Lunch and Learn Series: July Session

CDC Project Firstline

Recognizing Infection Risks in Healthcare

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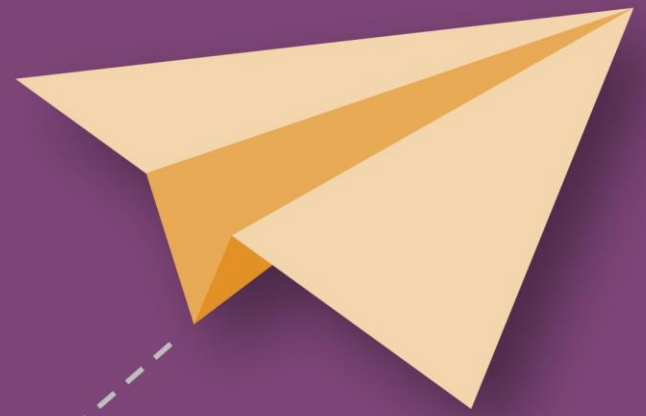
Welcome

Agenda

- How Germs Spread and Make People Sick
- How Can an Infection Occur?
- Bringing It Together
- Conclusion



How Germs Spread

Video:
How Germs Spread in Healthcare

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Five Elements of How Germs Spread and Cause Infection

Reservoirs

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Pathways

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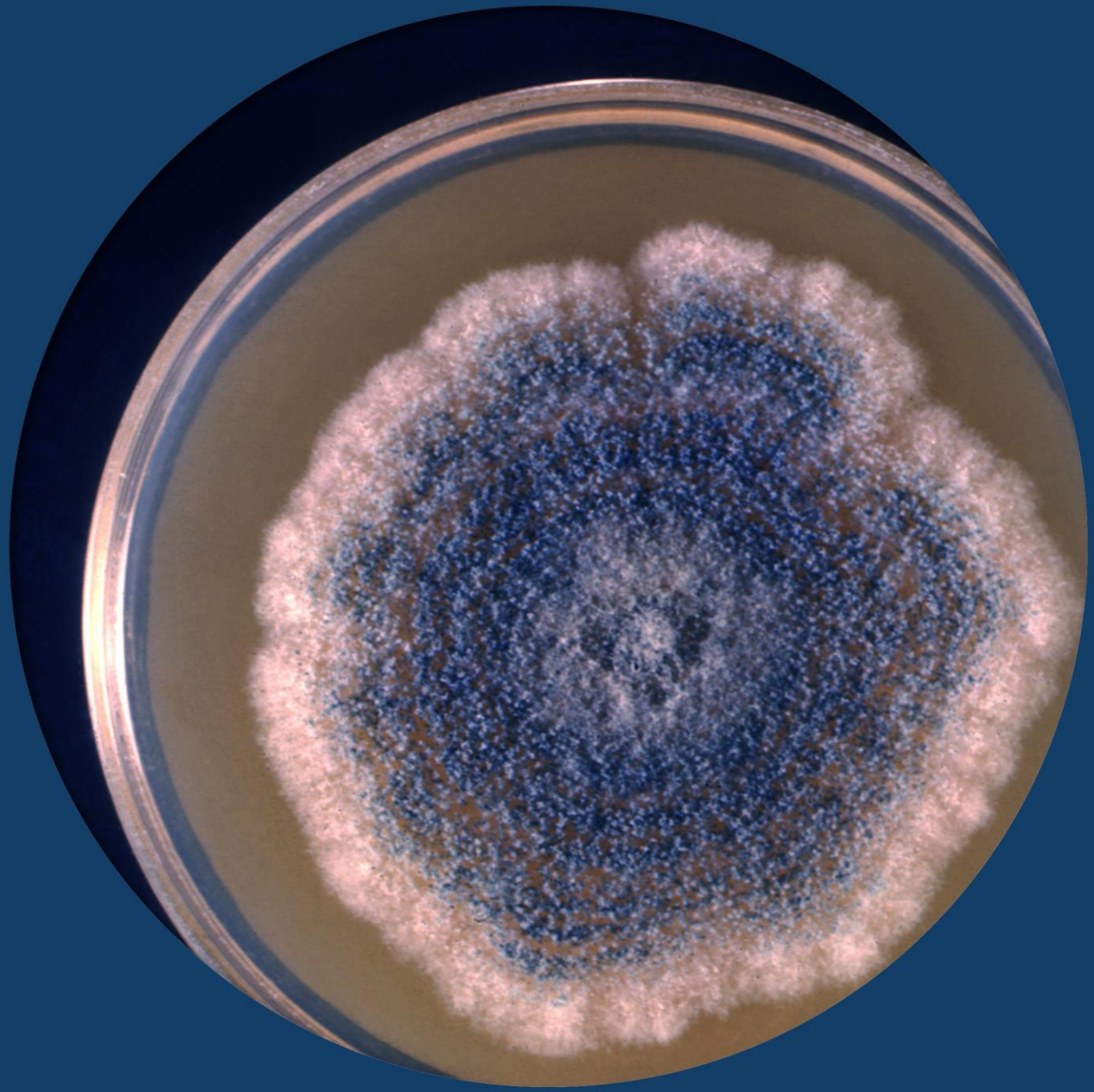
A Person to Infect

Getting around the Body's Defenses

Survival



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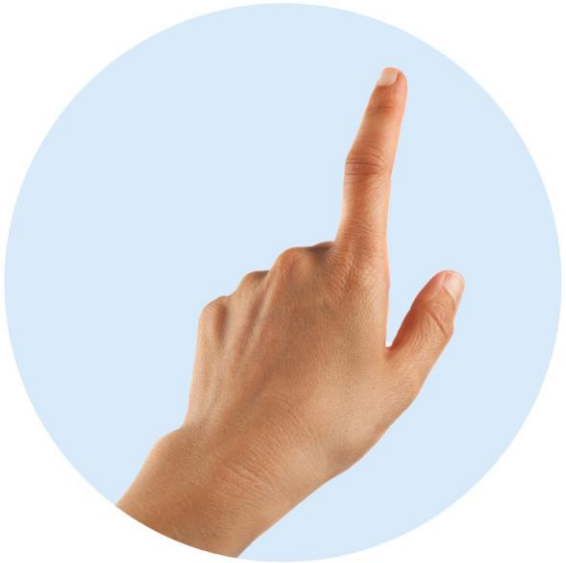
How Germs Spread in Healthcare: Four Main Pathways

1. Through touch
2. When they're breathed in
3. Through splashes or sprays
4. Through clinical care tasks that bypass or break down the body's natural defenses

Knowing Where Germs Live and How They Spread Helps You Recognize Risk



Reservoir

Pathway

Recognize the risks and take infection control actions

How Can an Infection Occur?

Scenarios: How Can an Infection Occur?

- Example scenario:
  - Start with a germ and a reservoir.
  - Walk through the five elements of germ spread.

Example Scenario

Strep on a Healthcare Worker's Hand

Germ:
Strep

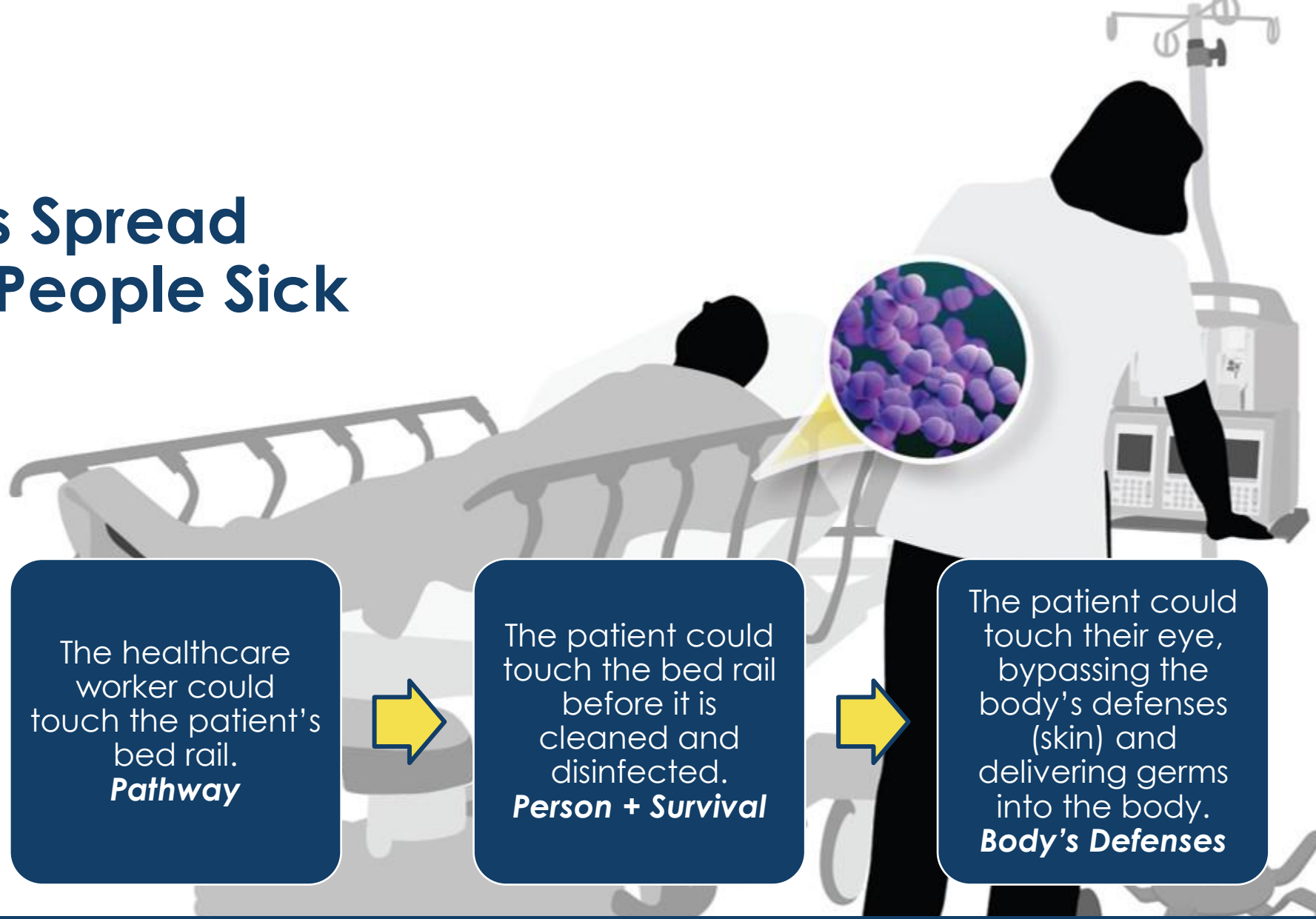
Reservoir:
Healthcare worker's hand

Five Elements:

1. Reservoirs
2. Pathways
3. Person
4. Body's defenses
5. Survival

Example Scenario

How Germs Spread and Make People Sick



The germ is on the healthcare worker's hands (skin)
Reservoir

The healthcare worker could touch the patient's bed rail.
Pathway

The patient could touch the bed rail before it is cleaned and disinfected.
Person + Survival

The patient could touch their eye, bypassing the body's defenses (skin) and delivering germs into the body.
Body's Defenses

Create Your Own Scenario

E. coli **in a patient's gut**

C. difficile **on a blood pressure cuff**

Pseudomonas **in a water faucet**

Bringing It Together

Reflection

- Thinking about your daily work, can you identify any of your tasks that are related to any of the five elements?
- Jot down in your participant booklet two actions you can take to stop the spread of germs to you or your patients.

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Key Takeaways

- ✓ Five elements for a germ to spread and cause an infection: reservoir, pathway, person to infect, getting around the body's defenses, survival.
- ✓ Infection control actions at any one of these key points stop germs from spreading and causing infection.
- ✓ Main pathways for germs to spread in healthcare: touch, breathing in, splashes or sprays, bypassing or breaking down the body's natural defenses.

Recognizing Risk Using Reservoirs

Part II

Recognizing Risk Using Reservoirs: A Review

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Recognizing Risk Using Reservoirs

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Recognizing Risk

- **Risk Recognition:** Seeing the potential for a problem to happen.
  - Seeing a potential problem doesn't mean the problem will definitely happen!
  - We take action to keep something bad from happening.
- **Reservoir**: a place where germs live and thrive.
- **Pathway**: a way for germs to be spread from their reservoir to another reservoir, or to a person to infect.

Germs in Healthcare

Reservoirs in the human body: skin, gastrointestinal (GI) system or "gut," respiratory system, blood

Reservoirs in the healthcare environment: water and wet surfaces, dry surfaces, dirt and dust, and devices

Common pathways for germ spread in healthcare:

- Touch
- Breathing in
- Splashes or sprays
- Bypassing or breaking down the body's natural defenses

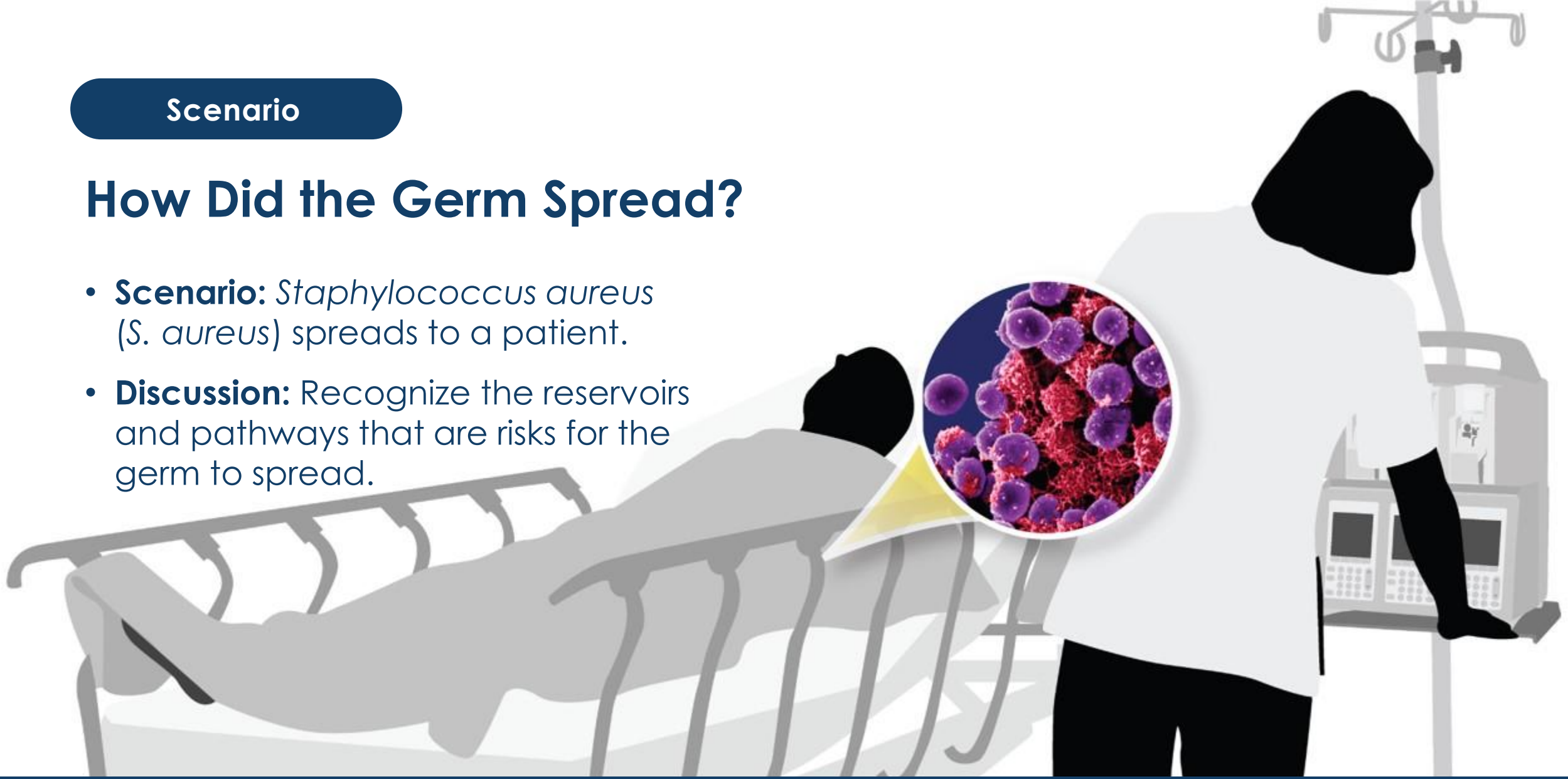
Elements of How Germs Spread and Cause Infection

How Did the Germ Spread?

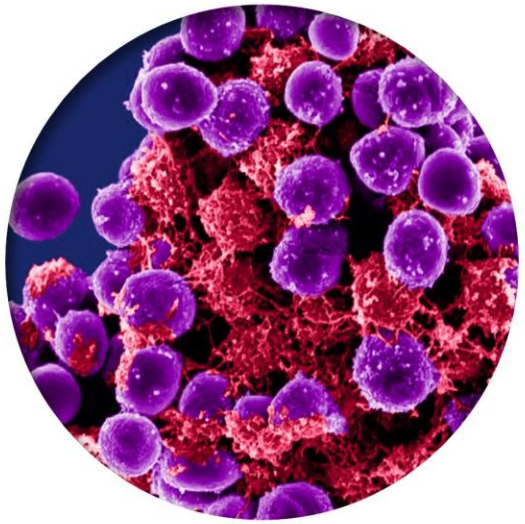
Scenario

How Did the Germ Spread?

- **Scenario:** *Staphylococcus aureus* (*S. aureus*) spreads to a patient.
- **Discussion:** Recognize the reservoirs and pathways that are risks for the germ to spread.



Staphylococcus aureus (*S. aureus*) Basics



- Commonly called "staph"
- Type of germ (bacteria)
- Common, most of the time does not cause any harm
- Can cause serious or fatal infections
- Some types are resistant to antibiotics
- Anyone can get an infection, but some groups are at higher risk:
  - People with chronic conditions, such as diabetes or cancer
  - Patients in healthcare

From *Staphylococcus aureus* in Healthcare Settings | HAI | CDC

Scenario

Identify how staph could be spread by touch in this scenario.

- **Setting:** a patient's room with the patient in bed.
- **Interactions:**
  - A physician conducts a brief physical exam.
  - A nurse checks the patient's vital signs.
  - An EVS technician completes a daily room cleaning.

Recognizing Reservoirs and Pathways

Reservoirs:

Skin

Gut

Respiratory system

Blood

Water and wet surfaces

Dry surfaces

Devices

Dirt and dust

Pathways:

Touch

Breathing in

Splashes and sprays

Bypassing/breaking down the body's defenses

Reservoirs: *S. aureus*

Reservoirs:

Skin

Gut

Respiratory system

Blood

Water and wet surfaces

Dry surfaces

Devices

Dirt and dust

Pathways: *S. aureus*

Pathways:

Touch

Breathing in

Splashes and sprays

Bypassing/breaking down the body's defenses

Scenario

Flash Breakouts

Identify how staph could be spread by touch in this scenario.

- **Setting:** a patient's room with the patient in bed.
- **Interactions:**
  - A physician conducts a brief physical exam.
  - A nurse checks the patient's vital signs.
  - An EVS technician completes the daily room cleaning.

Bringing It Together

Reflection

- Thinking about your daily work, what is one step that you can take to recognize an infection risk?
- Jot down one action you can take to stop the spread of germs.

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Key Takeaways

- ✓ Germs are found in certain places – called reservoirs – and need a pathway to spread to other places and people.
- ✓ When you understand where germs live and how they might be moved from one place to another or to people, you can recognize the risk for it to happen.
- ✓ When you recognize risks for germs to spread, you can choose the right infection control actions to keep it from happening.

How to Get Involved and Feedback

Project Firstline on CDC.gov: https://www.cdc.gov/infectioncontrol/projectfirstline/index.html

CDC's Project Firstline on Facebook: https://www.facebook.com/CDCProjectFirstline

CDC's Project Firstline on Twitter: https://twitter.com/CDC_Firstline

Project Firstline *Inside Infection Control* on YouTube: https://www.youtube.com/playlist?list=PLvrp9iOILTQZQGtDnSDGViKDdRtIc13VX

To sign up for Project Firstline e-mails, click here: https://tools.cdc.gov/campaignproxyservice/subscriptions.aspx?topic_id=USCDC_2104

- Project Firstline feedback form: https://www.cdc.gov/infectioncontrol/pdf/projectfirstline/TTK-ParticipantFeedback-508.pdf
- Oregon Project Firstline: tinyurl.com/OregonProjectFirstline