

Chain of Transmission and Risk Assessment

Long Term Care Practice Activity

Activity 1: Case study

Scenario

Mrs. Blue is an 89 year old female with a history of diabetes and dementia. Mrs. Blue leaves on a one day pass for a family reunion celebration where several members of the family have diarrhea and vomiting. Upon return to the facility, Mrs. Blue is confused, has diarrhea, removes her soiled brief and it leaks on her bed and on the floor.

Questions for discussion

- Using the Chain of Transmission Model, explain how Mrs. Blue may have become infected.
- What infection control strategies could you use to break the chain to prevent the spread of this infectious agent to Mrs. Blue?
- What is the first thing you need to do before providing care for Mrs. Blue?
- What Risk Assessment questions do you need to ask yourself before providing care for Mrs. Blue?

Notes:

[illegible]

Suggested Feedback

1. As per the Chain of Transmission Model, Mrs. Blue may have been infected because:

- A bacteria or virus can cause a gastrointestinal infection. This link in the Chain is an Infectious Agent.
- Mrs. Blue's family members are sick so they are the Reservoirs in this Chain of Transmission.
- Mrs. Blue's family members have vomiting and diarrhea. Their gastrointestinal tracts are the Portals of Exit.
- Mrs. Blue's family members' hands and contaminated environmental surfaces are the Modes of Transmission.
- Mrs. Blue's gastrointestinal tract (mouth) is the Portal of Entry.
- Mrs. Blue's age and diabetes make her a Susceptible Host.

2. The infection control strategies you could use to break the chain to prevent the spread of this infectious agent include:

- Clean hands very well when providing care for Mrs. Blue. Cleaning hands breaks the chain by removing the Mode of Transmission, reducing the infectious agents through Portals of Exit and Entry, and killing or removing the Infectious Agent.
- Clean the bathroom and areas used by Mrs. Blue. Cleaning breaks the chain by removing the Reservoir and the Mode of Transmission.
- Clean equipment used by Mrs. Blue. Cleaning breaks the Chain by removing the Reservoir and the Mode of Transmission.

3. The first thing a health care provider needs to do before providing care for Mrs. Blue is:

- A risk assessment

4. Sample questions the health care provider can consider before providing care for Mrs. Pink are:

a. Are there alcohol-based hand rub or designated hand washing sinks for washing my hands or is available?

This question helps you to think about the controls in place. Conveniently located alcohol-based hand rub dispensers and dedicated hand washing sinks are examples of Engineering Controls which are safeguards built into the health care setting structure.

b. Is Mrs. Blue able to follow directions so she doesn't soil the environment?

This question helps you to think about the cognitive (mental) status of Mrs. Blue and her ability to cooperate with instructions.

c. Do I need to use any Personal Protective Equipment when I provide care for Mrs. Blue?

Although Personal Protective Equipment is the least effective control, PPE helps to protect you when you are taking care of Mrs. Blue. You may be at risk when you are in contact with excretions, because Mrs. Blue is having diarrhea, vomiting and is soiling the environment.

d. Does Mrs. Blue need a single room?

This is a question to consider. It is preferable that she has a single room if it is available. This is often not the case. It is important to minimize the risk of transmission of infection by dedicating either the washroom or a commode for Mrs. Blue's use until she is better.

Activity 2: Role Play Cards

[Fold]

[Cut]



Mrs. Blue

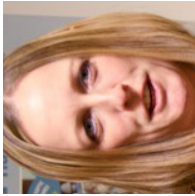
I live in a long term care facility. They are going to give me an evening pass. I am going to my daughter's for supper tonight for a family reunion.

[Cut]



Mrs. Blue's Grandson

I couldn't play with my friends yesterday because I barfed and pooped a lot, but I'm all better now. Mum says that Grandma is coming tonight for the family reunion. I love playing that hand clapping game with her!



Mrs. Blue's Daughter

My stomach is really upset. I have stomach cramps and am nauseated. I really feel ill, but I promised I would host the family reunion. I wish I had time to clean the bathroom but I'm not feeling very well and have been really busy.



Mrs. Blue's Health Care Provider

Mrs. Blue returned from a visit with her daughter late last night. This morning she was so weak and had diarrhea and vomiting and had a "few accidents", so I had to clean it up. She doesn't feel like getting up. I am so busy. I have many other patients to look after today.



Health Care Provider's Supervisor

I just learned that Mrs. Blue has vomiting and diarrhea. I will go see her and do a risk assessment. I'll also ask other Health Care Providers if anyone else has the same symptoms and reinforce infection prevention and control measures with all the staff. (Especially hand hygiene!)

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Activity 2: Possible Feedback for Debriefing

	How infection can be transmitted:	Possible Preventive Strategies:
Mrs. Blue I live in a long term care facility. They are going to give me an evening pass. I am going to my daughter's for supper tonight for a family reunion.	<ul style="list-style-type: none"> Mrs. Blue is a susceptible host due to her advanced age, immune status and communal living in a long term care facility 	<ul style="list-style-type: none"> Hand Hygiene Improved nutrition Avoid exposure to people who have communicable infections
Mrs. Blue's Grandson I couldn't play with my friends yesterday because I barfed and pooped a lot, but I'm all better now. Mum says that Grandma is coming tonight for the family reunion. I love playing that hand clapping game with her!	<ul style="list-style-type: none"> If the family has a communicable gastrointestinal infection, the mode of transmission is contaminated hands and contaminated environmental surfaces 	<ul style="list-style-type: none"> Hand Hygiene Frequent cleaning and disinfection of the environment (e.g., bathroom, surfaces)
Mrs. Blue's Daughter My stomach is really upset. I have stomach cramps and am nauseated. I really feel ill, but I promised tonight would host the family reunion. I wish I had time to clean the bathroom but I'm not feeling very well and have been really busy.	<ul style="list-style-type: none"> It seems that the family may have a communicable gastro intestinal illness An unclean bathroom poses a risk 	<ul style="list-style-type: none"> Reschedule the family reunion to another time when the family is no longer ill Hand hygiene Frequent cleaning and disinfection of the environment (e.g., bathroom, surfaces)
Mrs. Blue's Health Care Provider Mrs. Blue returned from a visit with her daughter late last night. This morning she was so weak and had diarrhea and vomiting and had a "few accidents", so I had to clean it up. She doesn't feel like getting up. I am so busy. I have many other patients to look after today.	<ul style="list-style-type: none"> Contact (hands, and contaminated surfaces) 	<ul style="list-style-type: none"> Hand hygiene Cleaning and disinfection of environmental surfaces and medical equipment/devices Health care provider wears personal protective equipment based on risk assessment Dispose of waste properly and handle linen properly
Health Care Provider's Supervisor I just learned that Mrs. Blue has vomiting and diarrhea. I will go see her and do a risk assessment. I'll also ask other Health Care Providers if anyone else has the same symptoms and reinforce infection prevention and control measures with all the staff. (Especially hand hygiene!)	<ul style="list-style-type: none"> Infectious agent Contaminated surfaces Contaminated hands 	<ul style="list-style-type: none"> Hand hygiene Risk assessment Ongoing surveillance for additional cases (patients with similar symptoms) Communication about transmission risks and education to reinforce hand hygiene, cleaning and disinfection, use of personal protective equipment