Curriculum Development Centers Program

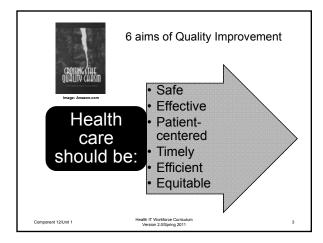Awardee of The Office of the National Coordinator for Health Information Technology

Introduction to QI and HIT

Unit1d: Exemplars of QI and HIT

Objectives

- Analyze the ways that HIT can either help or hinder quality improvement

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6 aims of Quality Improvement

Image: Amazon.com

Health care should be:

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable

Safety: Case Review

Event:
Mr. Smith was prescribed a blood thinner to be taken once a day. He received his daily dose of the drug and was then transferred to another unit. In the receiving unit, the blood thinner order was rewritten and POE interpreted this as a new order and scheduled a dose to start that same day. This resulted in Mr. Smith receiving two doses of the drug during the same day.

System change:
An MLM (medical logic module) was created that provides the following functionality: When selected drugs are ordered at a frequency of every 24 hours or longer, the prescriber is automatically presented with the last administration time if the drug had been ordered previously.

HIT & optimizing patient safety

Early detection and effective treatment are the cornerstones of treatment for pneumonia. Adults aged 65 and older should receive the influenza and pneumococcal immunization to prevent pneumonia and its complications.

Can you think of an example of how HIT can help to ensure that patients receive these vaccines?

Effectiveness: Case Review

Event:
A standard protocol (document specifying best practices for care) and electronic prescriber order sets are used for all adult patients receiving intravenous blood thinners. There are new changes to the protocol due to a switch to new laboratory tests for monitoring drug activity.

System Change:
The current protocol and electronic order sets were revised to include orders for the new laboratory tests. The new order sets include changes to the therapeutic goals of nurse-managed therapy.

HIT & optimizing effectiveness

Telemedicine is the use of telecommunication technology to provide, enhance, or expedite health care services. This technology is typically used to increase access to clinical expertise to improve the effectiveness of care.

Can you think of an example of how telemedicine can be used to increase the effectiveness of care?

Patient-Centeredness: Case Review

Event:
Mr. Jackson took his mother to a pre-operative evaluation center in preparation for her impending surgery. He was asked to help her complete an information form that included her home medications. Mr. Jackson's sister manages these medications and he had forgotten to bring the list. He was unable to contact her on her cell phone and became increasingly frustrated since, after all, his mother's doctors should know what medicines she is taking!

System Change:
The ambulatory care center implemented a web-based patient portal that would allow patients or caregivers to enter much of the history information in advance, from home. Patient satisfaction scores improved with this active role in their care.

HIT & optimizing patient-centeredness

A medical office practice is considering the use of a web-based secure messaging system to improve patient-provider communication and enhance patient satisfaction.

Can you think of other ways secure messaging systems can support patient-centeredness?

Timeliness: Case Review

Event:
Medication patches are small, flesh-colored, and are usually placed in discreet locations, e.g. the upper shoulder area or on the back of the upper arm. Some patches are appropriately left on for 2-3 days or longer. It is difficult to track the placement and removal of these patches over time, leading to errors in which medication patches were not removed and the patient received too much medicine.

System Change:
A change was made to the electronic medication record (eMAR). After the nurse documents the application of the patch in the eMAR, a follow-up task to remove the patch at the ordered date and time is automatically generated. If the follow-up task is still active during a transfer in care, the receiving nurse will see this task on the eMAR.

HIT & optimizing timeliness

A health care system saw increases in adverse events in their home care company due to inadequate transfer of clinical information at hospital discharge. An electronic hospital discharge summary with auto-faxing was developed to increase availability of discharge information at the time of follow-up care.

Can you think of an example of how HIT can help to ensure timely access to information?

Efficiency: Case Review

Event:
The emergency department (ED) staff at a community hospital used a large whiteboard mounted on the wall that could be quickly updated with felt-tip markers to track patients and treatments. The problem was that staff could not obtain information from the board unless they were physically standing in front of it. In addition, information on the board only reflected what was already known by the ED staff.

System Change:
The hospital implemented an automated ED patient tracking system that used business intelligence technology. This technology enabled more efficient patient flow using real-time data.

HIT & optimizing efficiency

Hope Memorial Hospital implemented an electronic picture archiving and communication system (PACS) for requesting radiological examinations and displaying images. They saw a reduction in repeat chest x-ray films at outpatient appointments.

Can you think of an example of how HIT can help to improve efficiency?

Equity: Case Review

Event:
One of the greatest challenges to chronic care management in a public housing community is keeping patients engaged in their care. They are often lost to follow up care when they do not return for medical visits or refill their prescriptions. This is especially problematic for vulnerable patients with diabetes.

System Change:
Community volunteers were provided on-line training on self-management counseling for patients with diabetes. They created a diabetes registry in the electronic health record to identify and recall patients due for routine diabetes care. Just prior to the scheduled visit, the community volunteer reminds the patient of the visit and asks him to arrive early for self-management teaching.

HIT & optimizing equity

There are few stroke specialists in rural areas, so people at risk for stroke in these areas have unequal access to quality care. Physicians in Arizona set up a *hub* (urban stroke center) and *spoke* (outlying rural hospitals) service using telemedicine (audio-video) to decrease health disparities.

Can you think of an example of how HIT can help to decrease health care disparities?

Summary

- All health care settings can benefit from the assistance of HIT professionals in identifying electronic solutions to quality concerns.
- Well-crafted HIT solutions can:
  - Improve safety, effectiveness, efficiency, equity, timeliness, and patient-centeredness of care
  - Work to accomplish the best care for the whole population at the lowest cost

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