



# ***Integrating Healthcare Systems: A Care-Process and Information Perspective***

James M. Walker, MD, FACP  
Chief Health Information Officer

**GEISINGER**  
REDEFINING BOUNDARIES™

# Agenda

- Vision
- What to Integrate? The 100% Process
- The Patient's Care Team  
(The Keystone Beacon Care Team)
- Laws of Information Systems
- Information Sharing
- Information Services
- Vision

# Vision

In a perfectly integrated care system, every patient is offered 100% of relevant evidence-based interventions and given 100% support in completing those they choose—with no waste.

# Why the 100% Process?

- Eliminate healthcare disparities.
- Improve health outcomes.
- Improve cost effectiveness.
- Support accountable accountability.

# The 55% Process

Participants *[from 12 metropolitan areas]* received **55 percent** of recommended care *[preventive, acute, and chronic]*.

McGlynn, E. A., S. M. Asch, et al. (2003). "The Quality of Health Care Delivered to Adults in the United States." NEJM **348**: 2635-2645.

# 100% Open-Heart Surgery

- 40 Evidence-based Interventions
- Baseline Performance: 59% process

# 100% Open-Heart Surgery

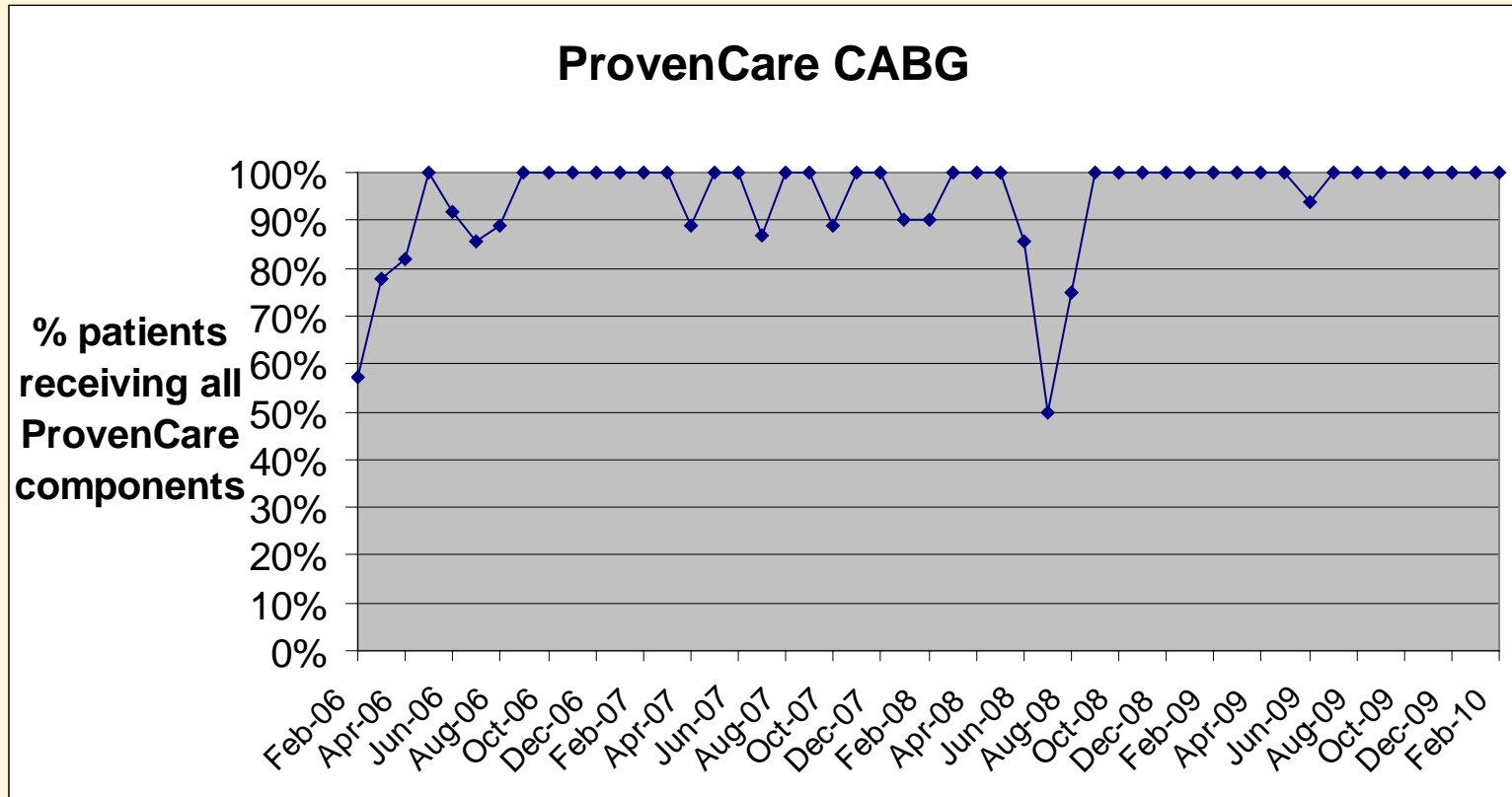
- 40 Evidence-based Interventions
- Baseline: 59% process
- Re-design the process.
- Optimize integrated EHR and PHR (and HIE).
- Warehouse, analyze, and feed back information.

# 100% Open-Heart Surgery

- Baseline: 59% process
- Re-design the process.
- Optimize integrated health IT.
- **Steady State: 98% process**
- **Improved Outcomes**
  - wound infections
  - return to work
  - satisfaction



# ProvenCare<sup>SM</sup> Open-Heart Surgery



# Mini-Processes

1. 100% of at-risk women offered mammogram.
2. 100% get results within 24 hours.
3. 100% with abnormal result are offered a Breast Clinic visit that would occur within one business day of the result.

# The 100% Process

- Begin with patient needs and preferences.
- Eliminate healthcare disparities.
- Improve health outcomes.
- Improve cost effectiveness.
- Support accountable accountability.
  - Optimal outcomes rates are unknown.
  - Accountability only within one's span of control.
  - Account for 100% of exclusions.

# The Patient's Care Team

- Patient
- Lay Caregivers
- Doctors (esp. PCP)
- LTPAC
- Other Clinicians (nurses, pharmacists)
- Non-Clinicians (payers, public health, employers)

# The Keystone Beacon Care Team

- Patient
- Hospital (doctors and nurses)
- Clinic (esp. PCP)
- Care Manager
- Nursing Home
- Home Health

# Laws of Clinical Informatics

- Include all team members.
  - Usable
  - Cheap
  - Non-automated

# Laws of Clinical Informatics

- Include all.
- Make it useful (to the entire team).

# Laws of Clinical Informatics

- Inclusive
- Useful
- Support care processes now.
  - Nasty
  - Kludgey
  - Partial
  - Non-automated



# Laws of Clinical Informatics

- Inclusive
- Useful
- Get started.
- Optimize it.
  - More usable
  - More useful
  - More cost-effective
  - More automated (but rarely fully)

# Information Sharing

- **Minimum Necessary** for
  - Contracted Care Processes, and
  - Contracted Information Services
- Role-Specific Access
- Transparent Audit

# Information Services

- Security

# Information Services

- Security
- Process-Aware Data Specification
  - Data Definitions
  - Report Design

# Information Services

- Security
- Process-Aware Data Specification
- Community Data Warehouse
- Analytics

# Information Services

- Security
- Process-Aware Data Specification
- Community Data Warehouse
- Analytics
- Reporting
  - To support the 100% process. (patients, other care-team members)
  - Administrative
    - Internal
    - External

# Information Technology

- Keystone HIE (KeyHIE) as **channel**
  - Among the care team
  - To the community data warehouse
- KeyHIE as **document repository** (nasty, kludgey, partial, non-automated, usable, useful, standardized)
- ‘The Gobbler’ >> Document Repository
  - MDS (skilled nursing facilities)
  - OASIS (home health)

# Vision

The patient's entire care team  
executing 100% care processes across all venues  
with full situation awareness  
and accountable accountability





Jim Walker

[jimwalker@geisinger.edu](mailto:jimwalker@geisinger.edu)