Development of an Education-Based Electronic Health Record for Use in a Pharmacy Practice Laboratory

Anita N. Jackson, Pharm.D.
Clinical Assistant Professor
Celia P. MacDonnell, Pharm.D.
Clinical Professor
University of Rhode Island
College of Pharmacy

Objectives

1. To be able to describe the process of developing and implementing an education-based electronic health record (EHR) for use in a Pharmacy Practice Laboratory.
2. To be able to demonstrate the unique features of an education-based EHR that allow faculty to design, develop, modify, and maintain patient case scenarios, and the ability to confidentially view and assess student submissions (including SOAPe notes and patient Encounter forms) created from these scenarios.
3. To understand the benefits of and challenges associated with collaborating with a computer software company to develop an EHR for classroom and laboratory use.
Discussion

- What EHR technology are you currently using with student pharmacists in the classroom and on IPPE/APPE rotations?
- What features have you found helpful?
- What functionality is lacking in your current EHR?

Background

- Paper-based charts used in Pharmacy Practice Laboratory for patient case scenarios
- Need for students to gain experience with technology that they will be expected to use daily as practitioners
- Champlin Grant awarded to URI College of Pharmacy in late 2010

Available EHR Challenges

- Need for servers and ongoing license fees for users and administrators
- High cost without return on investment
- Practice-based EHRs lacked features for grading
- Need for faculty versus student settings and permissions
Collaboration

• URI College of Pharmacy
• Jack Russell Software™
• Carekinesis™

• Goal to create an education-based EHR for health professional students

Desired Features

• Phase I
  – Realistic EHR with features to facilitate student practice collecting patient data
  – Ability for faculty to create patient cases that cannot be altered by students
  – Capability for students to create private SOAP notes and care plans and submit for grading

Desired Features

• Phase II
  – Comprehensive, culturally competent Encounter form to guide patient interviews
  – Fields with ICD-9 codes and medication names
  – Graphing features for patient data
  – Ability to import and export patient cases
Desired Features

• Future Phases
  – Hide features for progressive cases
  – Search features (by ICD-9 or medication)
  – Tests and quizzes functionality
  – Embedded videos, patient scenarios
  – Reset capabilities for end of semester
  – Decision support features
  – eMAR, NCPDP 10.6, and more…

Demo

www.niarx.com

• Login as student view
  – Username: testAJ
  – Password: testAJ
• Login as faculty view
  – Username: testCM
  – Password: testCM

Benefits and Challenges of EHR Collaborations

• Ability to design features and functionality
• Integration with specific institution’s curriculum
• Balancing desires and costs
• “Language” barriers
• Time commitment, labor intensive
Alpha-Phase: Year in Review

- Web-based, students can review cases in advance, prepare for class
- Able to create more robust, progressive cases
- Learning curve for faculty and students
- Student frustration with features, bugs and crashes

Alpha-Phase: Year in Review

- Visible improvements in P1 and P2 interviewing skills for OSCEs

Questions and Discussion

Acknowledgements
Ronald P. Jordan, RPh, MBA
Calvin H. Knowlton, BS, MDiv, PhD
Mike Ristagno, Pharm.D., MBA
Tom Wilson