

# HIV and STI Surveillance Data Systems Linkage in Four Health Departments

*Results and Lessons Learned*

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ON HIV CARE & TREATMENT

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# Learning Objectives

At the conclusion of this activity, participants will be able to:

1. Provide an approach for assessing the linkage of HIV and STI surveillance data systems
2. Describe results of HIV and STI surveillance data linkage over 10 time points
3. Summarize lessons learned from the linkage of HIV and STI surveillance data systems in four unique health departments

- Project background
- Measure development
- Assessing HIV and STI surveillance data systems linkage and data quality
  - Processes & procedures
  - Barriers & facilitators
  - Navigating obstacles
- Use of linked data
- Considerations

# Project Background

- The Health Resources and Services Administration (HRSA) funded technical assistance (TA) to health departments (HDs) to improve matching and utilization of their HIV and STI surveillance data
- Benefits of linking HIV and STI surveillance data
  - Aid HDs in identifying people with HIV who are coinfecting
  - Enhance outreach efforts and linkage to care
  - Improve health outcomes
- Collaborated with HDs and TA provider to develop a set of measures to track TA impact and facilitate quality improvement

# Measure Domains

- Aimed to capture HIV surveillance, STI surveillance, and data systems measures
- Grouped into two domains:

## HIV/STI Outcome Measures

- HIV care and treatment continuum
- STI surveillance
- HIV/STI coinfection
- Partner outreach

## Implementation Measures

- Linkage between HIV/STI surveillance data
  - Frequency
  - Results
  - Data quality

# Measure Development & Refinement

## Initial list

- Developed initial set of measures to capture HD-level information
- Used HRSA HAB performance and CDC measures and definitions, also developed measures specific to the evaluation

## Review

- Reviewed and vetted initial list of measures with the HDs to determine feasibility and data availability

## Refinement

- Refined measure definitions and reduced number of measures through a series of calls with each HD and the TA provider
- Established a final set of measures to be collected quarterly from the HDs

## Pilot testing

- Pilot-tested measures and provided feedback to each HD
- Collected information on HDs' ability to adhere to measure definitions and any needed modifications



**Created shared learning and collaboration** across the surveillance and Ryan White programs from the onset of the project.

Process had generated more **routine quality control** in the HIV and STI surveillance systems.



## Process led to...

- Identification of duplicates
- Enhanced client records between systems
- Identification of coinfections



# Measure Development & Refinement

Phase One	Phase One (2)	Phase Two
HIV/STI outcome measures	Implementation measures	Additional HIV/STI outcome measures
HIV viral load suppression	Electronic matching of HIV/STI surveillance data	Late HIV diagnoses
Retention in care	Linkage rate	Treatment for syphilis
Linkage to HIV medical care	Exact matches	Partner contact attempts (HIV)
Not in care	Fuzzy matches	Linkage to care of partners (HIV)
Reengaged in care	Systematic data quality checks	Partner contact attempts (syphilis)
People newly diagnosed with HIV	Updates to client records (first, last, or middle name)	Linkage to care of partners (syphilis)
Partner identification (HIV)	Updates to client records (home address)	Chlamydia coinfection
People newly diagnosed with syphilis	Updates to client records (contact information)	Gonorrhea coinfection
Partner identification (syphilis)	Updates to client records (other - e.g., risk, lab information)	Syphilis coinfection

# Measure Development & Refinement 2

Phase One	Phase One (2)	Phase Two
<b>HIV/STI outcome measures</b>	<b>Implementation measures</b>	<b>Additional HIV/STI outcome measures</b>
HIV viral load suppression	Electronic matching of HIV/STI surveillance data	Late HIV diagnoses
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Partner identification (syphilis)	Updates to client records (other - e.g., risk, lab information)	Syphilis coinfection

# Measure Development & Refinement 3

Phase One	Phase One (2)	Phase Two
<b>HIV/STI outcome measures</b>	<b>Implementation measures</b>	<b>Additional HIV/STI outcome measures</b>
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# Measure Development & Refinement 4

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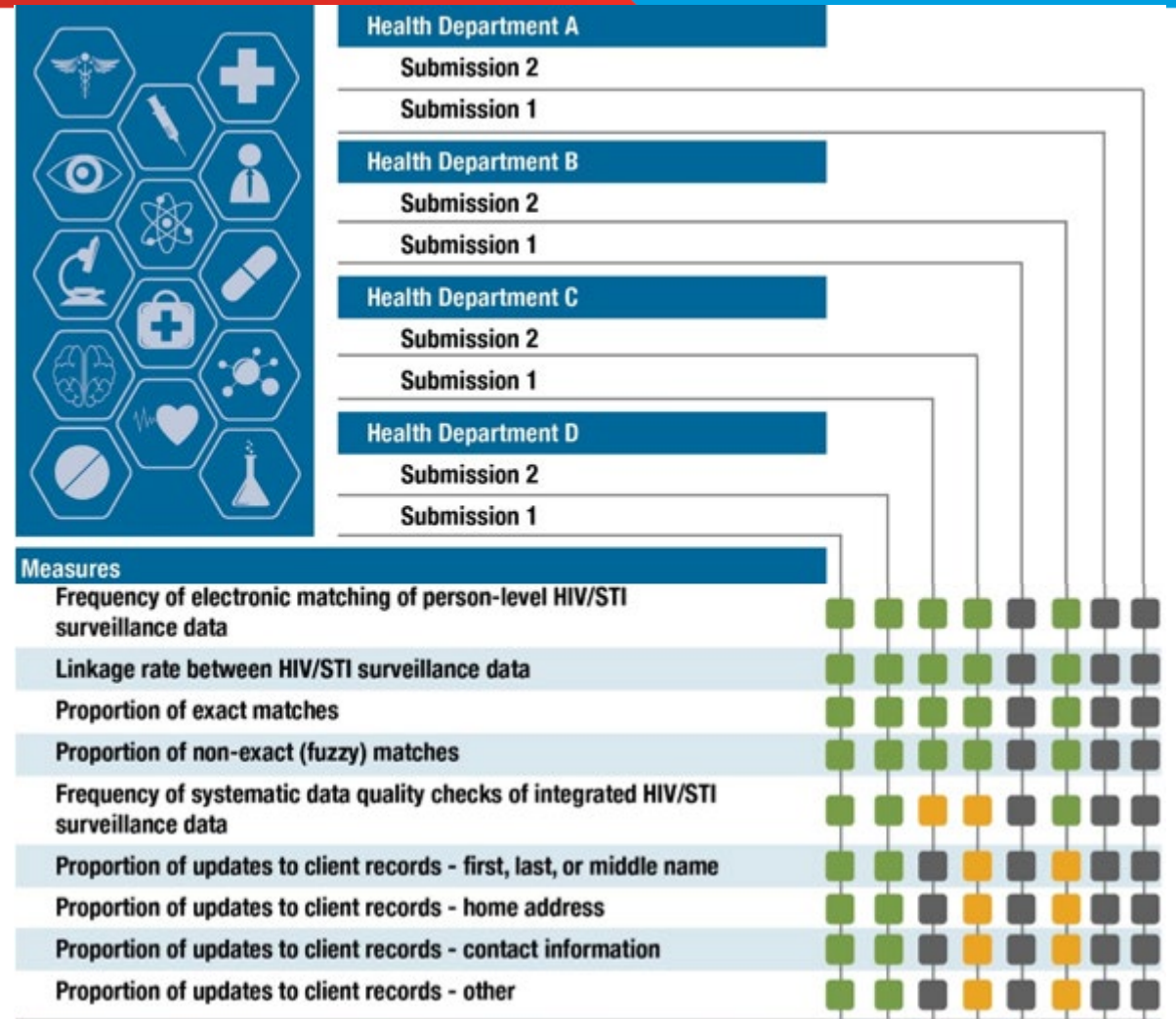
# Processes & Procedures

- Six data uploads over a 16-month period
- Frequent reminders
- Monthly check-in calls
- Data quality review & feedback
  - Annotated Excel & summarized clarification table
  - TA provider support
  - Resubmissions if necessary

# Data Quality

## Assessing HIV and STI surveillance data systems linkage and data quality

- Good quality; no major concerns, clarifications or discrepancies
- Fair quality; some discrepancies and clarifications needed
- Poor quality; significant discrepancies and clarifications or clarifications still outstanding
- Quality cannot be assessed - data not submitted



# Barriers to Data Reporting

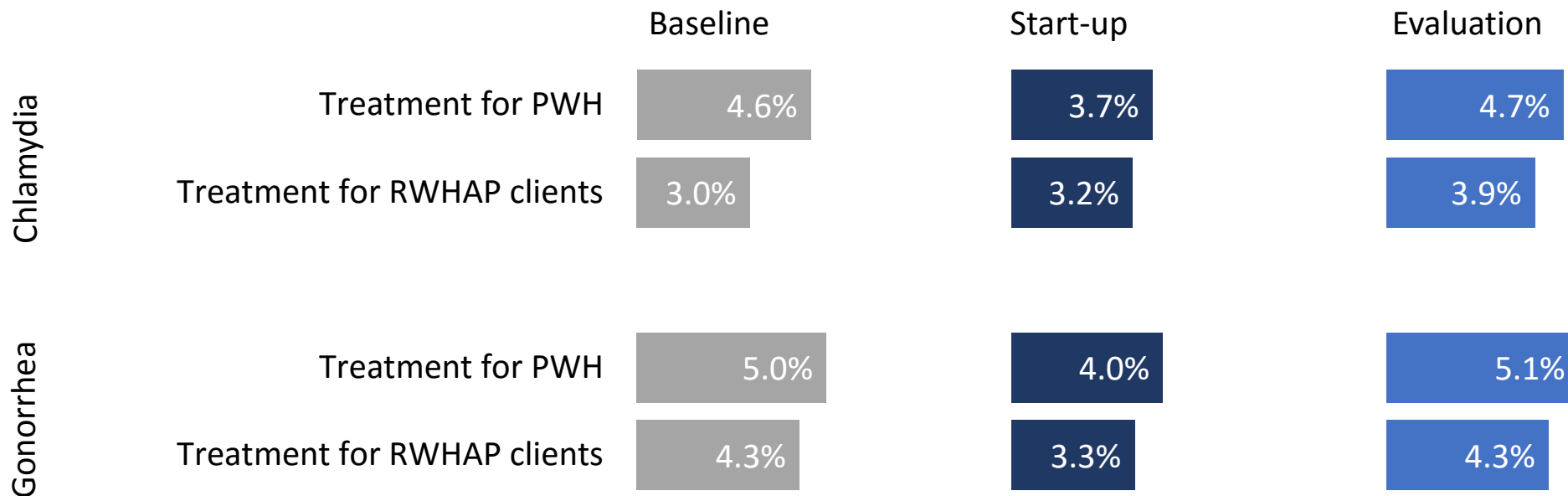
- Generating HD buy-in
- Balancing evolving TA
- Competing project priorities
- Technical & reporting capacity
- Staffing constraints (e.g., turnover, reassignments)

# Variations in Reporting Capacity

## STI Testing & Treatment

STI testing and treatment – beyond syphilis  
 HD1  HD2  HD3  HD4

HDs had to coordinate with local health centers to gather and report on STI test, diagnosis, and treatment data beyond syphilis (1 of the 2 HDs' results displayed below)





# Variations in Reporting Capacity

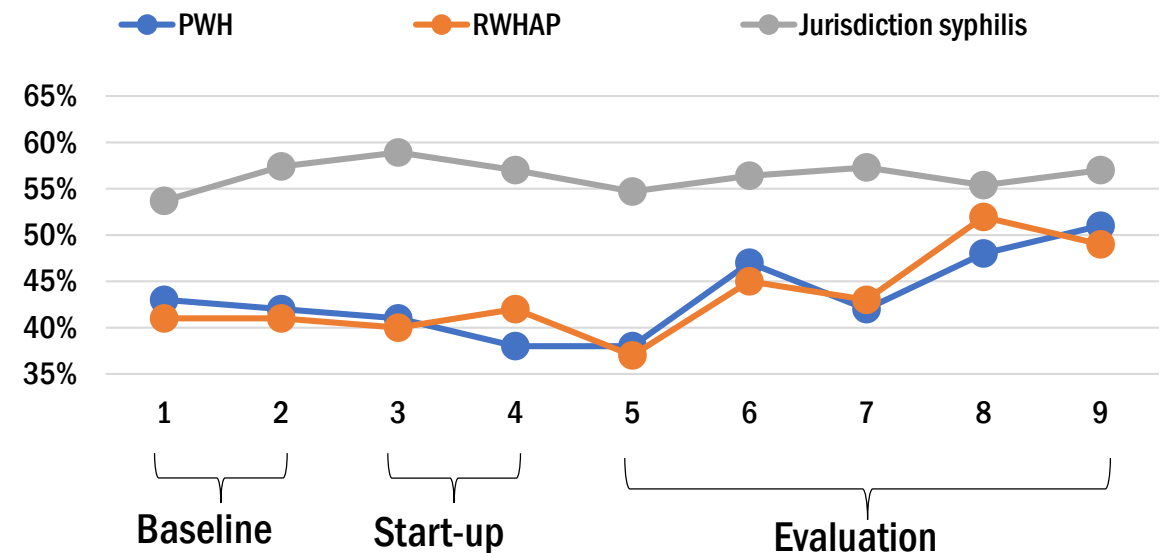
## Partner Data

Partner identification, contact attempts, linkage to care – most variation!

Partner follow-up for new HIV & new syphilis diagnoses

Partners...	Phase	HD 1	HD 2	HD 3	HD 4
Identified	1	x	●	●	●
Contacted	2	x	x	x	x
Linked to care	2	X	x	●	●

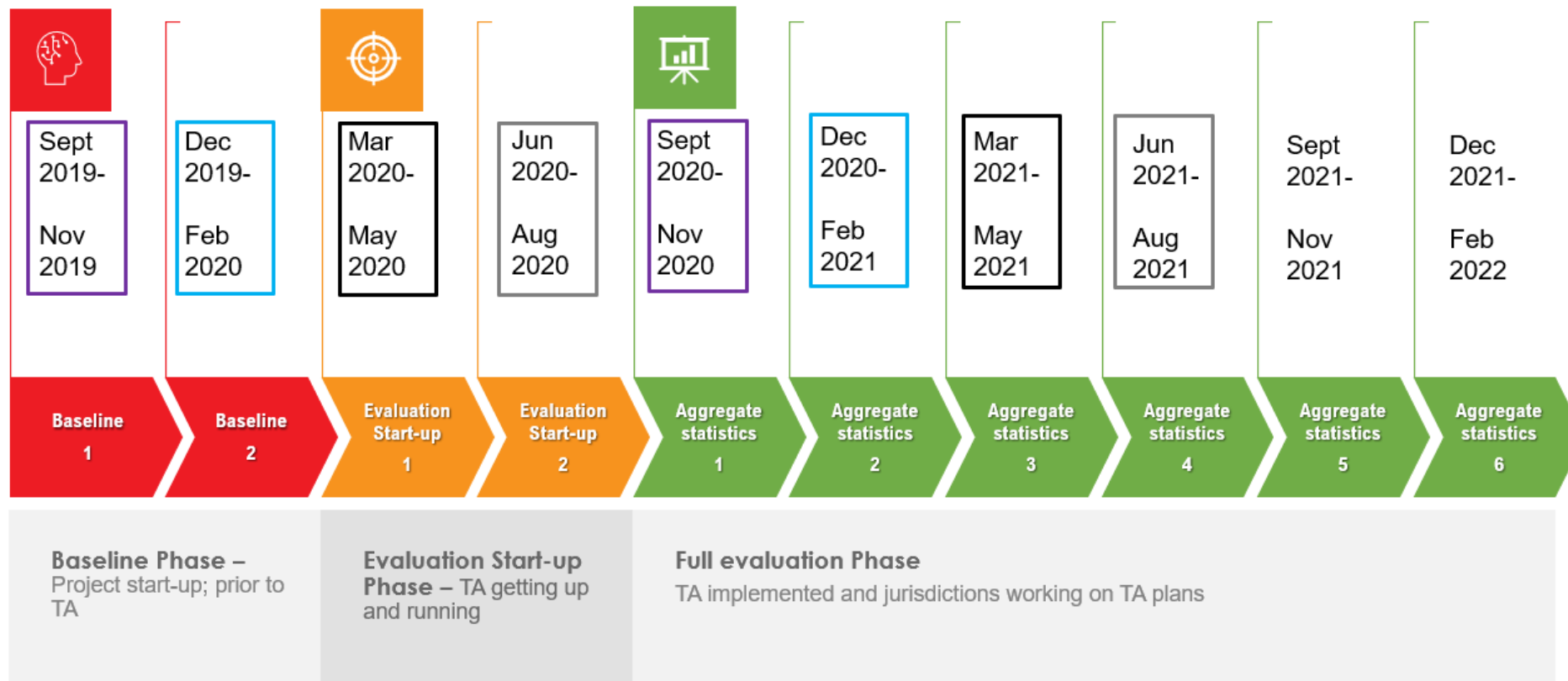
Linkage to care of partners for new diagnoses in one HD



# Facilitators to Data Reporting

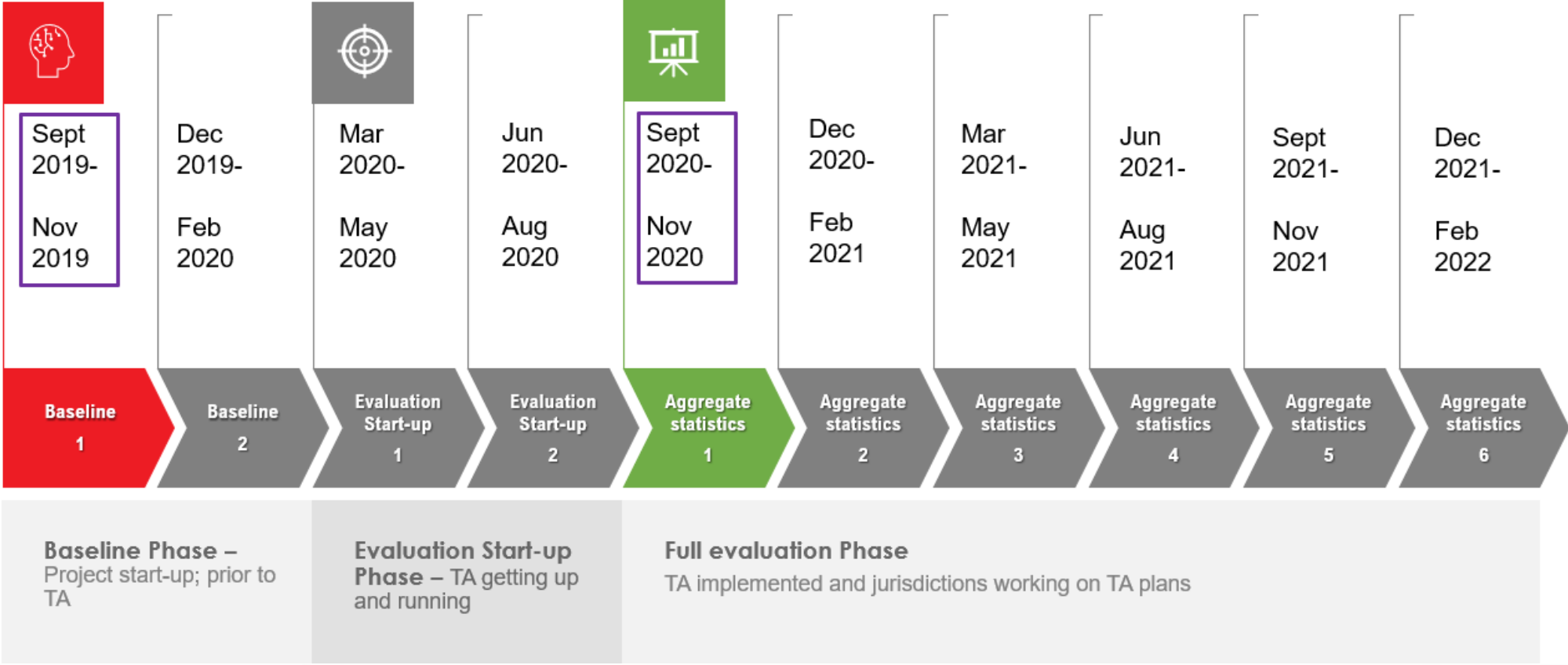
- Resource documents
  - Excel reporting template
  - Frequently asked questions (FAQs) live document
  - Data collection timeline
  - Reporting timeframe cheat sheet
- Flexibility
- Phased approach

## Project Timeline and Aggregate Statistics Timeframes



# Resources 2

## What is due on February 26, 2021?



# Resources 3

## What do we submit?

### Baseline 1



- Phase 1 Reporting Template
- Phase 1 & 2 TA Measures Template

### Aggregate Statistics 1



- Phase 1 Reporting Template
- Phase 1 & 2 TA Measures Template

# Resources 4

## What are the data timeframes?

### Aggregate Statistics Timeframe Cheat Sheet

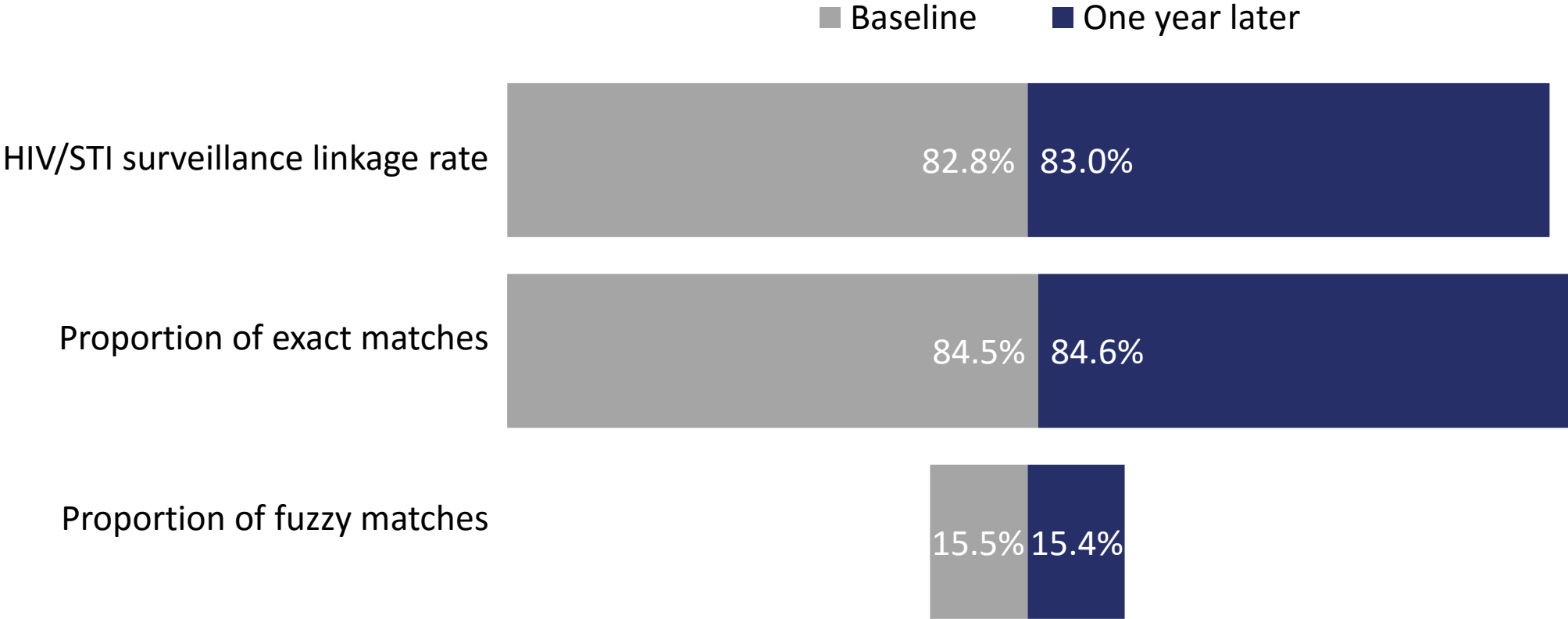
Due 2/26 – Aggregate Statistics 1 and Baseline 1:		
Submit 2 Excel documents: 1 containing Aggregate Statistics 1, the other containing Baseline 1		
Each Excel document should contain two completed sheets: Phase 1 Reporting Template and Phase 1 & 2 TA Measures Template		
<b>Aggregate Statistics 1</b>		
Measure	Numerator	Denominator
Virally suppressed	Virally suppressed on 9/30/20	PLWH as of 9/30/19; separately RWHAP clients as of 9/30/19
Retained in care	Retained in care on 9/30/20	PLWH as of 9/30/19; separately RWHAP clients as of 9/30/19
Linked to HIV medical care	Linked to HIV medical care on 9/30/20	PLWH as of 9/30/19; separately RWHAP clients as of 9/30/19
Not in care	Not in care on 9/30/20	PLWH as of 9/30/19; separately RWHAP clients as of 9/30/19
Reengaged in care	Reengaged in care on 9/30/20	PLWH as of 9/30/18; separately RWHAP clients as of 9/30/18
Persons newly diagnosed with HIV	Number of persons newly diagnosed with HIV between 9/1/20 and 11/30/20, jurisdiction-level	
Persons newly diagnosed with syphilis	Number of persons newly diagnosed with syphilis between 9/1/20 and 11/30/20, separately for PLWH and RWHAP clients	
Partners identified by persons newly diagnosed with HIV	Persons newly diagnosed who did not consent to partner services between 9/1/20 and 11/30/20, separately for PLWH and RWHAP clients	Number of persons newly diagnosed with HIV who consented to partner services between 9/1/20 and 11/30/20, separately for PLWH and RWHAP clients
Partners identified by person newly diagnosed with syphilis	Persons newly diagnosed who did not consent to partner services between 9/1/20 and 11/30/20, jurisdiction-level	Number of persons newly diagnosed with syphilis who consented to partner services between 9/1/20 and 11/30/20, jurisdiction-level
TA focus area measures	All measures to be reported for the timeframe 9/1/20-11/30/20	

**Note:** Please report N/A within the template for measures that are not applicable or still in process (as indicated in measure definitions Excel). These primarily apply to TA focus area measures.

# Implementation Measures

## Routine Reporting

In one HD, the frequency of electronic matching of HIV/STI surveillance data occurred **weekly**.



# Implementation Measures

## Routine Reporting 2

### Electronic matching of HIV/STI surveillance data

#### Frequency

Baseline 1	More than Quarterly
Baseline 2	More than Quarterly
Evaluation 1	Daily
Evaluation 2	Daily

#### Exact matches

Baseline 1	N/A
Baseline 2	N/A
Evaluation 1	98.28%
Evaluation 2	99.97%

#### Fuzzy matches

Baseline 1	N/A
Baseline 2	N/A
Evaluation 1	1.72%
Evaluation 2	0.03%

- Progress in reporting capacity
  - Example from one HD
  - Two baseline reports compared to two evaluation reports one year later



# Implementation Measures

## Routine Reporting 3

### Fuzzy matches

Baseline 1	N/A
Baseline 2	N/A
Evaluation 1	1.72%
Evaluation 2	0.03%

### Fuzzy matches that were removed (duplicates)

Baseline 1	N/A
Baseline 2	N/A
Evaluation 1	25.48%
Evaluation 2	27.27%

### Fuzzy matches that were kept (new profile created)

Baseline 1	N/A
Baseline 2	N/A
Evaluation 1	74.52%
Evaluation 2	72.73%

- Flexibility with measures

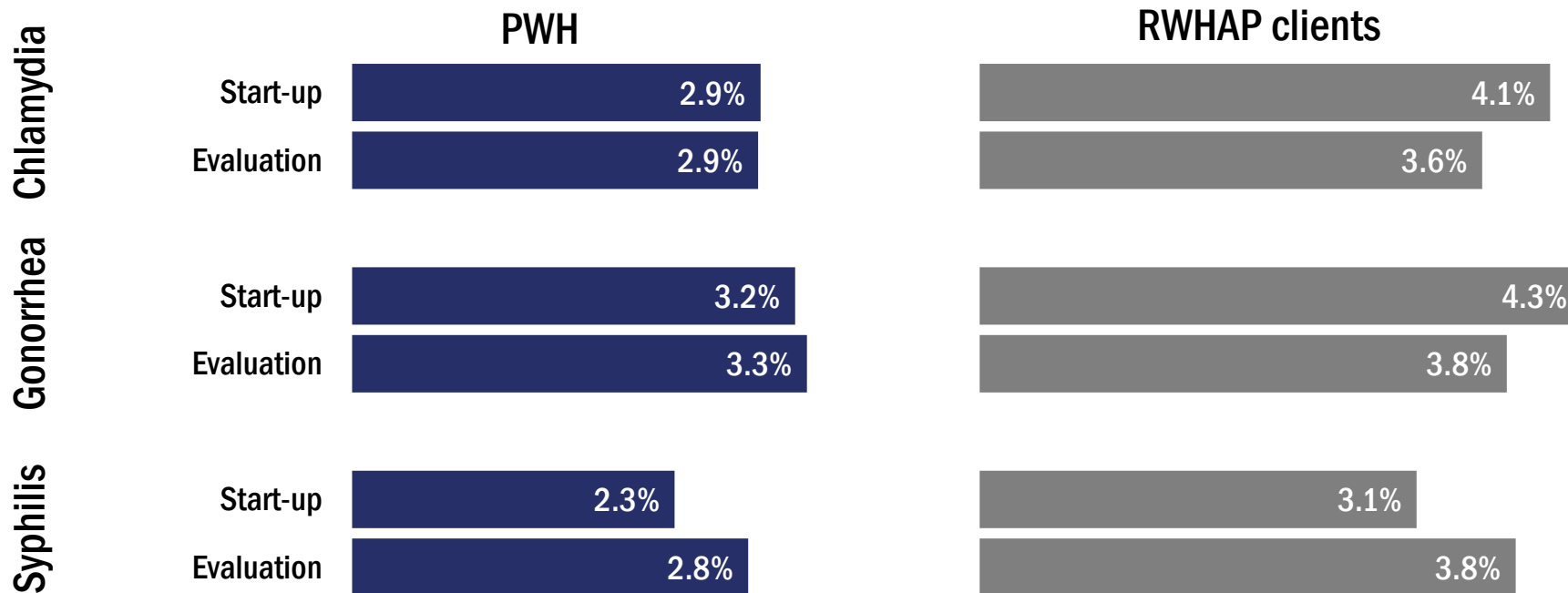
# Variations in Reporting Capacity

## Phased Approach

STI Coinfection

HD1  HD2  HD3  HD4

3 out of 4 HDs (one displayed here), reported on STI coinfection rates during Phase 2



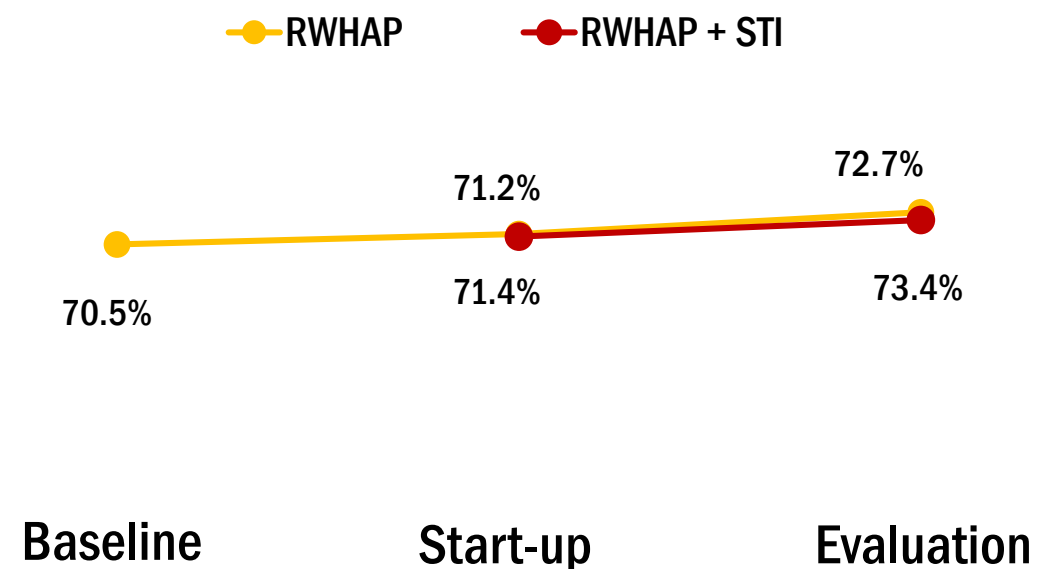
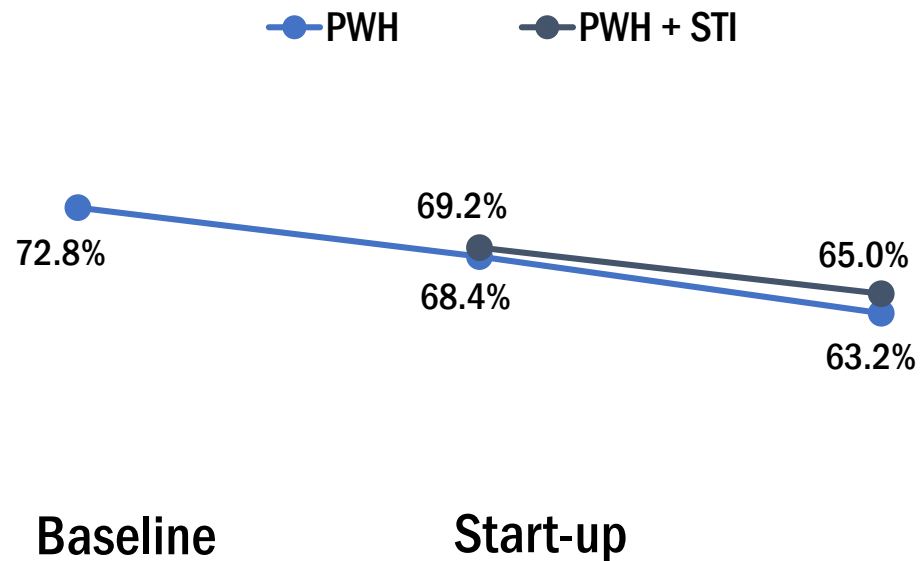
# Variations in Reporting Capacity

## Phased Approach 2

Reporting on additional subpopulations

HD1  HD2  HD3  HD4

HDs reported additional subpopulations of PWH and RWHAP clients in Phase 2  
1 of the 3 HDs' **retention in care** results displayed below



# Use of Linked Data

## Internal Data Users

- HIV Surveillance Staff
- STI Surveillance Staff
- Disease Intervention Specialists
- Data to Care Coordinators
- Linkage to Care and Treatment Coordinators
- County and Regional Linkage Staff
- Field Operations Staff
- Public Health Advisors and Analysts
- Field Epidemiologists
- Data Managers and Analysts

# Use of Linked Data

Accurate, complete, timely information

- We surveyed internal HD linked data users...
  - 70.4% agreed or strongly agreed that the data systems contained **accurate information**
  - 47.2% agreed or strongly agreed that the data systems used contained **complete information**
  - 52.0% agreed or strongly agreed that the data systems used contained up-to-date or **timely information**

# Use of Linked Data

## Broad Planning

- HDs used linked data to help guide resources needs:
  - HIV or STI incidence
  - Demographic groups
  - Geographic regions
  - Access to care challenges

# Use of Linked Data

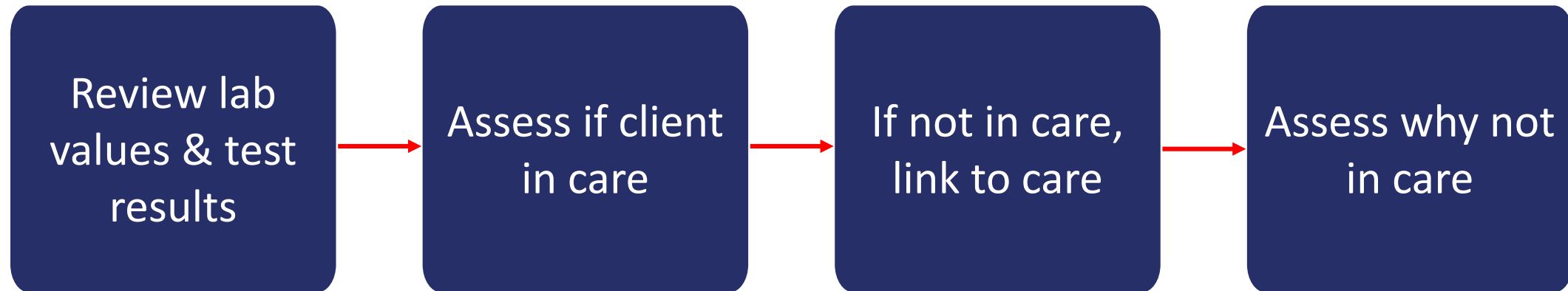
## Broad Planning 2

- Use of linked data to guide resources needs:
  - Improved program planning
  - Ensures services are provided in the places where the greatest impact can occur

One HD used the linked data for **prevention efforts**, for targeting advertising campaigns, sharing information about PrEP

# Use of Linked Data Individual Outreach

- All HDs used linked data to **reengage clients in care**





# Use of Linked Data

## Individual Outreach 2

- Data sharing projects filled in data gaps
  - **Reduced data to care team efforts** for contacting clients
  - Eased provider efforts to **reengage clients in care**

# Use of Linked Data

## Internal Use

- One HD used linked data to **guide decision making** on:
  - Current data system
  - Updates to quality management plan

- In one HD, linked data led to more structured and **timely data reporting**

Linked data is used for:

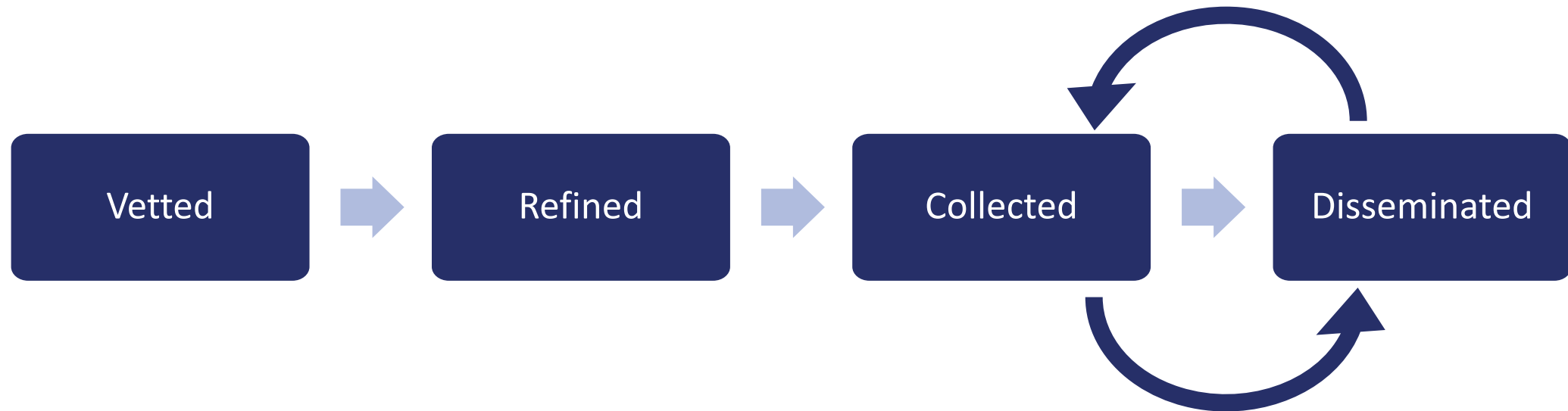
- Grant reporting
- Program evaluation
- Quality Improvement
- RWHAP Part A and B grant applications

- **Two HDs share data with the public**
  - Risk factors
  - Incidence rates
  - Disproportionate cases

# Considerations

- Involving HDs in measure development process
- Phased approach to measure collection
- Timely review & feedback
- Dissemination opportunities, quarterly evaluation summaries

Used a collaborative process to develop a limited set of STI and HIV measures in four HDs



- Potential impact for other HDs or evaluators
  - Replication of measurement development and vetting process
  - Resources to help track progress and show impact of linking STI and HIV surveillance data
- Implications for HRSA, HDs, STI/HIV prevention efforts
  - Staffing constraints impacted reporting
  - Difficulty capturing STI testing/treatment and partner services data

# Thank you!

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