

Evaluation of Infection Integration in a Concept-based Curriculum: Are We Preparing Students for Contemporary Practice?

**Sigma Theta Tau International and National League of Nursing
Nursing Education Research Conference**

March 26-28, 2020

Washington, DC

Mary Lou Manning, PhD, CRNP, CIC, FAPIC, FAAN

David Jack PhD, RN, CPN, CNE

Lori A. Wheeler PhD, RN

Monika Pogorzelska-Maziarz, PhD, MPH, CIC, FAPIC

Background

- While significant progress has been made in infectious disease (ID) prevention and treatment, much work remains to keep patients safe and free from harm.
- In the US, **healthcare-associated infections (HAI)** remain a major patient safety problem. On any given day, one in 25 hospitalized patients acquires at least one HAI, including pneumonia, gastrointestinal illness such as *Clostridium difficile* infection, infections of the urinary tract, bloodstream or surgical site. This translates to approximately 722,000 HAIs and 75,000 deaths annually.
- The **majority of HAIs are preventable** with the systematic implementation and sustained use of evidence-based infection prevention and control (IPC) practices.

Background

- **Antibiotic resistance** poses an escalating threat to public health worldwide.
- **Antibiotic stewardship** refers to a set of coordinated strategies to improve the use of antibiotics with the goal of enhancing patient health outcomes, reducing resistance to antibiotics, and decreasing unnecessary costs.
- The ANA with the CDC released a White Paper outlining how nurses can become more engaged and take a leadership role to enhance antibiotic stewardship efforts.

WHITE PAPER



**Redefining the Antibiotic Stewardship Team:
Recommendations from the American Nurses
Association/Centers for Disease Control and Prevention
Workgroup on the Role of Registered Nurses in Hospital
Antibiotic Stewardship Practices**

Effective Date: 2017

Background

Given the morbidity and mortality associated with HAIs, the rapid rise of antibiotic resistance, and the resurgence of IDs such as Ebola virus and other high-threat pathogens - such as the 2019 novel coronavirus (2019-nCoV) - *it is essential that nursing students graduate from their programs, with a deep understanding of the infection concept, and the ability to apply their knowledge and skills regardless of complexity of patient or geographic location.*

Review of the Literature

Several of our faculty conducted a ROL to explore the integration of the concept of infection and the associated teaching-learning strategies, in U.S. prelicensure baccalaureate nursing programs.

Inclusion criteria

- ✓ peer-reviewed articles published between January 2007 and March 2019
- ✓ written in the English language
- ✓ pertained only to prelicensure baccalaureate nursing programs in the US.

Exclusion criteria

- ✓ editorials, commentaries, abstracts, conference proceedings, literature reviews, and general discussion papers
- ✓ articles focused on specific infectious diseases
- ✓ articles describing interprofessional IPC teaching strategies where nursing students were not stratified.

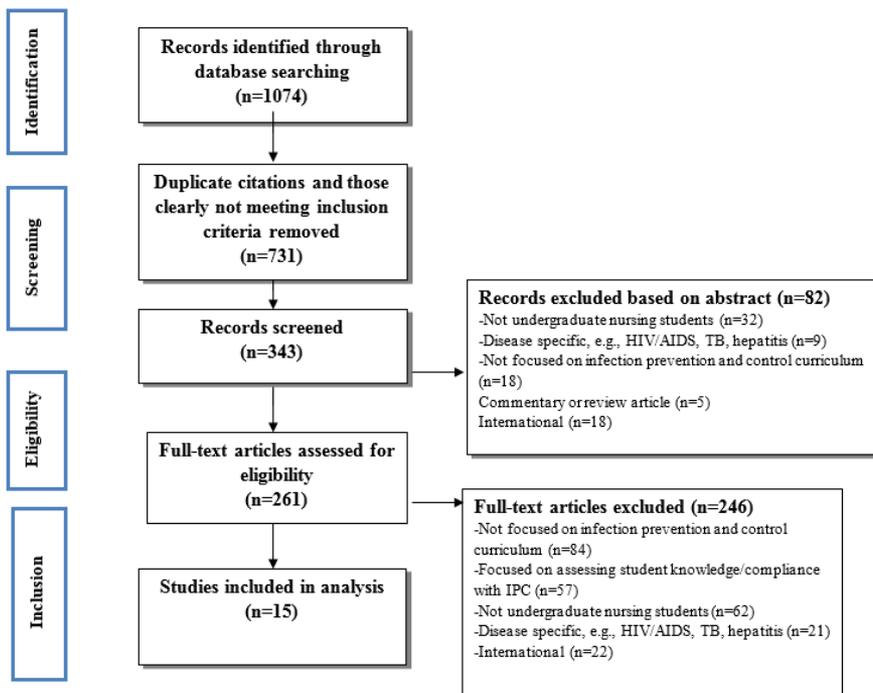


Figure 1. Flow diagram of search and study selection

- Five articles focused on the concept of infection (or the related concept of immunity or patient safety) and used exemplars as teaching strategy
- Ten articles focused on strategies to teach the IPC practice/s of hand hygiene (HH); HH and personal protective equipment (PPE); PPE and isolation precautions; and sterile technique.
- Most articles were limited to describing a concept, content, or teaching strategies in just one course (e.g., Fundamentals of Nursing, Nursing Research).

Manning ML, Pogorzelska-Maziarz M, & Ward J. (2019). Nurse Educator

Concept-Based Curricula

A National Study of Critical Concepts

Jennifer A. Brussow, MA; Karin Roberts, PhD, RN, CNE; Matthew Scaruto, MA;
Sheryl Sommer, PhD, RN, CNE; and Christine Mills, PhD

ABSTRACT

As nursing education struggles to address a rapidly changing health care system, overcrowded curricula, and an increased focus on clinical reasoning skills, many programs have adopted or transitioned to concept-based curricula (CBCs), which are structured around key concepts and exemplars. Despite CBC's promised benefits, the process of developing a CBC framework may pose a challenge to programs. To address this barrier, a national study was conducted to develop a representative list of concepts and exemplars. This initiative expands on prior work by suggesting a leveled approach to positioning exemplars within a curricular sequence.

Keywords: concept-based curriculum, curriculum, educational models, nursing curriculum

Cite this article as: Brussow JA, Roberts K, Scaruto M, Sommer S, Mills C. Concept-based curricula: a national study of critical concepts. *Nurse Educ.* 2019;44(1):15-19. DOI: 10.1097/NNE.0000000000000515

Purpose and Methods

Purpose: evaluate our baccalaureate concept-based curriculum, launched in 2016, for infection concept integration.

Methods

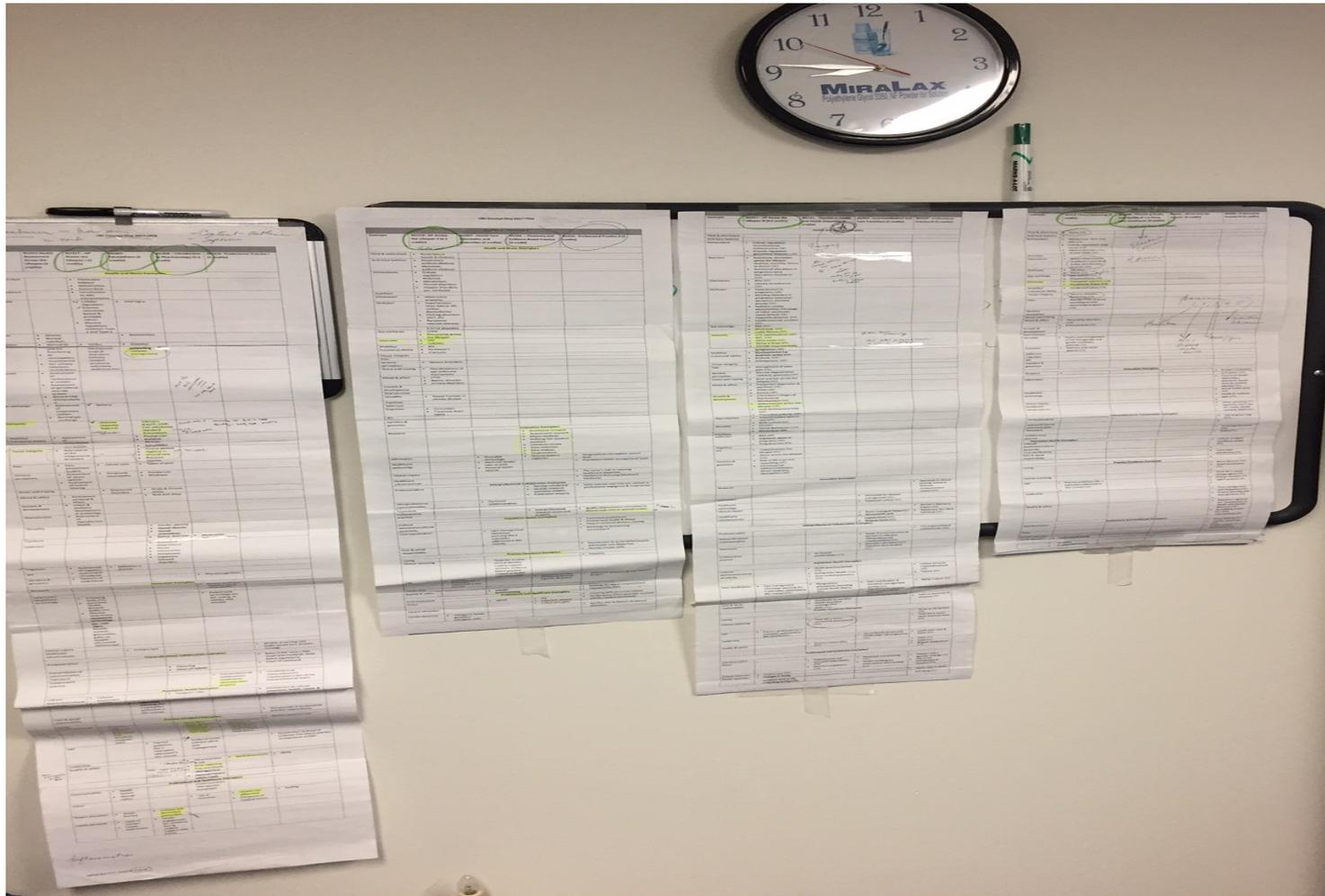
1. review the overarching curriculum concept map for the concept of infection examine each course syllabi (n=20) and course content outline for topics related to infection and infection prevention and control.
2. interview course faculty (n=7) to determine if additional content, not evident from syllabi or outlines, was taught.

Procedures

- The project team met every 2-3 weeks for 9 months
- Dave took detailed minutes at each session
- Created a folder on Blackboard for all documents



Procedures



Findings

1. Absence of infection in the overarching curriculum concept map and inconsistencies between the curriculum concept map and content outlines.
2. Infection and IPC related content was limited and usually included under the concept of immunity. Exemplars included hand hygiene, HAI, HIV, and cellulitis.
3. Interviews revealed content taught not appearing in course syllabi or course content outline, including principles of sterility and isolation precautions.

Conclusion

- The outcome of this faculty-driven infection concept integration review indicate that we may not be preparing our students for contemporary IPC practice.
- Findings were shared with our Concept-based Curriculum evaluation team which prompted curriculum revision building increasingly complex exemplars and simulation activities to reinforce critical infection related knowledge and practices.
- This approach can be used to evaluate any curricular concept integration.

Next Steps

We received a Stratton Foundation Grant to fund a related project titled “Baccalaureate Nursing Students’ Knowledge of Drug Resistant Infections and Antibiotic Stewardship Before and After a Standardized Patient Educational Encounter.”

References

1. American Nurses Association. Redefining the antibiotic stewardship team: Recommendations from the American Nurses Association/Centers for Disease Control and Prevention workgroup on the role of registered nurses in hospital antibiotic stewardship practices. Available from: <http://www.nursingworld.org/ANA-CDC-AntibioticStewardship-WhitePaper>.
2. Brussow, J.A., Roberts, K.R., Scaruto, M., Sommer, S., & Mills, C. (2019). Concept-based curricula: A national study of critical concepts. *Nurse Educator*, 44, 15-19.
3. Centers for Disease Control and Prevention. Healthcare-associated Infections (HAI) Progress Report. Available at: <http://www.cdc.gov/hai/surveillance/progress-report/index.html>
4. Centers for Disease Control and Prevention. Antibiotic resistance threats in the United States, 2019: https://www.cdc.gov/drugresistance/biggest_threats.html.
5. Manning, M.L., Pogorzelska-Maziarz, M., & Ward, J. (2019). Infection concept integration and teaching strategies in US Baccalaureate Nursing Programs in an Era of concept-based curriculum. *Nurs Educator*. 00(00):00-00. doi: 10.1097/NNE.0000000000000767. [Epub ahead of print]
6. Schreiber PW, Sax H, Wolfensberger A, et al. The preventable proportion of healthcare-associated infections 2005-2016: Systematic review and meta-analysis. *Infect Control Hosp Epidemiol*. 2018;39(11):1277-95.