



# Los Angeles County Contract Provider Transition Project Fundamentals of Electronic Data Interchange (EDI)

**May 31, 2007**



***Presenter:***

Mike Skinner – Director, Data Management & Technology Services

# Agenda

- ❖ **Introductions**
- ❖ **National Timeline**
- ❖ **What It is and What It Isn't**
- ❖ **The Purpose of EDI**
- ❖ **How It Works**
- ❖ **Strategies**
- ❖ **Implementation Options & Considerations**
- ❖ **Vendor Considerations**
- ❖ **Planning & Next Steps**
- ❖ **Lessons Learned**
- ❖ **Useful Links**
- ❖ **Question & Answer**

# Presentation Objectives

- ❖ **Knowledge & experience sharing / education**
- ❖ **Further development of best practices**
- ❖ **Clarify information**
- ❖ **Stimulate thought**
- ❖ **Encourage forward progress**

# Content

- ❖ **Content is the opinion of presenter**
- ❖ **Based on the cumulative training, research & experience**
- ❖ **Presenter does not represent any software or hardware vendor**
- ❖ **Nothing included in this presentation is proprietary in nature**

# Mike Skinner Bio

**Mike Skinner began his career in 1985 as a system's engineer at EDS Corporation in the Healthcare Services Division, and worked in the vendor industry for 10 years programming and managing laboratory information system (LIS) implementation teams. For the client perspective, Mike served as an IT executive at Quest Diagnostics, Inc. (formerly Unilab Corporation) in Southern California for almost 10 years. Mike also served as the executive director of the Santa Barbara County Care Data Exchange, Inc. Mike is currently the Director of Data Management & Technology Services at Outlook Associates, LLC.**

# Outlook Associates/Qualis Health

## ❖ Outlook Associates is national healthcare consulting firm

- Founded in 1991
- Headquartered in Tustin, CA
- Founding goal
  - Improve healthcare in the United States through:
    - The effective use of systems and technology
    - The availability of reliable data on which to base sound medical and business decisions
- Commitment to California
  - Lead consultant for LAC DMH IBHIS project. Drafting specifications, assisting in vendor selection and assist with implementation
  - Assisting other state entities and agencies in preparation for MHP
  - A leader in regional health information organizations (RHIOs) and health information exchange (HIE) projects (including Santa Barbara and Long Beach)
- Commitment to Safety Net Providers
  - Significant focus on improving data and processes in Medicaid and community health systems in order to maximize resources in the patient care of underserved and indigent populations
- Subsidiary of Qualis Health (QIO)
- Services include:
  - Business Operations Improvement and Support
  - Systems and Technology Planning and Support

# Acronyms...The Beginning

- ❖ **HIT – health information technology**
- ❖ **RHIO – regional health information organization**
- ❖ **HIE – health information exchange**
  
- ❖ **NHIN – National Health Information Network**
- ❖ **ONCHIT – Office of the National Coordinator for Health Information Technology**

# National Timeline

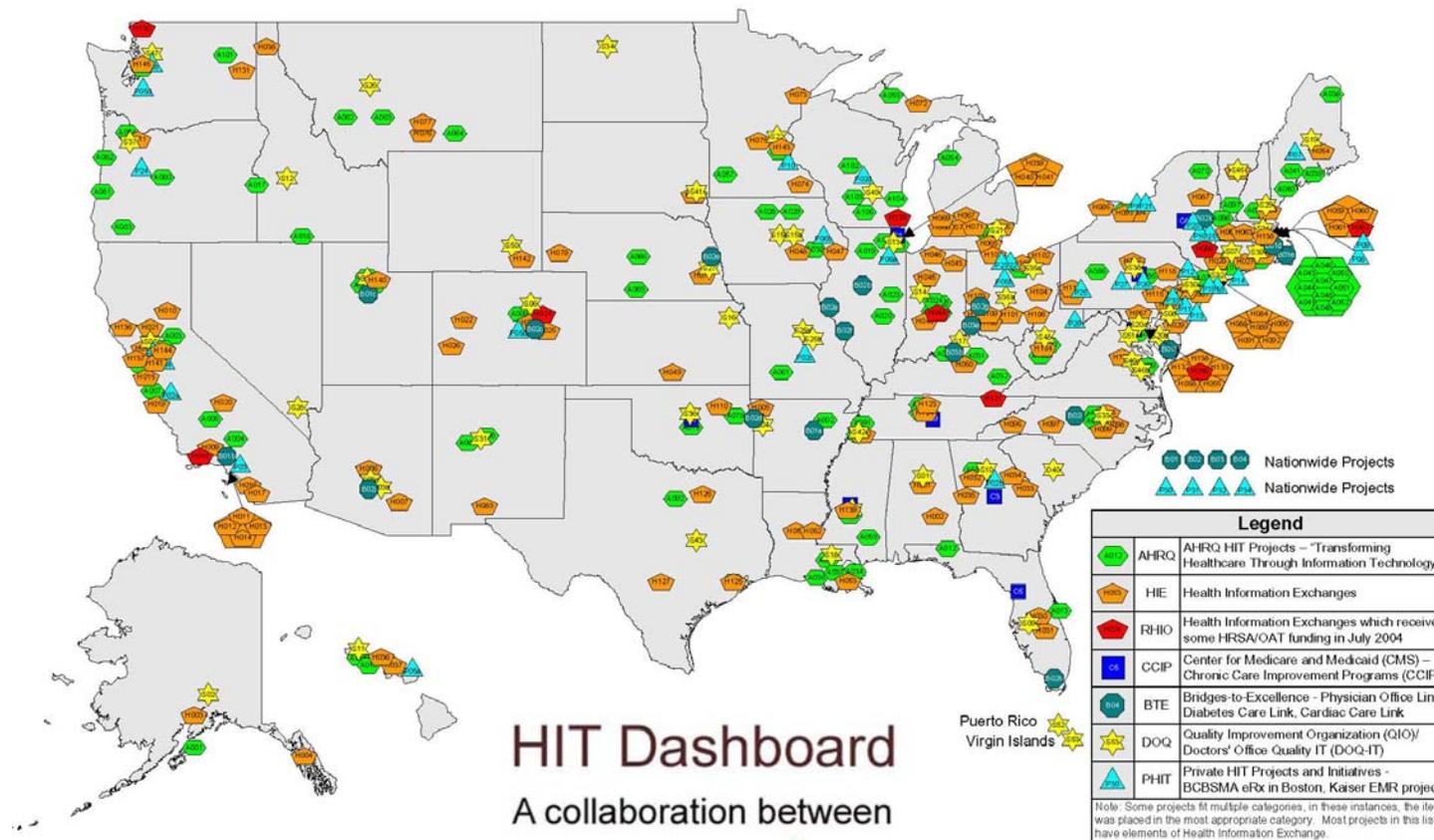
- ❖ **1980s – HIT gets some visibility but most projects fail due in large part to technology barriers**
- ❖ **1990s – Technology sees serious advances – costs for hardware plummet**
- ❖ **Late 1990s – Healthcare quality & cost issues escalate at political levels; HIT begins getting more visibility**
- ❖ **1998 – The Santa Barbara Exchange (RHIO) project starts as a demonstration of “*can the Internet be safely used to exchange healthcare data?*”**
- ❖ **Early 2000s – Healthcare quality & cost issues are in the political environment at all time highs**

# National Timeline - continued

- ❖ **April 2004 – President Bush issues Executive Order calling for “most Americans to have access to interoperable electronic medical records by 2014.”**
- ❖ **August 2004 – HHS Secretary Tommy Thompson creates ONCHIT in response to the Executive Order:**
  - Names Dr. David Brailer as National Coordinator (now Dr. Robert Kolodner)
  - Dr. Brailer was the chief investigator on the Santa Barbara project
- ❖ **2004 – 2006 ONCHIT makes significant progress creating the “Common Framework” and various roadmaps**
- ❖ **January 2006, "We will make wider use of electronic records and other health information technology to help control costs and reduce dangerous medical errors." – President Bush**
- ❖ **2004 – 2007 Federal and state grants in many forms are approved to accomplish the goals**
- ❖ **More than 500 active HIEs in the United States**
- ❖ **See [hhs.gov/healthit](http://hhs.gov/healthit) for detailed ONCHIT information**

# State and Regional HIT Initiatives

HIT Activity in the USA as of August 2005



**HIT Dashboard**  
A collaboration between



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# More Acronyms...

## ❖ **EDI – electronic data interchange**

- The activity of electronically exchanging specific data elements between businesses to improve a variety of processes

## ❖ **HIPAA – Health Insurance Portability and Accountability Act of 1996**

- Originally designed surrounding consumer health insurance issues
- In part, it encourages the widespread implementation of EDI as a result of the creation of security and privacy requirements
- Mandates, in some cases, what EDI standards may be used

# And More...

- ❖ **PHI – personal health information**
  - This is the category of data protected under HIPAA
- ❖ **EMR – electronic medical record**
  - Lower level of detail; sometimes physician- or disease-specific
- ❖ **EHR – electronic health record**
  - Generally an aggregate of multiple EMRs, or an “enterprise” deployment of an EMR
  - Sometimes in the same sentence with “community networks”
  - Almost always implies the existence of a “network”
- ❖ **PMS – practice management system**
  - Geared toward the operational aspects of offices that see patients
  - May sometimes act as an *EMR-Lite*
  - Historically, they have handled claims – but not necessarily electronically
  - Historically weaker on the clinical side
- ❖ **PHR – patient health record**
  - Similar to EHR, but initiated and/or maintained by the patient

# And more still...

- ❖ **ANSI – American National Standards Institute**
  - The accrediting and governing standards organization in the US
- ❖ **X12 – The “X12” doesn’t really mean anything**
  - Refers in general to the officially-governed set of standards used in the United States for EDI
  - Note that X12 is separate from HL7 and other standards
- ❖ **HL7 – Health Level 7, Inc. – a not-for-profit standards corporation**
  - Generally speaking, a “set” of record formats or standards designed around the exchange of clinical or health data
- ❖ **NCPDP – National Council for Prescription Drug Programs**
  - Maintains the standards for pharmacy claims
- ❖ **FTP – File Transfer Protocol**
  - Used here to refer in general to the variety of technologies and protocols used to transfer information over the internet
- ❖ **XML – Extensible Markup Language**
  - A way of packaging multiple types of standard record sets to be transmitted all together as one package (“wrapping”)
  - Could include an X12 837 record, an HL7 record, an x-ray, and an interpretive report all related to one patient

# EDI - What Is It?

## ❖ As a verb

- The activity of 2 or more trading partners exchanging data in such a way that the sender and receiver have certain constant expectations about the format and content of the data

## ❖ As a noun

- Refers to a (usually written) set of “rules” being mutually implemented and used by 2 or more trading partners to exchange information (*which is not quite the same as data*)
- Strictly speaking, there is no “governing body” of EDI – EDI is a “convention”, “standard”, or “set of rules” used by 2 or more trading partners (if a standard didn’t exist for a particular business sector, they could still “do EDI”)
- However, almost all EDIs rely on a standard which *IS* governed by an officially-recognized organization

# EDI - What Is It? continued

- ❖ **A function supported by a blend of:**
  - Software (most often inside, or as a function of, an EHR, EMR or PMS)
  - Business procedures and processes
  - Other technology such as “wrapping paper” and transfer mechanisms (more on this later)
- ❖ **EDI is used in virtually all business sectors (relying almost exclusively on the EDI *X12 standards*), including:**
  - Healthcare
  - Manufacturing / Purchasing
  - Transportation
  - Real estate
  - Engineering
  - Financial / Credit Cards / Taxes

# EDI as it applies to Healthcare

- ❖ **The specific officially-recognized and governed “standards” that are widely used in healthcare EDI are:**
  - NCPDP – pharmacy claims
  - Other e-Prescribing standards
  - HL7
    - Admissions, Discharges, Transfers
    - Clinical Data
    - Encounter Data
  - X12
    - 270 – Eligibility Inquiry
    - 271 – Eligibility Information
    - 274 – Health Care Provider Information
    - 275 – Patient Information
    - 276 – Health Care Claim Status Request
    - 277 – Health Care Claim Status Notification
    - 278 – Health Care Services Review Information
    - 834 – *Benefit Enrollment and Maintenance*
    - 835 – *Health Care Claim Payment/Advice*
    - 837 – *Health Care Claim*

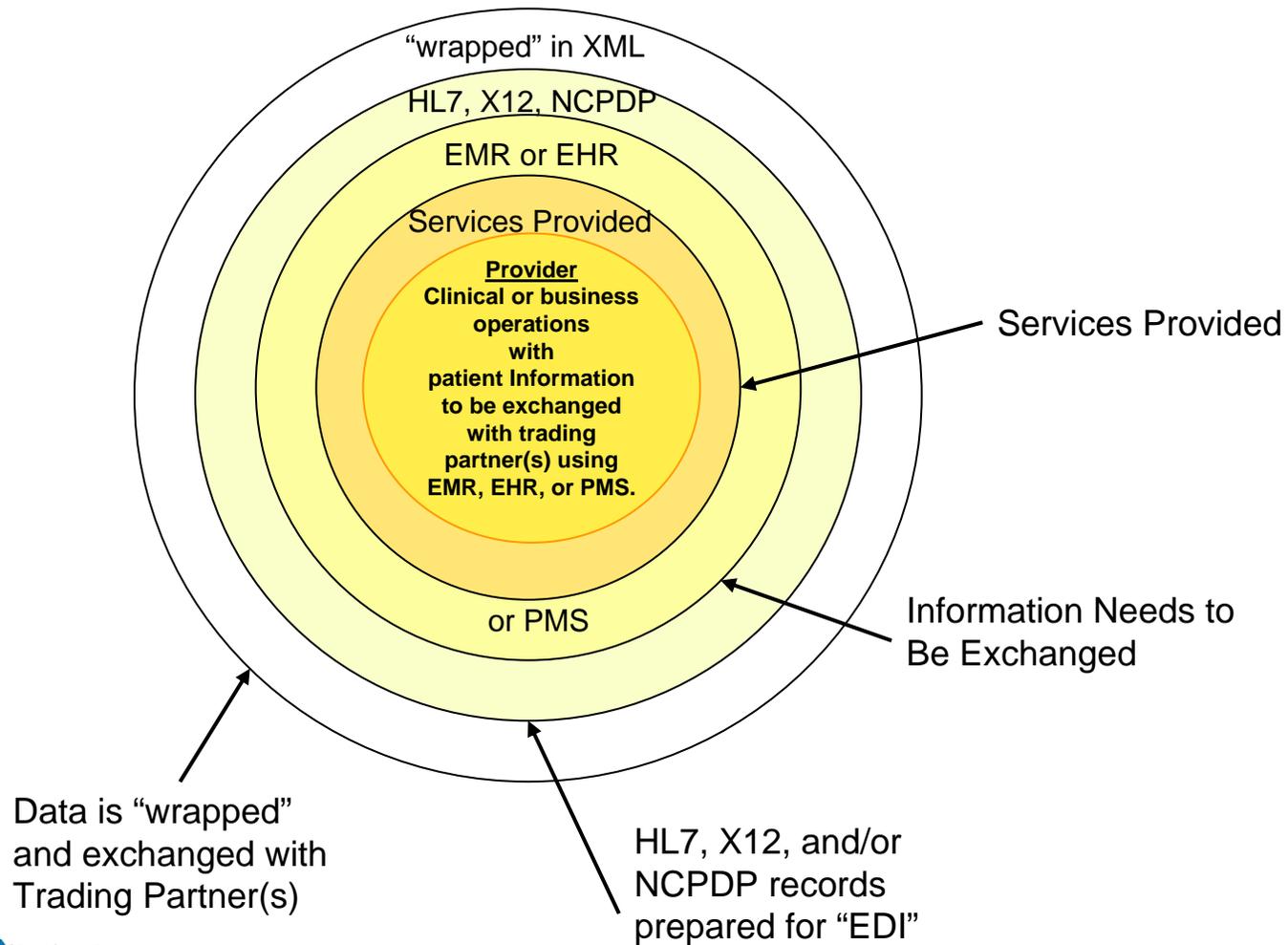
# EDI - What it *IS NOT*...

- ❖ Typically, EDI isn't available as "stand-alone software"
- ❖ It isn't specific to healthcare, but it is widely used in healthcare
- ❖ It isn't a substitute for HIPAA
- ❖ If you don't "do EDI" now, it doesn't mean you are out of compliance (you exchange information in some other HIPAA-compliant way)
- ❖ Generally speaking, complying with HIPAA applies to "Covered Entities", not software or technology companies
- ❖ EDI (and EMRs, EHRs, PHRs, etc.) can help you be HIPAA compliant more consistently & efficiently
- ❖ You can use a "HIPAA-certified" software system (including EDI), and still not be HIPAA-compliant
- ❖ But, if EDI is used (as with all software systems)
  - It must adhere to any pertinent HIPAA regulations (such as "encryption" or HIPAA-mandated EDI standards, for example)
- ❖ Everything we do in healthcare has to be compared to the HIPAA regulations, not just things that are electronic

# The Purpose of EDI – Why Do IT?

- ❖ **Participate early in national priorities and activities**
- ❖ **Improve Patient Health / Save Lives**
  - Facilitate access to relevant clinical data
    - Relevant, complete & accurate data (eligibility & authorizations, diagnosis/assessment, labs, meds, episode/encounter history, health & discharge summaries, etc.)
    - Timely access to patient data (at the point of care)
- ❖ **Improve Administrative Efficiencies**
  - Submit claims faster and with less labor
  - Reduce manual and paper errors – fewer “vouchers-in-process”
  - Automation allows for “pre-processing” to identify denials in advance
  - Get paid faster (increase cash flow)
- ❖ **Reduce overall costs of care**
  - Eliminate redundant examination & diagnostic services
  - More efficient administration & operations
  - Better overall health means fewer encounters & costs

# EDI Layers



# X12 837 Claim Example

In this example, the provider billed \$115.66. The other payer allowed \$115.66 and has paid \$83.56. The difference between the allowed amount and the paid amount is \$32.10 and is represented on the CAS segment copied from the 835 received from that payer.

Loop 2320

SBR\*P\*18\*\*\*AP\*\*\*CI~  
CAS\*PR\*2\*32.10~  
AMT\*D\*83.56~  
AMT\*B6\*115.66~  
DMG\*D8\*19400101\*M~  
OI\*\*\*Y\*B\*\*Y~

Loop 2330A

NM1\*IL\*1\*LAST NAME\*FIRST NAME\*\*\*\*MI\*999999999~

Loop 2330B

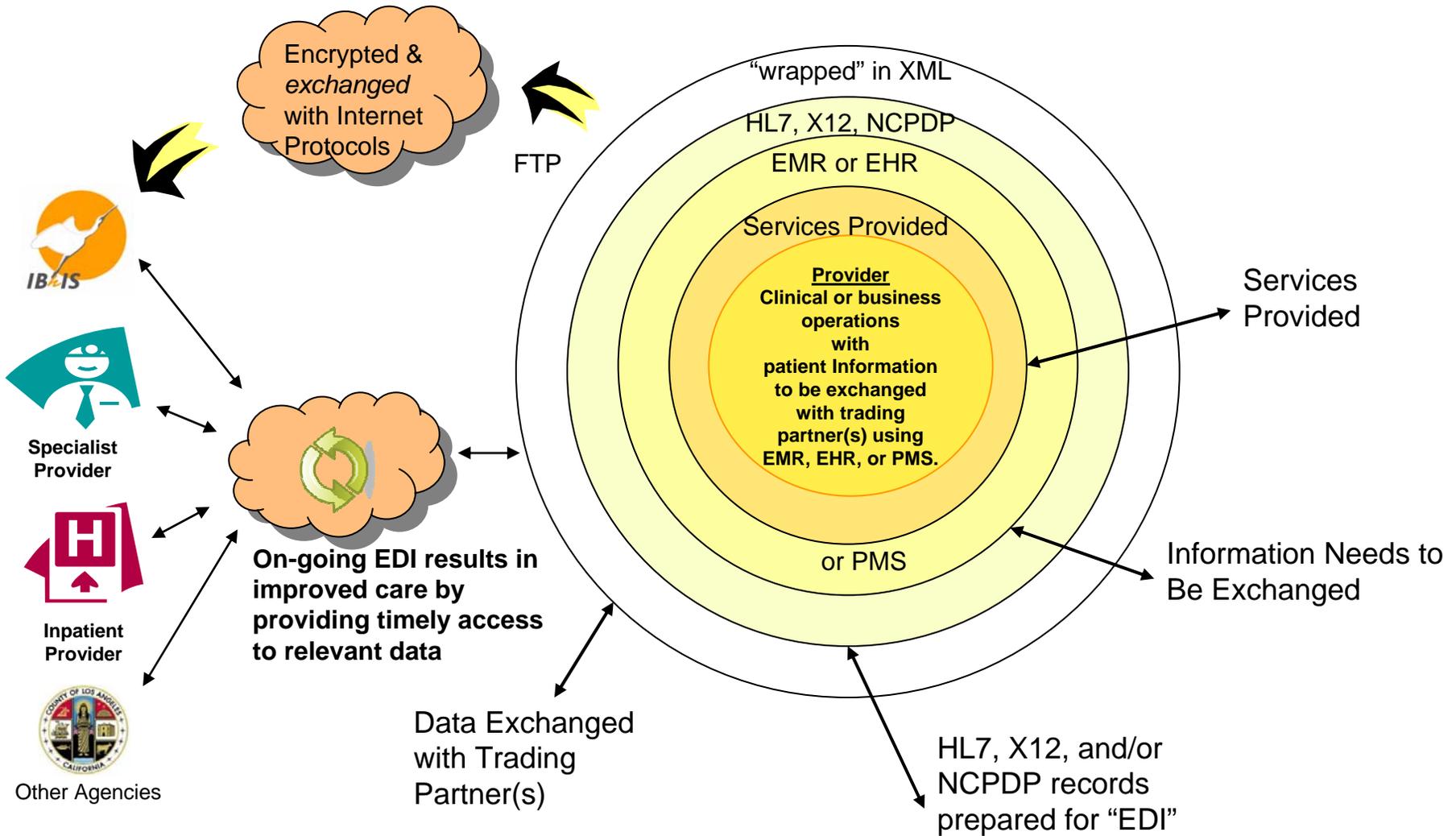
NM1\*PR\*2\*OTHER INSURANCE CARRIER\*\*\*\*\*PI\*001~  
DTP\*573\*D8\*20031016~



# HL7 Lab Example

```
PID|1||99830649^^^PI^||TEST1^TEST11^||19870412|F||1952 CALLE DEL CERRO  
706^SAN CLEMENTE^CA^92672||(949)492-3585|N||||54831|||||||  
PV1|1|O|C99986^^^C99986||BROADWAY,|  
OBR|1|CAM13579|99830649|172^URINE  
CULTURE^UNILAB||200309241330|||||200309250208|||||200309261044|||F|||||||  
OBX|1|ST|121152^SOURCE^UNILAB||NOTE|||||F|||||  
NTE|2|L|URINE  
OBX|3|ST|110060^SITE/DESCRIPTION^UNILAB||DNR|||||F|||||  
OBX|4|ST|110001^STATUS ^UNILAB||FINAL|||||F|||||  
OBX|5|ST|121153^RESULT^UNILAB||DNR|||||F|||||  
OBR|2|CAM13579|99830649|218^URINALYSIS  
W/MICROSCOPIC^UNILAB||200309241330|||||200309250208|||||200309261044|||F|||||||  
|||||||  
OBX|1|ST|12010^SPECIFIC GRAVITY^UNILAB||1.020||1.005-1.035|||F|||||  
OBX|2|ST|12011^COLOR^UNILAB||YEL|||||F|||||  
OBX|3|ST|12012^APPEARANCE^UNILAB||TURBID|||*|||F|||||  
OBX|4|ST|12013^PH^UNILAB||6.0||4.5-7.5|||F|||||  
OBX|5|ST|12014^GLUCOSE, URINE^UNILAB||NEG||NEGATIVE|||F|||||  
OBX|6|ST|12015^PROTEIN, URINE^UNILAB||1+||NEGATIVE|*|||F|||||  
NTE|7|L|PROTEIN CONFIRMED BY ALTERNATE METHOD.
```

# EDI – How It Works



# Strategies

- ❖ **Don't do anything – it's gonna be painful**
- ❖ **Do the minimum to get by:**
  - Maintain what you already have
  - Outsource IT (including EDI processes) if/when possible
  - Invest but only as a last resort
  - In the long-run, this strategy may be painful and expensive
- ❖ **Develop relationships and/or partnerships**
  - Seek out business partners when possible/appropriate to develop solutions
- ❖ **Develop A Plan That:**
  - Acknowledges short- and long-term business goals and requirements
  - Identifies current opportunities and/or deficiencies
  - Recognizes realistic capacity to invest
  - Establishes demonstrable or measurable returns or benefits
  - Establishes priorities for taking action
  - Accommodates the attitudes, standards, and framework being developed around healthcare

# EDI Implementation Options

## “No Magic Wands”

- ❖ **DDE (direct data entry) – NOT AN OPTION**
  
- ❖ **A Distributed EMR/EHR Model**
  - Sub Functions are extended out from a main system operated by the primary trading partner (DMH)
  - **NOT AN OPTION** – due to a variety of issues including of cost, legal, procurement, and support
  
- ❖ **EDI is performed as an operational function or process from within your own EMR, EHR or PMS.**
  - Upgrade your existing system
  - Install a new system
  - The best way to control functionality
  - *Long-term, this is the preferred option for larger, more complex providers with high patient loads and/or complex or custom services*
  - Positions provider best for long-term HIT
  
- ❖ **EDI is outsourced to another company (a “clearinghouse”)**
  - Internal systems and processes don’t change much
  - Claims information (probably paper) is turned over to another company that produces the EDI files and interfaces with DMH
  - Using a clearinghouse in a GPO arrangement may be an option
  - *Does not work very well for clinical data*
  - Doesn’t position a provider for the long-term of HIT

# EDI Implementation Basics - continued

## ❖ **Application Service Provider (ASP) Model**

- ASP models can be used for claims and/or clinical
- May be a good option for practices with 1-5 providers and “manageable” patient loads
- *Generally more affordable than implementing your own internal system*
- ASPs can be difficult, expensive, or impossible to customize

## ❖ **TSO Model (Technical Services Organization)**

- An organization by and for it’s members (usually)
- Provides IT and/or IT GPO services
- *Can bring more technology options to the table – such as open source systems (OSS) – which may help reduce overall costs*
- A TSO could provide EDI/EMR/EHR solutions to its members in a traditional client-server configuration
- A TSO could also provide EDI/EMR/EHR solutions using an ASP configuration

# Implementation Considerations

- ❖ **Achieve confidence that you are clear about your trading partner(s) specific requirements before investing**
- ❖ **There are a variety of possible solution “roadmaps”, but they depend on your circumstances**
- ❖ **Partner & consult with LAC DMH – an incremental approach to the various EDI transactions may be possible**
- ❖ **Claims-side EDI may be implemented independently of clinical-side EDI, if necessary**
- ❖ **It might be possible to comply with EDI claims requirements without having to address clinical EDI issues at the same time (depending on your situation)**

# Implementation Considerations - continued

- ❖ **Depending on your particular circumstances, you might *as an example*:**
  - Use your existing program to fulfill EDI for claims by having your current vendor write a custom interface
  - Or, if you have a small number of claims, you might outsource those to a clearinghouse
  - At the same time, use a simple, inexpensive ASP to collect and centralize patient demographic and clinical information for later EDI purposes. The ASP could handle clinical EDI for a short time if necessary (the ASP would interface to DMH)
  - Meet these short-term requirements while you separately develop a longer-term more structured HIT plan
  - Down the road, you may be able to upload all of the data you have in your ASP into an internal system (or TSO system)
  
- ❖ **You may be able to:**
  - Partner with a small number of providers who have similar needs, issues and constraints
  
- ❖ **It's crucial to:**
  - Set priorities
  - Not plan "too big"
  - Not do things now that will put you at a disadvantage in the future

# Vendor Considerations

- ❖ **First, establish a clear understanding of what EDI your existing system(s) are capable of:**
  - Ask your vendor
  - Call your vendor's other clients
  - Make site visits to other providers using the same system
  - Get involved in the detail
  - *Form a small "user's group" to share information*
  
- ❖ **Many vendors use the term "interface" interchangeably with EDI**

# Vendor Considerations - continued

## ❖ New versus Legacy

- Legacy and/or all older systems – extra caution is required.
  - Many of these systems were developed prior to the recent advancements of EDI standards and internet technologies
  - Upgrading these systems may be difficult and expensive
  - It's crucial to verify all references and all vendors as going-concerns
  
- Most newly or recently developed EMRs, EHRs, PMSs by companies with a strong client-base will support all of the EDI functions that are likely to be required
  - If you already have a system, EDI may not have been included, but is likely available
  - EDI may be an add-on cost
  - All references should be verified

# Planning & Next Steps

- ❖ **Educate internally**
- ❖ **Designate an EDI subject matter expert:**
  - Start documenting your operations & identifying options
- ❖ **Read & Learn**
- ❖ **Partner with someone at DMH**
- ❖ **Get involved, attend all of the meetings**
- ❖ **Ask questions – ask the same question more than once**
- ❖ **Develop an overall, long-term IT plan**
- ❖ ***Attend the educational session on June 7<sup>th</sup> surrounding EHRs***
- ❖ **Hire a consultant if it will help, but:**
  - Most consultants don't write software
  - Hire a consultant with a background that includes healthcare business & clinical operations *AND* IT expertise – one without the other is less desirable
  - Verify references

# Lessons Learned

- ❖ Hire or designate a full-time Project Manager *for any large IT initiative*
- ❖ Set goals & priorities for your day and week and focus on those – you won't be able to resolve all of the issues overnight
- ❖ Take ownership today
- ❖ Don't ask the vendor to take ownership
- ❖ Don't procrastinate. Depending on your options, the elapsed time to a solution could be several months or longer
- ❖ This issue may be time-intensive if there is a learning curve
- ❖ Depending on your IT situation, don't over book whoever is handling EDI
- ❖ You might have to hire someone (*but not an IT staff*) to deal with this – do so if it's necessary; it's better than the alternative
- ❖ Peer review is essential – get a 2<sup>nd</sup> and 3<sup>rd</sup> opinion before committing
- ❖ Contact an academic institution to learn about their intern programs

# Useful Links

- ❖ **WIKIPEDIA.COM**
- ❖ **ANSI.ORG**
- ❖ **X12.ORG**
- ❖ **HL7.ORG**
- ❖ **SOURCEFORGE.NET (Open source system index)**
- ❖ **HHS.GOV/HEALTHIT**
- ❖ **NCPDPD.ORG**
- ❖ **XML.ORG**

# Discussion





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