Regional Approaches to HIPAA Compliance

New England Health EDI Network

John D. Halamka MD
Chief Information Officer, CareGroup
Associate Dean, Harvard Medical School

- NEHEN Overview and Status
- Administrative Structure and Governance
- Sample Functionality
- Administrative Budget
- Real and Potential Benefits
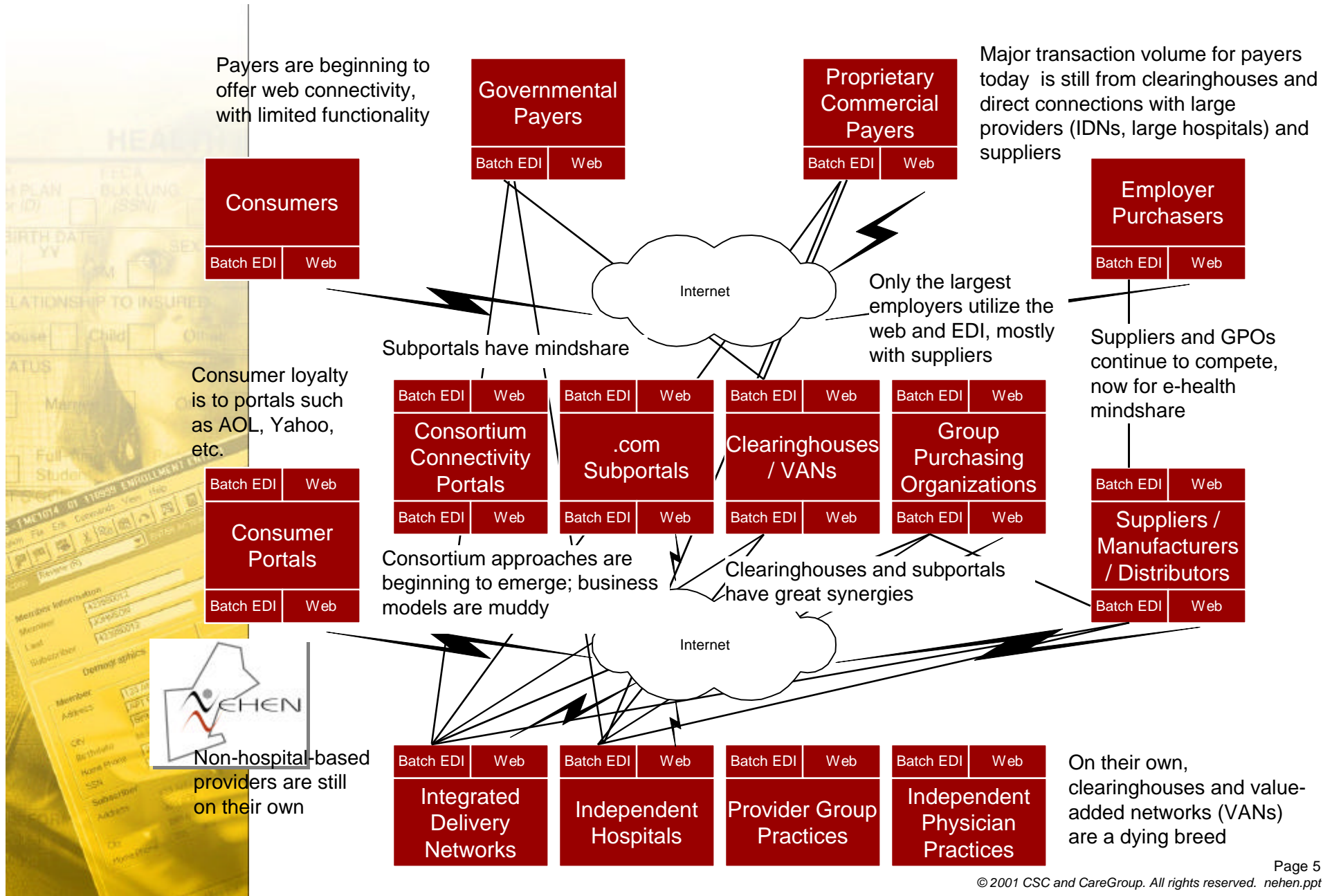- Implementation Scenarios and Requirements

- 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

CareGroup
HEALTHCARE SYSTEM

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

Governmental Payers

Batch EDI	Web

Proprietary Commercial Payers

Batch EDI	Web

Consumers

Batch EDI	Web

Employer Purchasers

Batch EDI	Web

Internet

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

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

Subportals have mindshare

Suppliers and GPOs continue to compete, now for e-health mindshare

Batch EDI	Web

Consortium Connectivity Portals

Batch EDI	Web

Batch EDI	Web

.com Subportals

Batch EDI	Web

Batch EDI	Web

Clearinghouses / VANs

Batch EDI	Web

Batch EDI	Web

Group Purchasing Organizations

Batch EDI	Web

Batch EDI	Web

Batch EDI	Web

Consumer Portals

Batch EDI	Web

Suppliers / Manufacturers / Distributors

Batch EDI	Web

Consortium approaches are beginning to emerge; business models are muddy

Clearinghouses and subportals have great synergies

NEHEN

Internet

Non-hospital-based providers are still on their own

Batch EDI	Web

Integrated Delivery Networks

Batch EDI	Web

Independent Hospitals

Batch EDI	Web

Provider Group Practices

Batch EDI	Web

Independent Physician Practices

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

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
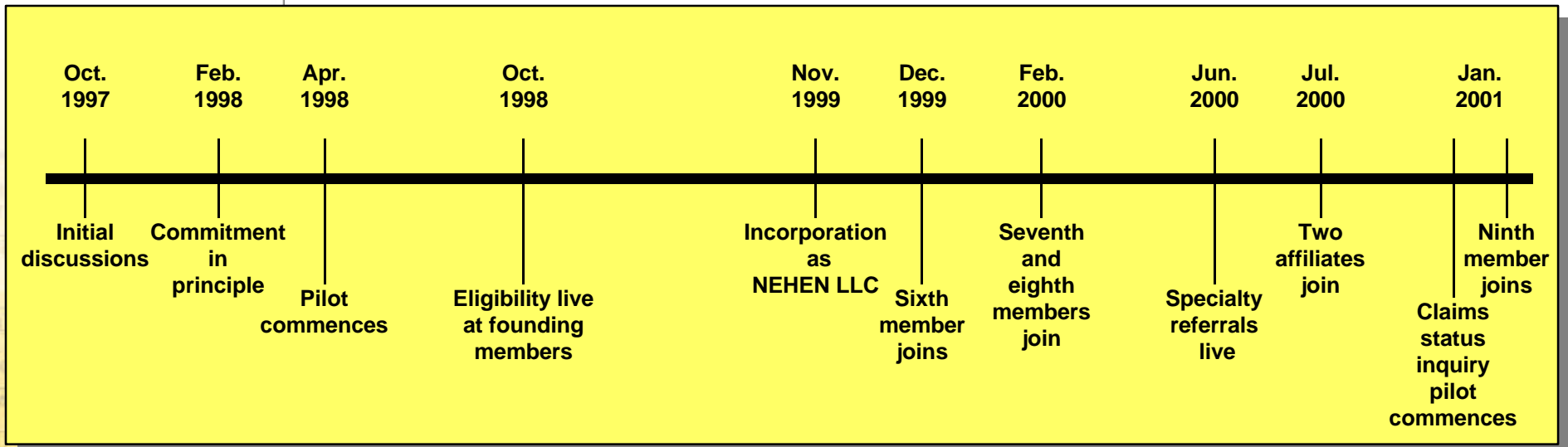- Massachusetts Medicaid
- Medicare

Contract Affiliates

athenahealth.com

CAREGROUP HEALTHCARE SYSTEM

Harvard Pilgrim HealthCare

TUFTS Health Plan

PARTNERS HEALTHCARE SYSTEM

Lifespan
The best names in health care.

NEHEN Founding Partners

Additional Members

Children's Hospital Boston

UMassMemorial

BOSTON MEDICAL CENTER

Lahey CLINIC

Current NEHEN Membership

CareGroup HEALTHCARE SYSTEM

Oct. 1997	Feb. 1998	Apr. 1998	Oct. 1998	Nov. 1999	Dec. 1999	Feb. 2000	Jun. 2000	Jul. 2000	Jan. 2001

- **Oct. 1997** — Initial discussions
- **Feb. 1998** — Commitment in principle
- **Apr. 1998** — Pilot commences
- **Oct. 1998** — Eligibility live at founding members
- **Nov. 1999** — Incorporation as NEHEN LLC
- **Dec. 1999** — Sixth member joins
- **Feb. 2000** — Seventh and eighth members join
- **Jun. 2000** — Specialty referrals live
- **Jul. 2000** — Two affiliates join
- **Jan. 2001** — Ninth member joins; Claims status inquiry pilot commences

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

Signing Ceremony — NEHEN LLC — October 1999

Current NEHEN Transactions

Process / Transaction	HPHC	Tufts	BCBSMA	Medicare	Medicaid	NHP
Eligibility Verification	General availability	Complete	At BCBSMA discretion (working on new approach through WebMD / Envoy)	General availability	General availability	7/1/2001
Specialty Referral	8/1/2001	General availability	At BCBSMA discretion (working on new approach through WebMD / Envoy)	NA	NA	Transition from NaviMedix, planning in progress
Claim Status Inquiry	General availability	General availability	May be available through WebMD / Envoy	NA	NA	Planning in progress

Proposed NEHEN Development Plan

Process / Transaction*	Status	Planning Start Date	Pilot Date	General Availability
Eligibility Verification	Complete	Complete	Complete	Complete
Specialty Referral	Complete	Complete	Complete	Complete
Claim Status Inquiry	Complete	Complete	Complete	Complete
Referral Authorization	In development	In development	8/1/2001	10/1/2001
Referral Inquiry	In development	In development	8/1/2001	10/1/2001
Electronic Remittance Advice	In discussion (HPHC, Partners)	TBD, likely next transaction	TBD	TBD
Claim Submission - Institutional	TBD	TBD	TBD	TBD
Claim Submission – Professional	TBD	TBD	TBD	TBD
Claims Attachment	TBD	TBD	TBD	TBD
First Report of Injury and Discharge Notice	TBD	TBD	TBD	TBD
Claim Submission – Dental	No plan to implement at this time	No plan to implement at this time	No plan to implement at this time	No plan to implement at this time

Internal Approach for Leveraging NEHEN's Value

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

- 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

NEHEN Business Model & Keys to Collaboration

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 issue
- 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

Provider Member Managers

Payer Member Managers

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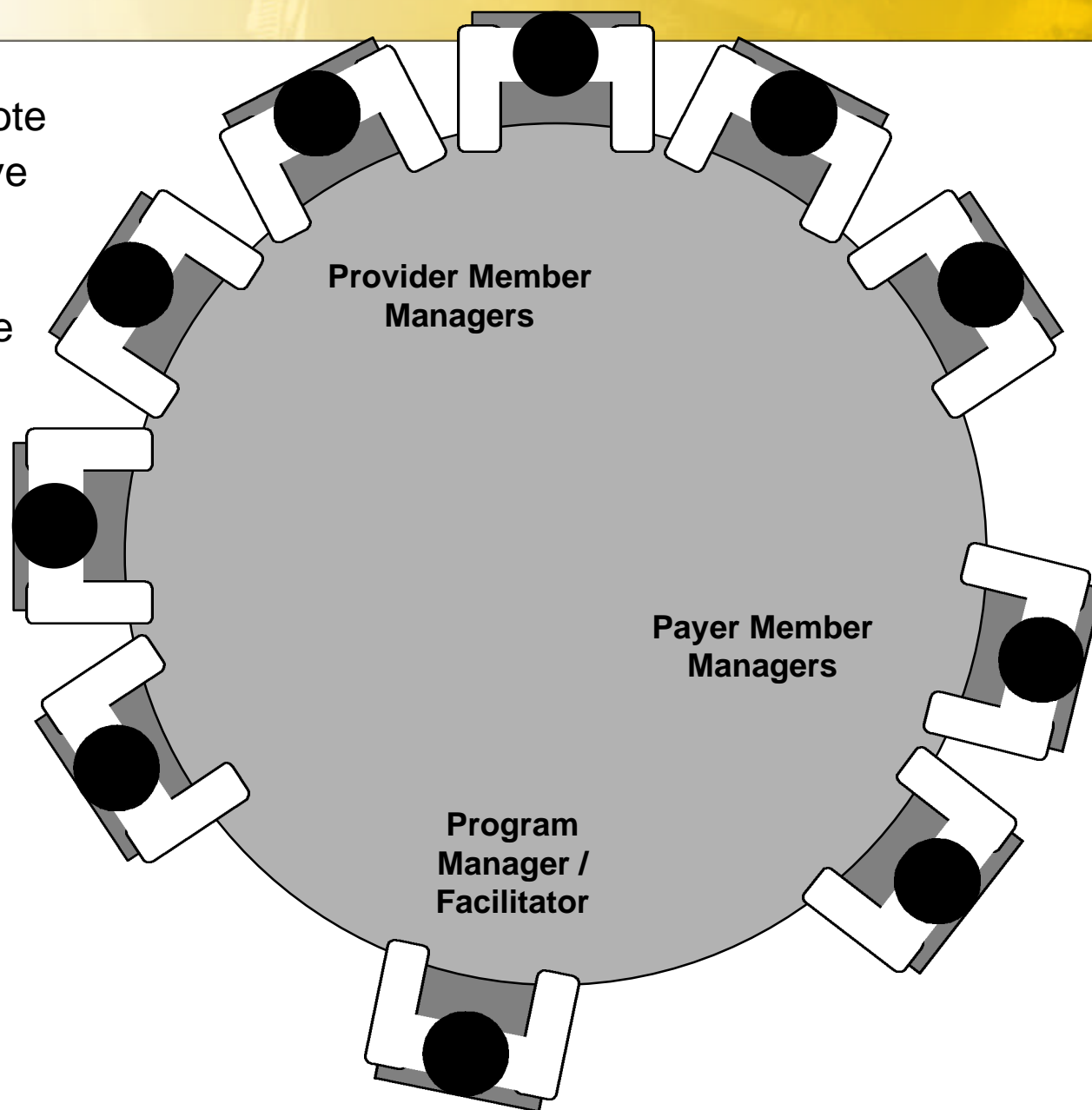
- Principles
  - Open (participants, standards, etc.)
  - Low intrusion into individual participants IT agenda
  - Participant value derived from transactions sent & received
  - Data ownership retained by participant organizations
  - Stay focused to avoid CHIN mistakes
  - Keep it Simple

- 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

- ## 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
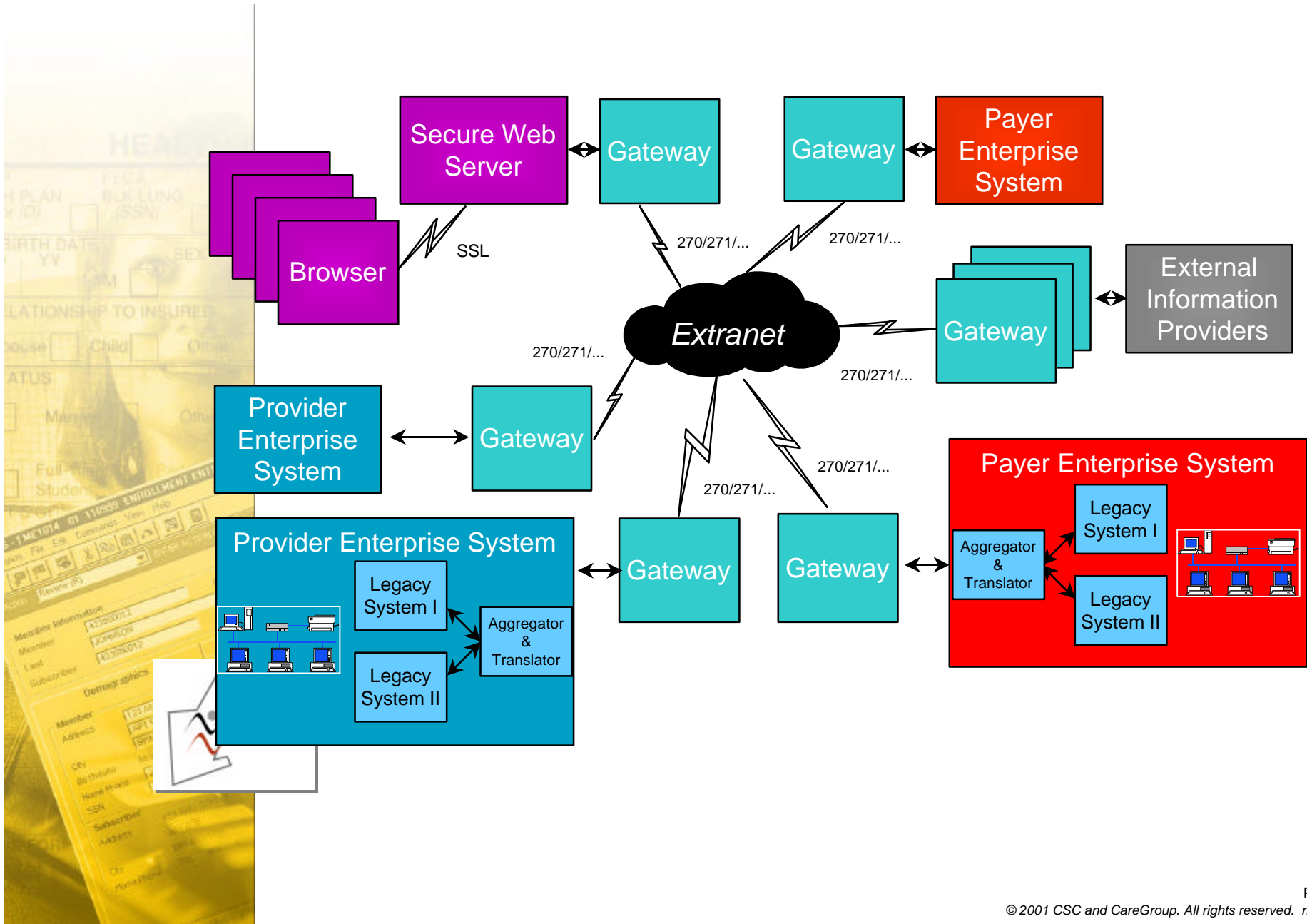
NEHEN at Our Institutions
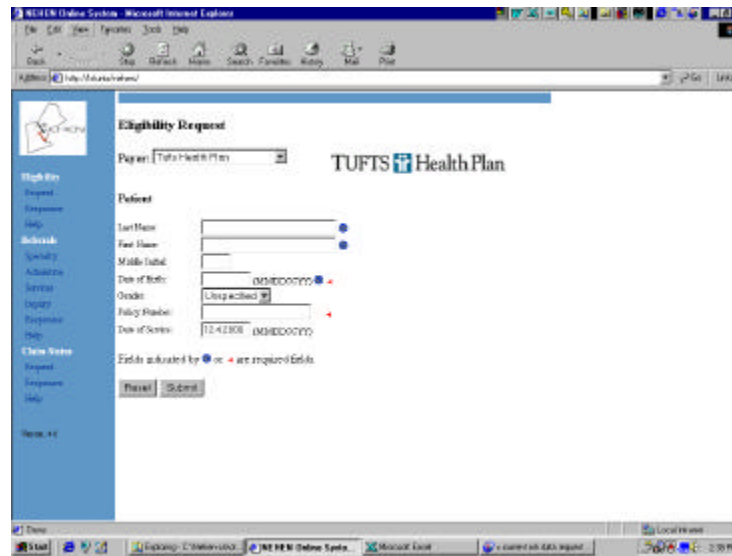
Intranet version – NEHENLite

- 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
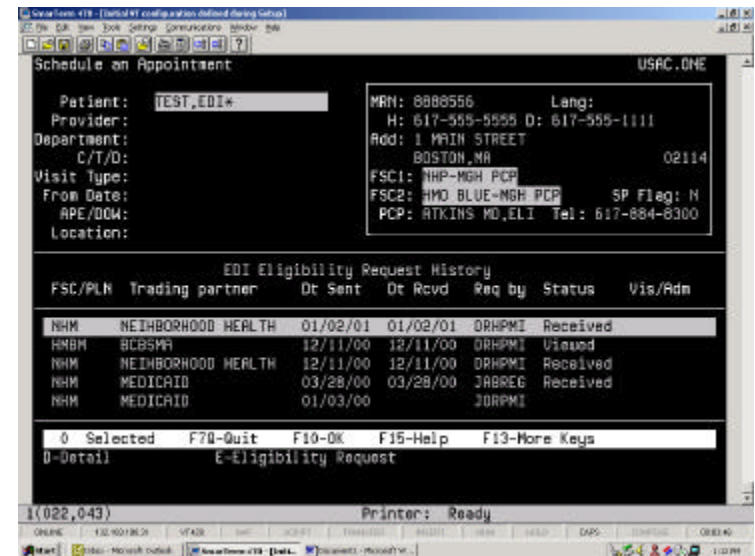
Integrated version – IDX, Meditech, Eclipsys, others

- 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
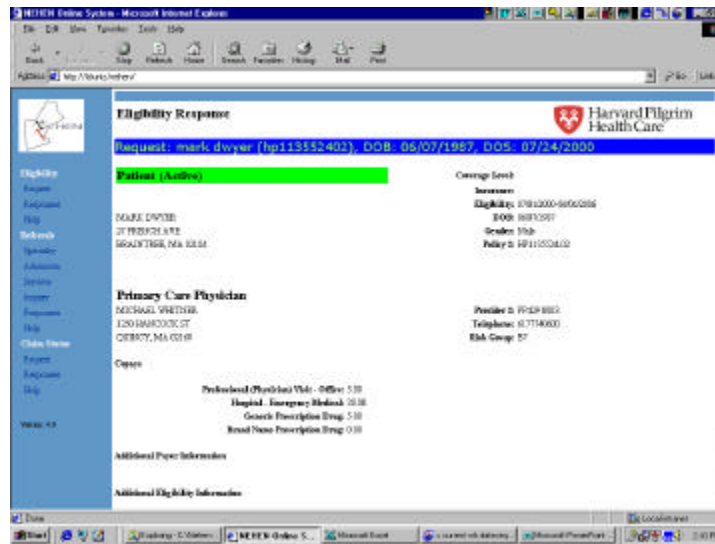
Interactive submission and review

- 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
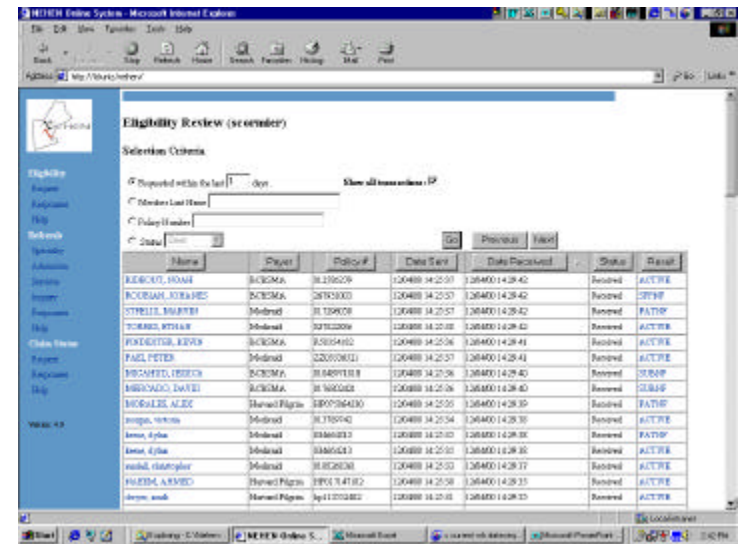
Batch submission and review

- 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

File   Edit   View   Go   Favorites   Help

Back   Forward   Stop   Refresh   Home   Search   Favorites   History   Channels   Fullscreen   Mail   Print   Edit

Address C:\WINDOWS\DESKTOP\Prototype-981108\top.html   Links

PROVIDER SERVICE NETWORK
Affiliated with CAREGROUP

ELIGIBILITY
Inquiry

AUTHORIZATIONS
Quick Search
General Search
Request Referral
Request Admission
Request Service

REPORTING
Activity

OTHER
Provider Directory
Help
Logout

Member ID: Plan: select a plan ▼   **SEARCH**

Referring PCP: Select One ▼   **SEARCH**   **CUSTOMIZE**

Provider Details

Member P...   **CUSTOMIZE**

Admission...   **CUSTOMIZE**

Admission...

ICD9 Search - Microsoft Internet Explorer

ICD9 Search

Search for ICD9 codes about:

[   ]   [Search]

Admission...

Admission...

Type of Ad...   [   ]

Admission Category: Medical ▼

Primary Admission Dx: [   ]   **SEARCH**   Secondary Admission Dx: [   ]   **SEARCH**

Reason for Admission: [   ]

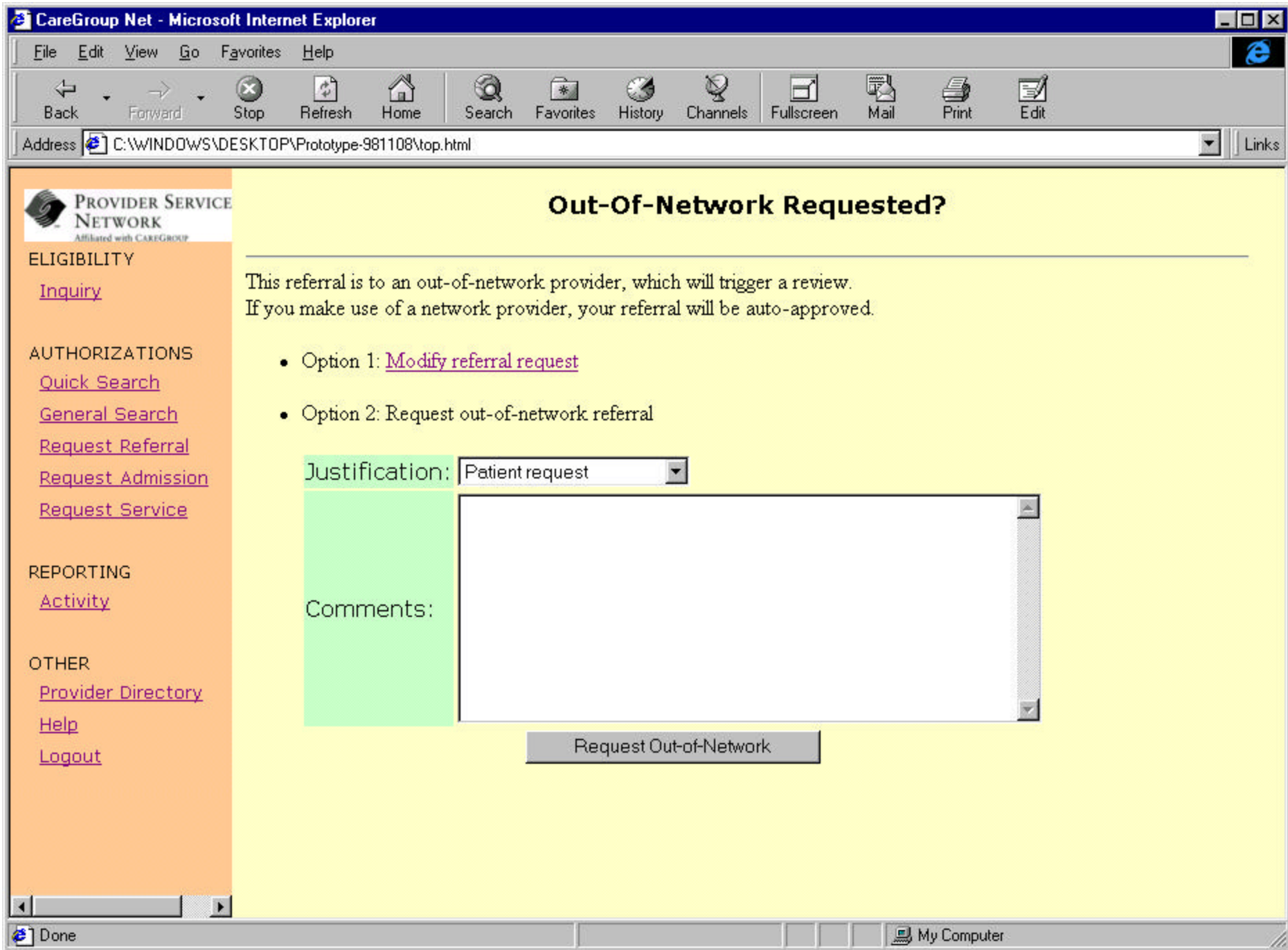Select to route this request to your CareGroup PSN Case Manager: ☐   Liability and Recovery: Select One ▼

[Request Admission]

Telephone

My Computer

File Edit View Go Favorites Help

Back   Forward   Stop   Refresh   Home   Search   Favorites   History   Channels   Fullscreen   Mail   Print   Edit

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PROVIDER SERVICE NETWORK
Affiliated with CAREGROUP

ELIGIBILITY

Inquiry

AUTHORIZATIONS

Quick Search

General Search

Request Referral

Request Admission

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REPORTING

Activity

OTHER

Provider Directory

Help

Logout

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

Done   My Computer

File Edit View Go Favorites Help

Back   Forward   Stop   Refresh   Home   Search   Favorites   History   Channels   Fullscreen   Mail   Print   Edit

Address C:\WINDOWS\DESKTOP\Prototype-981108\top.html   Links

PROVIDER SERVICE NETWORK
Affiliated with CAREGROUP

ELIGIBILITY

Inquiry

AUTHORIZATIONS

Quick Search

General Search

Request Referral

Request Admission

Request Service

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Logout

Temporary Tracking Number A682432

Patient Details

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

Provider Details

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

Referral Details

Start Date:	10-07-1998		
End Date:	12-31-1998		
Services Requested:	Consult only	Visits:	1
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

Done   My Computer

Welcome to PatientSite

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"!

Take a Tour

Register Now!

Forgot Password?

Username: [_____]

Password: [_____]

[Login]

MyHealth 🔒 Privacy Policy   ❓ Help   ❌ Sign Out

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

Check Benefits/Elibility ✕ Exit   ❓ Help   ✕ Sign Out

IGNACIO GENDE: Eligible

Service Date: 9/16/00

Patient Demographics			
Name:	GENDE, IGNACIO	Member ID:	HPCG01648-00
Sex:	M	Date Of Birth:	19651205
Address:	27 NUT RD AUBURN NH 03032		
Start Date	4/1/00	End Date	4/1/01

Primary Care Provider Info			
PCP Name:	CAMPO,RAFAEL	PCP Plan ID:	65095BI 0010
Address:	330 BROOKLINE AVE BOSTON MA 02215		
PCP Phone:	6176672422		

Benefits			
Plan:	HPHC	Product:	

| Copay Info	
Professional (Physician) Visit - Office	$5.0000/Visit
Hospital - Emergency Medical	$40.0000/Visit
Generic Prescription Drug	$10.0000/Visit
Brand Name Prescription Drug	$0.0000/Visit

Transaction time:2 Seconds

Audit | ✕ Exit | **Return to List Choices** | ❓ Help | ❌ Sign Out

Date	Time	Person	Function	Location
9/5/00	5:31:00 PM	Gende, Ignacio	labs	10.150.60.126
9/5/00	5:31:03 PM	Gende, Ignacio	lab_detail	10.150.60.126
9/7/00	4:18:50 PM	Gende, Ignacio	/myhealth.asp	207.16.63.250
9/7/00	4:34:20 PM	Gende, Ignacio	/mailbox.asp	207.16.63.250
9/7/00	4:34:32 PM	Gende, Ignacio	/myrecord.asp	207.16.63.250
9/7/00	4:39:42 PM	Gende, Ignacio	/services.asp	207.16.63.250
9/7/00	4:43:13 PM	Gende, Ignacio	/search.asp	207.16.63.250
9/7/00	4:43:35 PM	Gende, Ignacio	/services.asp	207.16.63.250
9/9/00	10:09:15 AM	Halamka, John	/ccclabs.asp	10.150.60.126
9/9/00	10:09:15 AM	Halamka, John	labs	10.150.60.126
9/9/00	10:11:44 AM	Halamka, John	/ccclabs.asp	10.150.60.126
9/9/00	10:11:44 AM	Halamka, John	labs	10.150.60.126
9/9/00	10:17:30 AM	Halamka, John	/ccclabs.asp	10.150.60.126
9/9/00	10:17:30 AM	Halamka, John	labs	10.150.60.126
9/9/00	10:38:22 AM	Gende, Ignacio	/myhealth.asp	10.150.60.126
9/9/00	10:38:24 AM	Gende, Ignacio	/myrecord.asp	10.150.60.126
9/9/00	10:38:26 AM	Gende, Ignacio	/cccxrays.asp	10.150.60.126
9/9/00	10:38:26 AM	Gende, Ignacio	xrays	10.150.60.126
9/9/00	10:38:32 AM	Gende, Ignacio	/cccxrays.asp	10.150.60.126
9/9/00	10:38:32 AM	Gende, Ignacio	xrays	10.150.60.126
9/9/00	10:42:18 AM	Gende, Ignacio	/cccxrays.asp	10.150.60.126

Administrative Budget

Program Management Effort (by FTE) & Membership Count

CARE GROUP
HEALTHCARE SYSTEM
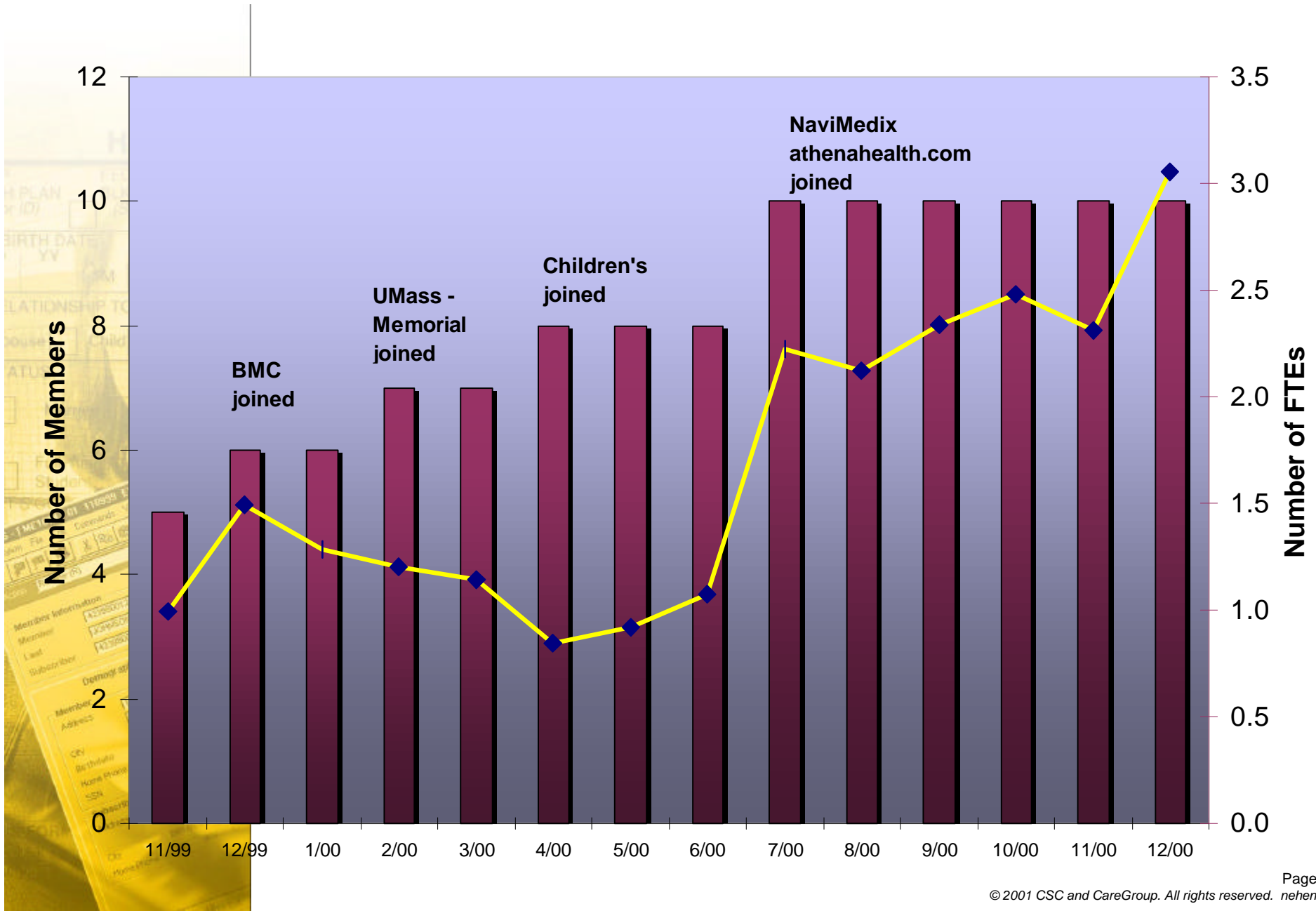
■ Recruiting & Contracts
15%

■ Planning & Governance
15%

■ Coordinating Professional
Services
5%

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

**Liaison between
NEHEN, Nutter,
McClennan, Fish and
Spector Abbottbb**

■ Meetings
25%

□ Technical Services
35%

□ Publicity
5%

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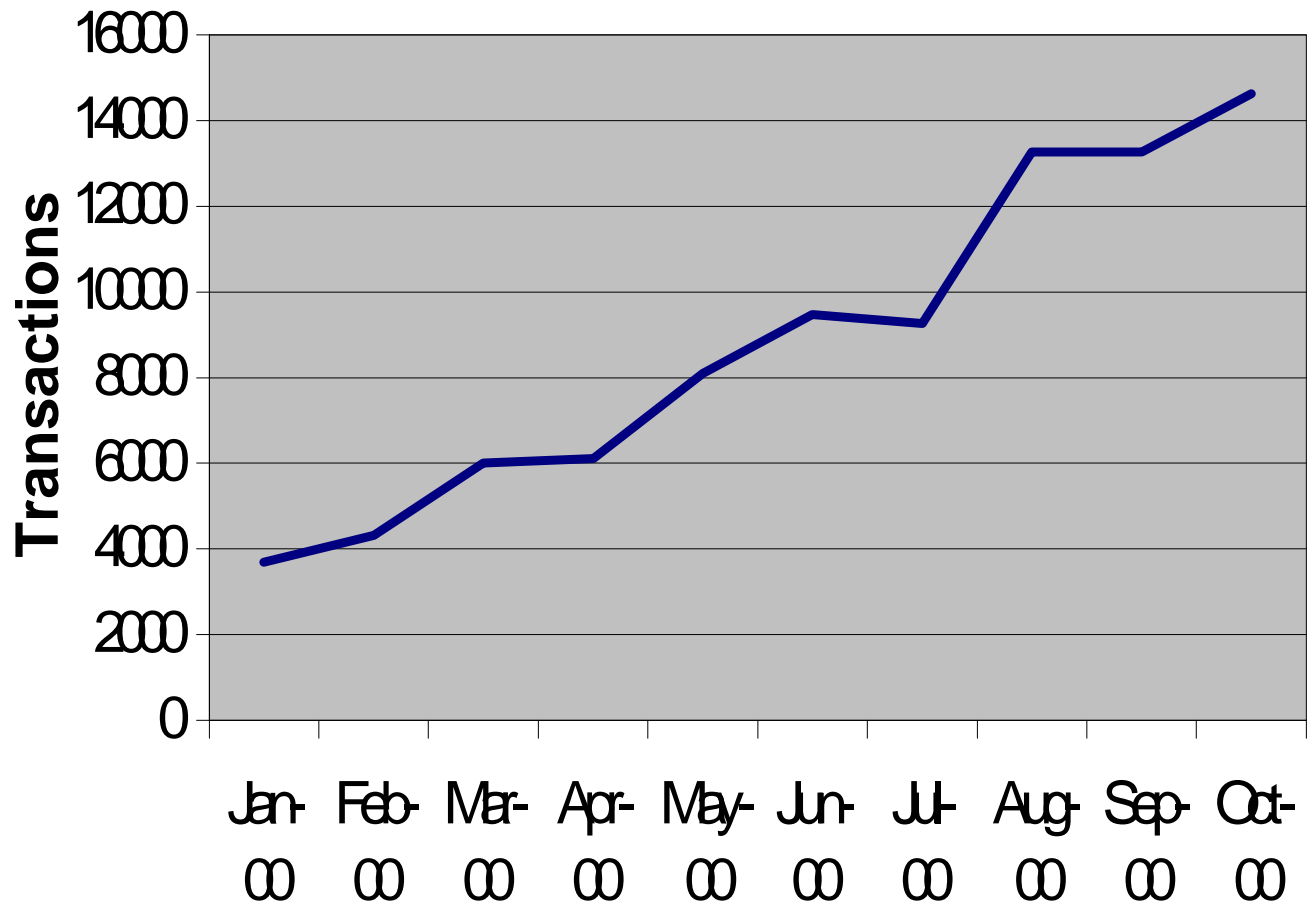- Overall IT agenda coordination**
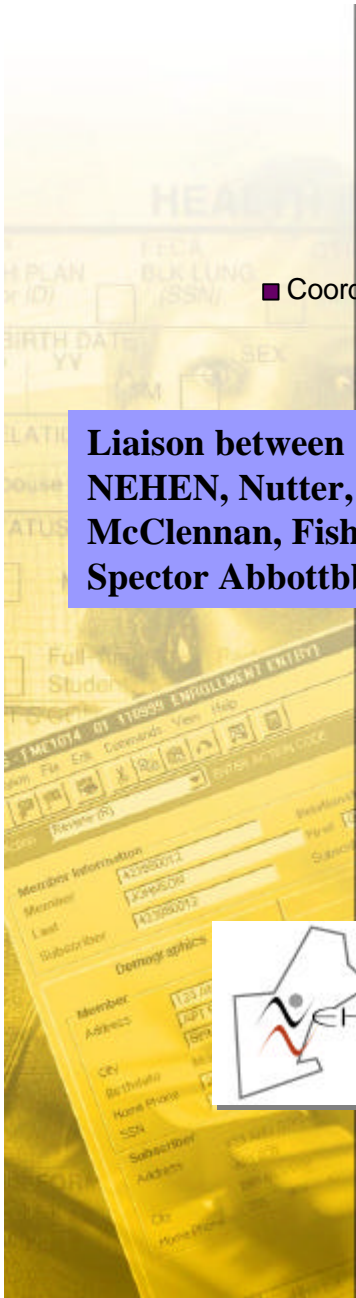
NEHEN

Real and Potential Results

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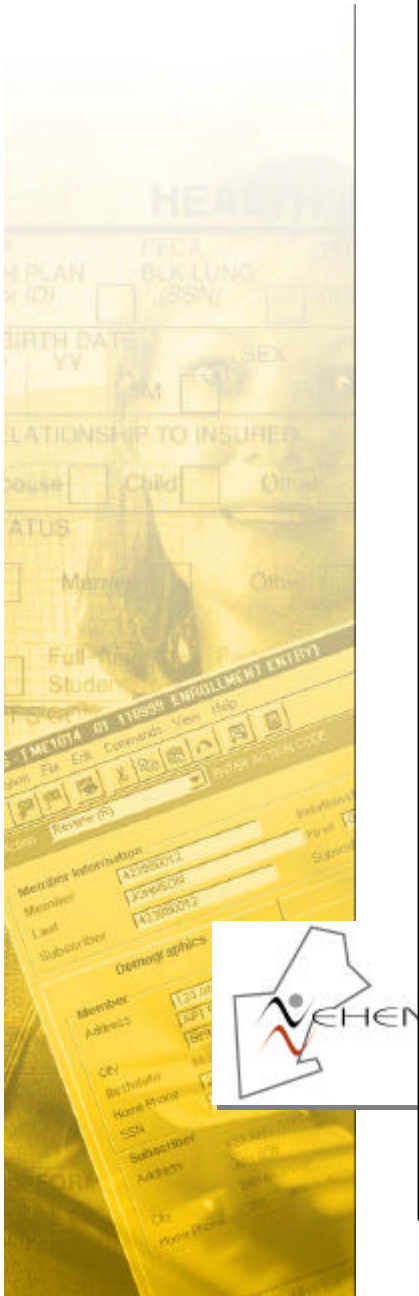   - ✓ 100% of therapies after 6 visits is pended

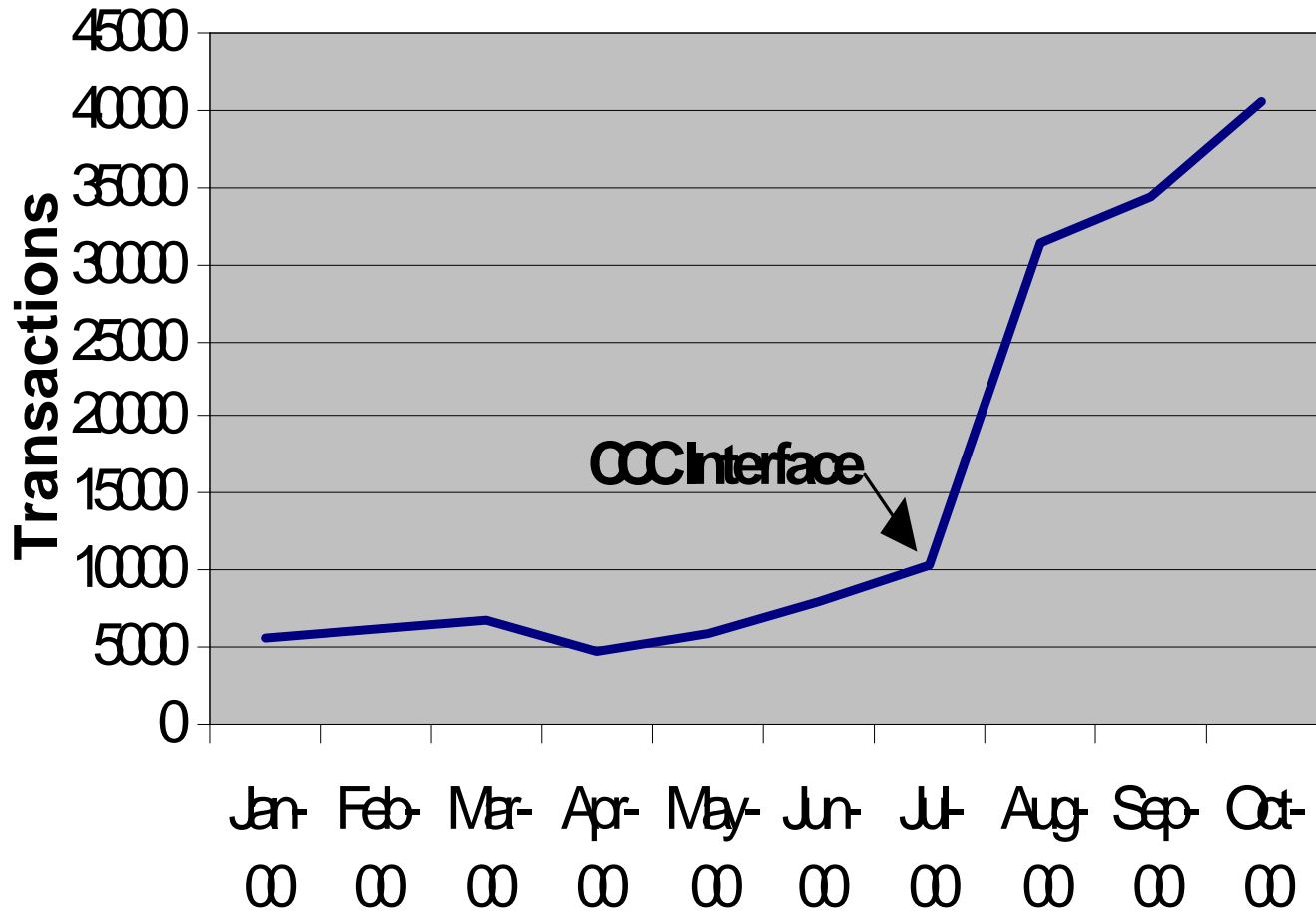# NEHEN Referrals

- Web-based eligibility checking
- CCC Integration
- Meditech Integration in October 2001

NEHEN Benefits Check

- STARS – Risk adjusted referrals to specialists compared over two years

	Encounters/1000	$PMPM
Before STARS	1457	$8.01
After STARS	1316	$6.64

- $6.2 million dollars in savings

- ## 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

- ## 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
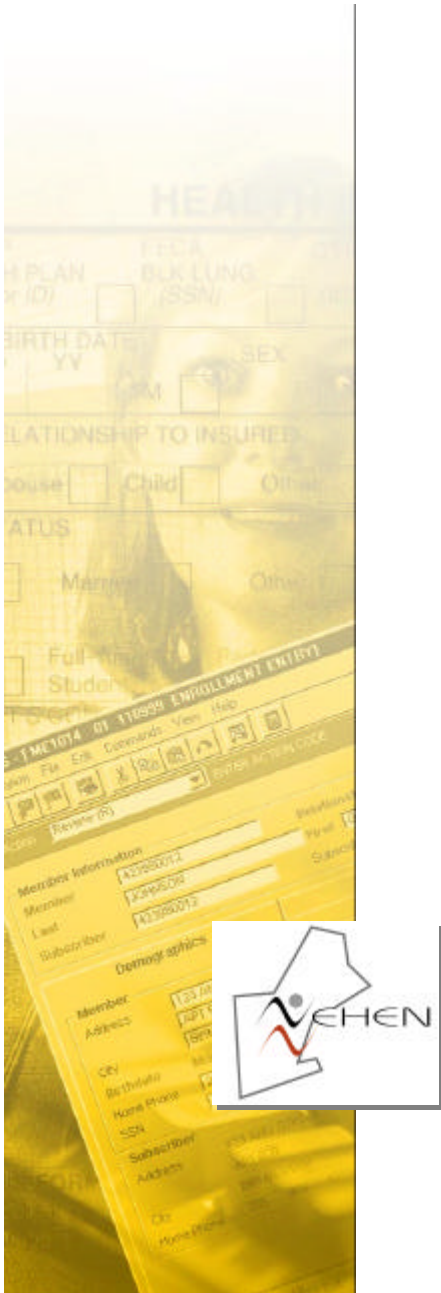
Sample Implementation Project Outline

- ## From Children's Hospital Boston

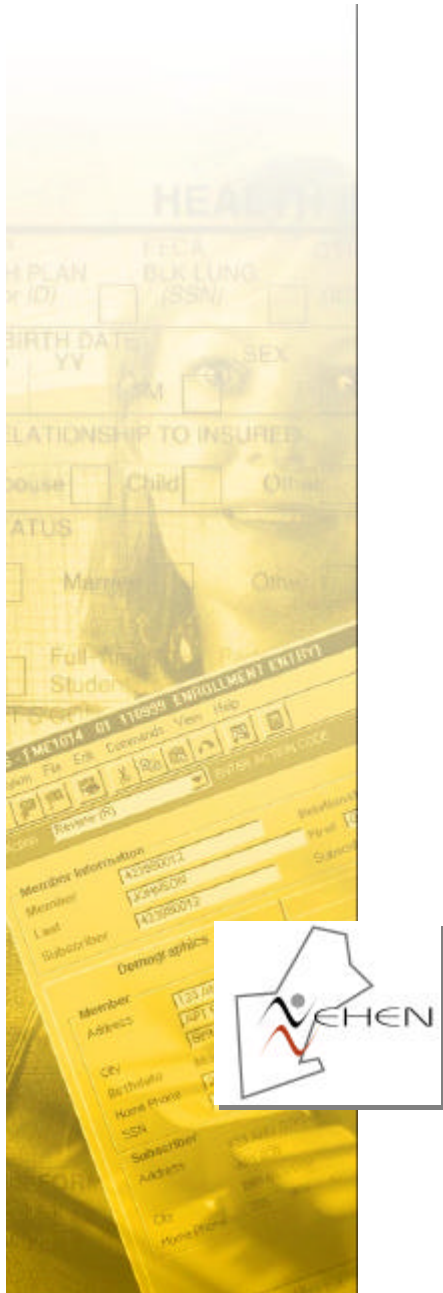| Activity	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Implement core NEHEN connectivity software	■	■	■							
Implement additional payer connectivity solutions		■	■	■						
Develop core system integration	■	■	■							
Site-specific enhancements to NEHEN software			■	■	■					
Conduct System and User Test					■	■				
Training and Rollout for initial site							■	■		
Training and Rollout for additional sites									■	■
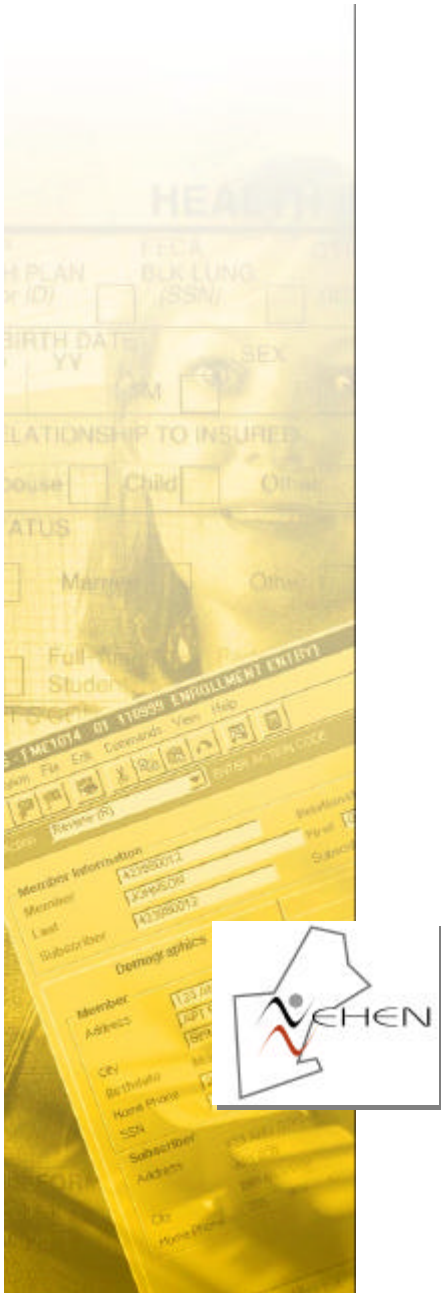
Resource and Capital Requirements

- 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

	Implementation		2/1/2001
	Estimated Cost		
	Low range	**High range**	**Notes**
Initial Investment			
Hardware			
2 Windows NT Servers - (Production & Test)	$ 15,000	$ 40,000	based on current prices for an appropriate Compaq ProLiant DL360 - price is total for both servers.
Software			
Operating System and Web Server (for test & production)	$ 3,400	$ 8,000	$4000 per copy for Enterprise Edition which you may or may not need, depending on your standard server configuration
Microsoft SQL Server	$ 10,000	$ 30,000	prices range from $5000 - $15000 per server if you need a new copy of the database or NEHENLite can run on an existing copy if you have space
			=> These prices are list from Microsoft's web site - you may get better prices through a Open License agreement, if you have one
Attachmate eVantage SDK 2.5	$ 1,000	$ 1,200	Screen scraping software to support the Medicare connection
Development environment for support use	$ 500	$ 1,000	*example:* MS Visual Studio
Core Application EDI module	$ 5,000	$ 15,000	For full integrated solution with your core application such as: Meditech, IDX
NEHENLite Software for eligibility, referral, and claim status inquiry request	$ -	$ -	free to NEHEN members
NEHEN eGateway routing Software	$ -	$ -	free to NEHEN members
NEHEN Medicaid eligibility service Software	$ -	$ -	free to NEHEN members
NEHEN Medicare eligibility service Software	$ -	$ -	free to NEHEN members
NEHEN BCBSMA eligibility service Software	$ -	$ -	free to NEHEN members
Total for Hardware & Software	**$ 34,900**	**$ 95,200**	
Installation			
NEHEN-supplied Software - installation and initial configuration	$ -	$ -	Included as part of NEHEN program management services
Core application EDI Module - installation and configuration	??	??	Call your application representative
Optional: Systems Integration services from CSC or another vendor.	$ -	$ 100,000	These services could include Project Management, rollout and training, enhancements to the core NEHEN software for your business use, and development of reports to help track compliance and ensure that you receive optimum value from the NEHEN investment.
Total Initial Investment	**$ 34,900**	**$ 195,200**	

Ongoing Costs

Telecommunications				
	Connections to payers - frame relay	$ 270	$ 750	NEHEN can leverage existing connections to payers if they are there. The Medicaid service can use a modem to redue cost, but increase response time.
NEHEN Membership				
	Program Management	$ 6,000	$ 6,000	
	Other business expense	$ 150	$ 250	Accounting & Legal fees
	Total Ongoing Monthly Cost	$ 6,420	$ 7,000	
	Total Annual Ongoing Cost	$ 77,040	$ 84,000	

- ## 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?