

# Decreasing Disparities Using Clinical Decision Support Tools



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## Introduction

Patients who enter medical care late in their HIV disease have substantially higher direct medical treatment expenditures than those who enter at earlier stages.<sup>1</sup> Successful efforts to link patients with medical care earlier in the disease course may yield cost savings. Getting tested for HIV is the first step in prevention and treatment.<sup>2</sup> In 2016 approximately 80% of new HIV infections in the United States were transmitted from the 38% percent of people with HIV who either did not know they had HIV or received a diagnosis but were not engaged in treatment.<sup>3</sup> Black/African American and Hispanic communities are disproportionately affected by HIV compared with other racial and ethnic groups.<sup>4,5,6</sup> Clinical decision support (CDS) tools have shown promise in reducing healthcare disparities in health outcomes and we aim to use this tool to target HIV screening disparities and increase screening rates.<sup>7,8,9</sup>

## Purpose

To reduce racial healthcare disparities and increase the HIV screening rates through a CDS tool among internal medicine and family medicine providers servicing diverse, medically underserved patients at urban federally qualified health centers in the Northeastern United States.

## Methods

A smart set through EPIC was widely implemented across Internal Medicine and Family Medicine clinics to remind providers to order an HIV test for a patient due for HIV screening. We used a Pearson Chi-Square test to determine if there was a statistically significant difference in HIV screening rates between providers that ignored the smart set alert, only acknowledged the smart set alert, or ordered an HIV test through the smart set stratified by patient race (White, Black, Asian, American Indian, Native Hawaiian/Pacific Islander, Multiple Race, Unknown). The outcome we assessed was whether encounters where a patient due for an HIV test (with an open gap for HIV screening) had an HIV test ordered (HIV screening gap closed) in the next month.

**Inclusion Criteria:** Encounters at Internal Medicine or Family Medicine departments (9/2019 – 1/2023) where the patient had an open care gap for HIV screening at the start of the visit (n=34,324).

**Exclusion Criteria:** Pediatric and Obstetrics/Gynecology encounters.

Figure 1. HIV Screening Gaps Ignored, Acknowledged, and Signed by Race

Race	Number of Encounters with Open HIV Screening Gap	Number of Encounters with HIV Screening Gap Closed in the Next Month	Percent of HIV Screening Gaps Closed in Next Month	ENCOUNTERS WITH OPEN GAP FOR HIV SCREENING, BY SMART SET USE			ENCOUNTERS WITH HIV SCREENING GAP CLOSED IN THE NEXT MONTH, BY SMART SET USE			PERCENT OF ENCOUNTERS WITH HIV SCREENING GAP CLOSED IN THE NEXT MONTH, BY SMART SET USE			Pearson Chi-sq p-value
				Alert Ignored	Alert Acknowledged Only	Order Signed	Alert Ignored	Alert Acknowledged Only	Order Signed	Alert Ignored	Alert Acknowledged Only	Order Signed	
White	10,840	1,811	17%	4,671	2,099	4,070	641	364	806	14%	17%	20%	<0.0001
Black	9,347	1,476	16%	3,785	2,117	3,445	542	298	636	14%	14%	18%	<0.0001
Asian	3,075	760	25%	1,066	922	1,087	221	221	318	21%	24%	29%	<0.0001
American Indian	1,190	231	19%	483	223	484	68	42	121	14%	19%	25%	<0.0001
Native Hawaiian/ Pacific Islander	473	104	22%	169	108	196	29	19	56	17%	18%	29%	0.0145
Multiple race	175	37	21%	62	36	77	13	7	17	21%	19%	22%	0.9494
Unknown	9,224	1,975	21%	3,495	2,027	3,702	540	487	948	15%	24%	26%	<0.0001
<b>Total</b>	<b>34,324</b>	<b>6,394</b>	<b>19%</b>	<b>13,731</b>	<b>7,532</b>	<b>13,061</b>	<b>2,054</b>	<b>1,438</b>	<b>2902</b>	<b>15%</b>	<b>19%</b>	<b>22%</b>	<b>&lt;0.0001</b>

## Results

Overall Internal Medicine and Family Medicine providers that used the CDS tool were more likely to order an HIV test for patients due for HIV screening (p<0.0001). When the data were stratified by patient race, there was a statistically significant difference where providers that used the CDS tool compared to providers that did not use the CDS tool were more likely to order an HIV test for patients of a White (p<0.0001), Black (p<0.0001), Asian (p<0.0001), American Indian (p<0.0001), Unknown (p<0.0001), and Native Hawaiian/Pacific Islander (p=0.0145) racial background. This statistical significance was not observed in patients of multiple races (p=0.94) (Figure 1).

## Conclusion

CDS tools are useful in increasing rates of evidence-based screening and help to reduce healthcare disparities.

**Clinical Implications:** CDS support tools are a viable strategy in targeting healthcare disparities, averting the patient burden of advanced complications of the disease, and promoting cost savings through population-level prevention.

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