

**The Commonwealth Fund and The Nuffield  
Trust**  
**7<sup>th</sup> International Meeting to Improve the Quality  
of Health Care: Strategies for Change and  
Action, 2005**

July 14 - 15, 2005  
Glenn Steele Jr., MD, PhD  
President and CEO  
Geisinger Health System

# Information Technology Opportunities

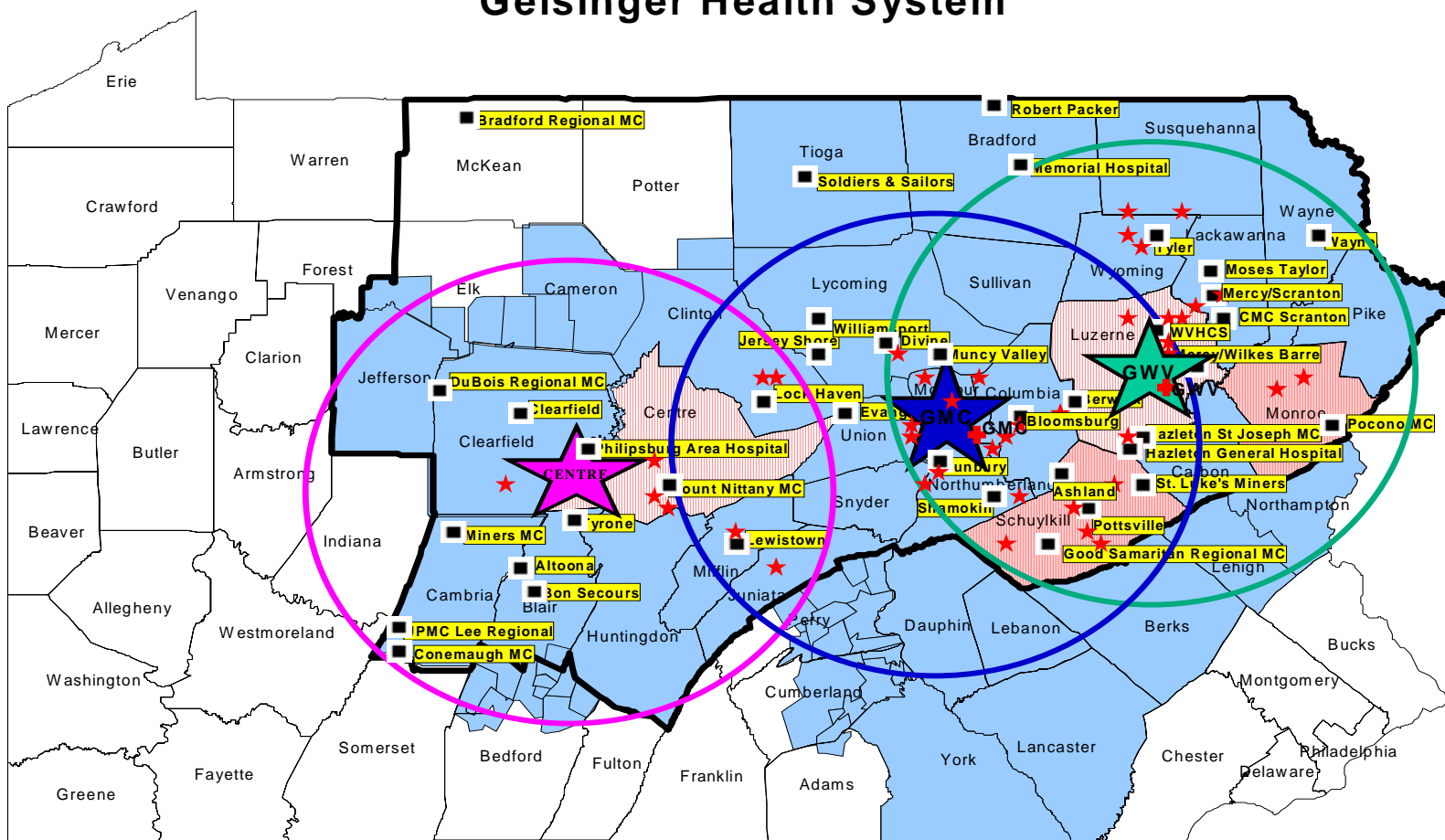
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Session II, July 15<sup>th</sup>

“Using Information Technology to Maximize Clinical and Patient Engagement”\*

\*Walker J, Bieber E, Richards F, *Implementing an Electronic Health Record System*, Springer-Verlag London Limited 2005

# Geisinger Health System



## Geisinger Hospitals "Hubs" – Provide Primary/Secondary/Tertiary Care



Geisinger Medical Center



Geisinger Wyoming Valley



Centre

Business Strategy & Development - 8/2004



Geisinger Medical Groups



Non-Geisinger Facilities



Counties for Potential Market Growth

GHP Service Area

GHS Service Area

# Geisinger Health System

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## Anatomy

- 2.3 million in service area
- 38 of PA's 67 counties
- Rural and aging; non-transient
- Medical informatics (strategic commitment)
- 650 physicians
- 41 community practice sites; ~200 primary care physicians
- Tertiary/quaternary care medical centers and specialty hospitals

# Geisinger Health System

## Anatomy

- ◆ Geisinger Health Plan
  - 223,000 members\*
    - 35,000 MA
  - 7,000 empanelled physicians
  - 55 non-Geisinger hospitals
  - 41 PA counties

\* 1/31/05

# Geisinger's Information Technology (IT)

## Why Implement an EHR?

- ◆ Ease of communicating clinical information
  - Multiple users in time and space (GHS and non-GHS)
  - Minimize hand-offs; decrease errors
- ◆ Clinical data collection, analysis and reports
- ◆ Clinical Decision Support
  - Reminders, alerts, assistance
- ◆ Efficiency
- ◆ Real-time P4P

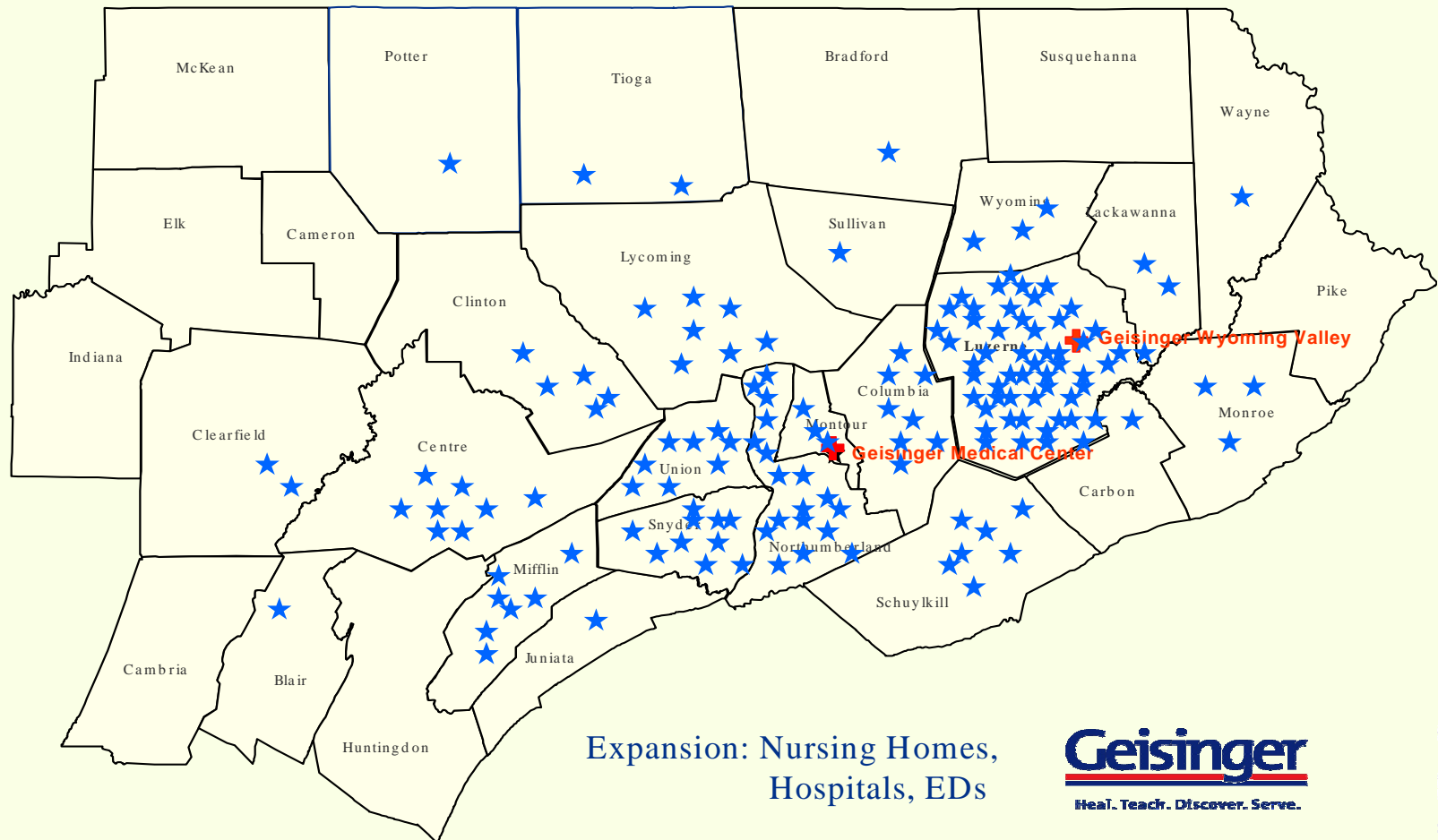
# Geisinger's IT Investments

## Electronic Health Record (EHR) – Epic System

- ◆ Decision to implement: 1995
- ◆ > \$70M invested to initiate (hardware, software, manpower, training); running costs = ~ 4% of revenue
- ◆ Fully-integrated electronic health record (EHR) - 41 community practice sites; two hospitals (GMC and GWV)
- ◆ > 3 million patient records
  - ~30,000 active users of MyGeisinger; goal = 80,000
  - >450 non-Geisinger practices on EpicLink
  - Real-time registries track clinical metrics by department/physician
  - PACS and web-based image distribution
- ◆ Secure access for non-Geisinger referring physicians

# Non-GHS Physician Engagement

## Community Physician Practices Online with GeisingerConnect





# Non-Geisinger Physician Engagement

## Services Available or Pending

- ◆ MedLink processing access to patient EMR (April)
  - Authorization valid until patient revokes
  - “Just-in-time” service
- ◆ June
  - Radiology results
  - Online Appointment Requests
  - Re-design for quicker access
- ◆ Next
  - ED to ED
  - Implement patient universal authorization to release EHR

# HIT- Patient Engagement

## MyGeisinger

- ◆ Histories and problem lists
- ◆ Medications and allergies (including renewal requests)
- ◆ Laboratory results
- ◆ Messaging with clinic
- ◆ Appointments – past and future
- ◆ Referral requests
- ◆ Changes to registration information
- ◆ Check timing for preventative services
- ◆ Innoculation reports (e.g., for school children)
- ◆ Schedule appointments directly (in pilot)

# Geisinger's Strategic Plan Implementation

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## Geisinger Health – Striving for Perfection

- 1) Efficient
- 2) Effective
- 3) Equitable
- 4) Timely
- 5) Safe
- 6) Patient-Centric

## **Chronic Care (CMS Demonstration Project Model)**

- ◆ Diabetes, CHF, HTN, A-fib, CAD
- ◆ Providers rewarded for coordinating and managing overall healthcare needs
- ◆ Explicit incentives for process and outcome improvement and cost savings
- ◆ Bonus from savings produced by successful chronic care management – 80% of savings available for provider incentives
- ◆ End-points – longitudinal/long-term

# P4P

## Episodic Care

- ◆ Identify high-volume Diagnostic-Related Groups (coronary artery bypass with and without angiography; total hip replacement)
- ◆ Determine “best practice” performance parameters
- ◆ Pilot with GHP
- ◆ Assess metrics per case:

### Results

- Less than expected
- Expected
- More than expected

### Payment Structure

- No charge to GHP
- DRG payment
- DRG + bonus payment

**\* EHR is critical component for both chronic disease and acute episodic models of P4P**

# Geisinger Health System

## Lessons Learned

- ◆ Institutional commitment required (Board, President/CEO, senior leaders)
- ◆ Strong physician leadership is key
  - Physician executive – influential leader who can marshal support and push adoption
  - Advisory group – oversaw project, recommend policies
  - Physician champions – point people for the project and liaison between the IS Department and medical staff
- ◆ Ability to wait for return on investments (~5-7 years)
- ◆ Opportunity for workflow assessment and redesign

# Geisinger Health System

## Lessons Learned

- ◆ Critical factors for Computerized Physician Order Entry (CPOE)
  - Physicians as leaders and decision-makers
  - Direct linkage to the work of clinical performance improvement
  - Visible, active roles for medical executives
  - Active involvement of nursing, pharmacy, and other departments in decision making

\*Computerized Physician Order Entry in Community Hospitals: Lessons from the Field.  
Prepared by California Healthcare Foundation and First Consulting Group. Authors: Jane Metzger and Jason Fortin. June 2003

# Geisinger Health System

## Lessons Learned

- ◆ Training isn't optional!
  - “Big Bang” approach used initially
    - 16 hours of training in which physicians learned everything and then promptly forgot most of it
  - “Just-in-Time” now used
    - Users learn a little at a time, review, learn a little more, and build slowly – absorb more information and retain it longer
- ◆ Avoid paralysis by analysis
  - Refine the system post “go-live”
- ◆ EHRs can introduce new kinds of errors\*

\*Some Unintended Consequences of Information Technology in Health Care: The Nature of Patient Care Information System-Related Errors.

JAMIA 11(2): 104-112. Ash, JS, Berg, M, et al. 2004



# Geisinger Health System

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## Measures of Success

- ◆ Care quality measures
- ◆ Work flow efficiencies
- ◆ Measures of usage
- ◆ Revenue impact
- ◆ Regulatory impact
- ◆ Satisfaction
  - User
  - Patient

# Geisinger Health System

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- ◆ The single biggest factor for success or failure, demonstrated time and time again, is physician leadership and participation!

# Geisinger Health System

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System Strategy – Next Five Years:

**“Geisinger Health – Striving for Perfection”**