



Electronic Health Records, Session #1

Community of Practice

Presenter: The Massachusetts League of
Community Health Centers

22 March 2016

Community of Practice
Webinars for Partnership
for Care (P4C) Projects

Webinar 1:

*Leveraging Your EHR to
Support Integrated and
Coordinated Care for
HIV Patients*



Massachusetts League
of Community Health Centers

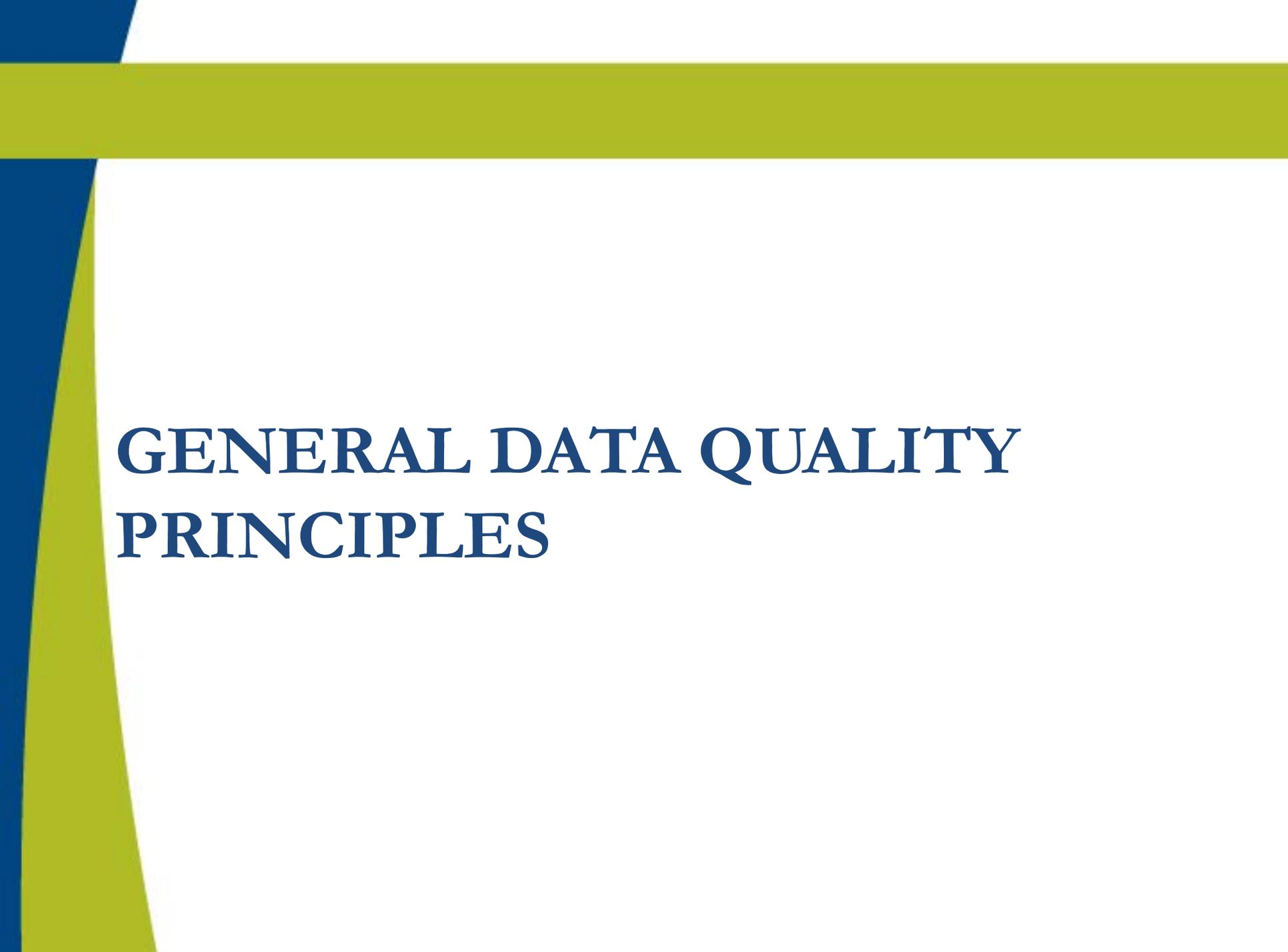
Background



Partnerships for Care (P4C)

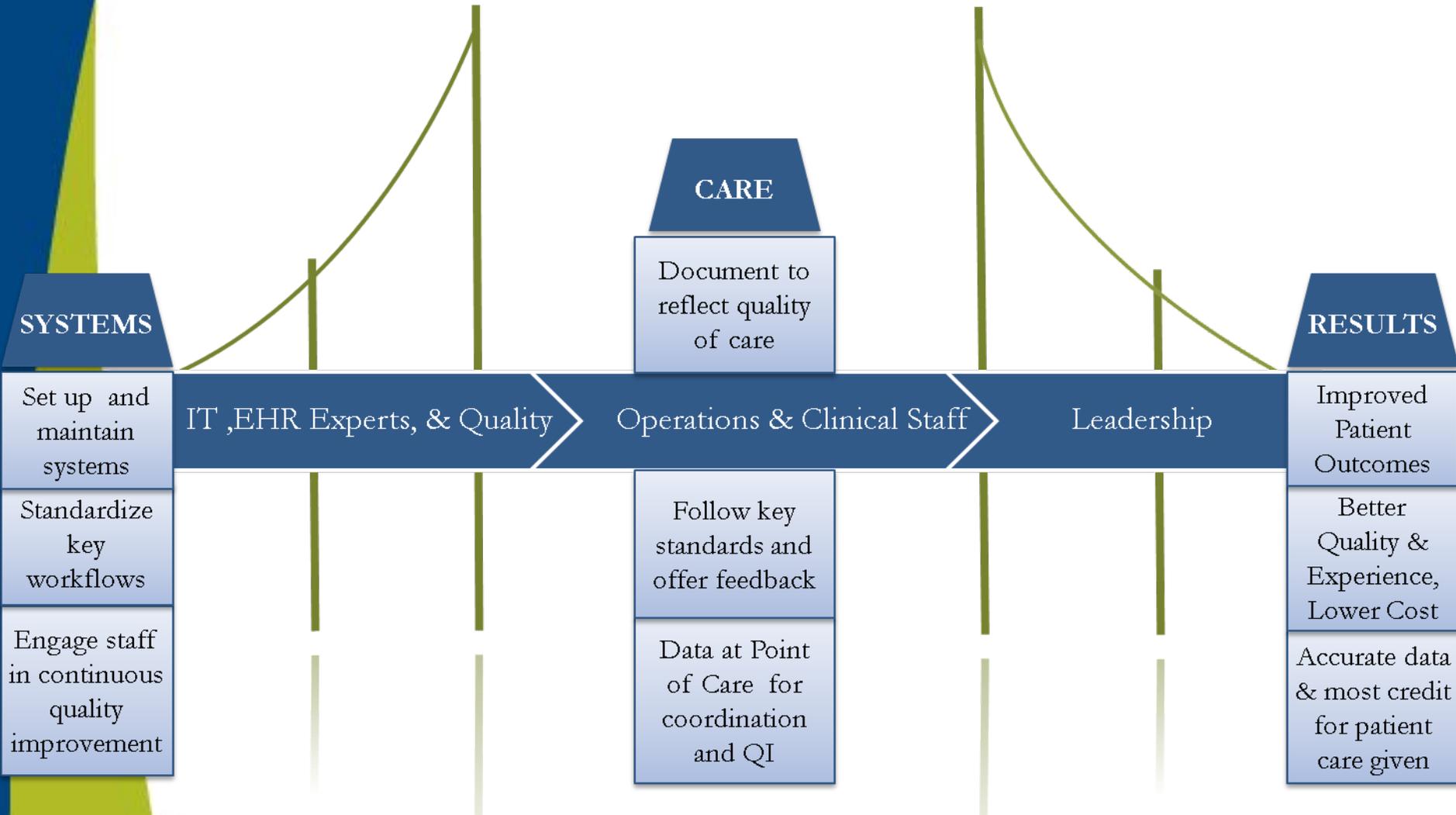
- Expand the provision of HIV prevention and care services within communities most impacted by HIV and better serve people living with HIV (PLWH), especially racial/ethnic minorities.
- Improve collaboration and leverage expertise among HRSA-funded health centers and CDC-funded state health departments.
- Support health center workforce development, infrastructure development, HIV service delivery across the HIV care continuum, and the development of sustainable partnerships with state health departments.

This funding is supported by the Affordable Care Act and the Secretary's Minority AIDS Initiative Fund.



GENERAL DATA QUALITY PRINCIPLES

Bridging the Quality Chasm

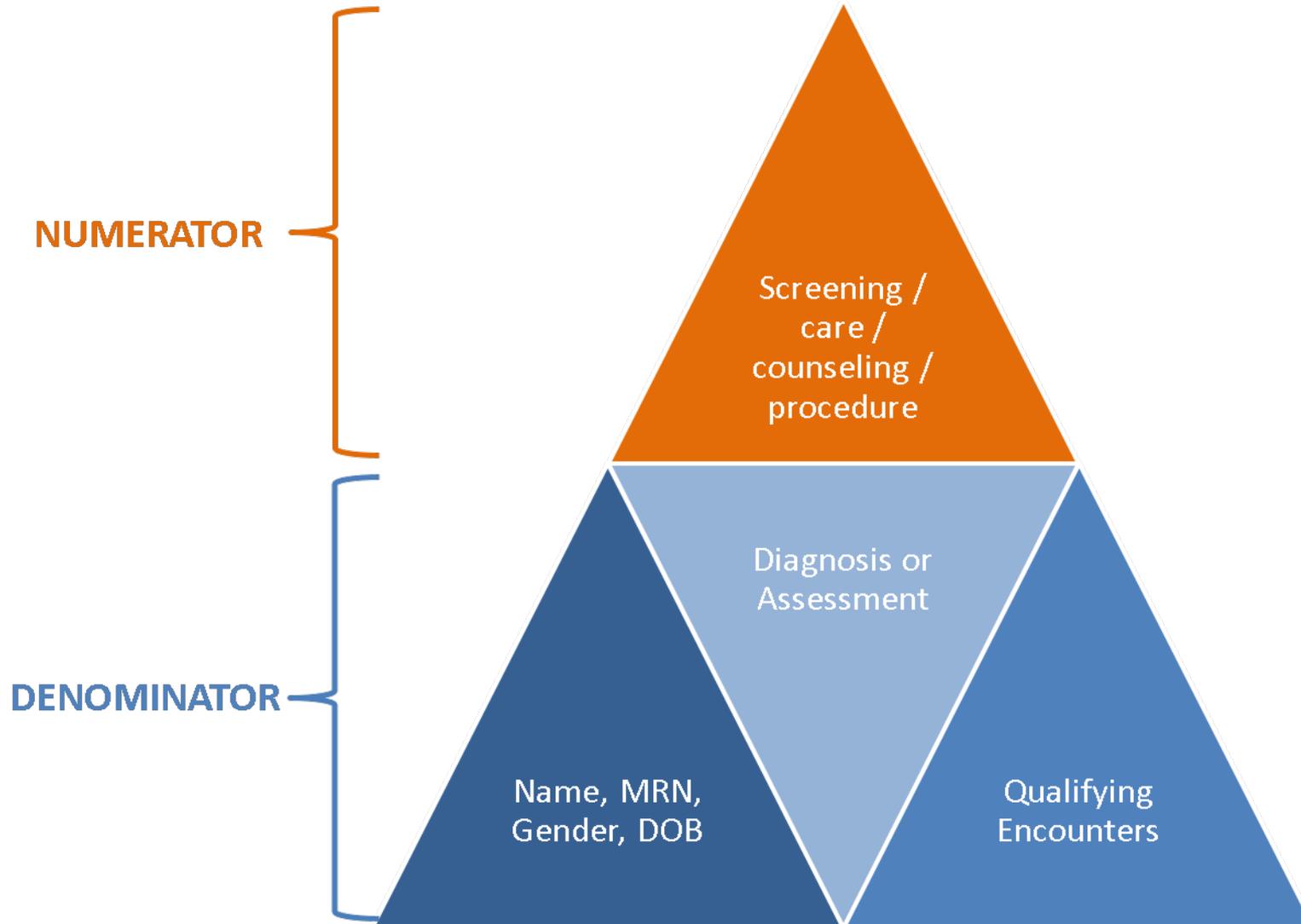


Assembling the Team: Roles & Responsibilities

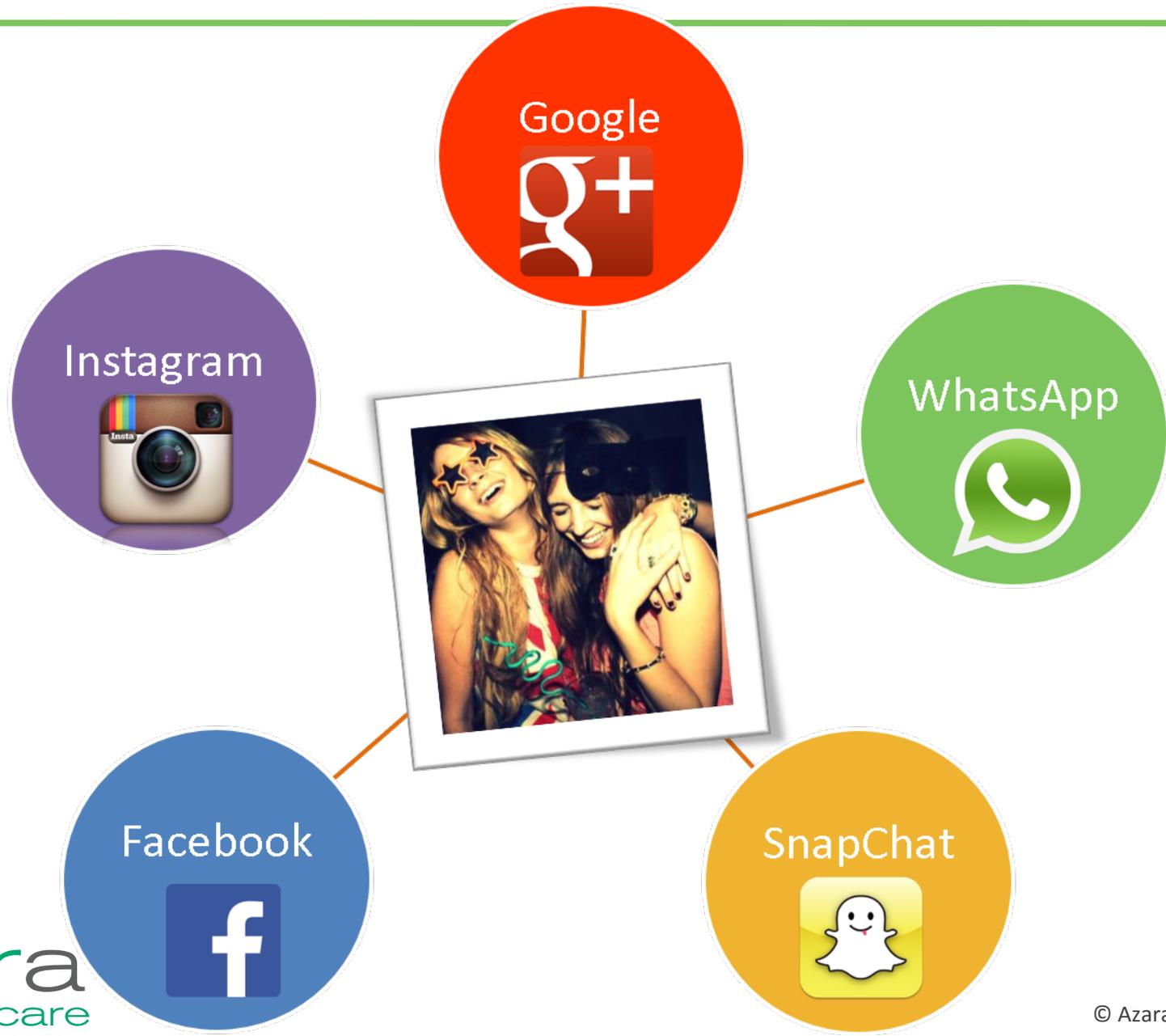
A cross-functional team is critical to the success of the project to ensure quality of data capture, accuracy, extraction and measure results. **Data is not just an IT project.**

Team Roles	Team Member Responsibilities
Executive Sponsor	<ul style="list-style-type: none"> • Leadership level sponsor for project • Helps to acquire appropriate resources for program as needed
Population Management Lead	<ul style="list-style-type: none"> • Responsible for population management at macro level • Review of health home data
Network Admin/DBA	<ul style="list-style-type: none"> • Provide access to Health Center network & EHR systems • Population health management Connectivity & Performance support
EHR/HIT Expert	<ul style="list-style-type: none"> • Identify EHR templates for data element capture • Identify EHR tables for Orders, Labs, etc. • Review patient population along with QI/Clinical team members
QI Specialist	<ul style="list-style-type: none"> • Identify all data capture workflows • Complete Lookup/mapping categorization • Execute Data Validation Chart Audits where needed • Review values for accuracies and investigates discrepancies
Provider Representative	<ul style="list-style-type: none"> • Identify all data capture workflows • Identify PHI data capture location & criteria • Support QI Specialist in Data Validation Audits where needed • Provide feedback on accuracy of data
Clinical Support	<ul style="list-style-type: none"> • Identify all data capture workflows • Identify PHI data capture location & criteria • Support QI Specialist in Data Validation Audits • Provide feedback on accuracy of data

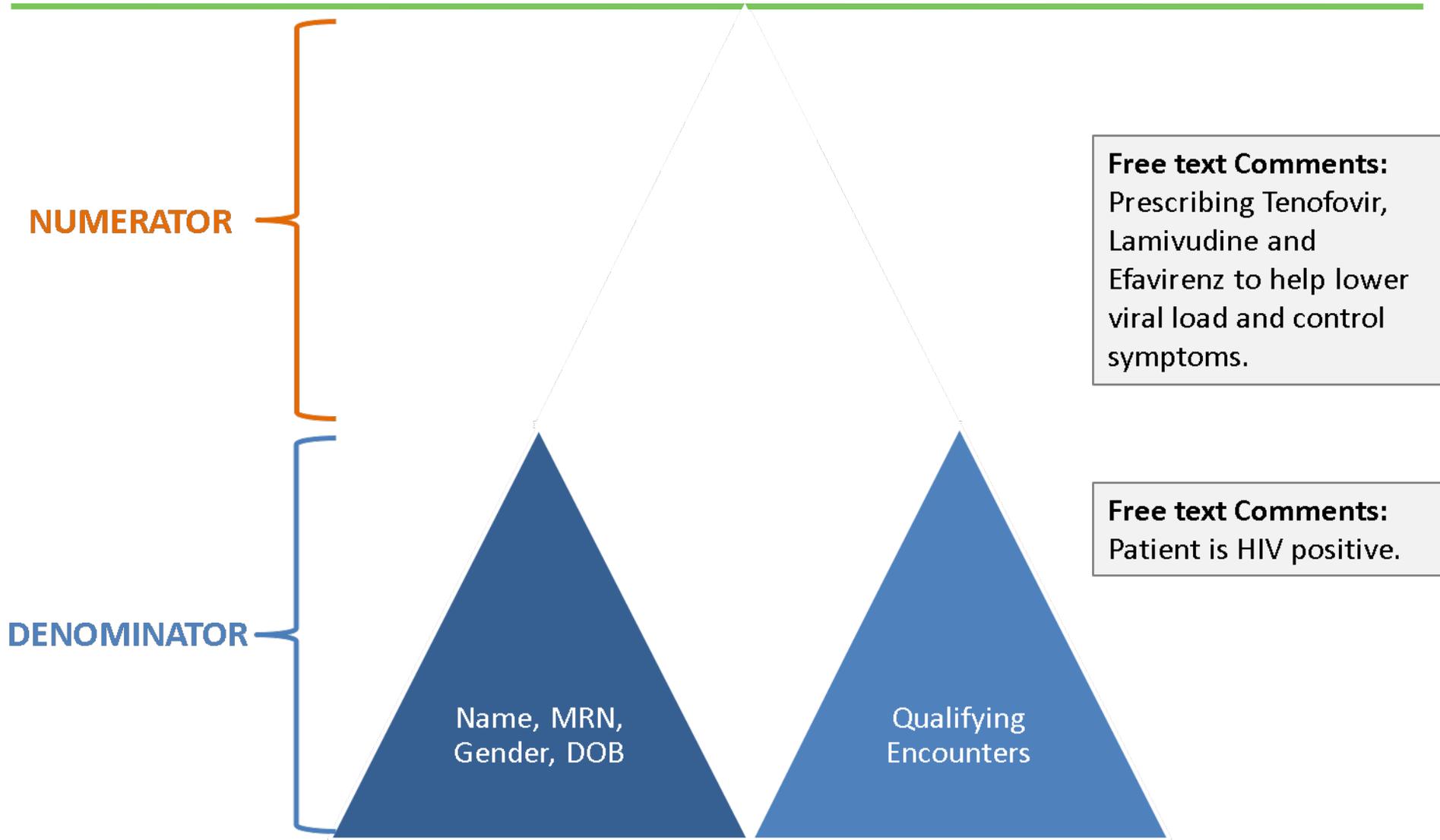
Data Elements are the Building Blocks of Measures



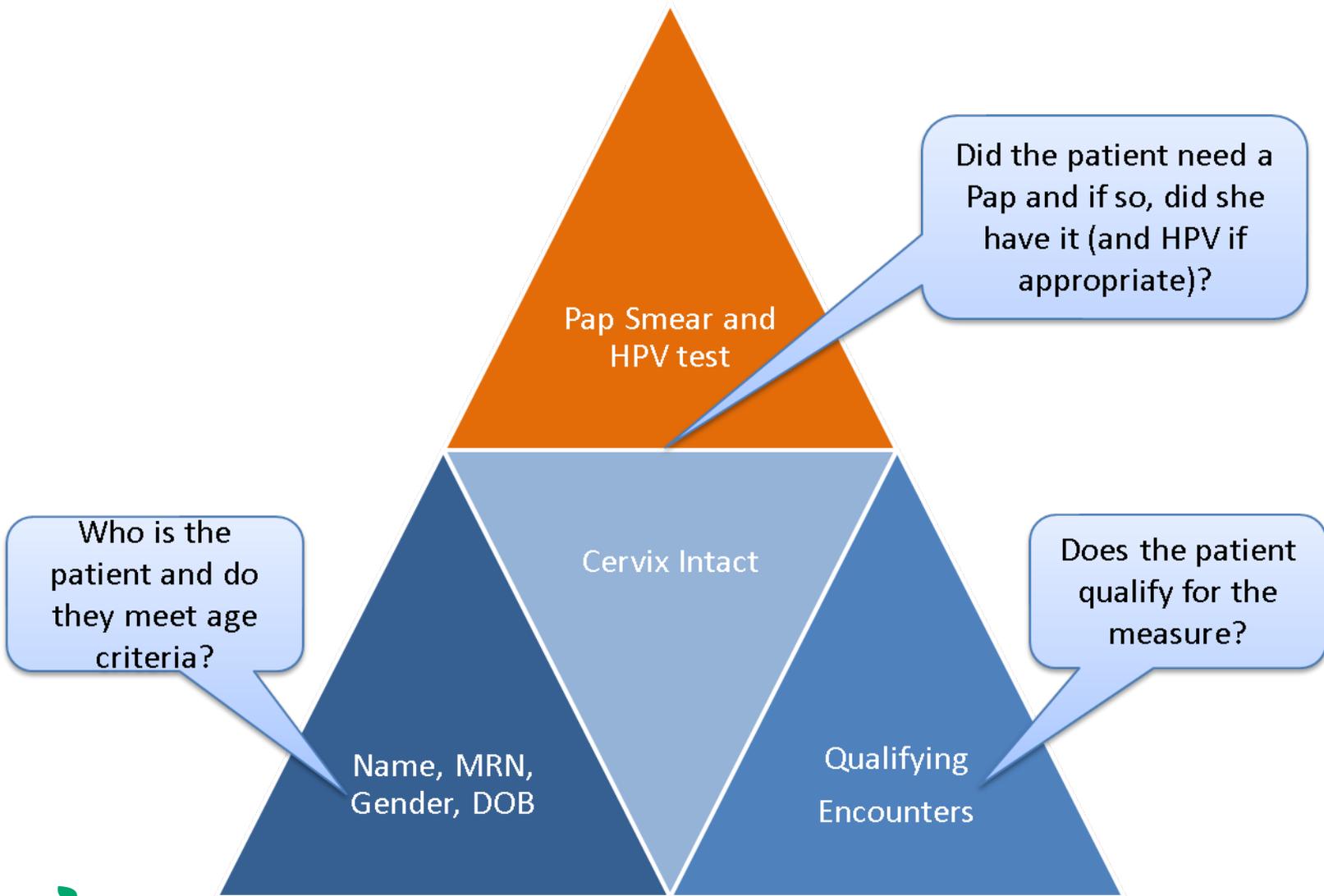
One to Many Relationship: Photo to Social Media



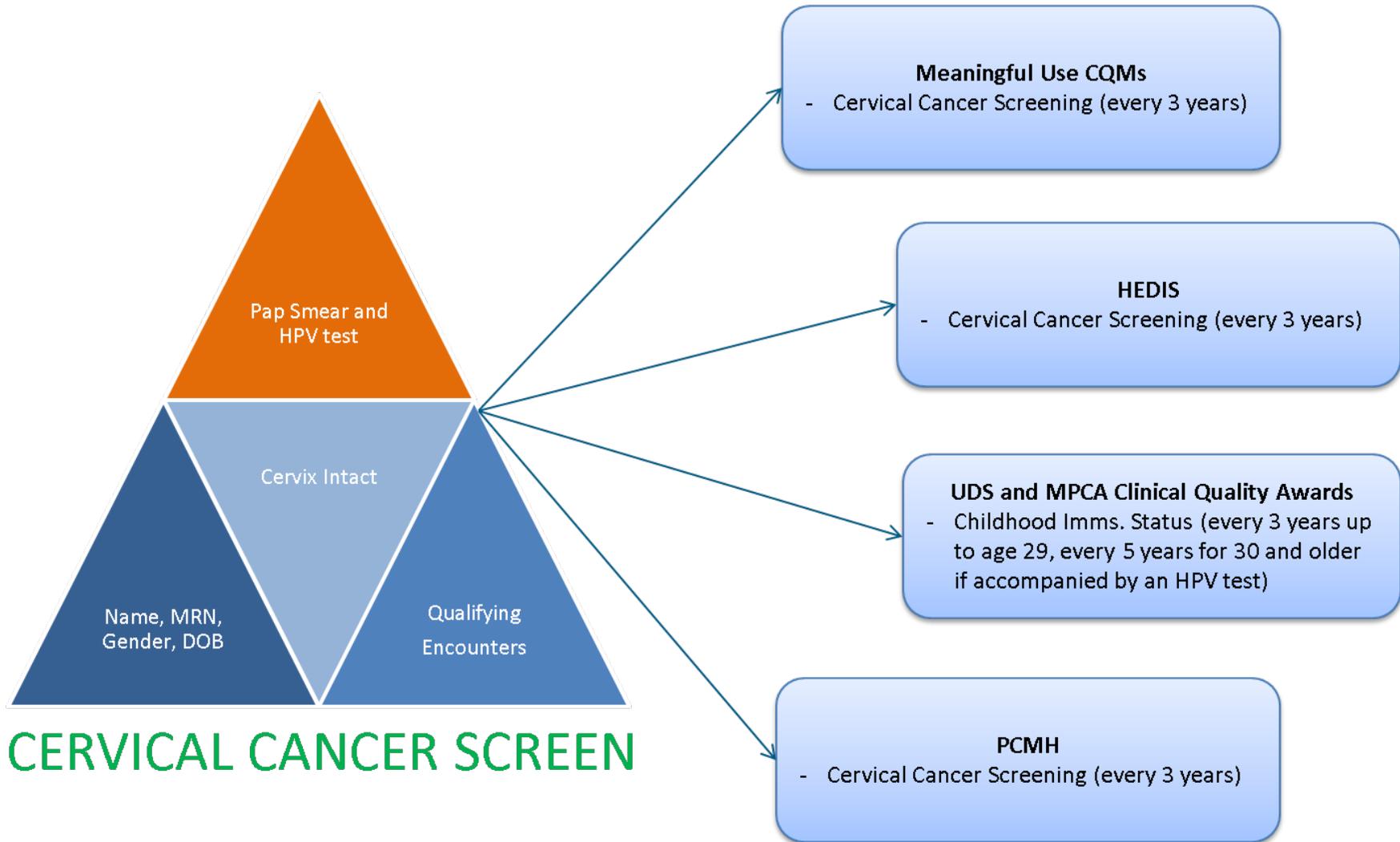
Data Elements are the Building Blocks of Measures



Cervical Cancer Screening Data Elements



Cervical Cancer Screening Measures Logic at Work

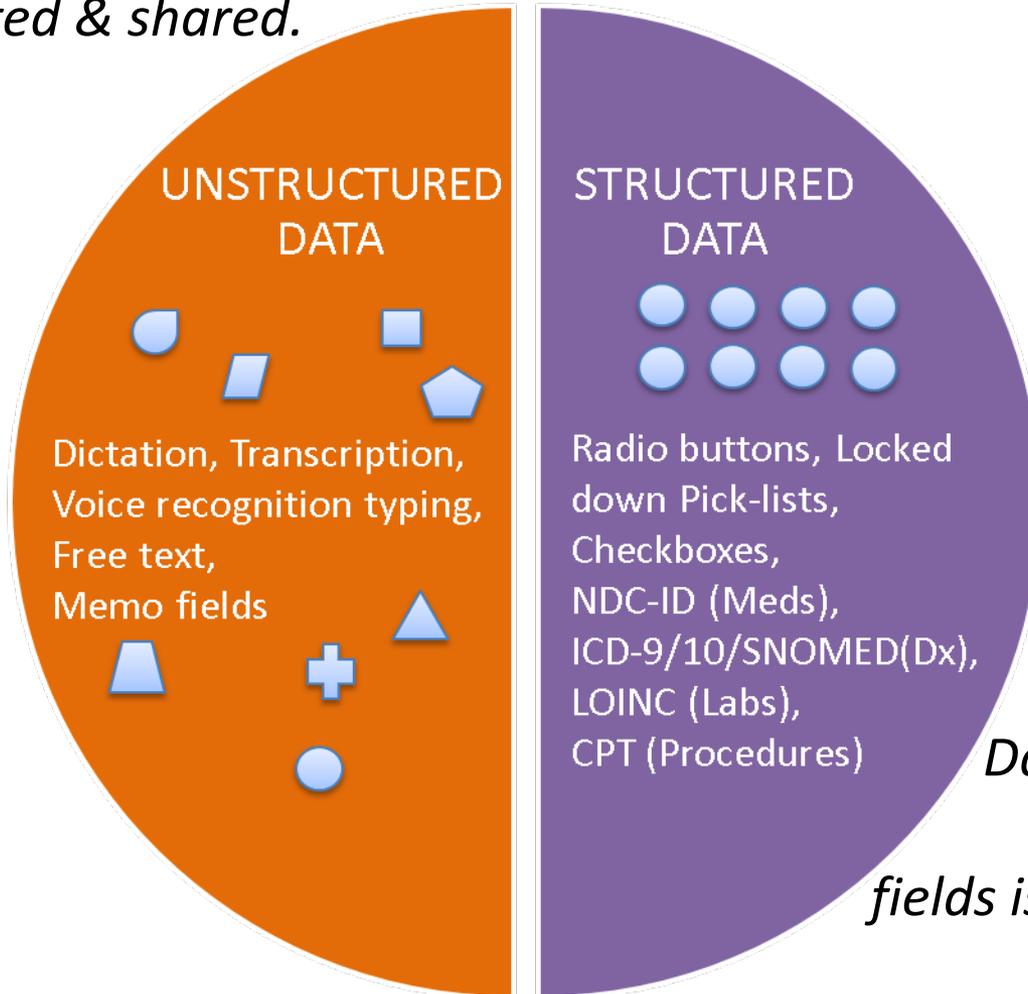


Data Quality- The Big 6

1. Unstructured Data Capture
2. Connectivity
3. Workflow Changes
4. Lab Interface or In-House Result Name Changes
5. HER/EPM Upgrades
6. Measure Definition Changes

Structured vs. Unstructured Data

There is tremendous value in recording data using a common vocabulary and methodology. Creates data which can be recognized, ordered, analyzed, reported & shared.



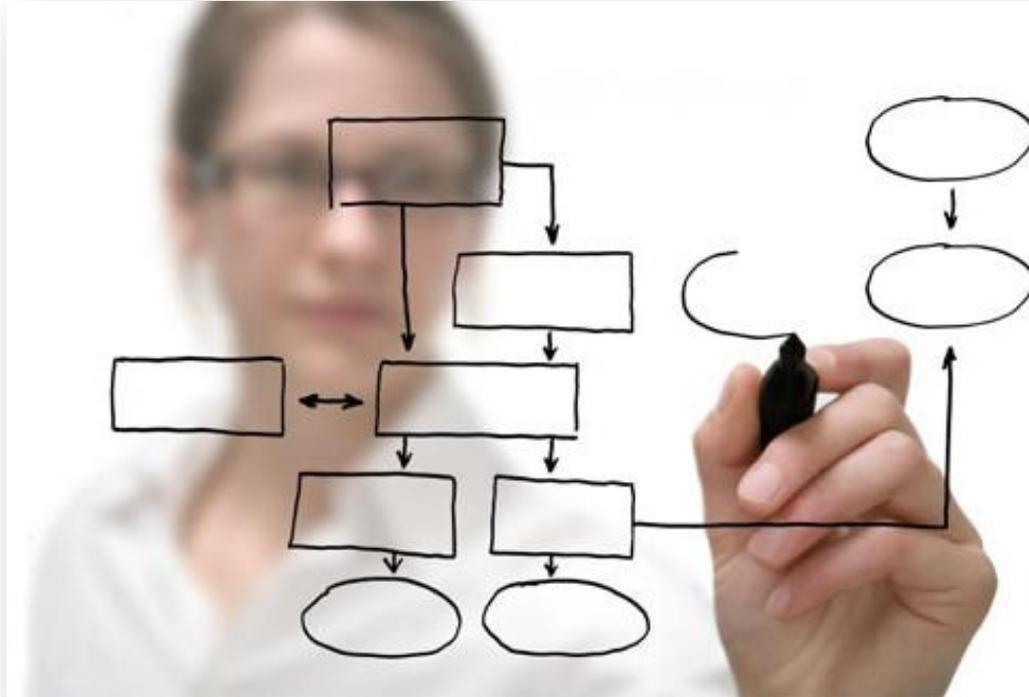
Data not captured in structured fields is not reportable.

Connectivity

- Our ability to report timely data is dependent on consistent connectivity to your systems
 - Common issues: Server migrations, firewall changes and expiring access credentials, failed replications from production cause data gaps
 - Your vendor needs to know about changes to server configurations, IP addresses, security or back-up systems that run the EHR
 - Results: Data updates don't happen, and data quality suffers
- Your vendor needs to be part of your notification process for these items

Workflow Changes

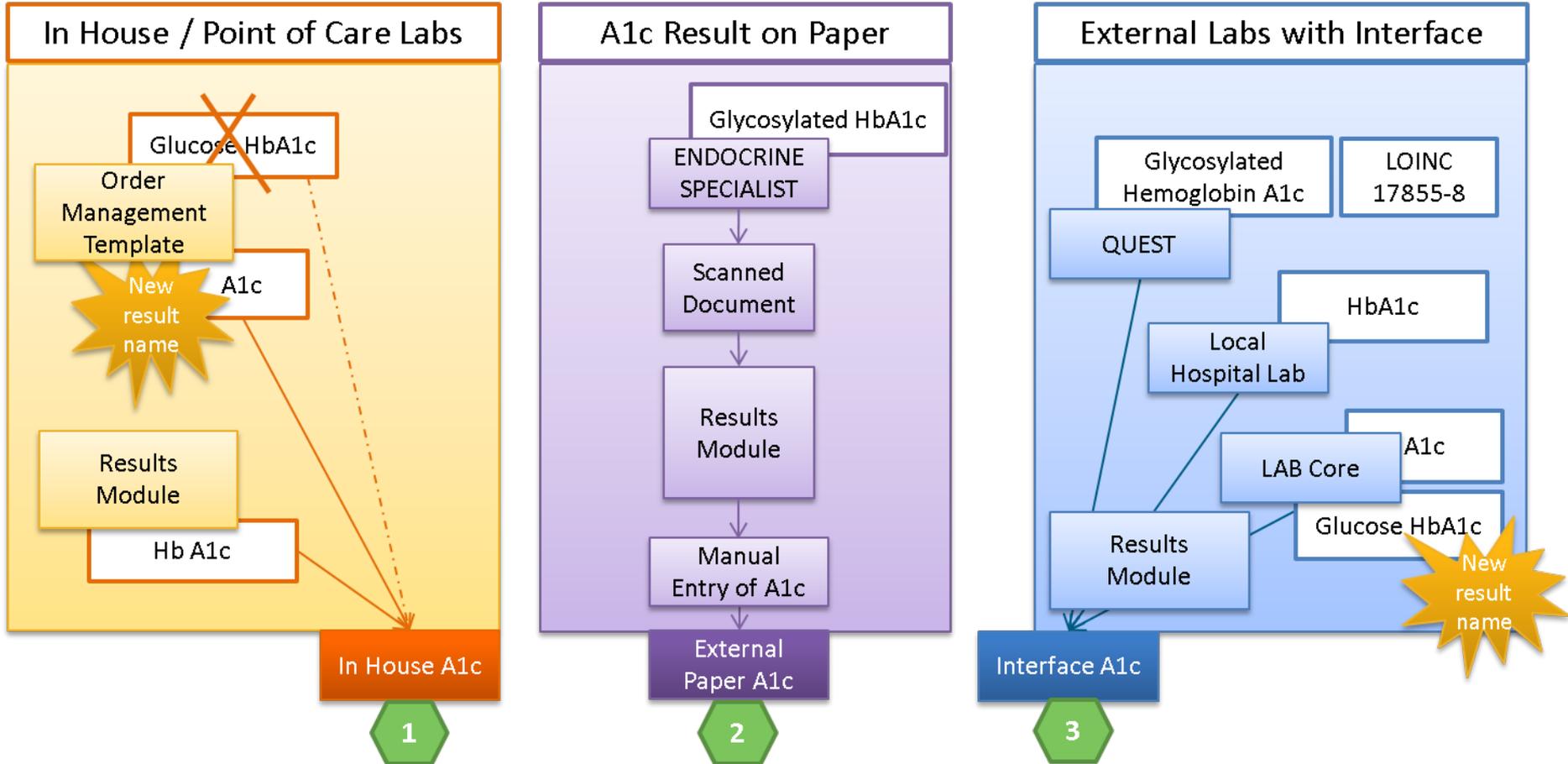
Understanding and Standardizing Workflow for a data element are different things. Rogue workflows are common.



Workflows are always migrating. Key is to keep updating them. Don't change the standard until it's agreed upon. Reporting should reflect your standard.

New Lab Interface or Result Name Changes

Lab Result names can change- either at the whim of external labs, or if you update the name of in-house labs.



Update your vendor about name changes or the code will fail to pick up new results.

EHR/EPM Upgrades

- Let your reporting vendor know 6-8 weeks beforehand, so they can help you plan for a seamless transition.
- Things to watch out for:
 - Newly created tables from newly created data elements
 - ❖ Decisions to keep custom content for HIV or other reporting or utilize new tables/fields that are now part of the product
 - Changed table names
 - New workflows or change in capture methods

Measure Definition Changes

- Annual changes to data reporting programs are the norm, and these may occur more frequently in the early stages of a new area of inquiry.
 - Do you have a place in your EHR to document all the data elements required?
 - Do you or your reporting vendor need to update measure logic to reflect changes?
 - Depending on the timing of the change – is chart audit the only method? Cost benefit analysis of

Baking Structured Data into your EHR's DNA

- Make structured data the standard to avoid the backfilling data later or relying on chart audits
- Build structured data fields for all reported data elements and other common data for care coordination to be prepared for future reporting requirements
- Train clinicians and staff to create structured data early to instill a culture of proper EHR use

The Value of Structured Data for HIV Care

- As clinical quality programs expand, particularly around HIV care, the value of structured data has improved greatly
- If you want to avoid time intensive manual chart reviews, structured data is required for any reporting platform
- Having a clear home for patient specific information reduces the time clinicians spend searching for information and allows for easy communication across care teams

When to have a structured data field:

1. Do you ask the same question to most patients with the same condition?
2. Do the responses to the question follow a set of rules (numbers, dates, positive/negative, etc.)?
3. Do the answers meet clinical standards for source and detail?

If the answer to these questions is yes, your EHR should have a place to ask and document the answer to that question as structured data

Exercise: Does this need structured data?

Question Asked to Patient	Structured Data?	Why
1) When did you get diagnosed with HIV?	YES	This date is critical. Document an onset date earlier than your intake if your center did not diagnose.
2) What activities increased your risk?	YES	Exposure risk in your population is important. Create a standardized pick list.
3) Have there been any recent illnesses? If so what and when?	MAYBE	Depends on the severity and relevance of the illness to the patient's HIV care if the illness was not diagnosed by the organization.
4) What medications are you currently on?	YES	Most reporting requires NDC, RXNorm, or some other type of code to identify medications, and using an EHR's medication module is the only way to produce these.
5) What HIV care have you received outside this facility?	NO	This can be challenging to structure, but needs to be captured from care summaries and the patient.

HIV Data Collection Phases

- P4C reporting covers a lot of different areas of HIV testing and treatment, so each area has their own structured data needs
- Structured data for P4C, and other programs, can be broken down into 3 phases:
 1. Screening/Diagnosis
 2. Intake
 3. Management
- Since the pitfalls for each phase are different we will address them separately.

HIV Structured Data Phases: Screening/Dx

- Easiest of the 3 phases to track, because it comes down to lab data which is typically structured
- Whether the center is doing a point-of-care rapid tests or sending out samples, structured data should exist for:
 - Lab type
 - Collection Date
 - Result Date
 - Result (positive/negative/unknown)

The screenshot shows a 'Lab Results' window with the following sections:

- Patient:** Status: Open (Reviewed), Provider, Facility, Assigned To, High Priority, InHouse, Future Order, Cancelled.
- Lab Information:** Lab: HIV-1 GenotypR - Sunrise, Order Date: 4/21/2015, Collection Date: 4/21/2015, Time: 01:07 PM, Reason: Received - Sunrise, Actual Fasting: Not Recorded, Ordered Fasting.
- Specimen:** Source, Description, Collection Volume, Units.
- Results:** Received Date: 4/27/2015, Result table:

Order Date	Coll. Date	HIV GENO			
04/21/2015	04/21/2015	(NOTE)			
- Assessments:** Show Specify, Notes: Addendum, 042 AIDS (acquired immunodeficiency syndrome), CD4, 284.19 Pancytopenia, 783.21 WEIGHT LOSS, ABNORMAL.
- Clinical Info:** Internal Notes: Messenger.
- Buttons:** Custom, Reports, Print, Midmark, ECG, Display Graph, Options, OK, Cancel.

HIV Structured Data Phases: Intake

Patient intake, particularly for HIV, has a lot of opportunity for structured data that is missed

Inadequate structured data fields result in important information being documented in comments fields. This is data that as well not exist for reporting

For P4C/CHC reporting the key Intake data points are:

- HIV onset date (if diagnosed elsewhere) or diagnosis date
- HIV treatment start date
- Exposure risk factors/transmission
- Sexual preference
- Sexual Orientation Gender Identity (MU and UDS)

The screenshot shows a software window titled "Hpi Hiv Initial 83" with a grey background. At the top, it says "Information on this HPI that has been pre-populated from another HPI must be changed on the original HPI to prevent conflicting documentation." Below this are several sections of checkboxes and text boxes:

- Concern:** HIV
- Date of diagnosis:** 01/01/2004
- New to Care at the Clinic:** []
- Date of initial positive test:** //
- Date of last negative test:** //
- Status:**
 - HIV positive ELISA
 - HIV positive IFA
 - HIV positive IIA
 - HIV positive OraQuick
 - HIV positive western blot
 - Patient has documentation of test
 - Prior records are available
 - Prior records are unavailable
- Prior Healthcare Status:**
 - Previously tested for HIV
- Route Of Transmission:**
 - Anal intercourse
 - Artificial insemination
 - Blood/blood product transfusion
 - Heterosexual sexual contact
 - Homosexual sexual contact
 - IV drug abuse
 - Maternal transmission
 - Needle sharing
 - Occupational incident
 - Oral sex
 - Sexual contact without condoms
 - Unknown
 - Unsterile tattoo placement
 - Vaginal intercourse
 - Other: _____
- Risk Factors:**
 - Blood transfusion
 - Hemophilia/coagulation disorder
 - Heterosexual contact
 - History of STIs
 - Injecting drug use (IDU)
 - Lack of condom use
 - Male who has sex with male(s)
 - Multiple sexual partners
 - Non-injecting drug abuse
 - Occupational hazard
 - Perinatal transmission
 - Sharing needles
 - Unsterile piercing
 - Unsterile tattoo placement
 - Other: _____
- AIDS Defining Criteria:**
 - CD4 < 200
 - Candidiasis of bronchi, trachea, or lungs
 - Candidiasis, esophageal
 - Cervical cancer, invasive
 - Coccidioidomycosis, disseminated or extrapulmonary
 - Cryptococcosis, extrapulmonary
 - Cryptosporidiosis, chronic intestinal (greater than 1 month's duration)
 - Cytomegalovirus disease (other than liver, spleen, or nodes)
 - Cytomegalovirus retinitis (with loss of vision)
 - Encephalopathy, HIV-related
 - Herpes simplex: chronic ulcer(s) or bronchitis, pneumonitis, or esophagitis
 - Histoplasmosis, disseminated or extrapulmonary
 - Isosporiasis, chronic intestinal (greater than 1 month's duration)
 - Kaposi's sarcoma
 - Lymphoma, Burkitt's (or equivalent term)
 - Lymphoma, immunoblastic (or equivalent term)
 - Lymphoma, primary of brain
 - Mycobacterium Avium complex, disseminated or extrapulmonary
 - Mycobacterium Kansasi, disseminated or extrapulmonary
 - Mycobacterium tuberculosis, any site
 - Mycobacterium, other or unidentified species, disseminated or extrapulmonary
 - Pneumocystis Carinii pneumonia
 - Pneumonia, recurrent
 - Progressive multifocal leukoencephalopathy
 - Salmonella septicemia, recurrent
 - Toxoplasmosis of brain
 - Wasting syndrome due to HIV
 - None
- Associated Symptoms/Pertinent Negatives:**
 - No associated symptoms
 - No pertinent negatives
 - All others negative

No	Yes	No	Yes	No	Yes	No	Yes	Other associated symptoms:
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Abdominal pain	<input type="radio"/> Dyspnea	<input type="radio"/> Lymphadenopathy	<input type="radio"/> Penile discharge	<input type="radio"/> Vaginal discharge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Anxiety	<input type="radio"/> Early satiety	<input type="radio"/> Memory impairment	<input type="radio"/> Pigment change	<input type="radio"/> Vision changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Chills	<input type="radio"/> Fatigue	<input type="radio"/> Myalgia	<input type="radio"/> Rash	<input type="radio"/> Vomiting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Cough	<input type="radio"/> Fever	<input type="radio"/> Nausea	<input type="radio"/> Rectal discharge	<input type="radio"/> Weight gain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Depressed mood	<input type="radio"/> Headache	<input type="radio"/> Night sweats	<input type="radio"/> Sore throat	<input type="radio"/> Weight loss	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	_____
<input type="radio"/> Diarrhea	<input type="radio"/> Insomnia	<input type="radio"/> Oral thrush	<input type="radio"/> Urethral discharge					_____

HIV Data Phases: Management

- Managing HIV care in the long term relies on cross-team coordination
- Using nationally recognized coding for Labs (LOINC- Logical Object Identifiers Names and Codes) and Medications (NDC/RxNorm) improves long term reporting accuracy
- For P4C the key areas in management are
 - Labs (CD4, Viral Load, Baseline Resistance)
 - Medications (ARVs, other STD treatment)
 - Care Coordination (Care Received Elsewhere)
- Other HIV reporting grants want:
 - Self-Management Goals/ Patient Education
 - Dental visits, Behavioral Health, Nutrition
 - Greater specificity for HIV population

The screenshot displays a medical software interface for HIV Care Coordinator management. The window title is "HPI (TEST, AMELIA - 01/26/2016 12:00 PM, ANN)". The interface is divided into several sections:

- Left Panel:** A navigation tree with categories such as Diet/Exercise, ENDOCRINOLOGY, HEMATOLOGY, HEPATITIS C, HIV, INFECTIOUS DISEA, MALE REPRODUCTI, NEUROLOGY, FOLLC, NURSING VISIT, and NUTRITION. The "HIV" category is expanded, showing sub-items like Care Coordinator, HIV F/U, HIV Follow-Up, HIV Initial, HIV Mental Health, HIV SCREEN, Medication adheren, and P4C Treatment A.
- Top Panel:** A header for "HIV/Care Coordinator" with a "Show popup for c/o" checkbox and "Order Categories" dropdown. Below this is a table with columns: "1 Year", "TB screening", "Care Planning", "HIV SCREEN", and "Care Coordinator".
- Table:** A table with columns "c/o", "denie", "Symptom", "Duration", "Notes", and "Cle". The "Symptom" column contains various clinical items, each with a red "X" in the "Cle" column, indicating they are not completed. These items include: Referred by:, Date of HIV Dx:, Dates of pri, HIV risk:, CDC stage (at time of admis:, CDC 4 Nadir, VL Max, Active Symptoms/illness, Past Medical History - HIV sp, Prior ARV history, and Prior ARV estimated adheren.
- Buttons:** "Denies All", "Clear All", and "Custom" buttons are located below the table.
- Notes Section:** A section for "Notes" with checkboxes for "Header" and "Footer", and buttons for "Browse...", "Spell check", and "Clear".
- Bottom Panel:** A section for "HEPATITIS C" and "HIV" with a list of screening questions, each with a red "X" in the "Cle" column. These questions include: Mental Health Hx:, Cognitive Exam:, Depression Screen:, Suicide/Homicide Screen:, Anxiety Screen, PTSD Screen, Psychosis Screen, Bipolar Mania Screen, and Family Hx Mental Illness Scr.

Data Challenges

Labs

- LOINC vs. order name
- Standardizing lab results to calculate result-based measures
- Lab result overrides are complicated in general though because there are a wide variety of ways different labs record test results. To identify all the patients which had a positive genital chlamydia test, there are 2 parts to the equation:
 - 1. All the different tests that could be performed to check for genital chlamydia
 - Somewhat resolved with LOINC
 - 2. All the different ways test results could be recorded by the lab
 - The concept "positive for chlamydia" could be recorded as many different things at one center (real results).
- Each of these various test results need to be mapped as a "positive":
 - positive
 - positive CT
 - positive chlamydia
 - Presumptive Positive
 - pos
 - abnormal
 - Pt recalled for tx.
 - CT +
 - +CT
 - Chlamydia+
 - Detected
 - Chlamydia Detected
 - NILM, satisfactory for eval, EC component present,
 - RECALLED FOR TX OF CHLAMYDIA
 - >=1:512

Data Challenges

- Medications (NDC/RxNorm vs. Free text)
 - Getting an accurate picture of what medications a patient is on
 - Need to capture all medications via medication reconciliation even if prescribed elsewhere
 - System differences in handling medications prescribed elsewhere
- Self-Management Goals/ Patient Education (specific education about topics, appetite and diet vs. nutrition in general)
- Care Coordination- dental visits, behavioral health (mental health checks PTSD for example), etc.

P4C Alignment with other HIV initiatives

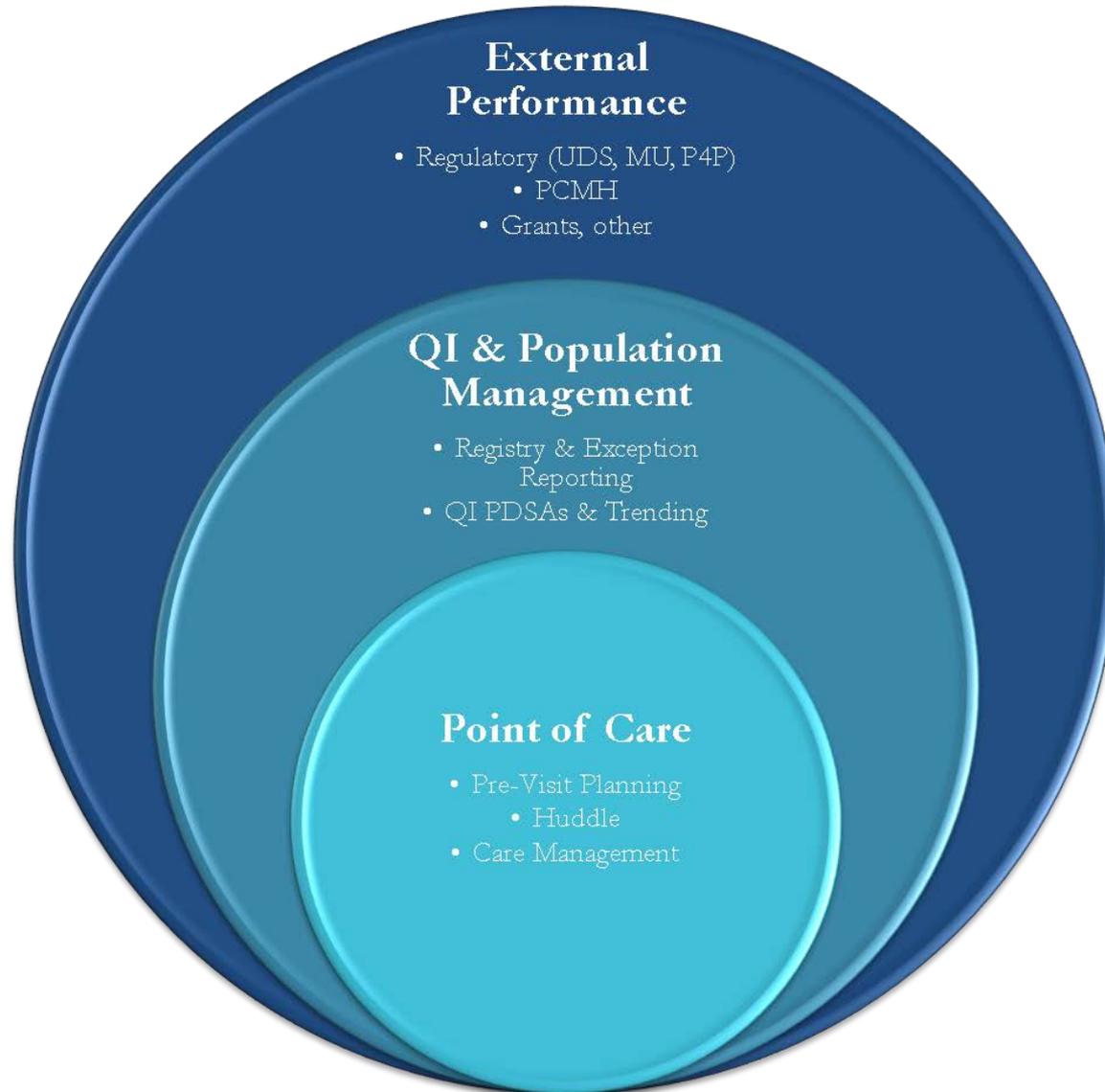
UDS, New York AIDS Institute and HIVQual

- For the provision of routine HIV testing (one of several expected services), There is some alignment with USPTF (United State Preventative Task Force) on guidelines and intent (e.g., lifetime testing, focuses on ages 15-65) for both project implementation and evaluation
- There is some alignment between P4C evaluation measures with UDS (definition of a visit, Table 6b Newly Diagnosed HIV Pts/Linkage to Care)
- To date there has been no focus on reviewing P4C relative to HIVQual though there are likely overlaps (e.g., viral load measures)



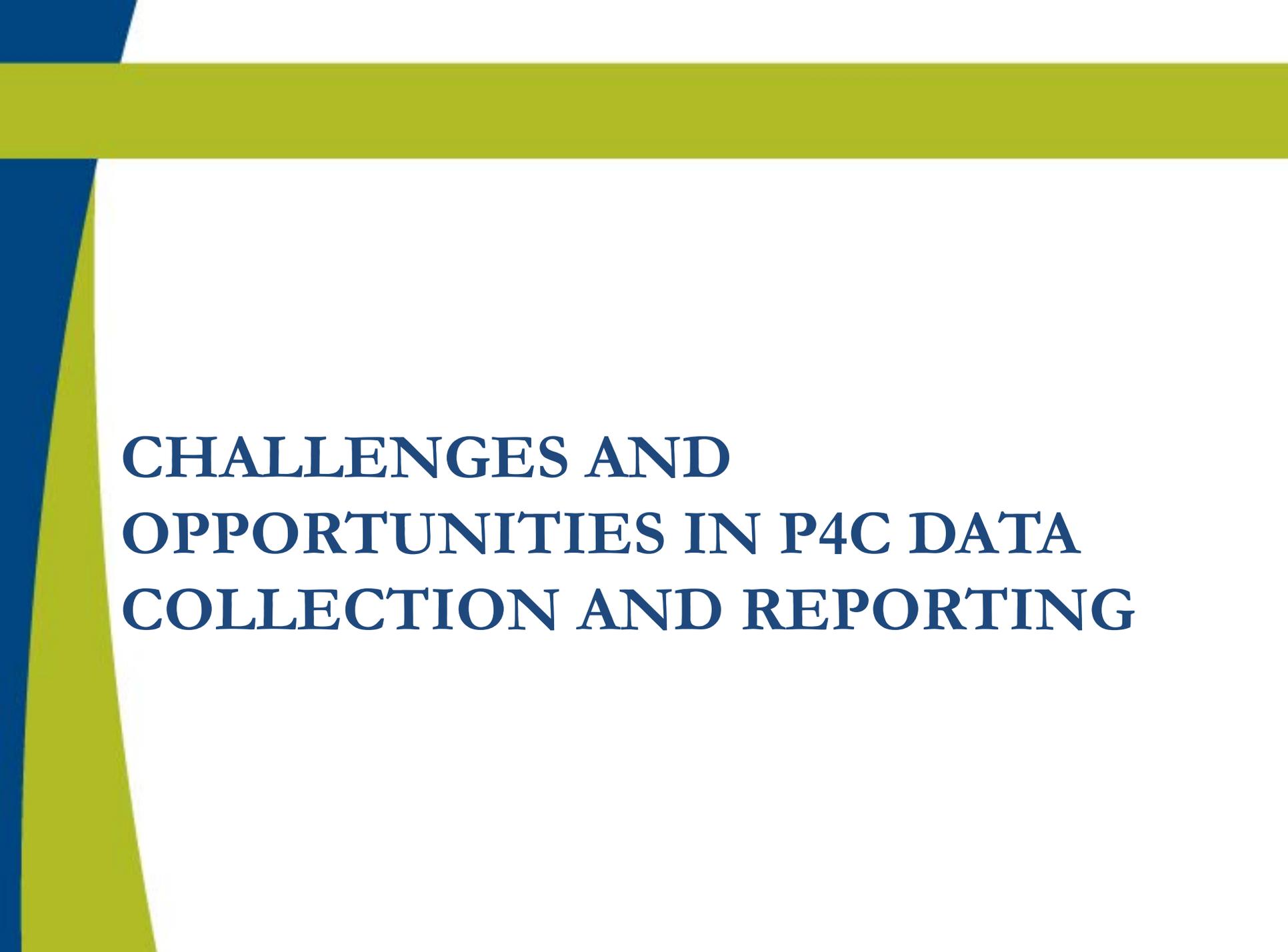
MEASURE AND REPORTING TOOLS

Three Layers of Data Quality



P4C Measure Scorecards

		Measure	Result
		HC1.1 HIV Testing Lifetime	18.6 %
		HC1.2 HIV Testing at Medical Visit Reporting Period	8.7 %
		HC1.3 HIV Testing at Non-Medical Visit Reporting Period	0.1 %
		HC2.1 New HIV Diagnoses	0.3 %
		HC2.2 New HIV Diagnoses 90 Day Offset	0.3 %
		HC3.1 New HIV Diagnoses w/ Follow-up	83.5 %
		HC4.1 New HIV Diagnoses w/ Risk Reduction	0.0 %
		HC4.2 New HIV Diagnoses w/ STD Screen	11.3 %
		HC6.1 HIV Patients w/ ART Meds	68.6 %
		HC5.1 Retention in Care	59.8 %
		HC8.1 HIV Medical Care	97.3 %
		HC8.2 HIV Positive Patients	1.1 %
		HC7.1 Viral Load < 200	30.1 %
		HC7.2 Viral Load < 75	28.2 %



CHALLENGES AND OPPORTUNITIES IN P4C DATA COLLECTION AND REPORTING

Chart Audits vs. Electronic Reporting

- How did P4C practices predominantly report P4C data and why?
- What resources were needed to make P4C reporting possible in your centers?

Visit Definitions and Exclusions

Medical Visit (medical provider)

- Intended to follow the same definition as applies for UDS (e.g., Face-to-Face, no Telephone/Web encounters, no lab only encounters)
- A medical visit is intended to be any medical provider – both primary care and specialty care
 - Examples specialties to include: Adult Medicine, Pediatrics, Family Medicine, Infectious Disease
 - Infectious Disease Patients (might not count these patients for UDS, but would definitely count them in Medical for P4C)
 - Difference between Primary Care and Medical

Non-medical visit (non-medical provider)

- Examples include: Dental providers, Behavioral Health Providers, Rehab providers, Case management
- Additional examples of visits to include / exclude:
 - Exclude: patient visits a lab on their own accord and requests an HIV screen (meaning the lab was not ordered by a provider at the health center for them)
 - Include: patient getting blood drawn for cholesterol (ordered by health center provider) and requests an HIV test during the blood draw
 - Difference is initiation by health center vs. patient

Practice Experience of Challenges?

- Did you encounter issues with defining a medical visit or including/excluding Infections Disease or HIV Screenings?
- Did you have to re-write, re-do, or ask your reporting vendor to make changes?

Sexual Orientation and Gender Identity

- To make things simpler, the focus for P4C data collection is gender vs. sexual orientation.
 - Sexual orientation and practices are considered in risk/exposure
 - Gender itself is not simple and we need standard workflows and guidelines for its capture, especially for the transgender population

Discussion about Gender Capture

- Does your practice differentiate between natal gender and post-surgical gender? What about phases of transgender evolution and surgery?
- How (what fields are used and which templates)?
- Who captures this information in the practice?
- How does this impact testing requirements?

Questions?

Next Webinar in Series:

Identifying Data and Reports
Needed for Quality Improvement
in Care Systems and
Accountability for Performance
Outcomes Supporting P4C Goals

Tuesday, April 26, 1-2PM ET

Heather Budd

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Good health. Right around the corner.

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www.massleague.org

The logo consists of a green arc above the text. The text is arranged in two lines: "Massachusetts League" on the top line and "of Community Health Centers" on the bottom line, both in a serif font.
Massachusetts League
of Community Health Centers

Thank you for participating in this CoP Webinar.

We hope that you are able to find the information provided useful as you continue your P4C project.

We ask that you take a few moments to complete the feedback survey you will receive when you close out of this webinar.

Thank you for participating in today's CoP webinar

If you have any additional questions, please email us:
P4CHIVTAC@mayatech.com