Epidemiology Contact Investigation

Training Outcome

Understand the function and associated skills for epidemiology contact investigation.

- Define the purpose of a contact investigation.
- Identify the steps of a contact investigation.
- Describe strategies for contact identification.
- Identify strategies for overcoming field interview challenges.

Epidemiology Contact Investigation

The function of most field investigation interviews is to gather information as efficiently and effectively as possible.
Epidemiology Contact Investigation

Information gathering in an epidemiology contact investigation involves:

1. Contact elicitation with index interviewee
2. Prioritizing contacts
3. Interviewing contacts

What Is A Contact Investigation?

• Allows for early detection and treatment of recently acquired disease infection.
• Represents an active case finding process in that it identifies, examines, and evaluates all persons who are at risk for disease infection.
• May allow for the initiation of early treatment of new, previously untreated cases of active disease.
• May prevent infection from occurring.

Purpose

• Identify contacts to an infectious case.
• Evaluate contacts for infection and/or disease.
• Interrupt chain of transmission.
• Prevent infection from progressing to disease.
• Identify source.
When to Perform?

- Person-to-person transmission
- Disease severity
- Disease prevalence
- Best use of limited public health resources
- Broader population approaches are not feasible, such as mass vaccination and/or screening

What to Do?

- Identify and treat persons with active disease.
- Find and screen persons who have been in contact with index interviewee.
- Screen high-risk individuals to detect disease.

What Information Is Needed?

- What is the infectious agent?
- How is the disease transmitted?
- When is the infectious period?
- How long is the infectious period?
- How infectious is the index case?
- Who is susceptible to infection?
- Who is at risk of disease or severe disease?
- What is time frame of susceptibility?
Challenges

- Contact tracing poses threats to individual privacy.
  - Breaking confidentiality
  - Invasion of privacy
- Stigma may hinder free flow of information.
- Interviewee may be reluctant to reveal contact names.
- Concerns from the “worried well.”

Possible Infectious Disease Control Measures

- Chemoprophylaxis/Treatment
- Isolation/quarantine
- Vaccination
- Education/Behavioral intervention
- Further investigation

Key Terms

Index case/interviewee. The first case in a family or other defined group to come to the attention of the investigator.

Disease education. Important for index case to have knowledge of disease (e.g., how disease is spread, the infectious period, medication protocol).
Key Terms (continued)

**Contact.** A person or animal that has been in association with an infected person or animal or a contaminated environment as to have had an opportunity to acquire the infection.

The index case will be asked to identify the names of people they may have had contact with during a specified period of time.

**Will need to determine risk ratings for:**
- High risk contact
- Medium/Casual risk contact
- Low risk or Non-contact

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Key Terms (continued)

**Risk ratings established by:**
- Physical proximity to index case.
- Environment where exposure occurred.
- Host factors of contact.
- Infectious period of disease.

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Key Terms (continued)

**High risk contact.** Close contacts of index case where prolonged, frequent, or intense contact occurred during the index case’s infectious period.

**Medium/Casual risk contact.** Person who has less prolonged, intense, or frequent contact with case under investigation.

**Low risk or Non-contact.** Person who has probably not had close contact with index case but who requests inclusion in the investigation (e.g., worried well).
Key Terms (continued)

**Contact elicitation.** The act of identifying the index case’s potential contacts during the infectious period.

- Identify the locations, time/dates, and activities.
- Identify known and unknown persons for each location.
- Identify those at greater risk for being infected or developing the disease (i.e., children, immunosuppressed).

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Key Terms (continued)

**Infectious/Communicable period.** The infectious period is that time during which the disease is most transmissible. With some diseases, the index case may be asymptomatic or not showing any signs of the disease during the infectious period.

Calculate a case’s infectious period by considering:

- Whether or not the index case had disease symptoms (need a specific start and end date), and
- Whether or not the index case was positive for the disease on laboratory test(s).

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Structure of the Interview

- Step 1: Pre-Interview Activities
- Step 2: Establish Rapport
- Step 3: Information & Education Exchange
- Step 4: Contact Identification
- Step 5: Conclusion
- Step 6: Follow-Up
**Step 1: Pre-Interview Activities**

Determine urgency.

Review disease related information.
- Consider potential settings of transmission.
- Review chain of transmission.
- Review PPE requirements.
- Obtain fact sheets for distribution.

**Step 1: Pre-Interview Activities (continued)**

Review index case's medical record.
- Review and note medical record information related to the diagnosis.
- Review and record social history and any cultural barriers
- Note previous hospital admissions and history.
- Assess the need for PPE during the interview
- Obtain and record locating information

Note: Background information regarding the interviewee should be gathered in preparation of the interview. Consider all potential sources of information.

**Step 1: Pre-Interview Activities**

Establish a preliminary infectious period.
- The preliminary infectious period may be already established and/or will be refined through the course of the interview.

Develop a strategy for the interview process.
- Look for unusual factors about the interviewee.
- Arrange an interview time and place.
- Ensure privacy and minimize distractions.
- Allow 2 – 4 hours for the interview dependent upon the interviewee’s condition.
Step 1: Pre-Interview Activities (continued)

How should an investigation be conducted if an interviewee dies, is too ill, or cannot be located?

- A member of the interviewee's household (or another person who is knowledge about the places where the person may have been) can be interviewed as a proxy.
- If a proxy is used, write this on the investigation form and include locating information for the proxy.

Step 2: Establish Rapport

Ask Open-ended to Closed-ended Questions

Start of Questioning

Information

End of Questioning

Open-ended Questions

Closed-ended Questions

Step 2: Establish Rapport (continued)

Open-ended Questions

- Allow the interviewee to provide a longer response.
- Used to stimulate a response.
- Use "Tell me about. . ." or "Describe to me. . ."
- Avoid asking "Why?"
Step 2: Establish Rapport (continued)

Examples of Open-ended questions:
• What is troubling you?
• What kind of medicines are you taking at the moment?
• Is there anything else? Note: May need to ask this several times, particularly on sensitive topics or items where interviewee may think the information is relevant.
  • Is there anything else you want to tell me?
  • Is there anything else you ought to tell me?
  • What else is there I ought to know?
• But I suspect that there is more to this than what you have told me. . . . (followed by silence and eye contact)
• What symptoms do you have?
• Who are the people who visit your home?
• What places do you go to on a daily basis?
• What is your daily routine?
• How do you get to work?
• Who are the people you spend time with at work, at church, etc.?
• Who are the people you see every day?
• What are your hobbies?
• Who do you sleep with each night?
• Where else do you sleep?

Closed-ended Questions
• Interviewee answers in one word, short phrase, or “Yes/No.”
• Used to capture distinct or specific information like “Name,” “Address,” or “Age.”

Step 2: Establish Rapport (continued)

1. Greet the Interviewee
• Use a welcoming tone of voice & smile.
• Introduce yourself.
• Make eye contact if culturally appropriate.
• Thank the interviewee in advance for participation in the investigation.
Step 2: Establish Rapport (continued)

2. Introduce the Investigation
   - Introduce yourself/organization.
   - Read the survey introduction word-for-word.
   - Speak in a conversational tone.
   - Provide a time estimate for interview.
   - Address confidentiality.
   - Offer FDOH contact information.

Step 2: Establish Rapport (continued)

3. Remind the Interviewee . .
   - Responses are confidential.
   - Participation is voluntary.
   - They can say “I don’t know” or “I don’t understand.”

Structure of the Interview (continued)

☑ Step 1: Pre-Interview Activities
☑ Step 2: Establish Rapport
☐ Step 3: Information & Education Exchange
☐ Step 4: Contact Identification
☐ Step 5: Conclusion
☐ Step 6: Follow-Up
Step 3: Information and Education Exchange

- Confirm key information from the pre-interview phase.
- Obtain any missing information.
- Obtain information needed to determine infectious period.
- Provide disease education and explain disease intervention behaviors.
- Define/re-evaluate infectious period.

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Confirm key information from the pre-interview phase.
- Full name
- Alias(es) or nickname(s)
- Date of birth
- Place of birth (city, state/province, country)
- If born in a foreign country, date arrived in USA
- Travel destinations (when last there and for how long)
- Physical description (height, weight, race, other identifying characteristics)
- Current address and post office (PO) box or place of residence, including directions, if necessary
- Telephone number
- Length of stay at current address
- Marital status
- Next of kin (name, address, telephone number, other locating information)
- Emergency contact (name, address, telephone number, other locating information)
- Employer or school (name, address, telephone number, other locating information)

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Obtain any missing information.
- Fill in any “gaps” in information.
- Resolve any differences that may arise when confirming previous information – Make note of this on the investigation worksheet.
Step 3: Information and Education Exchange (continued)

Obtain information needed to determine infectious period.

• Review known exposure to the disease (who, where, when) or knowledge of anyone with similar symptoms.
• Obtain any past hospitalization(s) and/or treatment for the disease (name, admission and discharge date[s], treating physician).
• Review the appropriate disease-related symptoms, including onset dates and duration.

Note: Recall of symptom onset can generally be poor. Mentioning prominent dates and major holidays can help the interviewee recall symptom onset.

Step 3: Information and Education Exchange (continued)

Provide disease education and explain disease intervention behaviors.

• Use open-ended questions to determine the interviewee’s disease knowledge.
• Reinforce the interviewee’s disease knowledge and correct any misconceptions.
• Explain mode of transmission and how the disease affects the body, using language the interviewee can understand.
• Avoid using medical terms and defer questions to appropriate medical personnel.
• Provide appropriate disease education materials.
• Review treatment regimen.
• Identify infection control measures (may include isolation or quarantine).

Step 3: Information and Education Exchange (continued)

Define/re-evaluate infectious period.

• If necessary, refine previously established infectious period based on the information obtained.
• Review significance of infectious period with interviewee.
• Discuss the role of the infectious period in contact identification.
Step 4: Contact Identification

- Reinforce confidentiality.
- Review the disease transmission process.
- Identify transmission settings.
- Identify potentially exposed contacts for each transmission site.
- Identify length and duration for each potentially exposed contact.
- Classify contacts – High, Medium, Low risk.

Step 4: Contact Identification (continued)

Reinforce confidentiality.
- Tell the interviewee the health department will maintain confidentiality when talking to any potential contacts.
- If the interviewee chooses to tell others, the health department will continue to maintain their confidentiality.

Note: May need to reinforce confidentiality throughout the interview in order to get information about name of contacts, type of exposure, duration of exposure, etc.

Step 4: Contact Identification (continued)

Review the disease transmission process.
- Re-emphasize the ways in which the disease is transmitted.
- Review the dates of the infectious period.
- Reinforce the importance of identifying contacts in order to protect family and friends who may have been exposed during the infectious period.
Step 4: Contact Identification (continued)

Identify transmission settings.
- Start at the beginning or the end of the infectious period.
- Discuss where the interviewee spends nights, met with friends, worked, ate, visited, and sought health care.
- Ask specifically about congregate settings (e.g., school, shelters, nursing homes, correctional facilities).
- Ask about modes of transportation to and from each setting.
- Identify routine and non-routine travel, events, or settings.

Keep in Mind:
- The key to efficient contact investigations is setting priorities.
- All possible sites of transmission should be listed, regardless of how long the interviewee spent at the sites.
- Priorities should be set on the basis of the time spent in each setting by the index interviewee.
- Decisions regarding investigation of the sites and contacts should be made after all the information has been collected.

Step 4: Contact Identification (continued)

Identify potentially exposed contacts for each transmission site.
- Collect contacts for each transmission setting.
- Ask the names of contacts including full name, aliases or street names, a physical description, location and communication information (e.g., addresses and telephone numbers), and current general health.
- Spend time on contacts who are difficult for the interviewee to remember.
- Use open-ended questions to prompt recall (e.g., “How do you spend your time during a typical day?” “What do you do and where do you go on the weekends?”).
- Use the social networking approach - Ask the interviewee where and how he/she spends time. Find out where he/she has been staying or hanging out.
Step 4: Contact Identification (continued)

Identify potentially exposed contacts for each transmission site (continued).

Be sure to ask about:

- Close friends
- Sex partners
- Overnight guests and regular visitors
- Persons with whom drugs are used
- Overnight visits to any other locations
- Young children or immuno-compromised individuals
- Congregate settings (e.g., classrooms, grocery stores, etc.)

Step 4: Contact Identification (continued)

Identify length and duration for each potentially exposed contact.

For each contact in each transmission setting, ask for the type, frequency, and duration of exposure.

- How far apart was the contact from the interviewee?
- Was there any physical contact? If so, what and how much?
- How long were the interviewee and contact together?

Step 4: Contact Identification (continued)

Identify length and duration for each potentially exposed contact (continued).

May need to re-emphasize confidentiality throughout this process.

- Explain that the interviewee’s identity will not be disclosed during the investigation, and the same is true for contacts’ confidentiality.
- The health department cannot reveal the results of medical evaluations of contacts to the interviewee.
Step 4: Contact Identification (continued)

Classify contacts – High, Medium, Low risk.
- Priority ranking is determined by the characteristics of individual contacts and the features of the exposure.
- Review the case definition and state protocols.
- Priorities are based on the likelihood of infection and the potential hazards to the individual contact if infected.

Step 5: Conclusion

- Be positive.
- Acknowledge the interviewee’s participation.
- Let the interviewee know you can be contacted with any concerns that may arise.
- Remind the interviewee of their confidentiality.
- Emphasize the potential for a second interview.

Step 5: Conclusion (continued)

- Request and answer the interviewee’s questions.
- Review components of the treatment plan.
- Evaluate the interviewee’s remaining needs or potential adherence problems.
- Restate the date of the next medical appointment, if known.
- Reinforce the procedures for referral of each contact.
- Provide information on how the interviewee can contact you.
- If appropriate, shake the interviewee’s hand, express thanks and appreciation, and close the interview.
Step 6: Follow-up

- Best site for second interview is often the interviewee’s residence.
- Each site visit creates opportunities to:
  - Interview the index interviewee again.
  - Interview and test contacts.
  - Collect specimens.
  - Provide education.
- Environmental clues may create a new direction for the investigation.
- Certain sites (e.g., congregate settings) require special arrangements to visit.

Structure of the Interview

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Common Interview Challenges

- Need to change topic or get interviewee back on track.
- Interviewee provides too much information or goes off on a tangent.
- Interviewee asks lots of questions.
- Interviewee questions the use of surveys.
- Interviewee is reluctant to give information.
- Interviewee questions confidentiality.
- Interviewee does not have time.
- Language problems.
- Interviewee refuses to answer.
- Interviewee becomes impatient or expresses fatigue.
- Interviewee does not understand the question or gives irrelevant answer.
- Interviewee asks for feedback, confirmation, or additional information.
- Interviewee did not know he/she had the diagnosis in question.
Common Interview Challenges

Need to change topic or get interviewee back on track.
- Could be caused by an impatient or tired interviewee.
- If the interviewee seems confused rather than reluctant, probe by asking if you are being clear.

Strategy:
When the interviewee takes a breath or pauses . . .
- “That was helpful. But could you tell me about . . .”
- “Just a minute, tell me more about . . .”
- “You mentioned _____ tell more about that.”
- “I have a pretty good sense of your symptoms, now I’m going to ask about . . .”
- “That’s very interesting. Can you tell me more about . . .”

Common Interview Challenges

Interviewee provides too much information or goes off on a tangent.
- Do not sound uninterested in the interviewee’s digression.
- Guide the conversation back to the question at hand.

Strategy:
When the interviewee takes a breath or pauses . . .
- “I know you have a lot to do, so I’d like to move you through these questions.”
- “That was helpful. Now I want to ask you . . .”
- “I do not want to keep you on the phone too long. Here’s the next question.”
- “There are some questions about that later in the survey. Hold on to that thought for just a minute.”

Common Interview Challenges

Interviewee asks lots of questions.
If an interviewee asks: “What sorts of questions will you ask me?”
- Your response should be to give examples of several questions to the interviewee. Then move forward with the interview.

If an interview continues to ask questions . . .
- May need to re-emphasize the W.I.I.F.M., purpose of the investigation, and/or confidentiality.
- Offer to write down ALL the questions and provide answers during and/or after the interview.
Common Interview Challenges

Interviewee questions the use of surveys.

If the interviewee asks: “What good are these surveys?” or says: “Surveys are a waste of time.”

Strategy:
• “Information from this survey will be used to identify why people are getting sick in your community (city, town, neighborhood) and help us stop transmission of the disease.”
• Re-emphasize purpose and/or confidentiality.
• Review disease transmission as it may potentially impact the interviewee’s family and friends.

Common Interview Challenges

Interviewee is reluctant to give information.

If an interviewee says: “I’m uncomfortable about giving out personal information.”

Strategy:
• “We can skip any questions that make you uncomfortable.” Write “REFUSED” next to any questions the interviewee does not answer.
• Re-emphasize confidentiality.
• Inform interviewee these questions are being asked of everyone.
• Review the disease transmission process, and explain how the information provides insight into protecting family and friends AND identifying those people who may have been potentially exposed.

Common Interview Challenges

Interview questions confidentiality.

- Recognize the interviewee may have had past experiences where confidentiality was not maintained.
- Interviewee may be concerned about being “blamed” or “targeted.”

Strategy:
• “We maintain confidential health records here at the health department.”
• “I apologize confidentiality was not maintained in the past. I assure you I will follow the federal laws and maintain your confidentiality during this investigation.”
• Explain the purpose of the investigation and how results are used.
Common Interview Challenges

Interviewee does not have time.
If an interviewee says: "I don’t have time to complete a survey. Let’s do it another time.”

Strategy:
• Do not argue with interviewee.
• Do not rush through the questions or have the interviewee end the survey halfway through.
• Stress the importance of completing this survey. If they cannot complete the survey now, try to schedule the interviewee for a specific time to complete it.
• Set a specific time – do not leave the interviewee with a promise to “get back” on a time.

Common Interview Challenges

Language problems.

Strategy:
• If you are unable to understand what an interviewee is saying, ask the person to speak more slowly.
• If you still cannot understand, ask the person to reschedule and let your supervisor know.
• The study protocol may provide for a translator at the health department, or you may be able to ask a family member to translate.
• Be sure to ask your Strike Team Leader if there is a standard method of dealing with these situations.

Common Interview Challenges

Interviewee refuses to answer.
• If the interviewee seems confused rather than reluctant, probe by asking if you are being clear.
• Could be caused by an impatient or tired interviewee.

Strategy:
• Re-emphasize confidentiality and/or how the information will be used.
• If it is obvious that a interviewee is uncomfortable with a question, move on to the next question.
• Record response as “Refused to answer.”
• Interviewees have the right to refuse to answer questions.
Common Interview Challenges

Interviewee becomes impatient or expresses fatigue.
- Asking interviewees about where they have been during a specified time and who they may have had contact with can be tedious.
- If interviewees are not feeling well, the interview process can be stressful.

Strategy:
- “This should only be a few more minutes (or name an estimated amount of time). We will move through this as quickly as we can.”
- “We really appreciate your help with this survey; this should only take a few more minutes of your time.”
- “We are about half-way through. We have ____ more hours/minutes to go. I know this seems tedious. The information you provide allows us to help those who may have been exposed.”

Interviewee does not understand the question or gives irrelevant answer.
- May be caused by language, culture, or other barriers.
- Avoid rephrasing the question or response choices.

Strategy:
- “I think I read that question incorrectly, let me repeat it.”
- “Let me ask the question and the choices again.”
- “This is a tough question. Let me show you what it says.” Then show the interviewee the question on the survey.

Interviewee asks for feedback, confirmation, or additional information.
- An interviewee may want to know if his or her answers are “right.”
- The interviewee may not fully understand the purpose of the investigation or how the information will be used.

Strategy:
- Rather than saying anything that could influence their responses, say “there are no right or wrong answers.” Then move on to the next question.
- Restate the purpose, W.I.I.F.M., confidentiality, or outcomes of the investigation.
Common Interview Challenges

Interviewee did not know he/she had the diagnosis in question.

Strategy:
• Inform the interviewee that the diagnosis was reported to the state health department by the person’s doctor (or by the lab to which the doctor sent specimens).
• Suggest that the interviewee call the doctor for more information on the diagnosis.
• Offer to wait why the interviewee calls their doctor for verification.
• Try to conduct the interview, but reschedule if the interviewee can not focus on the questions.

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Epidemiology Contact Investigation Summary

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• Define the purpose of a contact investigation.
• Identify the steps of a contact investigation.
• Describe strategies for contact identification.
• Identify strategies for overcoming interview challenges.
Acknowledgements

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