Alpha-gal syndrome, state-level surveillance

Alpha-gal syndrome (AGS) is a life-altering and sometimes fatal tick-borne condition and allergy which the CDC has identified as a "growing threat to clinical and public health." Adding alpha-gal syndrome to the state list of mandatory reportable conditions is key to initiating significant, state-level surveillance. The CDC has identified state-level surveillance of AGS as a "critical need," essential for determining the true prevalence of AGS, monitoring trends in its expansion, and aiding public health decision-making. The CDC is encouraging states to report cases of AGS and have laid the groundwork for states to make AGS reporting mandatory, including a case definition and case report form.

Making AGS a reportable condition will yield benefits to both public health and the individual well-being of state residents, by providing health departments with the ability to:

- Document the prevalence of AGS: data is essential to establish the true prevalence of alpha-gal syndrome at a local, state, and national level.
- Monitor trends in the pattern and spread of AGS: as lone star tick populations continue to grow and their distribution expands, cases of AGS are expected to grow and prevalence in previously less-affected areas is expected to increase.
- Identify hotspots and high-risk populations: mandatory reporting would allow the identification of unusual clusters of alpha-gal syndrome allowing for follow-up epidemic investigation.
- Target efforts: surveillance is critical for geographically targeting resources including public health outreach efforts (e.g. tick-bite prevention initiatives) and healthcare provider education to high-risk localities and populations.
- Quantify the overall burden of tick-borne disease: AGS makes up the bulk of the tick-borne disease burden in high-prevalence areas, including much of the southern, midwestern, and mid-Atlantic U.S. In high-prevalence states, AGS cases are estimated to far outnumber all other tick-borne diseases together. Therefore, establishing the prevalence of AGS is key to establishing the true tick-borne disease burden in these areas.
- Facilitate epidemiologic and laboratory research: surveillance facilitates both epidemiologic and laboratory research, by providing cases for more detailed investigation and by elucidating priority avenues of research.
- Engage in evidence-based public health decision-making: surveillance data provide the basis for determining public health priorities and for formulating, implementing, and evaluating tick-borne disease prevention, awareness, and physician education programs.
- Evaluate the effectiveness of control and prevention programs.

- Provide timely alerts to healthcare providers as to important changes in trends in the growth and spread of AGS.

In addition, surveillance of AGS can provide indirect data on the distribution of lone star ticks and trends in the growth and expansion of lone star tick populations. This is critical for targeting public health initiatives focused on other tick-borne diseases associated with this species, including life-threatening diseases like ehrlichiosis and Heartland virus, to high-risk populaton. Direct data on the distribution of these diseases is often lacking due to the small number of cases.