## Background

- The American Recovery and Reinvestment Act of 2009 (ARRA) allocated funds for development of curricula that could be deployed by community college consortia.
- This stimulus, administered by the Office of National Coordinator for health IT (ONC) was intended to train entry-level HIT workers.
- OHSU was one of five curriculum development centers funded by ONC, and in conjunction with Johns Hopkins University, OHSU developed a version of the Veterans Administration’s (VA) open source VistA EHR software for use by students.
- We adapted this version of VistA for use in an EHR lab course intended for DMICE students.

## Building The Course

- We developed the course curriculum by first defining learning objectives.
- Subsequently we calibrated the degree of granularity of objectives to a level suitable for its intended audience.
- We then created specific course content and mapped individual elements to objectives.
- Content was examined to ensure it was complementary to other clinical informatics courses offered at DMICE.
- We designed an evaluation protocol to determine course effectiveness.

## Course Structure

- In order to include a majority of DMICE students, the course was offered online using Sakai, our learning management system (LMS).
- The course was purposively structured in a modular fashion as a series of weekly components to allow ease of modifications.
- Students used two EHRs (Vista, and SpringCharts).
- The course utilized a “Forums” model for discussions; in addition to a scripted “question of the week” additional student and instructed-initiated topics were discussed.
- Students received extensive technical and content support from the instructor and a teaching assistant.

## Results: Success Factors

- Success factors that facilitated course deployment included:
  - Some students did not have a healthcare background – prior exposure to a healthcare environment before enrolling in the EHR lab course was helpful for these students.
  - Utilizing more than one EHR in the course allowed students to compare functionalities.
  - Calibrating the course to be beneficial to both clinicians as well as non-clinicians allowed both categories of students to learn together.
  - Leveraging the functionality of our online LMS, such as discussion boards and online chat, allowed rich conversations and dialog between students.

## Results: Challenges

- Challenges associated with course deployment included:
  - The complexity of the basic back-end VistA Terminal interface was daunting to some students.
  - The course was time-intensive for faculty; significant planning and attention to monitoring was required to assist students with technical issues and to ensure adequate depth within online conversation due to their asynchronous nature.

## Conclusion

Diverse student backgrounds make developing an informatics EHR lab course challenging, but such a course is vitally important in informatics training since it helps students understand EHR functionality, configuration, and customization.

---

**Figure 1:** Displays typical student screens for VistA CPRS (above) and Terminal (below) lab activities.

ONC version of VistA available to download from [http://www.onc-ntdc.info/](http://www.onc-ntdc.info/)

**Figure 2:** Displays the modular structure of the course in Sakai, with compartmentalized content released to students on a weekly basis.