Regional Approaches to HIPAA Compliance

New England Health EDI Network

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Chief Information Officer, CareGroup
Associate Dean, Harvard Medical School
Objectives

• NEHEN Overview and Status
• Administrative Structure and Governance
• Sample Functionality
• Administrative Budget
• Real and Potential Benefits
• Implementation Scenarios and Requirements
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)
• 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
As with the Natural World, e-Health tends Toward Chaos

Payers are beginning to offer web connectivity, with limited functionality

Major transaction volume for payers today is still from clearinghouses and direct connections with large providers (IDNs, large hospitals) and suppliers

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

Only the largest employers utilize the web and EDI, mostly with suppliers

Consortium approaches are beginning to emerge; business models are muddy

Clearinghouses and subportals have great synergies

On their own, clearinghouses and value-added networks (VANs) are a dying breed

Non-hospital-based providers are still on their own

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There are many options in the market...
Our Innovative Approach: NEHEN LLC

- The New England Healthcare EDI Network (NEHEN LLC) is a consortium of payers and providers in Massachusetts.

### Payors with Secondary Connectivity Solutions

- BC/BS of Massachusetts
- Massachusetts Medicaid
- Medicare

### Additional Members

- UMass Memorial
- Children's Hospital Boston
- Lahey Clinic
- Boston Medical Center

### NEHEN Founding Partners

- CareGroup Healthcare System
- Harvard Pilgrim HealthCare
- Tufts Health Plan
- Partners Healthcare System
- Lifespan

### Contract Affiliates

- athenahealth.com

Current NEHEN Membership
Brief History and Membership

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tr>
<td>Oct. 1997</td>
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<tr>
<td>Feb. 1998</td>
<td>Commitment in principle</td>
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<td>Apr. 1998</td>
<td>Pilot commences</td>
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<td>Dec. 1999</td>
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<td>Jun. 2000</td>
<td>Specialty referrals live</td>
</tr>
<tr>
<td>Jul. 2000</td>
<td>Two affiliates join</td>
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<tr>
<td>Jan. 2001</td>
<td>Claims status inquiry pilot commences</td>
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Current membership represents:
- 26 Hospitals
- Over 6,300 licensed beds
- Over 2 million covered lives (not including Medicare and Medicaid)

Expanding membership interest:
- 4 integrated delivery networks
- 3 smaller payers
- 8 community / specialty hospitals
- 2 multi-specialty practices
- 3 billing companies
- State agencies and task forces
Declaration of Interdependence

Signing Ceremony — NEHEN LLC — October 1999
### Current NEHEN Transactions

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<tr>
<th>Process / Transaction</th>
<th>HPHC</th>
<th>Tufts</th>
<th>BCBSMA</th>
<th>Medicare</th>
<th>Medicaid</th>
<th>NHP</th>
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<td>General availability</td>
<td>Complete</td>
<td>At BCBSMA discretion (working on new approach through WebMD / Envoy)</td>
<td>General availability</td>
<td>General availability</td>
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<td>Transition from NaviMedix, planning in progress</td>
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<td>General availability</td>
<td>May be available through WebMD / Envoy</td>
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## Proposed NEHEN Development Plan

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<td>Specialty Referral</td>
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<td>8/1/2001</td>
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<td>TBD</td>
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<td>Claims Attachment</td>
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<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
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<td>First Report of Injury and Discharge Notice</td>
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<td>TBD</td>
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# Internal Approach for Leveraging NEHEN’s Value

<table>
<thead>
<tr>
<th>Educate</th>
<th>Communicate Existing and Potential NEHEN Capabilities to Finance, Operations, and Individual Entities</th>
<th>Group presentations and individual meetings</th>
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<tbody>
<tr>
<td>Discover</td>
<td>Collect Business Metrics, Process Details, and Additional Detail on Information Systems Capabilities and Requirements</td>
<td>Individual meetings and prepared documentation</td>
</tr>
<tr>
<td>Target</td>
<td>Identify Best Practice Approach, Determine Feasibility, and Define Solution</td>
<td>Facilitated workshops and interviews</td>
</tr>
<tr>
<td>Model</td>
<td>Identify Gaps, Model Return on Investment (ROI), and Establish Improvement Targets</td>
<td>Facilitated workshops, individual meetings, and independent analysis</td>
</tr>
<tr>
<td>Plan</td>
<td>Define and Prioritize Business and Technical Projects and Plan for Process Change Management</td>
<td>Independent analysis and preparation</td>
</tr>
<tr>
<td>Budget</td>
<td>Define and Prioritize Business and Technical Projects and Plan for Process Change Management</td>
<td>Independent analysis and preparation</td>
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NEHEN Security

• 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 data may one day be carried over the Internet, or at minimum a public network
  ▪ Signed agreements among participants safeguarding other parties’ data
Common program management

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

Each organization is responsible for:

- Implementation costs
- Network expenses
- Monthly program management fee
- The quality of their data
- Security
- Generating and accepting HIPAA compliant transactions
- One member, one vote
- Some managers have additional responsibilities
- Contract affiliates are not at the table
NEHEN — Principles & Objectives

• Principles
  § Open (participants, standards, etc.)
  § Low intrusion into individual participants IT agenda
  § Participant value derived from transactions sent & received
  § Data ownership retained by participant organizations
  § Stay focused to avoid CHIN mistakes
  § Keep it Simple

• Key Objectives
  § Address upcoming HIPAA compliance issues.
  § Reducing bad debts and other financial exposures by improving service efficiencies through EDI
  § Shorten the elapsed time to achieve EDI at scale.
  § Reduce the cost of EDI implementation through coordination and standardization
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
NEHEN at Our Institutions
NEHENlite and Integrated Options

Intranet version – NEHENLite

- Use when integrated EDI is unavailable in core system
- Supports ad hoc business processes like collections
- Provides means of acquiring early experience with process change (in parallel with core system integration)
- Extends functionality to outlying practices and business processing areas

Integrated version – IDX, Meditech, Eclipsys, others

- Preferred method for workflow improvement in core business processes
- Avoids double-keying / re-keying
- Eases distribution and reduces training requirements for registration clerks, billing clerks, etc.
Real-Time and Batch Alternatives

Interactive submission and review

- **Eligibility**
  - At point of registration or scheduling (or both)

- **Referral Submission**
  - Complete online form rather than paper form and submit directly to plan
  - Response usually not required real-time (can be asynchronous)

- **Claim Status Inquiry**
  - Efficiency tool for billing and collections

Batch submission and review

- **Eligibility**
  - Submit all appointments scheduled for the next day and “work” the 20-30% of problem cases (patient not found, wrong date of birth, patient inactive, etc.)
  - Can be used in conjunction with and in addition to real-time request at point of registration or scheduling (i.e., no-cost double-checking)

- **Claim Status Inquiry**
  - Submit inquiries for all claims more than 10 days old and review the results
NEHENLite – Specialty Referral Submission
NEHENLite – Claim Status Inquiry

Claim Status Request

Payer: Harvard Pilgrim Healthcare

Service Provider

Institution or Last Name: 
First Name: 
Provider ID: 

Patient

Last Name: 
First Name: 
Policy Number: 
Date of Birth: (MM/DD/YYYY) 
Gender: 

Claim

Account Number: 
Payor Claim ID: 
Dates of Service From: - To: 
Claim Amount: 

Fields indicated by or are required fields.

Reset  Submit
ICD9 Search

Search for ICD9 codes about:

Primary Admission Dx:
Secondary Admission Dx:
Reason for Admission:
Select to route this request to your CareGroup PSN Case Manager:
Liability and Recovery:

Request Admission
Out-Of-Network Requested?

This referral is to an out-of-network provider, which will trigger a review. If you make use of a network provider, your referral will be auto-approved.

- Option 1: Modify referral request
- Option 2: Request out-of-network referral

Justification: Patient request

Comments: 

Request Out-of-Network
### Temporary Tracking Number A682432

**Patient Details**
- **Member ID:** 0277883612
- **Name:** Carter, John
- **Referring PCP:** Taussig, Helen
- **Risk Unit:** BIDMC
- **Plan:** BCBSMA
- **Product:** HMO Blue
- **PSN ID:** 16351

**Provider Details**
- **Refer To Provider:** Woo, John
- **Risk Unit:** BIDMC
- **PSN ID:** 12786

**Referral Details**
- **Start Date:** 10-07-1998
- **End Date:** 12-31-1998
- **Services Requested:** Consult only
- **Reason for Referral:** Worsening symptoms over the past 5 days. Patient complaining of severe chest pain and shortness of breath.

**Diagnosis**
- **Primary Diagnosis:** 413.1
  - **Description:** Prinzmetal Angina
- **Secondary Diagnosis:**
  - **Description:**
- **This referral is:**
CareGroup HealthCare System implemented PatientSite to give patients the opportunity to communicate with their physicians through the Web. It is secure and free for all CareGroup patients. PatientSite should NOT be used for emergencies.

Please enter your Username and Password to login.

If you are not a registered patient of PatientSite, click on “Take a Tour” and see what it has to offer you, or go directly to registration by clicking on “Register Now”!
CareGroup's Personal Health Web Site for
Ignacio Gende, a patient of Dr. John Halamka
You have 18 messages

Patient Education
BIDMC Fact Sheets/Instructions
BIDMC HealthLinks
Care! TV Education Channel
CareNotes Health/Drug Information
External Health Web Sites
Learning Center Services
Pharmacy Locator
Seminars and Support Groups

MyLinks
BIDMC
general health information
IGNACIO GENE: Eligible

Service Date: 9/16/00

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<td>Product:</td>
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Transaction time: 2 Seconds
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Administrative Budget
Program Management Effort (by FTE) & Membership Count

Number of Members

- BMC joined
- UMass - Memorial joined
- Children’s joined
- NaviMedix
- athenahealth.com joined

Number of FTEs

0  0.5  1.0  1.5  2.0  2.5  3.0  3.5

0  2  4  6  8  10  12

11/99 12/99 1/00 2/00 3/00 4/00 5/00 6/00 7/00 8/00 9/00 10/00 11/00 12/00
Scope of Services - How do we spend our time?

- New member setup
- Additional payer connectivity
- Support & development of NEHENLite, eGateway
- Overall IT agenda coordination

Managers, Business Users, Implementors, Open Forum (coordination, content development, etc.)

- Meetings 25%
- Technical Services 35%
- Publicity 5%
- Coordinating Professional Services 5%
- Recruiting & Contracts 15%
- Planning & Governance 15%

Liaison between NEHEN, Nutter, McClennan, Fish and Spector Abbott

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Real and Potential Results
How have we used NEHEN?

• Service Tracking And Referral System (STARS)
  ▪ 100% of CareGroup PCPs (535)
  ▪ 268 Specialists
  ▪ Real time leakage data
  ▪ Referral Management
    ✓ 100% of leakage is pended
    ✓ 100% of therapies after 6 visits is pended
STARS volume

NEHEN Referrals

Transactions

Jan-00  Feb-00  Mar-00  Apr-00  May-00  Jun-00  Jul-00  Aug-00  Sep-00  Oct-00

0  2000  4000  6000  8000  10000  12000  14000  16000
How have we used NEHEN?

- Web-based eligibility checking
- CCC Integration
- Meditech Integration in October 2001
NEHEN Benefits Eligibility

NEHEN Benefits Check

Transactions

Jan-00 Feb-00 Mar-00 Apr-00 May-00 Jun-00 Jul-00 Aug-00 Sep-00 Oct-00

CCC Interface
What is the impact?

- STARS – Risk adjusted referrals to specialists compared over two years
  
<table>
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<th>Encounters/1000</th>
<th>$PMPM</th>
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<tr>
<td>Before STARS</td>
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<tr>
<td>After STARS</td>
<td>1316</td>
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  - $6.2 million dollars in savings
What is the impact?

- Leakage before and after STARS
  - BID 20.8%  17.5%
  - DGL 29.5%  26.2%
  - DWA 19.6%  12.6%
  - NEB 20.8%  17.9%
  - MTA 23%    23%

- $4 million dollars in savings
Implementation Requirements
Getting Started

- **Build the business case**
  - Estimate your opportunity for savings
    - Data gathering - process, financial, technical
    - Workshop to develop pro forma ROI
  - Align your organization
    - Secure high level sponsorship
    - Process change will be significant
  - Plan for technology integration

- **Implement**
  - NEHEN membership
  - Acquire infrastructure
  - Integrate with core systems
  - Training and rollout
Sample Implementation Project Outline

- From Children’s Hospital Boston

<table>
<thead>
<tr>
<th>Activity</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
<th>Week 8</th>
<th>Week 9</th>
<th>Week 10</th>
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<tbody>
<tr>
<td>Implement core NEHEN connectivity software</td>
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<tr>
<td>Implement additional payer connectivity solutions</td>
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<tr>
<td>Develop core system integration</td>
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<tr>
<td>Site-specific enhancements to NEHEN software</td>
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<tr>
<td>Conduct System and User Test</td>
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<tr>
<td>Training and Rollout for initial site</td>
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<td>Training and Rollout for additional sites</td>
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Resource and Capital Requirements

- Small team with healthcare process, revenue management, EDI / e-commerce, and HIPAA expertise
  - Project manager from IS, Finance, or Patient Operations
  - Technical resources - application and networking
  - HIPAA team
- Investment in integration effort
  - Commitment of internal resources
    - Administrative and project management
    - Technical
    - Training
  - External consulting / vendor resources
- Minimal component costs
  - Gateway server
  - Router(s) and other network components
  - Leased line installation
- Ongoing costs
  - Program management fees
  - Minimal support costs
# Sample Implementation Costs: Mid-sized Hospital

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Estimated Cost</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>Initial Investment</strong></td>
<td></td>
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<tr>
<td><strong>Hardware</strong></td>
<td></td>
<td>based on current prices for an appropriate Compaq ProLiant DL360 - price is total for both servers.</td>
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<tr>
<td>2 Windows NT Servers - (Production &amp; Test)</td>
<td>$15,000</td>
<td>$40,000</td>
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<tr>
<td><strong>Software</strong></td>
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<tr>
<td>Operating System and Web Server (for test &amp; production)</td>
<td>$3,400</td>
<td>$8,000</td>
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<tr>
<td>Microsoft SQL Server</td>
<td>$10,000</td>
<td>$30,000</td>
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<tr>
<td>Attachmate eVantage SDK 2.5</td>
<td>$1,000</td>
<td>$1,200</td>
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<tr>
<td>Development environment for support use</td>
<td>$500</td>
<td>$1,000</td>
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<tr>
<td>Core Application EDI module</td>
<td>$5,000</td>
<td>$15,000</td>
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<tr>
<td>NEHENLite Software for eligibility, referral, and claim status inquiry request</td>
<td>-</td>
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<tr>
<td>NEHEN eGateway routing Software</td>
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<tr>
<td>NEHEN Medicaid eligibility service Software</td>
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<td>-</td>
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<tr>
<td>NEHEN Medicare eligibility service Software</td>
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<td>-</td>
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<tr>
<td>NEHEN BCBSMA eligibility service Software</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total for Hardware &amp; Software</strong></td>
<td>$34,900</td>
<td>$95,200</td>
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<tr>
<td><strong>Installation</strong></td>
<td></td>
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<tr>
<td>NEHEN-supplied Software - installation and initial configuration</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Core application EDI Module - installation and configuration</td>
<td>??</td>
<td>??</td>
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<tr>
<td>Optional: Systems Integration services from CSC or another vendor.</td>
<td>-</td>
<td>$100,000</td>
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<tr>
<td><strong>Total Initial Investment</strong></td>
<td>$34,900</td>
<td>$195,200</td>
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### Ongoing Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>CSC</th>
<th>CareGroup</th>
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<tbody>
<tr>
<td>Telecommunications</td>
<td></td>
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<tr>
<td>Connections to payers - frame relay</td>
<td>$270</td>
<td>$750</td>
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</table>

NEHEN can leverage existing connections to payers if they are there. The Medicaid service can use a modem to reduce cost, but increase response time.

<table>
<thead>
<tr>
<th>NEHEN Membership</th>
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<tbody>
<tr>
<td>Program Management</td>
<td>$6,000</td>
<td>$6,000</td>
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<tr>
<td>Other business expense</td>
<td>$150</td>
<td>$250</td>
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| Accounting & Legal fees           |      |           |

| Total Ongoing Monthly Cost        | $6,420 | $7,000   |

| Total Annual Ongoing Cost         | $77,040 | $84,000  |
NEHEN Summary and Esprit de Corps

- Collaborative
  - Shared development
  - Shared intellectual property
- Standards-based
  - Internet-technologies and HIPAA (ANSI X.12)
- Secure
  - Extranet of private lines connecting the participants
- Cost-saving, rather than revenue-generating business model
  - Zero transaction-based charging
- Integrated with enterprise applications
  - Avoid double-keying
  - Integrate with existing workflows and processes
  - Minimal intrusion into enterprise strategies and architecture
- Insourced model
- NEHENLite alternative
- Non-intrusive
Questions?