All Those Measures: What about quality?

Bruce D. Agins, MD MPH
Medical Director, New York State Department of Health
Director, HIVQUAL-US; HEALTHQUAL International

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Overview of the Talk

- Background
  - Model and context: HIVQUAL-US
- HIV Measures
- National Performance Data: Benchmarking
- National AIDS Strategy
- Opportunities

Acronyms

- PCMH – Primary Care Medical Home
- NQF – National Quality Forum
- HAB – HIV/AIDS Bureau
- NAS – National AIDS Strategy

What is HIVQUAL-US?

- A **capacity-building program** supported by the HIV/AIDS Bureau-HRSA and implemented through the NYSDOH AIDS Institute to help Ryan White Part C & D HIV care programs build and sustain quality improvement programs
- A way to **monitor HIV care** using a sampling strategy that promotes self-assessment through standardized record review
- A framework for **quality management** linking three core components

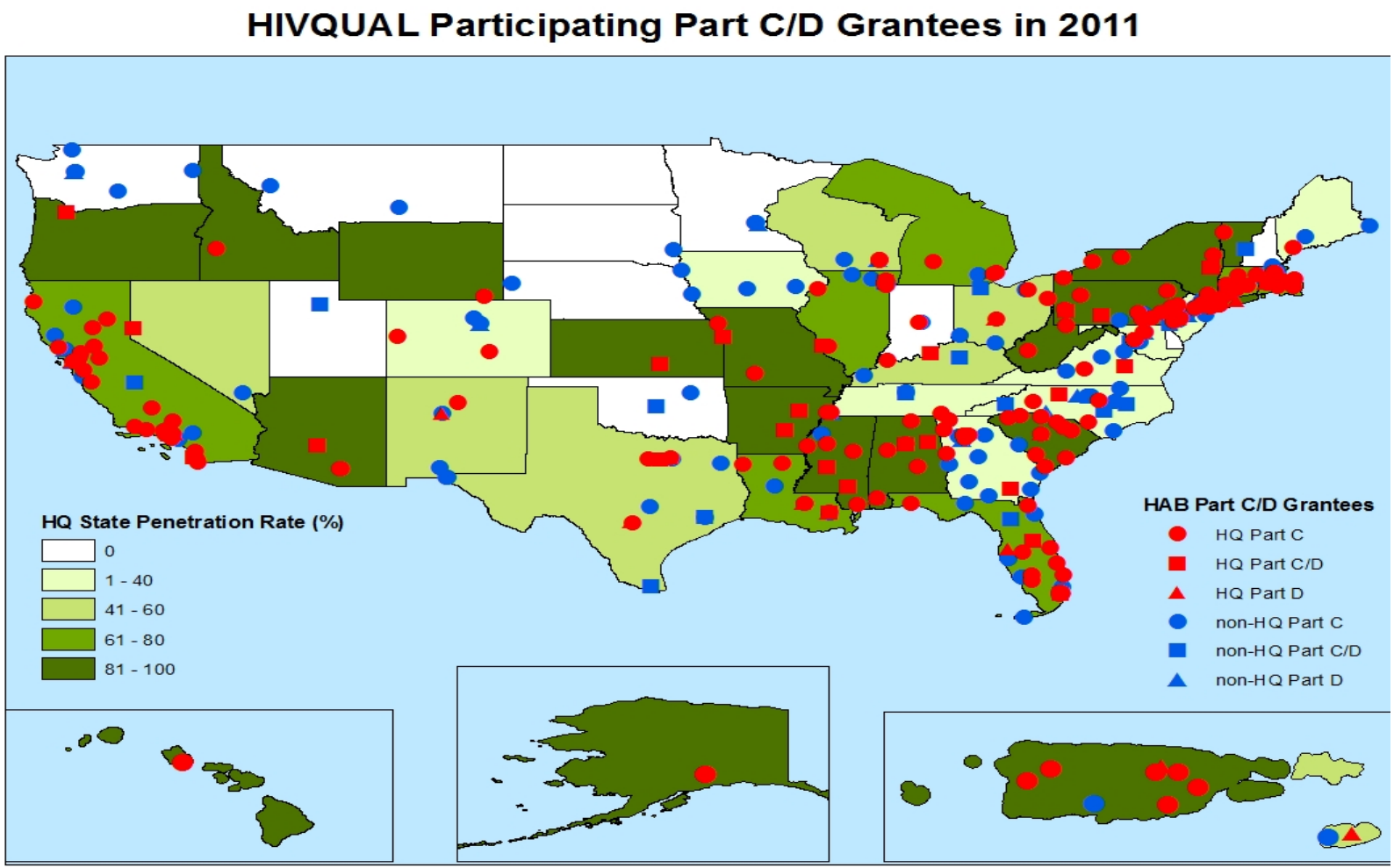
The HIVQUAL Framework

- **Performance Measurement**
- **Quality Improvement**
- **Quality Management Program**

Implemented through

- ***Coaching and Mentoring***
- ***Peer Learning***
- ***Involving Patients***

HIVQUAL Participating Part C/D Grantees



HIV Measures

- HAB Measures
  - http://hab.hrsa.gov/special/habmeasures.htm
- NQF-endorsed measures
- HIVQUAL-US measures

Roles of Performance Measurement

- **Benchmarking and goal setting**
  - Feedback to HIV programs
  - Fostering 'healthy' competition and consumer choice
- **Prioritizing areas for improvement**
  - Identification of opportunities for improvement at each HIV program, state and national level
- **Measuring progress**
  - Assessment of whether QI activities improve HIV care
  - Impact on HIV care of the population
  - Ability to track progress over time
- **Identifying successful and reliable strategies**

NQF

- A not-for-profit membership organization created to develop and implement a national strategy for health care quality measurement and reporting. NQF endorses performance measures as national voluntary consensus standards through their consensus development process.
- Designated as clearinghouse for measures under the Accountable Care Act for approving measures that will be endorsed by the Department of Health and Human Services and can be used for public reporting and quality improvement.
- Measures will be used by Office of Health Information Technology for electronic reporting initiatives and benchmarking, and should not be dependent upon manual chart review.

NQF HIV Measures: Process

- Harmonization of HIV measures across entities and platforms
- Consensus measures developed by panel supported by:
  - American Medical Association
  - Physician Consortium for Performance Improvement
  - HRSA (HAB)
  - HIVMA
  - NCQA
- Goal to develop measures for those already diagnosed
- Beta testing underway (Kaiser Permanente; Alliance of Chicago)

NQF HIV Measures

- Outcome Measures
  - HIV RNA control for all patients on ART to below limits of quantification for lab used
  - HIV RNA control after six months on ART

- Process Measures
  - Medical Visit (one visit in each half of year with visits at least 60 days apart)
  - CD4 cell count twice yearly
  - PCP prophylaxis if CD4<200
  - ART prescription if CD4<350

NQF Screening and Vaccination Measures

- TB screening
- STI Screening (syphilis - annual, GC, chlamydia – ever)
- Hepatitis B screening
- Hepatitis C screening
- Injection drug use – annual screen
- High risk sexual behavior – annual screen

- Influenza vaccination
- Pneumococcal vaccination
- HBV vaccination (complete series)

Large HIV Clinical Performance Data Sets

- Veterans Administration Hospital
  - Backus LI, Boothroyd DB, Phillips BR, Belperio BS, Halloran JP et al. **National Quality Forum Performance Measures for HIV/AIDS Care.** ***Arch Int Med*** **2010; 170: 1239-1246.**

- Kaiser Permanente
  - Horberg (NQF measures). **HIV Quality Measures: National Development and in Kaiser Permanente.**
  - **http://www.ama-assn.org/resources/doc/cqi/michael-horberg.pdf**

- HIVQUAL-US (NYSDOH AIDS Institute**).** **www.hivqual.org**
  - Advisory committee of representative Part C/D clinicians

- *Review of the Current Scene:* Horberg MA, Aberg JA, Cheever LW, Renner P, Kaleba EO, Asch SM. **Development of National and Multiagency HIV Care Quality Measures.** ***Clinical Infectious Diseases*** **2010; 51: 732-8.**

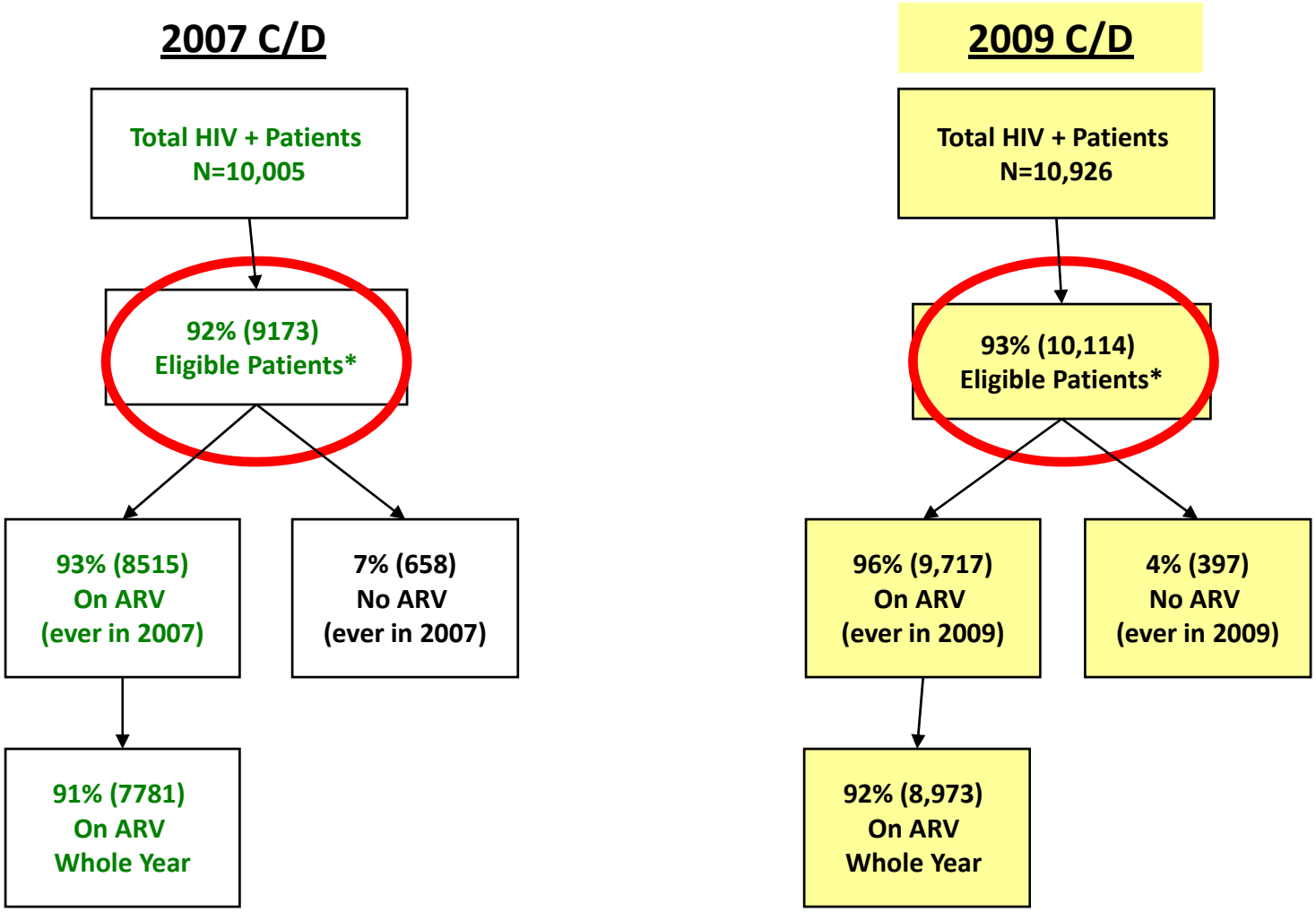
HIVQUAL-US Performance Data

- Data analysis not quite finished.
- Benchmarking report will be posted when complete at www.hivqualus.org.

HIVQUAL-US: Performance Data Results

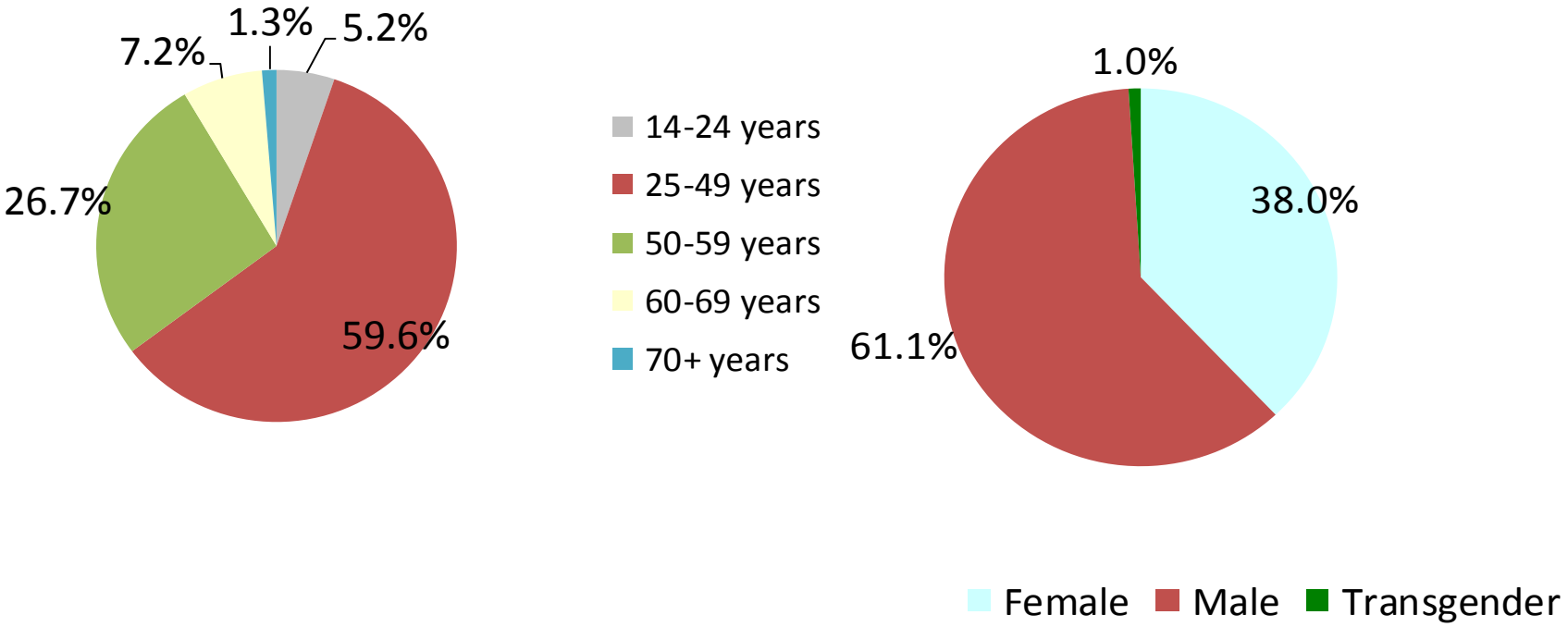
- **2009 C/D**: Data analyzed from **204** clinics (Ryan White Part C/D), representing **108** grantees
  - **2007 C/D**: **168 clinics** (Part C/D), representing **93** grantees
- Patients were eligible for inclusion if they had 1 visit in ***each*** 6 month period
- Excluded patients ≤ 13 years of age
- Sample calculated to achieve 90% CI ± 8%
- Over 25 indicators in the HIVQUAL data set, many with subcomponents

Exclusions and ARV Use

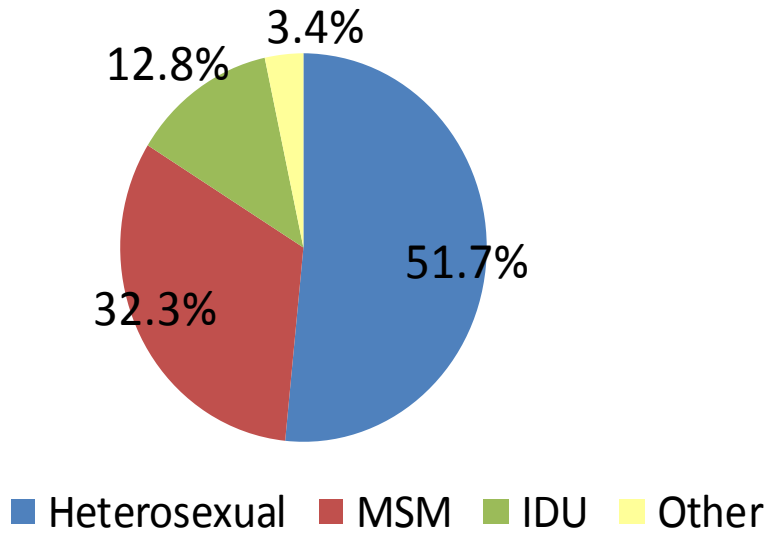


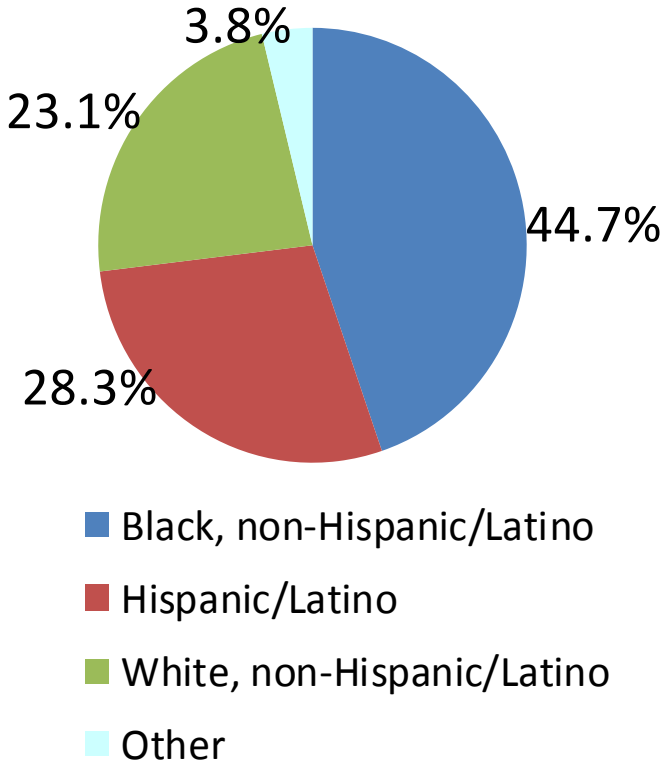
*Patients are ARV eligible if they were already on ARV therapy prior to or during the review period or if there were any CD4<350 or VL>100,000 in the year

Analytic Sample Demographics: Age and Gender (n=10,926)



Analytic Sample Demographics: Exposure Category and Race/Ethnicity (n=10,926)





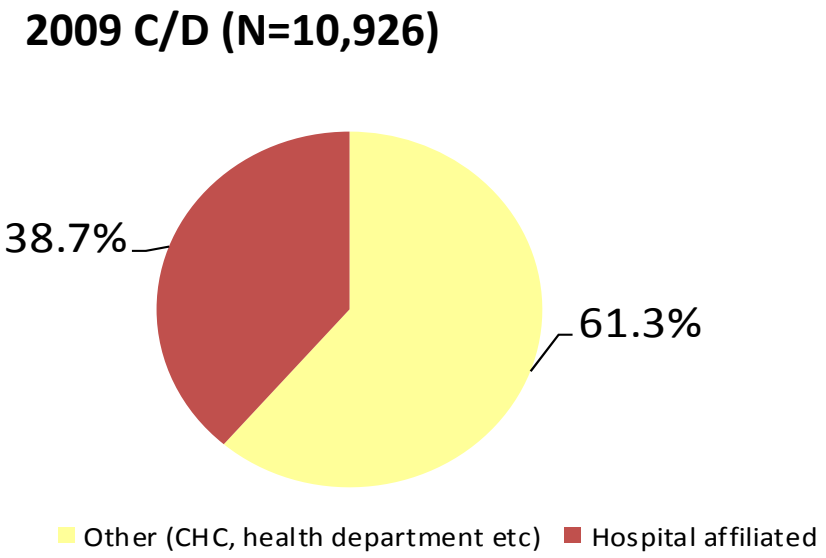
IDU=any IDU
Other" includes hemophilia/coagulation, perinatal transmission, transfusion/blood, and other.

Clinic Characteristics

		2009 Part C/D	
		N	**%**
Total Number of clinics		204	--
Ryan White	Part C	175	85.8
	Part D	10	4.9
	Parts C and D	19	9.3
Average caseload (all patients) per clinic Average caseload (eligible patients) per clinic Average number of patients reported per clinic (randomized sample)		375 (range: 3-3755) 280 (range: 1-2510) 54 (range 1- 156)	
Setting	Other Clinical*	152	74.5
	Hospital associated or based	52	25.5

*"Other clinical" include community health centers, community based organizations, health department clinics, drug treatment centers, private practice offices

% of Patients by Setting



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Performance Data Results

- **Clinic mean**: average clinic performance score
- **Top 10% level**: value above which only 10% of clinics performed
- **Bottom 10% level**: value below which only 10% of clinics performed

List of Key Indicators

HIV-Specific Care	General Medicine & Preventive Care	Chronic Disease Screening and Management
Medical Visits with HIV-Experienced Provider HIV Monitoring PCP Prophylaxis HIV Prevention Education ARV Therapy Baseline resistance testing Viral Load Suppression	TB testing Hepatitis C Management STI Screening GYN care: pelvic and Pap Pneumococcal & influenza vaccinations Dental Examination Tobacco Use Screen Substance Use Screening Mental Health Screen Health Literacy Anorectal Exam	Colonoscopy Diabetes Management (2009) Hypertension (2009)

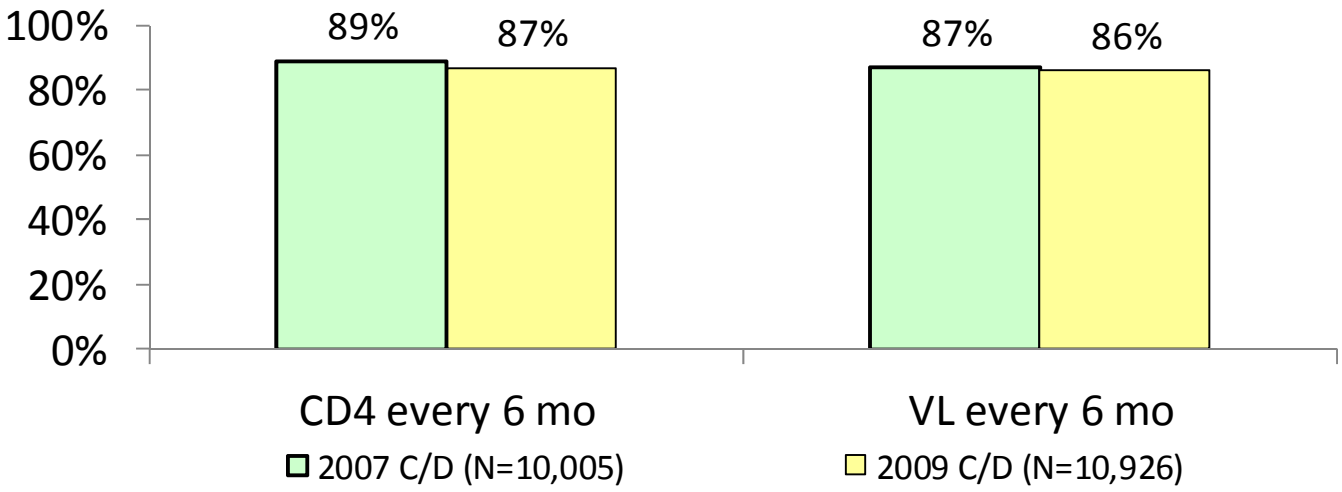
HIV Specialist Visits

Percent of patients who saw HIV Specialist every 6 months

- Clinic mean: 93%
  - Bottom 10%: 83%, Top 10%: 100%

Every 6 months cannot be determined from 2007 data, as only captured by trimester.

VL and CD4 Count Monitoring (clinic means)



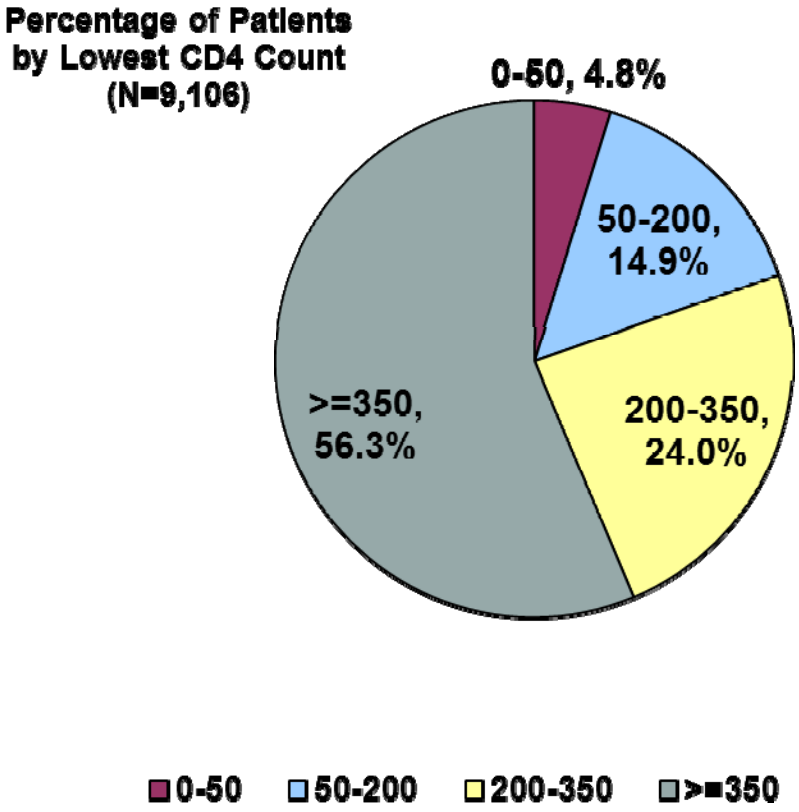
**clinic means are shown in figure.*

Lowest CD4 Count:
Clinic Means

Of 10,336 patients with at least two CD4 counts measured during the year:

- Lowest CD4<200 = 19.7%
- Lowest CD4<350 = 43.7%
- Lowest CD4<500 = 67.5%

- 80.3% - lowest CD4 >200



*525 patients with only 1 CD4 count measured and 65 with no CD4 measured were excluded.
***Clinic means* are shown.**

PCP Prophylaxis

- Percent of patients whose lowest CD4 count < 200/mm^{3*} in review year who were on PCP prophylaxis
  - Eligible population C/D: **13% (1416)**

Clinic mean for eligible patients on PCP prophylaxis: 71%

Bottom 10%: 27%, Top 10%: 100%

- 2007 C/D clinic mean: 86%

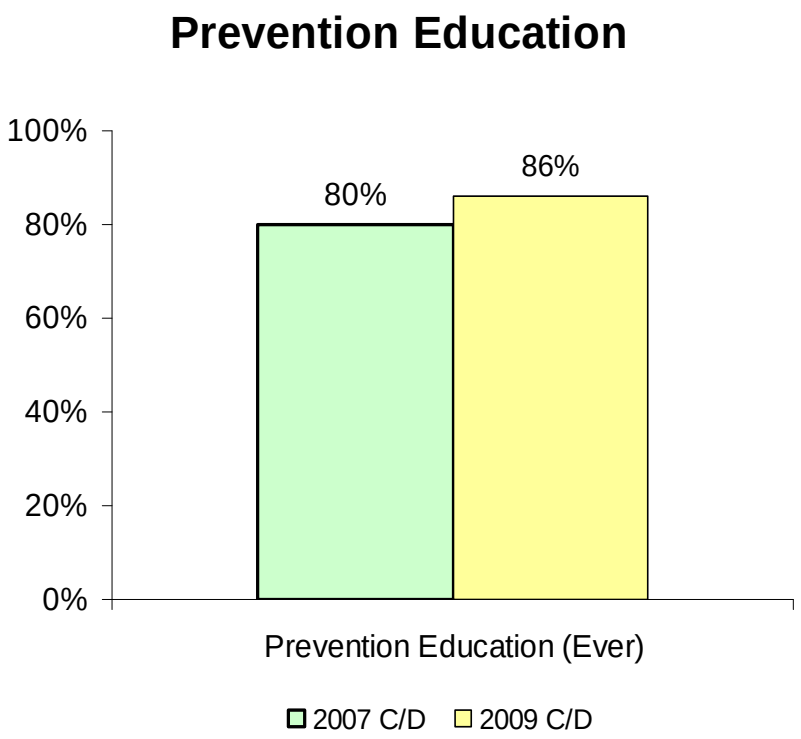
*** And not >200 for remainder of year**

Prevention Education

HIV prevention education

Of 10,926 eligible patients:

- Clinic mean for eligible patients that had prevention education in *both* the 1st and last 6 months of review year: **70%**
  - Bottom 10%: 15%, Top 10%: 100%
- Clinic mean for eligible patients that had prevention education in either the 1st or last 6 months of review year: **86%**
  - Bottom 10%: 57%, Top 10%: 100%

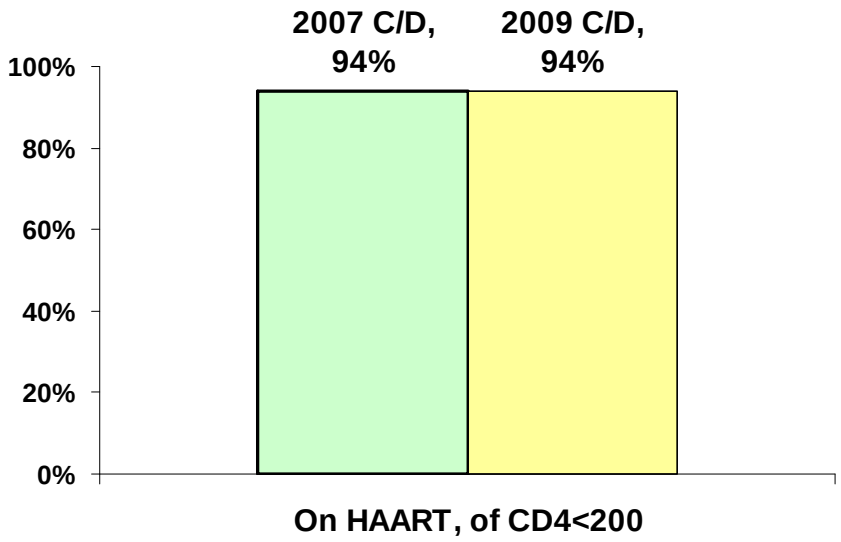


Patients on ART with lowest CD4 <200 during year

- Clinic mean for % of patients with lowest CD4<200 in 2009 ever on HAART in the review period: **94%**

Bottom 10%: 83%

Top 10%: 100%



Baseline Resistance Testing

% of ARV naïve patients with VL > 1000 copies initiating ARV therapy who received a baseline resistance test

Clinic mean for patients receive a baseline resistance test: **53%**

Bottom 10%: 0%, Top 10%: 100%

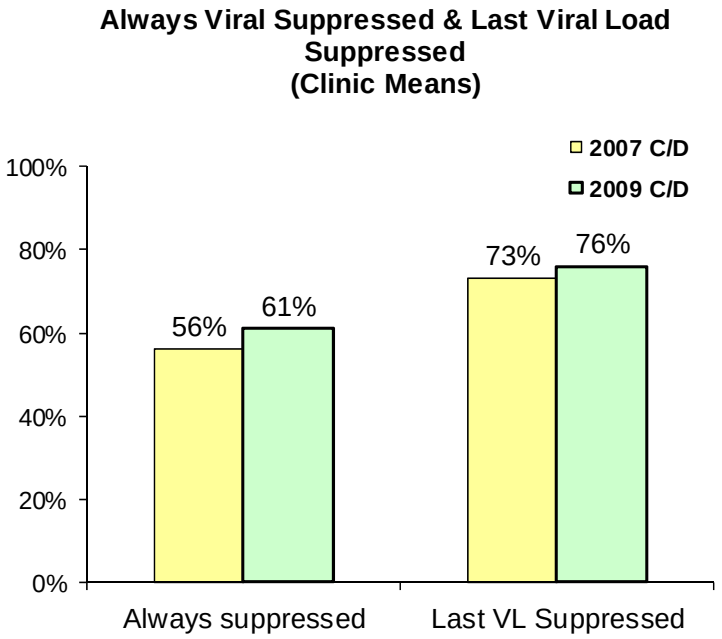
- 2007 C/D clinic mean (pilot indicator): 43.8%, small n

Viral Suppression: Always & Last

- Population – ever on ARV therapy in year. N=9,717

- Clinic mean for patients who were **always** viral load suppressed (VL ≤ 400): **61%**
  - 2007 C/D clinic mean: 56%

- Clinic mean for patients who had **last viral load test** suppressed (VL ≤400): copies/mL **: 76%**
  - 2007 C/D clinic mean: 73%



Viral Suppression: Always & Last: New definition of suppressed

- Population – Patients on ARV therapy 12 weeks or more before last VL (N = 9,153)

- Clinic mean for patients who were **always** viral load suppressed (VL ≤ detection OR 200 copies/mL): **64%**
  - Bottom 10%: 36%, top 10%: 85%

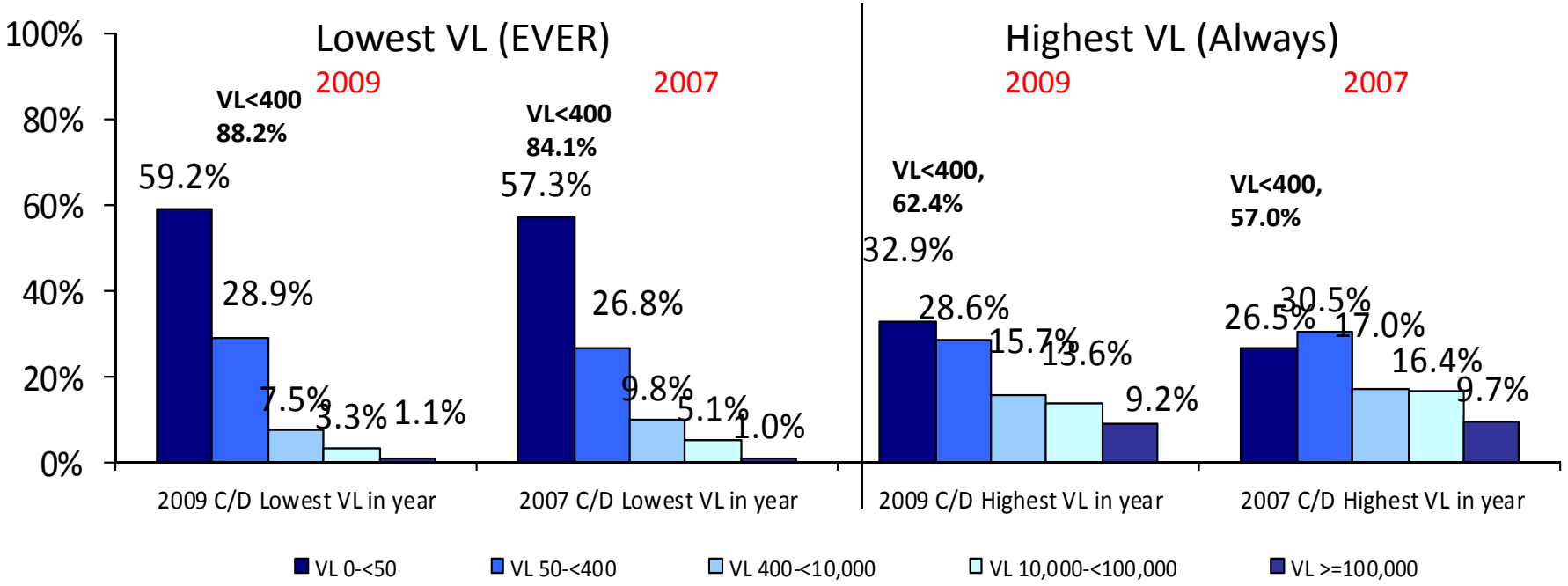
- Clinic mean for patients who had **last viral load test** suppressed (VL ≤ detection OR 200 copies/mL): copies/mL **: 75%**
  - Bottom 10%: 50%, top 10%: 94%

Ever & Always Suppressed

Clinic Means

Patients with ≥2 VL tests, on ART ever and seen in all 3 trimesters

(2009 N=7,368, 2007 N=6913)



**Clinic means are shown in figure.*

Lowest VL captures patients **ever** suppressed during the year
Highest VL captures patients **always** suppressed during the year

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TB Screening

- TB screen during the last 2 years for patients with no prior TB or PPD(+)
  - 2009 C/D: 9,755 eligible patients
- Clinic Mean for patients who had a TB screen: **69%**
  - Bottom 10%: 35%, Top 10%: 100%
    - 2007 C/D: clinic mean: 70%
- Clinic Mean for patients who had PPD Positive: **3%**
  - Bottom 10%: 0%, Top 10%: 7%
    - 2007 C/D clinic mean: <1%, small N

Known Hepatitis C Status

Hepatitis C status is defined as known if:

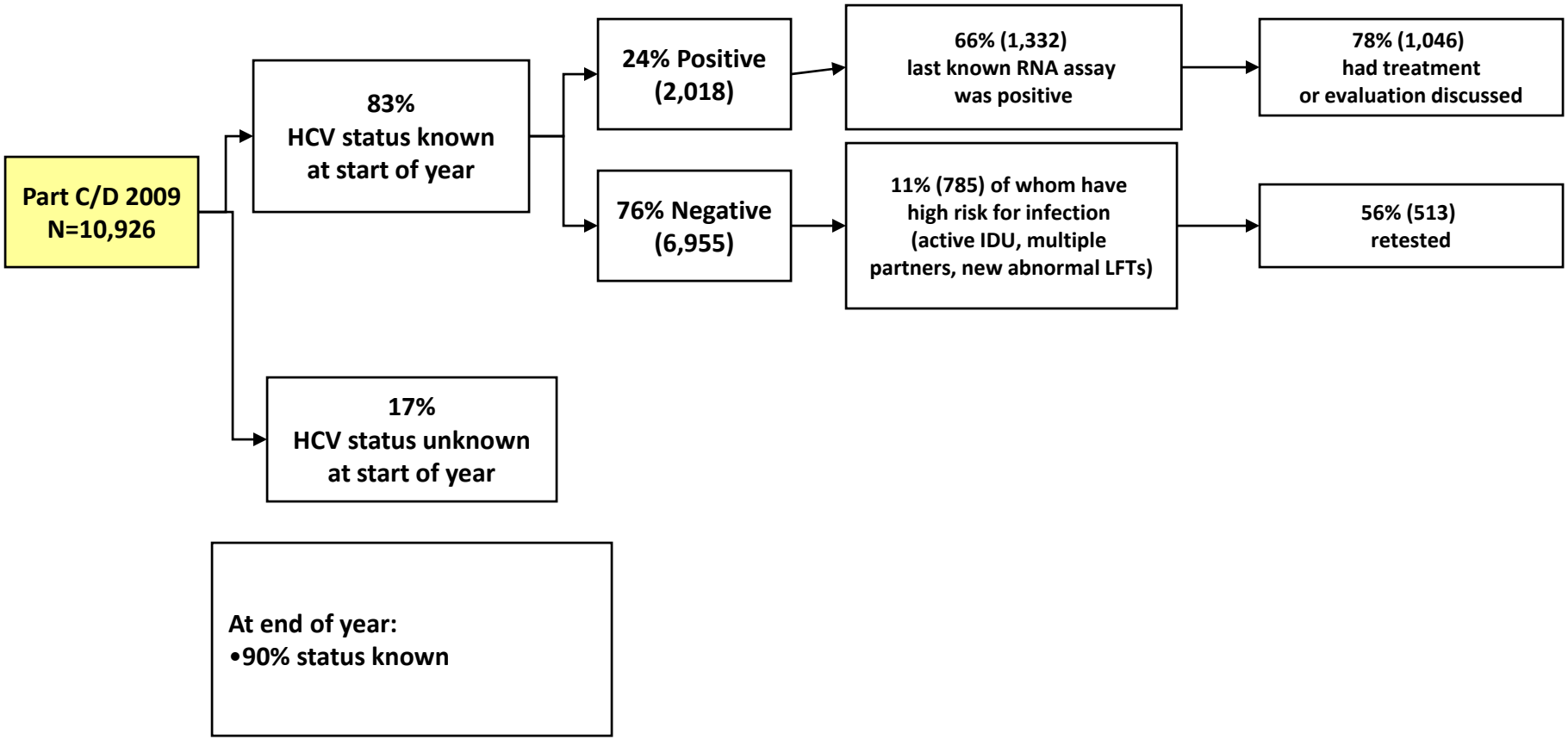
- Known (+) at start of year
- Known (-) at start of year and low risk*
- Known (-) at start of year, high risk* but retested during the year
- Unknown status at start and any result by end

Clinic mean for patients who had known HCV status as of end of 2009: **90%**

- Clinic mean: 20% sero-positive

*High risk for HCV infection - active IDU, multiple partners, new abnormal LFTs

Hepatitis C Screen (revised 2009)



*<u>Clinic means</u> are shown on this slide.
Updated indicator in 2009 review

STI Screenings

	2009 C/D		
STI Test	**Number eligible**	**Clinic Mean (Bottom 10%, top 10%)**	**% Positive (Clinic mean)**
Syphilis (all patients)	**10,926**	**80% (53%, 100%)**	**6.0%**
Gonorrhea (all women, plus men with MSM or MSM/IDU risk)	**7,673**	**58% (17%, 100%)**	**1.7%**
Chlamydia (all women, plus men with MSM or MSM/IDU risk)	**7,673**	**58% (17%, 100%)**	**2.3%**

GYN Care Indicator

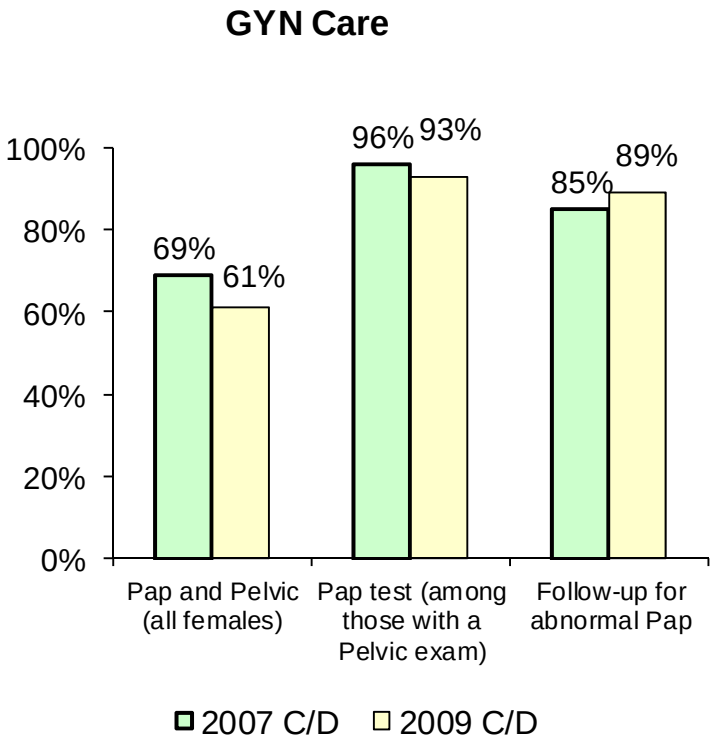
GYN Care in review period

4,148 women eligible in 2009

Clinic mean for patients who had both a pelvic exam and a Pap test: **61%**

Of 2,578 women with a pelvic and pap smear, clinic mean of

- **24%** (632) abnormal
- With clinic mean of 89**%** (555) referred for follow-up



Vaccinations

- Pneumococcal vaccination (optional)
  - Clinic mean in last 5 years: **72%**
    - Bottom 10%: 44%, Top 10%: 94%
- Influenza vaccination in this review year or last
  - Clinic mean: **77%**
    - Bottom 10%: 51%, Top 10%: 96%
- Influenza vaccination in this review year
  - Clinic mean: **59%**
    - Bottom 10%: 33%, Top 10%: 86%

Dental Care

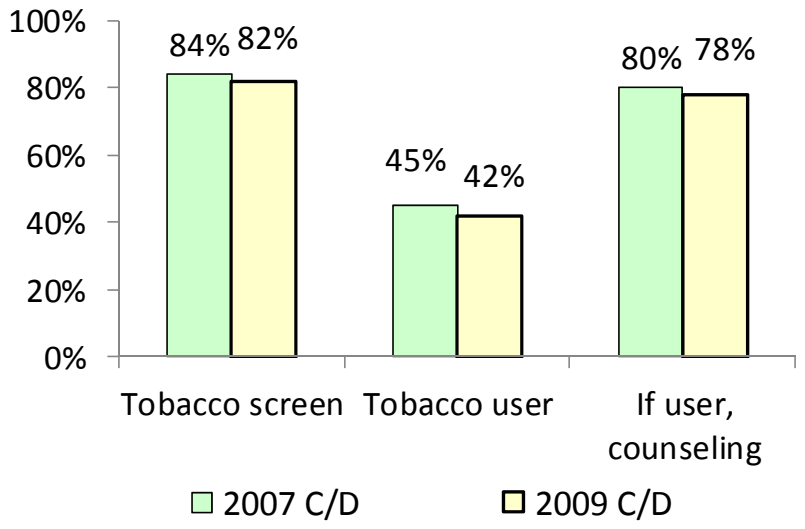
Dental exam during review year

- Clinic mean for patients who had a dental exam in the last 12 months: **36%**
  - Bottom 10%: 8%, Top 10%:75%
    - 2007 C/D clinic mean: 42%

Tobacco Screening

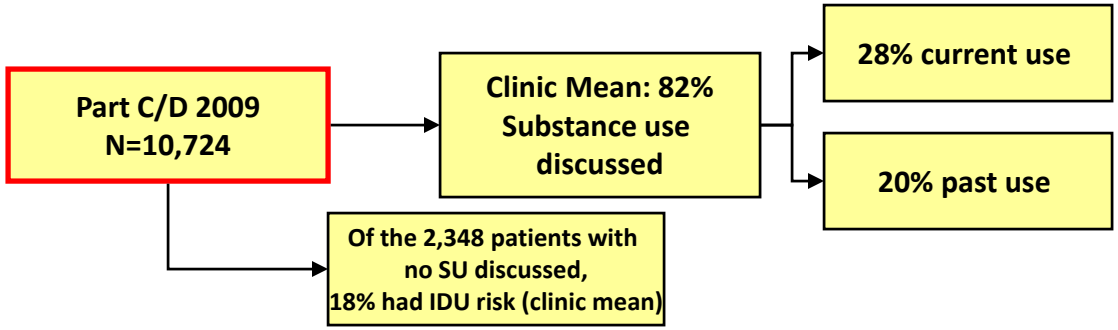
Tobacco use screen

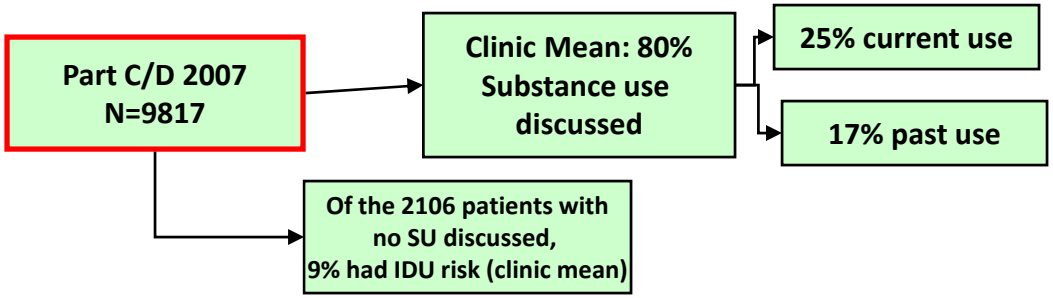
- Clinic mean for patients who were screened for tobacco use: **82%**
  - Bottom 10%: 51%,
  - Top 10%:100%
  - **Clinic mean: 42%** current users
  - **Clinic mean: 78%** of current users received counseling



Substance Use Screening:

Clinic Means





**Clinic means are shown on this slide. Patients reviewed at Drug Treatment Centers were excluded from the substance use screening analyses.*

Current Substance Use:

Clinic Means

2009 C/D Programs

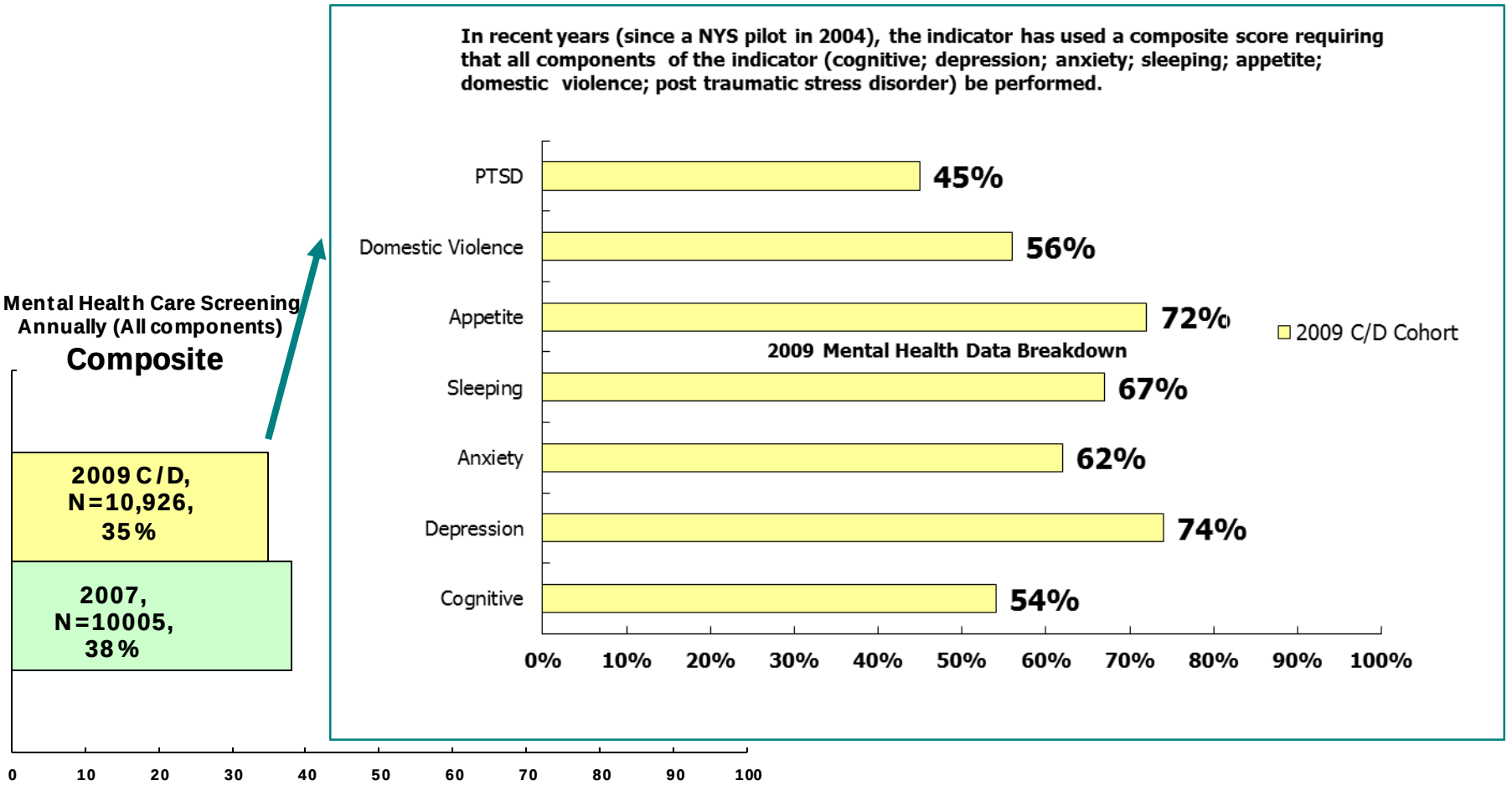
- Of the 2,197 patients with current substance use:
  - 52% alcohol
  - 36% marijuana
  - 29% cocaine (15% of whom via injection; 30% via intranasal; 52% via smoking)
  - 8% heroin (59% of whom via injection; 20% via intranasal, 16% via smoking)
  - 4% pills
  - 4% other drugs

- Clinic mean of 43% of patients with current heroin/cocaine injection use had safer injection/needle exchange discussed

- Clinic mean of 19% of patients with current substance use were in treatment:
  - 15% detoxification, 19% methadone, 25% residential treatment, 31% out-patient non-methadone, 12% 12 Steps Self-Help, 18% other treatment method.

**Clinics means are shown on this slide. Patients reviewed at Drug Treatment Centers were excluded from the substance use screening analyses.*

Mental Health Care Screening



*clinic means are shown on this slide.

Mental Health Screening (Cont): Clinic Means

2009	Of screened, % Problem Identified (n)	Of problem identified,				Of referral noted, % Referred	Of referred, % seen within 30 days
		% No treatment or referral	% Already in Care	%Newly Given treatment	%Referral noted		
Cognitive function	11%	5%	66%	14%	15%	73%	27%
Depression	37%	3%	58%	20%	19%	76%	33%
Anxiety	29%	2%	63%	20%	15%	79%	33%
PTSD	13%	2%	64%	15%	19%	69%	34%

**Clinic means are shown on this slide. Mental health treatment and referral indicators newly added in the 2009 review; no comparison to 2007.*

Health Literacy Screen (optional)

Clinic mean: 57% of patients were screened for health literacy (bottom 10%: 0%, top 10%: 100%)

Clinic mean of

11% of patients had a need for a health literacy intervention

56% of patients with a need had a health literacy intervention done

Anorectal Exam & Anal Pap

Anorectal Exam (core)

Clinic mean for patients who had an anorectal exam: **19%,**

Bottom 10%: 0%, Top 10%: 47%

Anal PAP (optional)

Clinic mean for patients who had an anal Pap among women with abnormal cervical Pap: **9%**,

Bottom 10%: 0%, Top 10%: 33%

Clinic mean for patients who had an anal Pap among patients with either MSM or MSM & IDU risk: **21%**

Bottom 10%: 0%, Top 10%: 67%

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Colonoscopy (optional)

Clinic mean for patients aged 50 and over who had a colonoscopy: **30%**

Bottom 10%: 5%, Top 10%: 51%

- 2007 C/D Clinic Mean (optional): 24%

Diabetes Management (optional)

% of patients who had any diabetes related testing

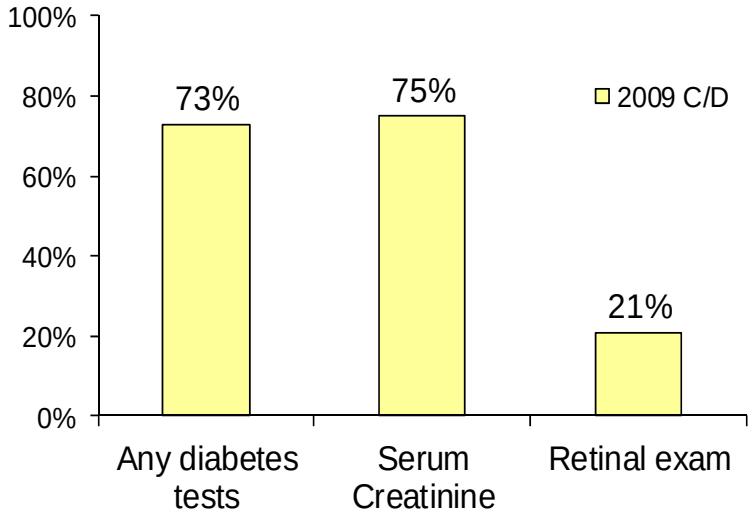
- **Clinic mean: 73%** of patients had any diabetes related tests*
  - Bottom 10%: 14%, Top 10%: 100%
  - 86% fasting blood glucose
  - 25% HbA1C
  - 4% oral glucose tolerance test

Clinic mean of

17% (706/5944) of patients had test results indicative of diabetes**

Of these, 75% had serum creatinine measured and 21 had a retinal exam.

Any Diabetes Tests and Serum creatinine & Retinal exam among Patients with Diabetes



*** some had > 1 test; **if FBG≥126mg/DL *OR* OGTT ≥200 *OR* HbA1C ≥6.5% = diabetes**

**New indicator in 2009 review.*

Hypertension (optional)

Clinic mean: 99.7% (3,706/3,724) of patients had blood pressure measured

Bottom 10%: 99%, 10%: 100%

No hypertension: **82% (2,938)**

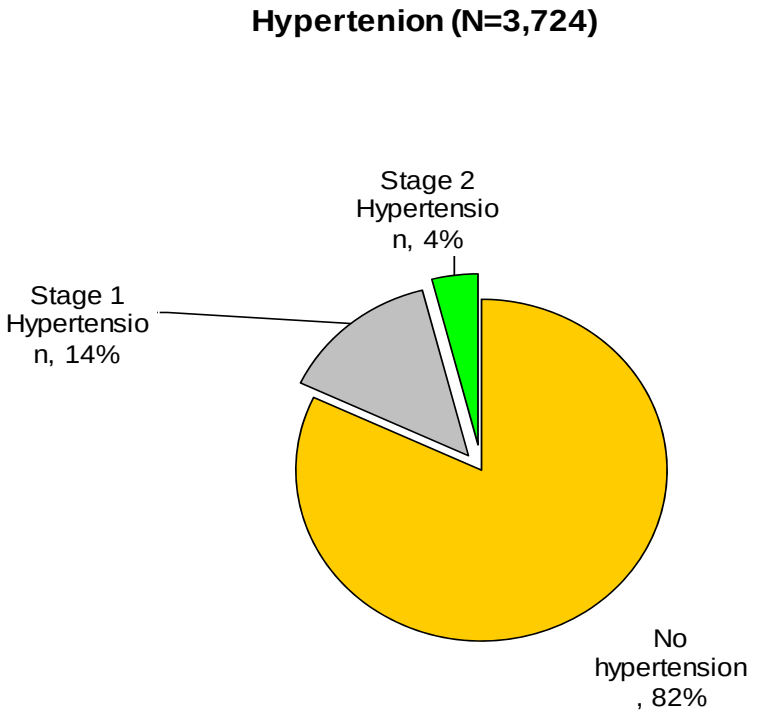
Stage 1 hypertension: **14% (600)**

46% (273/600) received treatment

Stage 2 hypertension: **4% (168)**

74% (127/168) received treatment

**of patients with known treatment info*



New indicator in 2009 review

HIVQUAL Measures: Next Steps

- Clinical subcommittee reviews data, other measures

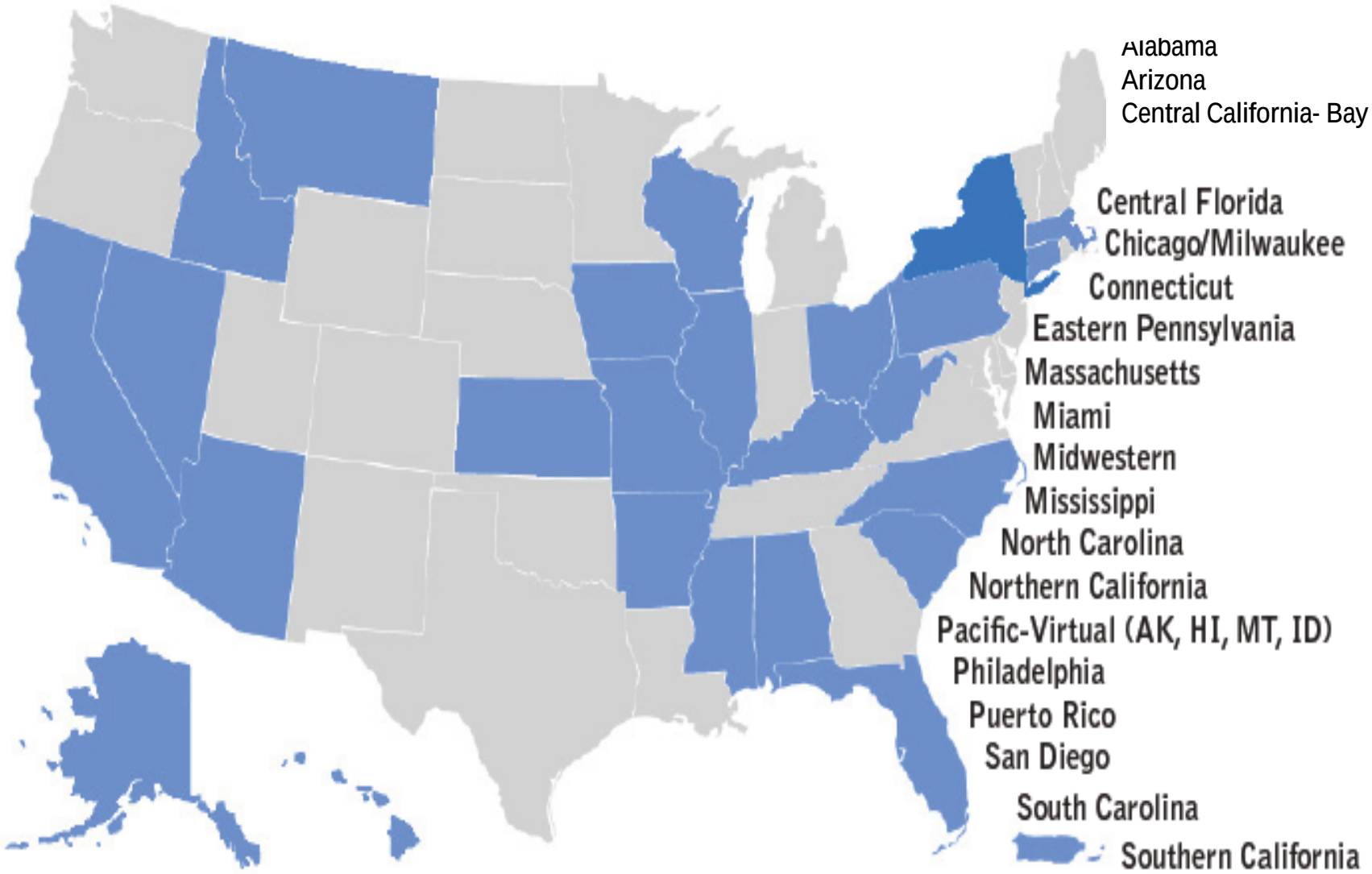
- Major consideration:
  - Alignment with NQF-endorsed measures
  - Ongoing role of “advanced” indicators

What about improvement?

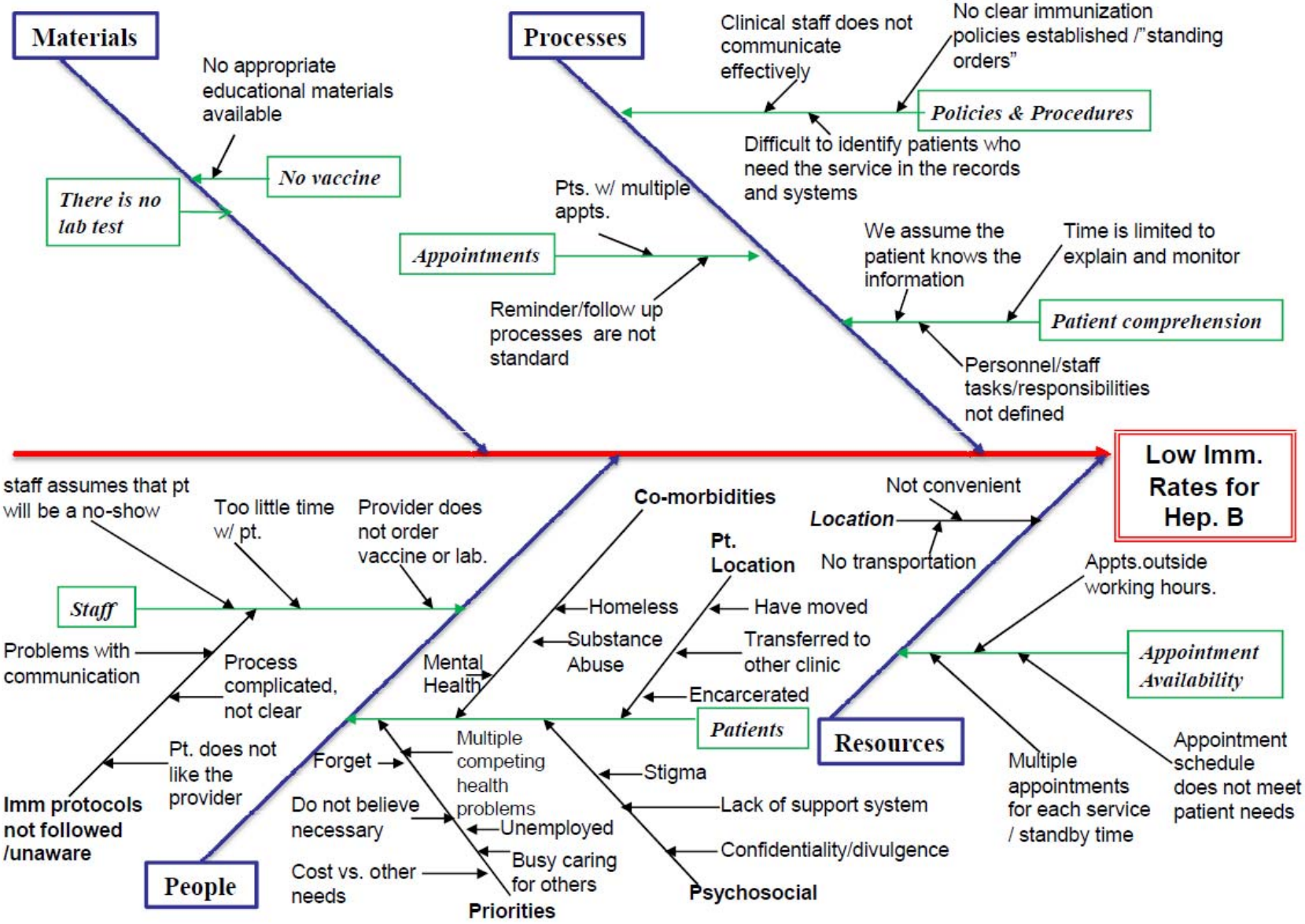
- Clinic-level improvement

- Regional group projects
  - Pushing the envelope
  - Peer learning
  - Driving high yield results

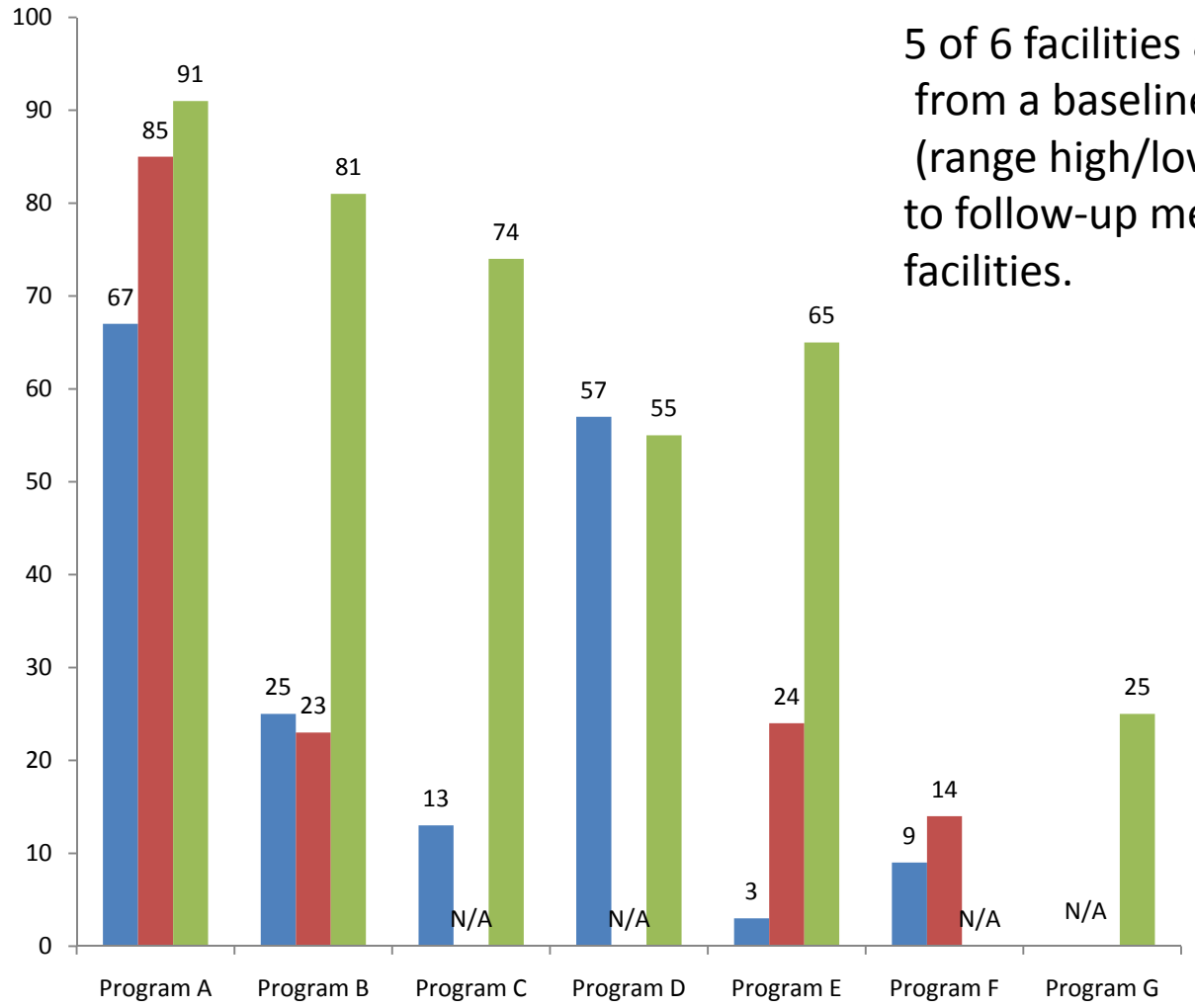
HIVQUAL Quality Management (QM) Regional Groups



Low Rates for Hep. B Imm.: A Root Cause Analysis



Puerto Rico Regional Group:
Baseline and Interim % Rates for Hepatitis B Immunization*



5 of 6 facilities achieved improvements, from a baseline mean of 29% (range high/low: 3%-65% / 67%-91%) to follow-up mean of 73% across facilities.

Source: Puerto Rico Regional Group

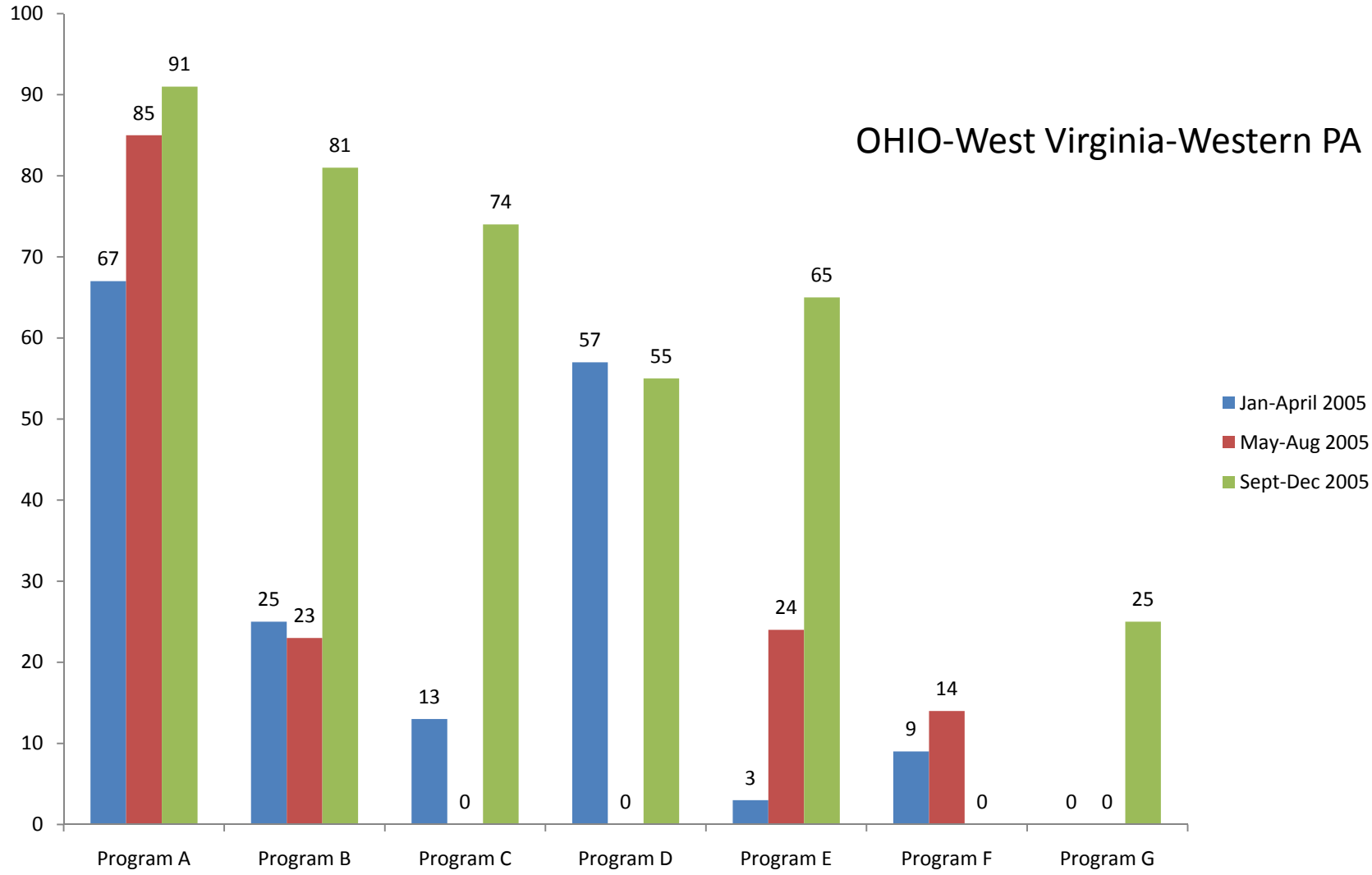
* % of HIV+ clients who completed the vaccinations series for hepatitisB

Puerto Rico Regional Group: Hepatitis B Screening

Improvement Activities:

- Funding for immunizations identified for non-covered patients
- Screening lab changed
- Addition of a registered nurse administering immunizations
- Staff verifying immunization status at each visit
- Immunization register given to patients; registered nurse keeps a copy and calls patients the day before
- Medical orders are written and kept in record
- Clarification of health concerns and myths
- Letter/appointment reminders

TRI STATE REGIONAL GROUP:
Baseline and Interim % Rates for Retention in Care



Retention in Care

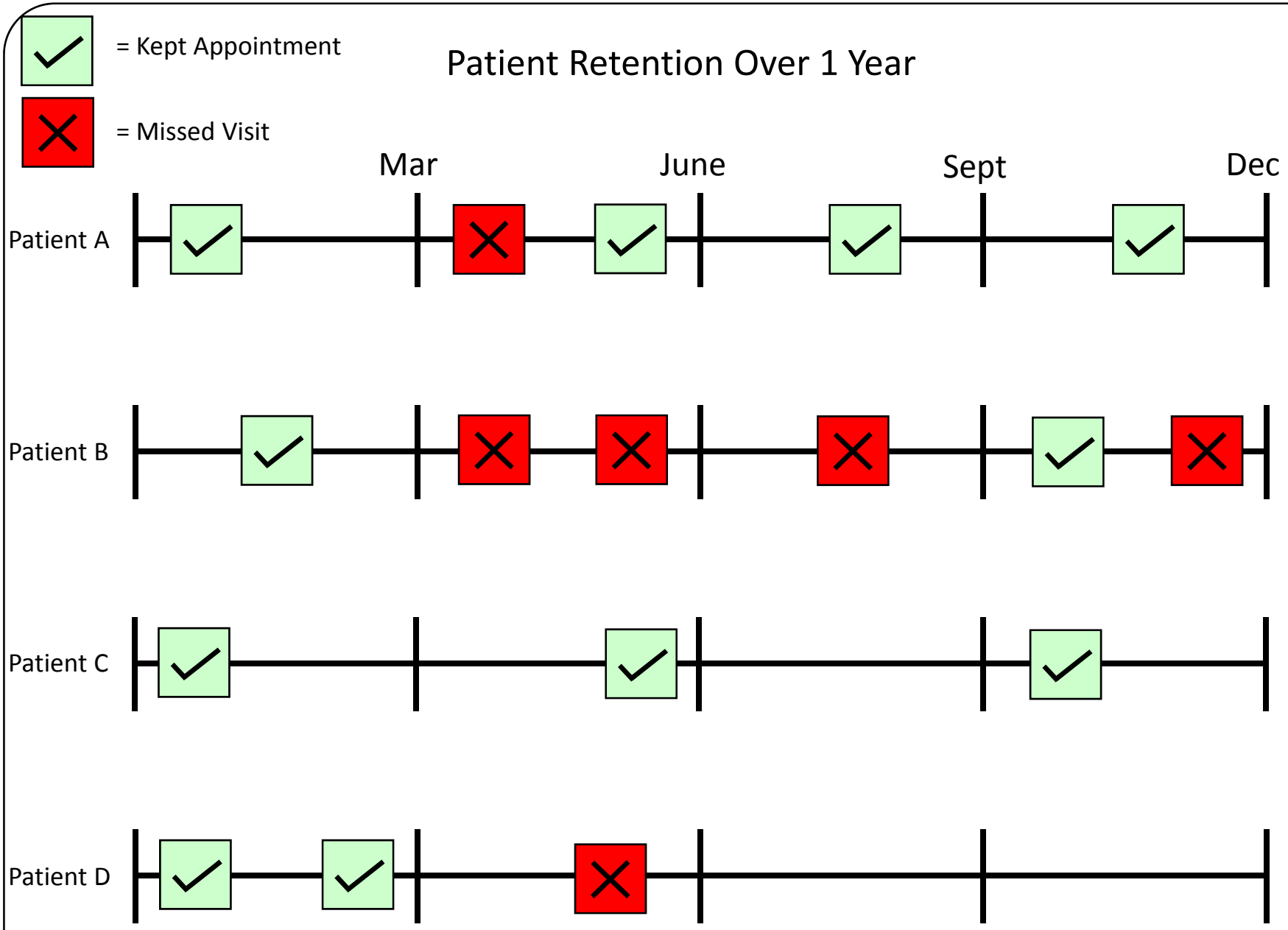
• 7 of 10 facilities achieved improvements, from baseline mean of 83.7% (range high/low: 87%-93% / 81%-82%) to follow-up mean of 87.7% across facilities.

Activities:

• Regular conference calls and biannual face-to-face meetings
• Group collaboration to reduce the number of patients with “unmet” need defined as: “individuals who are living with HIV, are aware of their HIV+ status, but are not engaged in regular medical care.”

Grantees also initiated individual improvement projects , including:
• Reducing no show rates and lost revenue
• Reducing new women patient no shows and improvement in long-term patient engagement in care
• Increasing the number of patients with undetectable viral load through targeted case management
• Improving medication reconciliation between outpatient and inpatient
• Sharing of best practices

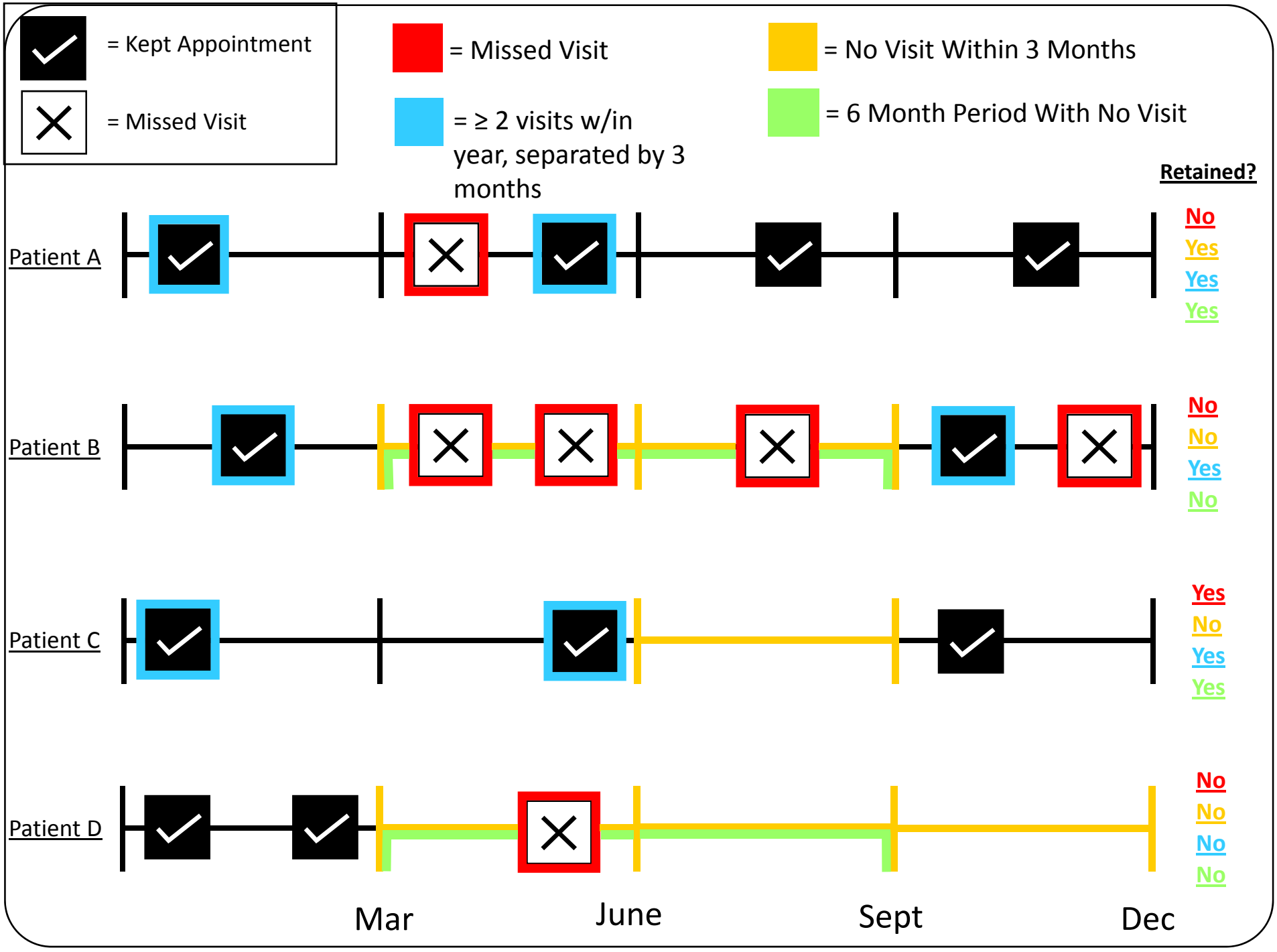
Patient Retention Over 1 Year



ADAPTED FROM MUGAVERO ET AL (2010) From Access to Engagement: Measuring Retention in Outpatient HIV Clinical Care. *AIDS Patient Care and STDs.* 24: 607-614.

Four Retention Measures

- Missed visit
- No visit within 3 months
- At least 2 visits in the year separated by at least 3 months
- 2 visits during the year, at least one in each six month half of the year


= Kept Appointment
= Missed Visit
= Missed Visit
= No Visit Within 3 Months
= ≥ 2 visits w/in year, separated by 3 months
= 6 Month Period With No Visit
Retained?
Patient A
No
Yes
Yes
Yes
Patient B
No
No
Yes
No
Patient C
Yes
No
Yes
Yes
Patient D
No
No
No
No
Mar
June
Sept
Dec

QI Regional Groups: Next Steps

- Sustaining groups
- Defining role of HIV ambulatory groups vs. state and Part A initiatives
  - Differentiation
  - Harmonization
- Addressing national priorities
- Achieving results

Achieving results?

- So what might those results look like?

National AIDS Strategy

- Increase the proportion of Ryan White HIV/AIDS Program clients who are in continuous care (at least 2 visits for routine HIV medical care in 12 months) from 73 percent to 80 percent.
- Increase the percentage of Ryan White HIV/AIDS Program clients with permanent housing from 82 percent to 86 percent (from 434,000 to 455,800 people). This serves as a measurable proxy of our efforts to expand access to HUD and other housing supports to all needy people living with HIV.
- Increase the proportion of newly diagnosed patients linked to clinical care within three months of their HIV diagnosis from 65 percent to 85 percent.

National AIDS Strategy

By 2015:

- Increase the proportion of HIV diagnosed gay and bisexual men with undetectable viral load by 20 percent.
- Increase the proportion of HIV diagnosed Blacks with undetectable viral load by 20 percent.
- Increase the proportion of HIV diagnosed Latinos with undetectable viral load by 20 percent

Too many measures?

- How can we focus our activities?
  - Improvement priorities
    - Externally required vs. locally driven
- Common goals on major health outcomes
  - National AIDS Strategy
  - National Quality Forum: Is it enough?
- Triple Aim
- Primary Care Medical Home

Opportunities: Measurement

- Focusing on outcomes
  - Viral load suppression
  - Mortality
  - Hospitalizations
- Meaningful use
  - Incentives for measurement through HIT:
    - National Quality Forum endorsed measures
- Equity

Opportunities: Program

- Primary care medical home
  - NCQA http://www.ncqa.org/tabid/1302/Default.aspx
- High reliability organization
  - Chassin M, Loeb J. The Ongoing Quality Improvement Journey: Next Stop, High Reliability. *Health Affairs, 30, no.4 (2011):559-568*
- Triple Aim
  - Berwick D, Nolan T, Whittington J. The Triple Aim: Care, Health and Cost. *Health Affairs* 27, no. 3 (2008): 759–769.

Primary Care Medical Home: Standard 6

- Measure Performance: The "practice" measures or receives data on the following:
  - At least 3 preventive care measures
    - Language requires use of standardized measures.
  - At least 3 chronic or acute care clinical measures
  - At least 2 utilization measures affecting healthcare costs
  - Performance data stratified for vulnerable populations to assess disparities in care

Primary Care Medical Home: Standard 6 Element B

- Measure Patient/Family Experience: The “practice” obtains feedback from patients/families on their experiences with the practice and their care:
  - Conducts survey to evaluate experiences on at least 3 of these categories:
    access, communication, coordination, whole-person care/self-management support
- Uses PCMH version of the CAHPS survey tool
- Obtains feedback on experiences of vulnerable paitnet groups
- Obtains feedback from patients/families through qualitative means.

Primary Care Medical Home: Standard 6 Element C *MUST PASS*

- The practice uses an ongoing quality improvement process to:
  - Set goals and act to improve performance on at least 3 measures from Element A.
  - Set goals and act to improve performance on at least 1 measure from Element B.
  - Set goals and address at least 1 identified disparity in care or service for vulnerable populations.
  - Involve patients/families in QI teams or on the advisory council.

Primary Care Medical Home: Standard 6 Element D: Demonstrate CQI

- The practice demonstrates ongoing monitoring of the effectiveness of its improvement process by:
  - Tracking results over time.
  - Assessing the effect of its actions.
  - Achieving improved performance on one measure.
  - Achieving improved performance on a second measure.

Primary Care Medical Home: Standard 6 Element E: Report Performance

- The practice shares performance data from Element A and Element B:
  - Within the practice, results by individual clinician.
  - Within the practice, results across the practice.
  - Outside the practice to patients or publicly, results across the practice or by clinician.

Primary Care Medical Home: Standard 6 Element F: Report Data Externally

- Ambulatory clinical quality measures to CMS or states.
- Ambulatory clinical quality measures to other external entities.
  - Must be electronically extracted.
- Data to immunization registries or systems.
- Syndromic surveillance data to public health agencies.

High Reliability Organizations:
Chassin and Loeb. *Health Affairs.* 2011. 30: 559-568

Leadership	Safety Culture	Robust Process Improvement
Organization commits to goal of high reliability for all clinical services. Organization aims for near-zero failure rates in vital clinical processes. Some services demonstrate near-zero failure rates in some vital clinical processes. Reward systems for staff prominently reflect accomplishment of quality goals. Information technology integral to sustaining quality improvement. Physicians routinely lead quality efforts.	Safety culture is well established. Measurement of safety culture is routine and drives improvement. Regular reporting of close calls and unsafe conditions leads to early problem resolution.	Robust process improvement tools used throughout organization. Patients engaged in redesigning care processes. Mandatory training of all staff in robust process improvement. Proficiency in robust process improvement required for career advancement.

Future Directions

- Triple Aim
  - Population health
  - Experience of care
  - Per capita costs
    - Berwick D, Nolan T, Whittington J. The Triple Aim: Care, Health and Cost. *Health Affairs* 27, no. 3 (2008): 759–769.
  - Can we align our measurement systems with the triple aim?
  - Beyond alignment, how can we use them to demonstrate value?
- Models beyond HIV
  - Point of care service integration for infectious diseases
  - Chronic disease management

Future Directions

- During the past 3 decades, HIV providers have built comprehensive care clinics that deliver high quality services.
  - How can we show these successes more effectively?
    - Robust and reliable measurement is necessary to move forward.
  - How can these successes be transferred beyond HIV and throughout the healthcare system as we continue to provide excellent care to people living with HIV?
    - Successful measurement and demonstration of results can lead to achieving criteria for programs that meet advanced standards for quality.

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