#ADHERENCE2016

Ending AIDS as a Public Health Threat: The Power of Change

MAY 9–11, 2016 • FORT LAUDERDALE

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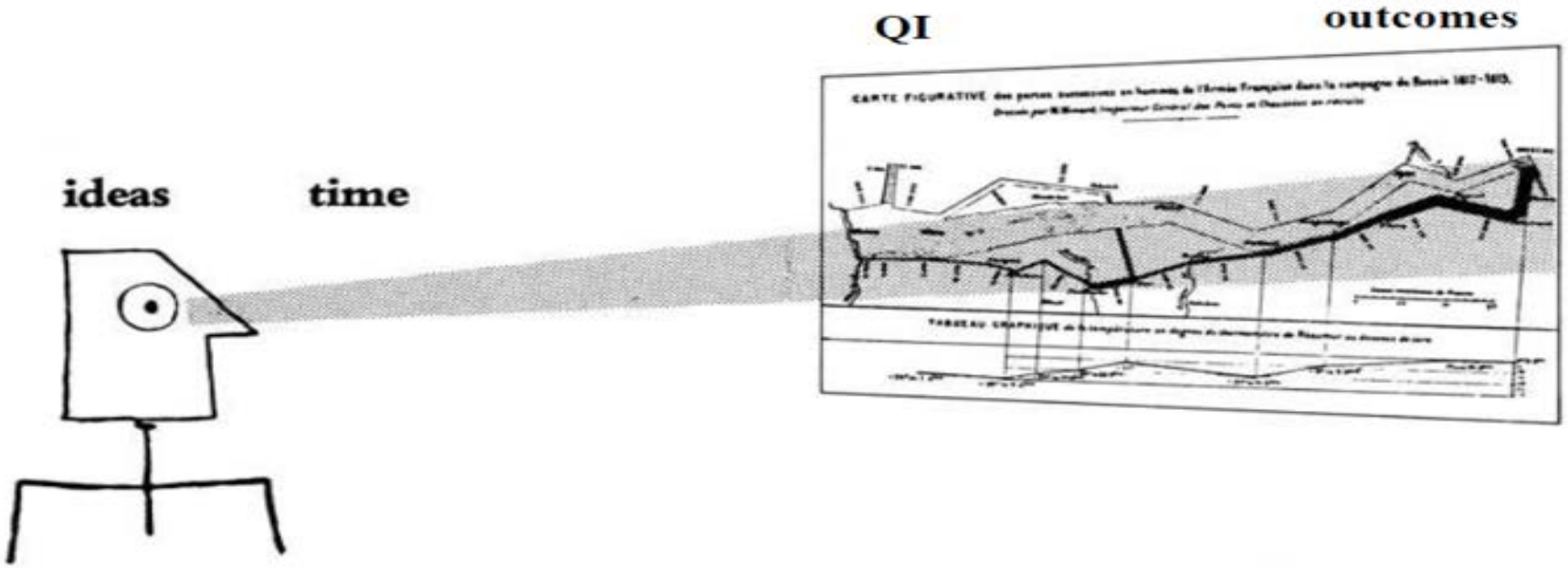

Cascading to Improvement:
Improving Care Along the HIV Care Continuum

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Director, HEALTHQUAL International
Medical Director, NYSDOH AIDS Institute
May 9, 2016

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Overview

- Definition of concepts
- National Initiatives
- Statewide Initiatives
- City and County Initiatives
- Drilling Down at Clinic Level to Improve Care
- The Future: Thinking Big and Harnessing Data

Figure 2: The QA Model

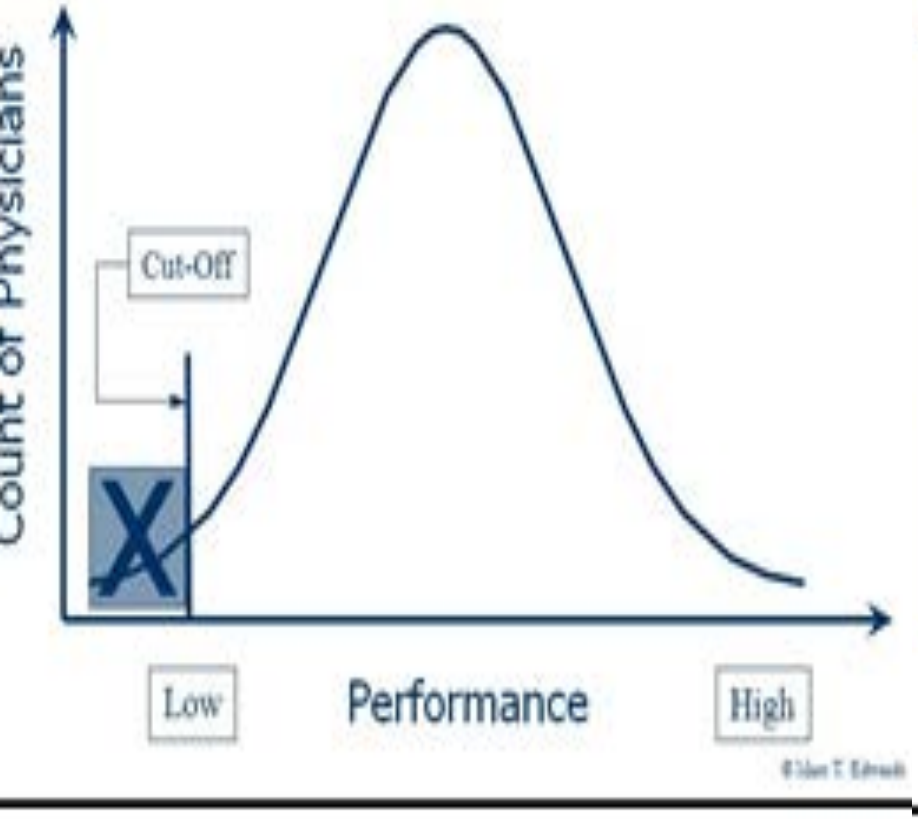
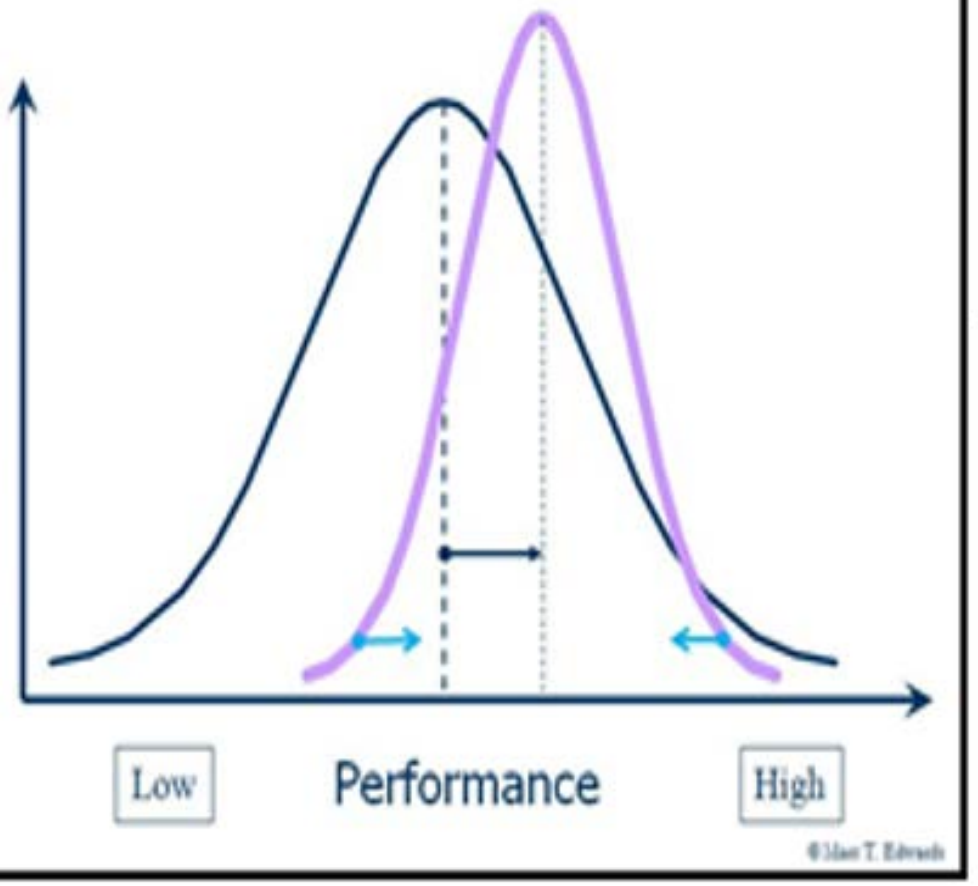
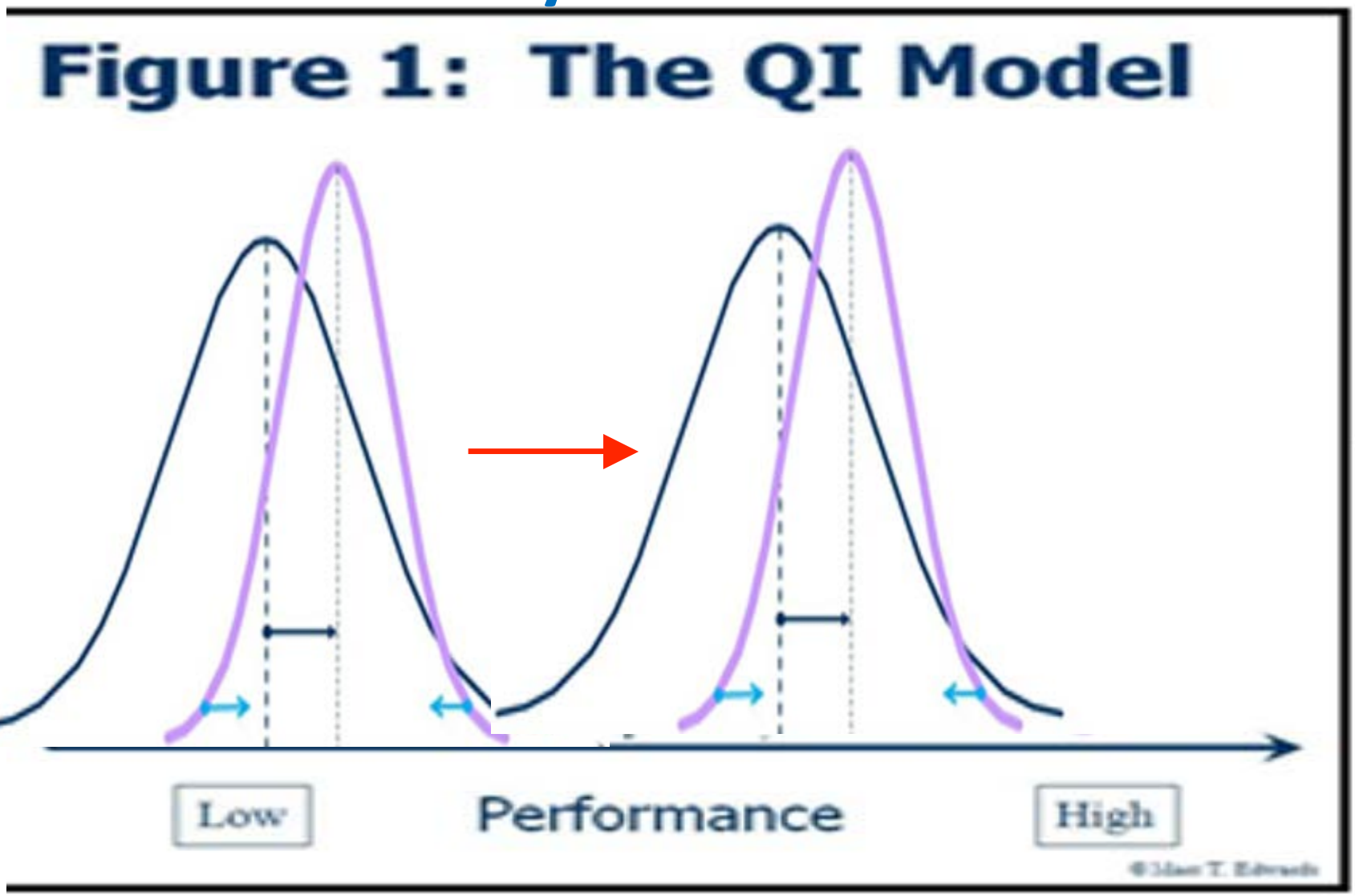


Figure 1: The QI Model



http://qatoqi.com/wp_opportunity.htm

“Every system is perfectly designed to achieve exactly the results it achieves”



http://qatoqi.com/wp_opportunity.htm

Robust Process Improvement

- Reliably measuring the magnitude of a problem
- Identifying the root causes of the problem and measuring the importance of each cause
- Finding solutions for the most important causes
- Proving the effectiveness of those solutions
- Deploying programs to ensure sustained improvements over time

Chassin & Loeb. Health Affairs April 2011 30

National Improvement Initiatives

National Quality Center in+Care Campaign

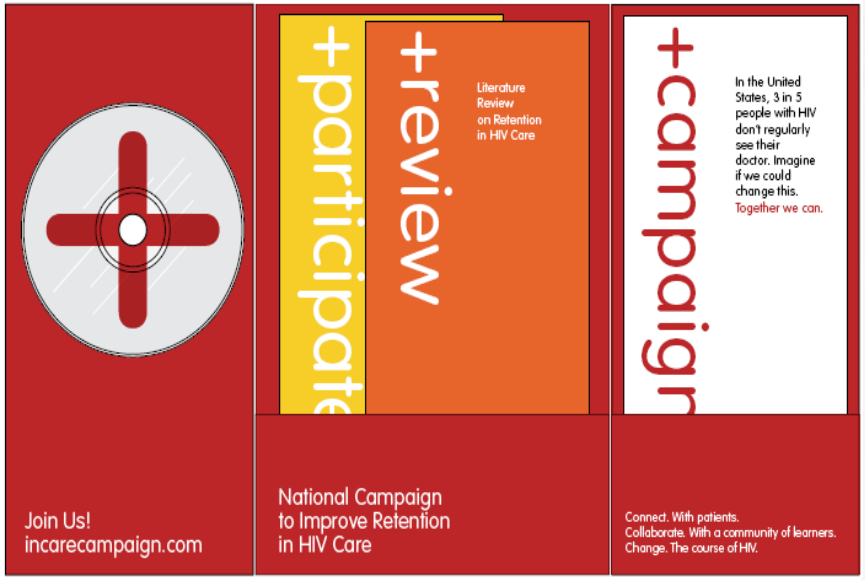
- HRSA through NQC supports the first-ever HIV Quality Improvement campaign focusing on improving retention in care, launched in 2011
- Ryan White HIV/AIDS Program grantees and their subproviders across the country were invited to join, voluntarily and at no-cost
- Bi-monthly reporting of 4 key measures
- Enrollment for a minimum of 12 months

in +care

Connect. With patients.

Collaborate. With a community of learners.

Change. The course of HIV.



in+Care Components

- Access to expert QI coaches
- Regional retention QI groups
- Monthly conference calls/ webinars focusing on content and promotion of peer sharing and learning
- *Partners in Care* activities are designed for and by PLWH with the primary purpose of engaging them in the Campaign

Number of providers and sub-providers that have joined the campaign

687

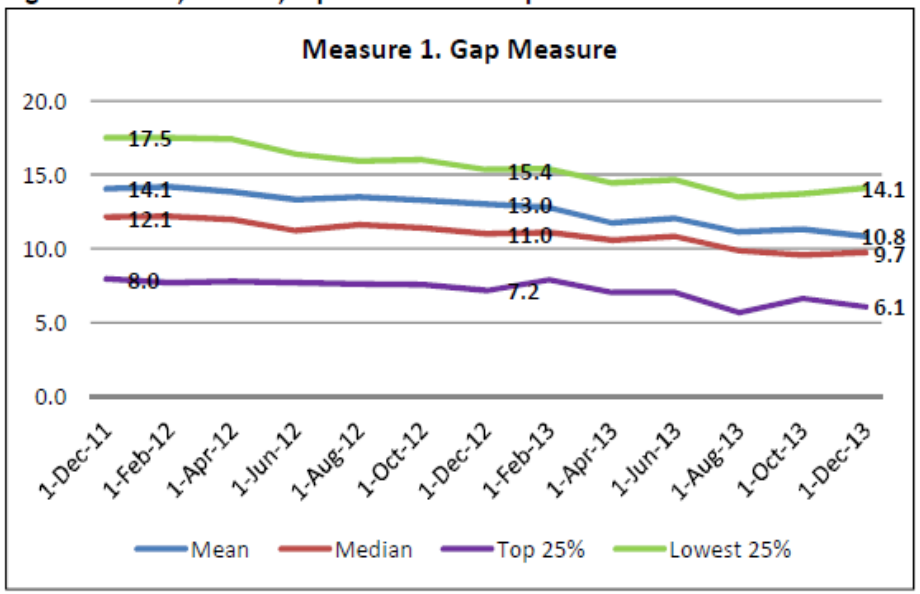
Number of HIV patients served by participating providers (not unduplicated)

474,185

Click map to see list of enrolled agencies by state

in+Care Impact

Figure 2. Mean, median, top and lowest 25% performance scores for Measure 1



Note: Scale ranges from 0 to 20%.

Figure 3. Mean, median, top and lowest 25% performance scores for Measure 2 ac

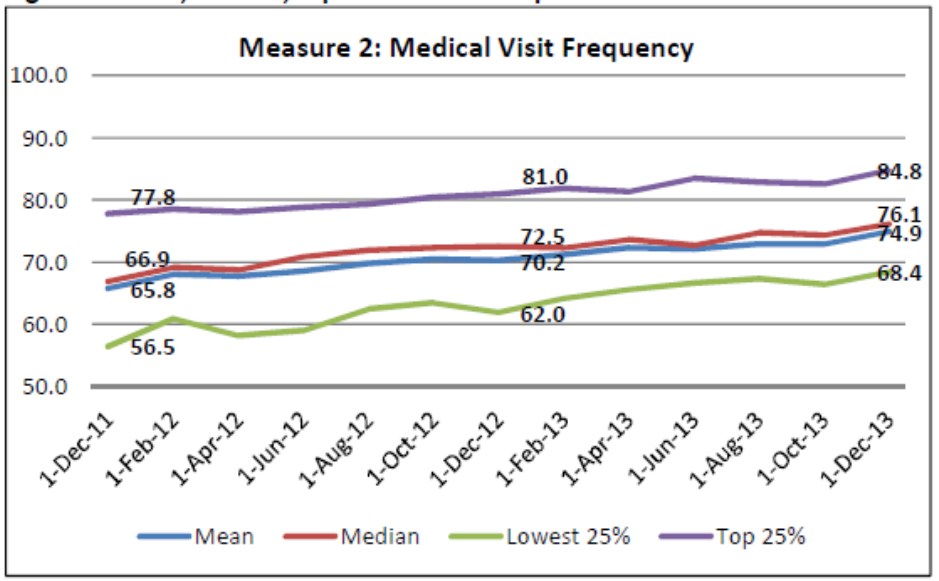
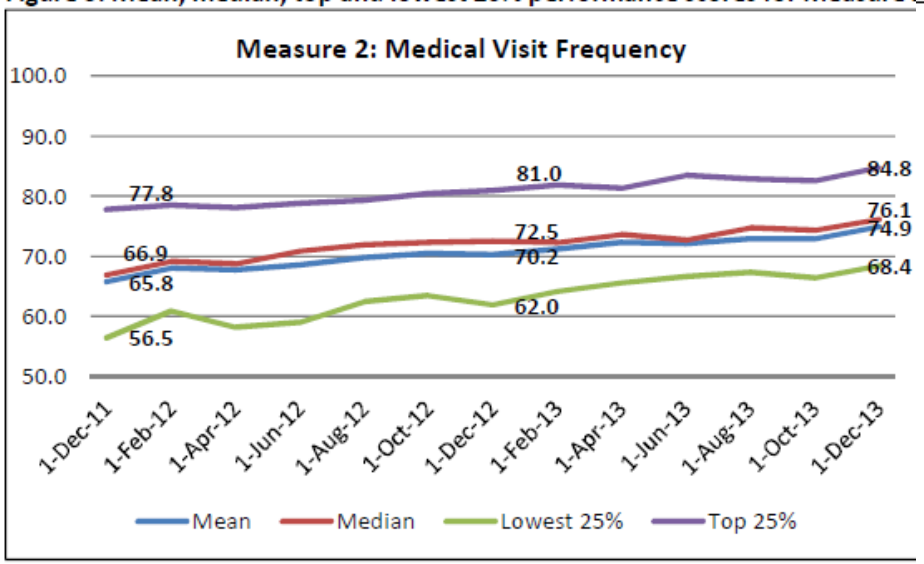
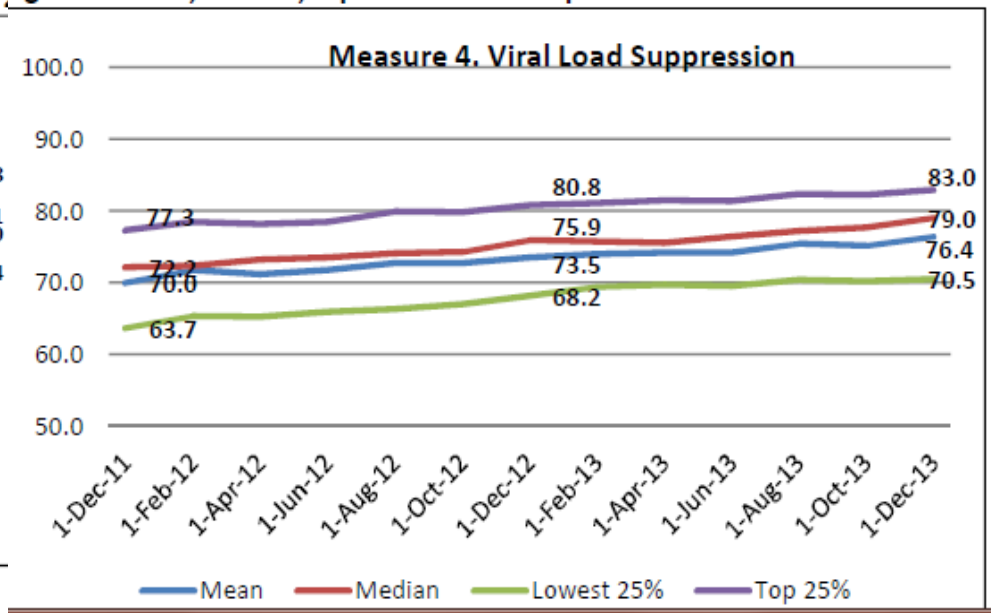


Figure 3. Mean, median, top and lowest 25% performance scores for Measure 2



Note: Scale ranges from 50 to 100%.

Figure 5. Mean, median, top and lowest 25% performance scores for Measure 4



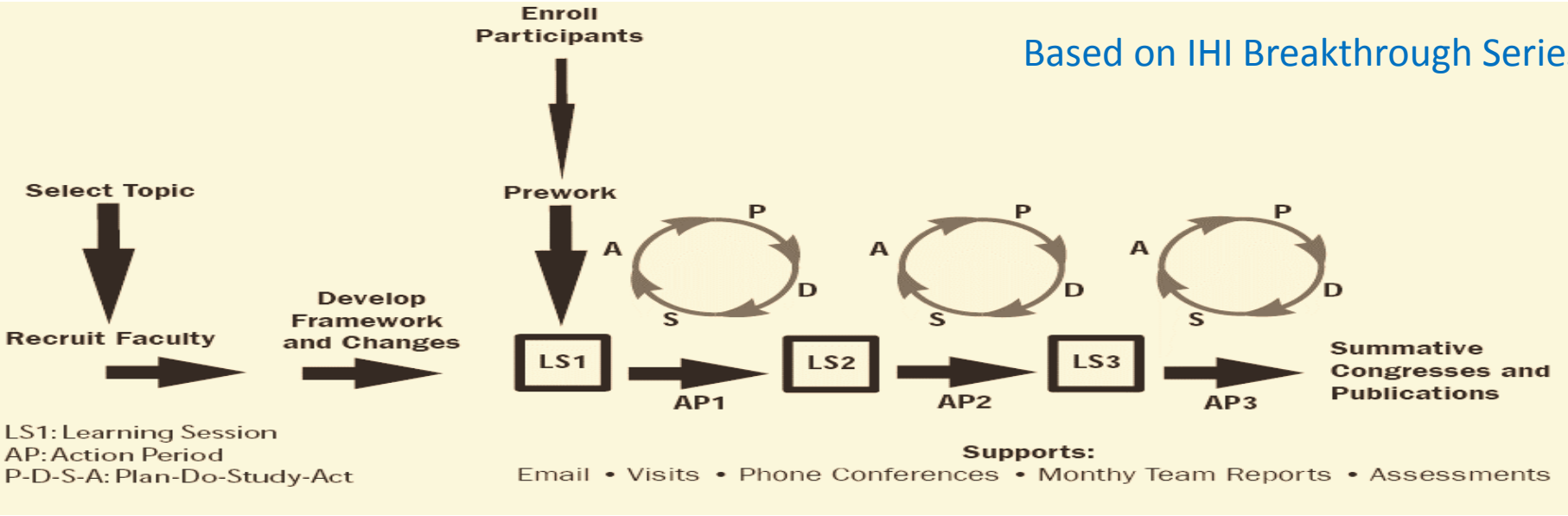
HIV Cross-Part Care Continuum Collaborative H4C

NATIONAL QUALITY CENTER

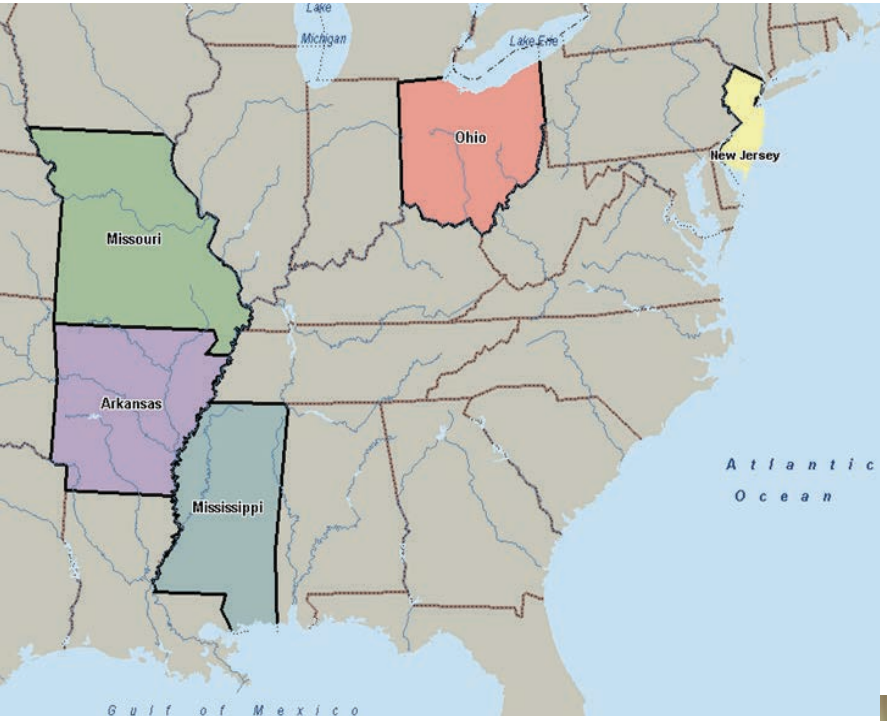
HRSA Ryan White Program through NQC establishes a self-sustaining learning collaborative across 5 states (2013-15) supporting:

Joint quality improvement activities to advance care that increases **viral load suppression rates within a region** and to coordinate care across states, cities, healthcare programs and service agencies

Based on IHI Breakthrough Series



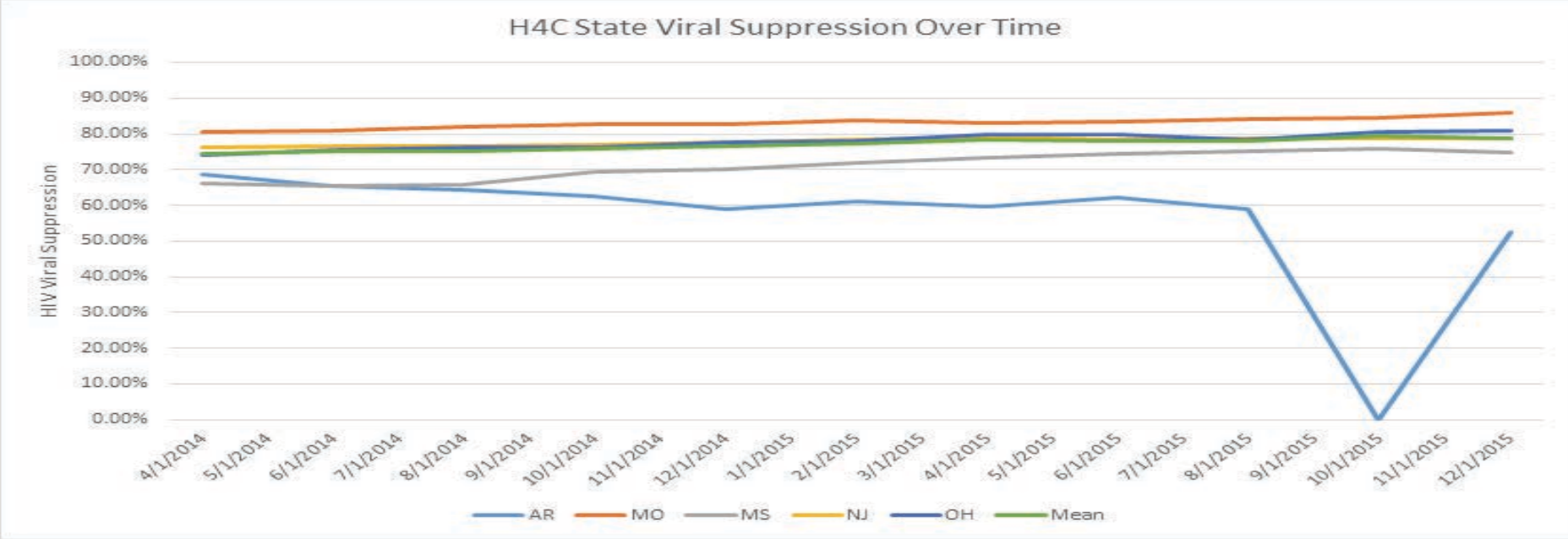
HIV Cross-Part Care Continuum Collaborative

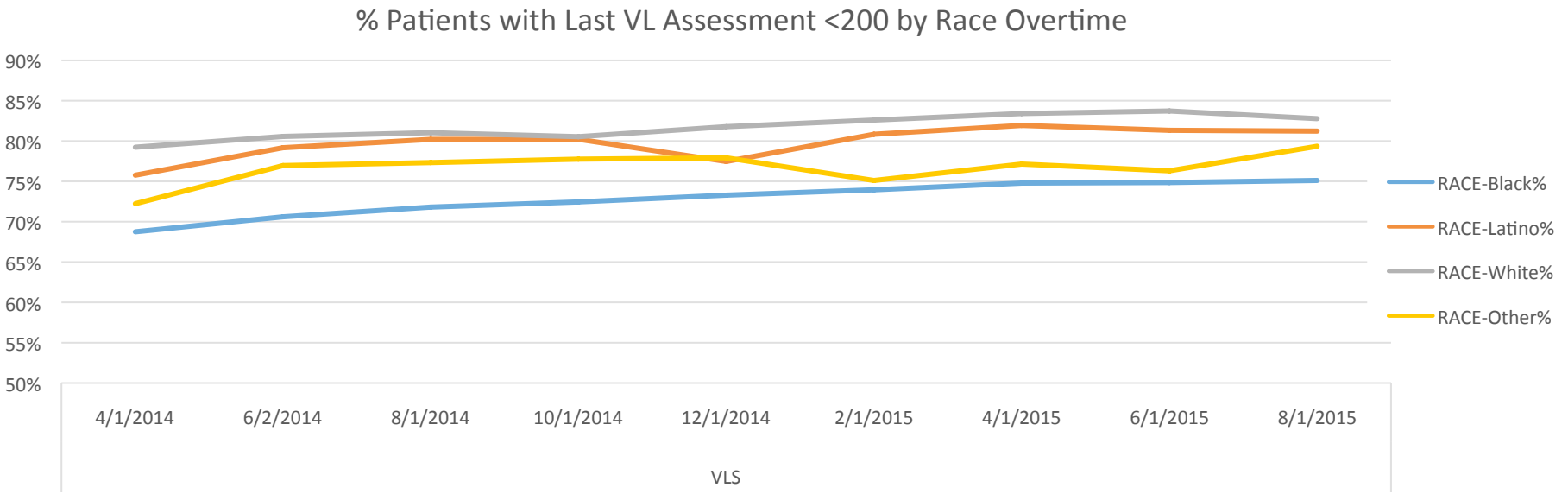


- 4 core measures submitted bimonthly to NQC for aggregation bimonthly other month
- HIV Viral Non-Suppression Cohort updated by states annually and submitted for aggregation and discussion
- Cascades from state, RW programs and agencies submitted annually and compared

- Educational Calls
  new assessments, tools, and techniques
- Affinity Calls
  consumer engagement, data management, QI projects
- Operational Calls
  team leader, data liaison

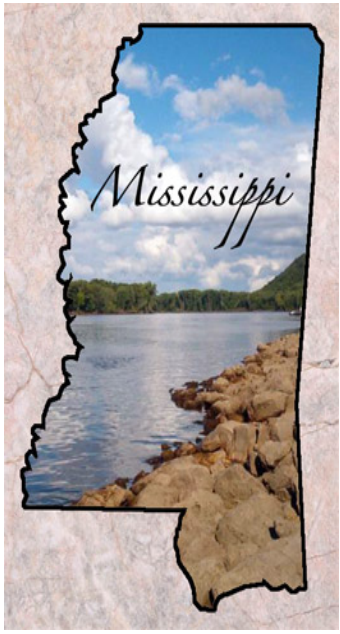
H4C Performance Measurement Results





State Cascades and Improvement Initiatives

The Mississippi Example



- 7-Face-to-Face meetings with all RW grantees in MS (Parts B, C, D & F); MS Statewide QM Group with expanded TWG and peer exchange
- Added 13 monthly conference calls for the MS Statewide QM Group between the quarterly face-to-face meetings
- Provision of TA to all statewide QM group members
- 1 consumer training conducted in March 2015
- Data submission by all Clinical RW Part B sub grantees and C grantees
- Steady increases in data quality

Increased Performance Across All Clinical Measures

Measure	Baseline	Recent Results
ARV	85.9%	93.8%
Gap in care	17.4%	15.5%
MVF	51.2%	64.8%
VL suppression	66.1%	74.6%

QI Activities:
Process Improvement
Tested Interventions – Ready for Spread

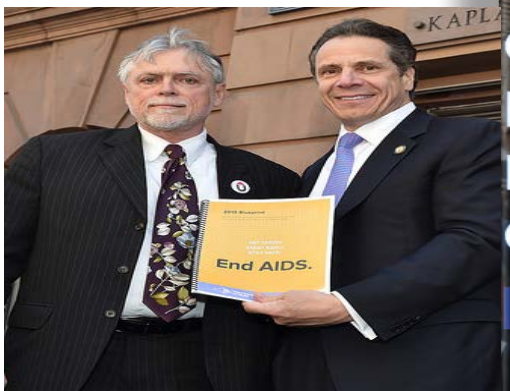
Measure	Intervention	Sites Tested	% Increase
VL suppression	**Health Literacy Teach Back Adherence Tool**	Magnolia MC SeMRHI	10% 10%
	Drilled down data targeting interventions; Created categories for statewide data collection; integration into morning huddles	Magnolia MC Coastal FHC SeMRHI	10% thus far 5% thus far
	Pt Visit Adherence Assessment Tool	Univ of MS Medical Center	4%
	Part F – Dental Pts w <200 VL are walked over to adult clinic	Collaboration between Adult Program and Dental- UMMC	Still measuring, anecdotal
Retention/re-engagement	**Out of care lists shared w/ District SWs and DIS**	CrossRoads North, GA Carmichael	7% Still measuring; anecdotal

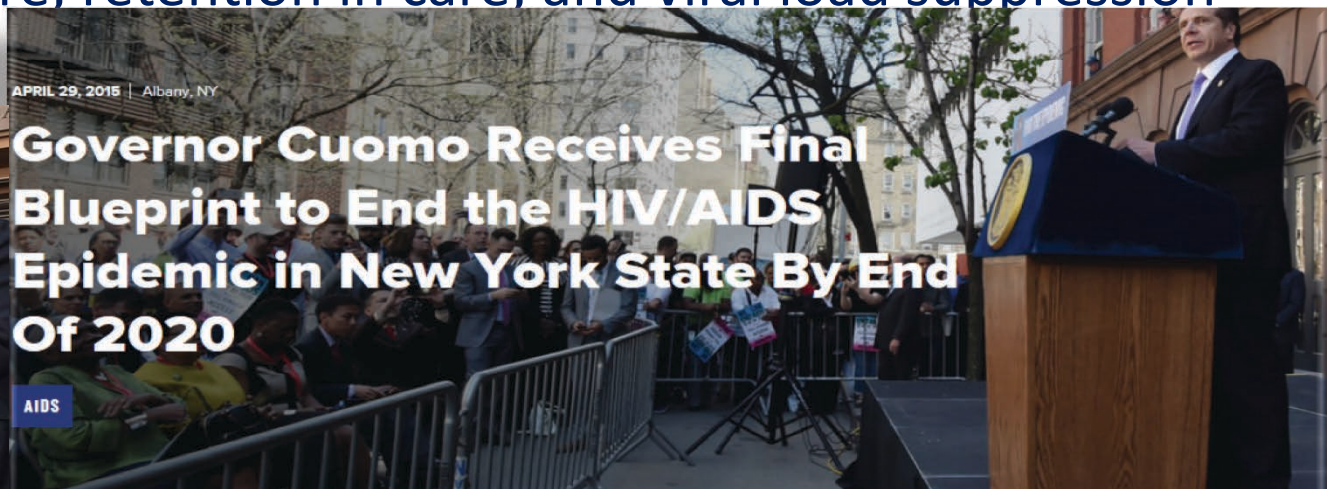
Alabama HIVQUAL Regional Quality Group
Mean VLS
August 2013-January 2016

NYeLinks

Mission:

Bridge systemic gaps between HIV related services and achieve better outcomes for PLWHA through *improving systems* for monitoring, recording, accessing, and sharing information about linkage to care, retention in care, and viral load suppression in New York State.





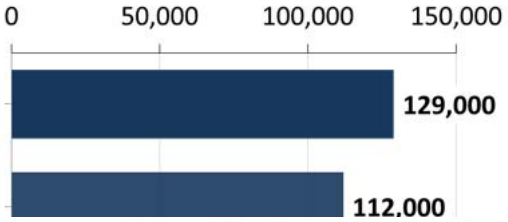
NYLinks

Data processes improved through stakeholder collaboration

Facility	NYLinks	Ryan White Region	NYS
✓Better ability to interpret & understand data ✓identification of gaps in care ✓Increase data-driven HIV care ↓ ✓ Use of data for QI	✓Improve HIV care outcomes though stakeholder collaboration ✓Improve local ability to understand & interpret data ✓Collaboratively created data packages	✓Data-driven HIV care ✓Improve HIV care outcomes ✓Regional HIV Cascades	✓Few new infections by end of the decade ✓Promote data-driven HIV care ✓Statewide HIV care Cascades

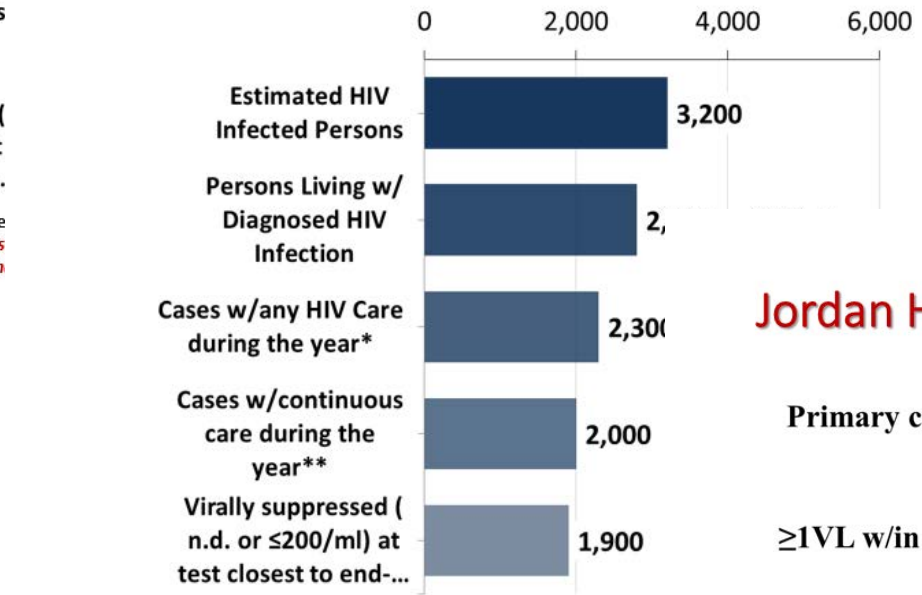
New York State Cascade of HIV Care, 2013

Persons Residing in NYS† at End of 2013



Cascade of HIV Care: Rochester Ryan White Region

Persons Residing in the Rochester Ryan White Region†, at End of 2013 (includes prisoner cases)



Cases w/any HIV Care during the year*

Cases w/continuous care during the year**

Virally suppressed (n.d. or ≤200/ml) at test closest to end-..

* Any VL or CD4 test during the year; ** At le

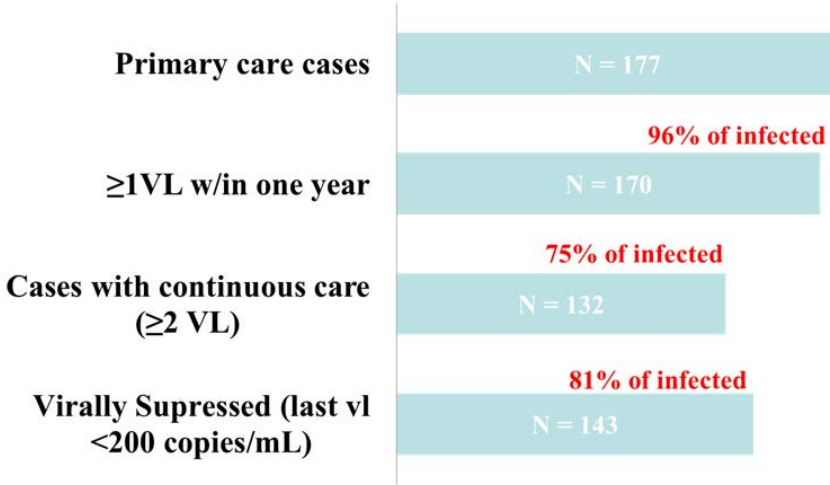
†Persons presumed to be residing in NYS bas AIDS with no evidence of care for 5 years an

* Any VL or CD4 test during the year; ** At least 2 tests, at least 3 months apart

†Persons presumed to be residing in the Rochester RWR based on most recent addr with AIDS with no evidence of care for 5 years and persons with diagnosed HIV (n

JH Jordan Health

Jordan Health HIV Care Cascade*



***HIV care evaluated from August, 2014 to July, 2015**

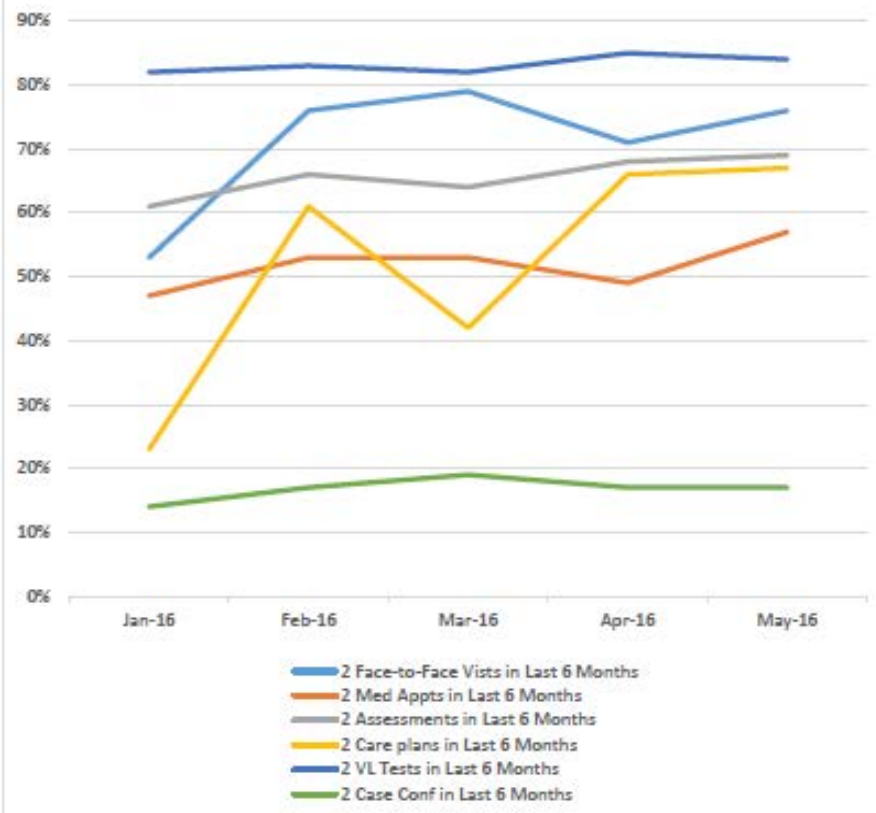
Counties and Cities:
Using Data to Improve Care

CHICAGO

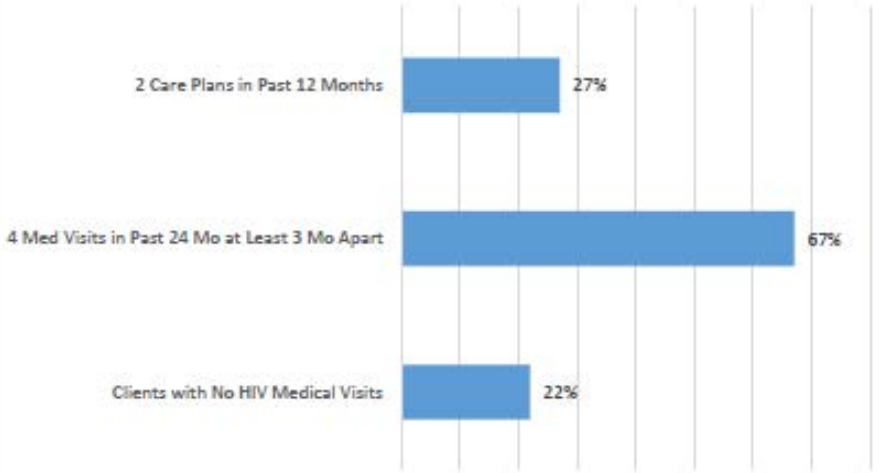
Agency A - Ryan White Part A Medical Case Management Dashboard

May 5, 2016

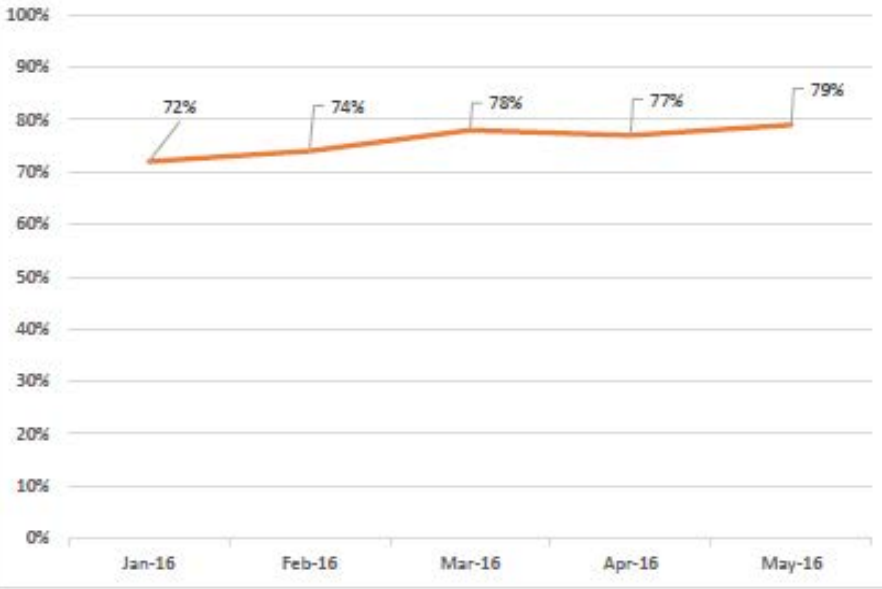
Site Visit Performance Measures



HAB Measures - Grant Year 2015



Viral Suppression - Viral Load <200



Case Management Trainings Completed

Client Insurance

Insurance Type	Percent
Medicaid	54%
Medicare	12%
Private	18%
Uninsured	10%
Not Documented	6%

King County
Coordination with HIV Clinics & Hospitals

Clinic-Based Patient Tracing

HIV Clinic List of Out-of-Care Patients → King County HIV Surveillance

← "outreach indicated"
"outreach not indicated"
"not matched"

Automated Data Match with Real-Time Text Messages

Emergency Room or Hospital Admission
- HIV Diagnosis &
- No VL in past year or Last VL >1000

→ Public Health Relinkage Team

Investigate and, if appropriate, visit patient

King County Care & ART Promotion Program (CAPP)

HIV Surveillance Team

Eligibility

- No CD4 or viral load reported for ≥12 months, OR
- VL >500 and CD4<350* at time of last report

Grouped by medical provider
Randomized order of contact

↓

Disease Intervention Specialists (DIS)

Contact medical provider

- Notify providers which patients are out of care
- Allow opt-out on behalf of individual patients
- Obtain updated contact information

↓

Contact patient

- Structured interview
- Define barriers to care
- Assist with re-engagement though health systems navigation, brief counseling, referral to support services

The MAX Clinic

Eligibility

- Off ART & poorly engaged in care
- Failure to engage in care and treatment after outreach

Identified through surveillance or referred from provider, case manager or peers

MAX Clinic
(located in county STD Clinic)

- Walk-in care 5 afternoons per week
- Case coordinator – intensive support & outreach
- Cell phone distribution & text message communication
- Snacks and meal vouchers
- Unrestricted bus passes
- Financial incentives for visit adherence ($25) and viral suppression ($100)

Public Health – Seattle & King County

Health Department-Based Data to Care

Surveillance-based outreach and relinkage assistance*

**Stepped wedge cluster randomized trial showed no effect*

Clinic-Based Data to Care

HIV Clinic Surveillance-Informed Patient Tracing*

**Controlled analysis showed small effect*

ER & Hospital Automated data match with real-time text message to public health relinkage team

"MAX Clinic"
for persons who do not engage in traditional HIV care despite outreach assistance

Sources: Dombrowski et al, IAS 2015; Bove et al, JAIDS, 2015

Using NYC Surveillance data to improve HIV care outcomes

New York City Department of Health and Mental Hygiene

Contact: Sarah Braunstein, PhD MPH
sbraunstein@health.nyc.gov
(347) 396-7760

Health

Using surveillance data for returning patients to care

- Since 2008, DOHMH HIV Field Services Unit has used the NYC surveillance registry to identify HIV-diagnosed persons who, based on HIV-related lab data (CD4, viral loads), are subsequently lost-to-follow-up (LTFU)
- Analysis of out-of-care program outcomes (C. *Udeagu et al. AIDS 2013*):

  409 people living with HIV who were located and confirmed to be LTFU
  - 77% linked to care, and 59% were returned to care.
  - 57% had at least one CD4 or viral load during the 12 months following their first return-to-care visit.
  - 48% returned to care and had at least two clinic visits during the 12 months following their initial return to care.

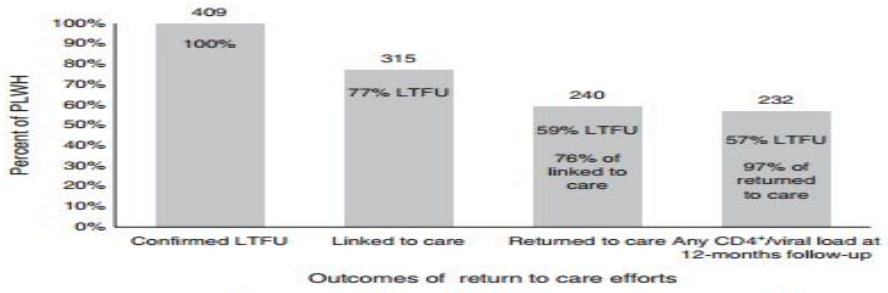


Fig. 2. Outcomes of efforts to return persons living with HIV (PLWH), lost to follow-up (LTFU) to care in New York City, July 2008–December 2010.

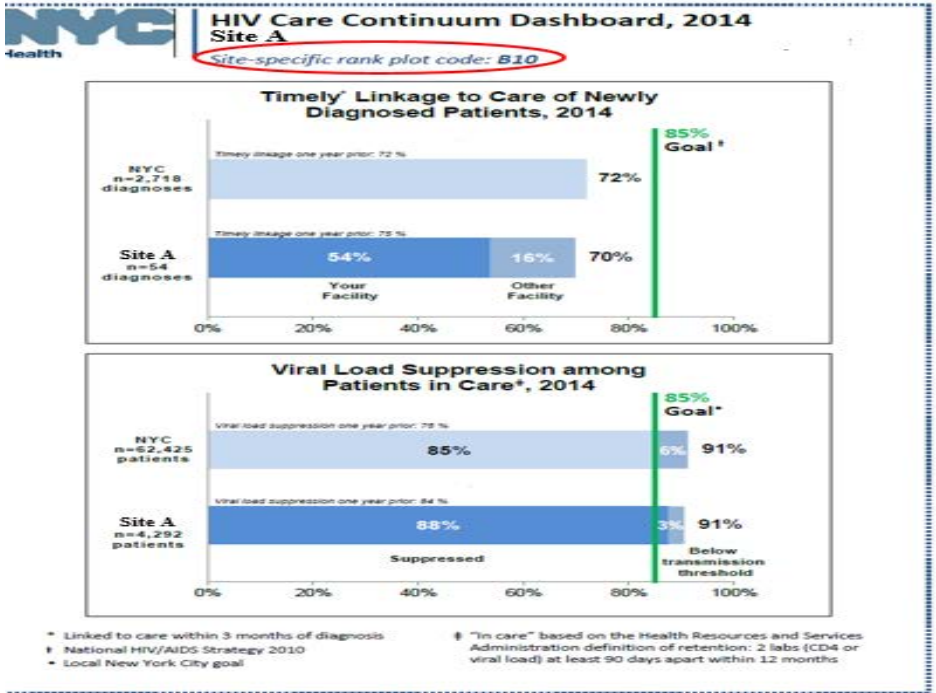
HIV Care Status Reports system

- NYS HIV Public Health law in Sept 2010 amended to permit limited sharing of data on individual patients, allowing providers to be told if 'follow-up is needed' or 'no follow-up is needed'
- Idea: Develop an electronic system to enable provider-initiated queries of the Surveillance registry to determine the care status for patients out-of-care
- **Follow-up needed:** the provider will need to continue efforts to return the patient to care as the queried patient **DID NOT** NYC DOHMH's criteria for being in care in NYC and is not known to have died
- **No additional follow-up needed/in-care:** the provider does not need to continue efforts to return the patient to care as the queried patient **DID** meet the DOHMH's criteria for being in care elsewhere in NYC
- **No additional follow-up needed/deceased:** the provider does not need to continue efforts to return the patient to care as the queried patient is known to DOHMH to be deceased

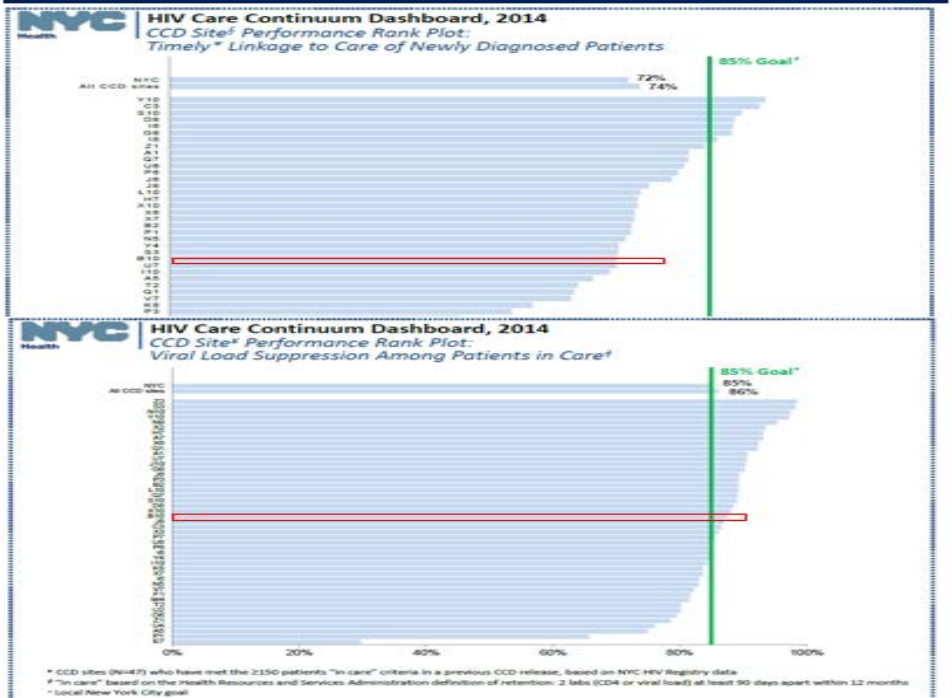
HIV Care Continuum Dashboards

- Identified gaps in New York City's HIV Care Continuum
- Idea: generate facility-specific **HIV Care Continuum Dashboards** comparing the site's performance on HIV care outcomes to NYC overall and the NHAS goals, **targeting lowest performers for technical support**
- Dashboards released to public semi-annually: 47 sites as of December

Site-specific



Performance Rank Plot



Monroe County Department of Public Health

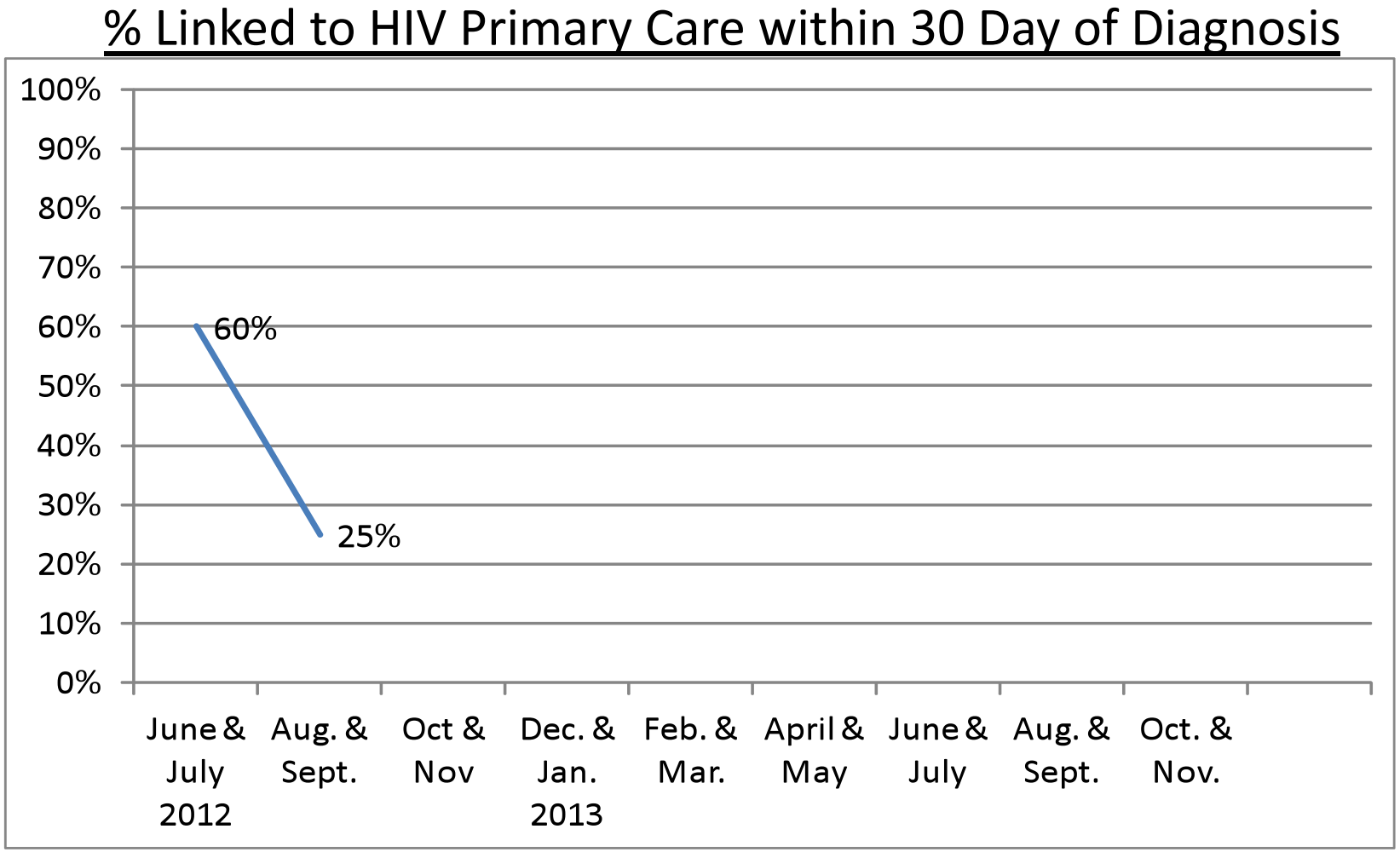
Division of Nursing

STD/HIV Prevention & Control

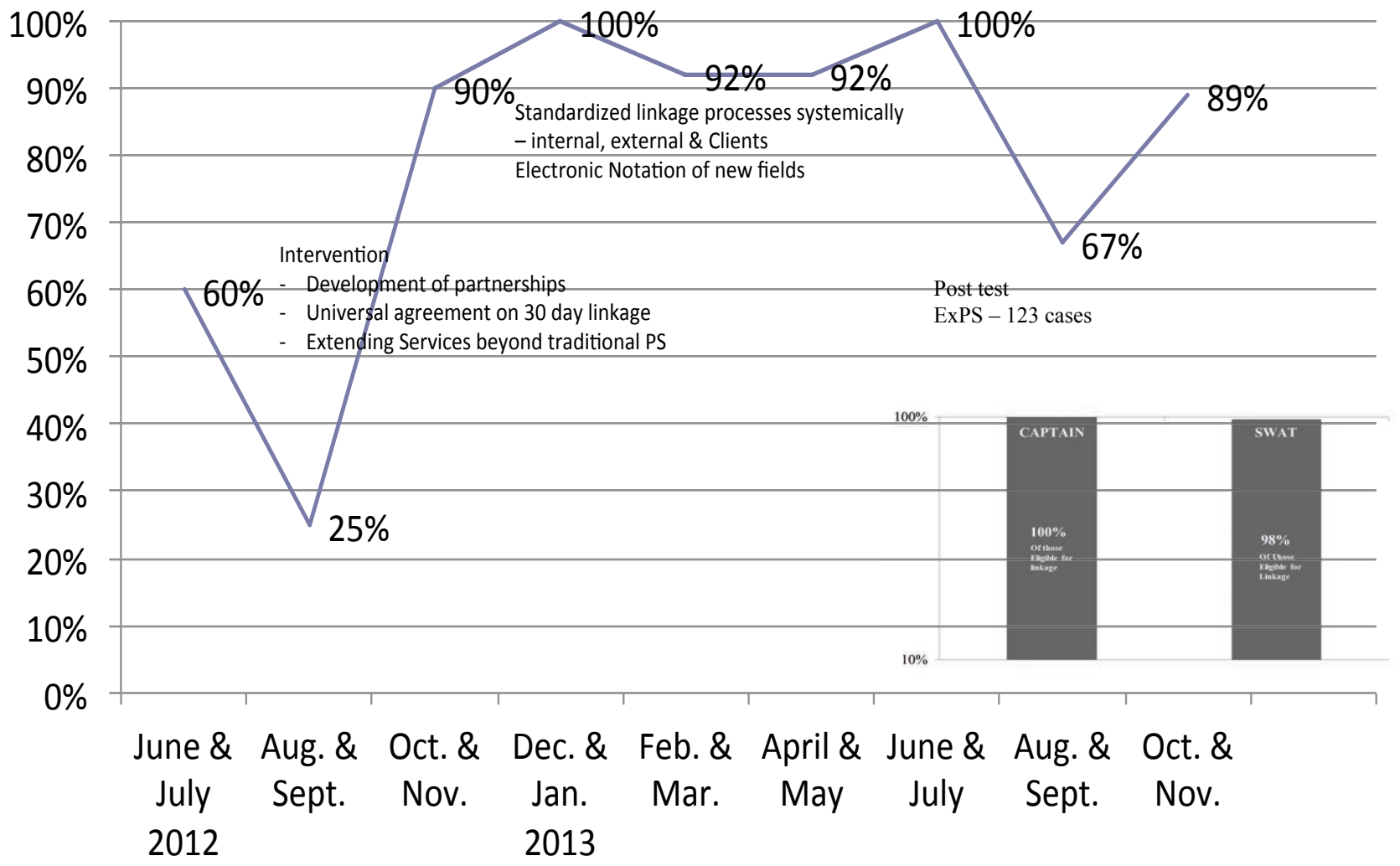
Data for Care

Data driving Improvements

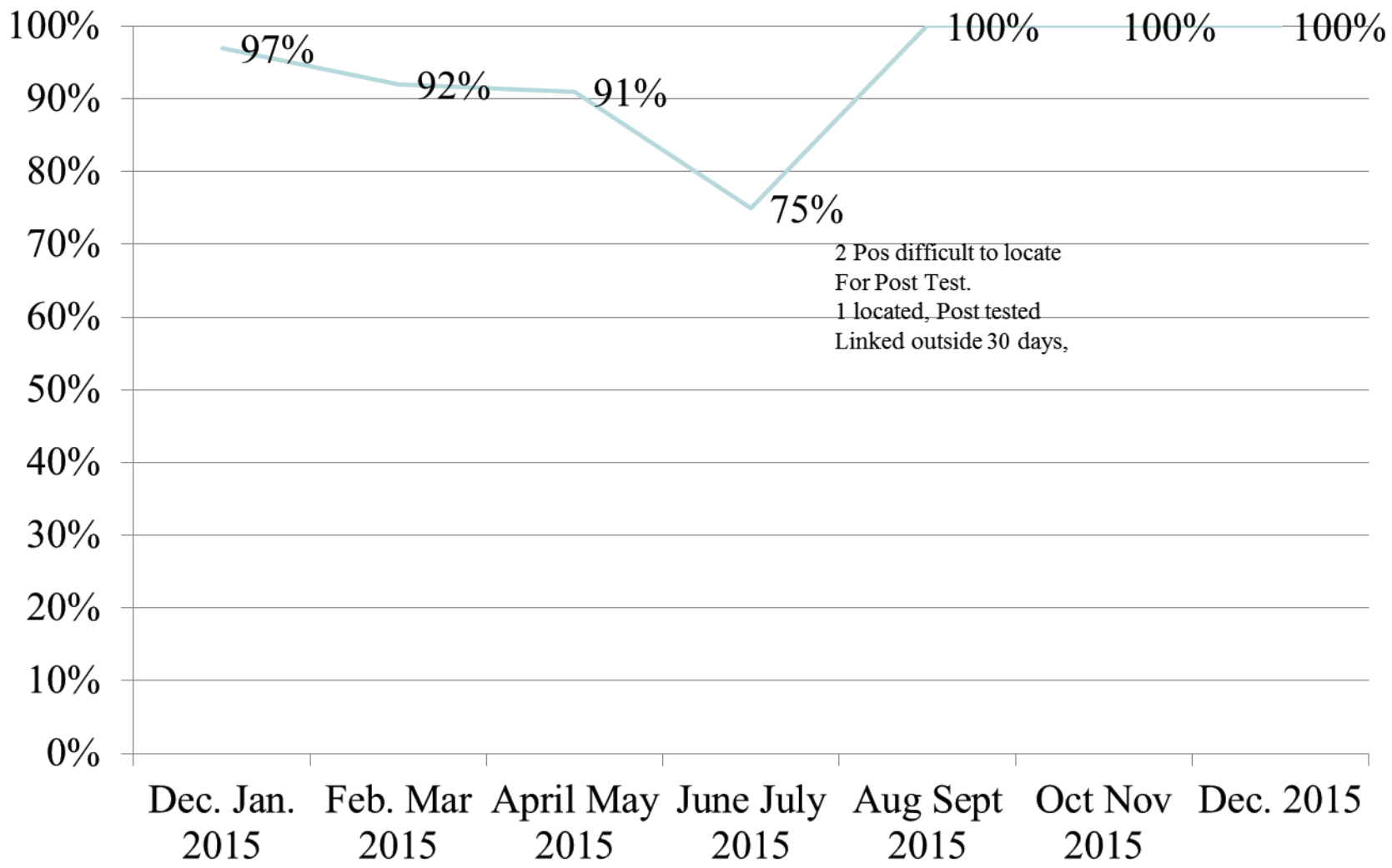
HIV Linkage Baseline Data: Monroe County



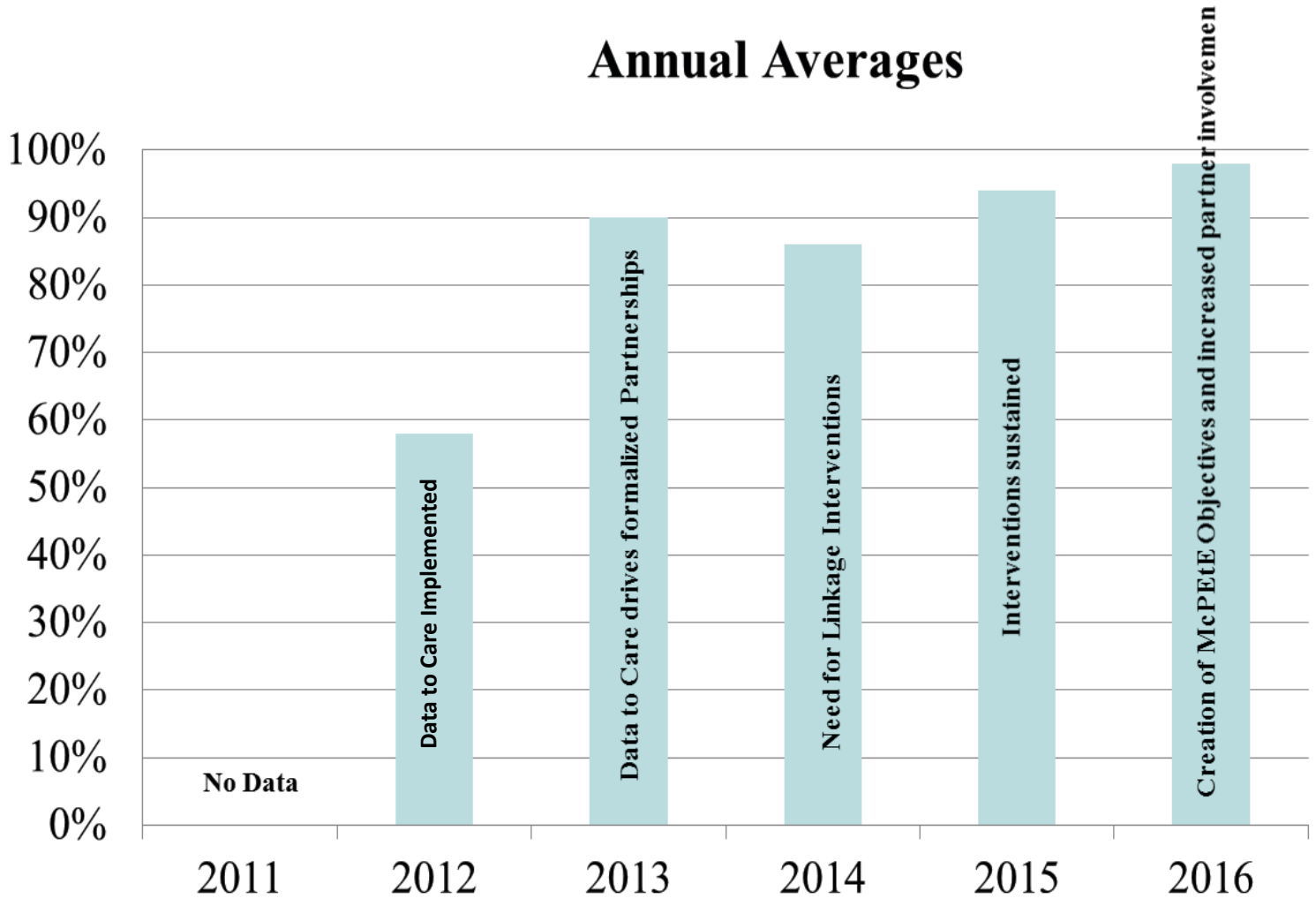
HIV Linkage Interventions & Results: Monroe County



HIV Linkage 2015 Monroe County Interventions Applied



Monroe County Dept. of Public Health
Annual Success of Data to Care (% Linked)
2012 - 2016

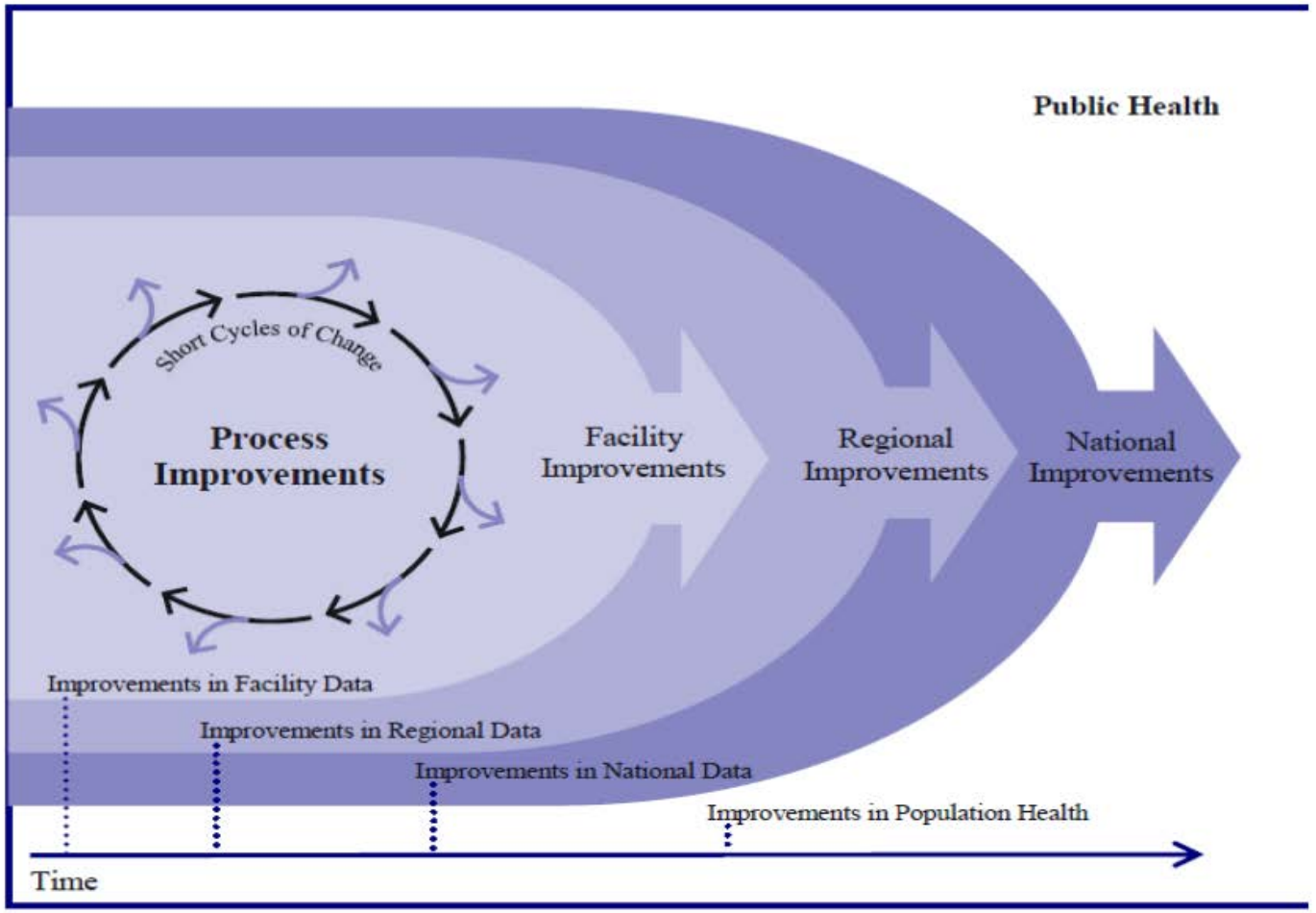


Facility-level Improvement:

Using QI methods to achieve outcomes

Drilling Down Data
Facility-level cascades
QI Projects

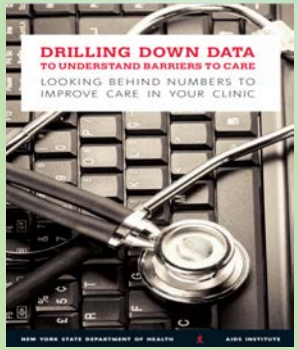
Linking QI with Public Health Outcomes



ROBUST PROCESS IMPROVEMENT

DRILLING DOWN DATA
TO UNDERSTAND BARRIERS TO CARE

LOOKING BEHIND NUMBERS TO IMPROVE CARE IN YOUR CLINIC



NEW YORK STATE DEPARTMENT OF HEALTH
AIDS Institute 30
HIV/AIDS • STD • VIRAL HEPATITIS • LGBT HEALTH • DRUG USER HEALTH

FOUR STEPS TO DRILLING DOWN DATA

EXAMPLE: ASSESSING PATIENT RETENTION

1 IDENTIFY PATIENTS WHO ARE NOT RETAINED

Compile a list of patients who have not been seen during the time period used to define retention. Remove those from the list who meet the exclusion criteria.

EXAMPLE:

EXCLUSION CRITERIA: The patient has died, transferred care, is incarcerated, or has been admitted to a long-term or residential care facility. These patients should be removed from your denominator.

1012	⇨	56	⇨	19	⇨	37
Total patient case load		Original list of not-retained patients		Excluded: known status *(e.g., died, transferred care, incarcerated)*		Remaining list to drill down

The remaining group of patients are those to include in the drill down process.

2 ASSESS REASONS FOR NON-RETENTION

For those patients not retained, conduct an assessment of the factors causing absences from care. Multidisciplinary provider teams should review all available information from patient records as needed to identify any barriers to care, competing patient concerns, and other reasons for non-retention.

EXAMPLE:

MULTIDISCIPLINARY TEAM MEMBERS:
Case managers, patient navigators, pharmacists, nurses, physicians, others involved.

PATIENT RECORDS:
Medical records, case manager or patient navigator notes, emergency room records, correctional facility records.

3 CREATE A TABLE

Compile all the identified reasons for non-retention and tally the number of patients experiencing each. This table will be used to prioritize areas in need of improvement and to develop targeted interventions.

EXAMPLE:

KEEP IN MIND: Patients grouped in the same category may have different reasons for experiencing that difficulty. For example, patients experiencing issues with transportation may not be able to pay for fares, may live too far from available transit, etc. Individualized solutions will likely be required for each patient.

BARRIER	NUMBER OF PATIENTS
TRANSPORTATION	35
HOUSING INSTABILITY	11
INSURANCE	2
DISCLOSURE ISSUES	15
REFUSES TREATMENT	2

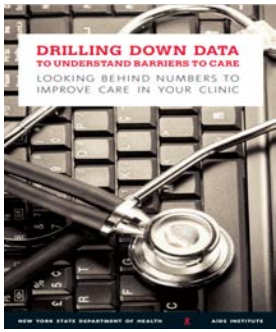
4 DEVELOP A TARGETED FOLLOW-UP PLAN

Using the data from steps 2 and 3, identify the barriers that are most critical to patient health and that affect the most patients. Develop a plan to address these issues. Consider prioritizing your follow-up strategies by examining the needs of key populations or by looking at health indicators such as average viral load (see *Prioritization Strategies*).

EXAMPLE:

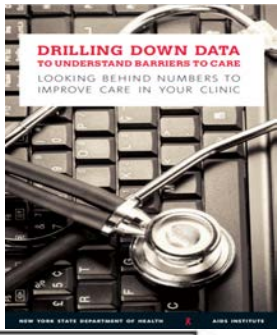
1. One clinic identified incorrect contact information as a major barrier to retention among its patient population. Staff searched Medicaid and pharmacy records for updated contact information and visited the patient's home if they were unable to locate the individual through other means.

2. This clinic also identified transportation as a barrier to retention for one patient with a very high viral load. Staff members arranged transportation to the clinic for this patient, which proved important in engaging the patient in care (see HIVQUAL Brief 11, *Improving Patient Retention in Western New York* for more information).

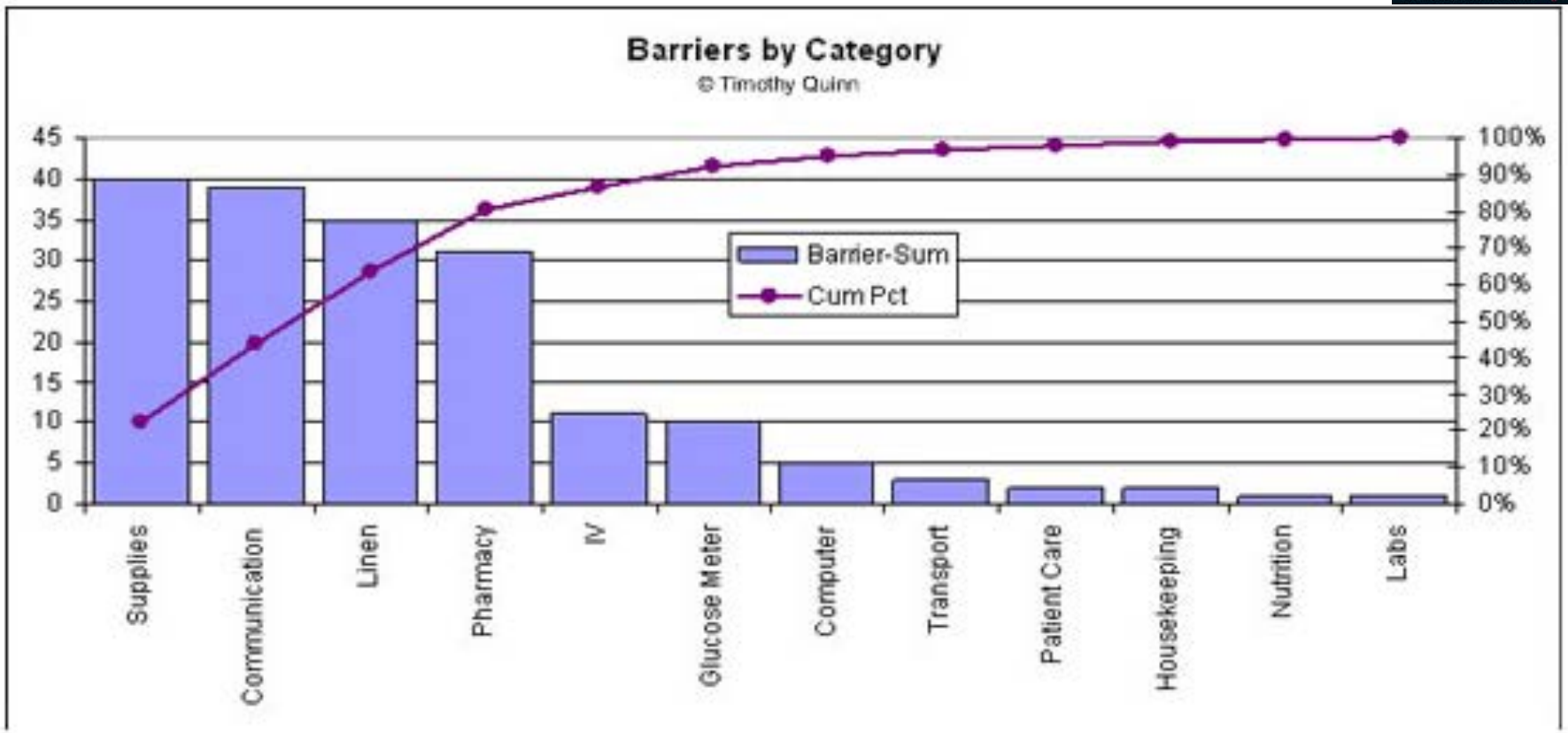


4 MAIN STEPS TO DRILLING DOWN DATA:

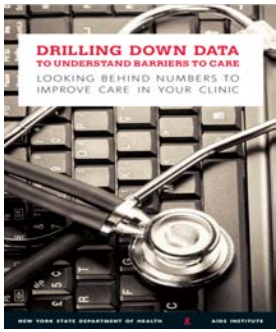
1. Develop a list of patients who do not meet the defined criteria of your measure.
2. Identify reasons each patient does not meet the criteria.
3. Tally the reasons.
4. Develop targeted plans to address the most common or relevant issues.



Pareto Chart



http://www.mc.vanderbilt.edu/root/vumc.php?site=qicourse&doc=11814



EXAMPLES:

PRIORITIZING BY AVERAGE VIRAL LOAD:

BARRIER	NUMBER OF PATIENTS	AVERAGE VIRAL LOAD (COPIES/ML)
TRANSPORTATION	10	290
HOUSING INSTABILITY	4	1,580
INSURANCE	1	74
DISCLOSURE ISSUES	13	5,439
REFUSES TREATMENT	1	30,982

IDENTIFYING BARRIERS TO RETENTION AMONG MSM:

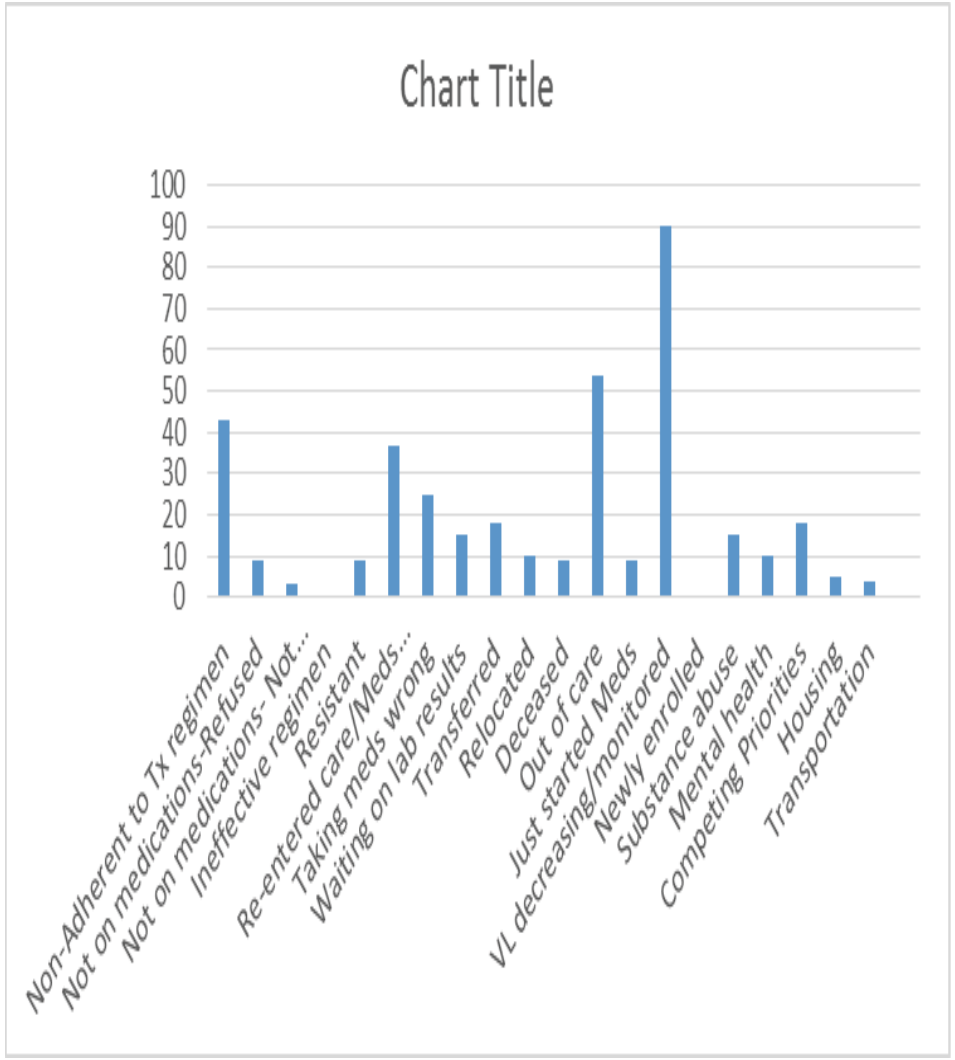
KEY POPULATION	BARRIER	NUMBER OF PATIENTS
MEN WHO HAVE SEX WITH MEN (MSM)	TRANSPORTATION	4
	HOUSING INSTABILITY	6
	INSURANCE	1
	DISCLOSURE ISSUES	11
	REFUSES TREATMENT	1

Reasons	Total
Non-Adherent to Treatment Regimen	
Not on Meds- Refused	
Not on Meds- Not Ready	
Ineffective Regimen	
Resistant	
Re-entered Care/Meds Restarted	
Taking Meds Wrong	
Waiting on Lab Results	
Transferred	
Relocated	
Deceased	
Out of Care	
Just Started Meds	
VL Decreasing/Being Monitored	
Newly Enrolled	
Substance Abuse	
Mental Health	
Competing Priorities	
Housing (Unstable):	
Transportation	

MS Statewide QM and Chicago QM Group shared lists

University of Mississippi Medical Center: Drilling Down -- MDPH Initiative

- 383 Patients identified as being virally unsuppressed.
- Identified patients who were transferred, relocated, deceased, and patients reaching suppression
- For patients identified as “out of care” information provided to MSDH for retention/re-engagement.



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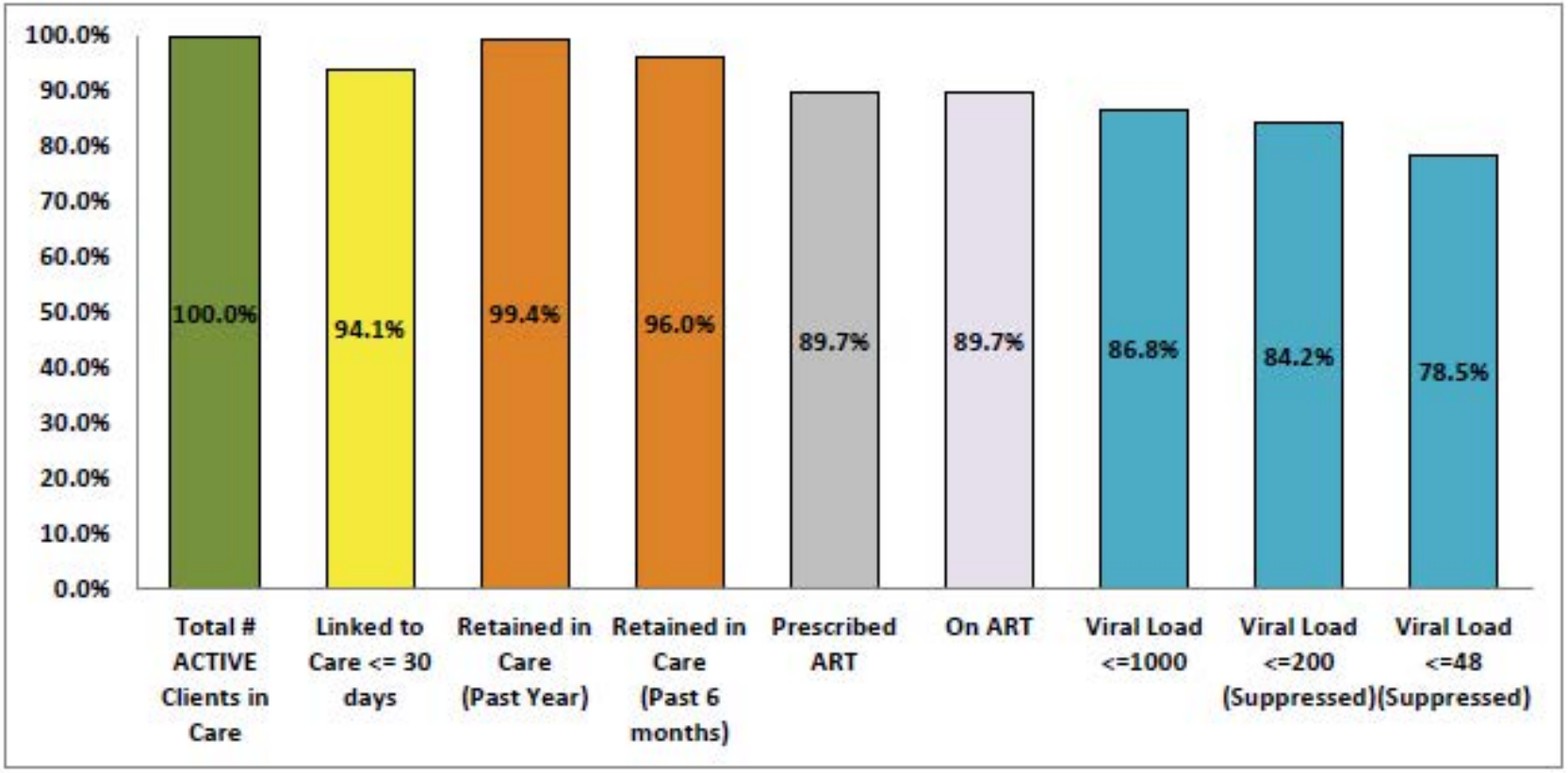
ORGANIZATIONAL CASCADE – MARCH 2016

Statistics shown are from CAREWare for all ACTIVE clients having at least one service during the reporting period: 04/01/2013 – 03/31/2016



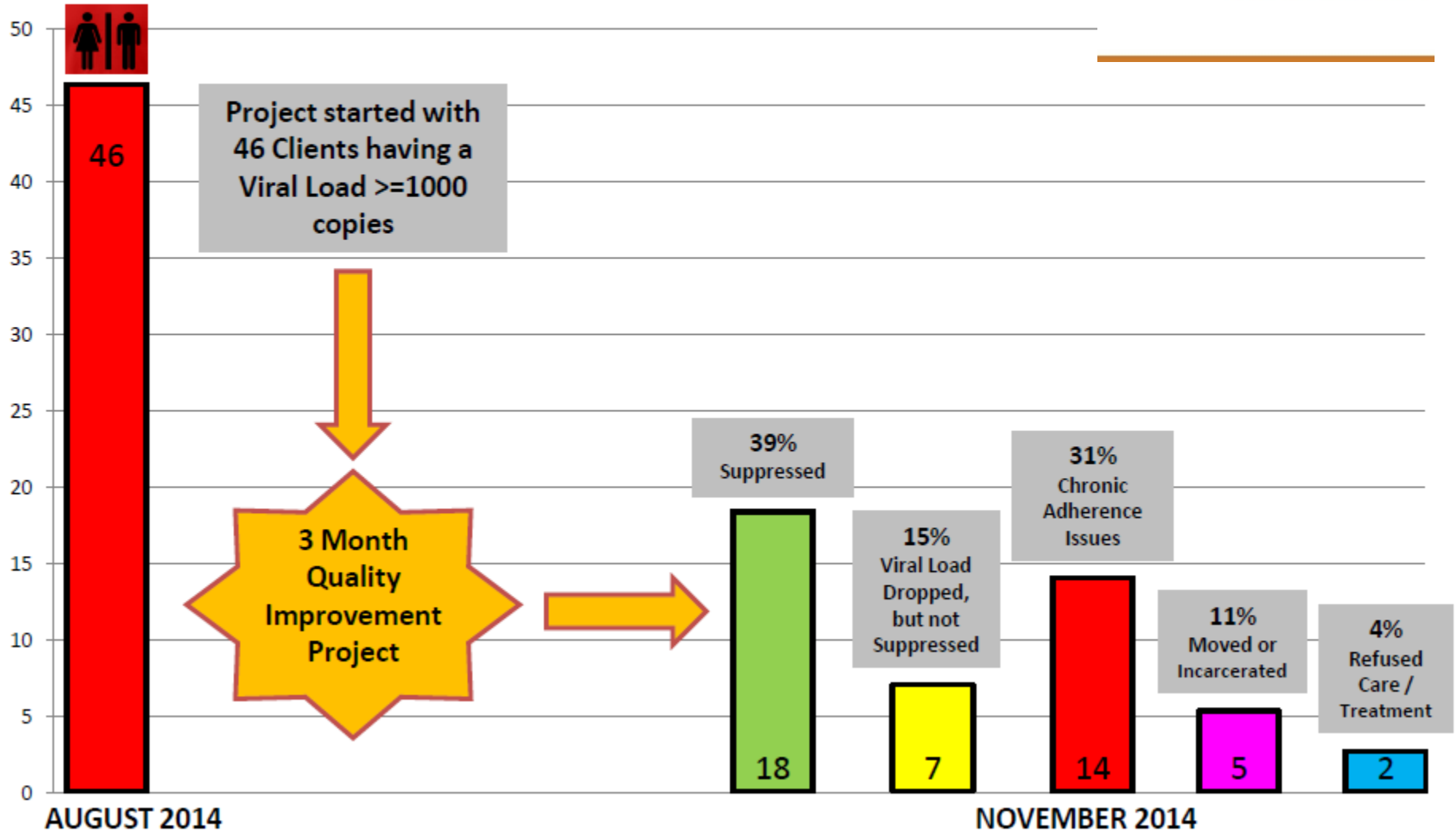
HIV CARE CONTINUUM STAGE	Numerator	Denominator	Numerator	Denominator	%	20/20 Target*
Total # ACTIVE	All ACTIVE Clients who have had at least one service in the past 3 years (excludes	All ACTIVE Clients who have had at least one service in the past 3 years (excludes	622	622	100.0%	

VIRAL LOAD SUPPRESSION PROJECT

AIDS ACTION COALITION

thrivealabama

GOAL: To increase the Viral Load Suppression Rate (<=48 copies)



NY STATE QUALITY MANAGEMENT: ORGANIZATIONAL ASSESSMENT DOMAIN

H. Ending the Epidemic Initiative

GOAL: To assess how the HIV program generates and uses facility level cascades to identify opportunities for improvement and develop data-driven improvement plans, to align initiatives, and to ensure that accurate and timely information about the care engagement and viral load suppression status of patients is available to all members of the facility so that they can effectively achieve both patient and public health outcomes as New York State accelerates its work to end the HIV epidemic.

The Ending the Epidemic section assesses how the program selects, gathers, analyzes and uses data based on the cascade of care to improve performance. This includes how cascade data are collected and used by leaders, staff and the quality program to improve outcomes along the cascade throughout the entire healthcare agency and to achieve program goals.

H.1. To what extent does the HIV program routinely generate and use facility level cascades to drive improvement and address gaps in care?

Each score requires completion of all items in that level and all lower levels (except any items in level 0)

Getting Started	0	☐ Facility does not report required rates of retention, treatment and viral load suppression.
Planning and initiation	1	Facility: ☐ Reports required rates of treatment, retention, and viral load suppression.
Beginning Implementation	2	Facility: ☐ Can annually construct a cascade that reports rates of retention, prescribed ART, and viral load suppression.
Implementation	3	Facility: ☐ Can conduct an analysis, based on its facility level cascade, to understand why patients do not meet expected outcomes and develop an intervention plan based on its analysis. ☐ Facility leaders, quality committee members, including providers and consumers, and facility staff use facility level cascade to develop and implement a quality improvement plan. ☐ Implements quality improvement plan, tracks the impact of interventions on facility level cascade rates, and responds to the results of QI projects. ☐ Involves community service agencies, including health homes, in process analysis and improvement plans to address linkage, engagement, re-engagement, and viral suppression. ☐ Makes its cascade visible to its internal stakeholders, and discusses it with its community advisory board.
Progress toward systematic approach to quality	4	Facility: ☐ Can measure whether or not HIV+ patients are linked to medical care when they engage with any unit of the facility (including, but not limited to emergency room and supportive services) and can identify the status of every HIV+ patient ever seen at the facility ☐ Can stratify data to identify potential disparities in care provided to sub-populations. ☐ Identifies patients who are lost to follow up and reaches out to its local health department or the State or other source to determine whether or not each patient has been engaged in care elsewhere.
Full systematic approach to quality management in place	5	Facility: ☐ Produces, at least annually, a full cascade that includes facility wide testing and linkage rates within the institution, including, but not limited to emergency departments, inpatient units and appropriate ambulatory care clinics ☐ Follows longitudinal cohorts of patients enrolled in care at the facility over a 24 month period to assess retention, treatment, and suppression.

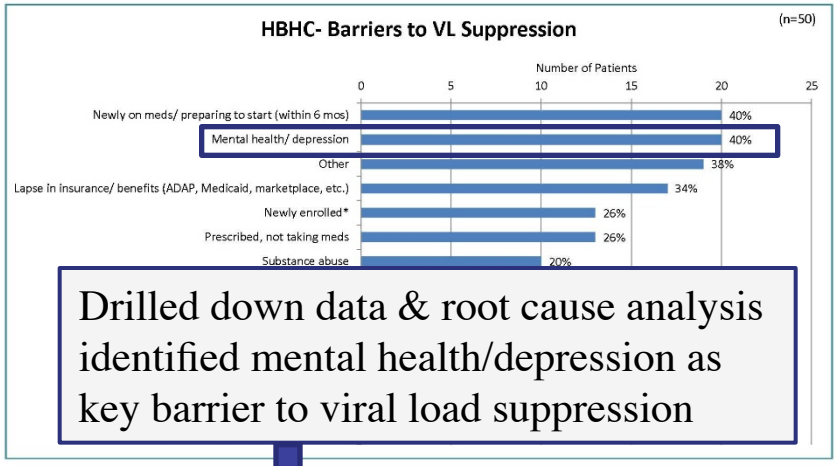
Comments:

Ryan White Clinical Quality Improvement

QI Project Example: Mental Health & Viral Load Suppression

May 3, 2016

Site 4: Howard Brown Health Center



Drilled down data & root cause analysis identified mental health/depression as key barrier to viral load suppression

PCMH reporting & care plan workflows

Improved VL suppression & care integration

Howard Brown Health RW CQM

- Root cause analysis – Drilled down data
- PDSA/QI cycles – Process improvement
- User-friendly reporting infrastructure
- PCMH integration – Care planning

Measurement Period	VLS
10/1/14 – 9/30/15	80.45%
4/1/15 – 3/31/16	83.30%

CHRONIC DISEASE MANAGEMENT

Patients Scheduled On: *05/03/2016*

Doctor	Patient ID	Patient Name	Problem	Visit Date/Time

PCMH DAILY CARE MANAGEMENT PLANS

Patients Scheduled On: *01/14/2016*

Site	Doctor	PatientId	Legal Name	Needs Care Plan						Visit Date/Time
				Last Viral Load	Depression Dx	Sliding Scale	Diabetes Dx	HbA1c %-Obsvalue	Nbr Total NoShow	

Howard Brown Health

Innovations:
The Present is the Future

- eICare (Housing Works)
- Alliance of Chicago Health Information Network
- Haiti EMR and CHW application (PLR)
- Using RHIOs in real time

Who are Housing Works and e-ICare?

Housing Works is the nation's largest community-based AIDS service organization, serving over 5,800 clients annually in the five boroughs of New York City through comprehensive prevention and care provided by a constellation of services including primary, mental, and behavioral health care. After experimenting with numerous software systems to help manage our forty-plus direct service programs without finding one that successfully fulfilled our complex needs, the Housing Works tech team decided to build one themselves.

E-ICare was born from the need to have a fully integrated system that can fulfill all reporting, billing, intake, and care coordination needs. It is the first completely user-developed application of its kind.

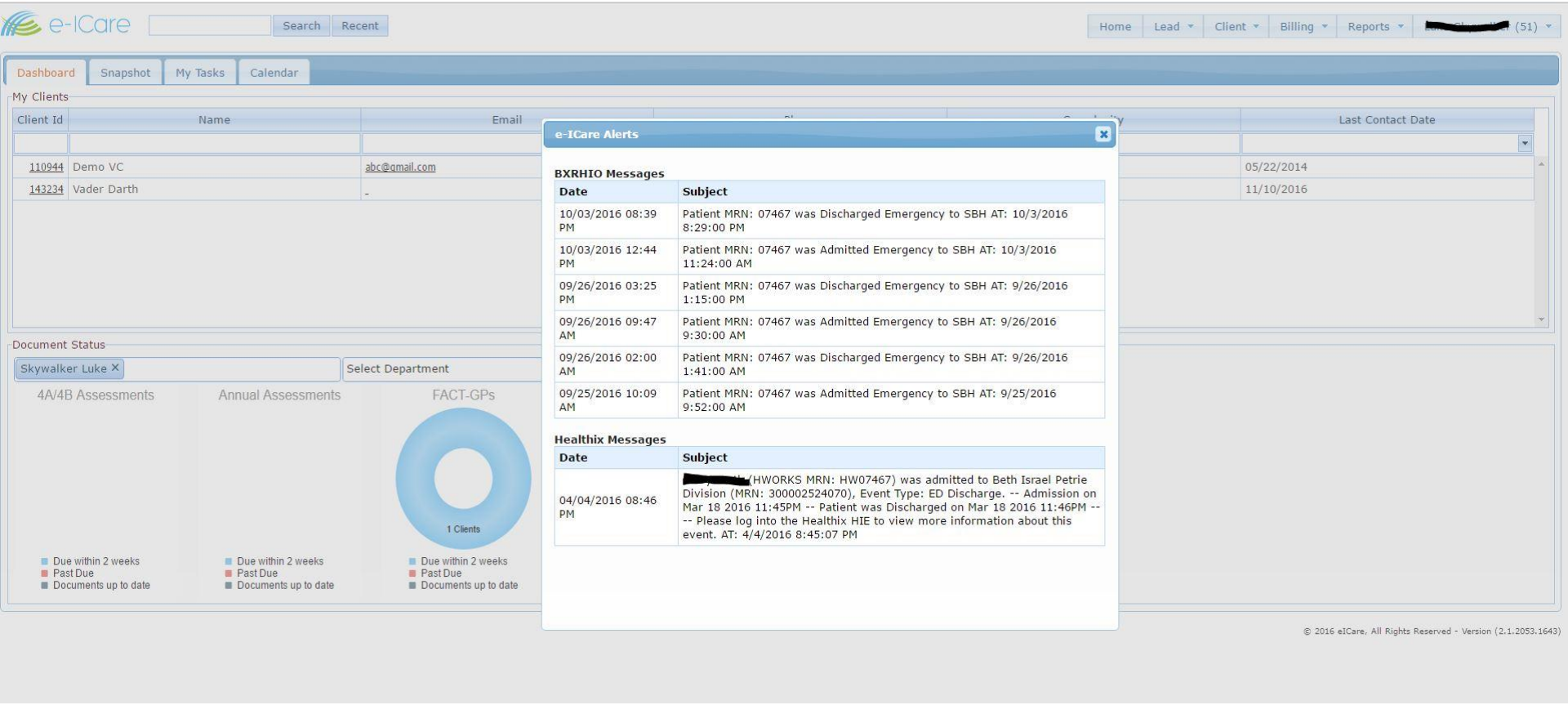
Who's Using Our Product?

e-ICare

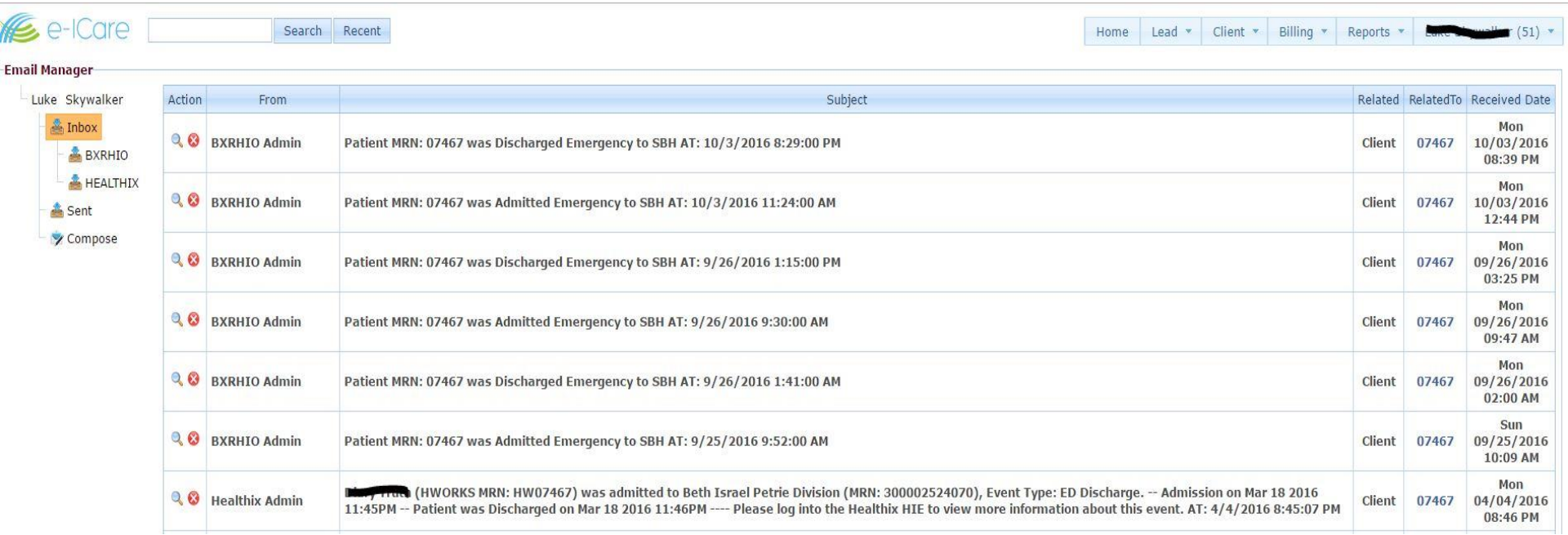
- Case Management agencies
- HIV service organizations
- Behavioral Health programs
- OMH funded programs
- OASAS funded programs
- Health Homes
- Direct service care providers, Case Managers, Care Coordinators, Outreach Workers

eICare Alerts & Notifications: Team-based Care

Admission and discharge alerts from affiliated RHIOs and Healthix, allowing case workers and clinical providers to collaborate effectively on individual care plans, re-engage clients who have dropped out of care and view entitlement information for additional services. Alerts about hospital service utilization are sent to community-based agency service providers.



These externally received alerts are simultaneously sent in email form to the user's account in e-ICare's integrated message center, where they can be accessed, forwarded, and saved:

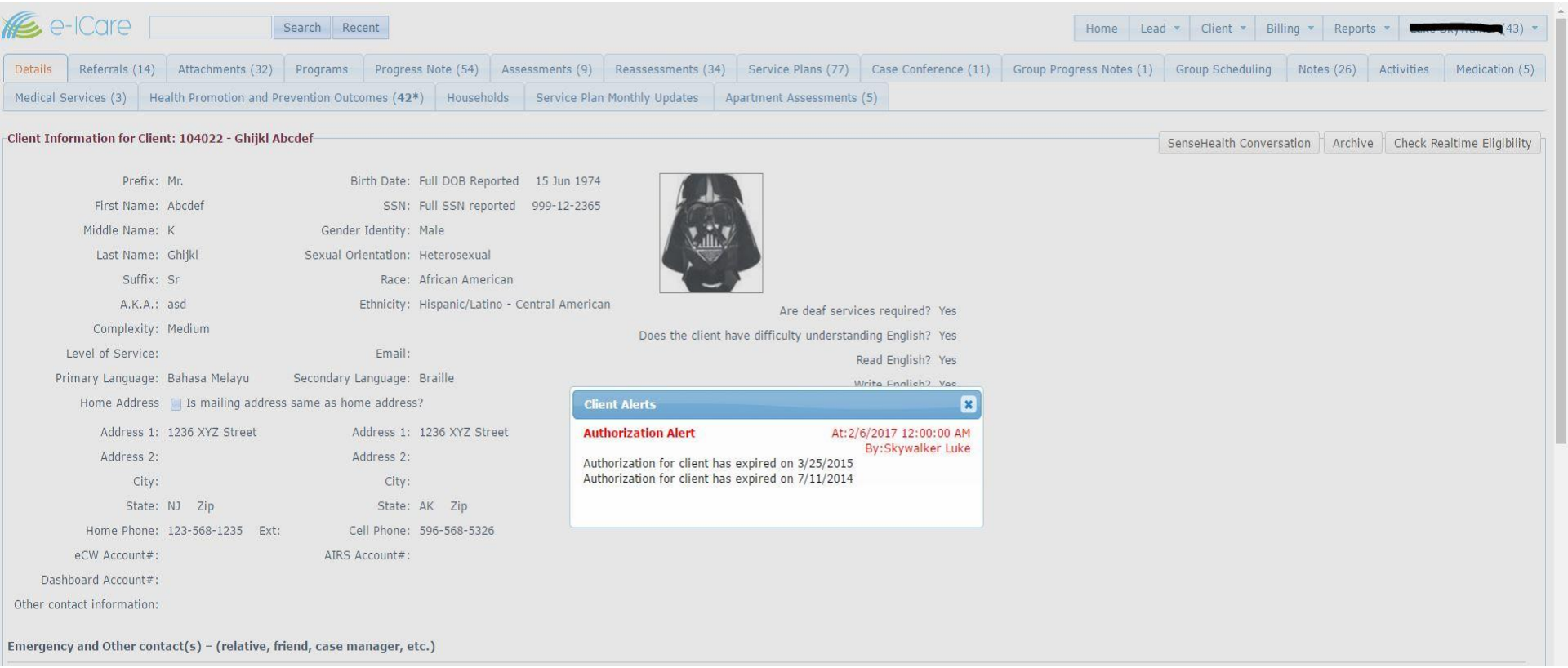


Action	From	Subject	Related	RelatedTo	Received Date
	BXRHIO Admin	Patient MRN: 07467 was Discharged Emergency to SBH AT: 10/3/2016 8:29:00 PM	Client	07467	Mon 10/03/2016 08:39 PM
	BXRHIO Admin	Patient MRN: 07467 was Admitted Emergency to SBH AT: 10/3/2016 11:24:00 AM	Client	07467	Mon 10/03/2016 12:44 PM
	BXRHIO Admin	Patient MRN: 07467 was Discharged Emergency to SBH AT: 9/26/2016 1:15:00 PM	Client	07467	Mon 09/26/2016 03:25 PM
	BXRHIO Admin	Patient MRN: 07467 was Admitted Emergency to SBH AT: 9/26/2016 9:30:00 AM	Client	07467	Mon 09/26/2016 09:47 AM
	BXRHIO Admin	Patient MRN: 07467 was Discharged Emergency to SBH AT: 9/26/2016 1:41:00 AM	Client	07467	Mon 09/26/2016 02:00 AM
	BXRHIO Admin	Patient MRN: 07467 was Admitted Emergency to SBH AT: 9/25/2016 9:52:00 AM	Client	07467	Sun 09/25/2016 10:09 AM
	Healthix Admin	[redacted] (HWORKS MRN: HW07467) was admitted to Beth Israel Petrie Division (MRN: 300002524070), Event Type: ED Discharge. -- Admission on Mar 18 2016 11:45PM -- Patient was Discharged on Mar 18 2016 11:46PM ---- Please log into the Healthix HIE to view more information about this event. AT: 4/4/2016 8:45:07 PM	Client	07467	Mon 04/04/2016 08:46 PM

e-ICare

All names are fictional

Client Alert to all Team Members Involved

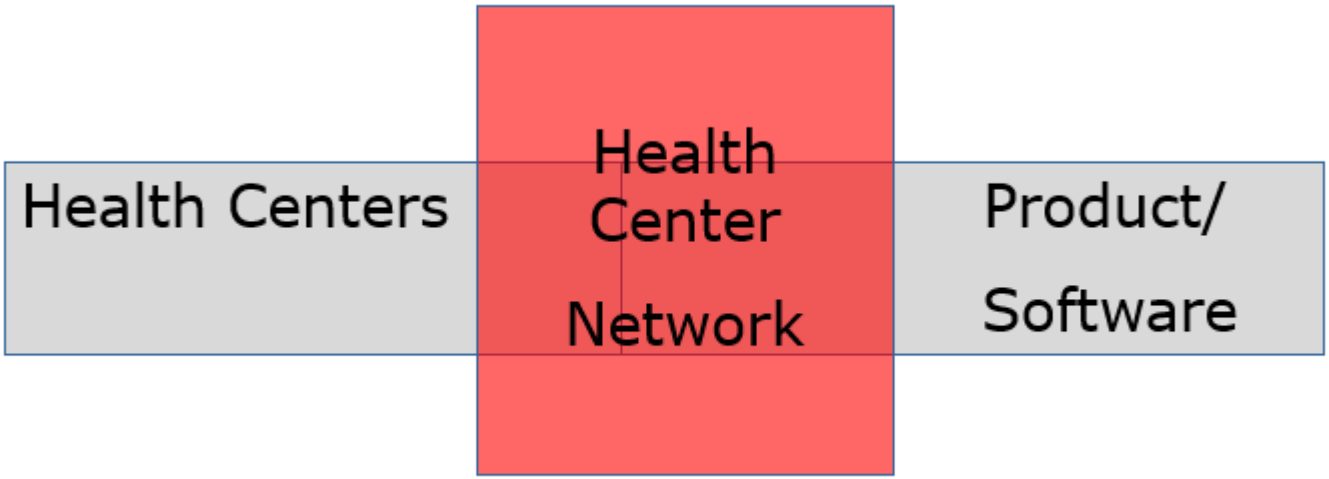


All names are fictional

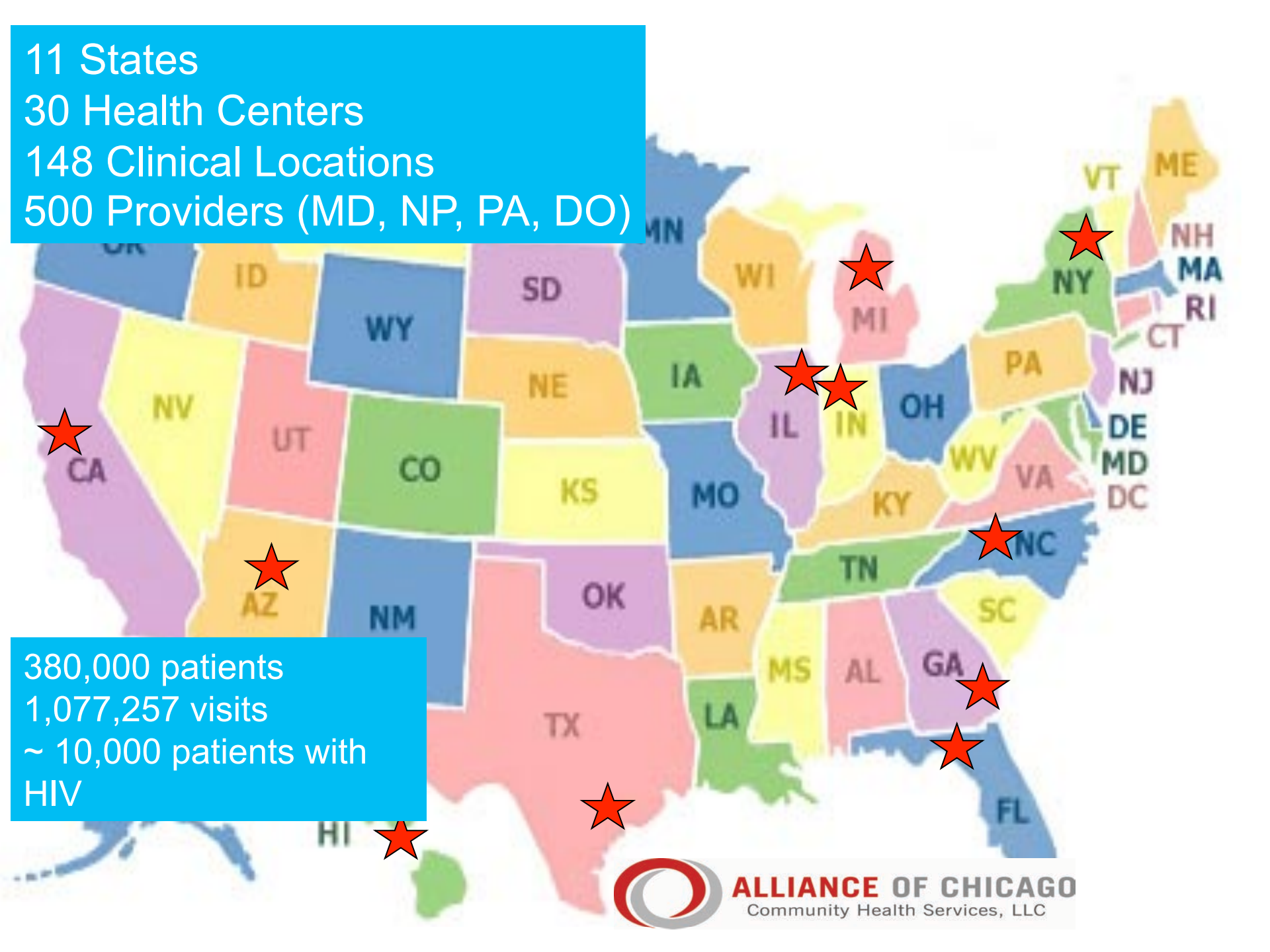
Alliance Overview

ALLIANCE OF CHICAGO
Community Health Services, LLC

- US Department of Health and Human Services funded (HRSA) **network/collaborative of Community Health Centers**
- Essentially a joint venture organization with the desire and ability to work together on building **common information system infrastructure to improve service delivery and health status**
- Dedication to **quality** and **use of data** to improve care



11 States
30 Health Centers
148 Clinical Locations
500 Providers (MD, NP, PA, DO)



380,000 patients
1,077,257 visits
~ 10,000 patients with HIV

ALLIANCE OF CHICAGO
Community Health Services, LLC

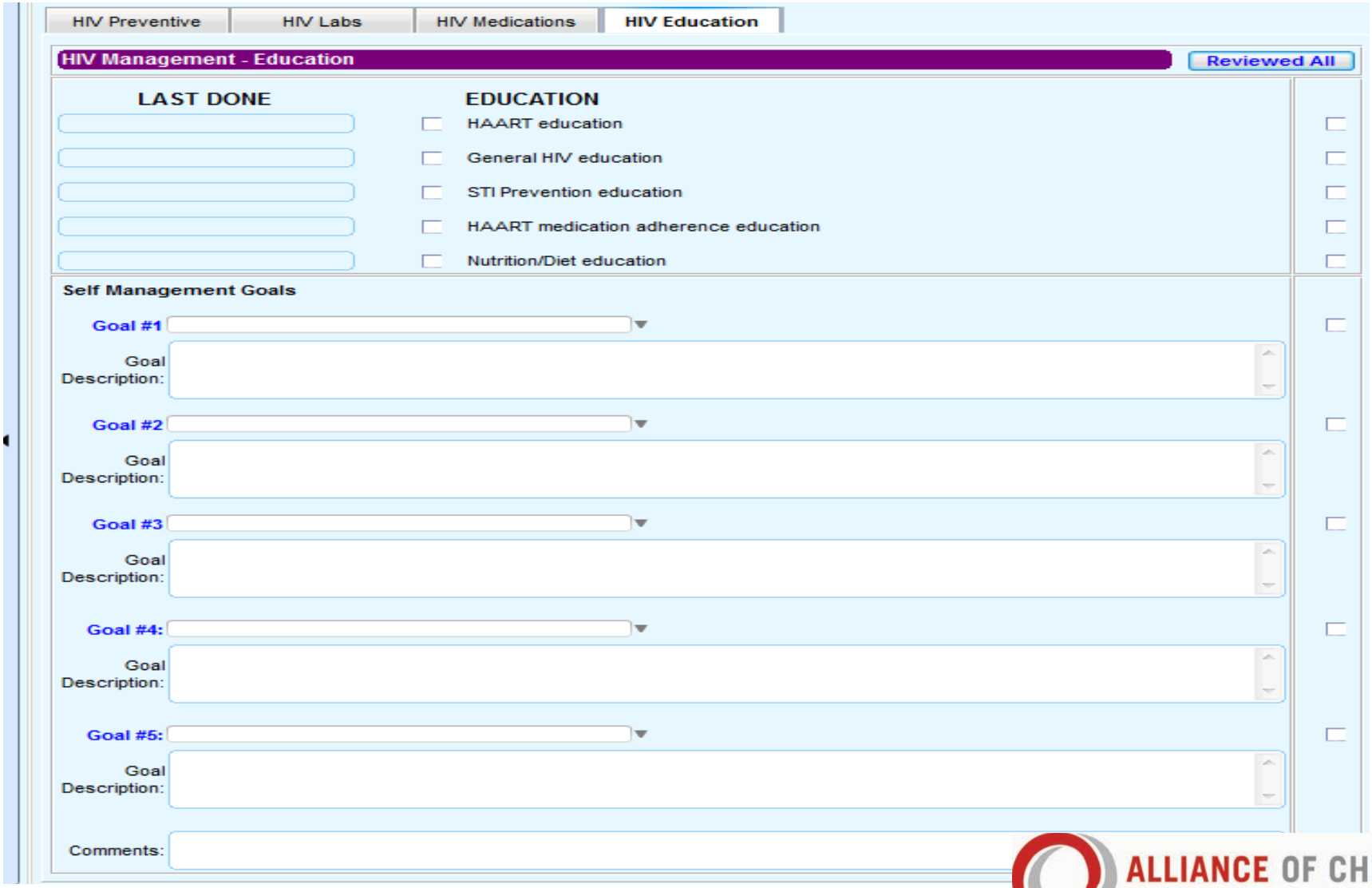
Examples of Full/Advanced EMRs

- Decision Support – Alerts/Prompts & Reminders
- Electronic ordering of labs and electronic return of results
- Electronic medication prescribing (eRx)
- Electronic notes or point of care clinical documentation
- **Quality Reporting & Analytics (data visualization)**
- Public Health Surveillance

Three Basic Categories of QI Interventions

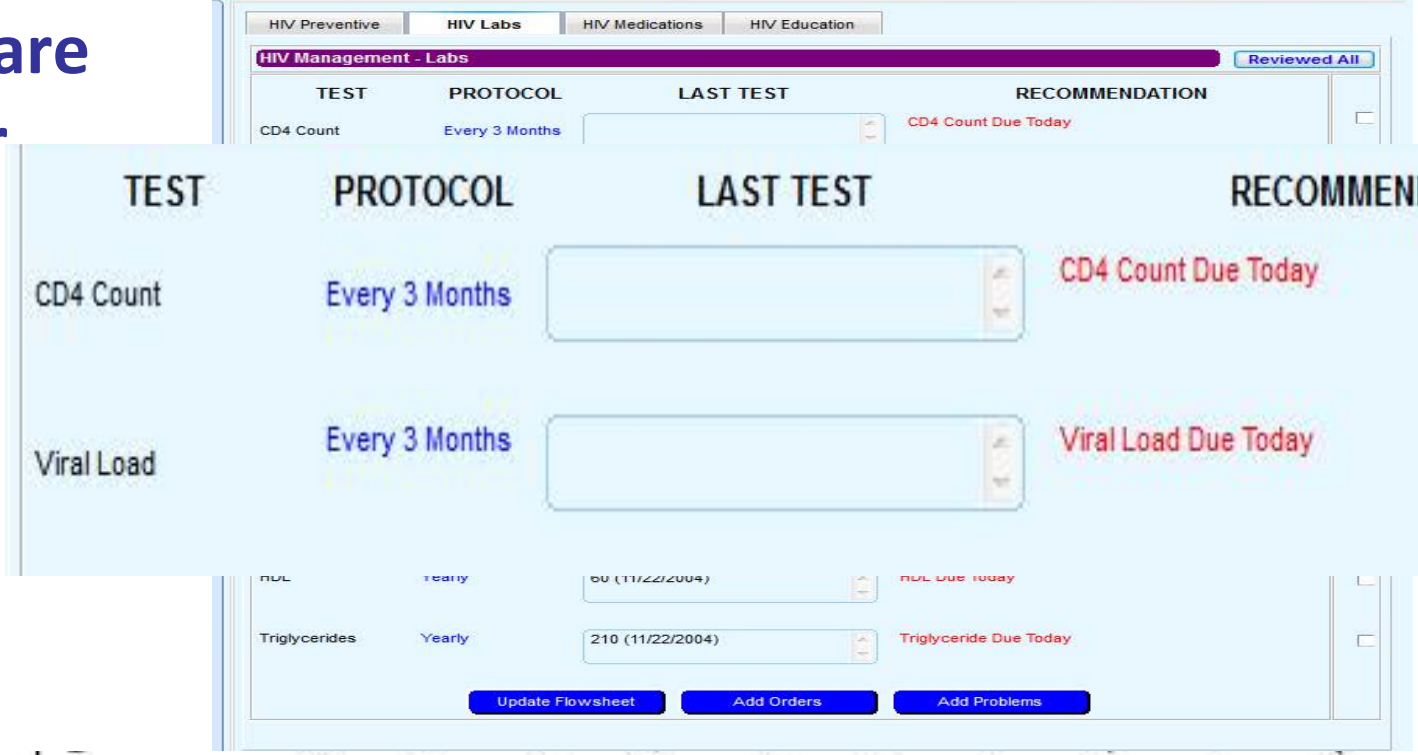
- Reminders and point of care
- Use data to support retention (after care)
- Use data for public health (population health)

HIV Education and Self Management

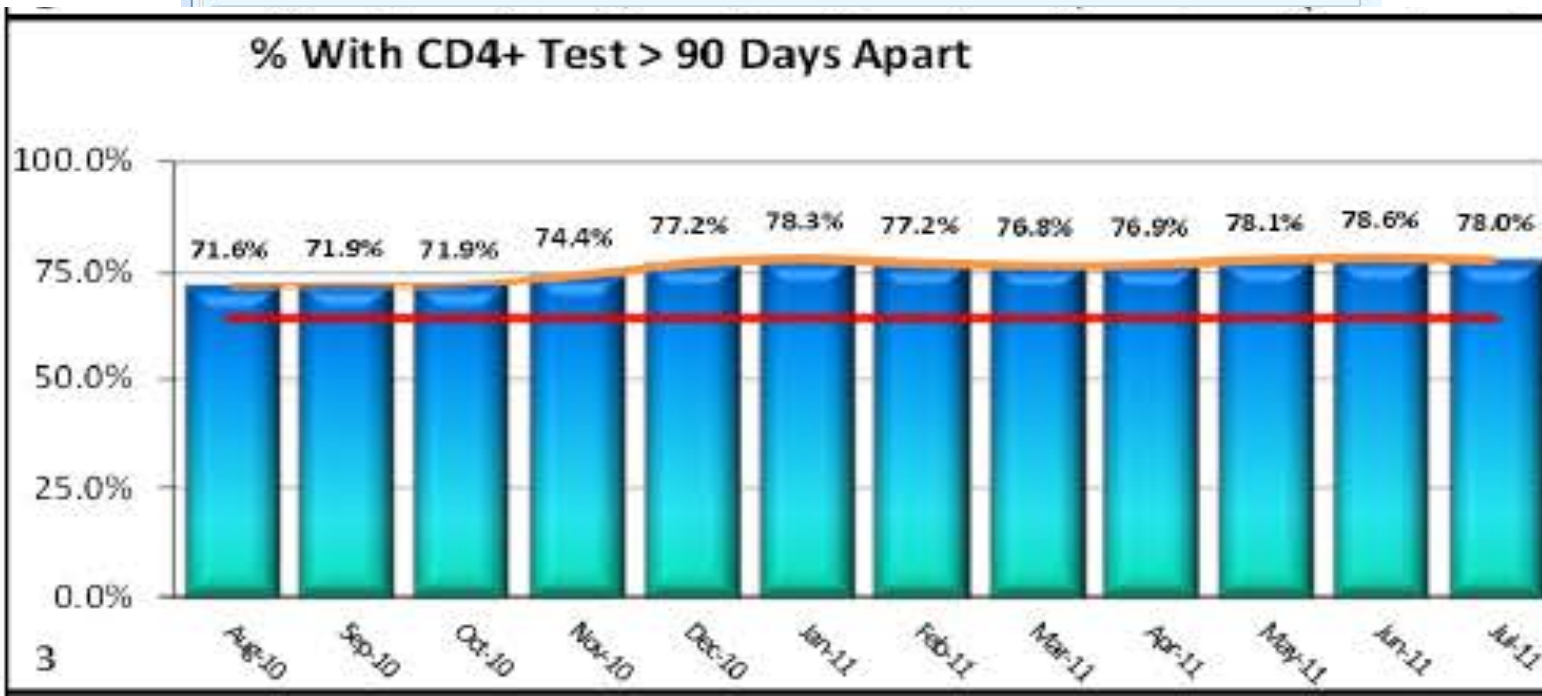


ALLIANCE OF CHICAGO
Community Health Services, LLC

Point of Care Reminder



Results



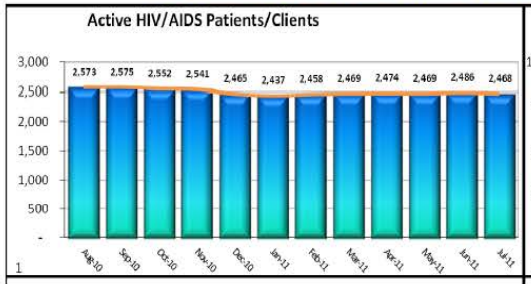
Monthly Quality Dashboard

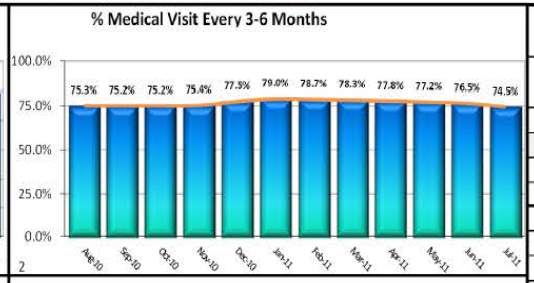
Alliance Total

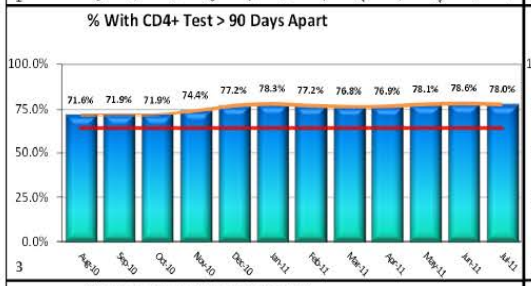
Health Outcomes Dashboard for the Year Ending July 31, 2011 **Note: Monthly measurements reflect 12 month rolling period**

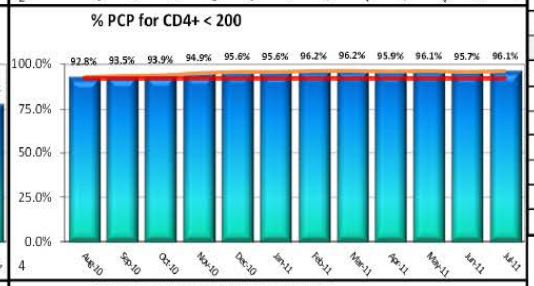
With Comparison To: Alliance Total = —— National Goal (where available) = ——

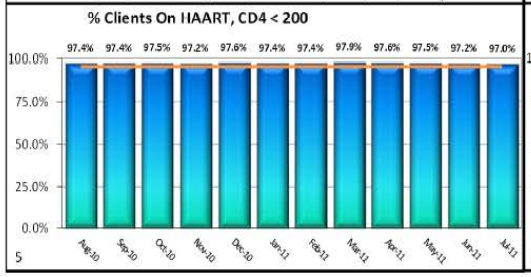
HIV/AIDS HAB 1st Tier Management of Antiretroviral Therapy

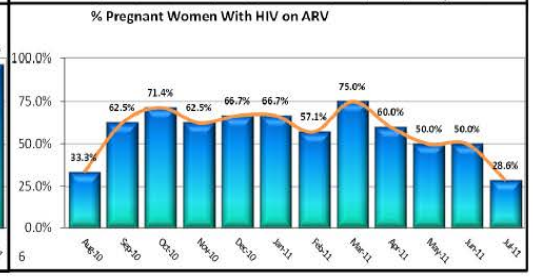










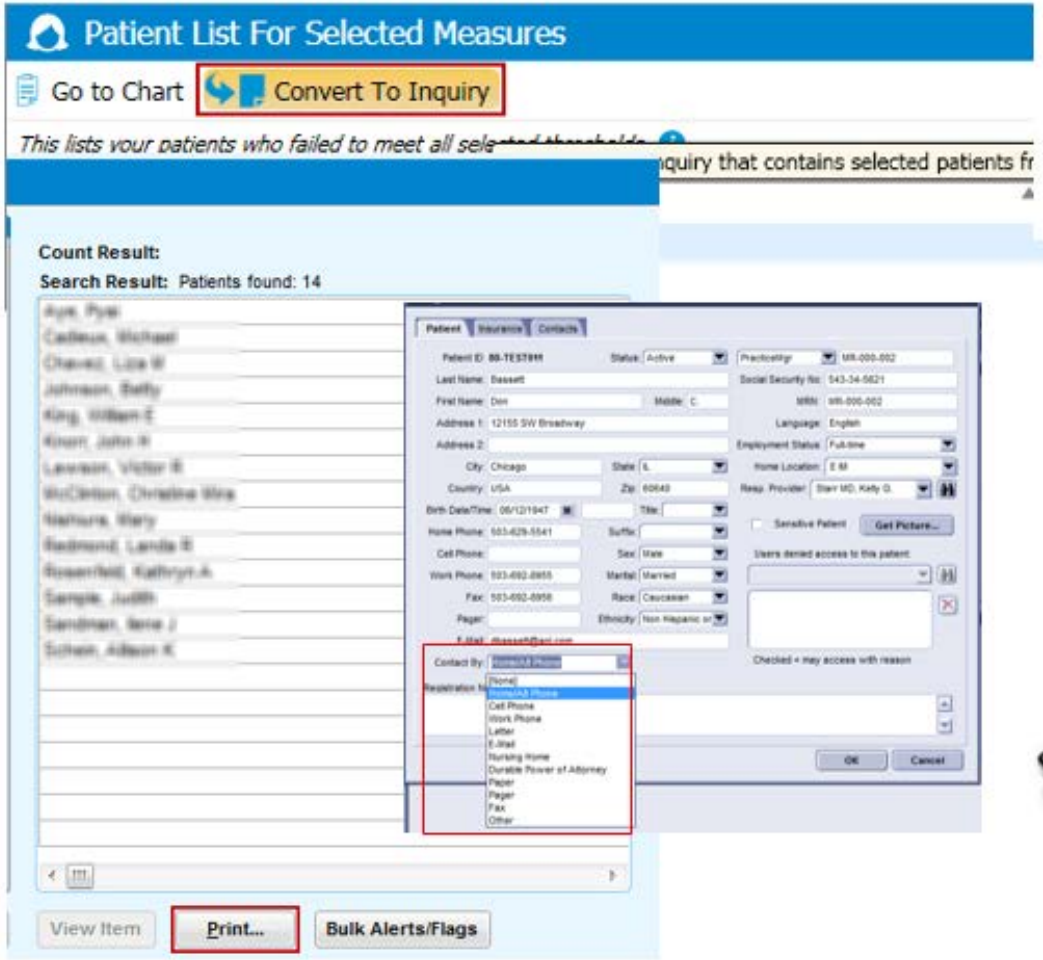


Stoplight Summary

#	Metrics	For the Year Ending: July 31, 2011 ALL	Alliance	Var %	Nat'l 50%	Var %
1	Active HIV/AIDS Patients/Clients	2,468				
	1st Tier Management of Antiretroviral Therapy					
2	% With Medical Visit Every 3-6 Months	74.5%				
3	% With CD4+ test >90 Days Apart	78.0%			63.9%	22.0%
4	% PCP for CD4+ < 200	96.1%			92.3%	4.2%
5	% Clients Prescribed HAART w/CD4 < 200	97.0%			95.7%	1.4%
6	% Pregnant women with HIV on ARV	28.6%				
			Not Applicable			
	2nd-3rd Tier Monitoring, Screening and Management					
7	% Lipid Screen for Patients on HAART	67.3%			97.9%	-31.3%
8	% With Dental Exam	22.9%			36.0%	-36.4%
9	% With Influenza Vaccine	50.2%				
10	% With Pneumococcal Vaccine	71.2%			93.0%	-23.5%
11	% With Smoking Cessation Couselling every 12 months	25.6%			98.4%	-73.9%
12	% With Valid Smoking Status	78.3%				
13	% Smokers With Cessation Advice, Treatment	77.5%				

ALLIANCE OF CHICAGO
Community Health Services, LLC

Contact Patients



Phone

Letter

Email

SMS/Text

Population Health

- On a weekly basis we extract information like influenza symptoms from the EMR and send to the health department
  - Symptoms include: cough, sore throat, fever >100
- The data is compiled with data from other healthcare facilities in the City of Chicago
- Data from our outpatient facilities show spikes in influenza symptoms prior to other traditional surveillance systems
- ***What might the potential applicability be to HIV?***

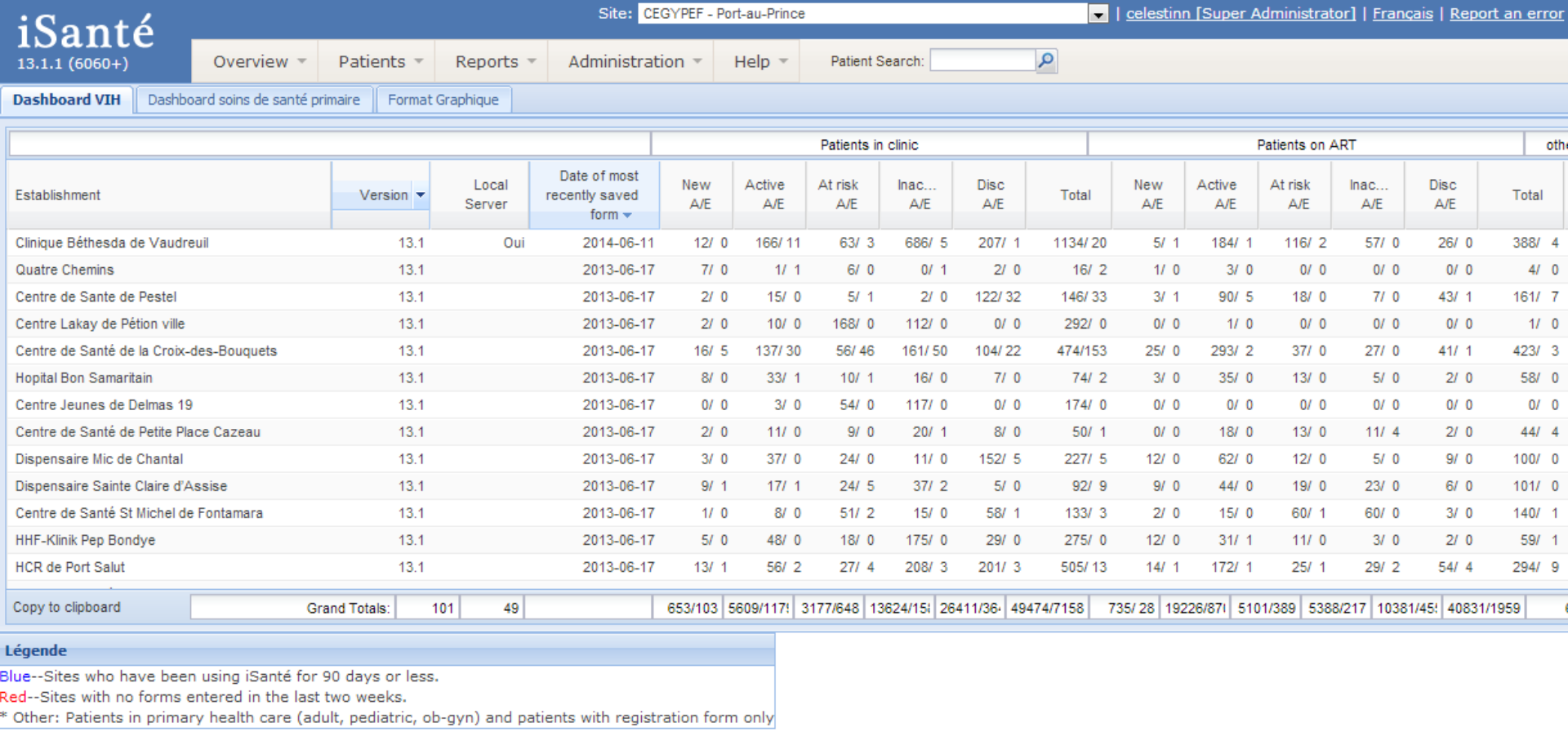
HIT Network and EMR Implementaiton: Considerations

- Successful implementation and use of HIT is more than the IT system – it requires people, process, & technology
- Clearly defined numerators and denominators that utilize data elements in the HIT system == “structured fields”
- Reporting algorithms that incorporate appropriate inclusion and exclusion criteria == “mapping”
- Ensure direct access to data by health care facility staff
- Develop a process to validate the aggregate data
- Successful system use requires on-going training and coaching

A Real-time Electronic Medical Record to Drive the Quality Improvement Program of Haiti

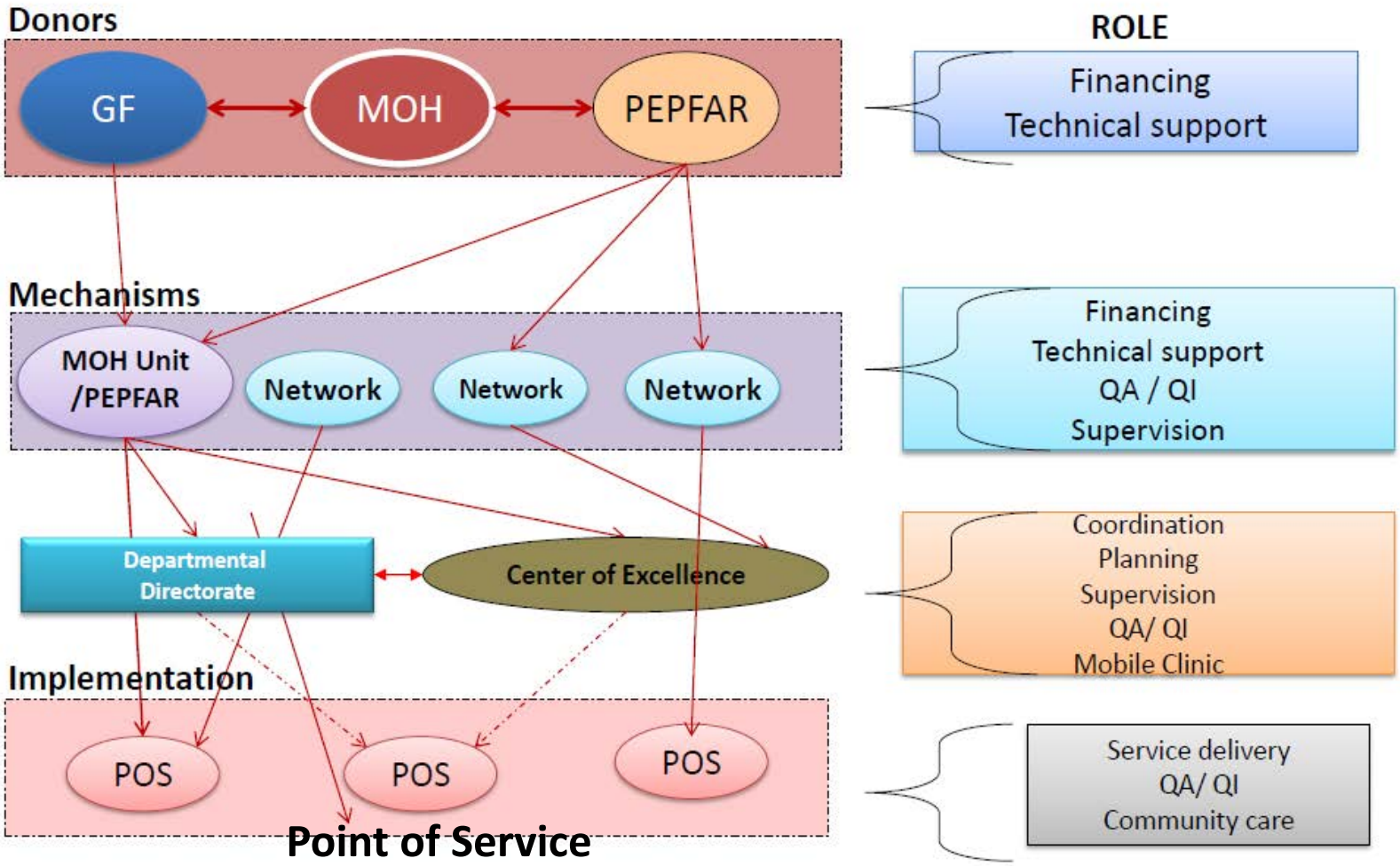
On behalf of The Ministry of Public Health and Population (MSPP) & CDC-Haiti

The HEALTHQUAL-Haiti Team



- In 2005 I-TECH began developing iSanté at the request of the Haiti MOH and the Centers for Disease Control and Prevention Global AIDS Program in Haiti (CDC GAP). iSanté is an electronic medical record (EMR) that supports both individual and population health care of patients in Haiti.
- >100 sites are using iSanté including government facilities, private hospitals, FBOs, NGOs, and other networks, with >160,000 patient records. 49 iSanté clinics / hospitals have local servers, which eliminates reliance on slow Internet connections and allows automatic replication of patient data to a central patient data repository.

MANAGEMENT MODEL OF THE PROGRAM



Wide set of reports for decision making

Multiple retrospective or prospective reports that generate case lists for care reminders can be used at all levels

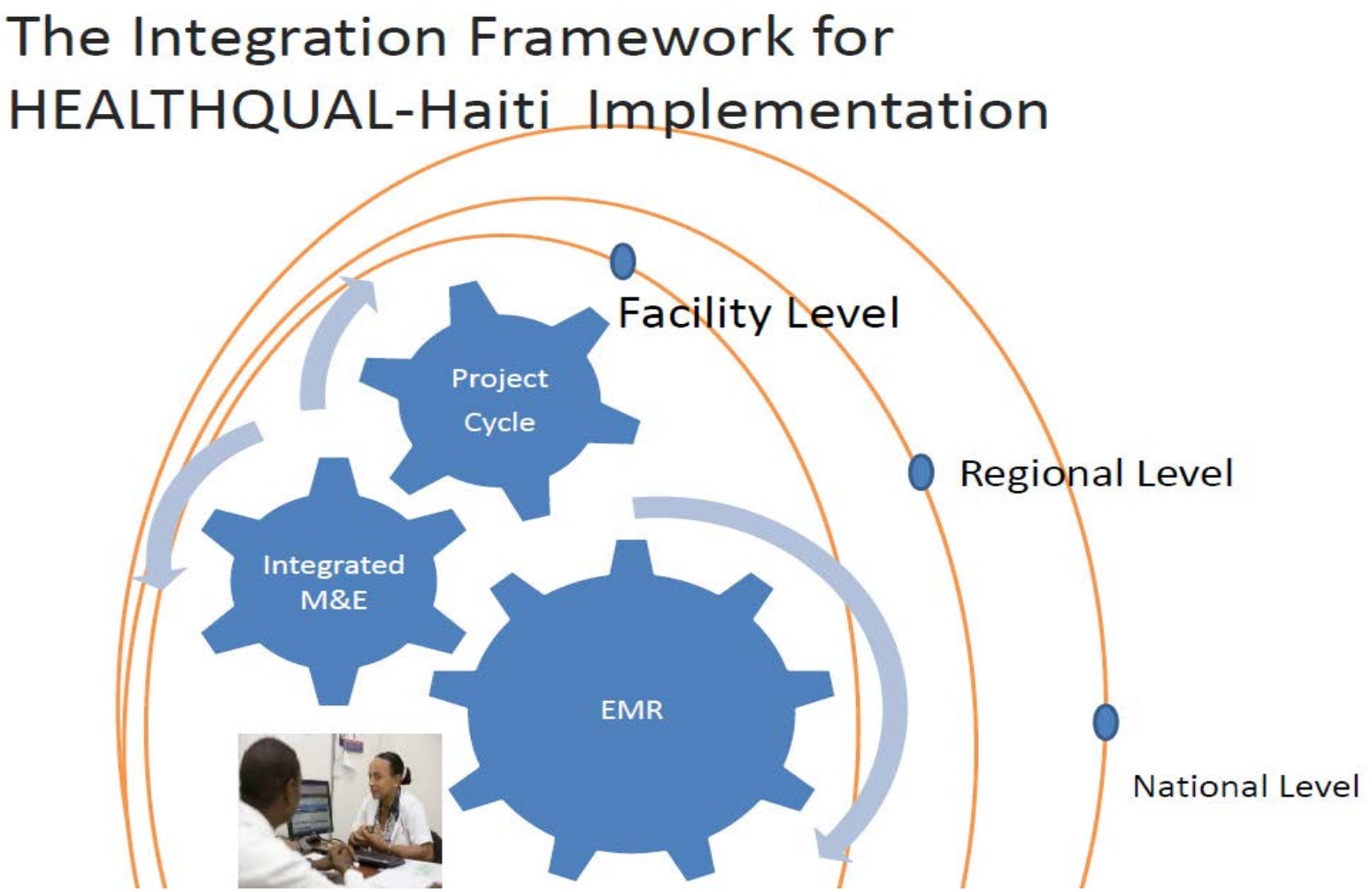
- **Clinics**
- **Departments**
- **National**

Visit scheduled next 7 days

Clinic Patient ID	Form	National ID	Age	Gender	Patient Status	Next Visit Date
ST02580	Followup	AJ1056I	57	F	Active on ARVs	06/21/13
ST02580	Prescription	AJ1056I	57	F	Active on ARVs	06/21/13
ST00126	Followup	MJ0673E	40	F	Active on ARVs	06/20/13
EE00232	Pediatric Followup	TS0912G	1	F	Active in clinic	06/20/13
ST03429	Pediatric Followup	ML0310R	3	M	Active in clinic	06/20/13
EE00227	Pediatric Followup	CB0912T	1	M	Active in clinic	06/20/13
EE00232	Pediatric Prescription	TS0912G	1	F	Active in clinic	06/20/13
ST03429	Pediatric Prescription	ML0310R	3	M	Active in clinic	06/20/13
EE00227	Pediatric Prescription	CB0912T	1	M	Active in clinic	06/20/13
EE00290	Pediatric Followup	JG0213T	0	M	Active in clinic	06/20/13
EE00217	Pediatric Followup	SG0812N	1	M	Active in clinic	06/20/13
EE00290	Pediatric Prescription	JG0213T	0	M	Active in clinic	06/20/13
EE00217	Pediatric Prescription	SG0812N	1	M	Active in clinic	06/20/13
EE00176	Pediatric Followup	VJ0512N	1	F	Active in clinic	06/20/13
EE00176	Pediatric Prescription	VJ0512N	1	F	Active in clinic	06/20/13
ST03497	Followup	RR0563C	50	F	Active in clinic	06/20/13
ST02245	Followup	BR0778O	35	F	Active on ARVs	06/21/13
ST01833	Followup	FR0884M	29	F	Active in clinic	06/21/13
ST01833	Prescription	FR0884M	29	F	Active in clinic	06/21/13
ST02245	Prescription	BR0778O	35	F	Active on ARVs	06/21/13
ST03182	Followup	AJ0190B	23	M	Active on ARVs	06/24/13
ST03182	Prescription	AJ0190B	23	M	Active on ARVs	06/24/13
ST00749	Followup	DM1057M	56	M	Active on ARVs	06/24/13
ST01023	Followup	FZ0972V	41	M	At risk of discontinuation on ARVs	06/21/13
ST01540	Followup	RM1183A	30	M	Active on ARVs	06/24/13
ST00749	Prescription	DM1057M	56	M	Active on ARVs	06/24/13
ST02637	Followup	JJ0878V	35	F	Active in clinic	06/21/13
ST02721	Followup	RT1078M	35	F	Active in clinic	06/20/13
ST00860	Followup	JC0166L	47	F	Active on ARVs	06/21/13
ST01540	Prescription	RM1183A	30	M	Active on ARVs	06/24/13
ST03107	Followup	NL1082C	31	M	Active in clinic	06/21/13
ST02798	Followup	WC0785G	28	M	Active on ARVs	06/24/13

USING THE EMR DATA AT THE NATIONAL LEVEL:

A Systematic Approach to Quality Improvement



HEALTHQUAL Report

11/30/12 - 05/31/13

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Patient Retention in ART Care

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	352	813	1165	368	863	1231	95,7	94,2	94,6
Ped.	26	23	49	15	18	33	15	18	33	100	100	100
Total	527	1204	1731	367	831	1198	383	881	1264	95,8	94,3	94,8

Patient Retention in Clinical Care

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
130	308	438	133	318	451	97,7	96,9	97,1
8	5	13	11	5	16	72,7	100	81,3
138	313	451	144	323	467	95,8	96,9	96,6

CD4 Monitoring

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
177	402	579	379	851	1230	46,7	47,2	47,1
5	2	7	11	13	24	45,5	15,4	29,2
182	404	586	390	864	1254	46,7	46,8	46,7

CD4 at Enrollment

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	102	215	317	111	256	367	91,9	84	86,4
Ped.	26	23	49	0	0	0	0	0	0	0	0	0
Total	527	1204	1731	102	215	317	111	256	367	91,9	84	86,4

ART Enrollment

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
64	177	241	88	246	334	72,7	72	72,2
3	5	8	4	5	9	75	100	88,9
67	182	249	92	251	343	72,8	72,5	72,6

Cotrimoxazole Prophylaxis

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
484	1131	1615	495	1154	1649	97,8	98	97,9
28	27	55	50	49	99	56	55,1	55,6
513	1158	1671	545	1203	1748	94,1	96,3	95,6

Adherence Assessment

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	327	745	1072	332	764	1096	98,5	97,5	97,8
Ped.	26	23	49	13	16	29	13	16	29	100	100	100
Total	527	1204	1731	340	761	1101	345	780	1125	98,6	97,6	97,9

Level of Adherence

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
0	0	0	327	745	1072	0	0	0
0	0	0	13	15	28	0	0	0
0	0	0	340	760	1100	0	0	0

TB Screening

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
57	151	208	58	157	215	98,3	96,2	96,7
11	9	20	11	9	20	100	100	100
68	160	228	69	166	235	98,6	96,4	97

Isoniazid Prophylaxis

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	160	345	505	467	1122	1589	34,3	30,7	31,8
Ped.	26	23	49	0	0	0	6	11	17	0	0	0
Total	527	1204	1731	160	345	505	473	1133	1606	33,8	30,5	31,4

Nutritional Assessment

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
481	1142	1623	495	1154	1649	97,2	99	98,4
25	23	48	71	72	143	35,2	31,9	33,6
506	1165	1671	566	1226	1792	89,4	95	93,2

Severe Malnutrition Monitoring

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
1	3	4	481	1142	1623	0,2	0,3	0,2
1	0	1	19	18	37	5,3	0	2,7
2	3	5	500	1160	1660	0,4	0,3	0,3

Family Planning

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	0	935	935	0	1029	1029	0	90,9	90,9
Ped.	26	23	49	0	0	0	0	0	0	0	0	0
Total	527	1204	1731	0	935	935	0	1029	1029	0	90,9	90,9

PMTCT

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
0	32	32	0	36	36	0	88,9	88,9
0	0	0	0	0	0	0	0	0
0	32	32	0	36	36	0	88,9	88,9

Syphilis Treatment

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
0	2	2	0	5	5	0	40	40
0	0	0	0	0	0	0	0	0
0	2	2	0	5	5	0	40	40

Cervical Cancer Screening

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	0	89	89	0	993	993	0	9	9
Ped.	26	23	49	0	0	0	0	0	0	0	0	0
Total	527	1204	1731	0	89	89	0	993	993	0	9	9

Mental Health Evaluation

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
102	220	322	495	1154	1649	20,6	19,1	19,5
0	0	0	71	72	143	0	0	0
102	220	322	566	1226	1792	18	17,9	18

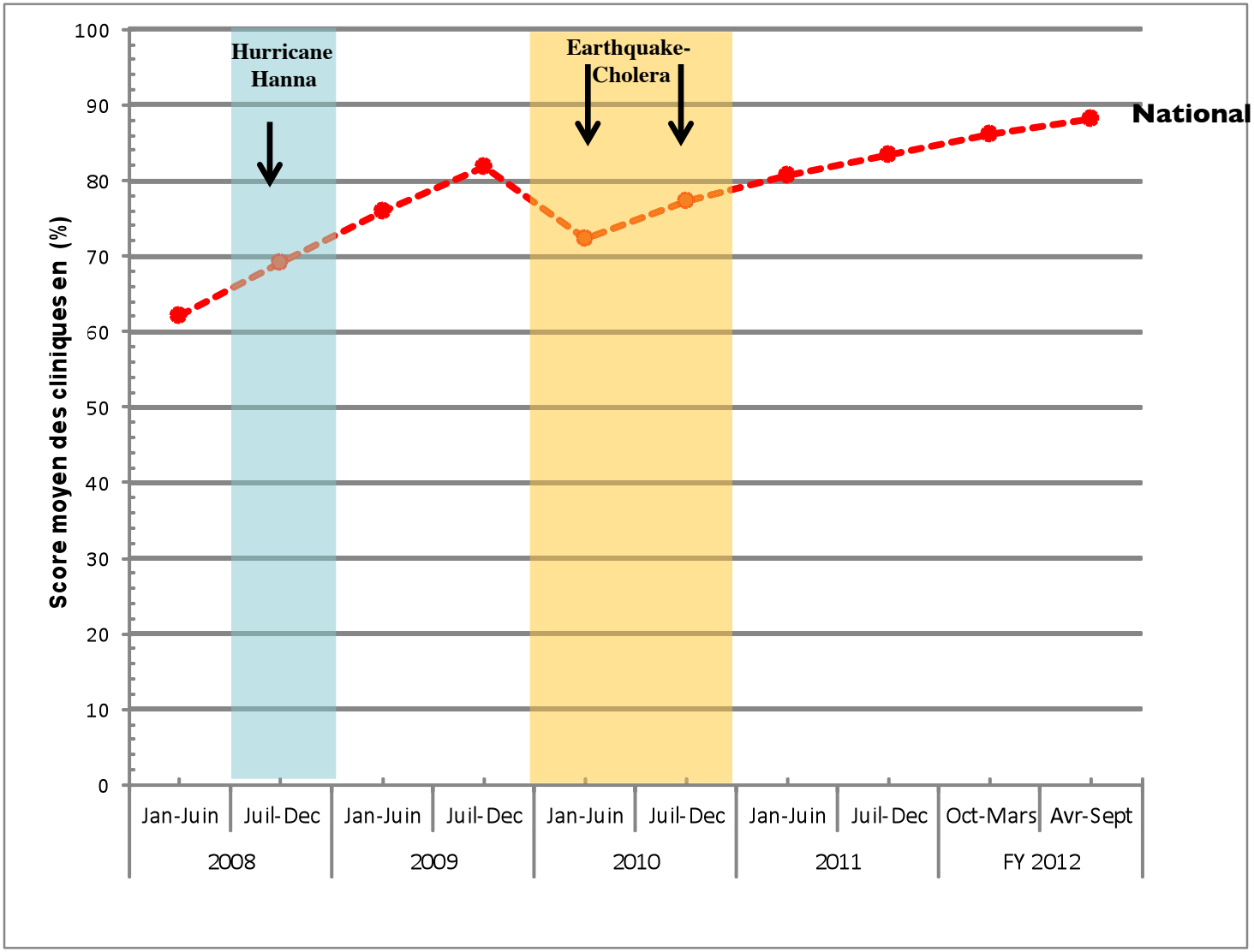
Pediatric Immunization

Num.			Den.			%		
M	F	Tot	M	F	Tot	M	F	Tot
0	0	0	0	0	0	0	0	0
18	14	32	62	65	127	29	21,5	25,2
18	14	32	62	65	127	29	21,5	25,2

Pediatric Early HIV Detection

Active Patients				Num.			Den.			%		
Type	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot
Adult	501	1181	1682	0	0	0	0	0	0	0	0	0
Ped.	26	23	49	7	6	13	45	49	94	15,6	12,2	13,8
Total	527	1204	1731	7	6	13	45	49	94	15,6	12,2	13,8

Cotrimoxazole Prophylaxis (N: 10666 → 36685 pts)

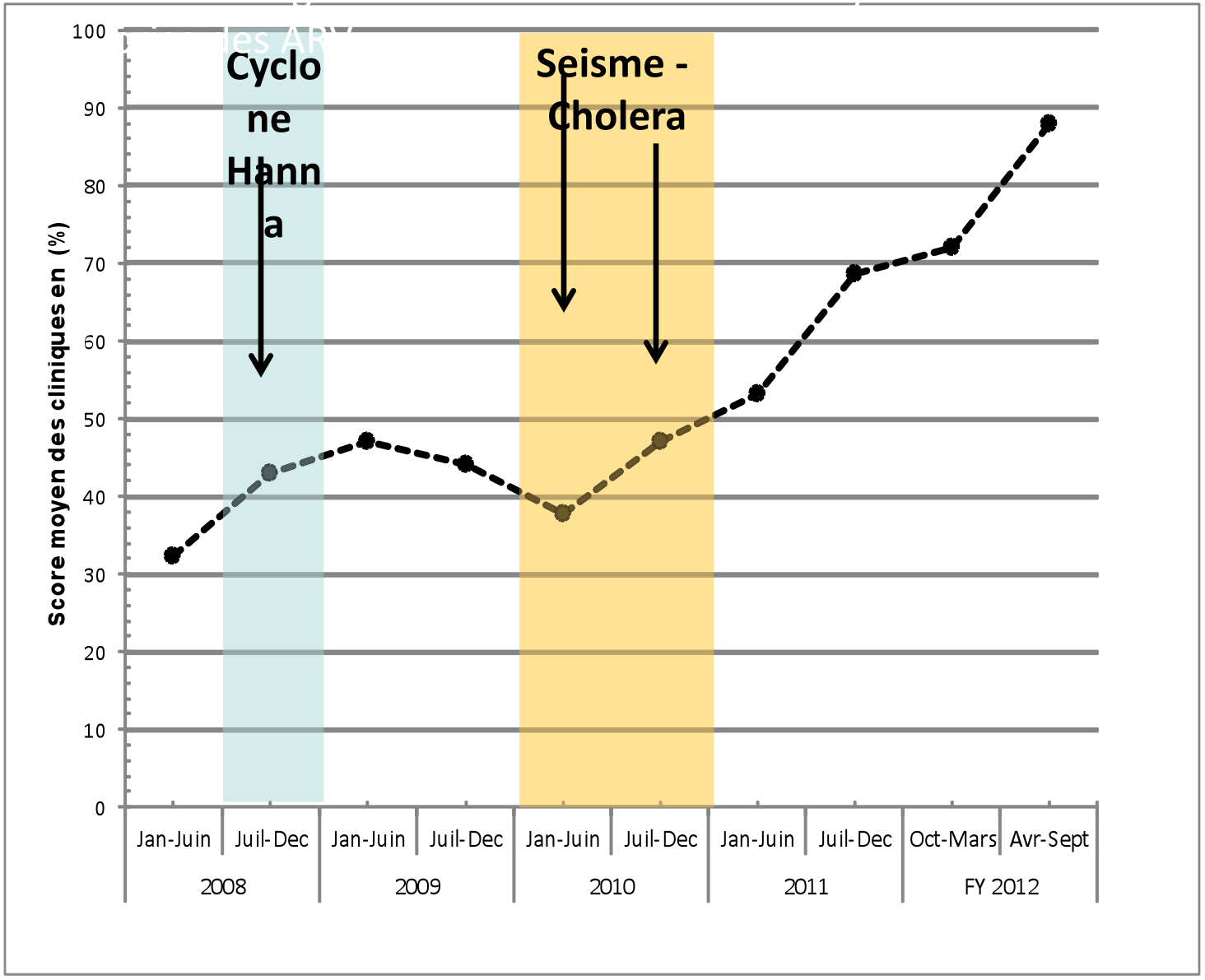


Interventions

- Diffusion of National Guidelines to all clinics
- Distribution of case list of taken from iSanté to the pharmacy unit
- Systematic data entry of pharmacy form in iSanté

PMTCT (N : 289 → 737 pts)

National

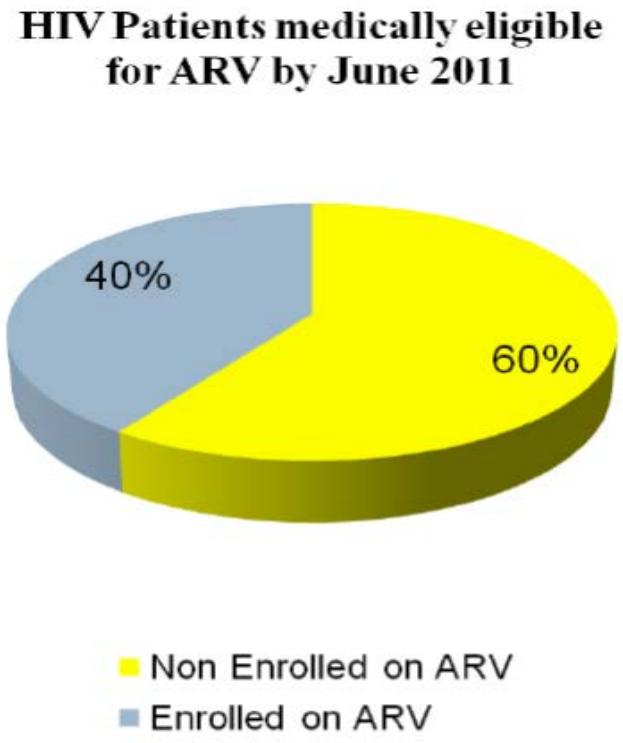


Interventions

- Revision and dissemination of PMTCT Guidelines
- Introduction of female Case Managers in all clinics.
- Agressive Tracking of HIV+ PW by field agents in the community.
- Early dispensing of ART HIV+ PW
- Systematic data entry of OBGYN and pharmacy form in iSanté.

Focus: ART Enrollment

- For FY12 the National Target for ARV Enrollment is 10,000 patients
- All Network sites will participate and contribute depending of their number of eligible patients
- All ARV clinics in national HEALTHQUAL program were required to work on ARV Project Improvement this year.
- Each ARV clinic was given a specified goal to achieve.



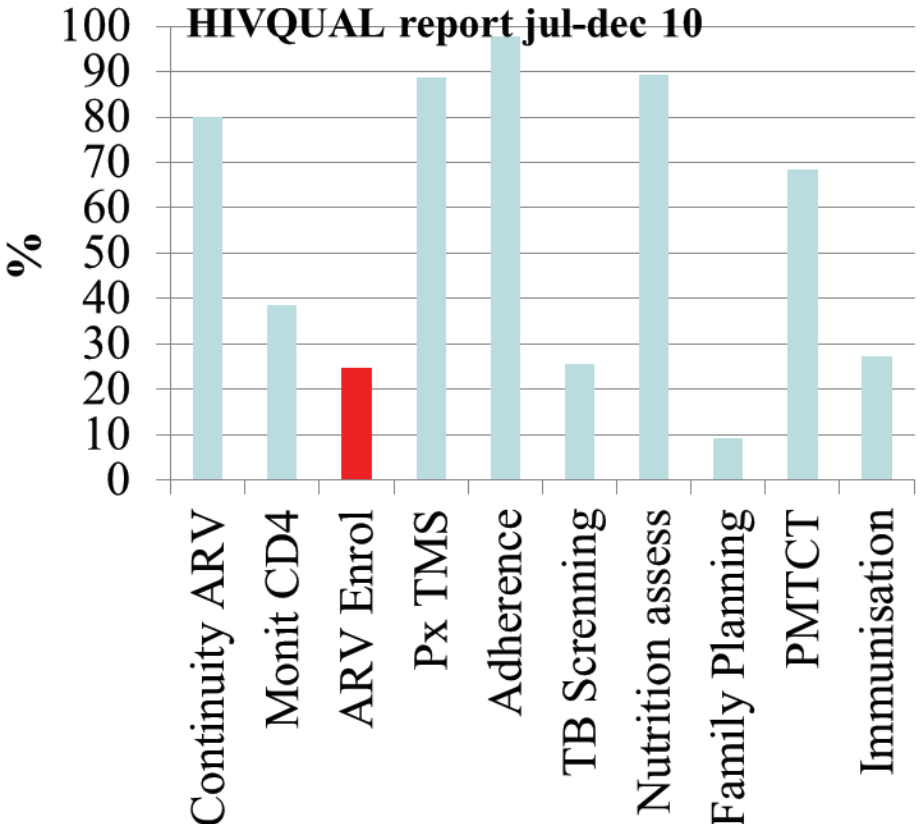
Improvement of ART enrollment through improvement of quality of service

Experience of Hopital Universitaire de la Paix

Derival Raymonde, MD; Bogart Mie Johanne, Nurse; Maisonneuve Yvette, Nurse; Isaac Daniel, SW; Aristile William,Data Clerk; Auguste Marie Carmen , Nurse; Jenny X; Clerrier Nadege

BACKGROUND -Rationale of the ART Enrollment project

All medically eligible HIV positive patients should be enrolled on ART. ART enrollment will reduce the morbidity and mortality rate and improve the patients' quality of life.



From our Electronic Medical Record, data of HIVQUAL report from July to Dec 10 revealed that only 82 among 331 medically eligible patients (24.8%) had benefited from ART enrollment.

EMR DATA DRIVES IMPROVEMENT

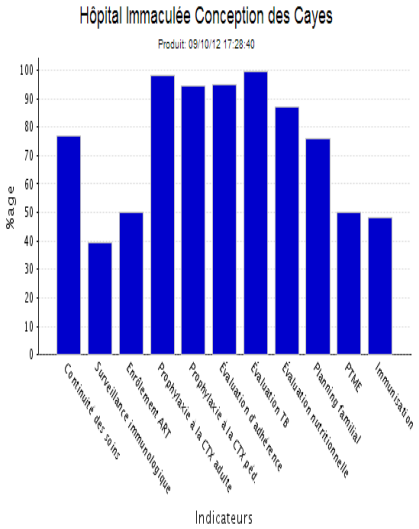
Rapport HIVQUAL

31/03/12 - 30/09/12

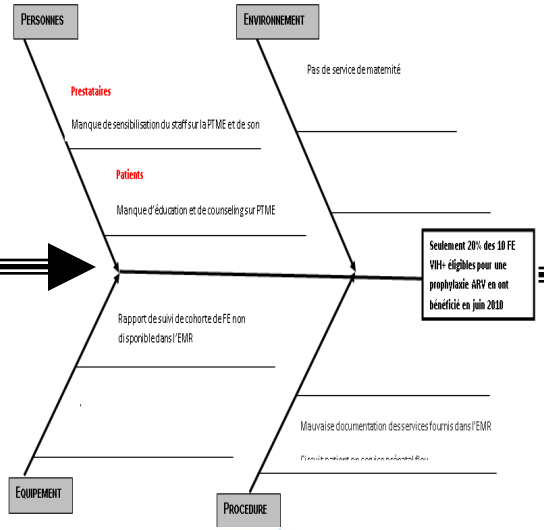
Produit: 09/10/12 17:07:41

			Continuité des soins			Surveillance immunologique			Enrôlement ART			Prophylaxie à la cotrimoxazole			Évaluation d'adhérence			Évaluation TB			Évaluation nutritionnelle			Planning familial			PTME			Immunisation		
	Compte	Type	ART			CD4									Ass.			Scrn.													
Clinique	No.		Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%	Num.	Dén.	%
Hôpital Immaculée Conception des Cayes	2665	Adulte	1298	1692	76,7	88	217	40,4	158	316	50	2071	2109	98,2	1315	1383	95,1	169	170	99,4	1855	2109	88	742	978	75,9	1	2	50	0	0	0
		Péd.	59	73	80,8	0	6	0	3	6	50	82	87	94,3	41	45	91,1	8	8	100	98	131	74,8	0	0	0	0	0	0	13	27	48,1
		Total	1357	1765	76.9	88	224	39.3	161	322	50	2153	2196	98	1356	1428	95	177	178	99.4	1953	2240	87.2	742	978	75.9	1	2	50	13	27	48.1

Histogramme HIVQUAL

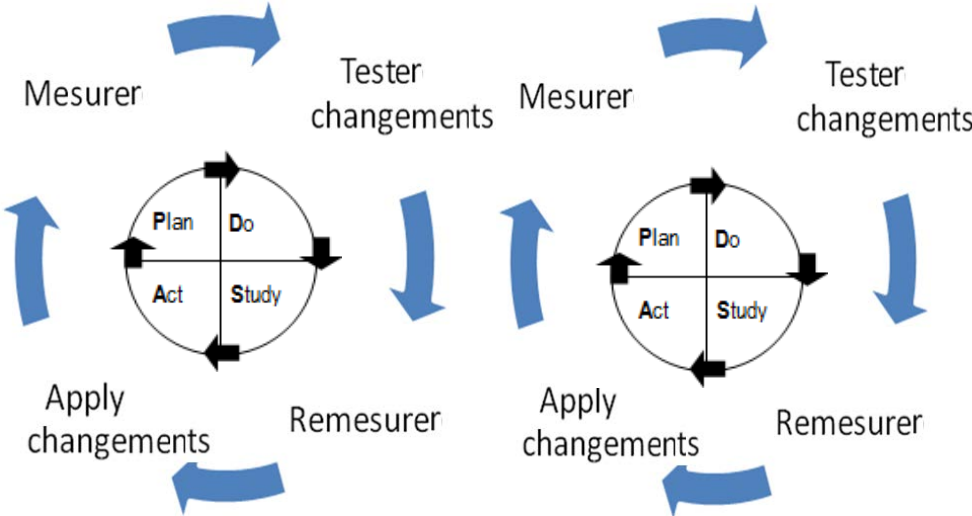


ANALYSES SYSTEMES



Idées pour surmonter les Barrières

Implémentation



A multidisciplinary team was created by the
Quality Management Committee to assess the
problem, led by 1 MD , with 3 nurses, 1 data clerk, 1 field agent and 1 patient.

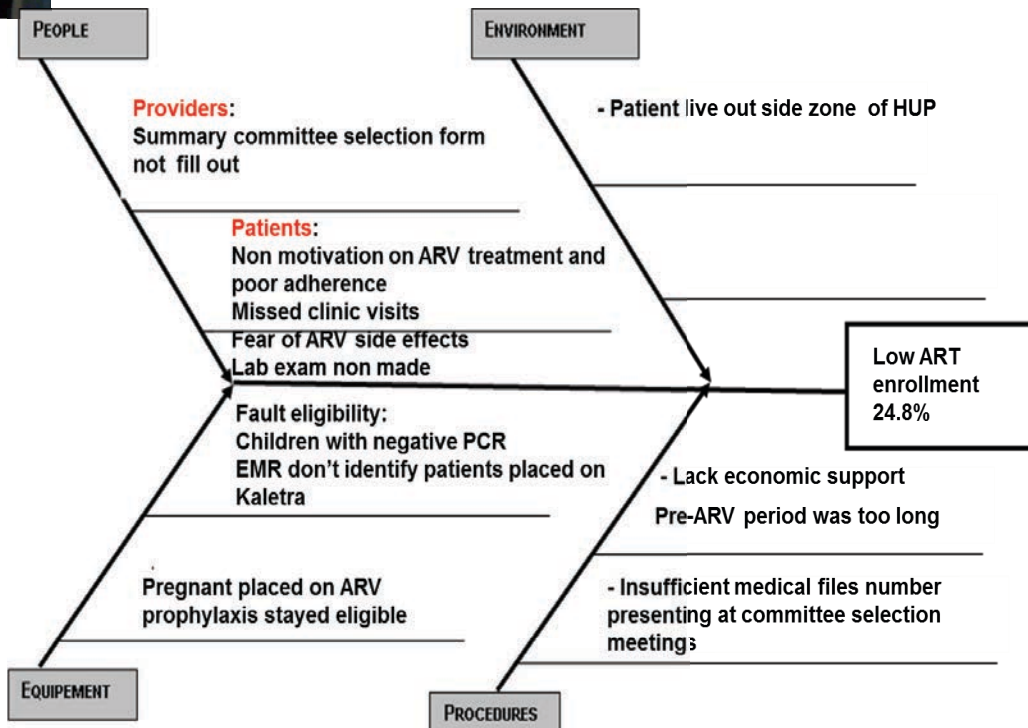
AIM STATEMENT: To improve ART enrollment
from 24.8% to 45% over six months.

IMPROVEMENT CHANGES & INTERVENTIONS

First Strategy-Patient Awareness:
Psychologist & SW counsel patients about importance of visits; Clerk highlights new patients in register

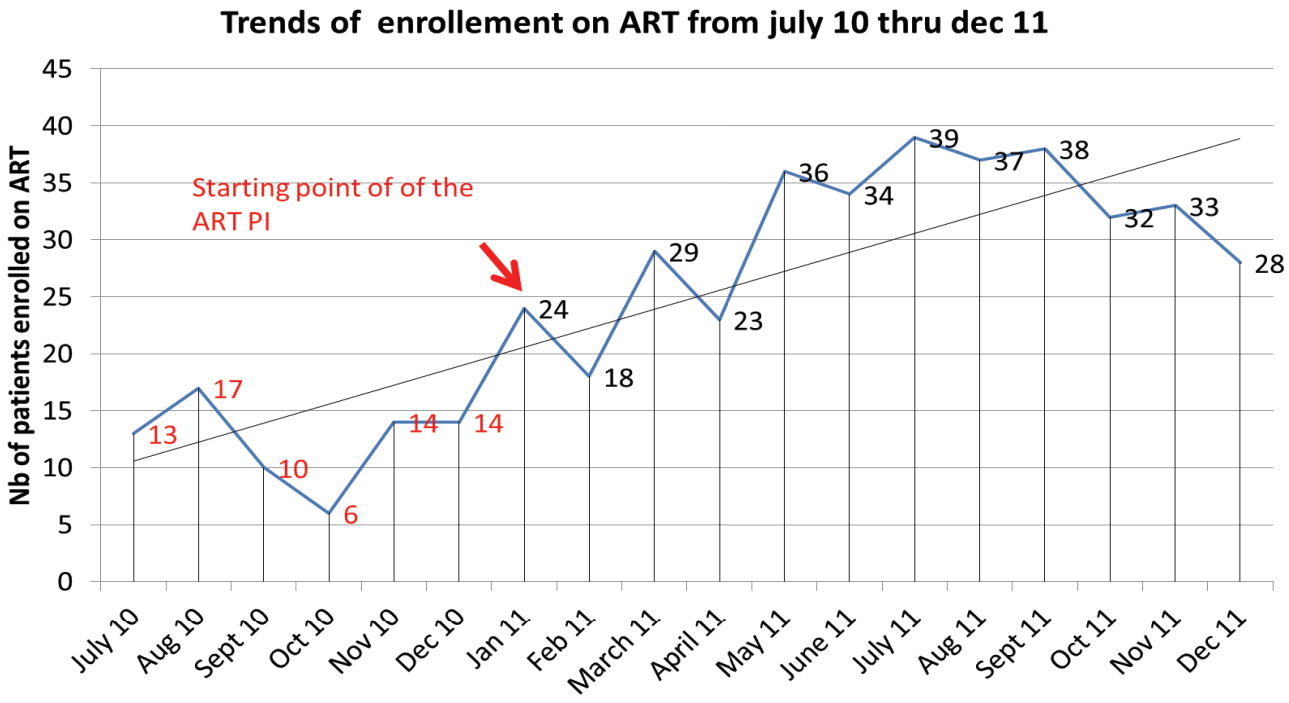
Second Strategy - Reduction in Pre-ART period: Weekly visits required for patients until ART Enrollment.

Third strategy –Enrollment Acceleration: Increase number of new enrollees with new verifcation process by data clerk. Participation in post-test clubs.



BARRIERS TO ARV ENROLLMENT & SOLUTIONS AT NATIONAL LEVEL

LIMITATIONS	SOLUTIONS
•Stringent non medical requirements applied for ARV Eligibility •4 Adherence sessions •Buddy companion •Identification of patient residence	•Refresher training for psycho-social staff •Technical Assistance to "Selection Committee" • Focus on systems that get patients services
•Lack of implementation of current norms for initiation of Treatment	•Increase awareness about groups that could be put on Rx without CD4
•Limitations with CD4	•Progressive phasing out of current equipment- Roll out of Facscount - setting up of regional hubs. •Dedicate more manpower at sites when manual system is in use
•Logistics of Drugs for site upgrade and launching of new sites	•Better coordination between service implementers and SCMS for site upgrade and launching of new sites



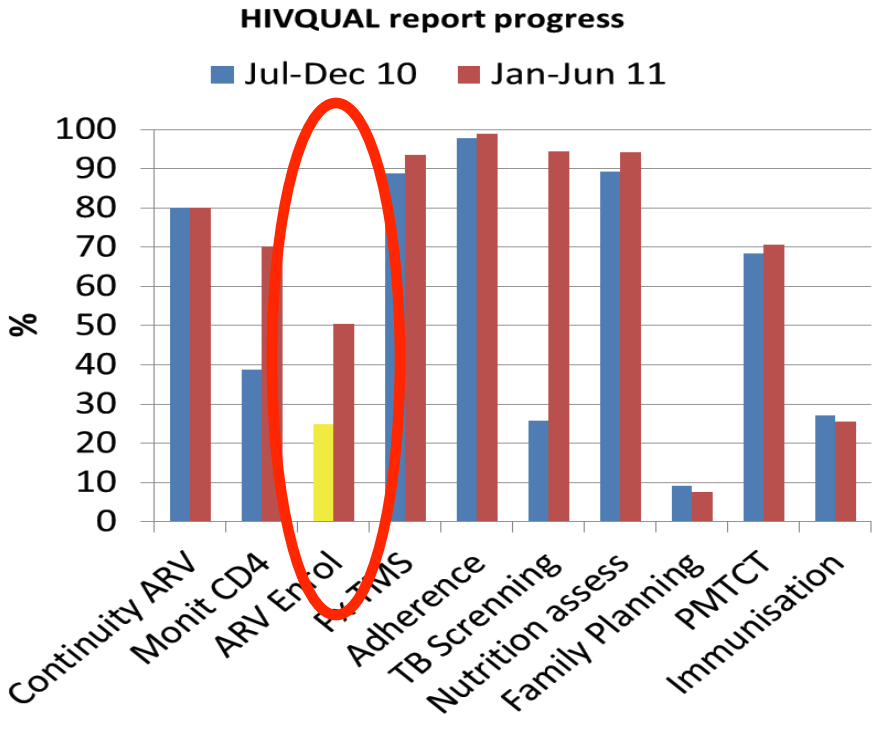
Reduction of pre-ART wait had the greatest impact

LESSONS LEARNED:

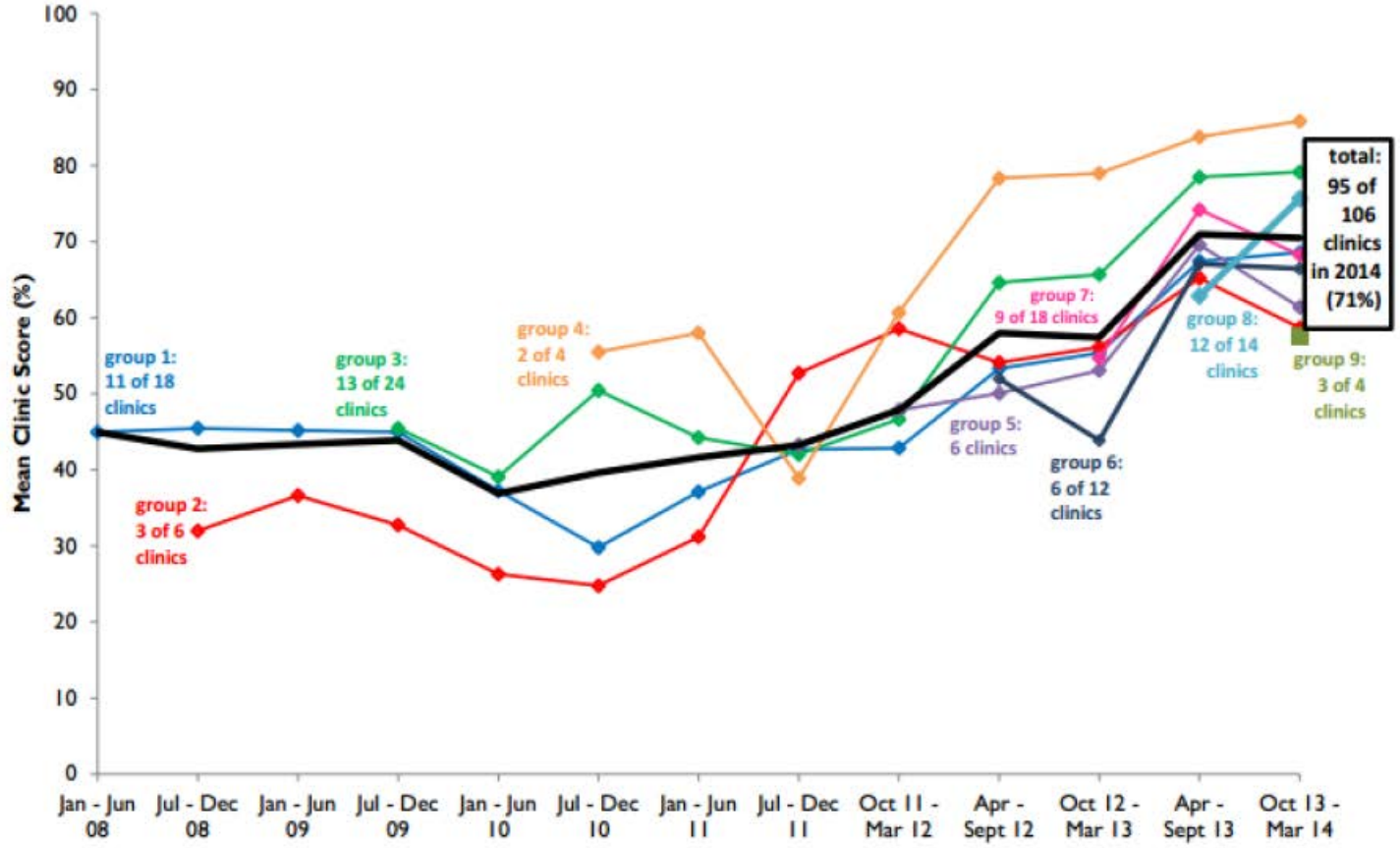
-Coordination between psychosocial and medical units was key to success of ART enrollment.

-Need sufficient time for committee meetings to select patients for enrollment from pre-ART list.

-Staffing levels require more than one psychologist to help patients accept treatment and address mental health problems.



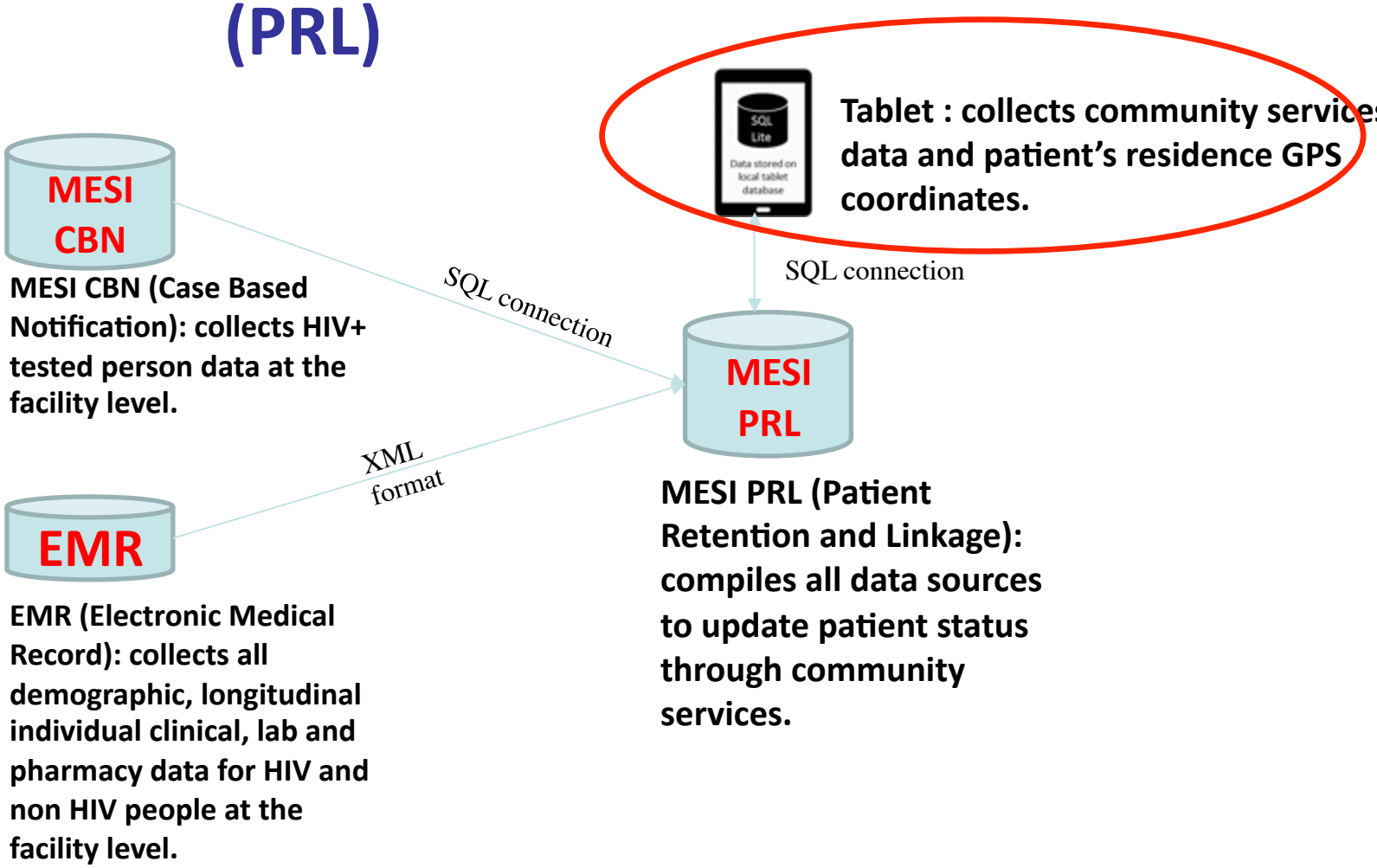
Haiti Adult ARV Therapy Scores (%) by Group and Review Period



Opportunities and Way Forward

- Real-time data is now available to clinics through the EMR, precluding the need for separate data collection and realizing its promise as a national platform
- EMR is primed to integrate viral load results to measure outcomes
- Expansion into primary care clinics is underway
- Indicators now include primary care and some chronic disease measures
- Integration of iSante database into the MESI system is planned and budgeted for alignment of facility data with population health data

Haiti Patient Retention and Linkage web application (PRL)



PEPFAR-NASTAD-MOH

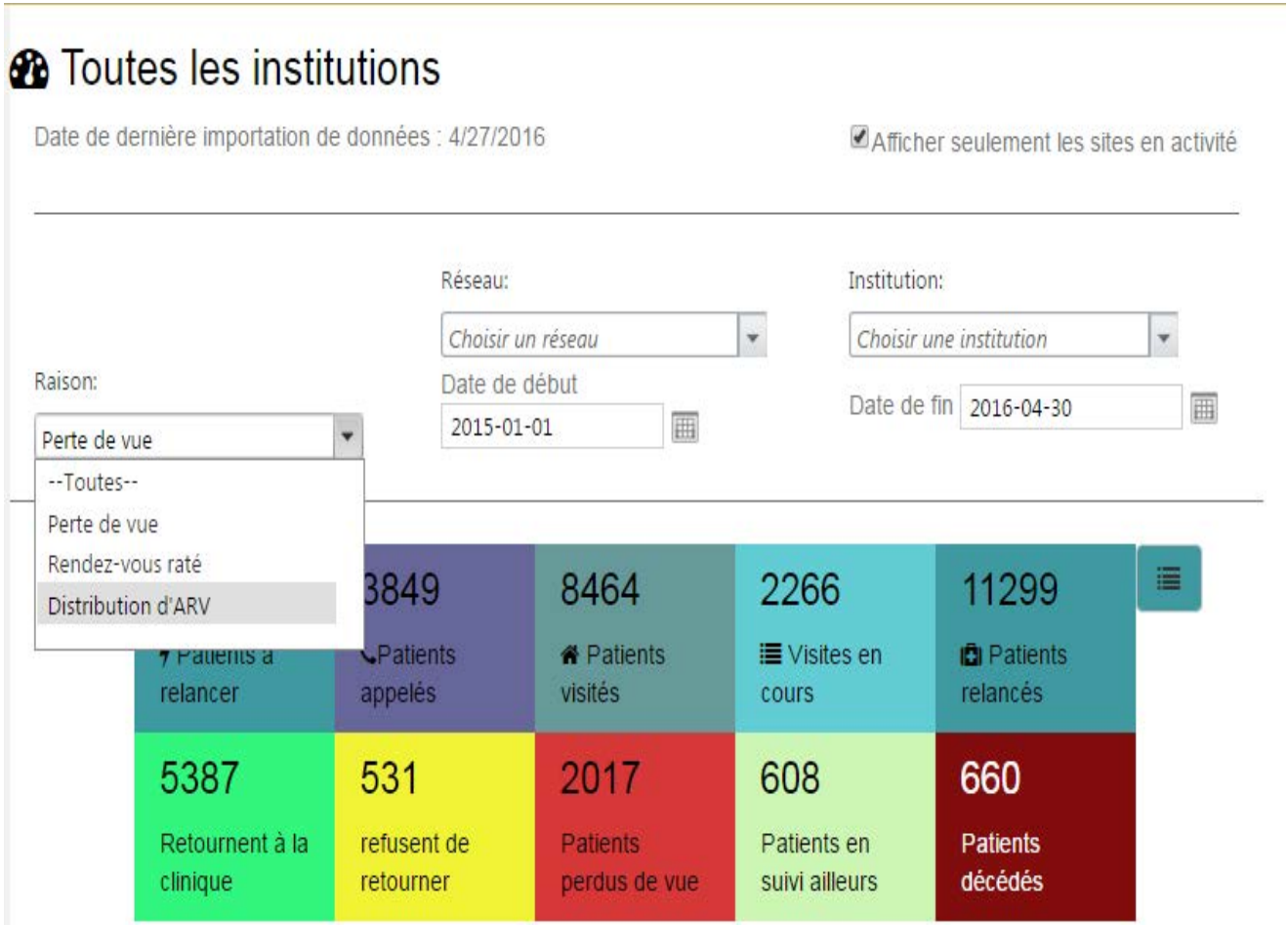
MESI: Monitoring Evaluation and Surveillance Integrated

PRL web Dashboard

Aggregate number of visit and phone calls by month

Category of activity covered by community field agent through PRL

- Community tracking of Patients lost to follow up
- Community tracking of patients for missed appointments
- Community supply of ARTs.
- Update geographical address with GPS coordinates



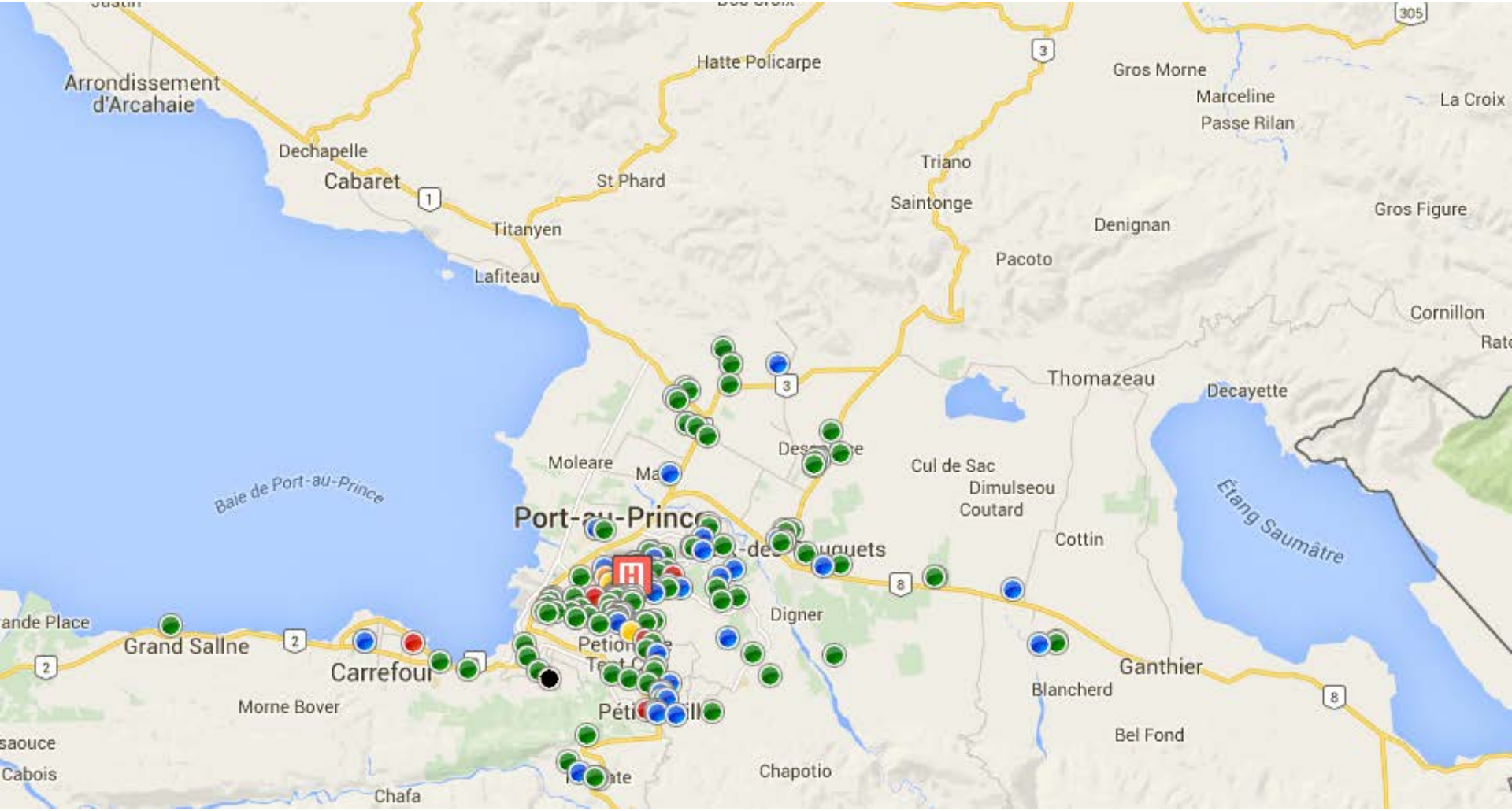
“Cascade” number of community activities: Process and Outcome

Patients to link/ reengage in care	Called patients	Visited patients	Ongoing visits	Patients contacted
10265 Patients à relancer	4668 Patients appelés	10394 Patients visités	2686 Visites en cours	13533 Patients relancés
6568 Retournent à la clinique	812 refusent de retourner	2500 Patients perdus de vue	672 Patients en suivi ailleurs	751 Patients décédés
Patients re-engaged	**Patients refusing to return to care.**	**Patients lost to follow-up**	**Patients with silent transfer to other clinic**	**Deceased Patients**

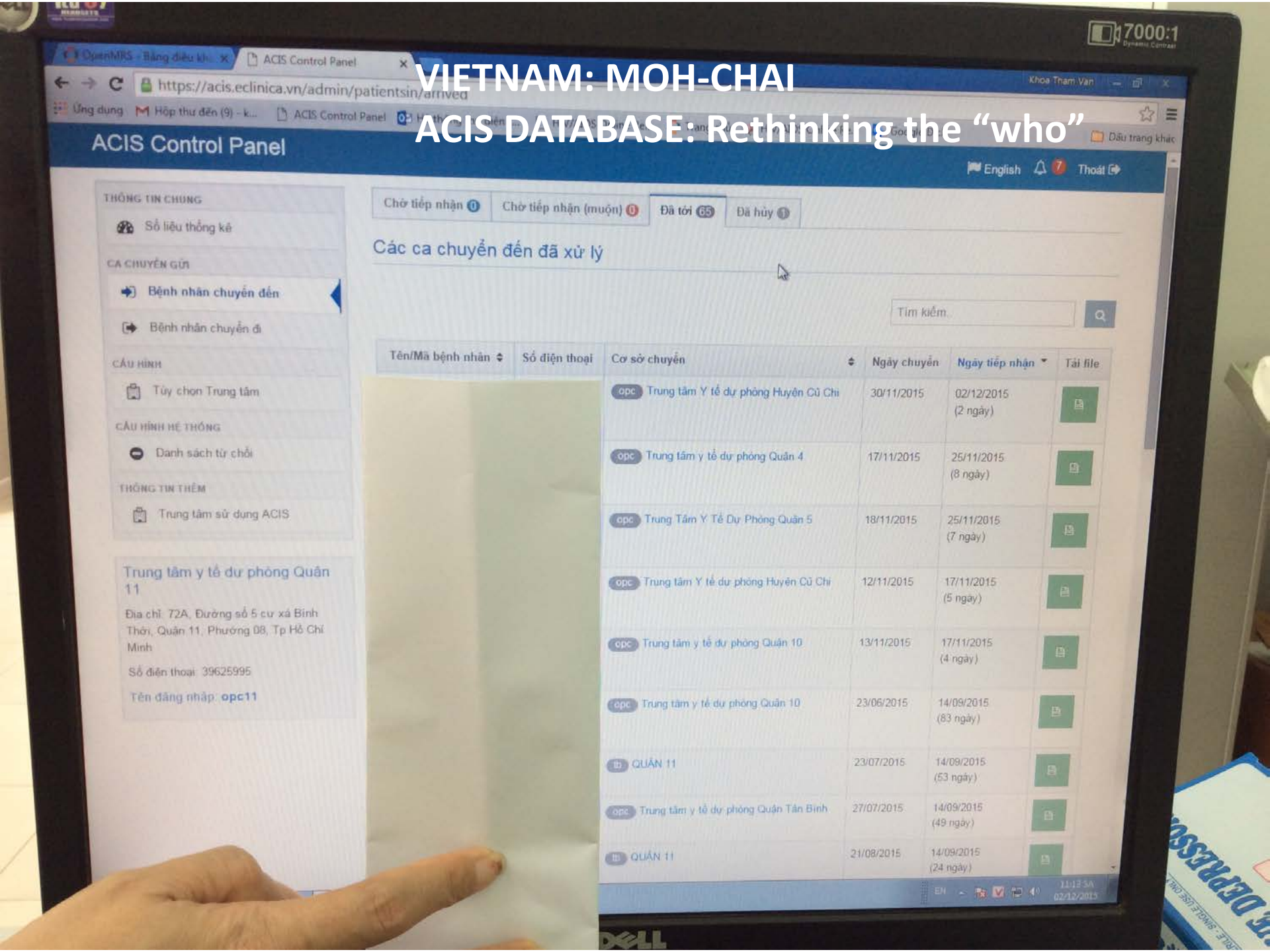
Some final innovations

HAITI: PRL

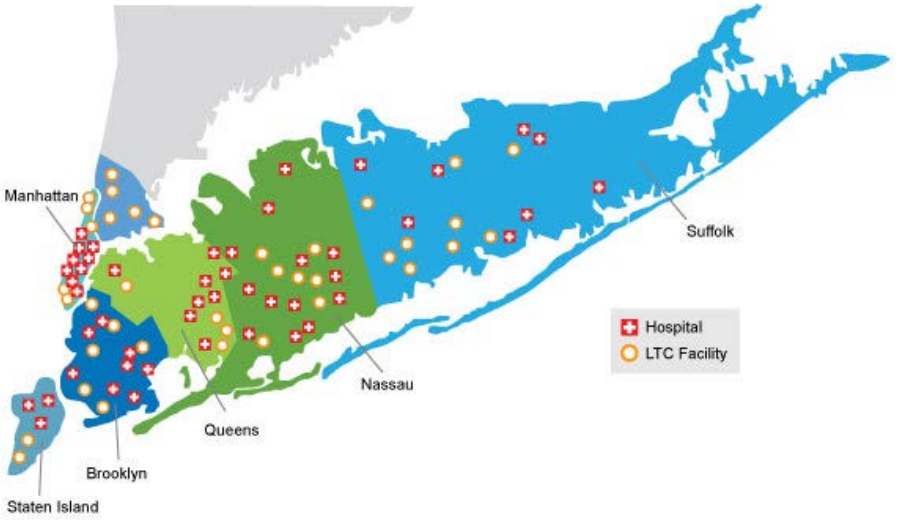
Geographical distribution of patients by GPS coordinates for a clinic

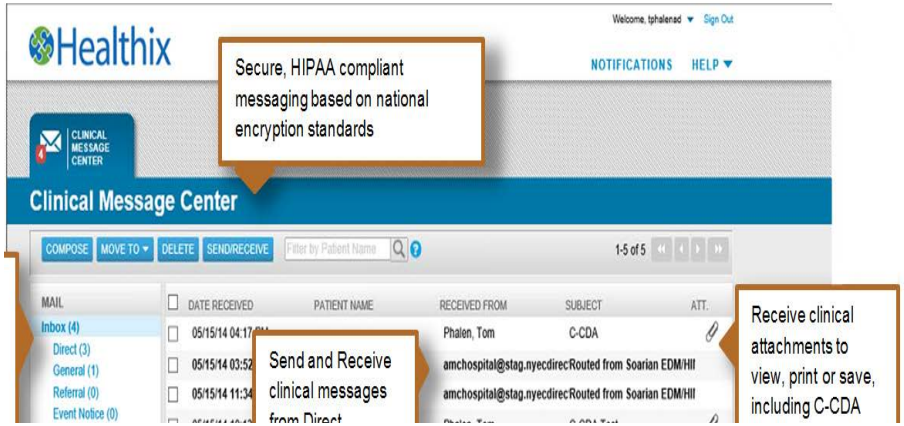


VIETNAM: MOH-CHAI
ACIS DATABASE: Rethinking the "who"



Healthix & HIE:
A Disruptive Technology in Public Health





Opportunity: Health Information Exchange can drive successful public health interventions to return HIV+ individuals to care

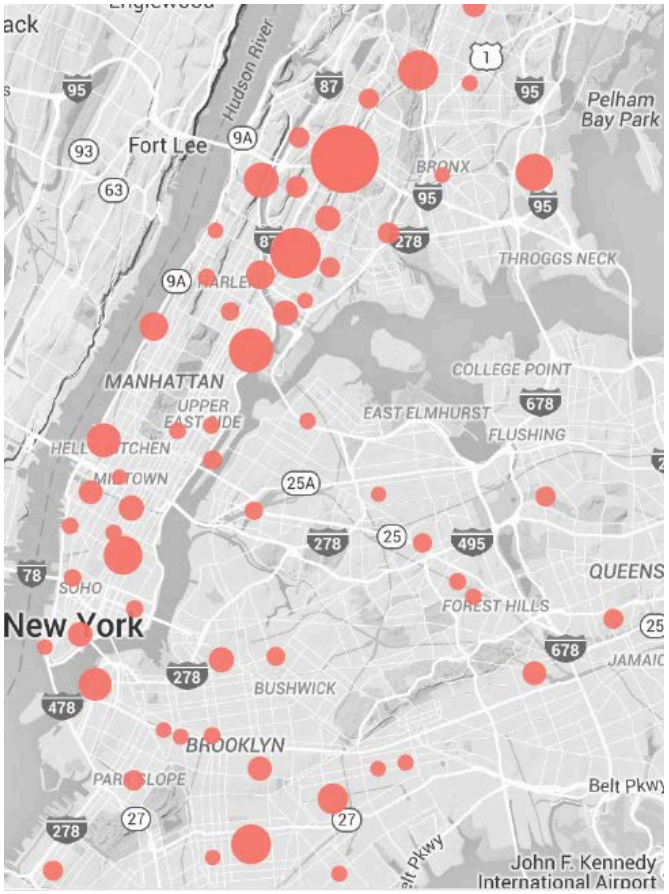
HARNESSING RHIOS TO IDENTIFY THE MOST VULNERABLE: FACILITY VS. PROGRAM: A Work in Progress

Hospitals can help end the HIV Epider

Recent data from the New York State Medicaid program demonstrate that HIV+ individuals lost to care often utilize non-HIV medical services.

Emergency Departments were the most commonly used locations of service and were visited by more than 25% of PLWH lost to care in 2014.

Hospitals in high prevalence areas are important sites for interventions to engage patients in care and initiate ART.



Welcome to the Ending the Epidemic Dashboard for New York State!

NEW INTERACTIVE DATA

Visit the Dashboard's new

Benchmarks of the Blueprint By the End of 2020

1.Reduce the number of new HIV infections to 750 by the end of 2020 from an estimated 3,000 in 2013.

Governor Cuomo's 3-point plan

1. Identify persons with HIV who remain undiagnosed and link them to health care.
2. Link and retain persons diagnosed with HIV in health care to maximize virus suppression so they remain healthy and prevent further transmission.
3. Facilitate access to Pre-Exposure Prophylaxis for persons who engage in high-risk behaviors to keep them HIV negative.

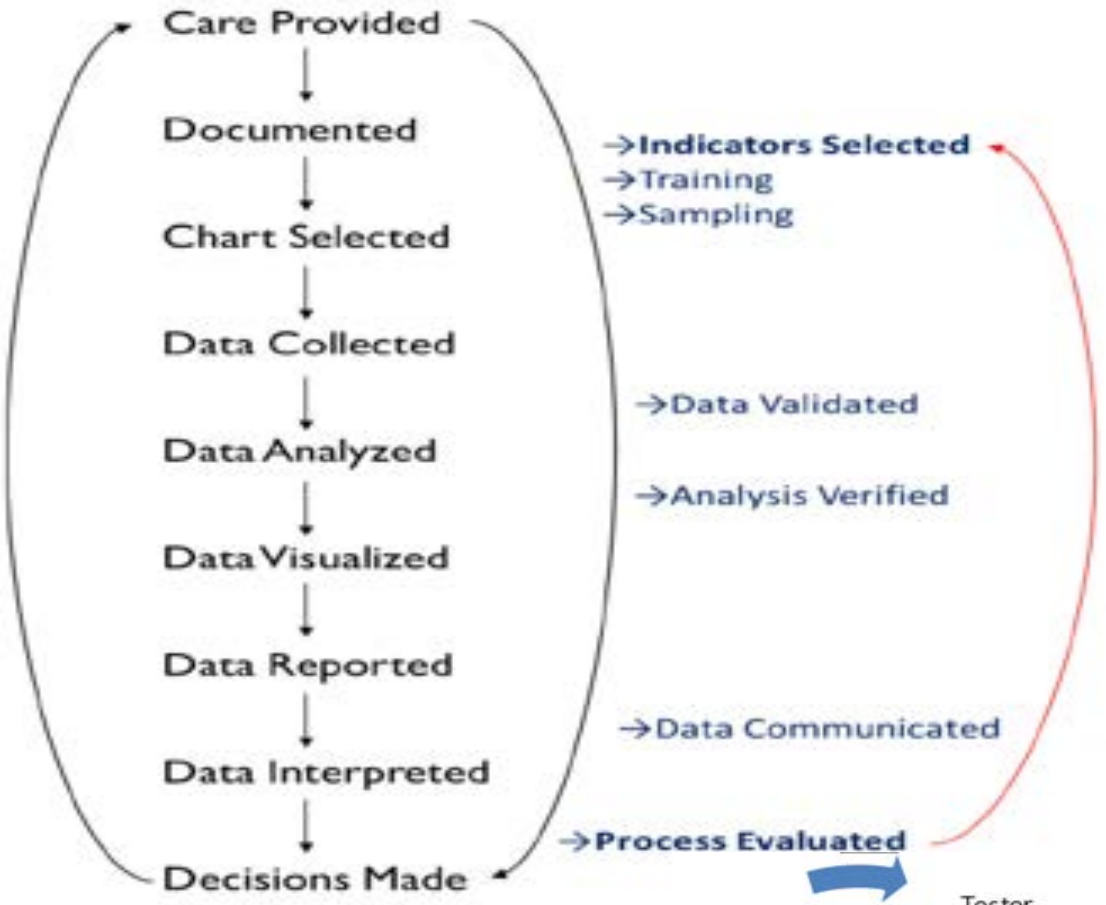
Concluding Thoughts

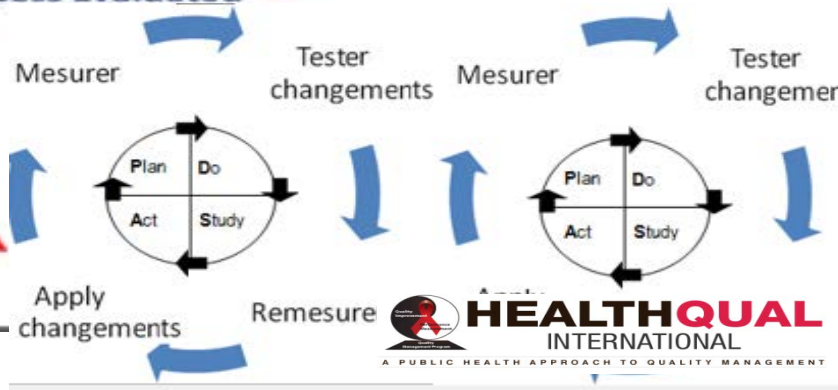
- Role of national program:
  - Share population health data and create urgency about it!
  - Stimulate city/county and site-level improvement
  - Gather experts and disseminate knowledge
- Role of cities and counties:
  - Partnership with local agencies is key element to drive improvements in linkage and re-engagement
  - Integrate QI into traditional activities
- Role of facilities:
  - Site-level cascades are essential tools to identify gaps
  - Drilling down data to identify priority areas for intervention
  - Interventions need to be documented and measured to learn what works
- **PARTNERSHIP between all levels of the public health system is key to achieve our desired goals**

Concluding Thoughts: The Role of Big Data

- Invest now: the future is here
- Data mapping requires time and labor but it's worth the effort
- Separation of clinical databases from public health data systems continues to be a barrier for both to be maximally effective
- HIV programs are not necessarily able to obtain access to programmers to design fields as needed specific to HIV care
- Even though we have electronic systems we have to redesign our workflow and staffing to use them effectively
- Innovative models need to be shared and spread to accelerate improvement
- Provision of data to consumers through patient portals and user-friendly reports needs to accelerate to promote self-management
- **Harnessing these systems now for improving quality is of paramount importance**

Concluding Thoughts:
Data *and* Care are Part of a Unified System





Patient Care

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Haiti
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Nicasky Celestin
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I-TECH
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CDC-Haiti

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Rochester NYLinks participants

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Miguel Mendez
Charles King
Housing Works IT team

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