

# Timeline for Reporting of *E. coli* Cases

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To find cases in an outbreak of *E. coli* O157 infections, public health laboratories perform a kind of “DNA fingerprinting” on *E. coli* O157 laboratory samples. Investigators determine whether the “DNA fingerprint” pattern of *E. coli* O157 bacteria from one patient is the same as that from other patients in the outbreak and from the contaminated food. Bacteria with the same “DNA fingerprint” are likely to come from the same source. Public health officials conduct intensive investigations, including interviews with ill people, to determine if people whose infecting bacteria match by “DNA fingerprinting” are part of a common source outbreak.

A series of events occurs between the time a patient is infected and the time public health officials can determine that the patient is part of an outbreak. This means that there will be a delay between the start of illness and confirmation that a patient is part of an outbreak. Public health officials work hard to speed up the process as much as possible. The timeline is as follows:

1. **Incubation time:** The time from eating the contaminated food to the beginning of symptoms. For *E. coli* O157, this is typically 3-4 days.
2. **Time to treatment:** The time from the first symptom until the person seeks medical care, when a diarrhea sample is collected for laboratory testing. This time lag may be 1-5 days.
3. **Time to diagnosis:** The time from when a person gives a sample to when *E. coli* O157 is obtained from it in a laboratory. This may be 1-3 days from the time the sample is received in the laboratory.
4. **Sample shipping time:** The time required to ship the *E. coli* O157 bacteria from the laboratory to the state public health authorities that will perform “DNA fingerprinting”. This may take 0-7 days depending on transportation arrangements within a state and the distance between the clinical laboratory and public health department.
5. **Time to “DNA fingerprinting”:** The time required for the state public health authorities to perform “DNA fingerprinting” on the *E. coli* O157 and compare it with the outbreak pattern. Ideally this can be accomplished in 1 day. However, many public health laboratories have limited staff and space, and experience multiple emergencies at the same time. Thus, the process may take 1-4 days.

The time from the beginning of the patient’s illness to the confirmation that he or she was part of an outbreak is typically about 2-3 weeks. Case counts in the midst of an outbreak investigation must be interpreted within this context.

### Graphic Representation of Timeline for Reporting of Cases

