

Documentation

Perspectives on Why it's a Big Deal



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Agenda

- 🤪 Good Data
 - Types of Data
 - Analyzing Data
 - Data flow
- 😡 Bad Data
 - Data Problems

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- 🤖 Good Data
 - Types of Data
 - Analyzing Data
 - Data flow
- 😡 Bad Data
 - Data Problems
- 🤖 How to Turn Bad Data into Good Data

Types of Data

UNSTRUCTURED DATA



VS

STRUCTURED DATA

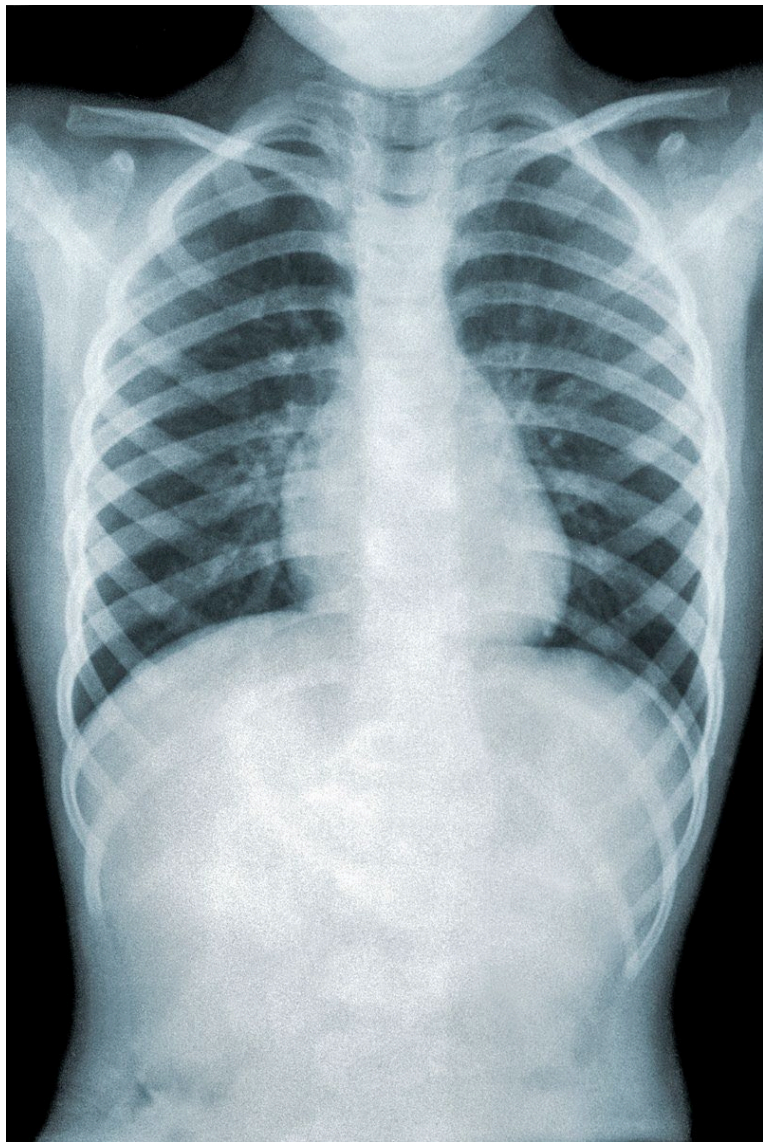


Unstructured Data

Unstructured data is ANYTHING.

Free text on a clinical note, drawings, radiologic images

Provides a description rather than a single fact



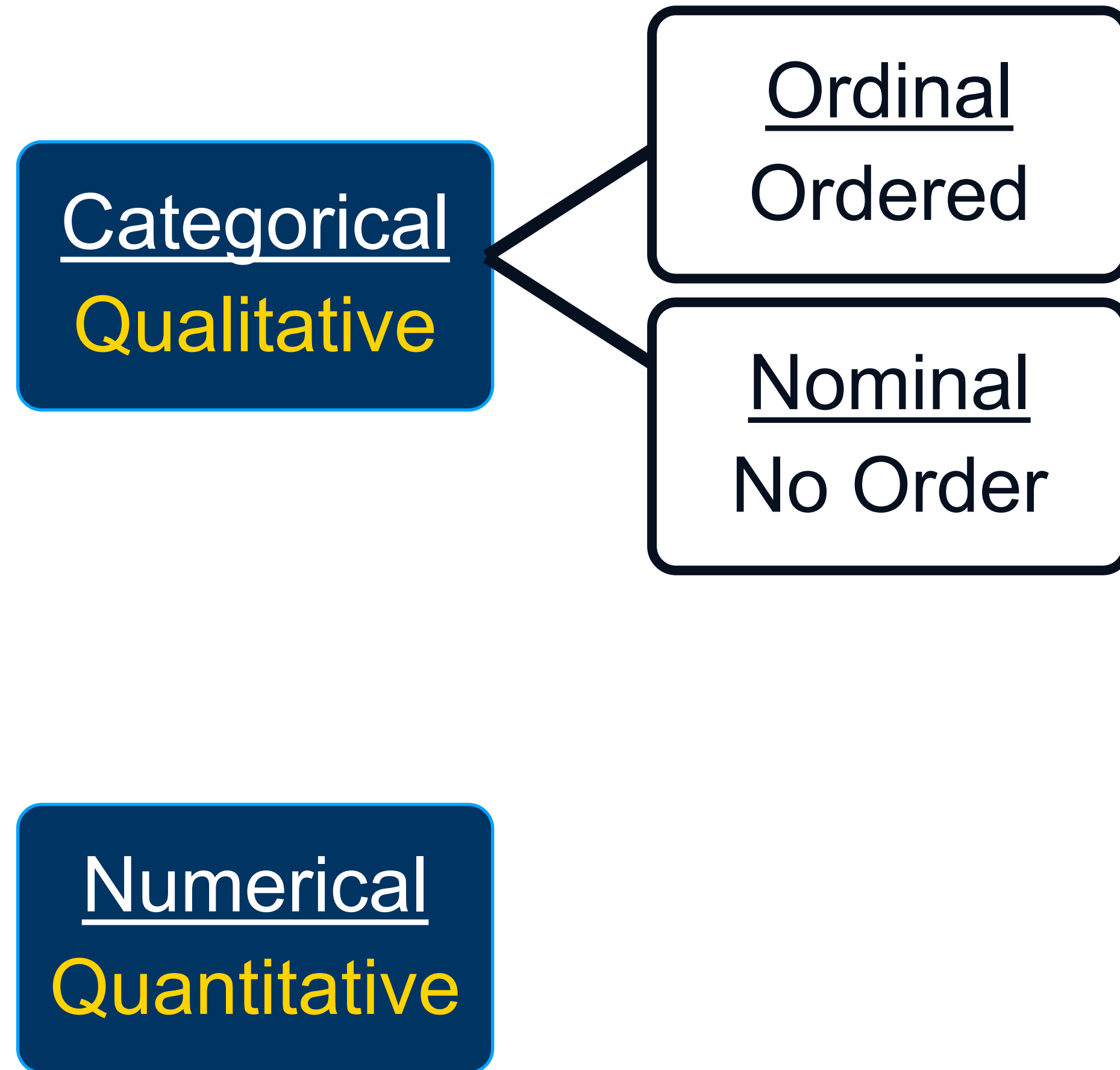
MEDICAL RECORD		CONSULTATION SHEET	
DEMO PATIENT, PAULINE			
113412		04/25/1982	
Reason For Request continued.			
SCLU - Lab Cua Selected			
Collection DT	Spec	GLUCOSE	
12/28/2015 09:38	PLASM	120 H	
10/22/2015 08:40	PLASM	123 H	
10/22/2015 08:35	PLASM	120 H	
TRAINING:			
Diabetes Self-Management Education/Training (DSME/T)			
Type: Followup DSME/T			
Length:			
Medical Nutrition Therapy (MNT)			
Type: Annual follow-up MNT			
Length:			
PROVISIONAL DIAG:			
REQUESTED BY:	PLACE:	URGENCY:	
BREWER, TAMMY L	Consultant's choice	Routine	
CLINICAL APPLICATIONS COORDINATOR	SERVICE RENDERED AS:		
(Pager:)	Outpatient		
(Phone:)			
CONSULTATION NOTE #709			
LOCAL TITLE: NUTRITION			
STANDARD TITLE: NUTRITION DIETETICS E & M CONSULT			
DATE OF NOTE: MAR 08, 2016@12:10		ENTRY DATE: MAR 08, 2016@12:11:12	
AUTHOR: BREWER, TAMMY L		EXP COSIGNER:	
URGENCY:		STATUS: COMPLETED	
This is now complete			
/s/ TAMMY BREWER, CPC			
CLINICAL APPLICATIONS COORDINATOR			
Signed: 03/08/2016 12:11			

Structured Data - More than One Type

Categorical
Qualitative

Numerical
Quantitative

Structured Data



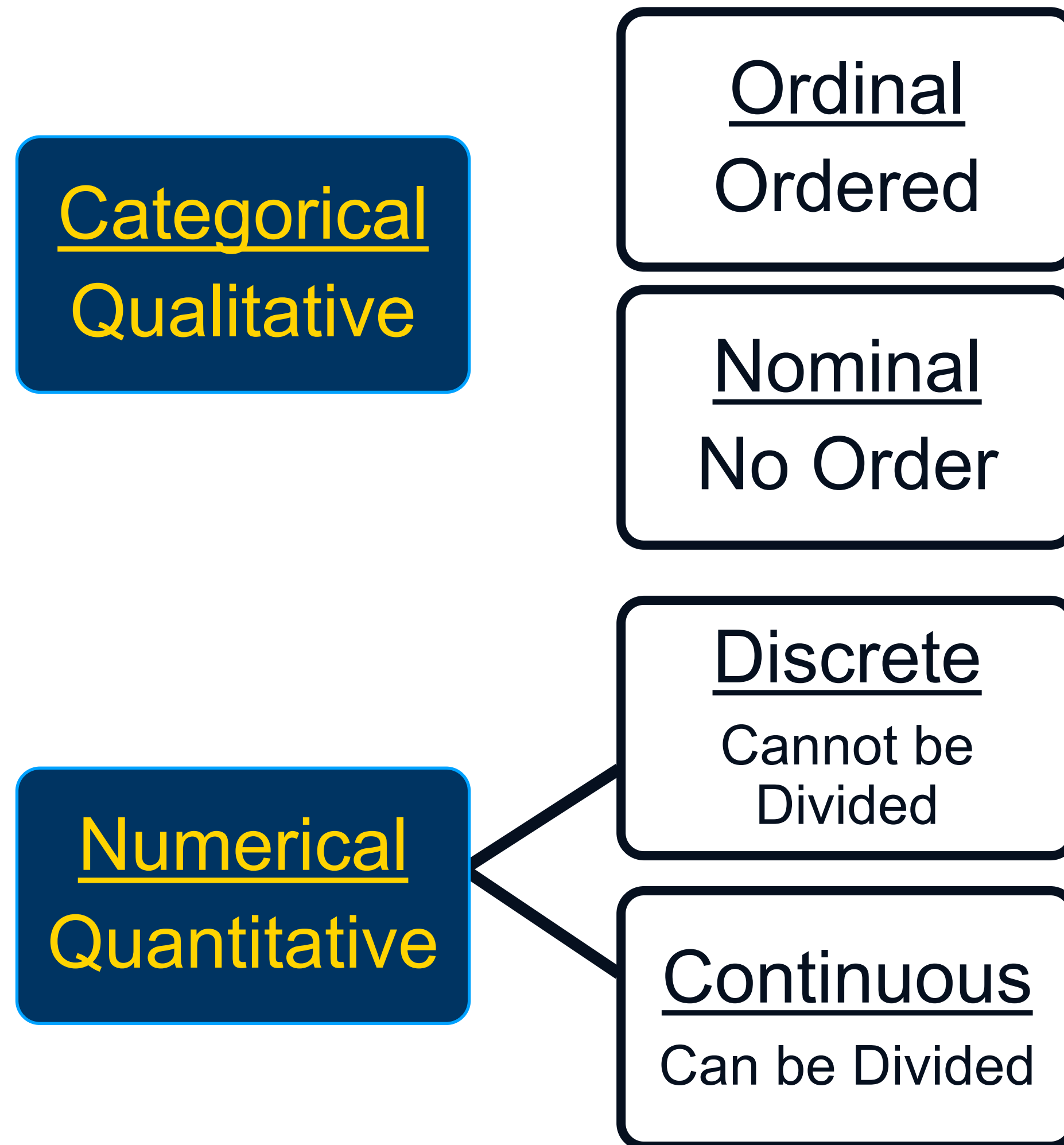
Playing Cards



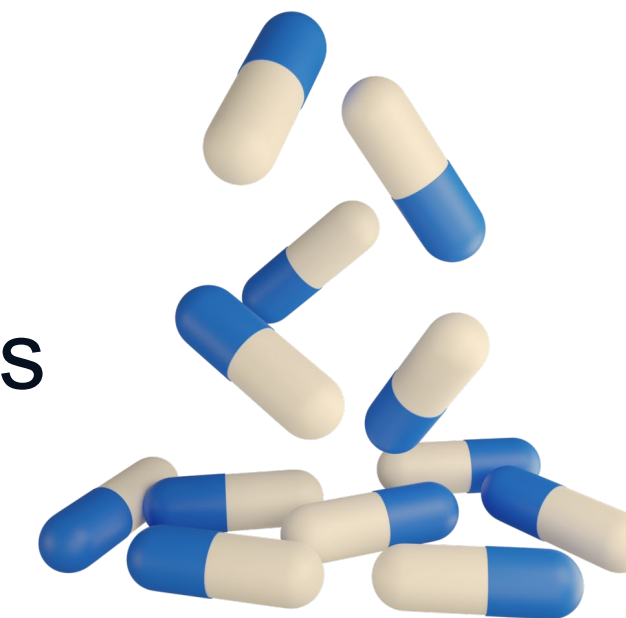
Hair Color



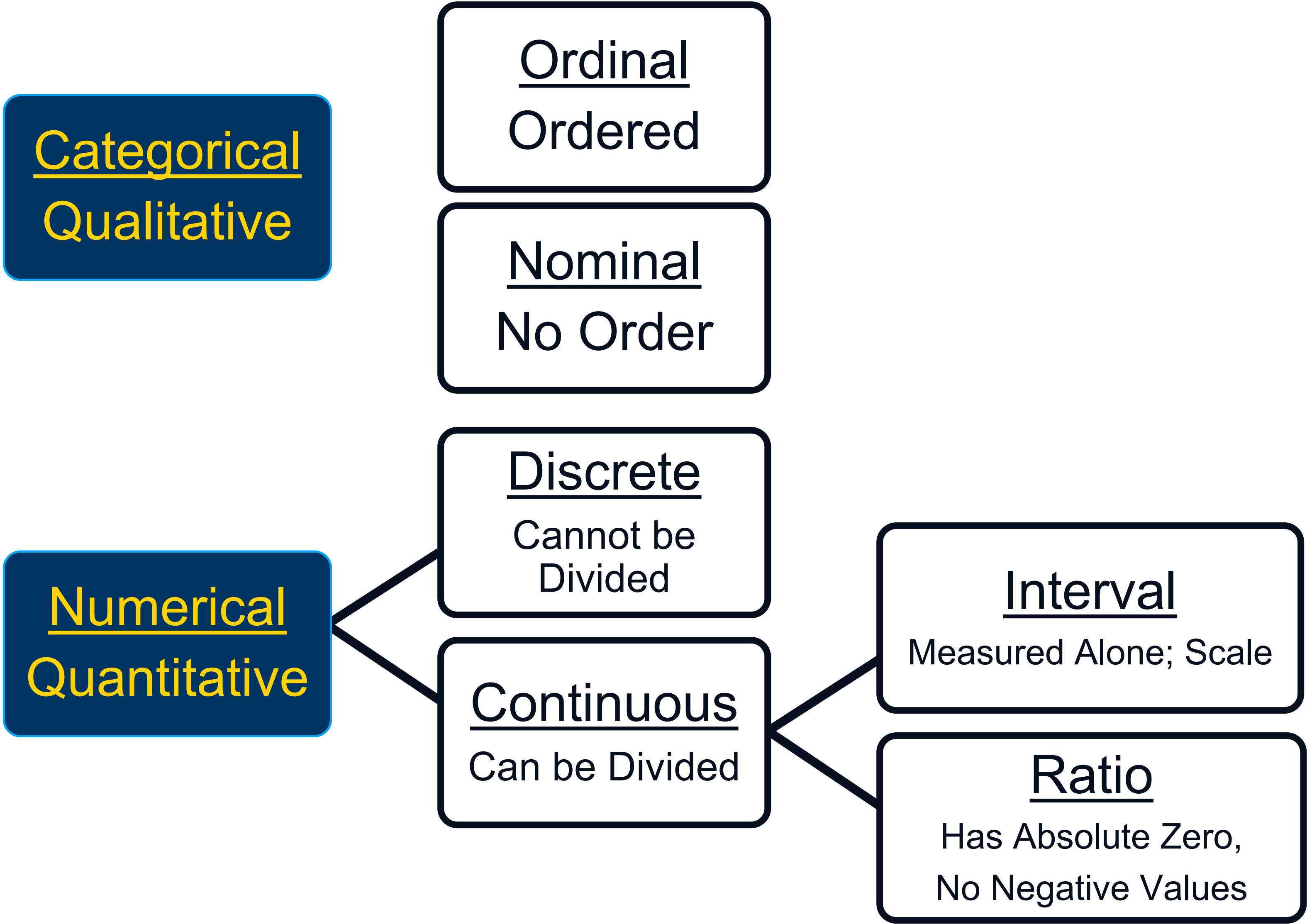
Structured Data



Number of Capsules



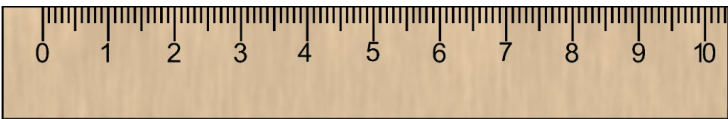
Structured Data



°Fahrenheit



Distance, Hours, Weight



What is the Point of This?

Why talk about data types?

- When you evaluate data, you have to look at similar types of data.
- Different types of data have different purposes
- Unstructured - Tells or shows a story, provides a description
- Structured - Used for tracking, comparing, identifying, assessing

Why Document Data?

Clinical Care

Informing others of what happened

Tracking data and changes

Decision support

Quality

What gets measured gets done

Meaningful Use / EHR Certification

Data Sharing (HIE / PHR)

Improved services

Billing

Reimbursement

Record of services provided

Legal practices

Data Analysis

Population health

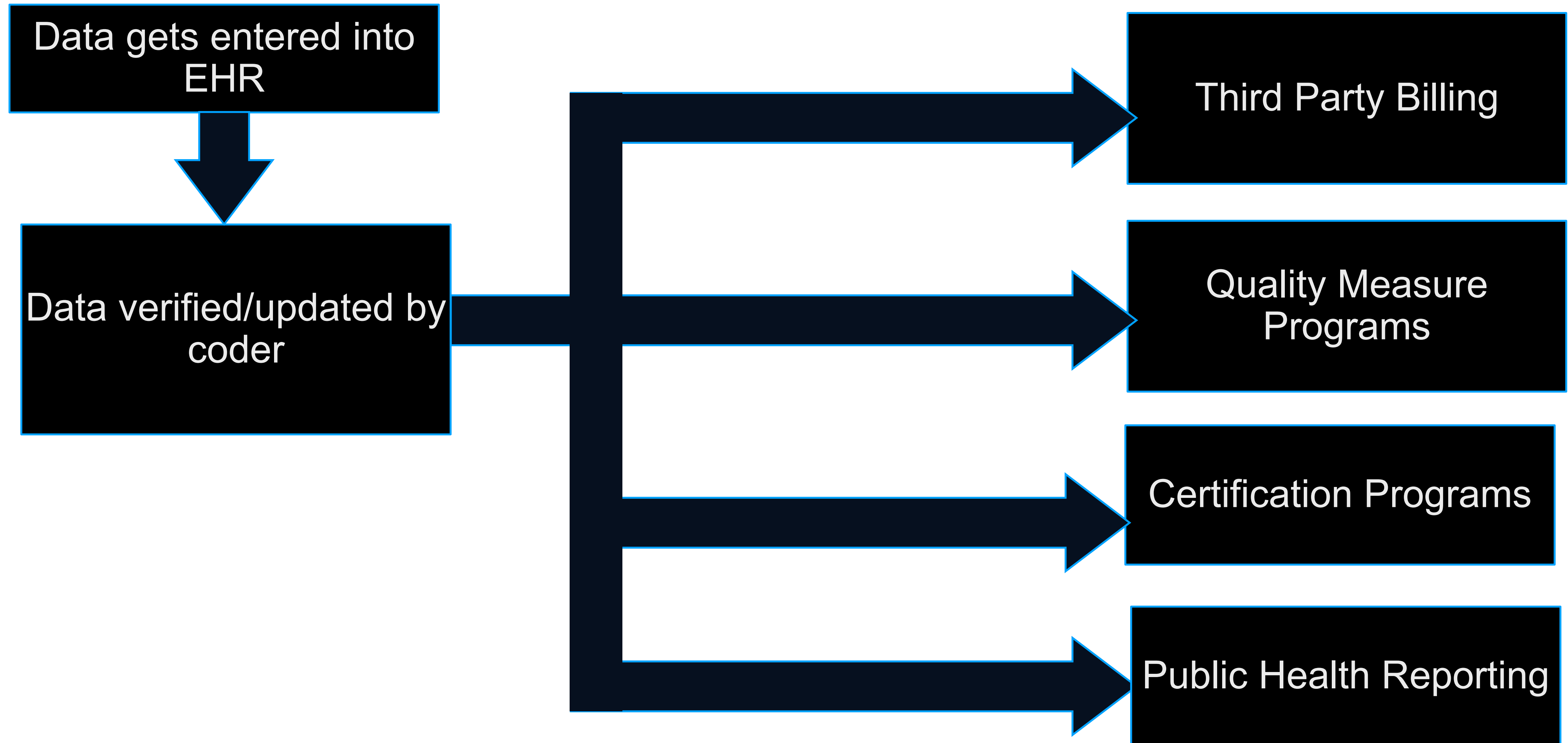
Describes services provided and outcomes of these services

Identifies needs

Describes what is done for patients

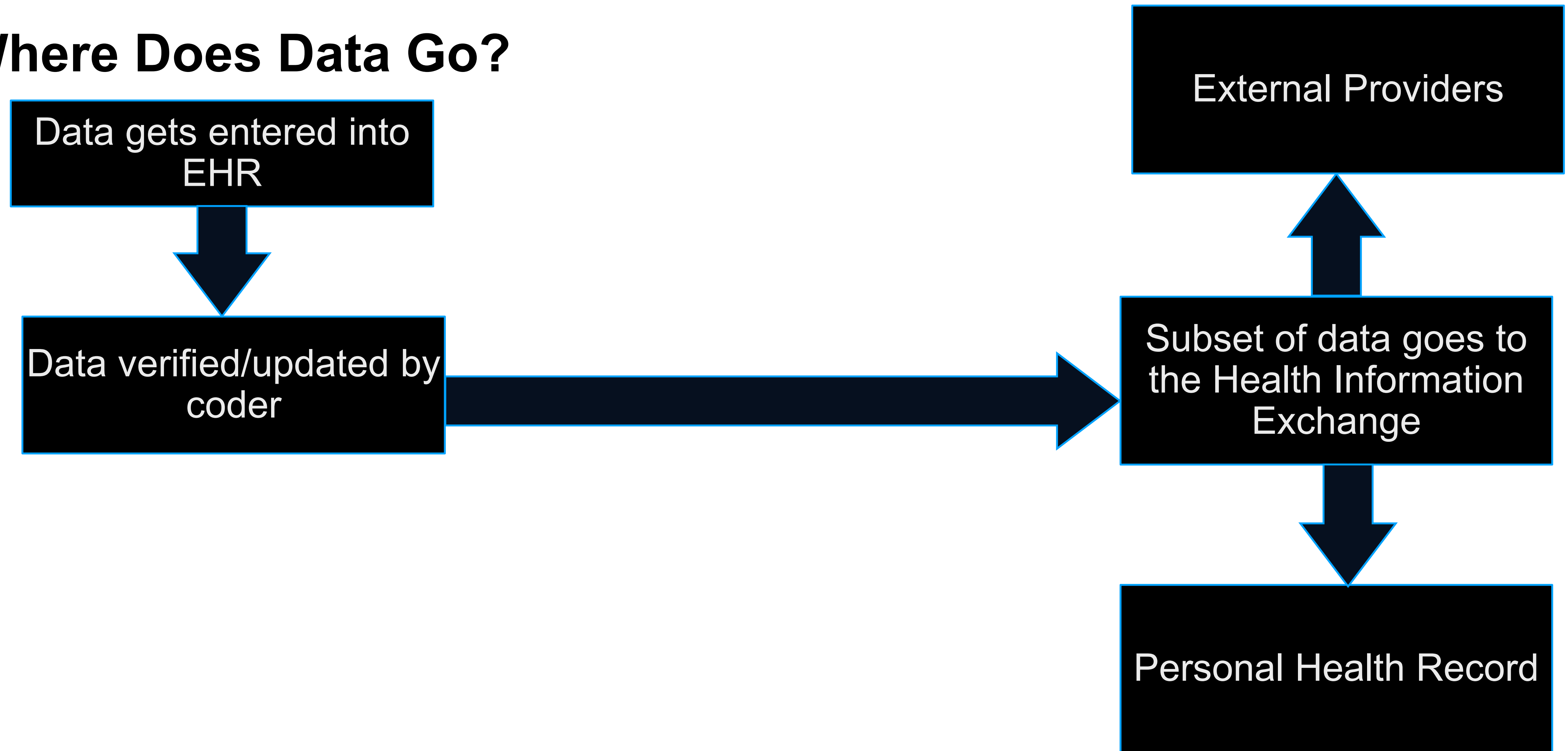
Data Flow

Where Does Data Go?



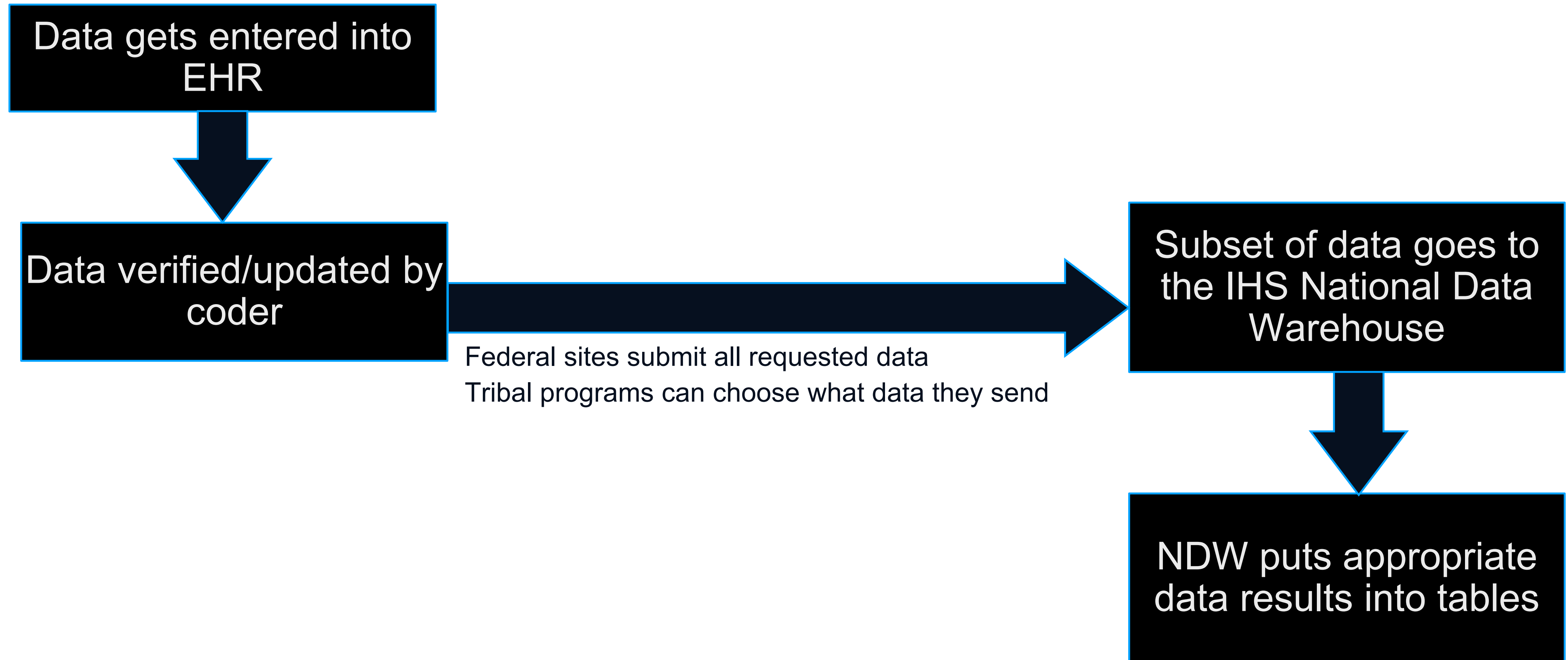
Data Flow

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Data Flow

Where Does Data Go?



Analyzing Data

When you stare into the abyss
the abyss stares back at you.

- *Fredrich Nietzsche*



Data Analysis is Like Separating Layers of an Onion

- Finding the data you need
- Collecting the data you need from tables
- Identifying patients through time and space
- Who is giving you the data?
- Who is not giving you the data?



NDW Tables

Helps Organize Data

Registration Table	Encounter Table	Diagnosis Table	Medications Table	CPT Table
REG ID Patient Name Patient Birthday	REG ID ENCTR ID Date Facility Name	ENCTR ID ICD10 Code	ENCTR ID NDC Code Medication Name Dose Strength	ENCTR ID CPT Code CPT Name

The **Primary Key** variable in one table must match with a **Foreign Key** variable in another table to match data from one table to another.

Big Data - Really Big Data

- Must join (match up) different tables to create a larger (sometimes ginormous) table:
 - A patient with 3 visits, 4 meds, and 2 diagnoses will have 24 rows of data.

ID	Visit Date	Medication	Diagnosis
1234	1/5/2026	Lisinopril 20mg	Hypertension
1234	1/5/2026	Lisinopril 20mg	Diabetes
1234	1/5/2026	Metformin 1000mg	Hypertension
1234	1/5/2026	Metformin 1000mg	Diabetes
1234	1/5/2026	HCTZ 25mg	Hypertension
1234	1/5/2026	HCTZ 25mg	Diabetes
1234	1/5/2026	Aspirin 81mg	Hypertension
1234	1/5/2026	Aspirin 81mg	Diabetes

One Visit = 8 rows

Each row is unique

Columns have duplicates

Big Data - Really Big Data

- Must join (match up) different tables to create a larger (sometimes ginormous) table:
 - A patient with 3 visits, 4 meds, and 2 diagnoses will have 24 rows of data.
 - *You need a big computer with lots of RAM ... and a good amount of patience.*
- Sometimes data can get duplicated (patient has same diagnosis documented at two facilities)
 - Deduplication by *evaluating distinct patients* is often required.

The Lament of an NDW Analyst

If this wasn't confusing enough...

- There are more layers
 - Patients will have different Chart Number for each facility they go to.
 - NDW assigns each unique patient a REG ID.

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- There are more layers
 - Patients will have different Chart Number for each facility they go to.
 - NDW assigns each unique patient a REG ID.
- Each patient has a REG ID for a specific user-population year.
 - Another ID (Static Integrity ID) uses probabilistic logic to map patients from different years and different facilities across space and time to one unique number.

Is Something Missing?

- All federal facilities *should* be submitting required data to NDW
- Some Tribal facilities submit all requested data to NDW
- Some Tribal facilities don't submit any data to the NDW
- Some Tribal facilities submit some data but not all
 - You can get ICD-10 codes but not medications

Data Requirements and Usefulness

- RPMS - anytime you document ANYTHING you must:
 - Create a new visit
 - Identify patient
 - Document a purpose of visit (mainly for billing and identifying what you did)
- Everything else is “optional” for visit data:
 - Structured - we can evaluate it
 - Unstructured - cannot be evaluated (never happened)

IHS and Data Standards

IHS is a LEADER when it comes to data standards

- You cannot help but be impressed (pleased with ourselves) knowing:
 - IHS was capturing tobacco use LONG before other systems
 - IHS could/can track things that other systems can't
- Some data elements are not well known:
 - Cardiac ejection fraction
 - Patient employment (that may predispose them to disease like working with animals)
 - Health factors, exam codes, patient education, personal health history data

Data Problems

I may not know them all, but I've seen more than I wanted!

- Where to document
- Standardized data
- Consistent data/units and data types

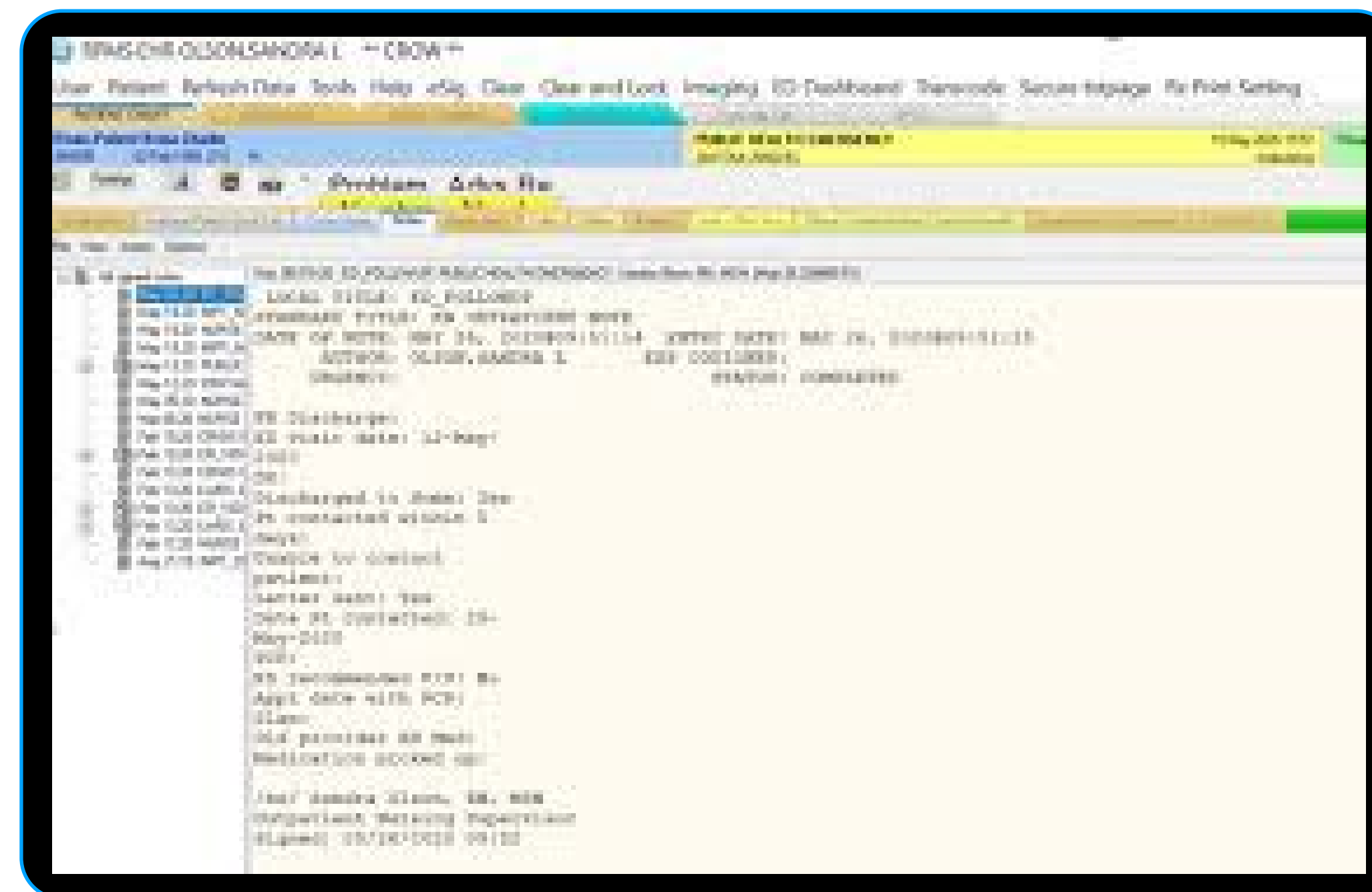
Where to Document

- If you don't know where to document something, where do you put it?

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In a note as unretrievable free text



Providers Aren't Aware of Documentation

“I didn't know I could document that!”

- **Cardiac ejection fraction** in the vitals/measurement package
- Essential for determining the severity and type of heart failure
- A National Pharmacy & Therapeutics Committee heart failure Medication Use Evaluation showed very few patients had an EF documented.
- A followup *unpublished* analysis showed that approximately six months after a presentation on heart failure with reduced ejection fraction (HFrEF), the documentation of EF increased among patients with HFrEF and more than tripled among all patients with heart failure - sometimes people just need to know about things

Standardized Data

I fat fingered the patients weight and NOW they are fat!

- Adding an extra numeral before or after a value can dramatically skew data
- Weights of 14800 pounds
 - Most likely (hopefully) 148 pounds but the extra numerals got added and no one looked back.
- Double check vitals.
 - Blood pressures of 11155/76 are not possible - on our planet.

From One Unit to Another

Kilograms are not the same as Pounds

- Ensure the device measuring an outcome is using the same units that are documented
 - Weights of 95 pounds in a 56 year old man who is 6 foot tall doesn't seem accurate. But 187 pounds does seem more reasonable.
 - Was the weight entered as Kg?
 - Was the patient extremely malnourished?
 - We can guess, but we can't make a judgement so we have to conclude that the data is garbage

What's Wrong With Garbage Data?

Who sees the errors we make?

- Health care providers at your facility
- Health care providers at other facilities (through HIE or referrals)
- CMS and other health care insurance programs
- Quality measure programs
- Patients (through PHR)
- Credentialing bodies

It's like littering in the lobby - everyone sees you



How do I document thee?

Let me count the ways.

How many ways can you document the results of a pregnancy test?

Positive

Negative

Qualitative Value (a number in mIU/mL)

Not Done

Pregnancy Test Results (a sample)

• Positive • POSITIVE (case matters) • POS • P • + • Yes • Y • YES • Complete • COMPLETE • POS1 • COMMENT • NOTE • Note • Affirmed	• 100,000 • 100,000 mIU/mL • 100,000 mL • 100,000 mIU • 10,000 dIU/mL • 1,000 kIU/mL • 1X10 3 mIU/mL • 100k mIU/mL • 100,000 MIU/ML • 100,000 miu/ml	• Negative • NEGATIVE • Negavite • NEG • NEG1 • N • - • No • N • NO • Incomplete	• Not done • Unclear • Non • Come see me • Inconclusive • Undetermined • Not enough • Inadequate sample • Inadequate urine • Refused • Declined • Left without providing sample
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More Issues

- Unspecific dates
- Too specific dates
- Conflicting data
 - eGFR = 10ml/min but ICD-10 diagnosis is Stage 1 CKD??
- Time dependent data
 - Pregnancy
 - Often have one date - is that the start, 9 months, 4 months?
 - If two dates, is it the same pregnancy or a new one?

You are special



- Your work as a health care provider is important for many reasons:
 - You care for the patient multiple times, maybe throughout their life
 - You provide care that affects the current and the future
 - Good data improves the ability to provide clinical decision support
 - We can't remember or keep track of everything
 - Patient needs are increasing, not going away - we have to provide care quickly and we have to ensure our care is the best

- Data analysis is not punitive - it shows where we are at
 - What we do good
 - What we could do better

How do we continue to improve?

- Don't assume people know how to document
 - As a provider don't assume you know how either - we all have learning opportunities
 - Training on documentation should focus on clinical care because that's why we need to document the data!
- A mental checklist of what the next person needs to know - especially if they do not have access to your notes will help identify needs
- Unstructured data is an essential part of the medical record but it doesn't get shared easily
 - Unstructured data is “not done data”
- Utilize standard note templates when possible to encourage appropriate documentation practices and to automate transfer of data into clinical notes

It Ain't My Data

But it's still darn important!

- Patients are referred to external health care providers often because they provide services not available at our facilities.
- We may not have done the test or procedure, but that data is important for patient care and for assuring quality (think retinopathy and colonoscopy exams for GPRA).
- Results do not need to be performed at IHS to be documented
 - Just because you document it - doesn't mean you are billing for it; you are documenting results for improved patient care
 - All data should be entered into EHR as structured data when possible
 - Providers don't have time
 - Nobody has time, but it is important

External Data

- Consider a process to facilitate data entry from outside providers.
 - Create a chart review or case management visit
 - Start by identifying essential elements from referrals that need to be added
 - Don't have to add everything all at once, start with the important stuff
 - GPRA targets (retinopathy, colonorectal cancer)
 - Priority health topics you are addressing
 - Who can help do this? Providers, Medical Records staff?
- Nobody wants more work to do, but access to data can improve care

Internal Data Going Out

It's not always about gimme gimme gimme

- In addition to external data being added to our EHR system, some data needs to be shared with external programs:
 - Adverse drug events - MedWatch
 - Adverse vaccine events - VAERS
 - Public health reporting (infectious disease)

Incorporate procedures for addressing these issues in ways that minimize interference with the daily work routine (sometimes not possible)

Data is Essential

Without it, we don't know anything...we can only speculate

Summary

What can we do to make data more accurate?

- Increase awareness of how to document using standardized data elements in a consistent way in the appropriate fields.
- Double check results when they are entered - don't litter.
- Streamline result options for consistency.
- Implement a process to incorporate data from external facilities into the EHR.
- Be aware of and implement processes for required data reporting to external programs (e.g., state public health, MedWatch, VAERS)

Questions, Concerns, Comments?