NATIONAL PARAMETER STREAMENT



Routine Opt-out HIV Screening and Detection of HIV Infection among Emergency Department Patients

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Disclosures

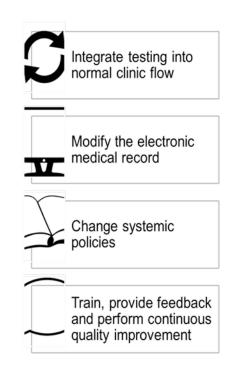
I have received grant/research support from Gilead Sciences, Inc.

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Presentation Objectives

- Review rationale for routine HIV testing in various healthcare settings
- Implementation processes using 4 pillars:
 - Routinize HIV screening into normal clinic flow
 - Integrate automated testing with other diagnostic screens
 - ► Change systemic policies that normalize routine testing and linkage
 - Collect information related to quality improvement and best practices to motivate staff
- ► Describe lessons learned and review testing results of Vidant Medical Center's Emergency Department & East Carolina University's routine HIV testing program





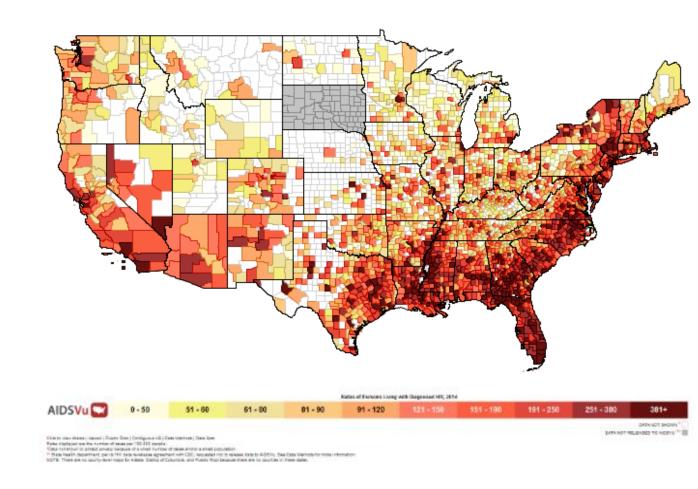
WHO Screening Criteria

- ► Important health problem for individual & community
- ► Natural history of disease understood
- Latent or early symptomatic stage
- ► Acceptable screening test
- ► Treatment exists & more beneficial if started earlier
- ► Facilities for diagnosis and treatment available
- Agreed policy on whom to treat
- Cost economically balanced vs. other medical expenditures
- Continuing process



Background of HIV in the U.S.

- ► Lack of timely testing is a significant contributing factor to the HIV spread and lower quality of healthcare.
- Almost half of all new HIV infections are found in the Southern U.S.
- Routine testing reduces missed opportunities for diagnosis and timely treatment into HIV care and supportive services.





2006 CDC Recommendations

- Routine, opt-out HIV testing of all persons 13-64 years of age in various healthcare settings
- Repeat HIV screening of persons at least annually
- Opt-out HIV screening with opportunity for patient to decline testing
- Include HIV consent with general medical consent for care
- Communicate tests results in similar way as other diagnostic tests
- Prevention counseling not required

Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings

6/1/14, 3:03 PM



Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings

Recommendations and Reports September 22, 2006 / 55(RR14);1-17



Rationale: Why the ED?

- CDC recommends routine Opt-out HIV testing at in all health-care settings.
- Emergency Department (ED) is one of the high utilization areas for routine medical care for underinsured, uninsured and those undiagnosed or at risk for HIV.
- Missed opportunities for diagnosing Acute HIV infection



Implementing Routine Testing

- ► ECU and VMC-ED have been implementing targeted testing in 2016
- ▶ By the end of 2016, 126 HIV tests were performed in the ED
- ▶ 2015 cross-sectional survey among 72 ED providers found:
 - ► 51 greed that HIV screening in EDs would benefit patients
 - ► 46 never discussed HIV screening with patient in last 6 months
- Concerns regarding HIV screening included:
 - ► Encouraging misuse of the emergency department
 - Putting additional strain on limited ED resources
 - Arranging adequate follow up for positive patients
 - ► Time constraints

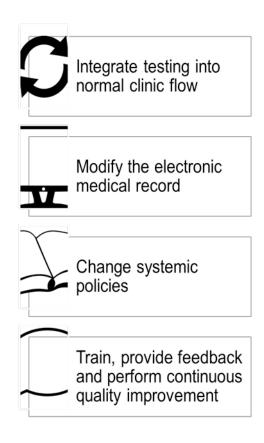




Considerations for Successful Program Development

Program Development

- ► Key Ingredients for Success:
 - ► Working within a multidisciplinary team
 - ▶ Develop EMR best practice alert or algorithm
 - ► HIV Consenting Process and opt-out language
 - ► Automate Testing
 - ➤ Seamless Linkage to Care Process





Key Personnel Buy-in

- Develop a working group
 - ► Medical Directors, ED Directors, and/or Department Chairs
 - Nursing Directors
 - ► Laboratory Directors or Managers and/or pathologists
 - HIV Clinics
 - ► Health Department Directors
 - ► Sponsored Programs/Grants' Directors and/or Departments
 - ► Ryan White stakeholders



Funding

- ▶ Be prepared to write proposals/letters:
 - ► Insurance Companies
 - ► Public Health Departments
 - ► Private Sectors
 - ► HIV FOCUS Program
 - ► Centers for Disease Control and Prevention



Protocol Development / Consent / Disclosure

- Develop a testing protocol
- Consent Issues
 - ► Review state laws as they may apply
 - ▶ Be wary of hospital policies that differ from state laws
- ► Create a script for medical providers who obtain consent
- ► Disclose test results and develop sustainable process



Script for Testing

HIV Testing Script for Staff

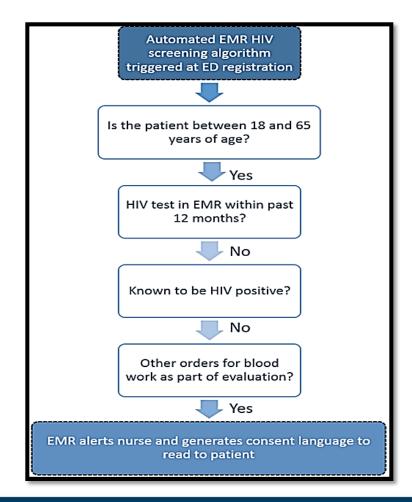
- ► "As part of our routine blood work, an HIV test will be done during your visit today."
- ► "Everyone who comes into the ED will be tested for HIV regardless of reason for visit."
- "I see you're having some blood work done today. An HIV test will be done as part of that blood work."

Before blood is drawn, the medical provider informs patients they will be tested unless they decline



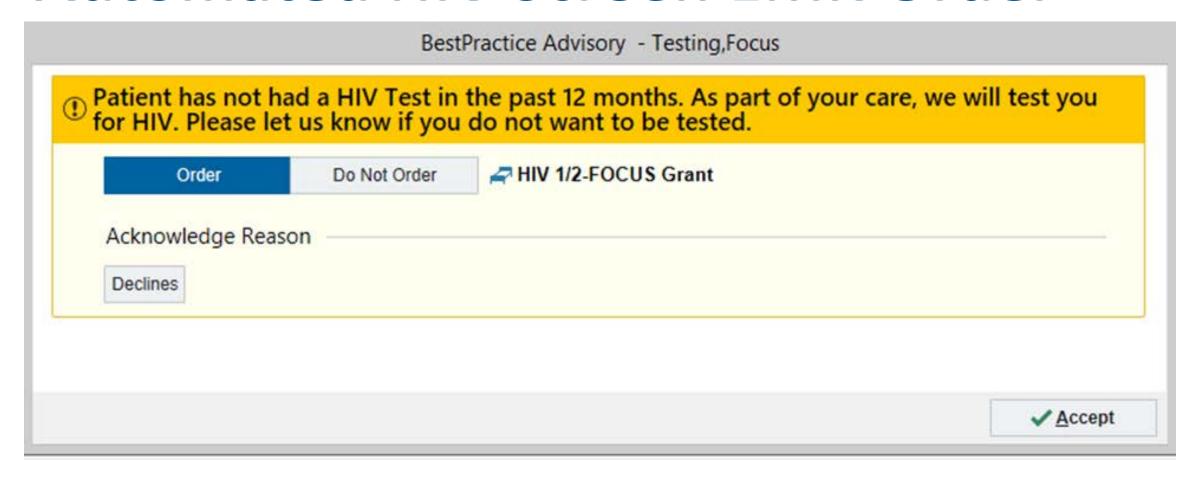
Policy-Driven EMR Algorithm

- Upon patient registration, an EMR algorithm automatically screens patients presenting to the ED for HIV screening eligibility
- Eligibility Criteria:
 - ► Ages between 18-64 years
 - ► Not known to be HIV positive
 - No history of HIV test documented in EMR within the past 12 months
 - ► Bloodwork necessary as part of evaluation?





Automated HIV Screen EMR Order





Linkage to Care

- ► How to do it
 - ► Prior planning
 - ► Tight communication system
 - ► Close tracking of patient
- ► Successful Linkage included:
 - ► Prior planning
 - ► Stakeholder involvement
 - ► HIV provider visits at or near time of diagnosis
 - ► Close tracking
 - ► Multiple phone calls and potential home visits





Key Components for Program Implementation

- ► Project Lead
- ► Knowing your data patient demographics and prevalence
- ► Buy-in from key personnel
- ► Staff Education
- **►** Funding
- Consent to test using Opt-Out language
- ► Testing and disclosure
- ► Linkage to care



Impact on ED HIV Screening

- ► HIV testing has increased exponentially due to routine testing compared to total tests provided prior to implementing routine screening program
 - ▶ 8,365 total tests performed over first 16 months
 - ► An average of 523 tests/month



Demographic Characteristics of Patients Testing Positive $N = 51^*$, 3/2/2017 - 07/31/2018

	Newly Diagnosed, n = 21 n (%)	Previously Diagnosed, n = 7 n (%)
Average Age in years (range)	39 years <i>(18-64 years)</i>	32 years <i>(24-37 years)</i>
Male	18 (86)	6 (86)
African-American	19 (91)	7 (100)
MSM ¹	6 (29)	1 (14)
Cisgender	10 (48)	4 (57)
Linked or Re-linked to Care	20 (95)	3 (43)

¹ MSM = men who identify as gay, bisexual or none of the two but have/have had sex with males.

^{*}Remaining persons were already diagnosed and linked to care, but found by EMR alert.



Chief Complaints Reported, 3/2/2017 – 7/31/2018

	# of times complaint reported
Chest/Abdominal pain or discomfort	12
Cough	8
Difficulty Breathing	6
Sore Throat	4
Fever/Chills /Flu-like symptoms	7



Impact on Linkage to Care

- ► Average of 1-2 new HIV diagnoses/month
- ► Total HIV+ tests in first 16 months = 51
 - ► Newly diagnosed = 21
 - Linked to care = 20 or 95%
 - ► Previously diagnosed = 30
 - Already in care = 23
 - Were out-of-care = 7
 - Total linked = 3 or 43%
 - Reasons patients not linked:
 - 2 refused to be linked or consistently deem "linked" to care
 - 1 incarcerated and 1 in progress to attend appointment after no-showing



Implementation Challenges

- ► Making HIV matter to everyone
 - ► Identify a champion team
 - "Train the Trainer" (Champion)
 - ► Add HIV on grand rounds/medical staff meetings
 - ► Anticipate debate



Conclusions

- ► Routine HIV testing is feasible using 2006 CDC guidelines
- ► EMR algorithm improves testing uptake and prevents disruption of workflow
- Linkage to care is an essential component of a testing program
- ► Staff buy in is important for programmatic success
- Sustainability of testing is currently under investigation



Next Steps...

- Continue to provide routine HIV testing with necessary changes
 - ► E.g., our program expanding testing to people as young as 16 years and as mature as 74 years
- Continue to monitor testing throughout program
- ▶ Determining the cost-effectiveness of our program is pending
- ► Add HCV testing with similar testing algorithm as HIV



Champions for Success

- Dr. Timothy Reeder ED Director
- Dr. Nada Fadul –
 PI/Ryan White Program
 Director
- Dr. Diane Campbell Ryan White Program Administrator
- Kirby Elmore Linkage
 Coordinator
- Todd Stroud IT Lead

- Richard Baltaro –
 Pathology Lab Director
- Chris Miller Pathology
 Lab Manager
- Barry White Data Manager
- Ari Mwachofi-Department of Public Health
- ED and Ryan White Staff



Resources

- 1. Reif S, et al. State of HIV in the US Deep South. J Community Health; 2006.
- 2. Branson BM, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR*;2006.





Optimizing HIV Care Coordination through the Integration of ED Visits in the Care Team Dashboard

Susan Olender, MD¹, Mila C. González¹, MPH, Jesse Thomas²

¹NewYork-Presbyterian Hospital; ²RDE Systems

Disclosures

I have received grant/research support from Gilead Sciences, Inc.

I **do not** intend to discuss off label use of any drug or treatment during this discussion.



Outline

- ☐ Describe process for integrating data within a Team-Based Care Model in the context of Practice Transformation
- Explain how data was utilized optimize HIV care coordination of patients in the Emergency Department (ED)
- □ Role of RN Care Managers in championing ED workflows to identify and reengage patients into outpatient care
- Provide lessons learned



NewYork-Presbyterian Hospital's Comprehensive Health Program (CHP)

- •Serving Pediatric (including exposed infants and children), Adolescent, Young People, and Adults
- Primary Care, Behavioral Health & Supportive Services
- Hepatitis C Treatment for Co-infected Individuals
- •Serving individuals of all ages at risk of HIV infection
- •STI Testing (including HIV & Hepatitis C)
- PrEP, PEP, Primary Care, Mental Health & Supportive Services
- Targeting individuals with Hepatitis C mono-infection
- •Mental Health & Supportive Services while in Treatment
- •Transition to Primary Care

In 2017, NYP served 2,966
clients living with HIV from
New York City's Upper
Manhattan and the Bronx





Figure 1. New York City Map.



SPNS Workforce Initiative: 2014-2018

- ☐ Multi-site initiative with 15 demonstration sites across the United States funded to design, implement, evaluate, and disseminate a "Practice Transformation Models"
- NYP's Comprehensive Health Program (CHP) was selected as demonstration site
- ☐ Developed the "Stimulating Transformation of Technology and Team Structure to Reach People Living with HIV" (STaR) Project



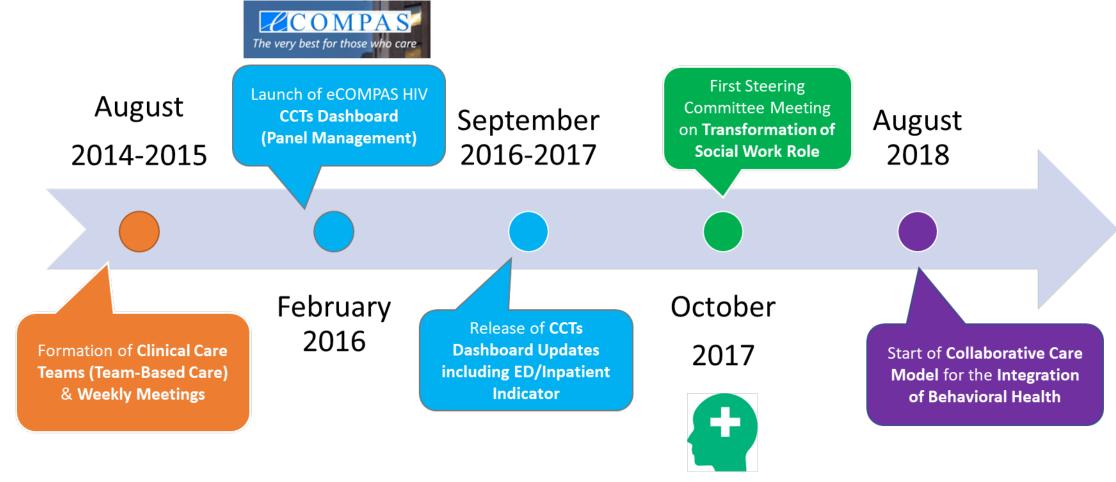


SPNS Workforce Initiative: 2014-2018

- ☐ The STaR Project "Practice Transformation Model" consisted of:
 - System level staffing changes heavily based on Patient Centered Medical Home (PCMH) standards
 - Improvements to Practice's capacity to care for people living with HIV, valuing efficiency and sustainability
 - Optimization of resources in changing landscape
 - Quality improvement efforts aimed at increasing the rates of linkage, engagement, retention in care, and viral load suppression



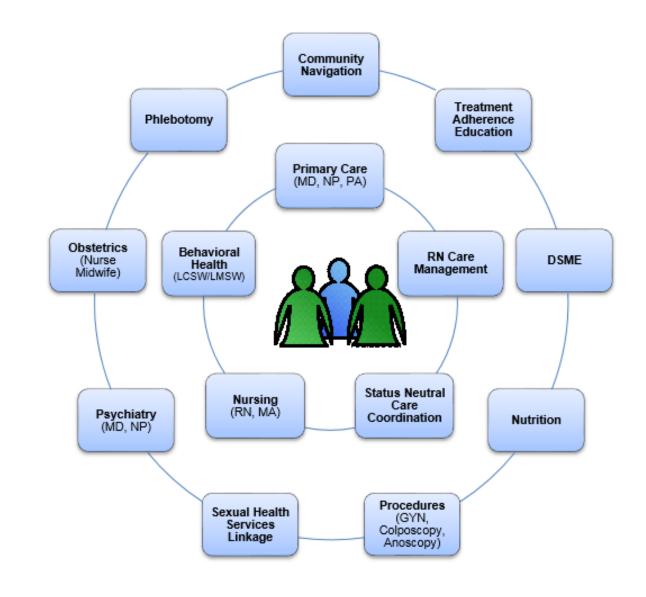
STaR's Practice Transformation



Imagine Credit: RDE Systems; Github.



Team Based Care Coordination Model





Data-Driven Panel Management Under Practice Transformation

- Facilitated through <u>eCOMPAS Clinical Care</u> <u>Team Dashboard</u>
- Review of panel Quality data at weekly inter-disciplinary care team meetings
- Advantages:
 - Allows for expertise from all disciplines and roles
 - Optimization of resources to reach patients across settings for linkage & retention, reducing hospitalizations, etc.

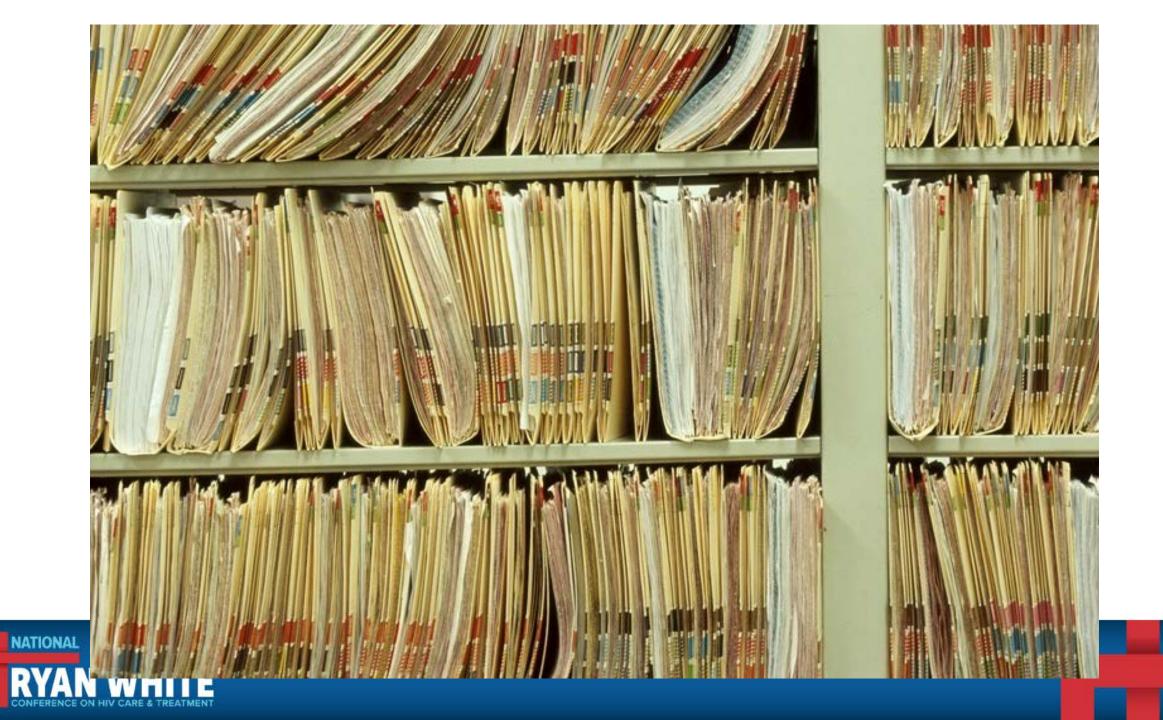


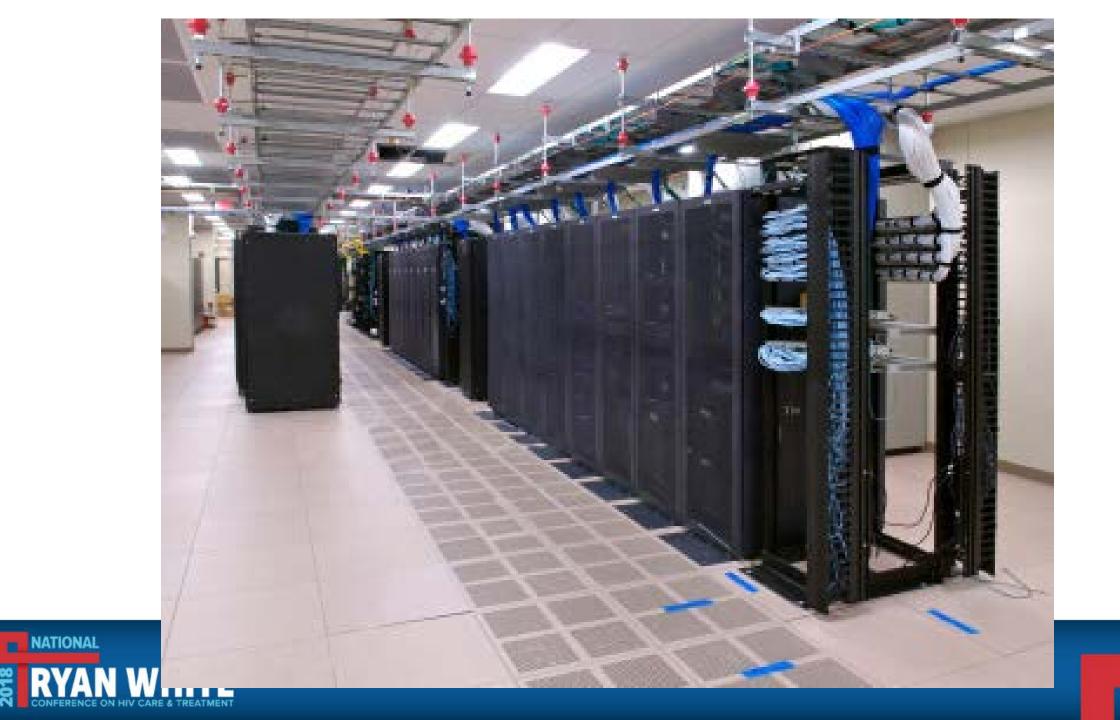


Deeper dive into HIT & HIE

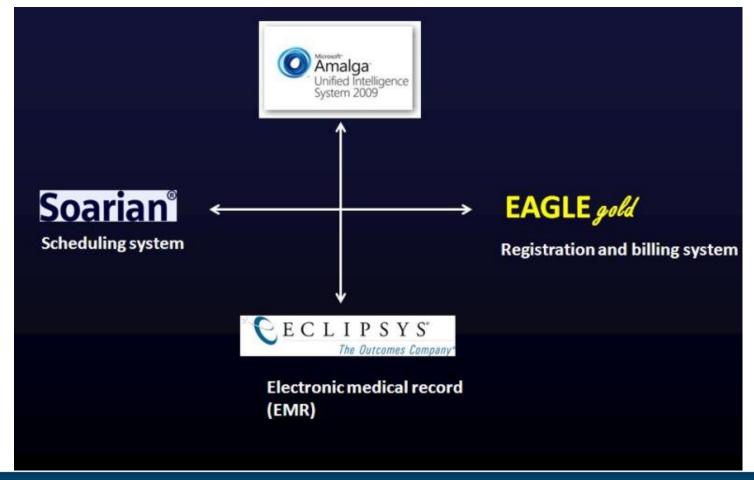
A Measure of the challenge...







The 'Medical Record' is typically an amalgamation of multiple electronic systems, tied together by an IT network that exchanges information —a form of Health Information Exchange





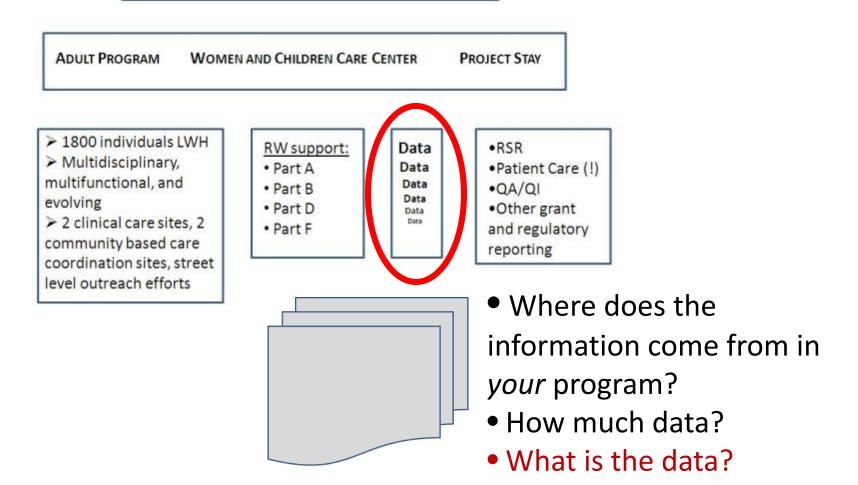
How much data?

- ➤ NYP/Columbia must track and manage over 800,000 data elements annually for grant and regulatory reporting purposes:
- □ HRSA, NYC DOHMH, AIDS Institute, CDC RSR, AIRS, eSHARE
- ☐ 95 'users' who need to contribute, add, manage, and export data





COMPREHENSIVE HIV PROGRAM (CHP)





What is the data?

- Demographic
- Services
- Clinical
- Care Coordination



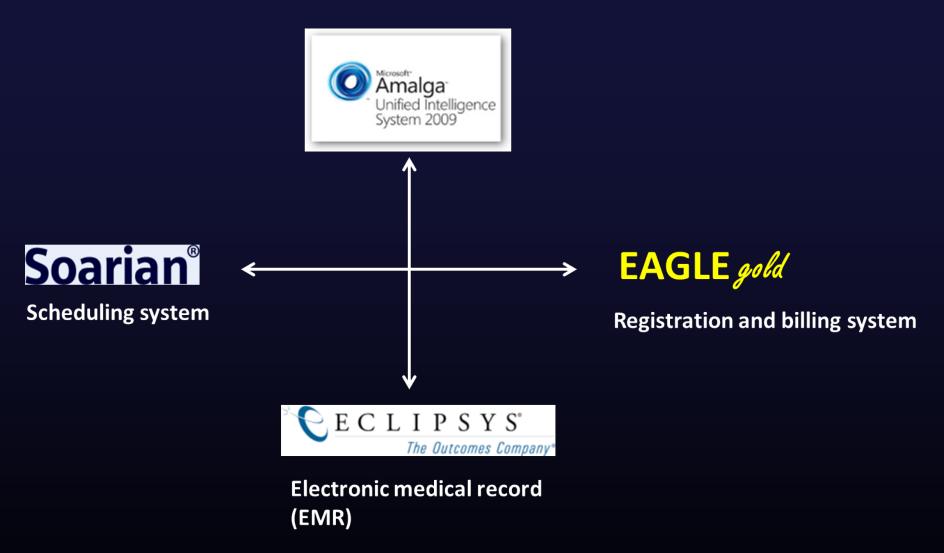


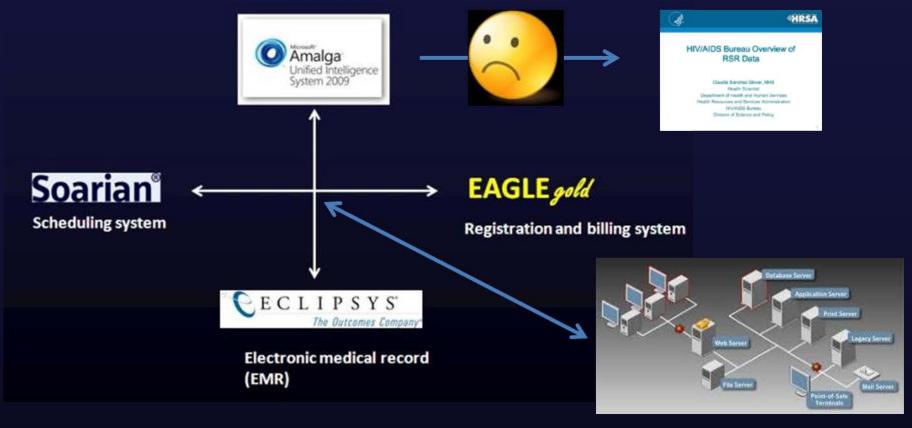
HIV/AIDS Bureau Overview of RSR Data

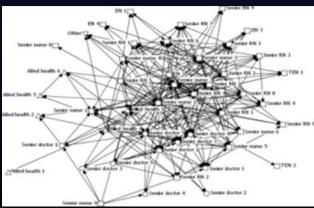
Claudia Sanchez Glover, MHS
Health Scientist
Department of Health and Human Services
Health Resources and Services Administration
HIV/AIDS Bureau
Division of Science and Policy



A typical workflow process at NYP/Columbia for how a patient gets scheduled, registered, documented in an EMR, and billed.



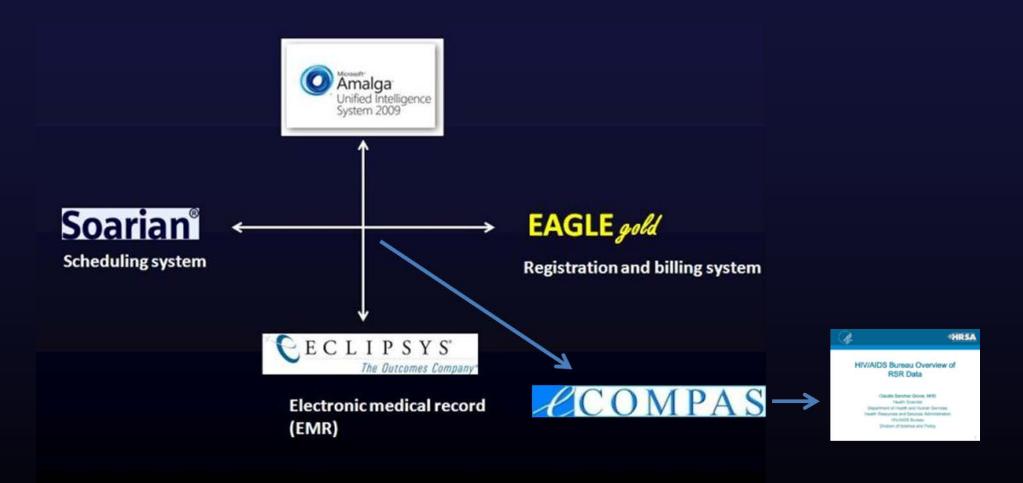


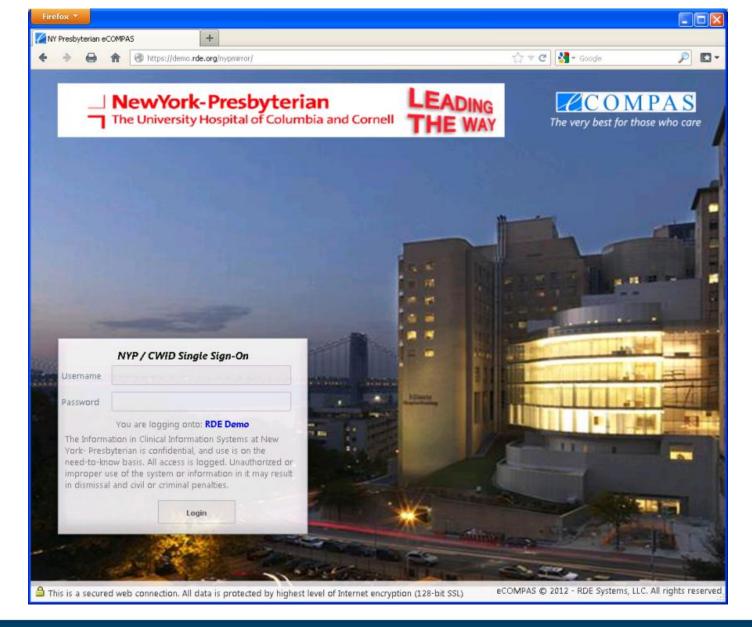


The eCOMPAS Approach

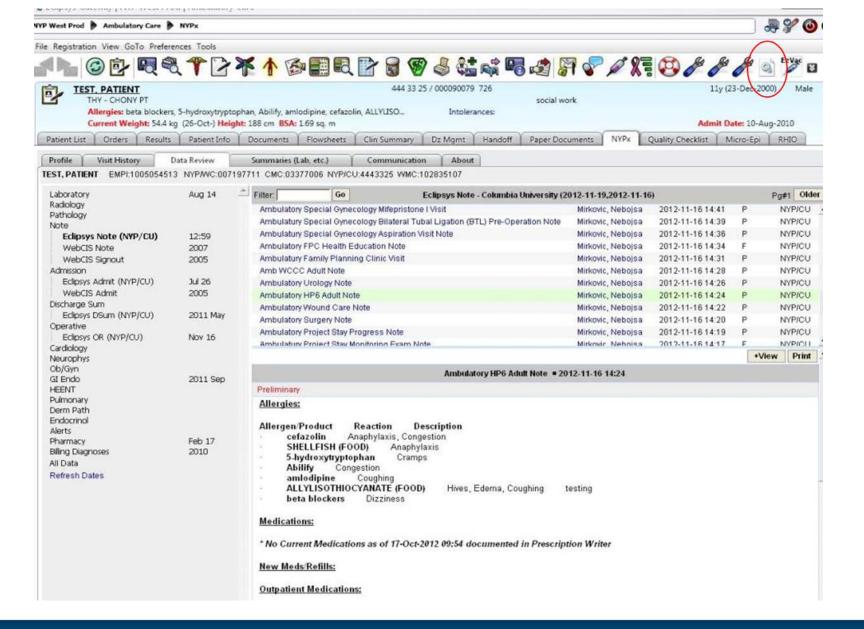


This is the way NYP/Columbia is making it work in the 'real' world of competing institutional priorities

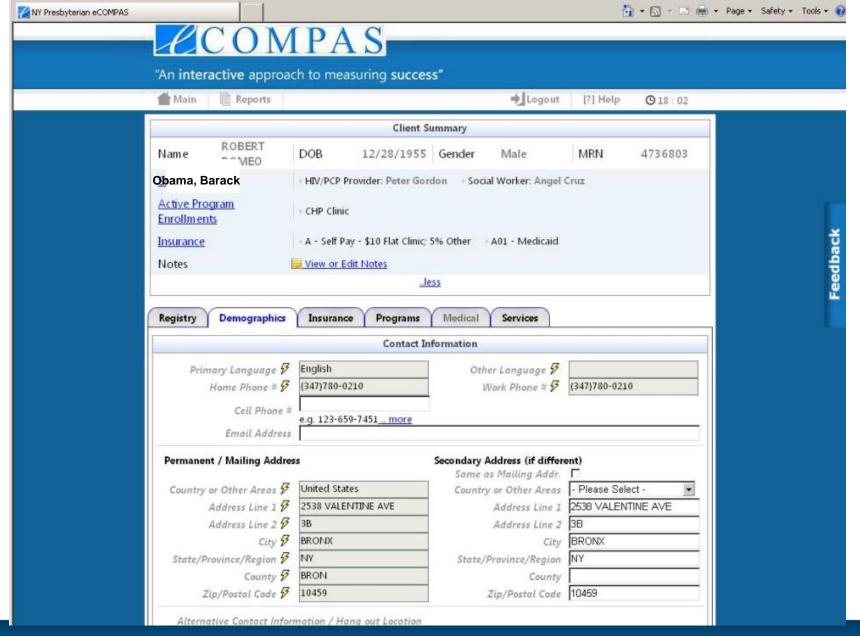




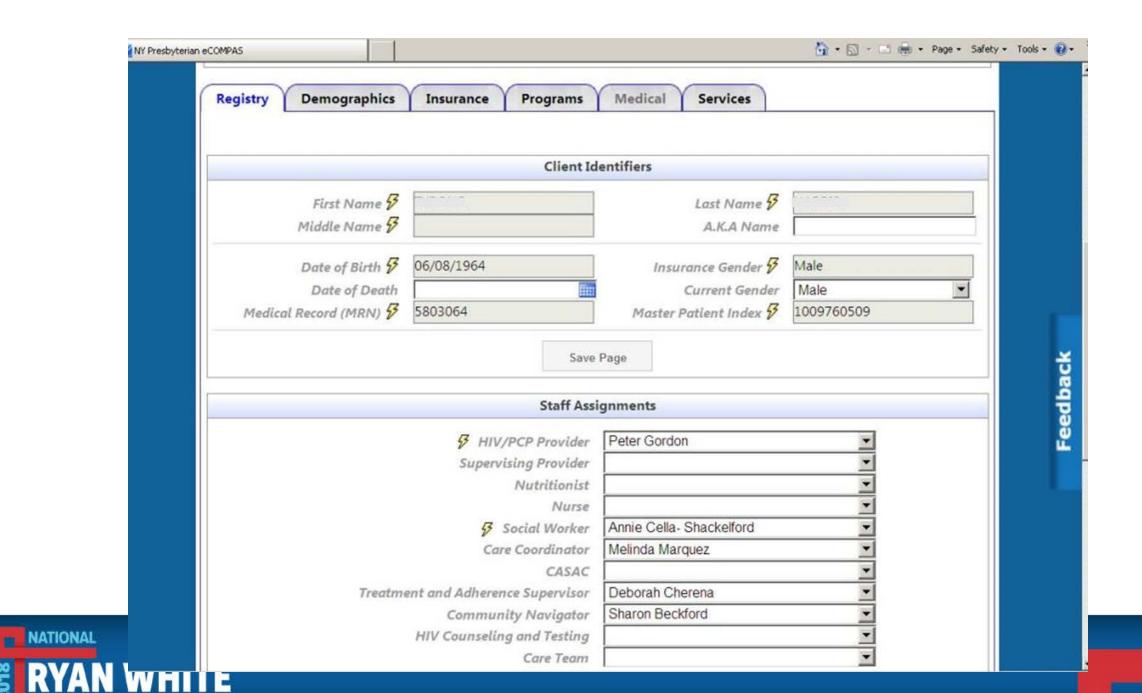








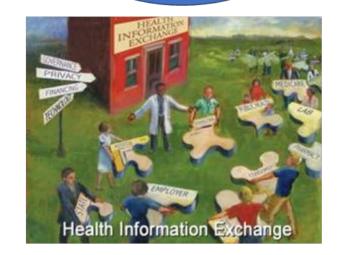




So what is the impact of this kind of HIE on NYP/Columbia's program?

Time





Population Management Data Quality



Time and Data Management: The Potential Impact of HIE

NYP/Columbia must track and manage over 800,000 data elements annually for grant and regulatory reporting purposes:

- HRSA, NYC DOHMH, AIDS Institute, CDC
- RSR, AIRS, eSHARE
- 95 'users' who need to contribute, add, manage, and export data

How utilizing HIE and implementing eCOMPAS has impacted

- 125,293,634 data elements updated/added via HIE since March 2012 (demographics, visits/services, staff assignment)
- 1000+ hours of data entry saved (very conservative)



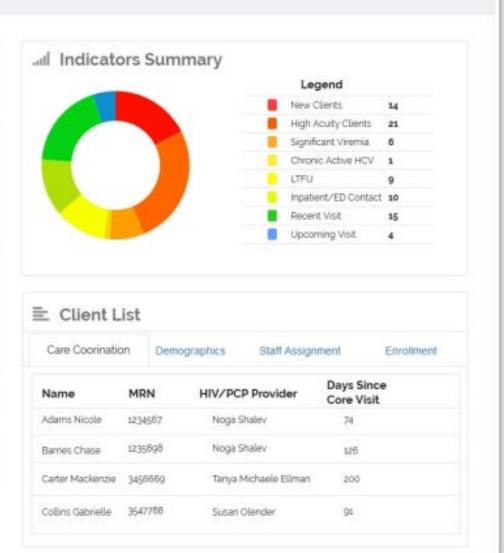
Benefit 1

Feature: Integration of Health Information Technology (HIT) for Population Health Management

Benefit: Time saving. Data from different hospital systems are pulled into eCOMPAS thus making it a single stop for all client information.









Feature 2

Feature: Dashboard for each Clinical Care Team that displays number of clients belonging to each Care Team.

Report Options				
Report Date Range:	04/01/2015	To: 05/01/2015	or Select: Frequently Used	•
Clinical Care Team:	Team A ▼	7		
Enrollment Status:	Not assigned to a team	•		
Provider:	Team A			⊗ ▼
	Team B			
	Team C	Run Report		
	Team D	Run Report		
	Team E			



Benefit 2

Feature: Dashboard for each Clinical Care Team that displays number of clients belonging to each Care Team.

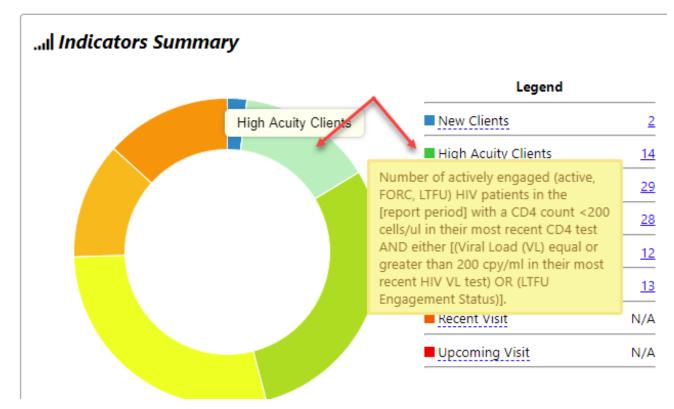
Benefit: Improved care coordination and communication



Feature 3

Feature: Dashboard displays total number of clients with High Acuity for each

Clinical Care Team





Benefit 3

Feature: Dashboard displays total number of clients with High Acuity for each Clinical Care Team

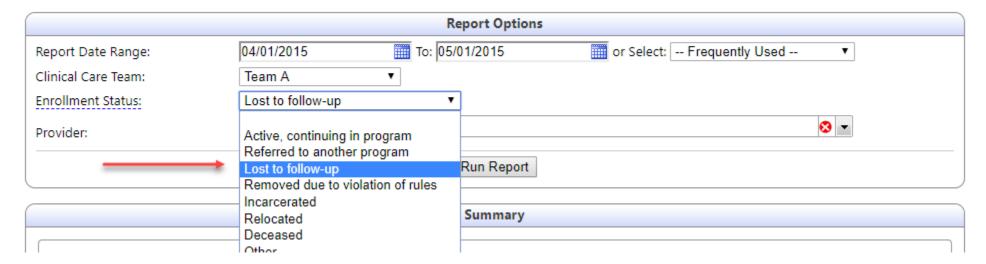
Benefit: The Care Team can automatically see their most at risk clients in one click.



Feature 4

Feature: Dashboard displays total number of clients who are Lost To Follow up for each Clinical Care Team

Clinical Care Team Dashboard





Benefit 4

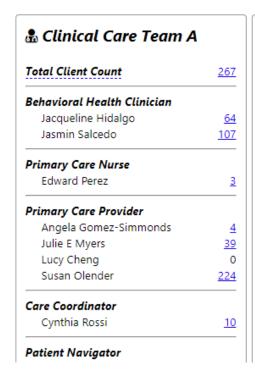
Feature: Dashboard displays total number of clients who are Lost To Follow up for each Clinical Care Team

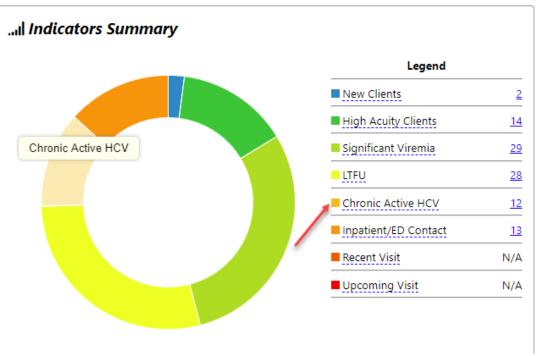
Benefit: Helps identify which clients are falling out of care. The team breakdown help see which teams are not doing as well as others



Feature 5

Feature: Dashboard displays total number of clients who are Chronic Active HCV for each Clinical Care Team







Benefit 5

Feature: Dashboard displays total number of clients who are Chronic Active HCV for each Clinical Care Team

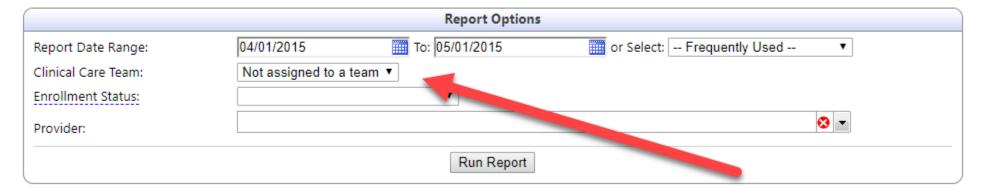
Benefit: Helps care team and managers see which teams have most clients with Active HCV and which team don't. Further review can help identify patterns and make decisions on team assignment.



Feature 6

Feature: Dashboard displays total number of clients not assigned to any Care Team

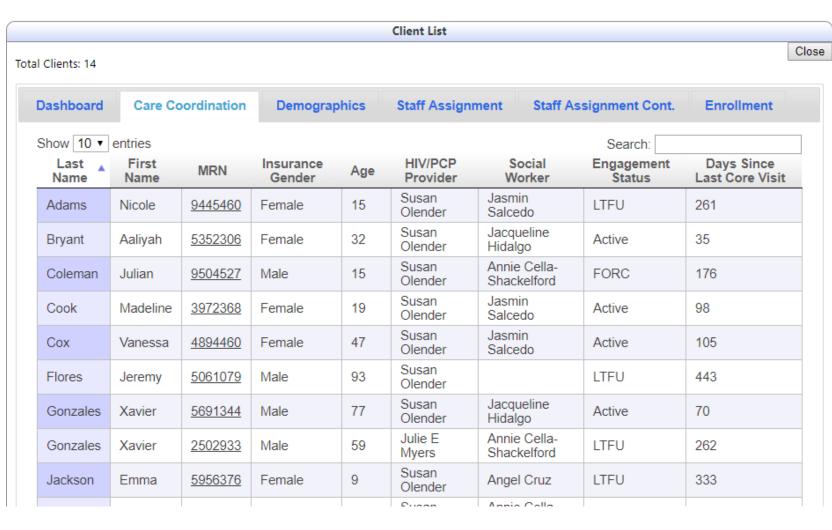
Clinical Care Team Dashboard





Feature 7

Feature: Client Drill Downs





Benefit 7

Feature: Client Drill Downs

Benefit: Ability to view the client list and related information thus saving time and minimizing effort to look for client information



ED QI Project Motivation

- ☐ High rates of ED utilization and hospital readmissions
- Prior authorizations for medications when in the ED
- Patients needing care outside CHP's clinic hours
- ☐ Patient education in the ED on HIV treatment vs pre-/post-exposure prophylaxis (e.g., ARVs and resistance)
- Limitations around PEP dose distribution in ED





ED QI Project Aims

- Reduction in avoidable hospital and ED use
- ☐ Improve outcomes across HIV Care Continuum



Identifying and Re-Engaging Patients

- ☐ Workflow 1: Established Known HIV Patients
- Twice daily checks by RN Care Managers of patients in the ED via <u>CCT Dashboard</u>
- ☐ Workflow 2: New to Care Patients Visiting the ED
- ED Navigator Referrals to RN Care Managers of:
 - HIV-infected patients never engaged in care or LTFU
 - Individuals at risk of HIV infection









RN Coordinator



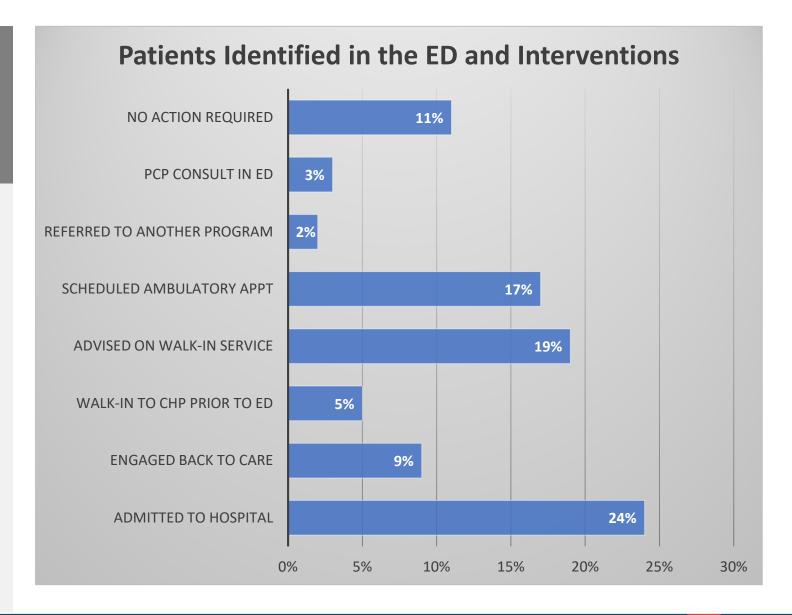
ED Population Management

- Conducted five stakeholder meetings to review baseline data on ED patients collected by RN Coordinators
 - Providers, RN Coordinators, Care Coordinators, Quality Manager
- Categorized ED patients by
 - Medical complexity
 - HIV care engagement
 - Health and psychosocial factors
 - High ED utilization and readmissions
- Identify potential intervention mix by ED patient type



QI Pilot Period: 9/30/16 - 12/5/16

- \square N = 159
- Average number per week of CHP patients with an ED contact = 15.5
- 9% patients identified through ED Navigator
- > 50 hours in staff time in patient engagement, education, and follow-up
- ☐ 13% patients enrolled intensive medical case management





RN Care Manager Average Time Spent on Daily ED Panel Review, Patient Outreach, and Re-Engagement

Activity	Average Time Spent (Minutes)
Daily running of CCT Dashboard and review of patient charts	6.9
In-person outreach	18.5
Phone outreach	8.5
Patient education	9.1
Care coordination with Clinical Care Team	11.5

Care Team Activation through Dashboard Data

Prior to the ED QI Project, the CCT Dashboard indicators were run 186 times in September 2016.

After implementation, the CCT Dashboard indicators were run an average of 346 times per month.



Increase in Same Day Visits

"The walk-in has increased because now we emphasize patients will end up in the ED only if absolutely necessary. So we made an emphasis on all of those sorts of strategies. [...] Especially when it's for something small. Obviously, if it's something urgent. But they have a walk-in. They want to come in. They come in the next day.

I just saw a patient yesterday in the ED, [...] and he just switched meds. I'm like; come in tomorrow. [Your provider is doing] walk-ins. You can tell her about your symptoms and what's going on. And he came this morning. [...] I just happened to look at the dashboard this morning, then Allscripts. And so he came in. So, you know, that communication matters."

(Nurse Care Manager)





Lessons Learned from QI Project

- □ Panel-based ED visit data contributed to activation of care coordination resources for identification and real-time reengagement of patients while in the ED
- ☐ Engagement of patients in real-time while at the ED is feasible and challenging (requiring ED champions)
- ☐ Re-engagement of patients in outpatient clinic was possible through same day services
- "Differentiated care" strategies by ED patient category can be used to optimize care team resources





STaR Practice Transformation ED QI Project Team

- Audrey Perez, Nurse Care Manager, STaR Project
- Stacey Gladstone, Nurse Care Manager, DSRIP Project
- Mila Gonzalez, STaR Project Director/Quality Manager
- Susan Olender, STaR Principal Investigator/Quality
 Program Director
- Steve Chang, DSRIP Project Director
- Peter Gordon, Medical Director
- Jesse Thomas, RDE Systems, HIT Consultant
- Anusha Dayananda, RDE Systems, HIT Consultant
- Wayne Stewart, Principal Investigator, UCSF ETAC
- Pamela Belton, Project Officer, HRSA-SPNS
- Comprehensive Health Program Staff

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Question?



Panel Discussion