Clinical Decision Support Introduction

Component 11 / Unit 3

Clinical decision support (CDS)

- "Clinical decision support (CDS) provides clinicians, staff, patients, or other individuals with knowledge and person-specific information, intelligently filtered or presented at appropriate times, to enhance health and health care" – AMIA Roadmap (Osheroff, 2007)
- Some overviews
  - Osheroff, 2005
  - Greenes, 2007
  - Sittig, 2008
  - Osheroff, 2009
  - Berner, 2009

Why do we need CDS? Quality

- There are many studies to choose from…
- McGlynn, 2003
  - Sample of nearly 7,000 adults in 12 US metro areas assessed for 30 conditions
  - On average, only 54.9% of care was consistent with known quality
- NCQA, 2009 – annual report on quality shows "gaps" to get all health plans to 90th percentile of current quality
  - 49,400-115,300 avoidable deaths
  - $12 billion in avoidable medical costs
- Quality of care for patients with chronic disease no better and in many ways worse in US than for other developed countries (Schoen, 2009)

Why do we need CDS? Safety

- The IOM "Errors" report: As many as 98,000 Americans die each year due to medical errors, mostly medication errors (Kohn, 2000)
  - Some have argued that the numbers are too high or too low, but none argue with the concept
- Lost in the discussion: Most errors are the result of faulty systems; the solution is not in making people smarter or punishing them, but building better "systems" to identify and prevent errors (Berwick, 2003)
- "Medicine used to be simple, ineffective, and relatively safe. Now it is complex, effective, and potentially dangerous." (Chantler, 1999)

Approaches to CDS covered in this unit

- Historical perspectives – focused on diagnosis
- More recent approaches – focused on treatment
  - Reminders – remind clinicians to perform various actions
  - Alerts – alert clinicians to critical situations
  - Computerized provider order entry (CPOE) – bringing CDS to the point of care