Optimizing Workflow in the Face of Meaningful Use

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Conflict of Interest Disclosure

Michael L. Westcott, MD, FACEP
- Has no real or apparent conflicts of interest to report.

T. Forcht Dagi, MD, FAANS, FACS, FCCM
- Board Member and Investor, Aventura HQ, Inc.
- Paid Consultant for Masimo, Inc.
- Partner HLM Venture Partners

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- Faith based, not-for-profit healthcare system
- 6 Metro Hospitals (5 acute, 1 behavioral)
- 3 Rural Hospitals
- 100+ Clinics & Outpatient Facilities
- 9,000+ Employees
- 1,200+ Physicians
Fundamental Paradox

- Current movement for healthcare emphasizes the importance of individual patient-centered information.
- On a macro level, information is meant to flow and support decision making between the set (any given patient population) and the statistic (the individual patient).
- Meaningful use describes a series of information flows associated with fully implemented information systems.
- Current information solutions suffer because inefficient interfaces interfere with meaningful use as well as with the care of individual patients.
Historically

• HCIT developed to enter and archive information
• Retrieval was secondary, even though retrieval is a central aspect of clinical workflow
• Initial idea
  – A “photo” of the chart
  – Avoid lost charts and notes
• Next, Retrieval of Information
  – Called “reporting”
  – Like “analytics,” a separate “function,” or module
• Thus, clinician workflow not traditionally a primary concern
• Evolving HCIT architectures intended to overcome the “silenced” modules and offer an integrated approach to information entry, analysis and retrieval
Meaningful Use Policy

• A defined term with specific meanings
• An incentive strategy yoked to the current governmental healthcare reform initiatives
• Creates a particular infrastructure
• Establishes priorities
• Carrot and stick
• Assumed
  – Universally relevant
  – Workflow indifferent
  – Predicated on letting institutions change to meet the template, not vice versa
• More “policy” driven than “functionally” driven
Compare to Hospital Workflow

- Definition
  - A set of routine or routinized activities
  - Meant to accomplish certain ends
  - Extends across medical, nursing and other hospital personnel
  - In most cases, workflow develops bottom up rather than top down
  - Exceptions include OR and ED
- “If you have seen one workflow, you have seen one workflow”
Compare to Hospital Workflow

- Workflow very difficult to change because
  - Many aspects of workflow are implicit, and not called out
  - Interconnections are deep, extensive, subtle and powerful
  - Existing workflow routines generally work pretty well and can be monitored for QA purposes.
  - Routinized workflow leads to [deeply] embedded protocols and vice versa
    - Good way to bring on new staff
    - Routine is believed to reduce variance
    - Reduction in variance is linked to improved outcome
    - This is a central tenet of healthcare reform
ED Caregiver Workflow Requirements

- Paperless Chart
- Real-time Documentation
  - Nursing
  - Physician
- CPOE
- Allergy Verification
- Real time bed board updates
- Medication Administration Checking
Key Solution Requirements

• Provides fast access to information
  – Estimated logons per day: 50 to 70
• Delivers consistency in performance
• Enables mobility
• Addresses HIPAA concerns
• Standardizes the user experience

• *Most importantly, the caregivers like and will use the system*
What Does the Ideal Interface Between Workflow & Technology Offer the Clinician?

- Rapid access (sign on/sign off)
- Efficient use of time
- Simplicity
- Security
  - HIPAA compliance
  - Physical security
- Indifference to underlying HCIT system, architecture, modules
- Mobility
- Context sensitivity
- Other benefits
Why the Workflow/Technology Interface is Critical

- Meaningful Use as currently construed has three major components
  - The support of certain specified functions such as CPOE
  - Monitoring the use of the HCIT *and proving it is used*
  - Monitoring and reporting other hospital operations
- Utilization is critical
Why the Workflow/Technology Interface is Critical

• At the level of the individual physician, nurse or hospital staff member, only two ways to ensure the use of HCIT
  – Incentives and sanctions
    • Affect morale and productivity
    • Patient suffers
  – An inviting interface that facilitates utilization by resolving impediments to or incorporating workflow
• These interfaces can be inviting, enabling or off-putting
What Does the Ideal Interface Offer the CMIO, CMO, and the CIO

• Ease of installation and upgrade
• Simplicity of use
• Scale
• Indifference to underlying system and EMR
• Indifference to hardware platform
What Does the Ideal Interface Offer the CMIO, CMO, and the CIO

- Enhancement of underlying systems
- Improved utilization
- Improved morale
- Improves the workflow of all hospital personnel
- Data entry and data retrieval
- Acceleration of Meaningful Use process
- Measurable cost benefit
The Denver Health Solution

- **Caregiver Experience**
  - Logged on to network once in the morning
  - Any place they moved, they have access to their complete desktop and applications in just a few seconds
  - Doctors and nurses were leveraging dual-factor authentication every-time

  - *Thought: “a computing system designed for the doctors and the nurses with patient benefit in mind”*
Alegent Health Deployment
Key Benefits of the Solution

1. 2 to 3 Second Access From Anywhere

2. IT infrastructure benefits
   - Application Deployment Enabler
   - Hardware support
   - Cost

3. Reduced ER LOS

4. In-Room Benefits

5. Clinician Satisfaction

6. Smart Card / Dual Factor Authentication
## Emergency Department Case Study

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<th></th>
<th>Midlands</th>
<th>Mercy</th>
<th>Lakeside</th>
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<tr>
<td># of ED Rooms</td>
<td>20</td>
<td>17</td>
<td>18</td>
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<tr>
<td>Average LOS (Treated &amp; Released) before solution</td>
<td>249m</td>
<td>178m</td>
<td>255m</td>
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<td>Average LOS (Treated &amp; Released) after solution</td>
<td>152m</td>
<td>150m</td>
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SUMMARY

• In today’s environment, it is essential to both achieve meaningful use and optimize workflow
• Meaningful use is a window: workflow is a mirror
  – Clinical decision support across all platforms
  – Seamless interoperability
  – Cost effectiveness
  – Combine standard of information availability with ability to customize
  – Efficiency and effectiveness
• Effective execution of solutions delivered
Thank You!

Questions & Discussion