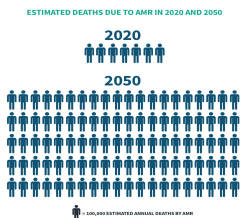


# Improving nurses knowledge during the discharge of a patient with antibiotics

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## Introduction



[https://csis-website-prod.s3.amazonaws.com/s3fs-public/Bristol\\_Graphics-01.jpg](https://csis-website-prod.s3.amazonaws.com/s3fs-public/Bristol_Graphics-01.jpg)

According to the Centers for Disease Control (CDC) and Prevention, 2 million cases of antibiotic resistant bacteria occur every year resulting in the loss of nearly 23,000 lives in the United States alone (Sumner et al., 2018).

Question: In medical-surgical nurses discharging patients with antibiotics, how effective is an online education module versus no education module in increasing nurses' knowledge and confidence during discharge teaching on proper antibiotic usage?

## Literature Search

Databases: CINAHL, UC Libraries, PubMed, Scopus, DynaMed

Dates ranges of articles: 2015-2021

Keywords: Antibiotics, Antibiotic therapy, Discharge Teaching, Nurses, Inpatient, Resistance, Infection Antibiotic guidelines.

## Current Evidence

- Microorganisms mutate and develop lines of defense against antibiotics.
- Antibiotic resistance occurs when there's widespread antibiotic use, misuse of antibiotics, and unnecessary prescribing of antibiotics.
- It is a common misconception that doctors should be the ones receiving all the education on how to properly administer antibiotics. In reality, "outpatient antibiotic use, which accounts for ~80% of human antibiotic use, is considered a principal driver of antibiotic resistance in the community." (Oleson et al., 2020) As the primary educators of outpatient antibiotic use, with proper teaching, nurses may be a driving force to halt the increase in antibiotic resistance.
- The main barriers to implementing a successful antibiotic stewardship program which promote proper antibiotic use is the lack of nurse education (E. Monsees et al., 2018).
- Without proper discharge teaching on antibiotic use, patients are at risk for a variety of complications and adverse effects.

## Education Plan

### Pre-module survey:

- Emailed link to a 5 to 10 question pre module survey encompassing general post discharge teaching that may be provided to a patient following antibiotic therapy.
- 3 to 5 more questions about how the nurses personally feel in regard to their confidence in providing patients with the information needed to correctly follow their antibiotic regimen.

### Educational Module:

- PowerPoint delivered to the work emails of nurses at UCMC 6NW that outlines different topics and techniques used to teach and assess overall patient learning and understanding to increase the competence and confidence of these nurses.

### Post-module survey:

- Embedded link to identical quiz to assess the knowledge gained from this lesson.

## Implementation

### Audience/Location

- March 10th at University of Cincinnati Medical Center in Cincinnati, Ohio.
- Nurses on 6NW

### Medium for education

- Short 15-20 minute Powerpoint presentation that may completed at the convenience of the nurse.
- 11 nurses participated in the education module and feedback was collected via pre/post survey.

### Survey:

Link leading to a Google Forms survey consisting of:

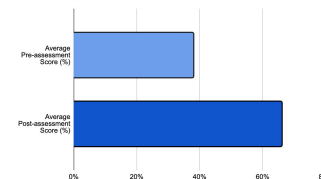
- Multiple choice (x4)
- Select all that apply (x3)
- True/False: (x1)
- Confidence scale: Not Confident (1) - Very confident (10) (x2)

## Evaluation

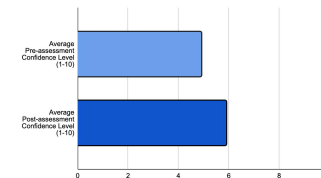
**82%** = The percentage of nurses who increased their assessment score

**90%** = The percentage of nurses who indicated they were more confident after education

### Results of Assessments



### Results of Confidence Levels



## Lessons Learned

Our results showed an increase in the knowledge and confidence of nurses, however, our teaching was not as effective as we intended. Factors that can strengthen our study include:

- More time to work with health guidelines
- A larger survey size
- More diverse educational methods
- In person interaction and education
- Diversity in the experience of the sample size