

## Antibiotic Resistance

- ☐ Antibiotic resistance is the ability of bacteria to resist the effects of an antibiotic – the bacteria are not killed.
- ☐ Resistant bacteria survive exposure to the antibiotic and continue to multiply, potentially causing more harm and spreading to other people.
- ☐ Overuse and misuse of antibiotics promote the development of antibiotic-resistant bacteria.

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## Up to 50% of Antibiotic Use is Inappropriate

- ☐ Antibiotics are:
  - ☐ Given when they are not needed
  - ☐ Continued when they are no longer necessary
  - ☐ Given at the wrong dose
- ☐ Broad spectrum agents are used to treat very susceptible bacteria.
- ☐ The wrong antibiotic is given to treat an infection.

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## Documented Harms of Antibiotic Use/Misuse

- ☐ Getting an antibiotic increases a patient's chance of becoming colonized or infected with a resistant organism.
- ☐ Increasing use of antibiotics increases the prevalence of resistant bacteria in hospitals.
- ☐ Antibiotic resistance increases mortality.

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## Proven Benefits of Improving Antibiotic Use

- ☐ Reduces resistance
- ☐ Improves infection cure rates
- ☐ Saves money
- ☐ Improving antibiotic use is a public health imperative – antibiotics are the only drug where use in one patient can impact effectiveness in another.

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## Vermont Hospitals Need Help

- A CDC Prevention Status Report to be published online February 29 will show Vermont as “in the red” because only 7% of hospitals had antibiotic stewardship programs that included all of the CDC-recommended core elements:

- |                         |             |
|-------------------------|-------------|
| □ Leadership commitment | □ Tracking  |
| □ Accountability        | □ Reporting |
| □ Drug expertise        | □ Education |
| □ Action                |             |

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## Antibiotic Stewardship Programs

- Designed to reduce antibiotic usage through guidelines, education, and monitoring and feedback to prescribers.
- In particular, Vermont hospitals need access to the expertise of an infectious disease-trained physician and pharmacist to guide stewardship efforts.

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## Vermont Antibiotic Stewardship Initiative

- Health Department will partner with UVMMC
- Each participating hospital will form a stewardship committee with support from UVM ID physician and pharmacist
- UVM physician will review charts each month with hospital staff to assess appropriate antibiotic use
- Aggregate findings will be used to educate providers through emails, medical staff meetings and grand rounds

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## Surveillance for Antibiotic Resistance

- Laboratory data on resistance patterns is key to know how we're doing.
- We'll partner with the WHO Collaborating Centre for Surveillance of Antimicrobial Resistance.
- WHONET is a database software for the management and analysis of microbiological and clinical data with a special focus on antimicrobial susceptibility test results.
- WHONET software is already in Vermont hospitals because of work the Health Department is doing to prevent healthcare-associated infections.

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## Expected Outcomes

- ☐ Improved antibiotic prescribing
- ☐ Reduction in antibiotic use
- ☐ Decreased incidence of antibiotic-related adverse drug events
- ☐ Reduction in antibiotic costs per 1,000 patient-days
- ☐ Decreased prevalence of antibiotic-resistant pathogens
- ☐ Decreased incidence of healthcare-associated *C. difficile* infection

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