

HIV Care Measured Over Multiple Time Periods Varies by Race and Ethnicity

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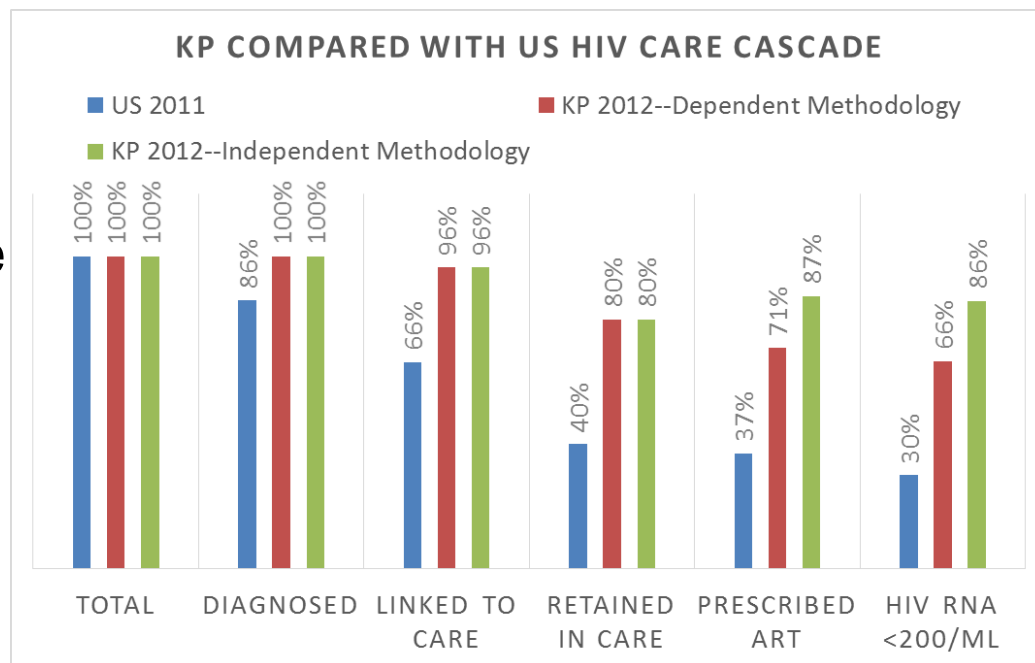
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- No conflicts of interest to report
- All are employed by Kaiser Permanente (KP)

Background and Research Objectives

- Prior research has shown differences by race and ethnicity in HIV quality performance including:^{1, 2, 3}
 - Differences in viral suppression
 - Differences in retention in care
 - Differences in prescription ART
- Kaiser Permanente's previous results using one year of data had performance above CDC's results with 61% suppressed⁴
- Additionally we have shown improvement over time (2010-2012)⁵
- **We now seek to determine if:**
 - 1. There are differences by race or ethnicity in our population**
 - 2. Such differences change over time**



¹—CDC, *HIV in the US: Stages of Care*, July, 2012.

²—Whiteside, et. al., *MMWR*, Feb 7, 2014; 63 (5): 85-89.

³—Gant, et. al., *MMWR*, Oct 10, 2014; 63 (40): 886-890

⁴—Horberg, et. al., Abstract 1033, 20th CROI, 2013.

⁵—Horberg, et. al., Abstract FRAB0105, 20th IAC, 2014.

Kaiser Permanente

- Integrated care system covering nine states (CA, CO, GA, HI, MD, OR, VA, WA) plus District of Columbia
 - Over 10 million members
 - Over 22,000 HIV+ members in 2013
- This study applies only to Northern California, Southern California, and Mid-Atlantic regions
 - California, District of Columbia, Maryland, Virginia
- Comprehensive care including outpatient and inpatient medical care; all diagnostic services (including laboratory testing), all care services including medical care, pharmacy, surgery, obstetrical care
- Multidisciplinary HIV medical care teams in all regions, including HIV specialist, and (depending on clinic) nurse, clinical pharmacist, social worker/benefits coordinator, mental health worker
- Shared electronic health record used by all providers

Methods

- We created cascades for all HIV+ members for 2010, 2011, and 2012
 - ≥ 13 years old with ≥ 8 months membership in year
 - Membership requirement ensures enough follow-up to capture presence or absence of care
- **Measurements**
 - **Linkage to care:**
 - a visit/CD4 within 90 days of being identified HIV+ for newly diagnosed patients or newly enrolled in Kaiser Permanente
 - ≥ 1 medical visit in year for established patients
 - **Retention in care:**
 - ≥ 2 medical visits ≥ 60 days apart
 - **Filled ART:**
 - Filled ≥ 3 months of DHHS-defined combination ART
 - **Viral suppression:**
 - HIV RNA < 200 copies/mL last measured in year

Note: As we cannot determine undiagnosed in our system, 100% diagnosed is assumed.

Methods (Continued)

Analysis

- **By Race and/or Ethnicity**
 - Cascades prepared for years 2010, 2011, 2012 and stratified by racial and ethnic groups
 - Categorized as White, Black, Latino, Asian/Pacific Islander or Other /Unknown
- Cascades compared by year
 - Employed independent methodology
 - Results of later stages of cascade were independent upon success of earlier stage (i.e., could be prescribed ART without 2 visits/year)
- Differences assessed over time and by racial/ethnic subgroup
- Not all patients in all three years of reporting (new in 2011 or 2012, etc.)
 - 80% of 2010 still present in 2012 data

Results : Demographics

	2010	2011	2012
Total	13,557	14,253	14,871
Percent Male	86.8%	86.6%	87.0%
Median Age (IQR)	49 (42-56)	49 (43-57)	50 (43-57)
Region:			
Northern California	5895	6200	6472
Southern California	6015	6302	6534
Mid-Atlantic (MD, VA, DC)	1647	1751	1865
Racial or Ethnic Sub-Group:			
White	6216 (45.9%)	6441 (45.2%)	6784 (45.6%)
Black	3206 (23.6%)	3377 (23.7%)	3595 (24.2%)
Latino	2711 (20.0%)	2902 (20.4%)	3059 (20.6%)
Asian/PI	650 (4.8%)	719 (5.0%)	715 (4.8%)
Other/Unknown	774 (5.7%)	814 (5.7%)	718 (4.8%)

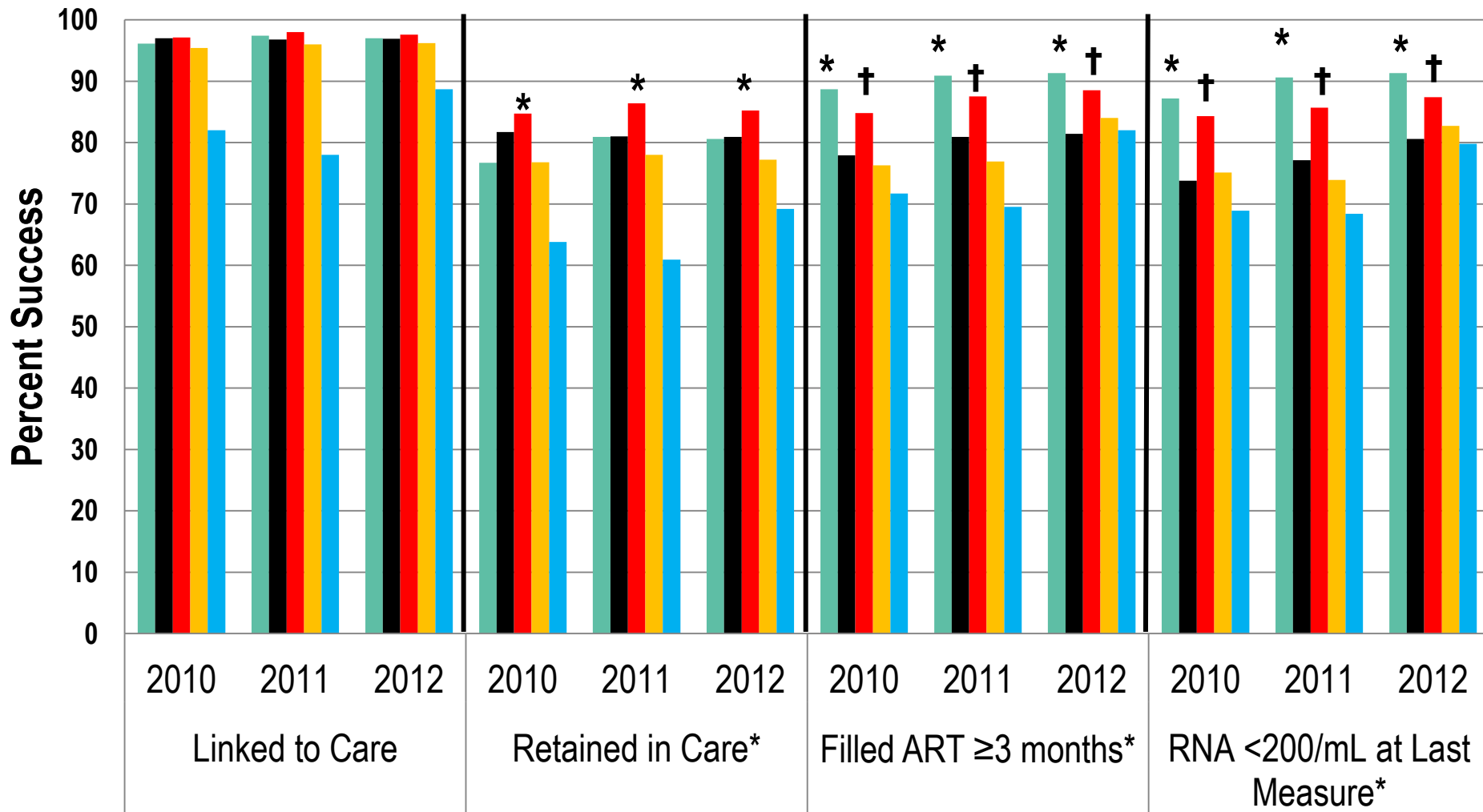
Results Stratified by Racial/Ethnic Group and by Year

	Diagnosed			Linked to Care			Retained in Care			Filled Combination ART ≥3 Months			HIV RNA <200/mL at Last Measure in Year		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Total	13557	14253	14871	12971	13710	14374	10674	11512	12033	9060	10068	13022	8393	9436	12928
Sub-Populations:															
<i>By Counts:</i>															
White	6216	6441	6784	5974	6272	6581	4768	5211	5470	4229	4741	6195	4008	4555	6193
Black	3206	3377	3595	3109	3268	3482	2618	2737	2907	2077	2260	2928	1809	2007	2897
Latino	2711	2902	3059	2633	2845	2986	2295	2507	2607	1955	2211	2708	1824	2059	2674
Asian/Pacific Islander	650	719	715	620	690	688	499	561	552	385	428	602	369	406	591
Other/Unknown	774	814	718	635	635	637	494	496	497	414	428	589	383	409	573
<i>By Percents:</i>															
White				96.1	97.4	97.0	76.7	80.9	80.6	88.7	90.9	91.3	87.2	90.6	91.3
Black				97.0	96.8	96.9	81.7	81.0	80.9	77.9	80.9	81.4	73.8	77.1	80.6
Latino				97.1	98.0	97.6	84.7	86.4	85.2	84.8	87.5	88.5	84.3	85.7	87.4
Asian/Pacific Islander				95.4	96.0	96.2	76.8	78.0	77.2	76.3	76.9	84.0	75.1	73.9	82.7
Other/Unknown				82.0	78.0	88.7	63.8	60.9	69.2	71.7	69.5	82.0	68.9	68.4	79.8

HIV Care Cascade by Race/Ethnicity: Kaiser Permanente 2010-2012

Significant (p<0.05): *-for race/ethnicity as categorical variable or as sub-group compared to all other sub-groups; †-Latino compared with Black

White Black Latino Asian/PI Other/Unknown



Discussion

- Generally, performance by all populations for all metrics was high compared to national data, possibly due to:
 - Multidisciplinary care teams
 - Electronic health record shared by all care team members
 - Continual quality measurement/quality improvement
 - High medication adherence rates (ex., 2012: 66% >90% adherence)
- *Linkage to Care*
 - High performance for all groups, all years
 - Except for Other/Unknown, race/ethnicity groups were very similar to each other in all years
- *Retention in Care*
 - Steady performance over time, but varied by racial/ethnic group
 - Latinos had significantly better retention than Whites or Black for all years
 - While Blacks and Whites were similar to each other

Discussion (Continued)

- *Prescription of ART*
 - General improvement over time for all groups
 - Whites had statistically higher % for all years compared with all other racial/ethnic groups
 - Latinos had statistically greater % prescription ART than Blacks for all years
- *Viral Suppression*
 - General improvement over time for all groups
 - Whites had higher % compared with all other racial/ethnic group for all years
 - Latinos statistically higher % than Blacks for all years
 - If compare among those prescribed ART ONLY, no statistical difference among racial/ethnic groups (data not shown)

Limitations and Strengths

- **Strengths:**
 - Closed care system with comprehensive data capture
 - Longitudinal comparisons
 - Ability to stratify and analyze by demographic differences
- **Limitations:**
 - Number of members with undiagnosed HIV infection is unknown.
 - 5% with undocumented race/ethnicity data, but percent is small
 - Lag time in data – we are working on this

Conclusions

- In all sub-populations, outcomes continue to improve over time
- Success varies, sometimes significantly, by race and/or ethnicity
 - Even in an integrated care system with equal access to care
- Largest differences are in uptake (prescription fills) of ART
 - Leading to differences in viral suppression percents
- While linkage and retention may be even better among Latinos, these improvements did not translate into increased use of ART or viral suppression
- **Implications of results:** Stratified cascades can help identify sub-populations requiring more targeted outreach.
 - Programs targeting specific racial and ethnic HIV+ sub-populations are warranted

Thank You!

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