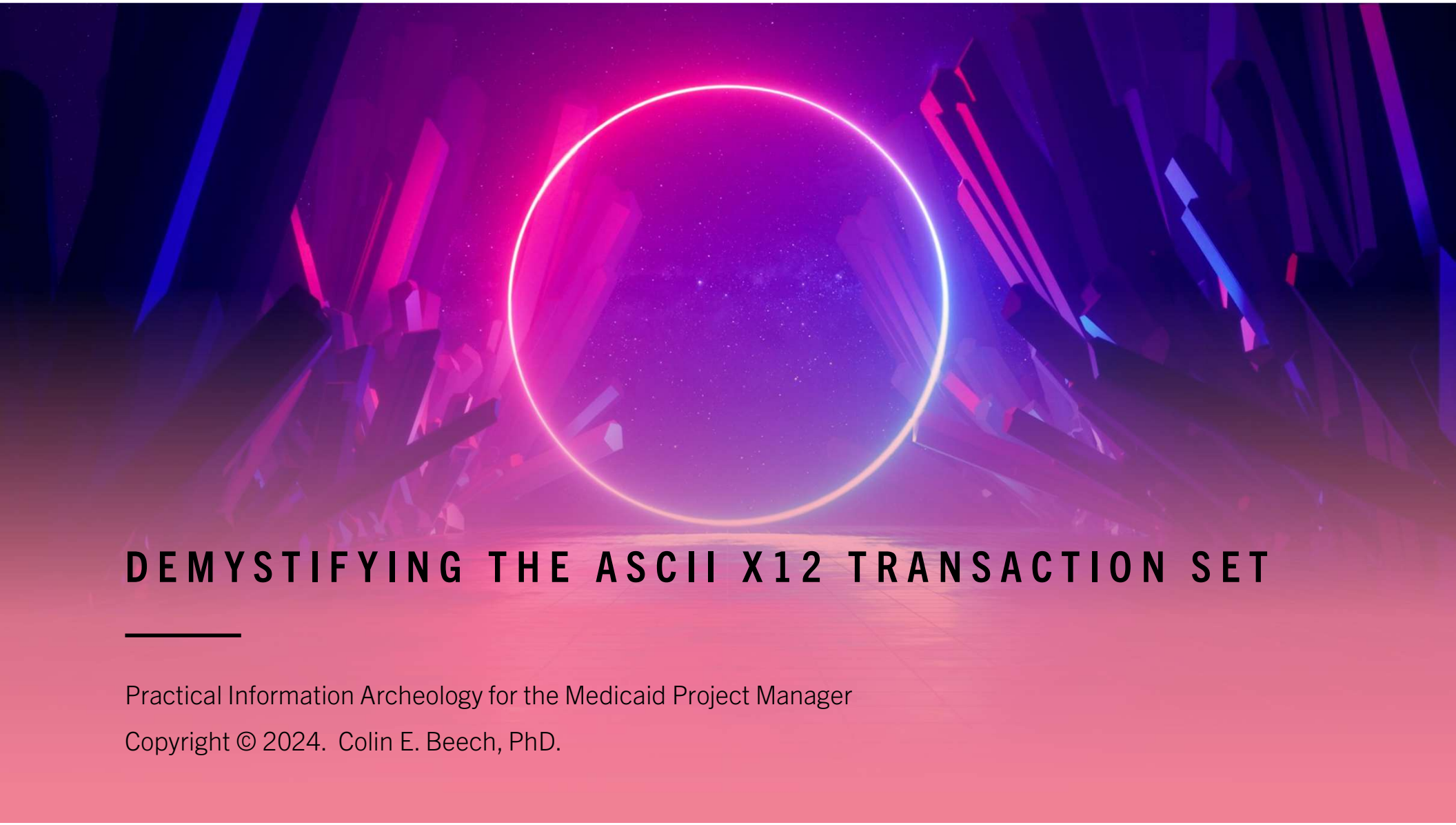


DEMYSTIFYING THE ASCII X12 TRANSACTION SET

Practical Information Archeology for the Medicaid Project Manager

BACKGROUND

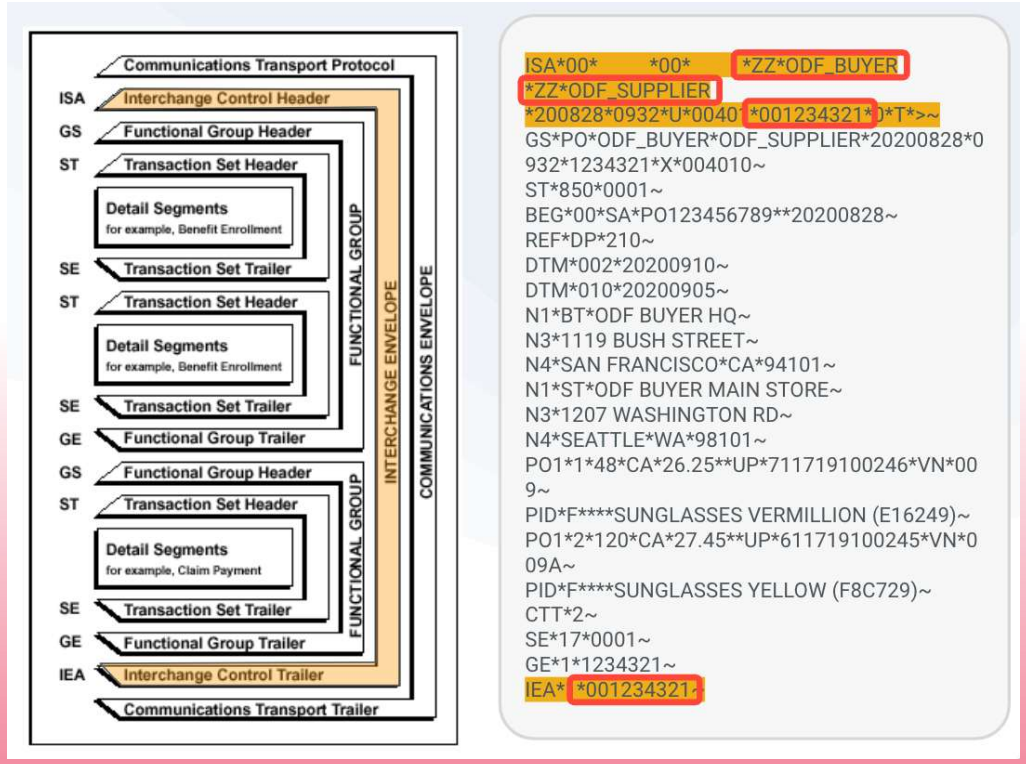
- Businesses of all kinds are constantly sharing information.
- With the advent of early networked computing, most computerized interactions were done with dumb terminals or teletype interfaces, and eventually, personal workstations connected via modems, etc.
- Collectively, a common standard way to share information over these networks was needed for business purposes;
- The X12 Messaging standard, defined by IBM and a variety of other industry partners in 1981, created a common vocabulary of data explicitly for sharing over **Electronic Data Interchanges**, or EDI's
- Prescient in its' design, X12 messages contain metadata about their contained data, especially noting the sender and receiver; TCP/IP packets, the foundation of modern web computing, perform the same way.

THE HIPAA REVOLUTION

- The Health Insurance industry was one of the earliest and remains as one of the most prolific adopters of the ANSI X12 standard, helping to make healthcare-related data ‘portable’ yet secure.
- Congress’s creation and President Clinton’s signing into law of HIPAA in 1996 led to its widespread adoption.
- Various incarnations of this standardized language have been adopted over the years, with HIPAA 5010 as the current adopted industry standard
- Every provider, insurer, MCO, nursing facility, pharmacy, and all sorts of other entities all rely on this common standard to connect a vast network of health insurance-related data exchange.
- Medicaid is one of the major consumers and proponents of the X12 HIPAA messaging standard

X12 ANATOMY

- The X12 standard is one of the earliest examples of *structured data*, with broad yet specific syntax rules defining their structure.
- While the structure might look intimidating, it's regulated pattern of communication make it far easier, predictable, and reliable than programming tailor-made interfaces on demand.
- The HIPAA 5010 X12 Transaction Set is the best way to get familiar with X12.



‘HELLO, WORLD’

- A fine tradition in computer science has junior programmers writing a program that displays, “Hello, world” on the screen, or before there were screens, on a printer.
- In the X12 world, this would likely be the ‘270/271’
- A 270, like the one on the right, essentially has one computer asking another, “Is Jane Doe covered under your health insurance plan?”
- The response, a 271, sends back a “Yes” with dates of coverage, or a “No”

```
ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJK
LMNO*ZZ*123456789012345*101127*1719*U*00400*
000003438*0*P*>
GS*HS*4405197800*999999999*20120117*1719*1421
*X*004010VICS
ST*270*1234
BHT*0022*13*1*20010820*1330
HL*1**20*1
NM1*PR*2******PI*123456789
HL*2*1*21*1
NM1*1P*2******SV*987654321
HL*3*2*22*0
NM1*IL*1*DOE*JANE****MI*345678901
EQ*30**FAM
SE*10*1234
GE*1*1421
IEA*1*000006768
```

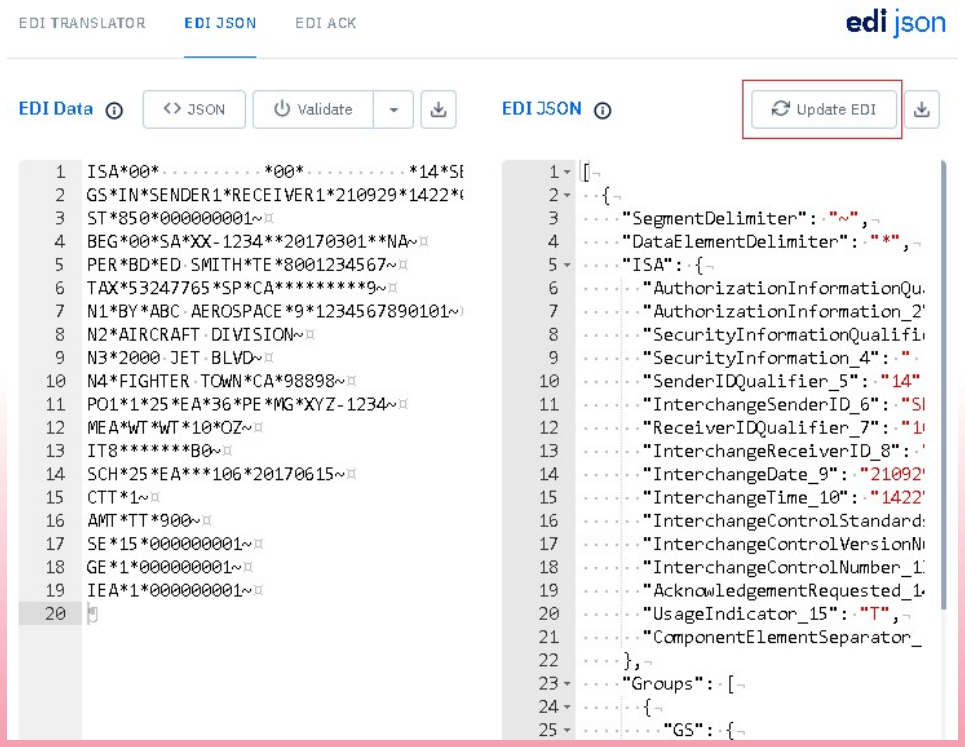
MAIN HIPAA 5010 X12 ACTIONS

- These are common X12 HIPAA 5010 transactions commonly seen in Medicaid:

EDI Transaction	Business Application
271	Healthcare Eligibility Benefit Response, used to indicate if a member is covered.
277	Healthcare Claim Status; has a claim been paid, or is it suspended?
278	Prior Authorization; notes when a claim has previously been approved, like insulin for Type 1 Diabetes patients (all defined in the ICD-10 Diagnostic Standards)
832	Claims Payment/Remittance Advice; indicates a structural flaw with a claim that, if fixed, will result in payment processing.
834	Benefit Enrollment Transaction; used to enroll/disenroll members from a Health plan.
835	Healthcare Claim Payment/Remittance; *frequently* used, the basic package for a healthcare claims payment to a provider after an **encounter** with a plan **member**.
837	Healthcare Claim Transaction Set, a broader vehicle for transmitting healthcare claim information and data

THE WEB ERA

- Many other X12 transaction types exist, both within and without HIPAA 5010; the business world revolved around their use well before the internet existed and entered common use.
- “Flat files” of X12 encoded data were often shared overnight to perform bulk processing prior to the ‘Amazon/Facebook’ era.
- As web-based computing became standard, rather than simply discard the X12 HIPAA 5010 standard, modern messaging layers have simply adopted its use.
- Contemporary web applications now *emulate* the X12 standard from the previous era over modern networks, in real-time, usually as JSON or XML data shared via API endpoints, “the web way” you use everyday at work and home.



LEARNING MORE

- CMS, the Center for Medicaid and Medicare Services has a special group that focuses on nothing but the Medicaid EDI transaction set, CAQH CORE; I used to consult for them.
- Health and Human Services has a great overview here.
- Fun Fact: The CMS 270/271 service that allows entities from all over the United States (& beyond) to see if an individual has Medicaid coverage handles so much traffic that it is broken into 270/271 East, and 270/271 West nationally.
  - The actual server locations are Top Secret.
  - If one service went down due to disaster/military attack, the other can operate redundantly until an alternate is brought back online.