Smart Health ID Cards: Addressing Challenges with Patient Identity Management and Authentication

Smart Card Alliance Webinar
September 13, 2011
Introductions

- Cathy J. Medich
- Director, Strategic Programs -- Smart Card Alliance
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 190 members, including participants from financial, retail, government, corporate, healthcare 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
Smart Card Resources

- **Healthcare Council**
  - Getting to Meaningful Use and Beyond: How Smart Card Technology Can Support Meaningful Use of Electronic Health Records
  - Medical Identity Theft in Healthcare
  - Smart Card Technology in Healthcare: Frequently Asked Questions
  - A Healthcare CFO’s Guide to Smart Card Technology and Applications
  - Smart Cards in U.S. Healthcare: Benefits for Patients, Providers and Payers

- **Smart Card-Based Payments – EMV: U.S. Migration Considerations Webinar** – October 6, 2011, 1pm ET


- **Smart Card Alliance Web Site** – http://www.smartcardalliance.org
Webinar Topics

- Challenges with patient identity management and authentication in healthcare and the role of smart health cards to address these challenges
- Requirements for and benefits of patient ID cards
- Healthcare organization perspectives on the market need for and experience with smart patient health cards
- Requirements for and benefits of a smart health security card for disasters and public health emergencies
Speakers

- **Cathy J. Medich**, Director Strategic Programs, *Smart Card Alliance*

- **Michael Magrath**, CSCIP, Director, Business Development - Government & Healthcare, *Gemalto*, and Chair, *Smart Card Alliance Healthcare Council*

- **David Gans**, MSHA, FACMPE, Vice President, Innovation and Research, *Medical Group Management Association*

- **Rajiv Garg**, President and Chief Executive Officer, *Wyckoff Heights Medical Center*

- **Dr. James J. James**, MD, DrPH, MHA, Director, Center for Public Health Preparedness and Disaster Response, *American Medical Association*
Introduction to the Healthcare Council & Overview of Smart Cards in Healthcare

- Michael Magrath, CSCIP
- Director, Business Development, Government & Healthcare, Gemalto
- Chairman, Smart Card Alliance Healthcare Council
Healthcare Council

- Brings together payers, providers, and technologists to promote the adoption of smart cards in U.S. healthcare organizations and within the national health IT infrastructure.

- Provides a forum where all stakeholders can collaborate to educate the market on the how smart cards can be used and to work on issues inhibiting the industry.

- Council membership is open to any Smart Card Alliance member
Addressing security, identity verification and authentication provided by smart card technology, several healthcare institutions have issued smart cards to staff.

- Physical access for certain areas of a hospital, parking
- Logical access for accessing networks with multi-factor authentication

Smart cards meet or exceed the identity and authentication requirements mandated by the federal government

- DEA e-prescribing rule for controlled substances
- Two-factor authentication for remote access into EHR systems for the purpose of sharing the EHR with another provider (Privacy & Security Tiger Team 3/7/11)
- All digital certificates used in NwHIN exchanges must meet Federal Bridge standards and must be issued by a certificate authority (or one of its authorized resellers) that is a member of the Federal Public Key Infrastructure Framework
Smart Cards in Healthcare – Patients

- An identity crisis in healthcare
- ID cards issued by private and public insurers do not prove the patient is who they claim to be.
  - Leads to fraud, including medical identity theft
  - Personally identifiable information such as name, DOB and, in some cases, SSN are printed on the face of the card
- Consumer access to PHRs, as noted in the National Strategy for Trusted Identities in Cyberspace, will compound the problem.
- Several health organizations in the U.S. are tackling the issue of patient identity with smart card technology.
  - The same technology trusted by organizations and governments around the world for employee ID, health ID, driver licenses, electronic passports, banking and national IDs
Benefits of Patient ID Cards

- David N. Gans, MSHA, FACMPE
- Vice President Innovation and Research
- Medical Group Management Association
The Economics of Using a Smart Card

A Smart Card changes support staff workflow

- How a patient is received
- How claims are processed
- How the practice interacts with insurance payers

Using Smart Card technology lowers administrative costs
### Administrative Time Interacting with Insurance Payers

<table>
<thead>
<tr>
<th></th>
<th>Average Hours Interacting with Insurance Payers for Claims Processing (per FTE Physician) per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>46.8</td>
</tr>
<tr>
<td>Nurses</td>
<td>197.6</td>
</tr>
<tr>
<td>Clerical staff</td>
<td>2,366.0</td>
</tr>
<tr>
<td>Senior administrators</td>
<td>173.7</td>
</tr>
</tbody>
</table>

## Cost of Administrative Time Interacting with Insurance Payers

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>$17,775</td>
</tr>
<tr>
<td>Nurses</td>
<td>$23,478</td>
</tr>
<tr>
<td>Clerical staff</td>
<td>$37,010</td>
</tr>
<tr>
<td>Senior administrators</td>
<td>$4,712</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$82,975</strong></td>
</tr>
</tbody>
</table>

### Administrative Time to Receive a Patient

**Patient Reception and Verification of Insurance Coverage**

<table>
<thead>
<tr>
<th>Description</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of patients per day per FTE physician</td>
<td>15.0</td>
</tr>
<tr>
<td>Average number of patients for whom coverage/copayment/deductible are verified per day per FTE physician (verifications/day per FTE)?</td>
<td>4.9</td>
</tr>
<tr>
<td>Support staff time spent per verification (minutes/verification)?</td>
<td>12.6</td>
</tr>
<tr>
<td>Percent of claims denied because of incorrect patient demographic information for practices without Smart Cards</td>
<td>4.6%</td>
</tr>
<tr>
<td>Percent of claims denied because of incorrect patient demographic information for practices with Smart Cards</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average amount of support staff time spent per resubmission (minutes/resubmission)?</td>
<td>16.0</td>
</tr>
</tbody>
</table>

[MGMA Complexity in Group Practice Research, April 2009](http://www.mgma.com/swipeitwaste/)
<table>
<thead>
<tr>
<th><strong>Administrative Costs Manual Techniques</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients (claims) per physician per year</strong></td>
</tr>
<tr>
<td>Fraction of claims rejected by a payer due to incorrect patient demographic information in practices using manual techniques</td>
</tr>
<tr>
<td>Total claims rejected due to incorrect patient demographic information for practices using manual techniques</td>
</tr>
<tr>
<td>Annual hours of support staff time for resubmitting claims</td>
</tr>
<tr>
<td>Coverage / Copayment / Deductible verification per year for practices using manual techniques</td>
</tr>
<tr>
<td>Average time spent per resubmission</td>
</tr>
<tr>
<td>Annual hours of support staff time for resubmitting claims</td>
</tr>
<tr>
<td>Average amount of support staff time for registration per patient for practices using manual techniques</td>
</tr>
<tr>
<td>Average amount of support staff time spent registering patients</td>
</tr>
<tr>
<td>Support staff time for practices using manual techniques</td>
</tr>
</tbody>
</table>
# Administrative Costs Using Smart Cards

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (claims) per physician per year</td>
<td>3,000</td>
</tr>
<tr>
<td>Fraction of claims rejected by payers due to incorrect patient demographic information for patients that are registered using Smart Cards</td>
<td>1.0%</td>
</tr>
<tr>
<td>Claims rejected for practices using Smart Cards</td>
<td>30</td>
</tr>
<tr>
<td>Annual hours of support staff time for resubmitting claims</td>
<td>8.0</td>
</tr>
<tr>
<td>Coverage / Copayment / Deductible verification per year for practices using Smart Cards</td>
<td>3,000</td>
</tr>
<tr>
<td>Average time spent per resubmission</td>
<td>0</td>
</tr>
<tr>
<td>Annual hours of support staff time for resubmitting claims</td>
<td>0</td>
</tr>
<tr>
<td>Average amount of support staff time for registration per patient for practices using Smart Cards</td>
<td>3</td>
</tr>
<tr>
<td>Average amount of support staff time spent registering patients</td>
<td>150.0</td>
</tr>
<tr>
<td>Administrative support staff time for practices using Smart Cards</td>
<td>158.0</td>
</tr>
</tbody>
</table>
The Value of Smart Cards

Using Smart Cards
- Increases accuracy
- Reduces cost
- Increases practice profits
Who Benefits from Smart Cards?

- Patients will have less hassle from denied claims
- Providers save money on labor and copying
- Providers will be paid more quickly and accurately
- Insurers save by doing less manual work on rejected claims
References

- MGMA Complexity in Group Practice Research, April 2009
David N. Gans, MSHA, FACMPE
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www.smartcardalliance.org
One Card
Countless Benefits

Wyckoff Heights Medical Center

- Rajiv Garg
- President and Chief Executive Officer, Wyckoff Heights Medical Center
Wyckoff Heights Medical Center
Brooklyn, NY

324 Bed Hospital established in 1889

Stats 2010:
- IP Discharges: 19,774
- ED (Treat & Release): 65,197
- OP Clinic: 97,692
- Ambulatory Surgery: 7,527
Issues at Hand

- Patients we serve (multiple visiting patients)
- Instant accurate patient identification and authentication
- Diminish duplicate or overlaid records, medical record and billing errors
- Reduce registration time (patient satisfaction)
Smart cards have been in the healthcare arena for years and here in the U.S., military, DoD, FEMA, FRAC, etc.

Countries with national healthcare systems such as France, Germany, Italy, Asia have issued millions of Patient Identity Smart cards.

Smart Cards achieve many of the milestones critical to healthcare reform...“Meaningful Use”
Developed Ease of Implementation

- Outline current workflow
- Integration between LifeMed and other vendor systems
- LifeMed customized application to meet workflow
- HL7 spec, design, build, testing
- Hardware purchases
- Training
- Promoting awareness in the community
Wyckoff’s identity smart cards are secure and portable and maintain current patient information through LifeMed ID’s simple HL7 integrated exchange and encoding of data.
Patient checks in at the kiosk, registration is alerted and a Triage Report is automatically generated.

A secure HL7 message is then sent to pre-registration and waits for the patient registration process to be completed.
Future Phases

- **Bi-Directional Patient Data Portal**
  - Interface between Clinician and Patient
  - EMS Gateway for First Responder for Real-time Communications

- **Patient Identification Verification**
  - Verifies the supplied name, DOB, SSN and the address of the patient

- **Additional Factor Authentication**
  - Patient identity enhanced by adding PIN/biometrics

- **Insurance Verification, Deductible and Co-pay**
  - Automatically verifies insurance co-payment and deductible requirements

- **Branded Patient Loyalty Marketing for Community Alignment**
  - National and Local Merchants accepting Wyckoff's branded card
Quality Initiatives

- Patient identity smart cards are tracked to improve and prevent unnecessary hospitalization
- Send reminder alerts for clinic appointments, medication intake time, and check blood glucose
- Based on the utilization of the card by the patient and providers, data can be aggregated to do analytical studies.
Benefits

- Patient identity with automated registration cards
- Streamline registration process (patient satisfaction)
- Eliminate multiple identities, records, fraud
- Accurate billing and claims processing reducing days outstanding of Accounts Receivable
- Links multiple providers’ MRNs to one verifiable identity
- Portability of a patient’s medical record/medical history
- Reduction in adverse events, allergies and medical errors
- Adaptability to expanded into other administrative and care efficiencies
Transforming the Practice Of Medicine
Health Security Information Card

- James J. James, MD, DrPH, MHA
- Director, AMA Center for Public Health Preparedness and Disaster Response
- Health Security Card Grant, Principal Investigator
Evacuees

- 1.5 million (many permanently relocated)
- Estimated that 40% were taking Rx medication
- Approximately 100,000 with serious mental illness
Lessons Learned

- Obstacles
  - Identification
  - Medical Information
    - Incomplete
    - Absent/Missing
  - 50% without medications
Aim 1 – Choose Data Elements
Aim 2 – Select Vehicle/Platform
Aim 3 – Hold Focus Groups
Aim 4 – Pilot Vehicle/Platform
Aim 5 – Test & Evaluate Data
Parameters & Assumptions

- Displaced persons/evacuees
- Individual presents within 96 hours of event
- Sub acute care-sheltering environment
- Providing Rx major goal
- Some power, telephone, Internet connectivity
- Has HSC on hand and/or will have PIN
- Information may be stored electronically somewhere else in “Cloud”
The Public’s Vehicle Concerns

- Pharmacist and MD updates could decrease misdiagnoses
- Biometrics useful means of protecting data
- Different levels of access for different people (local level for motor vehicle, FEMA/CDC/NIH for major disaster)
- Cost-free of charge preferred
- Security and Interoperability were biggest concerns
Existing Products
Results

- Paper is positively viewed, but not durable and hard to update
- Cell phone and computer use differs by age and culture
- USBs seen as unsecure
- Keychain too bulky
- Cards/chips can store large amounts of information
### The Figures

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card with chip</td>
<td>93</td>
</tr>
<tr>
<td>Key chain</td>
<td>36</td>
</tr>
<tr>
<td>Bar code/magnetic strip</td>
<td>27</td>
</tr>
<tr>
<td>Paper card</td>
<td>27</td>
</tr>
<tr>
<td>Cell phone app</td>
<td>25</td>
</tr>
<tr>
<td>USB/thumb drive</td>
<td>23</td>
</tr>
<tr>
<td>Implanted chip in body</td>
<td>21</td>
</tr>
<tr>
<td>Chip on Jewelry</td>
<td>15</td>
</tr>
<tr>
<td>Card</td>
<td>11</td>
</tr>
<tr>
<td>Id Card</td>
<td>2</td>
</tr>
<tr>
<td>Chip on driver's license</td>
<td>2</td>
</tr>
</tbody>
</table>

- Smart card overwhelmingly supported
- People want choices
- Implanted chip in body suggested by participants
Piloting the Smart Card

- Health Security Information Card
- Target total N=1,000
- Over sampling of at-risk individuals
- Public opinion on utility and convenience
Time trend of natural disasters\(^{(1)}\) 1975-2006

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\(^{(1)}\): Natural disasters = Country-level disasters

EM-DAT: The OFDA/CRED International Disaster Database
Questions and Answers
• Cathy Medich, cmedich@smartcardalliance.org
• Michael Magrath, michael.magrath@gemalto.com
• David Gans, dgans@mgma.com
• Rajiv Garg, rgarg@wyckoffhospital.org
• Dr. James James, james.james@ama-assn.org

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