the prevention and treatment of healthcare-associated infections. It is our goal to provide LTCFs with information to meet our shared goals of providing high-quality services and treatment to residents and staff.

The purpose of this memorandum is to make LTCFs aware that MDPH is investigating many healthcare-associated invasive group A streptococcal (GAS) infections, with 75% of those cases occurring in LTCF residents (N= 33 LTCF-associated cases since January 2021).

When a facility experiences a cluster or outbreak of cases (typically considered to be more than one invasive case within a six-month period), specific investigation and outbreak control measures may need to be taken. It is our goal to provide you with information on the actions that will be required, should a cluster be identified in your facility, in order to protect the health and well-being of your residents and staff.

Background

Unlike common streptococcal infections of the throat and skin, invasive GAS is a rare, but potentially life-threatening infection. Invasive GAS infection may manifest as one of several clinical syndromes, including pneumonia, bacteremia, meningitis, osteomyelitis, septic arthritis, peritonitis, post-partum sepsis (puerperal fever), necrotizing fasciitis and toxic shock syndrome (TSS). In the United States, an estimated 25,000 cases of invasive GAS infection result in 2,200 deaths from invasive GAS annually: a fatality rate of approximately 11%[1].

LTCF Actions

Invasive GAS is reportable (105 CMR 300.000: Reportable Diseases, Surveillance, and Isolation & Quarantine Requirements). Following identification of a single case of invasive GAS in a resident of your facility, an epidemiologist or a local public health nurse will contact you to review clinical case information, resident risk factors and recommendations for surveillance and infection control. In addition, an isolate of the organism from the patient will be sent to the Massachusetts State Public Health Laboratory (MASPHL). In the event another case occurs within 6 months, MASPHL will perform whole genome sequencing (WGS) to determine if the cases likely originated from the same source.

Single case of invasive GAS action steps:

These recommendations should be followed after identification of a single invasive GAS case:

- Review medical charts and laboratory results to confirm that there have not been any other cases of invasive or non-invasive GAS infection among residents or staff (providing direct patient care) within the previous six months.
- If any staff or residents have symptoms such as sore throat, tonsillar inflammation, cervical lymphadenopathy, or skin infections including pyoderma and impetigo, then obtain appropriate cultures. If any cultures are positive, then treat as appropriate or prescribed by a health care professional.
- Conduct surveillance for additional invasive or non-invasive GAS cases for the next six months, culturing any resident who demonstrates symptoms consistent with GAS infection.
- Enforce rigorous handwashing and hand hygiene through routine audits and feedback of audit data to staff.
- Ensure staff have access to alcohol-based hand sanitizer (at least 60% alcohol) for patient care activities including wound care.

Additional case of invasive GAS action steps:

If an additional case of invasive GAS is identified in the facility within six months from the date of the first case, and the organism proves to be highly related through WGS, these additional control activities include:

- Perform throat and skin lesion (if present) cultures on all exposed residents and staff (with or without symptoms).
- Treat residents and staff with positive test results. Staff with a highly related GAS

[1] https://www.cdc.gov/abcs/downloads/GAS_Surveillance_Report_2019.pdf

organism identified should continue treatment and follow-up cultures should be obtained 7-10 days after completion of therapy. If follow-up cultures remain positive after completion of therapy, cultures of household contacts of the colonized staff member should be performed. For household contacts who are children, cultures should be obtained from the throat and any skin lesion(s). For adult household contacts, cultures should be obtained from the throat and any skin lesions, the rectum and vagina.

- Recommend that any non-exposed symptomatic staff and residents of the facility be tested for GAS and treated, if positive.

Three or more cases of invasive GAS action steps:
In cases where there are more than two individuals with indistinguishable invasive GAS strains, even more stringent culturing recommendations will be made to determine whether there are additional colonized staff members in the facility. Research indicates that there is enhanced sensitivity in determining GAS carriage through additional testing, which includes culturing of the vagina and rectum, in addition to the throat. Facilities that experience more than two cases of invasive GAS in a six-month time period will need to adhere to the following guidance in addition to the above recommendations:

- Perform throat, skin lesion (if present), vaginal and rectal cultures on all exposed staff (with or without symptoms) and treat those with positive test results.

In addition to the recommendations outlined above, clusters and outbreaks of invasive GAS in LTCFs can endanger the safety and well-being of at-risk residents and are required to be reported to the Department of Public Health's Bureau of Health Care Safety and Quality by using the web- based Health Care Facility Reporting System (HCFRS). Failure to comply with 105 CMR150.000 Licensing of Long-Term Care Facilities, 105 CMR 153.00 Licensure Procedure and Suitability Requirements for Long-Term Facilities and 105 CMR 300.190 Surveillance and Control of Diseases Dangerous to the Public may result in regulatory action by the MDPH Bureau of Health Care Safety and Quality.

Questions regarding this memorandum should be directed to the Epidemiology Program at (617) 983-6800.

Resources and References

105 CMR 153.000: LICENSURE PROCEDURE AND SUITABILITY REQUIREMENTS FOR LONG-TERM CARE FACILITIES available at the following link: http://www.mass.gov/eohhs/docs/dph/regs/105cmr153.pdf

05 CMR 300.190- Surveillance and Control of Diseases Dangerous to the Public Health available at the following link: http://www.mass.gov/courts/docs/lawlib/104-105cmr/105cmr300.pdf

Prolonged and large outbreak of invasive group A Streptococcus disease within a nursing home: repeated intrafacility transmission of a single strain - PubMed (nih.gov)

CDC. Invasive group A *Streptococcus* in a skilled nursing facility--Pennsylvania, 2009–2010. *MMWR*. 2011; 60(42):1445–9.

CDC. Use of pulsed-field gel electrophoresis for investigation of a cluster of invasive group A streptococcal illness — Spokane, Washington, 1999. *MMWR*.1999; 48(31):681–3.

Deutscher M, Schillie S, Gould C, Baumbach J, Mueller M, Avery C, et al. Investigation of a group A streptococcal outbreak among residents of a long-term acute care hospital. *Clin Infect Dis*. 2011; 52(8):988–94.

Dooling KL, Crist MB, Nguyen DB, Bass J, Lorentzson L, Toews KA, et al. Investigation of a prolonged group A streptococcal outbreak among residents of a skilled nursing facility, Georgia, 2009–2012. *Clin Infect Dis*. 2013; 57(11):1562–7.

Jordan HT, Richards CL Jr, Burton DC, Thigpen MC, Van Beneden CA. Group A streptococcal disease in long-term care facilities: Descriptive epidemiology and potential control measures.*Clin Infect Dis*. 2007; 45(6):742–52.

MDPH Infection Control Resources for Long Term Care Facilities available at the following link: https://www.mass.gov/lists/hai-and-infection-prevention-and-control-information-for-long-term-care-facilities.

Prevention of Invasive Group A Streptococcal Infections Workshop Participants. Prevention of invasive group A streptococcal disease among household contacts of case patients and among postpartum and postsurgical patients: Recommendations from the Centers for Disease Control and Prevention. *Clin Infect Dis*. 2002; 35(8):950–9. Erratum in: *Clin Infect Dis*. 2003;36(2):243.

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