

SCENARIO PLANNING ASSUMPTIONS: EXPLANATION OF INCREASES IN CASES & PROJECTIONS

Suspected cases of smallpox identified on January 14 are all first generation cases in people who were infected during the smallpox attacks, which occurred sometime in early January. The increase in the number of cases reported throughout the course of the exercise is due to increased discovery and reporting of these original victims of the attacks. The rising numbers do not reflect contagious spread of the disease. Symptoms of smallpox do not usually become apparent until 7 to 17 days post-exposure, so it will take perhaps another week before all of the original victims have begun to show signs of disease.

Historical analysis of smallpox outbreaks suggests that the number of cases reported on January 14, following attacks early in the month, would likely represent just 2% of the total number of people infected during the attacks. The transatlantic leaders were provided with estimates of the future course of the epidemic to help inform their deliberations about response. A disease transmission rate of 1 to 3 was chosen for the first-to-second generation of cases (that is, 1 infected person would on average infect 3 others). For second-to-third generation transmission, a rate of 1 to 0.25 was assumed, taking into account estimates of the effects of vaccination and other disease control efforts that could be employed in the weeks following discovery of the epidemic. Projections of case numbers through February are based on these assumptions.

For a more thorough explanation of the exercise assumptions and calculations of morbidity and mortality, please see the Assumptions document that was prepared for the exercise observers and is referred to throughout this presentation.