New England Healthcare EDI Network

John Halamka, MD, CareGroup Healthcare System
Greg DeBor, Computer Sciences Corporation

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Agenda

- Project Background
- NEHEN Solution
- CSC’s Innovative Approach and Value Proposition
- Achieving Results
- Added Value
- CSC Leverage
A Compelling Event - the Health Information Portability & Accountability Act (HIPAA)

- Enacted August 1996 at the end of the “Clintoncare” health reform debate, HIPAA provided a compelling event
  - Objectives
    - Improve the efficiency and effectiveness by standardizing electronic data interchange.
    - Protect the security and privacy of transmitted information.
    - Data standardization.
  - Approach
    - Transaction standards for healthcare EDI
    - Unique identifiers (individual, employer, payer, provider)
    - Coding/Security standards
    - DHHS Development & Deployment, 1996 - 2003
Massachusetts Healthcare Market

- Top-ranked and world-renowned hospitals and physicians
- Leading managed care market - for better or worse
  - #1, #2 and #3 HMOs in the country
- Limited access to funds
  - Non-profit organizations dominate
- Insular
  - Regional players dominate at the expense of national players
- Expensive
  - Average healthcare premiums are 20% higher than national norms
- Extreme cost pressures
  - At or near the bottom nationally in operating margins (negative)
EDI in Healthcare

• Healthcare has traditionally been slow to adopt electronic document interchange (EDI)
  – Lack of inter-enterprise standards
  – Payers offer unique solutions requiring multiple technologies and processes in providers
    • POS, Dial-up, IVR, paper, phone, etc.
  – Clearinghouse approach is expensive and limited
  – Identification issues abound
    • Patient, Member, Provider, Payer
  – Limited and weak software vendor support

• Recent changes are resulting in increased adoption
  – IDN scale makes the ROI for bulk EDI more attractive
  – Increased cost pressure - payers and providers are losing money and are motivated to reduce administrative costs
  – Healthcare Insurance Portability and Accountability Act (HIPAA) is providing a catalyst
• Healthcare companies are being barraged by conflicting pitches and pressures to move quickly or miss out:

- Subsidized Portal Deals from GPOs, etc.
- Physicians Unwilling to Pay to Connect
- Competition from Commercial Healthcare Sites
- Competition from Ancillary and Carve-Out Sites
- Gurus Telling You eEnable or Die!
- Free/Profit-Making Deals from Dot.coms
- Legacy System Web Enablement Offers
- Marketing Pressure to Just Treat Web as New Media
- Operating and Capital Pressures
- Medicare Fraud and Abuse Limitations
- Html? Xml? Java? ActiveX?
- Hardware and Network Costs
As with the Natural World, e-Health tends Toward Chaos

Major transaction volume for payers today is still from clearinghouses and direct connections with large providers (IDNs, large hospitals) and suppliers. Payers are beginning to offer web connectivity, with limited functionality. Consumer loyalty is to portals such as AOL, Yahoo, etc. Subportals have mindshare.

Consortium approaches are beginning to emerge; business models are muddy. Clearinghouses and subportals have great synergies. Only the largest employers utilize the web and EDI, mostly with suppliers. Suppliers and GPOs continue to compete, now for e-health mindshare.

On their own, clearinghouses and value-added networks (VANs) are a dying breed. Non-hospital-based providers are still on their own. Internet

Consolidation is occurring - clearheadedness is emerging. Retailers (Costco, etc.) and employers are beginning to dominate. Employers are beginning to offer integrated benefits. Employer Purchasers

Employer Purchasers

Suppliers / Manufacturers / Distributors

Group Purchasing Organizations

Clearinghouses / VANs

.com Subportals

Consortium Connectivity Portals

Consumer Portals

Consumers

Independent Physician Practices

Provider Group Practices

Independent Hospitals

Integrated Delivery Networks

Consumer loyalty is to portals such as AOL, Yahoo, etc.

Major transaction volume for payers today is still from clearinghouses and direct connections with large providers (IDNs, large hospitals) and suppliers. Payers are beginning to offer web connectivity, with limited functionality.
There are many options in the market...
The New England Healthcare EDI Network (NEHEN) is a consortium of regional payers and providers who have designed and implemented a secure and innovative electronic-commerce solution for reducing administrative costs in healthcare.
NEHEN History

- Grew out of Affiliated Health Information Networks of New England, a project of the Massachusetts Health Data Consortium (MHDC) promoting electronic data interchange and interested in “all-payer EDI”

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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</thead>
<tbody>
<tr>
<td>August 1997</td>
<td>• CSC engaged for feasibility study</td>
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<td>October 1997</td>
<td>• Initial NEHEN discussions</td>
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<tr>
<td>February 1998</td>
<td>• Bourbon Street Coalition</td>
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<tr>
<td>April 1998</td>
<td>• Beta versions of software tested</td>
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<tr>
<td>June 1998</td>
<td>• Eligibility Pilot started</td>
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<tr>
<td>August 1998</td>
<td>• Web front-end introduced</td>
</tr>
<tr>
<td>September 1998</td>
<td>• Original governance documents signed - Memorandum of Understanding (MOU)</td>
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<tr>
<td>December 1998</td>
<td>• Referral implementation guide completed</td>
</tr>
<tr>
<td>November 1999</td>
<td>• Incorporation (NEHEN LLC)</td>
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Affiliated Networks of New England

- 24 regional providers and payers
- Common interest and collaboration on:
  - Confidentiality
  - EMPI strategies
- Common vision on:
  - Identifiers
  - Clinical and insurance EDI
- Forum for IT leadership networking
  - Unwieldy forum for implementation
Our Innovative Approach - NEHEN

• **Formation**
  – Collaborative approach to mutual implementation and adoption
  – Communicate value proposition and potential ROI
  – Create a business-like but collegial atmosphere

• **Solution Approach**
  – Standards- based
    • Internet-technologies and HIPAA (ANSI X.12)
  – Secure extranet connecting the participants
  – Integration with enterprise applications
    • Avoid double-keying
    • Integrate with existing workflows and processes
    • Minimal intrusion into enterprise strategies and architecture
  – Cost-saving, rather than revenue-generating business model
    • Zero transaction-based charging
      – No click charges
  – Insourcing model
  – Shared development and intellectual property
Business Model

• Each organization is responsible for:
  – Implementation fees, network fees and a monthly Program Management fee.
  – The quality of their data.
  – Security.
  – Generating and accepting HIPAA compliant transactions.

• Collaborative and “Win/Win”
  – Payers & Providers benefit by sharing administrative data electronically.
  – By pooling resources, members can develop necessary infrastructure at a lower cost.
  – Each member has an equal voice.
  – All members receive the gateway software, web browser user interface and the Eligibility & Referral Dataset Implementation Guides.
NEHEN replaces the phone calls, paper forms, file cabinets, and mountains of paper with a fast and efficient electronic pipeline.
Technology

• **Gateway**
  - Middleware for routing & managing EDI transactions
  - C++ NT multi-threaded Service
  - Transactions (Current 6,000 per day, Tested 20,000)
  - Multiple transport modules supported
    - Existing: Direct socket, ftp, command
    - Prototype: XML over HTTP
  - HTML control interface (monitoring)
    - Configuration, Transaction throughput, Trading Partner status

• **Extranet**
  - TCP/IP frame-based network

• **NEHENLite**
NEHEN — Architecture

Gateway

Secure Web Server

Extranet

Payer Enterprise System

Provider Enterprise System

External Information Providers

SSL

270/271/...

Legacy System I

Legacy System II

Aggregator & Translator

Aggregator & Translator

Legacy System I

Legacy System II
NEHENLite – Eligibility Request and Response

Eligibility Request

Payer: Tufts Health Plan

Patient

Last Name: Rogers
First Name: Roy
Middle Initial: 
Date of Birth: 19591209 (CCYYMMDD)
Gender: Male
Policy Number: 
Date of Service: 19991025 (CCYYMMDD)

Subscriber

Last Name: <NOT APPLICABLE>
First Name: 
Middle Initial: 
Policy Number: 
Relationship: Parent

Fields indicated by ☀ or ☏ are required fields.

Reset | Submit
NEHENLite – Eligibility Request and Response

Eligibility Response

Date of Service: 1999/04/14

Patient (Active)

Timothy R Segall

Primary Care Physician

SUSAN E. BLANKENSHIP, M.D.
482 BEDFORD STREET
LEXINGTON, MA 02420

Copays

Hospital - Emergency Medical: 50
Professional (Physician): 10

Coverage Level:

Eligibility: 1996/01/01-9999/12/31
DOB: 1960/12/19
Gender: Male
Policy #: 26178451101

Health Maintenance Organization (HMO)
Tufts Health Plan Health Maintenance Organization

Provider #: 073715
Telephone: 781-572-225
Risk Group:
Eligibility Overview

The Eligibility Verification function allows you to request eligibility information from various payers. To perform a single eligibility verification, basic data is entered onto the Eligibility Request screen. The information on this form is then sent to the payer. All transactions that have been sent can be reviewed using the Eligibility Review screen. When a response has been received from the payer, the transaction will be highlighted and can be selected (i.e., a hyperlink will be available). Selecting this link will take you to the Eligibility Response screen which presents the data returned from the payer.

Eligibility Request

The Eligibility request screen provides the ability to submit an online eligibility transaction to one of the insurance carriers. The data required to submit a request and the data returned vary by payer. The indicators (●, ▲) provided on this screen indicate those fields that are mandatory. Either all of the fields marked with ◼ or all the fields marked with ▲ must be completed. Once a request has been generated, it is possible to review its status using the Eligibility Review screen.

Eligibility Review

The Eligibility Review screen provides the ability to review the set of requests that have been submitted. Requests are in one of three states:

- **Sent** - transaction has been sent but a response has not yet been received
- **Received** - transaction has been received from the payer but has not been viewed by end-user
- **Viewed** - transaction has been reviewed by end-user

Adjusting the Selection Criteria refines the set of requests to review. The Selection Criteria include the
CSC’s Program Management Role

- Create Strategy & Direction
- Organize and support participant meetings and discussions
- Develop and pilot core technology
- Coordinate implementation plans
- Resolve implementation issues
- Recruit new members
- Provide impetus and momentum - keep the ball moving down the field
  - AKA “herding cats”.

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Security

• Security and confidentiality protections must be extraordinary to safeguard patients and health plan members as well as the reputations of the participating organizations. NEHEN has adopted a strict security architecture in response:
  – No central database - all patient-identifiable data is transitory in nature
  – Use of private network rather than the Internet
    • Recognizes public concerns around security and confidentiality
    • Security planning takes into account, however, that that data may one day be carried over the Internet, or at minimum a public network
  – Signed agreements among participants safeguarding other parties’ data
Targeted Eligibility ROI Results

• **Quantifiable Benefits**
  - Administrative efficiency
    • Reduction in time spent manually verifying eligibility
    • Reduction in rework
  - Direct financial benefit
    • Reduction in AR days/accelerated cash
  - Potential reduction in write-offs
  - Potential improvement in collection rate on reworked claims

• **Other Benefits**
  - Customer satisfaction
    • Providers
    • Members / patients
  - Infrastructure for future capabilities
    • Referrals, claims, clinical data, etc.
  - Audit trail available to track eligibility inquiries and responses
  - Improved collection of copays
Volume Statistics – One Provider, All Payers
Transaction Costs - from Dollars to Pennies

Annual Cost per 1M and 2M Txns.

- Manual
- Clearinghouse
- NEHEN

Cost

Manual (FTE salary only)
Clearinghouse
NEHEN
Present and Future

- **Eligibility - live at all members since October 1998**
  - Plan information - active/inactive & dates
  - Patient demographics
  - Copay information
  - Primary care physician

- **Referrals & authorizations**
  - Pilot - February 2000
  - Production - July 2000

- **Claims status inquiry - in planning**

- **Claims submission - August 2000**
Building a Business Case - Eligibility Benefit Assumptions

- Decreased claim denial rates/improved A/R
  - Front-end typically responsible for > 50% of claim denials

<table>
<thead>
<tr>
<th>Denial Reason</th>
<th>Frequency</th>
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</thead>
<tbody>
<tr>
<td>Incorrect identification number</td>
<td>30% - 40%</td>
</tr>
<tr>
<td>Procedure not covered</td>
<td>10% - 15%</td>
</tr>
<tr>
<td>Services after cancel date</td>
<td>5%</td>
</tr>
</tbody>
</table>

- Significant reduction in claim rework
- Increased opportunity to collect copays
- Audit trail/performance measures - support for tracking of eligibility verification policies
- HIPAA compliance
Eligibility ROI - Baseline Data

- The following data is required to determine a provider’s benefits:
  - Inpatient encounters (by payor/system)
  - Outpatient encounters (by payor/system)
  - # of FTEs responsible for eligibility verification
  - % of scheduled encounters (by system)
  - Claim reject rates with cause, for example:
    - Incorrect identification number (36%)
    - Procedure not covered (12%)
    - Services provided after cancel date (6%)
  - Information on organizational structure for patient access and revenue collection
    - How are administrative processes operationalized?
    - Central or distributed?
Eligibility Analysis Questions

• Providers
  – How much time is spent verifying eligibility?
    • Process problems and issues?
    • Percent performed today?
  – What are your copay results?
    • Percent collected?
    • Total revenue potential?
  – How much time does it take to collect correctly?
    • What are your claim rework issues?
    • Percent denied due to inaccurate eligibility data?
    • Time spent in rework?
  – What impact does your current eligibility process have on key financial performance indicators?
    • Lost revenue?
    • A/R days?
    • Write-offs?

• Payors
  – How many FTEs are dedicated to helping the providers with their problems above?
Provider Case Study

• $700M Hospital
  – 26 FTEs have claims responsibility with five payors
    • Medicare, Medicaid, and three commercial plans
    • 90% of FTEs’ time spent on reworking claims (23 FTEs)
  – 5 FTEs responsible for eligibility and authorization
    • Current process: 15-60 minutes per verification
    • 60% of the current effort dedicated to eligibility (3 FTEs)
  – Over 950 claims per month are rejected for reasons directly related to eligibility verification
    • $368K / month
      – $4.4M / year
    • Write-off rate of 1-3%
Provider Case Study

• EDI Solution Assumptions
  – Performed <3 minutes
  – Support at least 70% of the payor mix
  – 40% of current claims rework to be eliminated
  – Burdened rate of $30K per FTE and 15% overtime
  – Cost of capital at 6%
Eligibility Results

• Reduction in claim rework

| Salary and overtime: $845,250 x 40% claims rework labor reduction = $338,100 |

• Eligibility verification process improvement

| Salary and overtime: $110,250 x 70% payor Mix = $77,175 x 80% labor reduction (from current 15 mins. To 3) = $57,875 |

• Improved collections

| Current rejections: $4,416,000 x 30-day A/R reduction (at 6% cost of capital) = $21,770 + 1.5% reduction in write-offs = $66,240 |
Eligibility ROI

<table>
<thead>
<tr>
<th>Eligibility ROI</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor savings:</td>
<td>$397,975</td>
<td>$397,975</td>
<td>$397,975</td>
</tr>
<tr>
<td>+ Improved collections:</td>
<td>$88,010</td>
<td>$88,010</td>
<td>$88,010</td>
</tr>
<tr>
<td>Gross savings:</td>
<td>$485,985</td>
<td>$485,985</td>
<td>$485,985</td>
</tr>
<tr>
<td>- NEHEN program mgmt. fees:</td>
<td>$72,000</td>
<td>$72,000</td>
<td>$72,000</td>
</tr>
<tr>
<td>- Implementation costs</td>
<td>$250,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>(H/W, network, labor):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net savings (cumulative):</td>
<td>$163,985</td>
<td>$568,905</td>
<td>$972,890</td>
</tr>
<tr>
<td>(+ incidence avoidance)</td>
<td></td>
<td></td>
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<tr>
<td>ROI:</td>
<td>1.5X</td>
<td>2.4X</td>
<td>3X</td>
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Return improves 2.5X, to 7.5X over 3 years as solution is rolled out across the IDN
Implementation Resource and Sponsorship Requirements

• **Executive sponsor**
  – CIO or senior business executive

• **Program management office**
  – Program manager
    • Responsible for interactions with the payors
    • E-commerce and healthcare expertise
    • Technology background
  – Business analyst
    • Responsible for discovery
  – Technical analyst
    • Responsible for setting up network connectivity

• **Registration manager (provider) and operations manager (health plan)**
  – Determined based on discovery, but is typically less than one FTE

• **Additional resources (for example, I/T networking)**
  – Less than one FTE collectively
Implementation Approach

• **Phase 1: Discovery (1 month)**
  – Process - where and when eligibility verification will be performed
  – Technical - assessment of current technical environment

• **Phase 2: Implementation (3 months)**
  – Installation of technology
  – Coordination of payor connectivity
  – Solution pilot - integration and rollout at one or more points of service

• **Phase 3: Enterprise system integration**
  – Assessment of legacy capabilities
  – Integration approach
  – Integrated eligibility inquiry solution

• **Phase 4: Additional payor connectivity**
  – Assessment of additional connectivity options
  – Coordination of additional payor connectivity
Participant Value

• “NEHEN is a ground-breaking initiative. The partners have embraced collaboration rather than competition as a force to accelerate the required changes, improve service to our common customers and reduce the costs of HIPAA compliance. This ultimately benefits our patients and plan members who will deal with less red tape and bureaucratic hassles as a result of our efforts.”
  – Carole Cotter, SVP and CIO, Lifespan

• “NEHEN is a remarkable collaboration between providers and payors that significantly reduces the cost and improves the effectiveness of shared administrative processes. NEHEN has also enabled us to be in a superb position to respond to insurance transaction requirements of HIPAA.”
  – John Glaser, VP and CIO, Partners Healthcare System, Inc

• The Balanced Budget Reconciliation Act has stressed hospital systems across the country. NEHEN is a critical part of CareGroup's response to the BBRA, providing us with the infrastructure to check eligibility of our managed care patients and maximize our in-network referrals.”
  – John Halamka, CIO, CareGroup, Inc.