

GAO Highlights

Highlights of [GAO-14-267T](#), a testimony before the Subcommittee on Emergency Preparedness, Response, and Communications; Committee on Homeland Security, House of Representatives

Why GAO Did This Study

DHS's BioWatch program aims to detect the presence of biological agents considered to be at a high risk for weaponized attack in major U.S. cities. Initially, development of a next generation technology (Gen-3) was led by DHS S&T, with the goal of improving upon currently deployed technology (Gen-2). Gen-3 would have potentially enabled collection and analysis of air samples in less than 6 hours, unlike Gen-2 which can take up to 36 hours to detect and confirm the presence of biological pathogens. Since fiscal year 2007, OHA has been responsible for overseeing the acquisition of this technology. GAO has published a series of reports on biosurveillance efforts, including a report on DHS's Gen-3 acquisition.

In April 2014, DHS cancelled the acquisition of Gen-3 and plans to move development efforts of an affordable automated aerosol biodetection capability, or other enhancements to the BioWatch system to DHS S&T. This statement addresses (1) observations from GAO's prior work on the acquisition processes for Gen 3, and the current status of the program; (2) observations from GAO's prior work related to DHS S&T and the impact it could have on the BioWatch program; and (3) future considerations for the currently deployed Gen-2 system.

This testimony is based on previous GAO reports issued from 2010 through 2014 related to biosurveillance and research and development, and selected updates obtained from January to June 2014. For these updates, GAO reviewed studies and documents and interviewed officials from DHS and the national labs, which have performed studies for DHS.

View [GAO-14-267T](#). For more information, contact Chris Currie at (404) 679-1875, or curriec@gao.gov.

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BIOSURVEILLANCE

Observations on the Cancellation of BioWatch Gen-3 and Future Considerations for the Program

What GAO Found

In September 2012, GAO reported that the Department of Homeland Security (DHS) approved the Office of Health Affairs (OHA) acquisition of a next generation biosurveillance technology (Gen-3) in October 2009 without fully following its acquisition processes. For example, the analysis of alternatives (AoA) prepared for the Gen-3 acquisition did not fully explore costs or consider benefits and risk information in accordance with DHS's Acquisition Life-cycle Framework. To help ensure DHS based its acquisition decisions on reliable performance, cost, and schedule information, GAO recommended that before continuing the Gen-3 acquisition, DHS reevaluate the mission need and alternatives. DHS concurred with the recommendation and in 2012 decided to reassess mission needs and conduct a more robust AoA. Following the issuance of the AoA in December 2013, DHS decided in April 2014 to cancel Gen-3 acquisition and move the technology development back to the Science and Technology Directorate (S&T). According to DHS's acquisition decisions memorandum, the AoA did not confirm an overwhelming benefit to justify the cost of a full technology switch to Gen-3. Moreover, DHS officials said the decision to cancel the Gen-3 acquisition was a cost-effectiveness measure, because the system was going to be too costly to develop and maintain in its current form.

GAO's prior work on DHS research and development (R&D) highlights challenges DHS may face in shifting efforts back to S&T and acquiring another biodetection technology. In September 2012, GAO reported that while S&T had dozens of technology transition agreements with DHS components, none of these had yet resulted in a technology developed by S&T being used by a component. At the same time, other DHS component officials GAO interviewed did not view S&T's coordination practices positively. GAO recommended that DHS develop and implement policies and guidance for defining and overseeing R&D at the department that includes a well-understood definition of R&D that provides reasonable assurance that reliable accounting and reporting of R&D resources and activities for internal and external use are achieved. S&T agreed with GAO's recommendations and efforts to address them are ongoing. Addressing these coordination challenges could help to ensure that S&T's technology development efforts meet the operational needs of OHA.

Cancellation of the Gen-3 acquisition also raises potential challenges that the currently deployed Gen-2 system could face going forward. According to DHS officials, DHS will continue to rely on its Gen-2 system as an early indicator of an aerosolized biological attack. However, in 2011, National Academy of Sciences raised questions about the effectiveness of the currently deployed Gen-2 system. While Gen-2 has been used in the field for over a decade, the National Academy of Sciences reported that information about the technical capabilities of the system, including the limits of detection, is limited. In April 2014, DHS officials also indicated that they will soon need to replace laboratory equipment of the currently deployed Gen-2 system and readjust life cycle costs since there will be no Gen-3 technology to replace it.