Engaging Physicians from the Inside – Resident Informatics Program

Kevin Baldwin, MPH CPHIMS
Strategic IT Engagement Manager, UCLA Health
Program Administrator
4 hospitals
952 Inpatient beds
~60,000 hospital encounters
250+ outpatient practices
1.5 mil outpatient annual visits
Learning Objectives / Deliverables

- Share technological advances impacting higher education
- Develop Physician Career Development Strategies
- Understand Inter-departmental Relationship Management
- Review Team Decision Making and Collaboration Tools
- Discuss Academic Program Implementation Tools
700 years ago

http://www.himssvirtual.org/VS/201211_VS_ThoughtLeaders.asp#part2
http://www.himssvirtual.org/VS/201211_VS_ThoughtLeaders.asp#part2
Acceleration of Technology
Can we keep up?

From B.C. to 2003: 1 billion Gb

1 zettabyte = 1 trillion gigabytes (Gb)
The Future of Technology
200 years ago

http://www.himssvirtual.org/VS/201211_VS_ThoughtLeaders.asp#part2
History/evolution of Health IT

- **1970’s**
  - Vendor-supplied *financial* applications
  - Hospitals developed much of their own software

- **1980’s**
  - Hospitals still developed much of their own software
  - IT Vendors bought hospital-developed software systems, packaged and marketed them
  - Initial clinical information systems included “order-entry”, like CPOE today
Current Healthcare environment & Health IT Imperative

• Institutes of Medicine 2000, 2001 published sentinel studies
  • “To Err Is Human” study
    • 98,000 people die unnecessarily due to medical errors in US hospitals each year – identifies HIT/EHR systems needed to reduce those errors (2000)
  • “Crossing the Quality Chasm”
    • identified EHRs as one of a few necessary requirements to improve healthcare quality in US (2001)

• January 2004
  • President Bush’s state of the union addressed launched an initiative to make electronic health records available to most Americans within the next 10 years.
• 2006
  • CMS defined its role as providing: “support for development of Electronic Health Records.”

• American Recovery and Reinvestment Act of 2009 (ARRA)
  • Investing $36 billion to stimulate implementations of electronic health records (EHR)
  • “meaningful use” criteria must be met for physicians and hospitals to receive incentive payments
  • Significant training grants awarded to train needed 51,000 HIT workers
February 2009. The HITECH act is signed into law.

Beginning in fiscal year 2012, CMS will rank hospitals based on 30-day readmission rate for heart attack, heart failure and pneumonia. Those in bottom quartile nationally from the prior year will have a percent of total Medicare payments withheld.


Physicians and hospitals need to prove that they have met different functional objectives with their use of an EHR product to be considered "meaningful users".
History of Health IT and the EHR

- **October 2011.** Final Rules for ACOs.
  - The Final Rules for ACOs strengthen the need for robust EHRs, with more financial incentives for rural docs and hospitals; digital data collection of 33 performance measures

- **June 2012.** The Supreme Court upholds the Affordable Care Act (ACA) by a vote of 5-4.
  - Many items in the ACA warrant the rapid transition to electronic medical records for skilled providers

Summary: market & regulatory forces driving the rapid transition to EHRs in acute and post-acute care.
DRIVERS FOR CHANGE

1. To Err is Human
2. Financial pressures
3. Financial incentives
4. Culture of medicine
5. Patient consumerism
Figure 1. Percentage of office-based physicians with EHR systems: United States, 2001–2013

NOTES: EHR is electronic health record. "Any EHR system" is a medical or health record system that is either all or partially electronic (excluding systems solely for billing). Data for 2001–2007 are from in-person National Ambulatory Medical Care Survey (NAMCS) interviews. Data for 2008–2010 are from combined files (in-person NAMCS and mail survey). Estimates for 2011–2013 data are based on the mail survey only. Estimates for a basic system prior to 2006 could not be computed because some items were not collected in the survey. Data include nonfederal, office-based physicians and exclude radiologists, anesthesiologists, and pathologists.

SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey and National Ambulatory Medical Care Survey. Electronic Health Records Survey.
March 2013
Big-bang go-live; full functionality across health system

February 2015
Upgrade from version 2010 to 2014

“They’re OK, I guess. I just wish I could change the font.”
50 Reasons Not To Change

- It's too ambitious.
- No one asked me.
- We didn't budget for it.
- I don't have the authority.
- It's not my job.
- It needs more thought.
- Another department tried that.
- We're waiting for guidance on that.
- It won't work in this department.

- We'll catch flak for that.
- We have too many layers.
- We have too many layers.
- We have too many layers.
- They won't fund it.
- It's too radical.

- It won't fly.
- It will take too long.
- It's hopeless.
- We can't take the chance.
- They won't fund it.

- It's contrary to policy.
- We don't have consensus yet.
- It can't be done.
- We need more thought.
- They're too entrenched.

- We don't have the staff.
- We tried that before.
- There's not enough time.
- We're waiting for guidance on that.
- It won't work in this department.

- It's too complicated.
- What's in it for me?
- It needs more thought.
- They won't fund it.
- It's too radical.

- It's too ambitious.
- No one asked me.
- We didn't budget for it.
- I don't have the authority.
- It's not my job.
- It needs more thought.
- Another department tried that.
- We're waiting for guidance on that.
- It won't work in this department.

- We don't have the staff.
- We tried that before.
- There's not enough time.
- We're waiting for guidance on that.
- It won't work in this department.

- It needs committee study.
- Me falta ánimo.
- It needs committee study.
- They don't really want to change
- It's too visionary.

- It's too expensive.
- That's someone else's responsibility.
- We've always done it this way.
- It's too complicated.
- We're doing OK as it is.
- We don't have the staff.

But…
The future of medicine

Squeezing out the doctor

Bangalore and Framingham

The role of physicians at the centre of health care is under pressure

http://www.himssvirtual.org/V5/201211_V5_ThoughtLeaders.asp#part2
The end of Medical Paternalism

http://www.himssvirtual.org/VS/201211_VS_ThoughtLeaders.asp#part2
Resistance to Change

- Financial and business barriers
  - Expensive systems
  - Loss of productivity
- Structural barriers
  - System silos
- Technical barriers
  - Lack of integration
  - Cottage industry
- Cultural barriers
  - Time and experience
  - Resistance to change
Addressing Physician Engagement

Q: What elements of physician engagement have been most challenging at your organization and how is leadership addressing it?
Addressing Physician Engagement

• “physician engagement”

Results by year

2014: 200
WHAT IS YOUR MISSION?
Healing humankind, one patient at a time.
Resident Informaticist
Program Overview & Goals
Evolution of the Program

2012-2013
- Resident Champion Program
- Big Bang Go-Live

2013-2014
- Resident Informaticist Program
- Optimization Phase

2014-2015
- Resident Informaticist Program
- Epic 2014 upgrade
Resident Champion (RC) Program

• Resident Champion Program precursor to Resident Informaticist Program

Objectives:
• Engage residents in the EHR implementation planning process

• Obtain feedback and participation from frontline physicians

• Develop & conduct high-quality, specialty specific training
Resident Champion (RC) Program

• RC Program was a one year program

• Each core residency program recruited 1 champion; more from the larger departments (1:30 ratio)

• Stipend for one year commitment: $500, paid by Hospital

• Provided resident physicians with the knowledge and skills to:
  • effectively use CareConnect to deliver high quality patient care
  • optimize workflow efficiency
  • promote (champion) system use proficiency
  • liaison workflow and content optimization between end users and CareConnect Team
Built on experiences with Resident Champion Program to develop Resident Informaticist Program, providing greater exposure of resident physicians to the field of Health Information Technology

Year 1: 2013-2014
Year 2: 2014-2015
Resident Informaticist Program

Vision

• Disseminate best practices related to education, quality improvement, technical redesign, and academic research as it pertains to health informatics and implementation of our EHR.

• Develop clinical informatics as a professional discipline at UCLA Health.

• Provide a forum for cross-disciplinary discussion and collaboration on informatics practices.
Resident Informaticist Program: Goals & Objectives

• Expose residents to Health IT with goals of developing informatics skills they can take into their future career

• Support ongoing upgrades & system enhancements of specialty-specific customized clinical content

• Enhance clinician participation in continuous health informatics organizational improvements

• Strengthen the enterprise clinical health informatics research infrastructure

• Create a pipeline for attracting and developing outstanding candidates to careers in clinical informatics at UCLA
Program Design

1. Resident Informaticists enroll in one of the following tracks to focus their Health IT interests:

<table>
<thead>
<tr>
<th>Program Track</th>
<th>Track Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Design and conduct a health informatics academic research study</td>
</tr>
<tr>
<td>Quality</td>
<td>Engage in departmental and/or health system quality initiatives</td>
</tr>
<tr>
<td>Education</td>
<td>Evaluate and design CareConnect clinical training materials</td>
</tr>
<tr>
<td>Technical</td>
<td>Participate in system testing and build</td>
</tr>
</tbody>
</table>

2. RIs select and complete an independent program practicum by the end of the program

3. RIs meet with project team and mentors for more focused instruction regarding projects.
The entire group receives high level, didactic instruction during the monthly meetings on aspects of all 4 Program Tracks.

- Ensures that all RIs receive broad exposure to concepts of Health IT.
## Overall Program Curriculum

<table>
<thead>
<tr>
<th>Research</th>
<th>Quality</th>
<th>Education</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data Analytics</td>
<td>• Care Quality and Safety</td>
<td>• History and Evolution of Health Care Information Systems</td>
<td>• Privacy &amp; Security</td>
</tr>
<tr>
<td>• Data Quality</td>
<td>• Incentive Programs</td>
<td>• Health Care Information Regulations, Laws, and Standards</td>
<td>• User Interfaces</td>
</tr>
<tr>
<td>• BI/CI</td>
<td>• Meaningful Use</td>
<td>• HIT Adoption in the US</td>
<td>• Environments</td>
</tr>
<tr>
<td>• Emerging Technologies: Mobile health, telehealth, and remote monitoring</td>
<td>• Decision Support</td>
<td></td>
<td>• Change Control Process</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Health Information Exchange &amp; Interoperability</td>
</tr>
</tbody>
</table>

**UCLA Health**
Program Design – Interactive

- Demiris, G. Integration of Telemedicine in Graduate Medical Education. JAMIA 2003

- Bobb AM, et al. Viewpoint: Controversies surrounding use of order sets for clinical decision support in computerized order entry. JAMIA 2007

Monthly Journal Club
Track Design
Research Track

RIs within Research Track paired with and mentored by Physician Informaticist Leaders with an expertise in informatics research

- Good research design
- Statistical analysis
- Approach to performing proper EHR research

JAMIA
Journal of the American Medical Informatics Association

The Journal of the American Medical Informatics Association
Incorporating cost into antibiotic ordering information

- Display standardized price-per-dose within the orders for commonly prescribed antimicrobials in the hospital
- Compare ordering patterns before vs. after the price is displayed
Education Track

RIs within Education Track paired with and mentored by Physician Informaticist Leaders with dual roles as clinical departmental educators

• Review and optimize tools for EHR training utilizing best educational approaches to system training
Billing Education Initiative, UCLA Family Health Center

• Assess accuracy of residents’ assignment of level of service
• Improve resident billing education with a note template that informs and educates at each use
• Improve accuracy of resident billing
Quality Track

RIs within Quality Track paired with and mentored by Physician Informaticist Leaders with experience in Quality Measures

• Learn concepts of quality improvement, measures and indicators in general
• Implement tools within CareConnect for improving health quality
Introducing Quality Care Indicators for Benign Prostatic Hyperplasia into CareConnect

1. Introduce a BPA for providers to make sure a urine analysis and PVR are included in the orders/note for all those about to undergo a procedure for BPH

2. Goals:
   1. Curb use of BPH medications post procedure,
   2. Reduce % of patients requiring 3 or more visits within 90 days after BPH surgery,
   3. Reduce costs over the course of the following academic year.
Technical Track

RIIs within Technical Track paired with and mentored by Physician Informaticists/Builders

- Learn technical build aspects of the Epic System
- Train RIIIs to build smarttexts, smartsets and ordersets, etc. in PLY
- Work to improve current build of system
Technical Project Example

Restraint Workflow for Inpatient Psychiatry

Goal 1. Assess current compliance rates for inpatient restraint orders in NPH

Goal 2. Optimize build to improve psychiatry restraint navigator
2013-2014 Project Awards

eLearning Modules for new users

✓ Developed new orthopedic modules to follow workflow, using patient scenarios

✓ Separated inpatient and outpatient lessons

✓ Eliminated redundant or ineffectual lessons

✓ Recognized “missing” lessons that needed to be created

Development of text processing tools for extraction of stroke quality measure data

- Symptoms began yesterday at 10pm when the patient experienced difficulty moving from a standing to a seated position.
- Therefore, last known well time was 10pm yesterday.
- The symptoms were first discovered on 8/3 (date) on 14:20 pm (24hr/military time) by the patient and her son.
- Patient is unclear of exact last known well time, but states he had been at the golf course, had eaten lunch and gone back out with no delirium reported at that time.
Resident Informaticist
Program Logistics
Leadership

Jennifer Singer, MD
Physician Informaticist
Associate Professor, Urology
Director of Education

Kevin Baldwin, MPH, CPHIMS
Program Administrator
UCLA Physician informaticists are UCLA physicians who are engaged in all aspects of understanding and promoting effective organization, analysis, management, deployment, build, and use of clinical information in CareConnect.
Program Faculty

John D. Bartlett, MD
Physician
Informaticist
Assistant Clinical Professor in Ophthalmology

Carlos Lerner, MD
Physician
Informaticist
Assistant clinical professor, pediatrics

Tina Nguyen, MD
Physician
Informaticist
Assistant clinical professor, OBGYN

Frank C. Day, MD, MPH
Physician Informaticist
Associate clinical professor, emergency medicine

Lynne McCullough, MD, FACEP
Physician
Informaticist
Clinical professor, emergency medicine

Daniel V. Vigil, MD
Physician Informaticist
Associate clinical professor, family medicine and orthopaedic surgery

Christopher Denny, MD
Physician Informaticist
Professor, pediatrics

James Moore, MD
Physician Informaticist
Clinical professor, Anesthesiology & Perioperative Medicine
Engage UCLA School of Medicine Leadership

• Obtained approval from UCLA School of Medicine’s Graduate Medical Education Office
  • Compliance with resident work hours
    • Enough time to find the program rewarding?
    • Enough time to complete program practicum?
  • Compliance with stipend payments within resident and fellow contracting
• Distributed letter to Program Directors and Department Chairs requesting permission to include their trainees in RI Program
Availability/Expectations - What is the time commitment of this program?

• Attend all monthly sessions
• Complete the program practicum
• Present findings of their program practicum
Recruitment & Retention

Recruitment

• Advertising & Promotional Strategy
• Unique Opportunities

Retention

• Financial Incentives
• Robust Engagement
Above: Resident Informatics group tours Oppenheimer data center to learn why UCLA Health is “Most Wired”
Current Resident Informaticist Cohort (2014-2015)

17 Residents

- Anesthesiology
- Emergency Medicine
- Family Medicine
- Infectious Diseases
- Internal Medicine
- Medicine/Endocrinology
- Neurology
- Ophthalmology
- Orthopaedic Surgery
- Pediatric Hematology/Oncology
- Psychiatry
- Radiation Oncology
- Radiology
- Surgery
- Urology

Residency Year

Count

- Residency Year

Residency Year

- Count

- 0 1 2 3 4 5 6 7 8 9

- 2 3 4 5 6 7
Year 1: Please describe the degree to which the resident informaticist program benefitted your professional development.
Next Steps

• Expand Resident Informaticist Program
• Formally integrate resident project work into ITPMO
• Send Resident Informaticists to Epic Physician Builders’ Course Group Meeting Meetings
Next Steps

• Launch ACGME-accredited Clinical Informatics Fellowship
Questions?

Kevin Baldwin, MPH CPHIMS
Strategic IT Engagement Manager, UCLA Health
Program Administrator
Kbaldwin@mednet.ucla.edu