EPIDEMIOLOGICAL CASE STUDY: SUMMARY OF AGENT
Note: ***Use at end of Epidemiological Case Study Exercise***

Instructions: Read *Summary of Agent* ONLY after all *Outbreak Investigation Presentations* have been completed by Investigative Teams.

Analysis of water from the hot water taps in the kitchen detected a nitrite level of 4 ppm to 10 ppm; samples from the cold water tap were negative for detectable nitrite. The hot water boiler had been serviced over the summer with commercial conditioner fluid containing nitrite and sodium metaborate, and had not been started until the morning of the incident in October. Sodium metaborate levels were measured in the soup, and traces were found in the leftover diluted soup but not in the undiluted soup. During the investigation of the outbreak, the backflow check valve (which prevents backflow of water from the boiler to the potable water system) was tested and determined to be faulty and stuck in the open position. A section of the boiler also was used as a tankless water heater. In addition, the hot water coil tap and the tap for boiler treatment solution were in the same location, and neither tap was labeled. The school's water system was flushed; water from all taps was retested and was negative for nitrite and sodium metaborate. As a result of this incident, the school discontinued heating of water through the boiler coils and removed the hot water coil tap.

Per the cafeteria staff member, during the last lunch hour, the pot of soup originally used to serve the first lunch period grade students ran low. To compensate, water was added to the remaining soup served to the second lunch period students using the **hot** and cold water tap in the cafeteria kitchen; this provided an avenue for the nitrite and sodium metaborate to enter the soup. All students who asked for second servings of soup ingested an unknown amount of nitrite and sodium metaborate and became ill.

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