

Examples of Outbreaks Associated with Injection Safety

Outbreak 1

-On January 2, 2008 the Spring health department was notified of 2 cases of acute hepatitis C.

-They were notified of a third the following day. This was unusual because they normally only see about four a year.

-Initial inquiries determined that all three had underwent procedures at Clinic A within 35-90 days of illness onset.

Question 1

Why should this be investigated further?

Being notified of three cases in only a few days is well above the threshold of what is expected.

Outbreak 1

Persons with acute Hepatitis C were interviewed and blood samples were obtained after these people gave oral consent. The blood samples were sent to CDC for further testing.

Question 2

Why were the samples sent to CDC?

- To test for HCV genotype and phylogenetic relatedness.
- To test for other bloodborne infections

Question 3

Question 3: You have already interviewed the patients and decide to investigate. What are the next steps?

- A. Review health history of the patients
- B. Create a timeline for each case
- C. Wait for more cases to be sure it's really an outbreak

Case Definition

For this investigation, a person was defined as having health-care-associated acute hepatitis C if he or she:

- 1) had symptoms of acute hepatitis within 6 months of having a procedure performed at clinic A during July-December 2007
- 2) had laboratory confirmed HCV infection
- 3) did not have other risks for HCV infection.

Question 4

Using this case definition, how would you determine whether there were additional cases?

- Review acute hepatitis C surveillance records
- Cross reference laboratory records with procedure logs
- Review medical records for patients who underwent procedures at clinic A on the same day as HCV infected individuals
- Serological HCV, HBV, and HIV testing of staff.

Question 5

You have determined that the infections most likely came from Clinic A. Given what you know about hepatitis C, what are some possible sources of infection?

- Reusing vials, needles
- Drug diversion

Question 6

How might you determine the actual cause?

Conduct an extensive review of clinic practices including observations of procedures and interviews with staff members regarding their infection control practices.

Conclusion

Direct observation of showed the following:

-A clean needle and syringe were used to draw medication from a single-use vial of propofol. The medication was injected into the patient's arm.

-If a patient required more sedation, the needle was removed from the syringe and replaced with a new needle; the new needle with the old syringe was used to draw more medication.

-Medication remaining in the vial was used to sedate the next patient.

Do you see anything wrong with this technique?

-Backflow might have contaminated the syringe with HCV and subsequently contaminated the vial.

Prevention

-As soon as improper injection practices were observed, health officials advised clinic A to stop these practices

-Staff was educated about the risks