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Authors

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RESEARCH AND QUALITY IMPROVEMENT BRIEF**HIV Screening Among Immigrants Establishing Care in Maine, 2017-2021**

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HIV remains a global epidemic and leading cause of death worldwide.¹ About 37.7 million people currently live with HIV worldwide, with 1.5 million new infections estimated in 2020.¹ Certain regions make up an overwhelming majority of global infections. Most notably, the Sub-Saharan African region accounts for more than 70% of all cases worldwide.²

Since 2010, the Centers for Disease Control and Prevention (CDC) has not required HIV screening for immigrants before they arrive in the United States. However, the CDC does recommend screening when immigrants establish care.³ This screening requires medical clinics to establish a procedure for offering screening during intake appointments and following up with patients who do not complete testing. Refugees are formally resettled in their designated communities and are assisted with establishing contact with the health care system. However, other immigrants (such as asylum-seekers) are not formally resettled,⁴ and they may seek care via other points of access, such as emergency departments or urgent care clinics. These alternate points of entry may result in care fragmentation and lack of formal screening for infectious diseases.

The purpose of this work was to identify gaps in HIV screening among newly arriving immigrant patients in Maine to inform improvement efforts.

METHODS

The International Clinic, Adult Internal Medicine Clinic, and Internal Medicine-Pediatrics Clinics (adult patients only) at Maine Medical Center are 3 primary sites of entry into health care for newly arriving adult refugees, asylum-seekers, and other immigrants. These sites were the source of data for this analysis. We reviewed the new CDC guidelines for best practices for immigrant screening.³ Using these guidelines, we extracted data on initial intake visits between January 1, 2017, and April 30, 2021, from the electronic health record (EHR). These data included all new adult patients seen to establish care through these clinics. We extracted data on demographics and laboratory screening, and excluded patients who were under age 18 years, or who had initial visits outside the visit dates. We included background data from up to 5 years of test results before the initial intake visit, because many patients were seen intermittently in other settings (eg, emergency or obstetrics departments), and for 6 months after the intake visit. HIV screening during this period was the HIV1/HIV2 antibody and antigen test. We used descriptive statistics to calculate percentages and chi-square tests to examine differences in testing between groups. The MaineHealth Institutional Review Board determined this project was not research (ie, quality improvement).

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RESULTS

During the study period, 679 patients were seen for an intake visit (Table 1).

Table 1. Characteristics of Adult Immigrants at Intake Appointment (N=679)

Characteristic	No. (%)
Age, y	
18-25	100 (14.7)
26-35	218 (32.1)
36-45	180 (26.5)
46-55	81 (11.9)
56-65	61 (9.0)
66+	39 (5.7)
Sex	
Female	386 (56.8)
Male	293 (43.2)
Language	
Arabic	69 (10.2)
Cambodian	16 (2.4)
English	37 (5.4)
French	136 (20.0)
Kinyarwanda	54 (7.9)
Kirundi	19 (2.8)
Lingala	49 (7.2)
Portuguese	46 (6.8)
Somali	42 (6.2)
Spanish	60 (8.8)
Swahili; Kiswahili	23 (3.4)
Vietnamese	22 (3.2)
Other	104 (15.3)
Unknown	2 (0.3)
Insurance type	
Commercial	81 (11.9)
Medicaid	372 (54.8)
Medicare	13 (1.9)
No Insurance	213 (31.4)
Intake location	
Internal Medicine Clinic	287 (42.3)
Internal Medicine-Pediatrics Clinic	175 (25.8)
International Clinic	217 (32.0)

Of these patients, 75.1% (510/679) had an HIV screening order, and 71.4% (485/679) completed HIV screening. A higher percentage of females completed screening for HIV (75.4%; 386/679) than males (66.2%; 293/679; $P = .008$). We also observed differences across insurance types. Immigrants in the uninsured group (76.5%) and receiving Medicaid (74.2%) had the highest screening rates, and immigrants with commercial insurance (53.1%) or Medicare (23.1%) had the lowest screening rates ($P < .001$ for comparison across insurance types; Figure 1A). We also observed differences by primary language. For example, Kirundi speakers had the highest screening rate (94.7%), English speakers had the second highest rate (91.9%), and Somali speakers had the lowest rate (54.8%) (Figure 1B). We observed differences in patients completing HIV screening over time, but there was no trend. By year of intake appointment, screening completion rates were 76.7% in 2017, 69.9% in 2018, 61.9% in 2019, 66.3% in 2020, and 75.9% in 2021 (partial year).

DISCUSSION

We found that despite CDC recommendations for HIV screening³ during initial intake exams for new immigrants, many new patients are not screened for HIV. We also observed differences in screening completion according to patient sex, insurance type, and preferred language.

Only 71.4% of new patients in our clinic populations were screened for HIV. Our findings are lower than reported elsewhere, with 80.3% screened in a cross-sectional study across 7 states⁵ and 94.4% screened for HIV in Minnesota.⁵ This difference suggests that our current workflows for HIV screening could be improved.

Cultural and socioeconomic barriers may also contribute to these gaps in screening. For example, language, lack of insurance, and stigma surrounding HIV may make patients less likely to complete their lab work or consent to testing.⁶ Notably, we found that our uninsured patients had the highest screening rates. This result may be because they were asylum-seekers from an area of Africa with high HIV-infection rates, and they were aware of the need to complete screening.

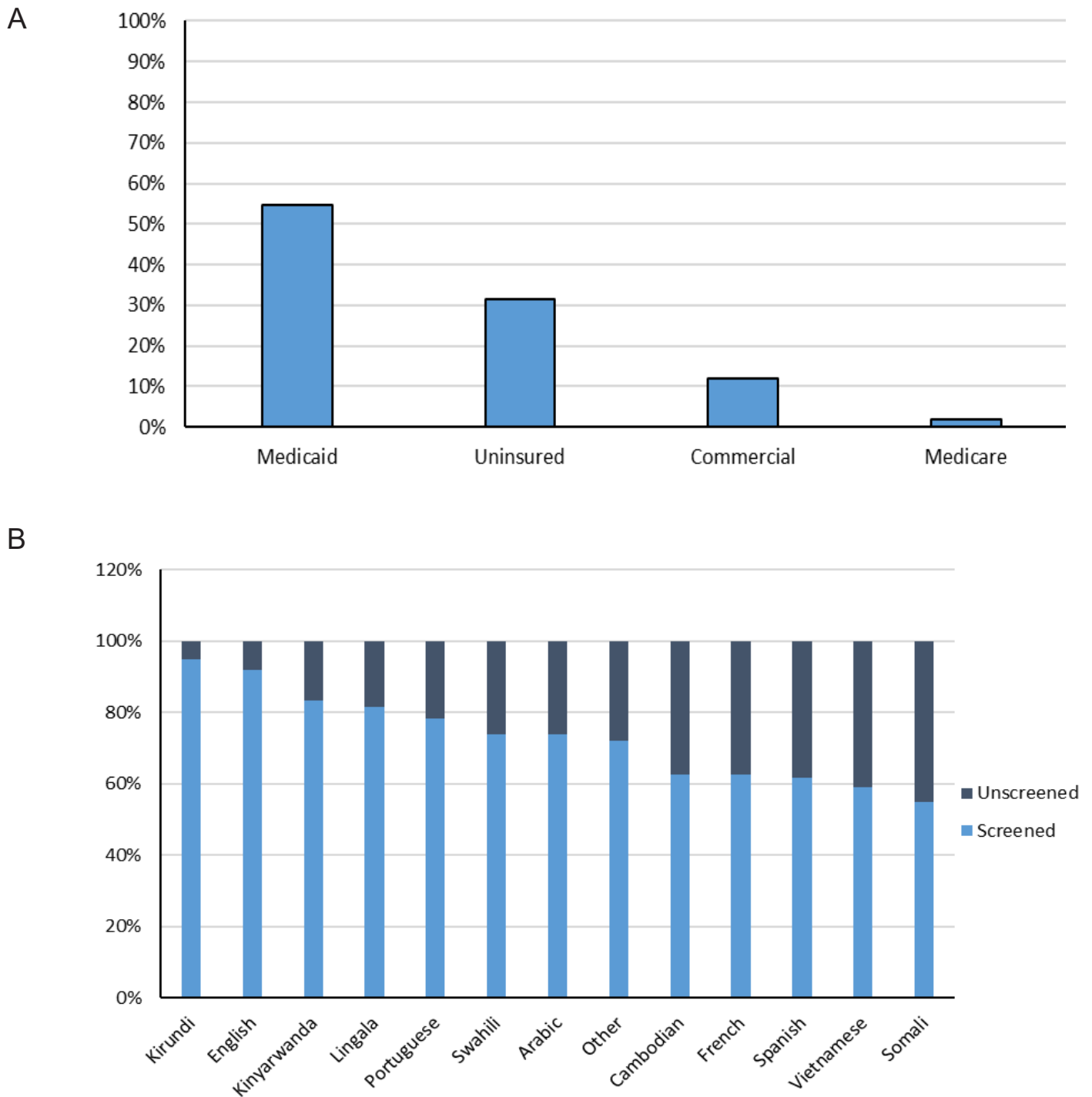


Figure 1. HIV-Screening Rates Among Immigrants Establishing Care in Maine.

A. Percentage of immigrants screened for HIV according to insurance type.

B. Percentage of immigrants screened vs unscreened according to their preferred language.

This study had several limitations. First, the data was limited to a single center. Second, we are unable to ascertain why patients did not get HIV screening when the test was ordered. Some patients may have already been aware of their HIV status and opted out of screening. Many patients who were identified were not new arrivals but had previous contact with other health care systems in Maine or in the United States, where they may have been screened. Finally, because country of origin is not routinely captured in EHRs, and because some people associate with a country in which they never lived (because they were refugees from birth in a host country), we used language as a proxy.

To address gaps in screening, we have taken several steps. Our team has met with the resident physicians and staff (nurse practitioner and physician) to discuss these gaps and the goal of improving screening. We changed our workflow in the International Clinic so that a provider requests consent for HIV testing before the patient gets blood drawn for their initial visit. We also created a “dot phrase” in our EHR to quickly document consent for HIV testing. Also, HIV testing was added as a universal screening expectation for all adults to the health maintenance area of the EHR (though this addition was not a planned part of this project).

CONCLUSIONS

Incomplete screening of immigrants for HIV puts patients at risk for delayed diagnosis of HIV, which is associated with transmission of HIV, progression of disease, and poorer response to antiretroviral therapy.⁷ Based on our findings, efforts to systematically improve screening are underway

in our clinics, with both provider education and process changes.

Conflicts of interest: None

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