

Utilizing the DMAIC Methodology to Improve Linkage to Care in the Atlanta EMA

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Disclosures

Jocelyn McKenzie and Nicole Roebuck have no financial interest to disclose.

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Learning Objectives

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

1. Describe the **Define-Measure-Analyze-Improve-Control** quality improvement methodology
2. Define the linkage to care process and the role of data at the Subrecipient-level
3. List the approaches involved in engaging Subrecipients and the Planning Council in quality management initiatives

Why this Methodology?

Define- Measure- Analyze- Improve- Control (DMAIC)

- 5 step structured problem-solving method
 - **Unknown root causes and solutions**
 - **Ideal for large or complex problems**
 - **Used to determine best practices**
- Data Driven methodology
- Improvement of an existing process
- Commonly used with Lean Six Sigma



DEFINE PHASE



DEFINE PHASE- PROCESS

FORMAT: Kick-off meeting was held with the Planning Council's QM Committee

TIME ALLOTTED: 2 hours

ACTIVITY: Discussion of project scope and goals

- Dedicated a routine QM Committee Meeting for defining project
- Meeting focused on identifying the problem QM Committee wanted to address and defining the scope of the project
- Part A Recipient Office presented preliminary data from Calendar Year 2016 CAREWare data
- Methodology was introduced to QM Committee members and used as framework for project and technical assistance to agencies

Business Case

Linkage to Care is key to starting treatment and beginning journey to viral suppression

- Earlier treatment leads to better health outcomes and quality of life for our clients

Change of metrics and standards of care

- HHS Measure focused on linkage to care within 90 days
- NHAS 2020 focuses on linkage to care within 30 days

Variability across Ryan White Part A Network

- Each of our funded agencies has a different process to linking clients to care

Preliminary Data Calendar Year 2016

Measure Guideline	Linkage to Care Timeframe	# of NonMCM Clients Linked	% of NonMCM Clients Linked	# of OAHS Clients Linked	% of OAHS Clients Linked	# of RW Clients Linked in the EMA	% of RW Clients Linked in the EMA
Fulton County HIV Task Force	3 days	138	20%	161	20%	161	18%
NHAS 2020	30 days	370	55%	446	56%	446	49%
HHS Common Indicator	90 days	543	80%	659	82%	659	72%
	Total HIV Positive	676		802		915	

Project Scope

Linkage to Care Measure

- NHAS 2020, Indicator 4: Linkage to Care within 30 days

Project Timeline

- Start: FY2017, 1st Quarter
- Target Completion: FY2018, 4th Quarter

Data Reporting Scope

- Fiscal Year
- Baseline FY2016, 4th Quarter

14 of 18 Part A funded agencies

- Core-funded agencies
- Excluded agencies
 - Funded for Medical Nutrition Therapy and Foodbank/Home Delivered Meals
 - Funded for Other Professional Services (Legal Services)
 - Newly funded in FY2018

Team Roles

MAHHSC Planning Council, QM Committee

- Selected and approved project
- Reviews data and make recommendations
- Guides direction of the project

Ryan White Part A Subrecipients

- Incorporates project into quality activities
- Makes improvements at the agency-level

Ryan White Part A Recipient Office

- Coordinates large-scale project activities and resources
- Collects and analyzes data from participating Subrecipients
- Presents data quarterly to QM Committee
- Monitors Subrecipients and provides technical assistance with project implementation

Project Statements

Problem Statement

Preliminary CAREWare data from calendar year 2016 showed linkage to care within 30 days percentages (49%) were lower than those in the State of Georgia for calendar year 2014 (74%) and those of the nation (74.5%).

Goal Statement

By February 2018, increase the percentage for newly diagnosed persons linked to HIV medical care within one month of diagnosis to at least 70.2 percent.

- *NHAS 2020 Goal:* Increase the percentage for newly diagnosed persons linked to HIV medical care within one month of diagnosis to at least 85% , from the baseline of 70.2 percent
- *Georgia Integrated Plan Goal:* By December 2021, increase the percentage for newly diagnosed persons linked to HIV medical care within one month of diagnosis to at least 90%.

Voice of the Customer

FORMAT: Site visits by Project Assistants to distribute paper surveys

TIME ALLOTTED: 10 weeks

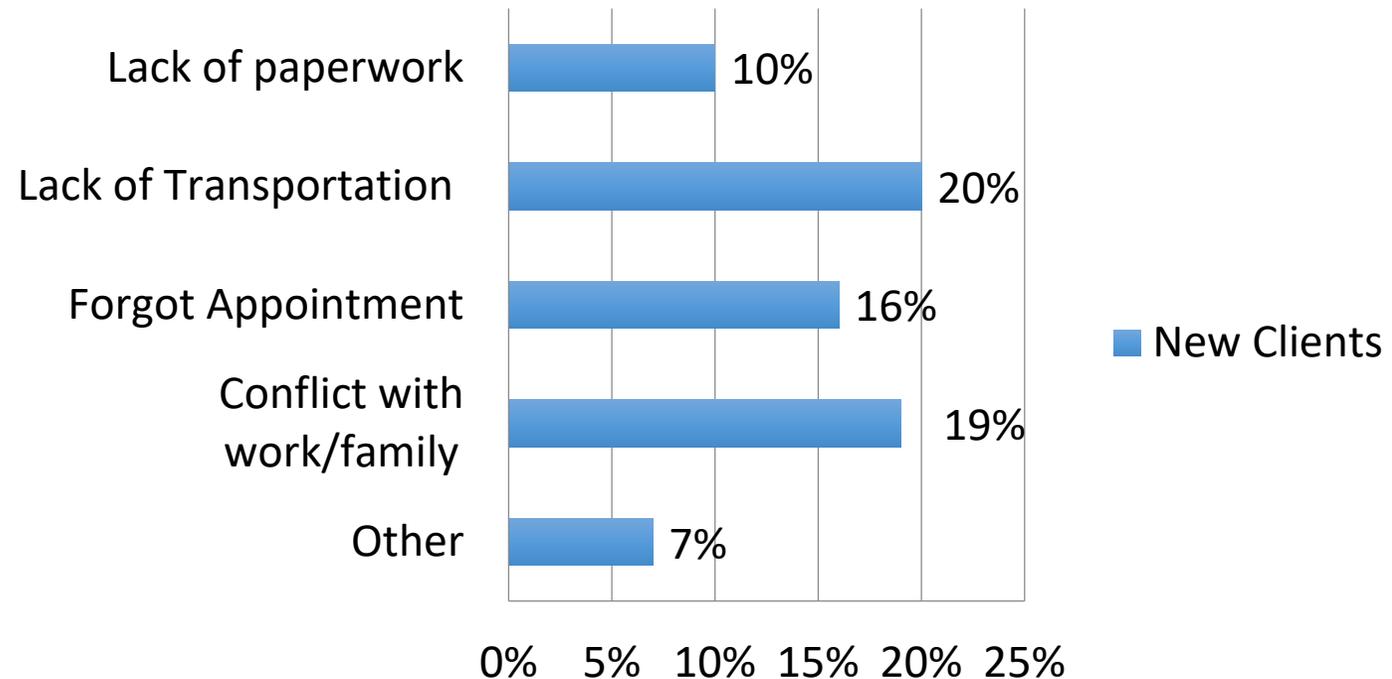
ACTIVITY: Survey distribution and collection

- Recipient office recruited 6 project assistants from the community to survey 13 OAHS clinics
- Survey respondent received a grocery gift card for participation
- Surveys were anonymous with multi-choice and rating questions
 - **Reasons for missed or rescheduled appointment**
 - **Satisfaction with appointment scheduling process**
- 31% (126 of 405) of respondents were new clients of the clinic

Voice of the Customer - Barriers

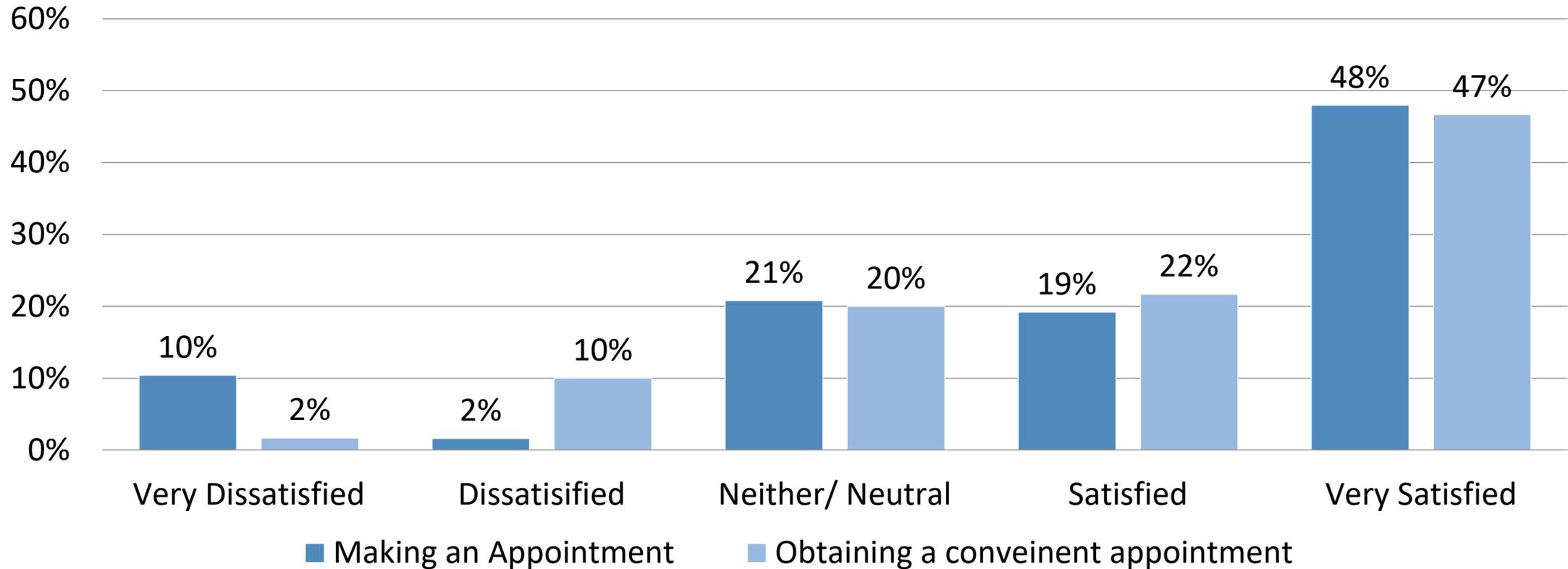
- 39% of new clients reported experiencing an appointment rescheduled due to an agency issue either “sometimes”, “usually”, or “always”
- 70% of new clients reported missing or rescheduling an appointment

Reasons missed/rescheduled medical appointment



Voice of the Customer - Satisfaction

Client Satisfaction with Appointment System



MEASURE PHASE



MEASURE PHASE- PROCESS

FORMAT: Site Visits by Recipient QM Team

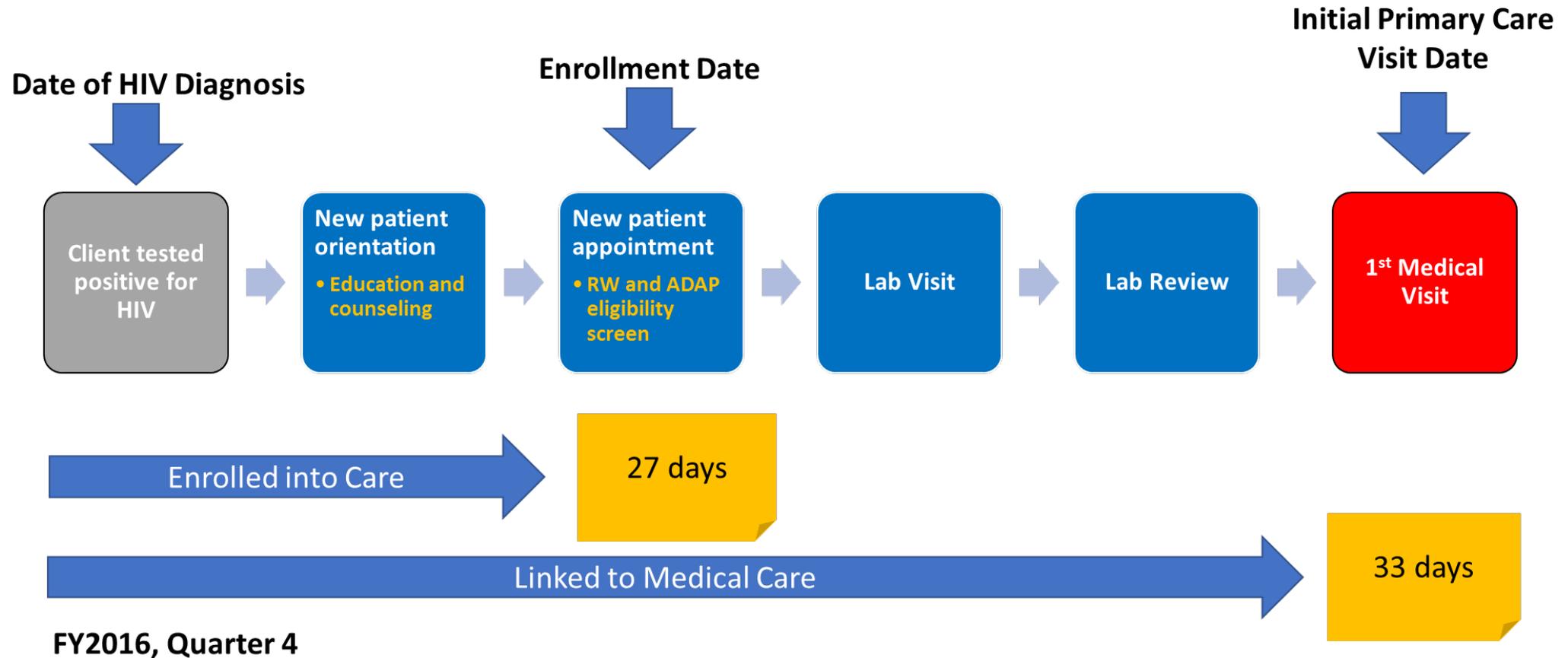
TIME ALLOTTED: 12-14 weeks, 2 hours at each site

ACTIVITY: Flowcharting

QM Coordinator met with each agency's QM team to conduct flowchart activity

- Members of Front Office Staff, Prevention Teams, and Medical Providers participated in flowchart activity
- Occurred during some agencies' QM Meeting
- Evaluated process maps at the agency level identifying data elements in the process
- Discussed the agencies' operational definition for when someone is linked to care
- Developed data collection plan

Linkage to Care Process Map



Evaluate the Process Map

Start Point

- Positive HIV Diagnosis

Intermediate Points

- Enrollment Appointment
- New Patient Orientation
- New Patient Appointment

End Point

- **Enrolled into care**
 - Completed Ryan White Paperwork
 - Attended an appointment with any staff member
 - Case Manager
 - Benefits Counselor
 - Peer Education
 - Has a scheduled appointment with medical provider
- **Seen by medical staff**
 - Lab Visit: Nurse
 - Medical Visit: Nurse Practitioner, Physician Assistant, Physician

Identify Data Elements

Data Elements at agency-level

- **HIV Diagnosis date**
- Enrollment date
- Referral date
- Appointment scheduled date
- Lab Visit Date
- Initial Comprehensive Visit
- **Initial Primary Care Visit Date**

Data Sources

- CAREWare
- Agency's system
 - Paper Records
 - Log
 - Intake and/or Visit Forms
 - Medical Verification Forms
 - Electronic Records
 - MS Excel / Access database
 - State/Federal Portals - eHars, SendSS
 - Electronic Medical Record – EPIC, Cerner, Centricity

Who is responsible for linking clients to care?

- Intake Staff
 - Refers clients to external partner agency
 - Schedules medical appointments
- HIV Prevention Staff
 - Educates and counsels newly diagnosed clients
 - Assesses client for readiness for care
 - Screens for Ryan White Eligibility
 - Refers to internal and/or external HIV Care team
- HIV Care Staff
 - Receives referrals
 - Assesses client's needs
 - Screens for Ryan White Eligibility and the need for supportive services
 - Coordinates care to medical services

Staff Role	# agencies	% of agencies
Linkage Coordinator	7	50%
Case Manager	2	14%
Patient Navigator	2	14%
Intervention Specialist	1	7%
Health Educator	1	7%
Administrative Staff	1	7%

Operational Definitions

FORMAT: QM Committee Meeting

TIME ALLOTTED: 2 hour meeting

ACTIVITY: Discussion

- QM Committee deliberated on findings from site visits and flowcharting activity
- Recipient office provided feedback on how CAREWare measures other HAB measures
- QM Committee voted to define “**HIV Medical care visit**” = **an Outpatient Ambulatory Health Service**
- Definition was used for the creation of performance measure

Operational Definitions

HIV Medical care visit

A client receives a Ryan White service within the Outpatient Ambulatory Health Service Category

Newly Diagnosed person

A person with a new HIV diagnosis in the 12 month measurement year

Linked to Care

A newly diagnosed person who attended a routine **HIV medical care visit** within 1 month of HIV diagnosis

Average Cycle Time

The average business days between the beginning to the end of identified points in the Linkage to Care process.

Data Collection Plan

Data Source: CAREWare

- *NHAS Indicator 4* was not a measure uploaded in CAREWare
- Custom measures and report were created to obtain project data

Data Measures

- % Linked to Care within 30 Days
- Average Cycle Time

Data Collection and Reporting

- CAREWare users entered service level data on each client
- Data Designees checked quality of data
- Recipient Office worked with Data Designees to run data measures
- Recipient Office presents measures on a quarterly basis to QM Committee

Custom Measure: Percentage Linked to Care

Performance Measure	Numerator	Denominator	Exclusions
Linked to Care	Number of persons who attended a routine HIV medical care visit within 1 month of HIV diagnosis	Number of persons with an HIV diagnosis in the 12 month measurement year	None
CAREWare Performance Measure (Data Elements)	<p><i>Field: Date of HIV Diagnosis</i> Date Span: Last 12 Months</p> <p><i>Field: Date Diff</i> Value= 1 month (minimum time between first subfield and last subfield in period)</p> <p><u>Subfields:</u> HIV Date</p> <p>Date of first service cat in span: Service category=Outpatient/ambulatory health service</p> <p>Diff type: Months Cross-Provider: No</p>	<p><i>Field: Date of HIV Diagnosis</i> Date Span: Last 12 Months</p>	None

CAREWare Performance Measure

NHAS: Linked to Care (1 month) - Numerator

Report Type: Demographics Operator: Advanced ? Close

Criterion

Date Diff

Opera...	Par...	Field Name
		Date Diff
		Date of HIV diag...

Custom Reports - Calculated Field

Calculated Field Name:

Criterion

Field: Value: Not Null

Pos...	Opera...	Par...	Field Name	Is Not	=	>=	<=	Null	Par...
0			DateColumn		HIV Date				
1			DateColumn		First Date for Srv...				
2			Diff Type		Months				
4	AND		Cross-Provider		No				

Custom Report: Average Cycle Time

- Created Custom Report in CAREWare
- Exported into MS Excel to calculate average business days between start and endpoints within the Linkage to Care Process
 - NETWORKDAYS(Start Cell, End Cell, Table#[Holidays])-1
- Start point is HIV Diagnosis Date

<u>Endpoint</u>
Enrollment Date
Lab Visit Date
1 st Date ART Prescribed
Initial Primary Care Date

CAREWare Custom Report

Custom Reports - Field Selection

Report Type: Demographics Use Totals  

Select Field

Field: Report Column Header: Width (in): Width (cm): Total: Sort: Sort Priority:

Field Justification: Column Header Font:  Data Field Font: 

Col#	Field Name	Column Header	Width (in)
0	URN	URN	1.2
1	Date of HIV diagnosis	HIV Date	0.78
2	Enrollment date	Enrl Date	1.08
3	Date of First Subservice	Date of 1st Lab Visit	0.68
4	Date of First Subservice	Date of 1st Lab Review	0.68
5	Date of First Subservice	Date of Initial Primary Care Visit	0.68
6	Date of First Subservice	Date of Comp Exam primary care	0.68
7	ART first prescribed date	ART first prescribed date	0.65
8	Date of First Subservice	Date of Rapid Entry Initial Primary Care Visit	0.68
9	Date of First Subservice	Date of Rapid Entry Comp Primary Care visit	0.68

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ANALYZE PHASE



ANALYZE PHASE- PROCESS

FORMAT: Quality Improvement Workshop

TIME ALLOTTED: 2 Day Meeting (6 hrs. each day)

ACTIVITIES: Training, Flowcharting, Cause-Effect Diagrams, Solution Diagram, Project Planning

Subrecipients were allowed to have up to 4 people from agency to participate in workshop

- Inclusive of prevention team and/or Peer Staff

Training was provided on fundamental of quality improvement and tools to be utilized on the project

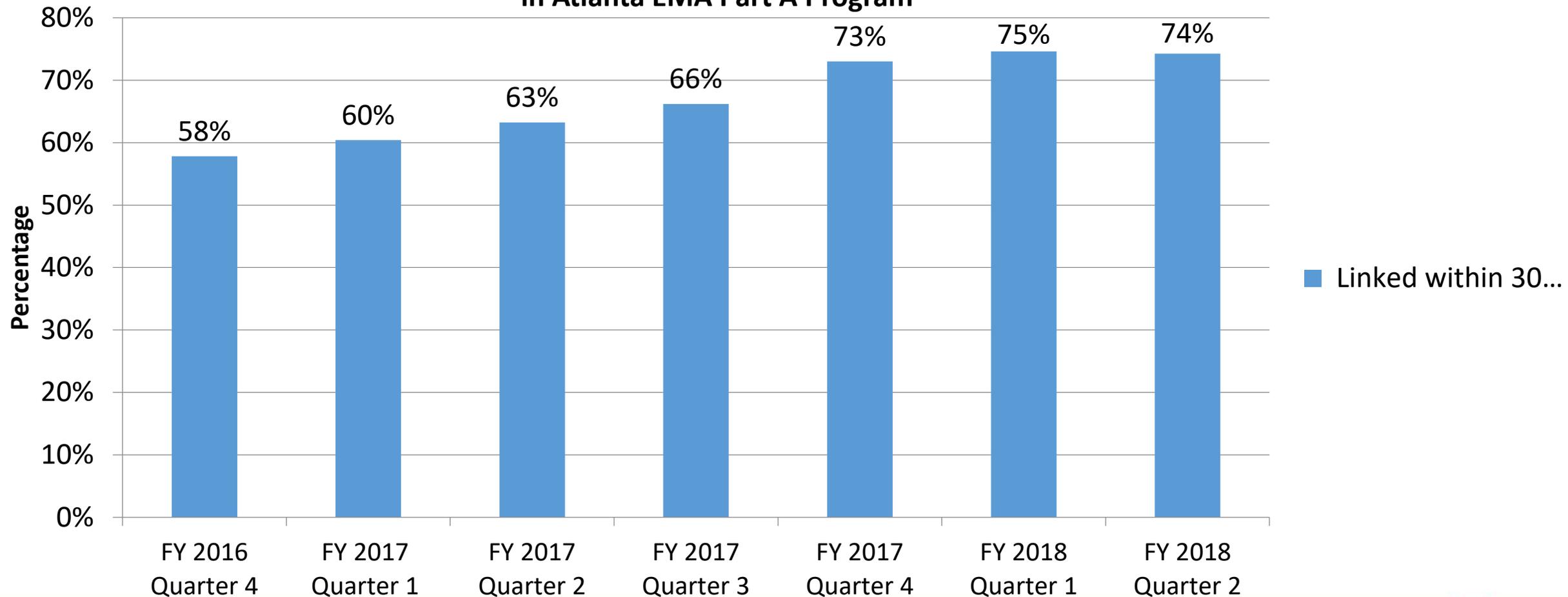
- Performance measure data
- Flowcharts of each participating site and Atlanta EMA

Subrecipients were able to collaborate and brainstorm with other agencies working on the same project using QI tools such as:

- Flowchart
- AIM Statement
- Cause-Effect Diagram
- Project Plan

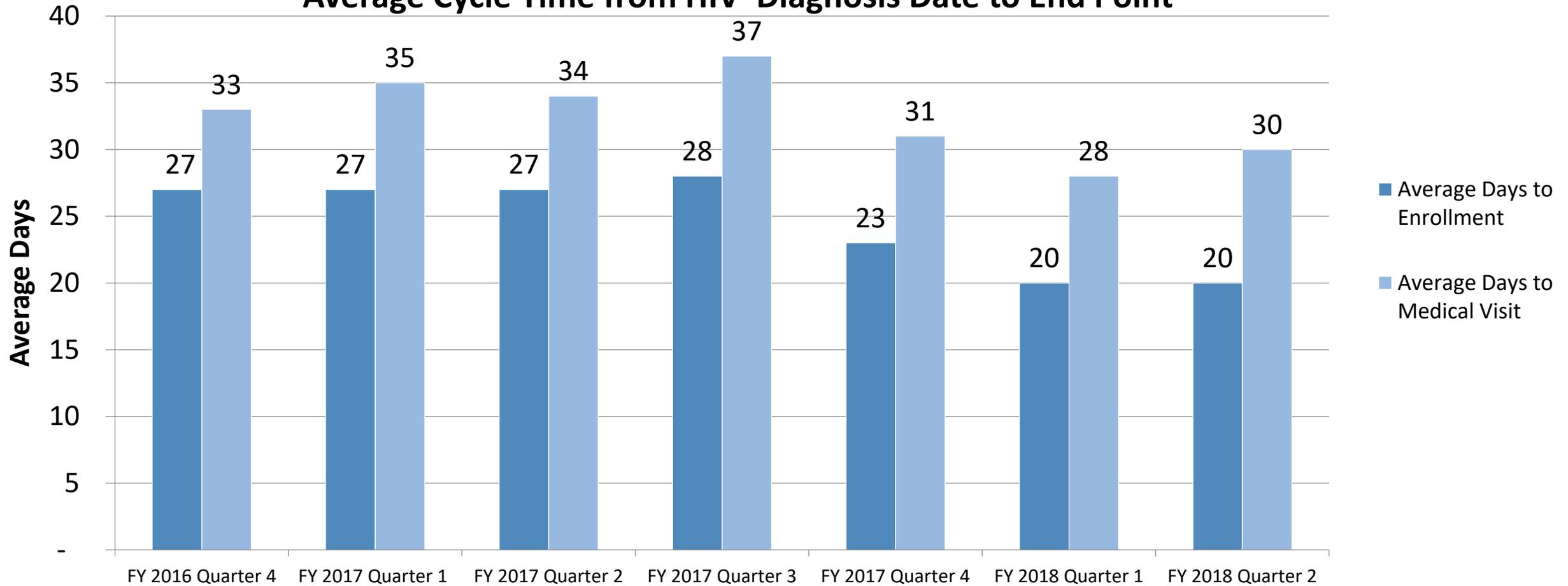
Analyze- Performance Measures

Percentage of Newly Diagnosed Clients Linked to Care within 30 days
in Atlanta EMA Part A Program



Analyze- Cycle Time

Average Cycle Time from HIV Diagnosis Date to End Point



IMPROVE PHASE



IMPROVE PHASE- PROCESS

FORMAT: Subrecipient QM Team Meetings

TIME ALLOTTED: Ongoing

ACTIVITIES: Flowcharting, Cause-Effect Diagrams, Project Planning

- Subrecipients reviewed revised flowcharts with staff and generated potential solutions with their internal prevention/testing teams during QM Meetings
- Verified data sources and sharing/obtaining missing data
- Training staff and building internal communication
- Subrecipients assigned tasks and projects to identified departments within the agency
- Updated flowchart on shared platform
- Reported changes to the Recipient office through Quarterly QM Reports

Process Focus and Possible Solutions

Diagnosis → Enrollment

- Communicating with internal prevention team and bridge gaps between prevention and care
- Improving follow-up and monitoring of outgoing referral processes
- Reviewing intake process for new clients

Enrollment → Medical Visit

- Improve data collection, entry, and reporting into CAREWare
- Adjusting appointment schedule templates
 - Order of appointments such as orientation, lab visit, and/or lab review
- Increasing Care coordination activities
 - Reminder and Follow-up calls

CONTROL PHASE



CONTROL PHASE- PROCESS

FORMAT: Workshop or QM Committee Meeting

TIME ALLOTTED: 2- 4 hours (Anticipate Fall 2019)

ACTIVITY: Standards Development and Chart Review

- Develop standard operating protocols and processes across our provider network for quality service delivery
- Standardize causal and data analysis to improve systems
- Incorporate measure into chart audit

Lessons Learned

Classifying and determining newly diagnosed clients from new clients proved challenging

- Previously Diagnosed, Never been in care
 - New to clinic
 - Unknown Diagnosis date
- Previously Diagnosed, Re-engaging in care
 - New to Atlanta
 - Unknown Diagnosis date

Testing location of client impacts where the Linkage to Care process starts

- Community-Based Organizations that do not provide medical services
- Outpatient Ambulatory Health Services site that provide HIV testing
- Community Outreach HIV Testing Events

Lessons Learned- continued

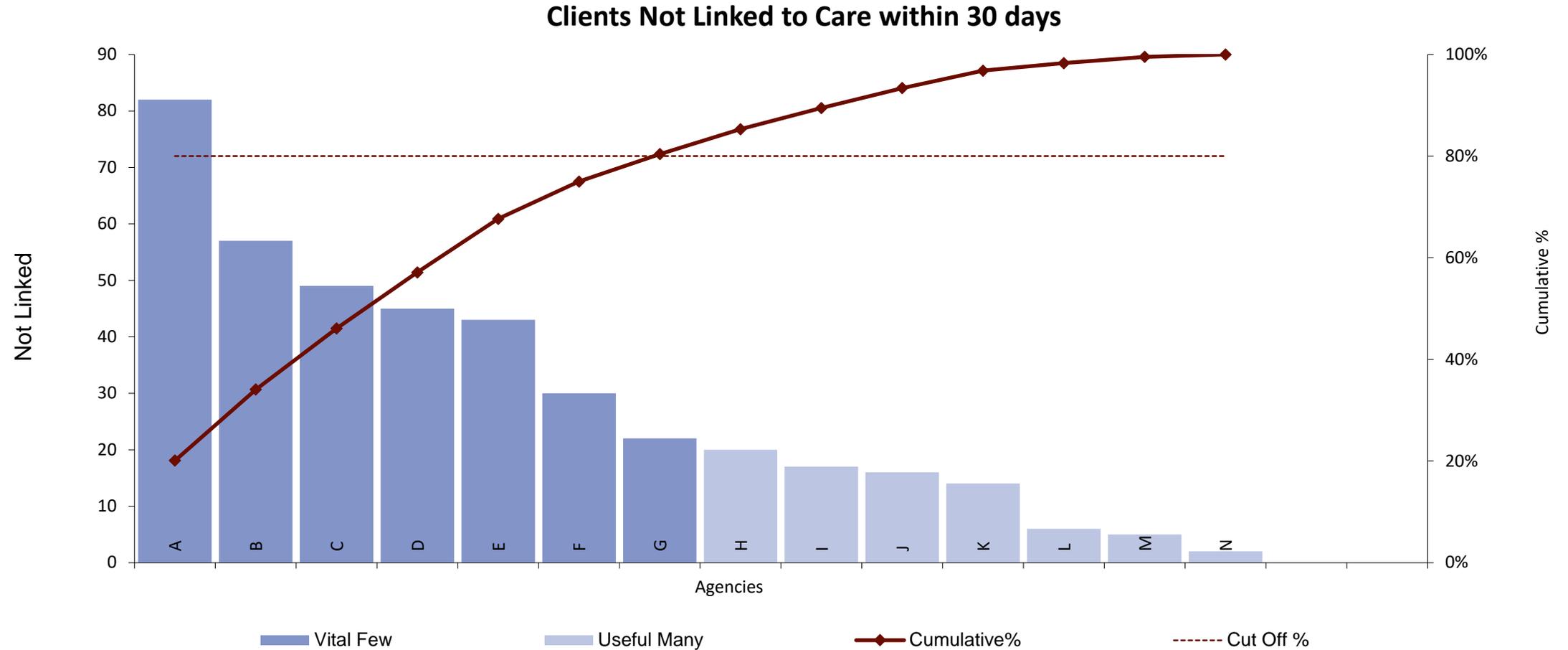
Immediate Customer [Client] Feedback is useful to agencies during project planning

- Paper surveys consumed too much time for entering and analyzing data
- Consider electronic process to obtain and disseminate information
- Consumer Advisory Boards at agencies may be a source of feedback related to expectations
- Ask customer to rate “importance” of elements in the process

Collaboration and brainstorming with other Subrecipients and partners is essential to innovative and sustainable solutions

- Invite prevention and community members prior to the Analyze Phase
- Increase frequency of brainstorming and feedback loops outside of QM Meetings and site visits
- Incorporate the use of virtual meetings for specific workgroups based on proposed solution areas, ie Care Coordination, Appointment templates, or Patient Navigation teams

Re-DEFINE PROJECT SCOPE: Pareto Chart



Next Steps

Re- Define Project Scope

- NHAS Goal: 85%

Measure and Analyze Data By...

- Rapid Entry Clinics
- Subrecipients
- Age
- Gender
- Race/Ethnicity
- **Tools**
 - Pareto Chart
 - Boxplots
 - Cause-Effect Diagrams

Improve

- Obtain more data from DPH HIV Surveillance to identify those who are out of care
- Pilot a solution with a sample population

Control

- Update linkage protocols and standards based on best practices

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