#ADHERENCE2016

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

May 9-11, 2016 • Fort Lauderdale

Jointly sponsored by:
IAFAC International Association of Providers of AIDS Care
PIM Postgraduate Institute for Medicine
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
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
“Every system is perfectly designed to achieve exactly the results it achieves”
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
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
Connect. With patients.

Collaborate. With a community of learners.

Change. The course of HIV.

Imagine if we could change this.
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
HIV Cross-Part Care Continuum Collaborative  

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.

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Based on IHI Breakthrough Series

Select Topic  
Recruit Faculty  
Develop Framework and Changes

Enroll Participants

Prework

LS1: Learning Session  
AP: Action Period  
P-D-S-A: Plan-Do-Study-Act

LS2

LS3

AP1

AP2

AP3

Summative Congresses and Publications

**Supports:**  
Email • Visits • Phone Conferences • Monthly Team Reports • Assessments
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

![Graph showing H4C State Viral Suppression Over Time]

% Patients with Last VL Assessment <200 by Race Overtime

![Graph showing % Patients with Last VL Assessment <200 by Race Overtime]
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

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Recent Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARV</td>
<td>85.9%</td>
<td>93.8%</td>
</tr>
<tr>
<td>Gap in care</td>
<td>17.4%</td>
<td>15.5%</td>
</tr>
<tr>
<td>MVF</td>
<td>51.2%</td>
<td>64.8%</td>
</tr>
<tr>
<td>VL suppression</td>
<td>66.1%</td>
<td>74.6%</td>
</tr>
<tr>
<td>Measure</td>
<td>Intervention</td>
<td>Sites Tested</td>
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<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>VL suppression</td>
<td>Health Literacy Teach Back Adherence Tool</td>
<td>Magnolia MC SeMRHI</td>
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<tr>
<td></td>
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<td>Magnolia MC Coastal FHC SeMRHI</td>
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<tr>
<td></td>
<td>Drilled down data targeting interventions; Created categories for statewide data collection; integration into morning huddles</td>
<td></td>
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<tr>
<td>Pt Visit Adherence Assessment Tool</td>
<td></td>
<td>Univ of MS Medical Center</td>
</tr>
<tr>
<td>Part F – Dental Pts w &lt;200 VL are walked over to adult clinic</td>
<td>Collaboration between Adult Program and Dental- UMMC</td>
<td>Still measuring, anecdotal</td>
</tr>
<tr>
<td>Retention/re-engagement</td>
<td>Out of care lists shared w/ District SWs and DIS</td>
<td>CrossRoads North, GA Carmichael</td>
</tr>
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<td></td>
</tr>
</tbody>
</table>
Alabama HIVQUAL Regional Quality Group
Mean VLS
August 2013-January 2016
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.
Data processes improved through stakeholder collaboration

- **Facility**
  - Better ability to interpret & understand data
  - Identification of gaps in care
  - Increase data-driven HIV care
  - Use of data for QI

- **NYLInks**
  - Improve HIV care outcomes though stakeholder collaboration
  - Improve local ability to understand & interpret data
  - Collaboratively created data packages

- **Ryan White Region**
  - Data-driven HIV care
  - Improve HIV care outcomes
  - Regional HIV Cascades

- **NYS**
  - 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 least 2 tests, at least 3 months apart; †Persons presumed to be residing in NYS has AIDS with no evidence of care for 5 years and persons with diagnosed HIV (n.d. or ≤200/ml) at test closest to end...

Jordan Health HIV Care Cascade*

Primary care cases
N = 177
96% of infected

≥1VL w/in one year
N = 170
75% of infected

Cases with continuous care (≥2 VL)
N = 132
81% of infected

Virally Suppressed (last vl <200 copies/mL)
N = 143

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

[Diagram showing estimated numbers of HIV infected persons and those living with diagnosed HIV infection, with breakdowns for cases with and without care, and viral suppression status.]
Counties and Cities: Using Data to Improve Care
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)

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

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
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.
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](image1)
![Performance Rank Plot](image2)
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

% Linked to HIV Primary Care within 30 Day of Diagnosis

- June & July 2012: 60%
- Aug. & Sept.: 60%
- Oct. & Nov.: 25%
- Dec. & Jan. 2013: 25%
- Feb. & Mar.: 25%
- April & May: 25%
- June & July: 25%
- Aug. & Sept.: 25%
- Oct. & Nov.: 25%
HIV Linkage Interventions & Results: Monroe County

- Standardized linkage processes systemically
  - internal, external & Clients
- Electronic Notation of new fields

Intervention:
- Development of partnerships
- Universal agreement on 30 day linkage
- Extending Services beyond traditional PS

Post-test ExPS – 123 cases

June & July 2012
Aug. & Sept.
Oct. & Nov.
Feb. & Mar.
April & May
June & July
Aug. & Sept.
Oct. & Nov.

5/13/16 STD QA 1 2013
HIV Linkage 2015 Monroe County Interventions Applied

97% 92% 91% 75% 100% 100% 100%

2 Pos difficult to locate
For Post Test.
1 located, Post tested
Linked outside 30 days,
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

#ADHERENCE2016
FOUR STEPS TO DRILLING DOWN DATA

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

<table>
<thead>
<tr>
<th>BARRIER</th>
<th>NUMBER OF PATIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSPORTATION</td>
<td>35</td>
</tr>
<tr>
<td>HOUSING INSTABILITY</td>
<td>11</td>
</tr>
<tr>
<td>INSURANCE</td>
<td>2</td>
</tr>
<tr>
<td>DISCLOSURE ISSUES</td>
<td>15</td>
</tr>
<tr>
<td>REFUSES TREATMENT</td>
<td>2</td>
</tr>
</tbody>
</table>
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

**Examples:**

<table>
<thead>
<tr>
<th>Prioritizing by Average Viral Load:</th>
<th>Number of Patients</th>
<th>Average Viral Load (Copies/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>10</td>
<td>290</td>
</tr>
<tr>
<td>Housing Instability</td>
<td>4</td>
<td>1,580</td>
</tr>
<tr>
<td>Insurance</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td>Disclosure Issues</td>
<td>13</td>
<td>5,439</td>
</tr>
<tr>
<td>Refuses Treatment</td>
<td>1</td>
<td>30,982</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Identifying Barriers to Retention Among MSM:</th>
<th>Key Population</th>
<th>Barrier</th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men who have sex with men (MSM)</td>
<td></td>
<td>Transportation</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Housing Instability</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insurance</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disclosure Issues</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refuses Treatment</td>
<td>1</td>
</tr>
<tr>
<td>Reasons</td>
<td>Total</td>
<td></td>
<td></td>
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<tr>
<td>----------------------------------------</td>
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<tr>
<td>Non-Adherent to Treatment Regimen</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Not on Meds- Refused</td>
<td></td>
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<tr>
<td>Not on Meds- Not Ready</td>
<td></td>
<td></td>
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<tr>
<td>Ineffective Regimen</td>
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<tr>
<td>Resistant</td>
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<tr>
<td>Re-entered Care/Meds Restarted</td>
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<td></td>
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<tr>
<td>Taking Meds Wrong</td>
<td></td>
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<tr>
<td>Waiting on Lab Results</td>
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<tr>
<td>Transferred</td>
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<td></td>
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<tr>
<td>Relocated</td>
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<td></td>
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<tr>
<td>Deceased</td>
<td></td>
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<tr>
<td>Out of Care</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Just Started Meds</td>
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<tr>
<td>VL Decreasing/Being Monitored</td>
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<tr>
<td>Newly Enrolled</td>
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<tr>
<td>Substance Abuse</td>
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<tr>
<td>Mental Health</td>
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<tr>
<td>Competing Priorities</td>
<td></td>
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<td></td>
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<tr>
<td>Housing (Unstable):</td>
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<tr>
<td>Transportation</td>
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</tr>
</tbody>
</table>
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.
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

<table>
<thead>
<tr>
<th>HIV CARE CONTINUUM STAGE</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Numerator</th>
<th>Denominator</th>
<th>%</th>
<th>20/20 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # ACTIVE Clients in Care</td>
<td>All ACTIVE Clients who have had at least one service in the past 3 years (excludes)</td>
<td>All ACTIVE Clients who have had at least one service in the past 3 years (excludes)</td>
<td>622</td>
<td>622</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
VIRAL LOAD SUPPRESSION PROJECT

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

Project started with 46 Clients having a Viral Load >=1000 copies

3 Month Quality Improvement Project

AUGUST 2014

- 39% Suppressed
- 15% Viral Load Dropped, but not Suppressed
- 31% Chronic Adherence Issues
- 11% Moved or Incarcerated
- 4% Refused Care / Treatment

NOVEMBER 2014

- 18
- 7
- 14
- 5
- 2
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)

<table>
<thead>
<tr>
<th>Getting Started</th>
<th>Score</th>
<th>Facility does not report required rates of retention, treatment and viral load suppression.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning and initiation</td>
<td>1</td>
<td>□ Reports required rates of treatment, retention, and viral load suppression.</td>
</tr>
<tr>
<td>Beginning Implementation</td>
<td>2</td>
<td>□ Can annually construct a cascade that reports rates of retention, prescribed ART, and viral load suppression.</td>
</tr>
<tr>
<td>Implementation</td>
<td>3</td>
<td>□ 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Facility leaders, quality committee members, including providers and consumers, and facility staff use facility level cascade to develop and implement a quality improvement plan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Implements quality improvement plan, tracks the impact of interventions on facility level cascade rates, and responds to the results of QI projects.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Involves community service agencies, including health homes, in process analysis and improvement plans to address linkage, engagement, re-engagement, and viral suppression.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Makes its cascade visible to its internal stakeholders, and discusses it with its community advisory board.</td>
</tr>
<tr>
<td>Progress toward systematic approach to quality</td>
<td>4</td>
<td>□ 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Can stratify data to identify potential disparities in care provided to sub-populations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ 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.</td>
</tr>
<tr>
<td>Full systematic approach to quality management in place</td>
<td>5</td>
<td>□ 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Follows longitudinal cohorts of patients enrolled in care at the facility over a 24 month period to assess retention, treatment, and suppression.</td>
</tr>
</tbody>
</table>

Comments:
Ryan White Clinical Quality Improvement
QI Project Example: Mental Health & Viral Load Suppression

May 3, 2016
Howard Brown Health RW CQM

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

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

<table>
<thead>
<tr>
<th>Measurement Period</th>
<th>VLS</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4/1/15 – 3/31/16</td>
<td>83.30%</td>
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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?

- 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:

All names are fictional
Client Alert to all Team Members Involved

Client Information for Client: 104022 - Ghijkl Aboedef

Prefix: Mr.
First Name: Aboedef
Middle Name: K
Last Name: Ghijkl
Suffix: Sr
A.K.A.: asd
Complexity: Medium
Level of Service: 
Primary Language: Bahasa Malayu
Secondary Language: Braille
Home Address: Is mailing address same as home address?
Address 1: 1236 XYZ Street
Address 2: 
City: 
State: NJ Zip: 
Home Phone: 123-568-1235 Ext: 
Email: 
Dashboard Account#: 
Other contact information:

Awareness and other contact(s) - (relative, friend, case manager, etc.)

Authorization Alert:
Authorization for client has expired on 3/25/2015
Authorization for client has expired on 7/11/2014

All names are fictional
**Alliance Overview**

- 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
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

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<tr>
<th>Self Management Goals</th>
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<tr>
<td>Goal #1:</td>
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<td>Goal Description:</td>
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- HAART education
- General HIV education
- STI Prevention education
- HAART medication adherence education
- Nutrition/Diet education

HIV Management - Education

LAST DONE

Reviewed All
## Point of Care Reminder

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<tr>
<th>TEST</th>
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<th>RECOMMENDATION</th>
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<td>CD4 Count</td>
<td>Every 3 Months</td>
<td></td>
<td>CD4 Count Due Today</td>
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<tr>
<td>Viral Load</td>
<td>Every 3 Months</td>
<td></td>
<td>Viral Load Due Today</td>
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### Results

% With CD4+ Test > 90 Days Apart:

- Aug-10: 71.6%
- Sep-10: 71.9%
- Oct-10: 71.9%
- Nov-10: 74.4%
- Dec-10: 77.2%
- Jan-11: 78.3%
- Feb-11: 77.2%
- Mar-11: 76.8%
- Apr-11: 76.9%
- May-11: 78.1%
- Jun-11: 78.6%
- Jul-11: 78.0%
Contact Patients

![Patient List for Selected Measures](image)

- **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 Implementation: 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.
Multiple retrospective or prospective reports that generate case lists for care reminders can be used at all levels:

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

**Report Groups**

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<th>Report Name</th>
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<td>Appointment reminders</td>
<td>Visit scheduled next 7 days</td>
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<td>Visit scheduled next 14 days</td>
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<tr>
<td>Lab test reminders</td>
<td>Never had test</td>
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<td>Test done</td>
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<td></td>
<td>Test needed in 30 days</td>
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<tr>
<td>Care Reminders</td>
<td>Medically eligible for ART but not enrolled</td>
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<tr>
<td></td>
<td>Appropriate cotrimoxazole therapy among those at risk</td>
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<tr>
<td></td>
<td>Initiated cotrimoxazole but not continued</td>
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<tr>
<td></td>
<td>Abnormal test result</td>
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<tr>
<td></td>
<td>Pregnant women who are at least in their 28th week of amenorrhoea</td>
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<tr>
<td>Eligible for TB treatment but not initiated</td>
<td>Patients with signs and symptoms evocative of TB, but with no sputum or x-ray test</td>
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<tr>
<td></td>
<td>Patients with abnormal sputum or x-ray test results, but no established TB diagnosis</td>
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<tr>
<td></td>
<td>Patients with TB diagnosis, but no treatment</td>
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<tr>
<td></td>
<td>Patients having completed TB treatment</td>
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<tr>
<td>Regimens and drug discontinuations</td>
<td>Patients on 1st and 2nd line regimens</td>
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<td></td>
<td>Patients with one drug substitution on the same regimen line</td>
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<td>Patients with more than one drug substitution on the same regimen line, or a new regimen line</td>
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<td>Discontinued drugs</td>
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<td>Appropriate lab test indicators</td>
<td>Ever had test</td>
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<td>Up-to-date on test</td>
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<tr>
<td>Appropriate treatment indicators</td>
<td>ART Enrollment Amongst Medically Eligible</td>
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<td>Cotrimoxazole prophylaxis among medically eligible</td>
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<td>Continuation cotrimoxazole prophylaxis</td>
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<td>TB treatment among medically eligible</td>
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<td>Under ART with Dates of Initiation and Regimen</td>
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Visit scheduled next 7 days

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USING THE EMR DATA AT THE NATIONAL LEVEL:
A Systematic Approach to Quality Improvement

The Integration Framework for
HEALTHQUAL-Haiti Implementation
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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 )

Interventions

• Revision and dissemination of PMTCT Guidelines
• Introduction of female Case Managers in all clinics.
• Aggressive 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.

HIV Patients medically eligible for ARV by June 2011

- 60% Enrolled on ARV
- 40% Non Enrolled on ARV
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.
Idées pour surmonter les Barrières

ANALYSES SYSTEMES

Implémentation

Mesurer → Tester changements → Mesurer → Apply changements → Remesurer → Apply changements → Remesurer
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 verification process by data clerk. Participation in post-test clubs.
### BARRIERS TO ARV ENROLLMENT & SOLUTIONS AT NATIONAL LEVEL

<table>
<thead>
<tr>
<th>LIMITATIONS</th>
<th>SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stringent non medical requirements applied for ARV Eligibility</td>
<td>• Refresher training for psycho-social staff</td>
</tr>
<tr>
<td>• 4 Adherence sessions</td>
<td>• Technical Assistance to “Selection Committee”</td>
</tr>
<tr>
<td>• Buddy companion</td>
<td>• Focus on systems that get patients services</td>
</tr>
<tr>
<td>• Identification of patient residence</td>
<td></td>
</tr>
<tr>
<td>• Lack of implementation of current norms for initiation of Treatment</td>
<td>• Increase awareness about groups that could be put on Rx without CD4</td>
</tr>
<tr>
<td>• Limitations with CD4</td>
<td>• Progressive phasing out of current equipment- Roll out of Facscount -</td>
</tr>
<tr>
<td></td>
<td>setting up of regional hubs.</td>
</tr>
<tr>
<td>• Logistics of Drugs for site upgrade and launching of new sites</td>
<td>• Dedicate more manpower at sites when manual system is in use</td>
</tr>
<tr>
<td></td>
<td>• Better coordination between service implementers and SCMS for site</td>
</tr>
<tr>
<td></td>
<td>upgrade and launching of new sites(^2)(^3)</td>
</tr>
</tbody>
</table>
LESIONS 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

- Group 1: 11 of 18 clinics
- Group 2: 3 of 6 clinics
- Group 3: 13 of 24 clinics
- Group 4: 2 of 4 clinics
- Group 5: 6 clinics
- Group 6: 6 of 12 clinics
- Group 7: 9 of 18 clinics
- Group 8: 12 of 14 clinics
- Group 9: 3 of 4 clinics

Total: 95 of 106 clinics in 2014 (71%)
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)

**MESI CBN (Case Based Notification):** collects HIV+ tested person data at the facility level.

**EMR (Electronic Medical Record):** collects all demographic, longitudinal individual clinical, lab and pharmacy data for HIV and non HIV people at the facility level.

**MESI PRL (Patient Retention and Linkage):** compiles all data sources to update patient status through community services.

**Tablet:** collects community services data and patient’s residence GPS coordinates.

**XML format**

**SQL connection**

**PEPFAR-NASTAD-MOH**

MESI: Monitoring Evaluation and Surveillance Integrated
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

<table>
<thead>
<tr>
<th>Patients to link/reengage in care</th>
<th>Called patients</th>
<th>Visited patients</th>
<th>Ongoing visits</th>
<th>Patients contacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>10265 Patients à relancer</td>
<td>4668 Patients appelés</td>
<td>10394 Patients visités</td>
<td>2686 Visites en cours</td>
<td>13533 Patients relancés</td>
</tr>
<tr>
<td>6568 Retournent à la clinique</td>
<td>812 refusent de retourner</td>
<td>2500 Patients perdu de vue</td>
<td>672 Patients en suivi ailleurs</td>
<td>751 Patients décédés</td>
</tr>
</tbody>
</table>

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
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.
Hospitals can help end the HIV Epidemic

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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