Leveraging Health IT to Improve Care

Barbara B Frink, PhD, RN, FAAN
VP, Chief Nursing Information Officer
MedStar Health
Agenda

- Framework: Context and Definitions
- Roles
- Examples
- Infrastructure and Partnerships
- Evidence and Policy
- Challenges and Game Changers
Context: Implementation Science

Adapted from Cresswell K M et al. Ten key considerations for the successful implementation and adoption of large scale health information technology. J Am Med Inform Assoc 2013;20:e9-e13

Enterprise Electronic Health Record

- Strategic Decision for Change
- System Selection
- Strategy and Infrastructure
- Implementation
- System Adoption
- System Evaluation and Optimization

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Implementation Science

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Enterprise Electronic Health Record

- Continuous Evaluation
- Review of Evidence
- Clinical Knowledge Mgt
- Measurement of Outcomes

- Assessment post Implementation
- Training Issues
- Meeting Meaningful Use Criteria
- Review of Workflow

- System Evaluation and Optimization
- Strategic Decision for Change
- System Selection
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Health Informatics

Informatics Sub-specialties include…

• Clinical
• Nursing
• Imaging
• Consumer health
• Public health
• Dental
• Pharmacy
• Clinical research

“Health Informatics is the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning.”

Clinical Informatics Role

“Clinical informaticians transform health care by analyzing, designing, implementing, and evaluating information and communication systems that enhance individual and population health outcomes, improve patient care, and strengthen the clinician-patient relationship.”

p. 153.

doi: 10.1197/jamia.M3045
“Clinical informaticians use their knowledge of patient care combined with their understanding of informatics concepts, methods, and tools to:

- assess information and knowledge needs of health care professionals and patients,
- characterize, evaluate, and refine clinical processes,
- develop, implement, and refine clinical decision support systems, and
- lead or participate in the procurement, customization, development, implementation, management, evaluation, and continuous improvement of clinical information systems.” Gardiner, Overhage, et al. p. 153.
Clinical Care Redesign – Inpatient Care

Siloed Patient Care Activities

Retrospective Quality and Safety Analysis

Interdisciplinary Patient Care Activities

Real/Near-time Quality and Safety Analyses

Automated and Coordinated Care

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Clinical Informatics Roles for Process Improvement and Quality

- Clinical User Training
- Support for Super Users
- Evaluate Clinical Workflows
- Apply Best Practices And Standards
- Support for Managers if Compliance Issues
- Local Support Aligned with Clinical Informatics
- Participate in PI Efforts rel. to Clinical Systems and Reporting

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Implementation of Enterprise EHR brings Quality and Safety to Point of Care

- Clinician Provider Order Entry
- Interdisciplinary Plans of Care
- Medication Safety
- Prevention of Falls
- Pressure Ulcer Prevention and Management
- Performance Improvement and National Quality Improvement Measures
Quality Roadmap: Building the Infrastructure

- Quality/Process Improvement
  - Systems can provide tools, process maps, reference data, actionable content, and reporting.
  - Clinical Decision Support: access to the latest evidence at the point of care via order sets, plans of care, alerts and notifications, and documentation

- Custom Report Development

- Descriptive reports available on a patient, unit, hospital basis to clinicians
Interdisciplinary Plans of Care

• Interdisciplinary Plans of Care (IPOCs) guide clinical practice
  – Built on clinical evidence base
  – Apply to specific diagnoses or symptom management
  – Are tied to provider orders and nursing documentation
  – Include goals, interventions, and outcomes
Clinical Decision Support – Medication Safety

- CPOE can add...
  - Drug-allergy alerts
  - Drug-drug interaction alerts
  - Custom-designed adverse drug event prevention alerts
  - Renal dosing alerts

- All alerts are directed to ordering physician at time order is entered
Clinical Decision Support – Urinary Catheters

• Alert to nurse when any type of documentation related to indwelling urinary catheter occurs and no active order for catheter exists → notify physician

• Alert to nurse when urinary catheter in place for greater than 48 hours → Confirm that reason for prolonged catheter placement necessity is documented

• Designed to help reduce catheter-associated Urinary Tract Infections
Catheter Monitoring – Summary View Provided for Clinicians

• Provides up to date overview of all:
  – Peripheral IV lines
  – Central IV lines
  – Surgical Drains
  – Indwelling Urinary Catheters

• Includes insertion dates, elapsed time, warning thresholds for recommended durations
Pressure Ulcers

• Plan of care is automatically suggested when a pressure ulcer is documented
• Wound care consultation is automatically ordered
• “Present On Admission” documentation is addressed
• Documentation within first 24 hours of admission is automatically evaluated
• Active Bedrest order > 24 hours alerts nurse to reassess activity level with physician
Meaningful Use
Clinical Quality Measures

- VTE risk plan and CQM assessment automatically generated for every admitted adult patient
- Provides risk stratification
- Assists in selecting appropriate prophylaxis for prevention of VTE
- Automates reporting of CQM requirements for Stage 1 Meaningful Use
Infrastructure Supporting Clinical Informatics

- Vision
- Align Goals within Cultural Context
- Strategy
- Governance
Key Leadership Components

• Vision
  – Leadership of the design, implementation, and maintenance of the intersection among technology, safety, quality, and process improvement, using evidence based practice and shared interdisciplinary decision-making

• Align Goals and Cultural Contexts

• Strategy

• Governance
Key Leadership Components

• Vision

• **Align Goals within Cultural Context**
  - Align clinicians, management, informatics, information services, quality, technology, and financial resources to achieve quality outcomes
  - Build on a nursing evidence based practice focus
    • Validate standards and best practices
    • Adopt system performance improvement framework
    • Identify key metrics, measure outcomes
    • Disseminate findings internally and externally
  - Establish nursing/clinical informatics infrastructure building on and refining current accomplishments

• Strategy

• Governance
Key Leadership Components

- Vision
- Align Goals within Cultural Context
- **Strategy**
  - Align with the mission, vision, values of the larger organization
  - Accomplishments in clinical informatics should link directly to the organizational vision and strategy
- Governance
Governance

- **Formal**
  - HIT Councils – interdisciplinary or discipline specific
  - Project –Driven governance
    - Design and Build Teams
    - Project Management
  - Nursing Informatics Staff or Departments
  - CMIO, CNIO, Directors

- **Informal**
  - Performance Improvement HIT Groups
  - Task Forces or Working Groups
  - Super User Community
  - Vendor/Client relationship management (may also be formal)
Partnerships that Promote Process

• Executive Partnerships –
  – Finance
  – IT
  – Nursing Administration
• Clinical Partnerships
• Emerging Consumer Partnerships
• Educational Partnerships
• Professional Organizations
Partnerships are Key

- Who are your vendor, professional, or business partners?
- How can you influence system development and demonstrate positive outcomes?
- Who are your academic partners?
- What unique capabilities do partners bring to demonstrating meaningful use, quality outcomes, and value to consumers?
Partnerships and Alignment

• Critical Linkages Including Consumers
• Aligning with Organizational Strategies
• Quality, Safety, Finance
• Clinical Informatics: Infrastructure and Platform
Nursing Partnerships with Key Organizational Roles: CNO, CMO, CMIO, VP for Quality, and CIO

Clinical Practice Automation and Technology

Best Practices in Selection, Design, Build, Education and Implementation Meaningful Use

System Learning

Applying PI to system evaluation
- Clinical workflow
- Optimization
- Intended and unintended consequences

System Outcomes

Establish efficient and reliable infrastructure for queries and reporting of clinical process and outcomes data

Policy/Business © Implications

Improved clinical outcomes data for regulatory requirements, clinical programs and services, and system investments

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Evidence Based Practice: Building an Infrastructure

Use Outcomes To Increase Knowledge and Improve Practice

Capacity and Capability

Clinical Partnerships

The Knowledge Cycle

Evaluate Results

Practice Standards, Guidelines, Best Practices
What does it take?
System and Role Capabilities

**Functional**
- Application Designers, Builders, Implementers
- Project Management
- User Education
- Nursing Informatics Certification Expertise
- Standards of NI Practice

**Technical**
- Subject Matter Experts
- Researchers
- Content Providers
- PI Teams
- Knowledge Management

**Integration**
- Clinical User support
  - Workflow optimization
  - Conversion of captured data
  - User-friendly, actionable reports for quality improvement, regulatory requirements, research, and practice
  - Education to support system evaluation, reporting, adoption and improvement

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Clinical Informatics Challenges

Focus on building quality infrastructure while supporting ongoing implementations and a growing clinical user base

- User support and workflow assessment metrics
- Reporting quality, regulatory, compliance, Magnet
- System alignment IT, PI, Mgt, Disciplines
- Build EBP Knowledge Management and Research

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Demonstrating Value

• Internal Systems
  – Alignment of key stakeholders
  – Establish metrics
  – Direct links to corporate safety and quality strategic objectives
  – Leverage system capabilities – reporting, analytics, workflow

• External Partnerships
  – Macro System partnerships
  – Community partnerships
  – Education/Academic/Research
  – Corporate User Groups
  – Professional and Policy Associations
Goals – Grounded in National Policy and Leadership

• National Policy Influence – Public Advocacy, Private Sector
  – Office of the National Coordinator
  – National Quality Forum
  – The Joint Commission
  – Nursing Alliance for Quality Care
  – Agency for Healthcare Research and Quality (AHRQ)
  – Institute for Healthcare Improvement
  – NDNQI, NCNQ, and ANCC
  – IOM
Goals – Grounded in National Policy and Leadership

• Clinical Informatics National Leadership
  – ANIA
  – AMIA
  – HIMSS – Health Information Management Systems Society

• Clinical and Quality Programs of Research

• Academic, Business, and Provider Partnerships

• Clinical Advocacy Groups and Professional Societies

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Game Changers

• Individualized/personalized Medicine
• Business Intelligence
• Changing policy, e.g. ACOs and other models
• Social networking and consumer pressures
• Consumer engagement in EHRs, PHRs
Summary

• Use systems in “meaningful” ways to build clinical practice knowledge and useful outcomes
• Align role on parity with your organization’s leadership structure
• Transformation?? Becoming a Learning Organization
  – Use governance effectively
  – Apply evidence TO practice and FROM practice
  – Support adoption and optimization – not just use
Measure, evaluate, communicate outcomes
Comments or Questions?