COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)

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Outline

- Definition and context
- Why CPOE?
- Advantages of CPOE
- Disadvantages of CPOE
- Outcome measures and examples
- Same system other outcome



What CPOE Does?

- Provides Decision Support
- Warns of Drug Interactions
 - Drug-Drug
 - Drug-Allergy
 - Drug-Food
- Checks Dosing
- Reduces Transcription Error
- Reduces number of lost orders
- Reduces duplicative diagnostic testing
- Recommends cost effective, therapeutic alternatives

- Computerized physician order entry (CPOE) is:
 - The process where a medical professional entering orders or instructions electronically
 - A process of electronic entry of medical practitioner instructions for the treatment of patients
 - Computerized Provider Order Entry or Computerized Provider Order Management (CPOM)
 - The process of capturing a physician's instructions for a patient's care electronically to improve the efficiency of care delivery.



What is Computerized Physician Order Entry (CPOE)?

- Ordering of tests, medications, and treatments for patient care using computers
- Involves electronic communication of the orders
- Often use rules-based methods for checking appropriateness of care



Definitions

- Information system is an arrangement and integration of:
 - Data
 - Processes
 - People
 - Technology

which interact to collect, process, store, and provide as output the information needed to support the organization.



CPOE:

Computerized physician order entry (CPOE) is a solution to a current human system problem that focuses on achieving improved quality and safety for all patients

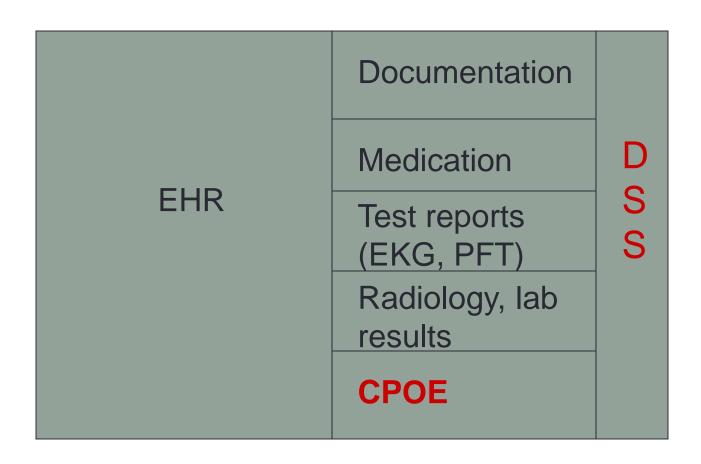


Technical Infrastructure

- EHR
- Drug information database
- DSS
- Others



CPOE, EHR and DSS





Example DSS in CPOE – medication prescription

- Allergy
- Age (check drug name and dose)
- Duplicate drugs on active orders, not one-time
- Severe drug interactions
 - Drug-drug, drug-food
- Dose maximum
- Drugs with opposite actions



What Is It?

- CPOE is a computer application that accepts physician orders
 - Meds
 - Laboratory Tests
 - Diagnostic Studies
 - Ancillary Support
 - Nursing Orders
 - Consults



Why Now?

- November 1999:
 - Report from the Institute of Medicine
 - To Err is Human: Building a Safer Health System
 - > 44,000-98,000 patient deaths/year in U.S. hospitals due to medical errors
- Increased focus on patient safety and on quality of care
- CPOE is viewed as an important tool to improve patient safety and quality of care delivered



Patient Safety

Institute of Medicine

Report on medical errors released 1999

Estimated that between 44,000 and 98,000 hospital deaths/year are due to medical errors

Some question the accuracy of the estimates but has raised public awareness and concern

Top 10 Causes of Death 1998

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Estimated

1.	neart Disease	724,209
2.	Cancer	538,947
3.	Stroke	158,060
4.	Lung Disease	114,381
5.	Medical Errors	98,000*
6.	Pneumonia	94,828
7.	Diabetes	64,574
8.	Motor Vehicle	41,826
9.	Suicide	29,264
10.	Kidney Disease	26,295

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