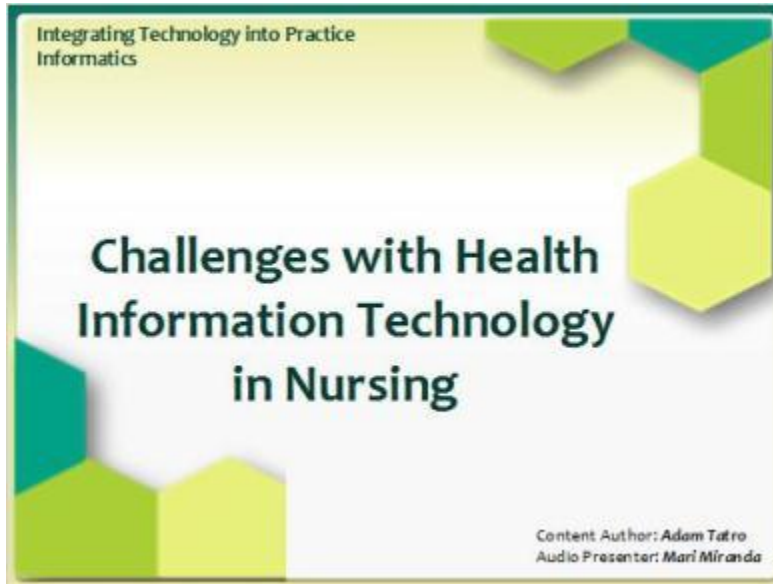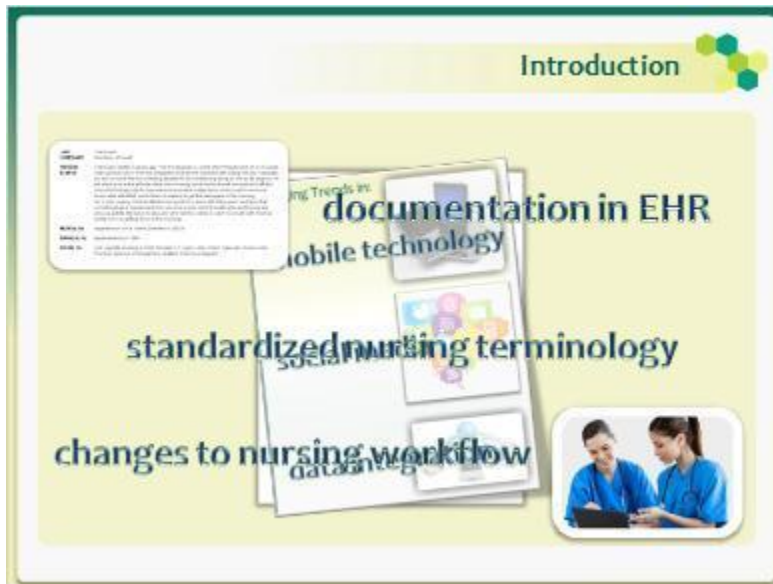# Informatics
Challenges with Health Information Technology in Nursing

1.1 Introduction to Health Informatics and Nursing

Notes:

1.2 Introduction

Notes:

Welcome to the module on challenges with health information technology in nursing. In the Emerging Trends and Technology in Healthcare module you learned about how mobile technology and social media is being used in healthcare. You also learned about the use of emerging technologies such as RFID, nanotechnology, wireless, and gaming in healthcare. In this module you will learn about some additional challenges with the use of Health Information Technologies. Specifically documentation in EHRs, the impact of standardized nursing terminology, and some potential changes to nursing workflow and practice. Let's begin with challenges related to documentation in an Electronic Health Record.

1.3 Note Bloat

Notes:

In the Electronic Health Record module you learned that large amounts of data are being recorded and captured. This information can be used to feed reports and populate notes. This has created a phenomenon termed note bloat. Remember that note bloat is the addition of large amounts of information making it difficult for a clinician to identify the most relevant and important information. Information can be automatically inserted into a note. In some cases, the inclusion of this information is due to billing or compliance needs. However this can make it more difficult for a clinician to decipher what information is relevant or new. This decreases efficiency and can cause relevant clinical information to be missed. For example, links can be inserted into a note that will automatically pull in large amount of laboratory data. Critical changes in lab results could be lost within the large amount of less relevant or irrelevant data in the note if not specifically highlighted by the author.

1.4 Redundancy

Notes:

The challenge of note bloat highlights another issue with EHR documentation which is redundancy. A goal of an EHR is to reduce or eliminate the need for repeat documentation, and to have all the relevant information documented once and available for viewing. However, in the current healthcare culture this is often not the case. Many healthcare institutions and insurance companies require that certain elements be present in a note. These elements are already present in other parts of the system. This information is being aggregated for billing or compliance purposes, not necessarily for clinical purposes. The redundant use of this information contributes to note bloat and inefficiency. Information can be aggregated and displayed in more effective ways such as through dashboards. The use and displaying of data will be covered in another module.

1.5 Entry Errors
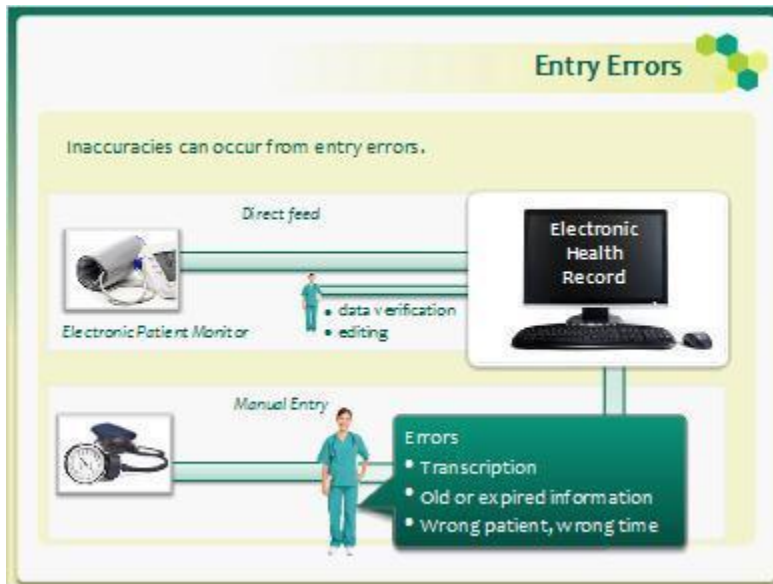
Notes:

In addition to note bloat, the information that is entered into an EHR can be inaccurate. Inaccuracies can occur from entry errors.

Unless information is directly fed into a healthcare information system, such as through a direct feed from a patient monitor, there is still the need for humans to enter data. Even with direct feeds, data verification and editing is necessary. The human factor introduces errors which can have a profound impact on patient care. Errors can result from:

• Transcription errors - such as entering in a verbal order incorrectly

• Not updating/removing old or expired information - such as medications that a patient is no longer taking from the active medication list

• Entering information on the wrong patient or at the wrong time - such as documenting a nursing assessment on the wrong patient
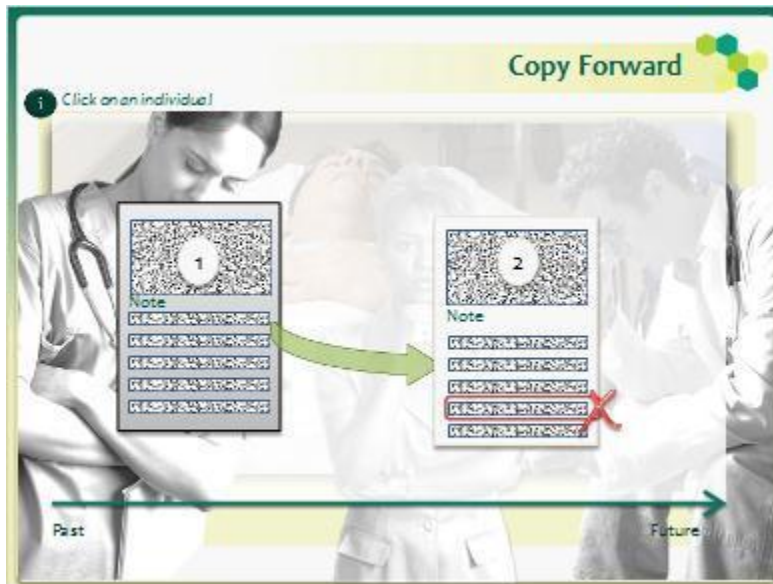
1.6 Entry Errors
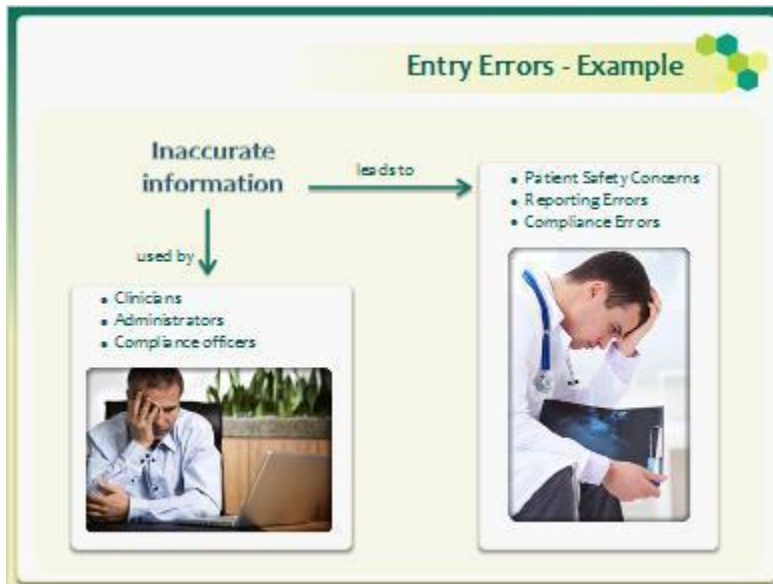
Notes:

Earlier in the year, Jack was misdiagnosed with Asthma which was entered into an Electronic Health Record. Jack is now to receive the flu vaccine and his mother requests that he receive the flu mist. The doctor review's Jack's Health Records and advises that Jack should not receive the flu mist because of a pre-existing condition. The misdiagnosis of Asthma was never removed from Jack's record and is now the basis for the doctor's decision. This is an example of how entry errors can influence patient care.

Entry errors, such as inaccurate diagnoses, have the potential to influence Decision Support Systems, and will also be copied to patients' Personnel Health Records.

Inaccurate information within an EHR can lead to patient safety concerns, reporting errors, and compliance errors. The erroneous information could be acted upon by other clinicians not realizing that the information may be inaccurate. This could lead to potential patient safety risks. As the use of analytics increases with increased use of EHRs, outliers or false information contained within reports could present a very different picture than what was intended. These reports are used by clinicians, administrators, and compliance officers - thus potentially leading to wrong actions at many different levels within a clinical organization.

1.7 Copy Forward

Notes:

Along with data entry errors, copying information forward through notes also may lead to inaccurate information in a patient's medical record. Most EHRs have a feature that allows a clinician to copy a previous note or flowsheet forward to save on time. However, some of the information contained within these notes or flowsheets may no longer be completely accurate at the time of the copy. Here we have a nurse, a clinician and an administrator who all have experience with errors generated from copying forward. Click on each individual to hear his or her story.

"I made an error on Mrs. Johnson's record. It was the end of my shift and I was completing my shift assessment. I quickly reviewed the assessment from the previous shift and nothing seemed to have changed. However, I overlooked the fact that in the previous assessment it stated that Mrs. Johnson's abdomen was NOT distended. Had I taken the time to read the assessment more carefully I would have indicated that her abdomen was now distended. "

"In updating Mr. Allen's record, I copied a note which was created earlier in the admission process. Unfortunately it contained a differential diagnosis which had already been ruled out. My error was perpetuated as it continued to be copied over by the next clinician. "

"When entry errors are brought to my attention, I have been asked why is it that we administrators continue to allow the use of these tools. In response, I emphasize that when clinicians are trained properly and the tools are utilized correctly, these tools significantly improve efficiency. They do this by shifting the time spent on documentation to time spent with the patient."

1.8 Lack of Standardized Terminology

Notes:

With the emergence of health information technology and interoperability, the need for standardization has increased. Nursing has traditionally described or documented nursing care in terms that are not always clear to other health team members or standardized. Standardization of nursing terminology is part of a broader topic within nursing, however, there are specific implications concerning Health Information Technology.

A standardized nursing language would be a "common language, readily understood by all nurses, to describe care" (Keenan, 1999, p.12). Without such a standard language some critical elements to improve nursing cannot be performed, such as comparisons. The comparison of data within and across institutions is needed to establish best practices, evaluate and generate new nursing interventions, and perform quality assurance.

However, without a common language these actions cannot be performed. Comparisons between institutions cannot be made easily. For example, in reference to sputum production, small, moderate, and large are used as descriptors for volume.   But how much is small, moderate, and large in terms of volume? Without precise definitions, there is inconsistency, which reduces the quality of comparisons made using this information. The National Quality Forum, a nonprofit organization committed to healthcare improvement, has stated that "given the importance of nursing care, the absence of standardized nursing care performance measures is a major void in healthcare quality assurance and work system performance"(NQF, May 2003, p. 1). Health Information Technology is enabling institutions, states, and nations to share, aggregate, and analyze large amounts of data. Without the consistency of a standardized nursing language, it becomes more difficult to quantify nursing's contribution to outcomes.

1.9 Benefits of Standardization

Notes:

The use of standardized nursing terminology will become a necessity in the increasingly technological nursing world. The use of standardized terminology will allow for many benefits including:

- Consistent use of terminology across clinical settings and specialties

- Communication between health information systems can more easily be achieved

- Reporting and evaluation of data

- Assess nursing competency

Standardization of nursing documentation will be critical to realizing the goal of interoperability. The ability of sharing comparable data across healthcare organizations will enable comparisons for benchmarking, research, quality improvement, quality assurance, and patient safety. Performing these comparison will be essential to improving patient outcomes and patient care.

For more information on standardization of nursing terminology visit the International Classification of Nursing Practice website

 http://www.icn.ch/pillarsprograms/international-classification-for-nursing-practice-icnpr/

1.10 Impact of Health Information Technology on Nursing Workflow

Notes:

Several different types of health information technology have been discussed so far, including Electronic Health Care, Decision Support Systems, barcode scanning, mobile technology and social media. The integration of these systems and technology into nursing practice can have a significant impact on nurses and their workflow. Careful consideration of how nurses work, barriers nurses face in practice, and nursing values is needed to properly integrate health information technology. Unfortunately this is not always the case. The implementation of Health Information Technology can impact nursing workflow and practice negatively by reducing productivity and increasing frustration.

1.11 Reducing Productivity
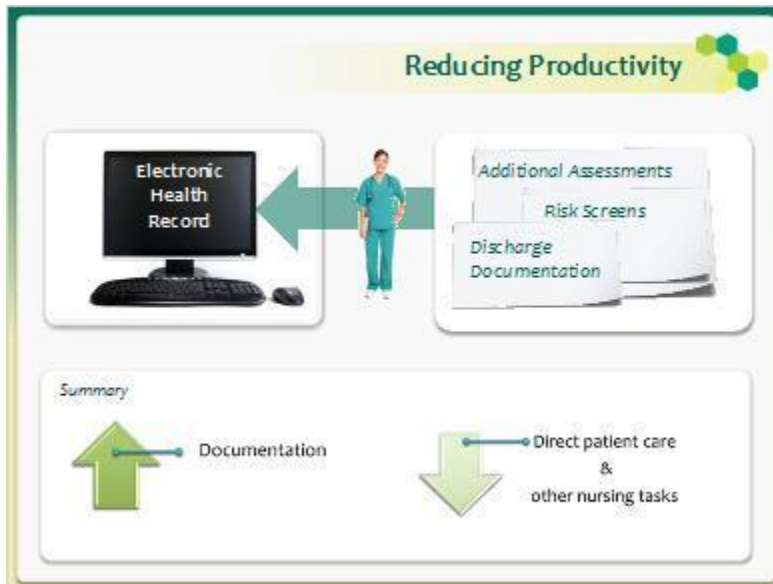
Notes:

Implementation of Health Information Technology without thoughtful consideration can decrease productivity. Many institutions see the Electronic Health Record as an opportunity to incorporate additional documentation, such as additional assessments, risk screens, and discharge documentation. Compliance, regulatory, and quality improvement often are the motivators behind this increase in documentation. The burden of this additional documentation often falls to the nurse. The additional documentation requires additional time to complete. This can add a significant amount of time to the nurses workday and shift time away from spending with the patient. For example, a shift assessment that once took 2 minutes to complete on paper can take over 7 minutes in an EHR. The increased documentation time can reduce productivity in terms of direct patient care and other nursing tasks.

1.12 Increased Frustration

Notes:

With this increased documentation comes increased frustration among nurses. The additional documentation increases the nurses work load, contributing to feelings of frustration. Workarounds and other unsafe practices may develop to increase efficiency as a result of this frustration. For example, a nurse may simply copy a previous assessment without reviewing its content in order to reduce the time spent on documentation. This could lead to an inaccurate assessment of a patient, which could have a much broader impact than realized.

1.13 Potential Change to Nursing Workflow or Practice
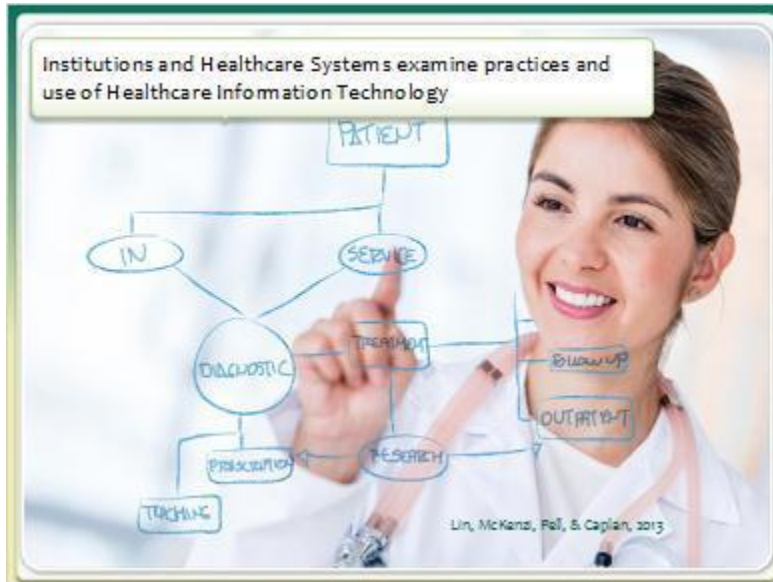
Notes:

The concerns that have been outlined in the module have caused some institutions and healthcare systems to examine their practices concerning the use of healthcare information technology in order to address these emerging issues. These potential changes can have an impact on nursing practice. One change that is being considered is the APSO note, where APSO refers to Assessment, Plan, Subjective and Objective. Current practice in both nursing and medical education is to teach students to construct progress notes using the SOAP (Subjective, Objective, Assessment, and Plan) format.   In this format, the Subjective and Objective sections often contain information from other parts of the chart, such as vitals, medications, imaging results, diagnoses, etc., and are also pulled into the note for billing and regulatory compliance. Bloated notes are generated from additional information being added to these two sections. However, clinicians find the Assessment and Plan sections to be the most clinically relevant. Clinicians therefore have to scroll through a large amount of information to reach the assessment and plan. To address this issue, some institutions and practices have changed the SOAP format to an APSO format. Utilizing this format would place those sections that may be of more value to clinicians, Assessment and Plan, at the beginning of the note saving them from scrolling to reach the important information. A recent provider satisfaction evaluation in 13 practices was completed on the use of the APSO format. 73% of the providers were either satisfied or very satisfied with using the APSO format and 82% of providers were satisfied or very satisfied with reading APSO formatted notes (Lin, McKenzi, Pell, & Caplan, 2013).

1.14 Knowledge Check

1.15 The implementation of Health Information Technology can negatively impact nursing workflow and practice by reducing productivity.

Which of the following activities result in a reduction in productivity?

(Select the best answer.)
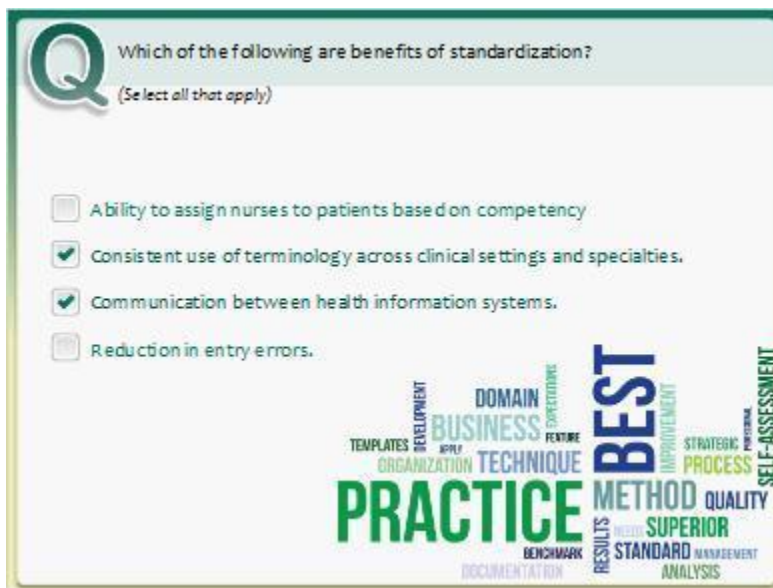
Feedback when correct:

That's right!

Feedback when incorrect:

You did not select the correct response.

Correct Response: Entering additional documentation required by compliance.

Notes:

1.16 Which of the following are benefits of standardization? (Select all that apply)
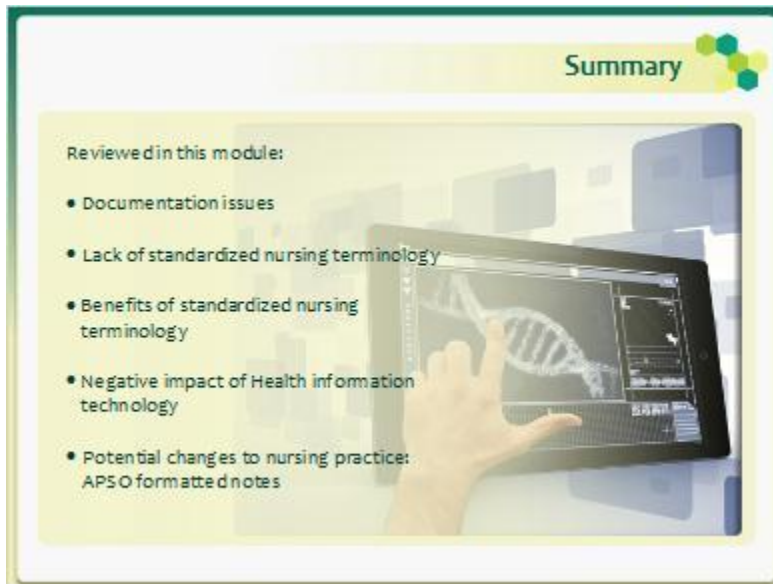

Feedback when correct:

That's right!

Feedback when incorrect:

You did not select the correct response.

The benefits are:

i) Consistent use of terminology across clinical settings and specialties.

ii)Communication between health information systems.

1.17 Summary

Notes:

In Summary:

- Issues with documentation in an Electronic Health Record include note bloat, redundancy, entry errors, and copying forward

- The lack of a standardized nursing terminology is a problem due to inconsistency in comparison of nursing interventions, processes, and contributions

- A standardized nursing terminology would enable cross institutional comparisons, communication between health information systems, reporting and evaluation of data, and assessing nursing competencies

- Implementation of Health Information Technology can impact nursing workflow negatively through decreased productivity and increased nursing frustration

- Potential changes to nursing practice as a result of emerging Health Information Technology includes the APSO note format

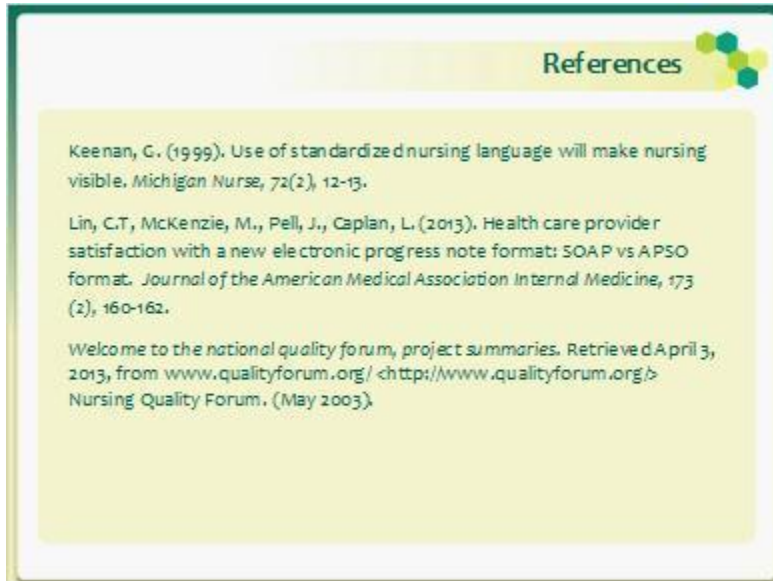## 1.18 Curriculum Integration

1.19 Curriculum Integration
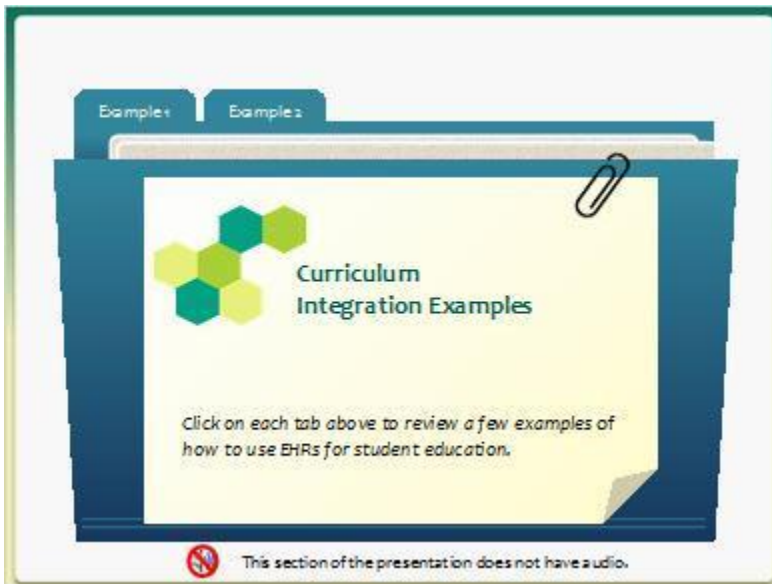
Notes:

The issues that the use of Health Information Technology generate can be integrated into curriculum:

- Discuss how progress notes can written in the APSO format instead of the SOAP format and the pros and cons of using this format

- Discuss how the issues presented in the module could lead to further practice changes, such as required note elements for providers or staff nursing documentation
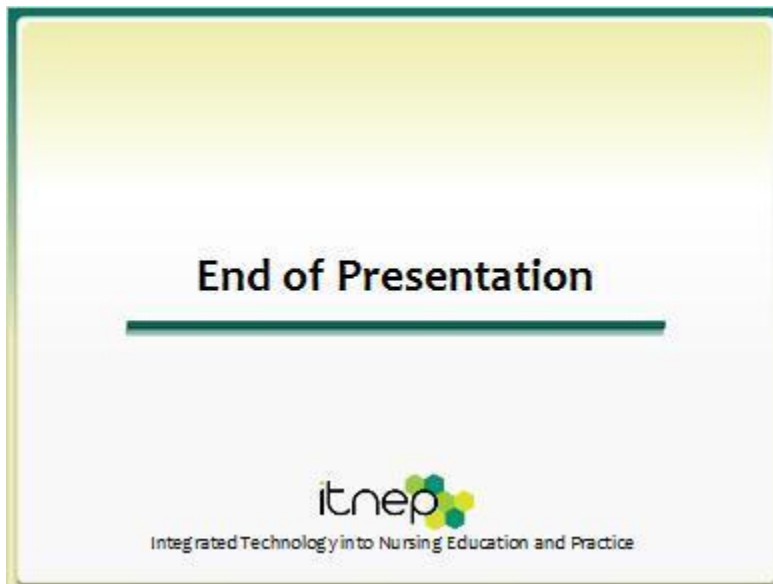
1.20 References

1.21 End of Presentation

Notes: