Identity Management in Healthcare

Smart Card Alliance Webinar
September 22, 2009
Webinar Topics

- Importance of identity management in healthcare
- The enhanced liability that new regulations and legislation place on healthcare organizations
- Challenges with patient identity management and authentication within healthcare organizations and with healthcare data exchanges.
- Results achieved by the Mount Sinai Medical Center and Memorial Hospital smart patient health card programs
Speakers

- Randy Vanderhoof, Executive Director, Smart Card Alliance
- Richard Marks, Co-Founder & President, Patient Command, Inc.
- Lawrence Carbonaro, Director, Purchasing & Patient Access, The Memorial Hospital, North Conway, New Hampshire
- Paul Contino, Vice President of Information Technology, Mount Sinai Medical Center
Who We Are

- **Smart Card Alliance mission**
  
  To stimulate the understanding, adoption, use and widespread application of smart card technology through educational programs, market analysis, advocacy, and industry relations in the United States and Latin America.

- **Over 150 members, including participants from financial, retail, government, corporate, and transit industries and technology providers to those users**

- **Major activities**
  
  - Conferences, symposia, web seminars
  - Educational workshops and on-line training
  - Web-based resources: white papers, reports, industry product and services
  - Industry and Technology Councils
    - Identity Council
    - Contactless Payments Council
    - Healthcare Council
    - Physical Access Council
    - Transportation Council
Identification Technologies and Applications Vary by Use Case

Identity credentials come in a variety of shapes, card types and capabilities
Common Requirements for Identity Credentialing for Healthcare

- Secure identity credentialing process and data management
  - Validation of source documents prior to issuance
  - Managing data on card vs. data stored on systems
  - Process for updating data and securing access
  - Process for rapid revocation once card expires or is revoked

- Authentication of the individual and credential
  - Common Machine Readable Technology (MRT) present
  - MRT links to physical characteristics (biometrics)
  - Security features to protect the physical credential and the data elements in the MRT
  - Security and privacy must be “baked in” for cardholders to accept credential and use it
Health Information Security under ARRA – A New World of Enhanced Responsibility

Richard D. Marks
Co-Founder and President, Patient Command, Inc.
ARRA Security

- ARRA changes the rules for security of health information in the U.S.
- Modifies HIPAA security (more below)
- Imposes new security requirements for HIPAA covered entities and their business associates
- Imposes security requirements for Personal Health Record (PHR) systems and others not covered by HIPAA
- Enacts a new regime for breach notification
- Emphasizes enforcement at the federal and state levels, including required federal investigations and enforcement by state attorneys general and whistleblowers
ARRA Security

- Hierarchy of diligence and culpability
  - Reasonable diligence and would not have known
  - Reasonable cause and not willful neglect
  - Willful neglect (and corrected or not corrected)
  - Increased, tiered civil and criminal monetary penalties – top is $50,000 per violation, with annual limit of $1,500,000
  - Civil and criminal liability for individuals (fines and prison terms) as well as for organizations
  - Breach notification for unsecured information (in effect, requires NIST-described encryption)
ARRA Security

- **Integrated health information security is inherent in ARRA**
  - Sections 13401, 13404 – references in business associate contracts now, by law, apply mutually (both ways) to covered entities and business associates
  - Requires reassessment of what business associate agreements mean for both CEs and BAs – both as to responsibilities for, and liabilities related to, security
  - This is not just a legal analysis – it requires reassessing business processes and technology
  - This is costly – and no one wants to hear that
  - People have yet to focus on Sections 13401 & 13404
ARRA Security

- What does this mean for
  - Boards of directors?
  - Senior (C-suite) executives?
- Issues for public companies
  - Sarbanes-Oxley governance
  - Public company disclosure and accounting
- Practical consequences of transitioning from an era of subdued (read “non-”) enforcement to an era of enhanced enforcement
- Demands a different approach to security risk and response models – diligence is the goal
Richard D. Marks
Patient Command, Inc.
McLean, Virginia
richardmarks@earthlink.net
www.patientcommand.com

Smart Card Alliance
191 Clarksville Rd. · Princeton Junction, NJ 08550 · (800) 556–6828
www.smartcardalliance.org
Smart Card Solution

Lawrence Carbonaro
Director, Purchasing & Patient Access
The Memorial Hospital, North Conway, New Hampshire
The Memorial Hospital
North Conway, NH
Smart Health Card Initiative
Identity Management in Healthcare

The Memorial’s Smart Health Card
‘patient service initiative’

- Critical Importance of Patient Intake
- Motivations for Deploying the Card
- Results
- Future Intentions
Patient Identity Validation

Registration: the critical system entry point

*why we ask what we ask: legalities and life changes*

- Clinical Identity Establishes Care Regimen
  - Patient Account Number
  - Medical Record Number
  - EMR

- Demographic Identity Initiates Revenue Cycle
  - Patient, Spouse, Relations
  - Guarantor Verification
  - Insurance Carrier Verification
  - Type of Claim Incident
    - Motor Vehicle Accident
    - Work Related Accident
    - Medicare/Medicaid Incident
Healthcare has a 5% clerical error rate in gathering patient data.

Pressure to register quickly at the expense of accuracy.

Inadequate tools do not match the required tasks.

Extremely complex system yet zero tolerance for errors.
Memorial Identity Ecosystem

IT Hierarchy: 4 Hospital Registration Systems

- CPSI
- GE Centricity I
- GE Centricity II
- Allscripts

- Imaging Lab
- Ambulatory Surgery
- Emergency Department
- Cardiac Rehab
- Oncology
- PT / OT
- Inpatient
- Long Term Care

- Primary Care Walk-In
- Visiting Doctor
- Diabetes Clinic
- Urology Clinic
- Surgery Clinic

- Orthopedics

- Woman’s Health
IT Hierarchy With LifeMed

- CPSI
- GE Centricity Orthopedics
- GE Centricity Primary Care
- Allscripts
The Memorial Hospital Community

- 25 bed critical access hospital
- 45 bed long term care facility
- Women’s clinic
- Orthopedic clinic

- 59,412 annual visits – hospital
- 49,553 annual visits – clinics
- Average daily census: 16.5
Identity Management: Real & Perceived Metrics

✓ Errant patient information: 6.8% average frequency
  ▪ Incorrect and missing corrected by Billing
  ▪ Dupes and overlays corrected by Medical Records

✓ Press Ganey Report Card
  ▪ Helpfulness: Average 91.1 Memorial 89.1
    ▪ 12% rate Memorial “fair to poor”
  ▪ Ease: Average 91.1 Memorial 81.3
    ▪ 17% rate Memorial “fair to poor”
  ▪ Wait Time: Average 87.5 Memorial 81.1
    ▪ 22% rate Memorial “fair to poor”
  ▪ Privacy: Average 85.1 Memorial 92.1
    ▪ 6% rate Memorial “fair to poor”
Value Proposition & ROI

✓ Motivation for Smart Card Initiative
  ▪ Patient satisfaction: redundant process system wide
  ▪ Administrative: overlaid records at facilities missing corrected by Billing
  ▪ Economic: labor and cash flow fix-its

✓ Results
  ▪ Press Caney results after 1\textsuperscript{st} full quarter
    ▪ Ease of Registration Improved by 10 percentage points
    ▪ Wait time in Registration Improved by 10 percentage points
  ▪ Errors: reduced from 6.8\% to less than 1\%
  ▪ Duplicate medical records: reduced to less than 1\%
  ▪ Patient waiting & desk time: reduced from 18 minutes to less than 3 minutes
  ▪ Branded Smart Card extended reach to Patient Community: 95\% coverage
  ▪ Patient access staff reduced from 21 FTEs to 16 FTEs
  ▪ Payback period of 18 months accelerated to 8 months
Future Intentions

- Incorporate Continuity of Care Information on Card Data Set
- Link Physician Practices
- Link Emergency Services Providers
- Extend Information Exchange with Payers for Improved Eligibility and Insurance Verification
Future Clinic Data Flow

The Memorial Hospital
Clinical Data Flow

- Patient enters, reviews and manages information on the internet.

- Clinician can enter information from Discharge Instructions into Clinical Database. If information from Discharge Instructions is entered into a computer system via another method (e.g. CPOE for medications), then the information can be data-mined from the HL7 messages which are triggered by the alternate method(s).

- Clinicians enter medical information in Clinical Database during visit and can also update Clinical Database from LifeMed report.

- Registration Clerk scans SmartCard to bring up patient record, then generates LifeMed report.
LifeMed Architecture Implementation
Lawrence Carbonaro
Director, Purchasing & Patient Access

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www.smartcardalliance.org
Identity Management in Healthcare

Personal Health Cards:
A Model for Identity Management and Security Controls for Healthcare Information Networks

Paul Brian Contino
Vice President of Information Technology
Mount Sinai Medical Center
Identity Management in Healthcare

Personal Health Cards:
A Model for Identity Management and Security Controls for Healthcare Information Networks

- Importance of Patient Identity
- Personal Health Cards
- Benefits and Business Case
- Regional and National Agenda
Mount Sinai Medical Center, NYC

- Founded in 1852
- 1,171-bed tertiary-care teaching hospital
- Mount Sinai Hospital of Queens (235 bed)
- Medical School and Graduate School
- 1,000,000 patient visits per year
- 100,000 emergency room visits
- Database of over 3.7 million patients
Importance of Patient Identity

➢ **Is the patient in front of us who they say?**
  - Patient Safety - appropriate medical care
  - Avoid potential medical errors

➢ **Link patient to existing medical records**
  - Continuity of Care
  - Provide clinical data to healthcare providers

➢ **Medical billing and claims processing**
  - Medical Identity Theft
  - Fraud and Abuse
Personal Health Card

- **Identity Management**
  - Photograph
  - Patient Name
  - Medical Record Number
  - Demographics (chip)

- **Registration Efficiency**
  - Positive ID
  - Barcoded MRN
  - Linkage to Patient Records

- **Emergency Medical Access**

- **Health Information Exchange**
Personal Health Card

**what’s on the chip?**

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**Patient Identification & Demographics**

- **Name:** Smith, John
- **Sex:** Male
- **DOB:** 11-18-1942
- **Address:** 23 East 92nd Street, New York, NY 10029
- **Home Tel:** (212) 245-3455
- **Work Tel:** (212) 826-1212 Ext 2332
- **Insurance:** Oxford [Policy No. 2134323]
- **Emergency Contacts:** Ellen Smith, Wife (212)-226-1232

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**Current Medications & Allergies**

- **Medications:**
  - Coreg (12.5mg) 2xDaily
  - Accupril (40mg) 1xDaily
  - Glucovance (500/5) 2xDaily
  - Humulin 70/30 25-30 units as needed
- **Allergies:**
  - Type: Penicillin
  - Peanut (severe): Food
  - Latex: Environ

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**Recent Laboratory Results**

- **Glucose**
  - 190 (70 – 110) mg/dL 4-2-2006
  - 150 (70 – 110) mg/dL 4-16-2006
  - 130 (70 – 110) mg/dL 4-20-2006
- **PSA**
  - 5 (0 – 4) ng/mL 1-23-2005

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**Compressed EKG Image**

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**Medical Summary & Problem List**

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**Recent Healthcare Encounters**

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**Pointers to Remote / Off-Card Data**

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Local Benefits and Business Case

➢ Administrative
  ▪ Positive identification of patients
  ▪ Reduce registration time for patients
  ▪ Improved data accuracy (registration → billing)
  ▪ Reduce medical records maintenance costs (duplicate/overlaid)
  ▪ Regulatory Compliance – JCAHO, HIPAA, HITECH

➢ Clinical
  ▪ Accelerate information availability during emergency care
  ▪ Continuity of Care between healthcare providers
  ▪ Patient Safety- Reduce medical errors & adverse events
Medical Records Management

- On average, 5 – 15% of a hospital’s medical records are duplicated or overlaid.
- In the last 6 years, Mount Sinai has done two large scale medical record cleanups
- Last one costing the institution $1.8 million dollars and involved over 250,000 duplicate records.

- **Smart cards** are as a way to significantly stem these duplicates
Claims Denials and Revenue Capture

- Studies estimate that 50% to 90% of claim denials could be prevented by securing accurate patient information at the front desk.

- Mount Sinai estimates that about $1 million dollars a week is lost or delayed due to claims denials.

- A recent audit revealed that upwards of 70% of these denials involved missing or inaccurate data that is typically collected as part of the registration process.

- **Smart cards** improve data integrity
Value Proposition & Cost Savings

➢ Patient Satisfaction

- Reduce registration wait times
- Reduce administrative paperwork (Clipboardectomy)
- Positive healthcare experience
- Smart Cards empower & engage patients in their healthcare
Healthcare at a National Level

American Recovery and Reinvestment Act of 2009 (ARRA)
$728 Billion ‘Stimulus Package’

Health Information Technology for Economic and Clinical Health Act (HITECH)
$19.4 Billion for EHR Adoption
Healthcare: Where Are We Going?

- National Health Infrastructure Network
- Regional Health Information Organization
- Health Information Exchange
- Electronic Health Record
- Personal Health Record
- Electronic Medical Record
Healthcare: Where Are We Going?

- National Health Infrastructure Network
- Regional Health Information Organization
- Health Information Exchange
- Electronic Health Record
- Personal Health Record
- Electronic Medical Record
- Identity Management
Healthcare: Where Are We Going?
Healthcare: Where Are We Going?
Islands of Information

$2.5 Trillion Dollars
2009 U.S Healthcare Expenditure

31% Administrative Costs
69% Clinical Care
Health Information Exchange

RHIO / HIE Data Exchange

Patient X
Smart Card

Hospital A
Clinical Systems

Edge Server

RHIO RLS

Record Locator Service (RLS)
Statistical (Probabilistic) Matching

Hospitals
Health Information Exchange

**RHIO / HIE Data Exchange**

- **Hospital A**
- **Edge Server**
- **RHIO RLS**
- **Record Locator Service (RLS)**
- **Statistical (Probabilistic) Matching**
- **Hospitals**

**Hospital B**

- **Patient X**
- **Smart Card**

**Smart Card Data Exchange**

- **Patient X**
- **Smart Card**

**Positive Identification**

**Deterministic match**

**Patient Consent**

**Federated Patient Identity**

**Patient X**

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**View Information on Smart Card**
Conclusion

- As Electronic Medical Records become more prevalent there will be the conflicting needs to both **protect** and **share** this information.
- In order to have Electronic Health Records, you need identity management.
- Smart Card Technology provides a compelling solution to the challenges of identity management in healthcare.
- Smart Cards address the enhanced security and privacy demands of HITECH.
Paul Brian Contino
Vice President of Information Technology
Mount Sinai Medical Center
Mount Sinai School of Medicine
(212) 659-1429    paul.contino@mountsinai.org

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www.smartcardalliance.org
Conclusions

Randy Vanderhoof
Executive Director, Smart Card Alliance
Conclusions

- Secure, portable, ID card technology is the cornerstone of effective identity management.
- Regulatory compliance measures demand the attention of all healthcare stakeholders.
- Sound business models exist for using smart card technology to address the challenges of identity management in healthcare.
- Smart Cards *protect* patient data, and enable the *sharing* of data across multiple electronic health information boundaries “responsibly.”
Questions and Answers
Smart Card Alliance
191 Clarksville Rd. · Princeton Junction, NJ 08550 · (800) 556–6828
rvanderhoof@smartcardalliance.org • www.smartcardalliance.org

- Randy Vanderhoof, rvanderhoof@smartcardalliance.org
- Richard Marks, richardmarks@earthlink.net
- Lawrence Carbonaro, lcarbonaro@tmhf.org
- Paul Contino, paul.contino@mountsinai.org