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HIV Screening in Non-Pregnant Patients Age 13 – 64 Years Old in Primary Care Through the Implementation of the CDC Guidelines for HIV Screening

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HIV SCREENING IN NON-PREGNANT PATIENTS AGE 13 TO 64 YEARS OLD IN
PRIMARY CARE THROUGH THE IMPLEMENTATION OF THE
CDC GUIDELINES FOR HIV SCREENING

by

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I would like to dedicate this paper to the most influential and supportive people in my life, my family. Thank you for always supporting my goals and dreams and never allowing me to give up. Your selfless support, encouragement, prayers, and love have been crucial throughout my academic journey.

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Ashten Martin

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Abstract

As many as 216,000 people living with HIV are unaware they have the disease. In order to combat the inadvertent spreading of HIV, the Centers for Disease Control and Prevention recommend screening everyone 13 to 64 years of age. The purpose of this quality improvement project was to implement the *2015 Sexually Transmitted Diseases Treatment Guidelines* as it pertains to HIV screening within a Southeast Texas rural health clinic. The objectives were to (1) educate all staff and patients regarding the Centers for Disease Control and Prevention recommendations for HIV screening and (2) increase the number of eligible patients who were offered and received HIV screening. A colored checklist served as a data collection tool and reminder for HIV screening. Education was presented to providers and patients via handouts, with each provider completing a pre- and posttest after completion. Of the 518 eligible patients, 284 had a checklist completed. Of those, 54.8% of patients were offered HIV testing, and 13 patients had HIV labs completed. There was a 42.3% increase in documented HIV screenings during the 6-week implementation period. Some limitations for the project were staffing changes, lack of understanding on the need for testing, funding, and facility stressors. HIV awareness and the recommendations for screening assists in removing the stigma surrounding this disease. More patients who are aware of their status will aid in decreasing the inadvertent spreading of HIV and allow for early treatment.

Keywords: HIV, screening, primary care

HIV affects approximately 1.2 million people in the United States (Centers for Disease Control and Prevention [CDC], (n.d.); Chin, Hicks, Samsa, & McKellar, 2013). HIV is a chronic retrovirus that attacks the body's CD4 T cells, also known as helper T cells (CDC, n.d.). Over time, the body's number of CD4 cells decreases, leaving the body immunocompromised and at risk for opportunistic infections (CDC, n.d.). Currently, there is not a vaccine available for the prevention of HIV. Therefore, screening for all people between the ages of 13 and 64 is vital and recommended for the early detection and treatment of HIV (CDC, n.d.).

Statement of the Problem

According to the CDC (2017), 39,513 people were newly diagnosed with HIV in 2015. Approximately 14.2% to 18% of people with HIV are unaware of their positive HIV status (CDC, 2017; Chin et al., 2013). This correlates with approximately 216,000 people who are HIV positive being unaware they have this virus, meaning that they could be inadvertently spreading the infection (CDC, 2017). In addition to spreading the virus, the people who are unaware of their status are also not receiving lifesaving, life-prolonging treatment. Untreated, HIV can lead to a diagnosis of AIDS (Young, 2016). AIDS is the progression of HIV and is defined as having a CD4 T cell count less than 200 combined with contracting opportunistic infections (Young, 2016).

The stigma that is associated with this chronic, progressive, and debilitating disease reduces the likelihood for people to seek out screenings (Aung et al., 2017). However, evidence shows that there are clear advantages and benefits to early diagnosis and treatment with antiretroviral therapy (ART; CDC, 2017; Wagner, Girard, McShane, Margolese, & Hart, 2017). Early diagnosis is directly linked to the improvement of screening processes, and this can be

accomplished by adhering to established guidelines that delineate whom and when to screen (Bayer, Philbin, & Remien, 2017).

Background and Significance

The CDC recommends that everyone between the ages of 13 and 64 be tested for HIV at least once in their lifetime and more often if they are designated as high risk (CDC, 2017). High risk is defined as answering “yes” to any of the eight questions listed in Table 1.

Table 1

Risk Assessment Questions for Identifying Individuals at High Risk for HIV

1. Are you a man who has had sex with another man?
2. Have you had sex—anal or vaginal—with an HIV-positive partner?
3. Have you had more than one sex partner since your last HIV test?
4. Have you injected drugs and shared needles or works (for example, water or cotton) with others?
5. Have you exchanged sex for drugs or money?
6. Have you been diagnosed with or sought treatment for another sexually transmitted disease?
7. Have you been diagnosed with or treated for hepatitis or tuberculosis (TB)?
8. Have you had sex with someone who could answer yes to any of the above questions or someone whose sexual history you don't know?

Note. Questions obtained from “HIV/AIDS Testing,” by CDC, n.d. Retrieved from <https://www.cdc.gov/hiv/basics/testing.html>

HIV is not widely understood, and it is still deemed a taboo topic among many American households. Pathophysiology, modes of transmission, medications that can be used to control viral loads, and screening practices are all topics that must be addressed by providers in the primary care setting to improve patient understanding. An improved understanding of HIV can lead to a decreased stigma of this disease. The safety and health of the American people entails a

need for annual HIV screening of high-risk adults per the CDC recommended guidelines (CDC, 2017). The U.S. Preventive Services Task Force (2013) has also released similar recommendations for screening all adults between the ages of 15 and 65 with a Grade A certainty of net benefit to the patient.

Assessment of the Practice

The need for this quality improvement project was identified after an assessment of a rural Southeast Texas family practice clinic revealed that HIV screening was not being completed per the current recommended CDC guidelines (CDC, 2015). This was confirmed through a retrospective chart review of electronic medical record (EMR) reports and one-on-one interviews with each of the four providers. A total of 1,836 charts were reviewed from June 1, 2017, to August 15, 2017. The data collected showed that 0% of patients had at least one HIV screening test documented during their tenure in the practice. The only protocol for routine HIV screening that was currently being completed in this clinic was part of the standardized testing for pregnant women. Through the one-on-one interviews, it was discovered that the main reason for not ordering HIV testing by the providers was that they were unaware of the recommended guidelines for HIV screenings.

The clinic staff included four providers: one physician, two family nurse practitioners, and one physician's assistant. In addition to the providers, there were five licensed vocational nurses, an office manager, and three receptionists. The office had 1,836 active patients listed in the electronic health record at the time of the project. Demographics of the patients were obtained via EMR reports and were reported as the following: 61.5% female (1,129 patients), 38.5% male (706 patients), 74% Caucasian (1,358 patients), 21.3% African American (391 patients), and 3.8% other (71 patients). The patients' ages ranged from newborn to 97: 27.4% of

patients were under the age of 18, 27.4% were 18 to 50 years old, and 45.2% were over the age of 50. The patients were well dispersed among the four providers, with each provider seeing 15 to 20 patients per day.

Despite recommendations by the CDC for routine HIV screening, many healthcare providers do not offer HIV testing to their patients (Marcelin et al., 2016). As a result, there are many missed opportunities for HIV screening (Marcelin et al., 2016). Additionally, many providers are reluctant to discuss HIV or HIV screening; therefore, many patients do not know the importance of obtaining this testing (Aung et al., 2017; Marcelin et al., 2016).

Organizational Readiness for Change

After completing the assessment of the clinic, it was determined that there was a lack of alignment with CDC's current HIV screening guidelines. A meeting was held between the providers and management, at which time it was agreed that a plan needed to be put in place to implement the HIV screening guidelines. All participants voiced their support for implementation of screenings. Nursing staff were also determined to be a necessary component for implementation by the providers. Therefore, a separate meeting was held where the nurses expressed their interest and dedication to promoting this change in practice.

In addition to meeting with the providers and staff, 20 patients were interviewed and asked if they understood the need for HIV screening. Each patient vocalized that they did not believe they needed HIV screenings because they did not have sexual contact with those of the same sex nor did they use intravenous drugs. Of these patients, five inquired whether they should receive HIV screenings, at which time the CDC guidelines were explained. After education, the patients agreed that they would not be opposed to the screening. With this small-scale survey, it

was inferred that there would be good patient uptake of testing with implementation of the HIV guidelines.

Project Identification

Purpose

The 2015 Sexually Transmitted Diseases Treatment Guidelines (CDC, 2015) denote the need for HIV screening. The purpose of this evidence-based project was to increase awareness of, and adherence to, the CDC guidelines, which recommend that adults should have at least one HIV screening test completed in his or her lifetime. With the implementation of these guidelines, improved patient outcomes and quality of care will be rendered to the rural community that this clinic serves.

Objectives

The objectives for this project were the following:

1. Increase the number of eligible patients within the clinic offered HIV screening from 0% to 100% within the 6-week implementation period.
2. Increase the number of eligible patients within the clinic screened for HIV from 0% to 75% within the 6-week implementation period.
3. One hundred percent of patients with a positive HIV screening test will have a documented referral to the local HIV clinic by the sixth week of implementation.
4. One hundred percent of staff will be educated on the 2015 Sexually Transmitted Diseases Treatment Guidelines as it pertains to HIV screenings.
5. One hundred percent of patients eligible for HIV screening will be given an education handout regarding HIV and the necessity for screenings.

Anticipated Outcomes

By implementing the CDC guidelines for HIV screening, it was anticipated that there would be an increased number of patients identified as being HIV positive, leading to the early identification of the disease. Hence, there would be a decrease in the transmission of HIV to unsuspecting sexual contacts resulting in new infections. By aiding in the decrease of new HIV infections, this clinic would be aligned with the Healthy People 2020 goal of preventing HIV infection and related illness and death (Healthy People 2020, n.d.).

Summary and Strength of the Evidence

A review of multiple articles and the CDC guidelines revealed that HIV screening is not only recommended but also plays a pivotal role in optimizing health for many Americans. Screening for HIV is recommended to be routinely done in the primary care setting (CDC, 2017). Those that are screened, diagnosed early, and receive antiretroviral therapy have been shown to live relatively normal lives and reach their typical life expectancy as opposed to those that go undiagnosed (Samji et al., 2013; Wada et al., 2013). Undiagnosed HIV can lead to AIDS, and most patients with AIDS will succumb to opportunistic infections that result in death (Samji et al., 2013; Wada et al., 2013).

As many as 18% of all Americans that are HIV positive are unaware of their positive HIV status (Chin et al., 2013). Undiagnosed HIV is the most important factor in the effort to combat the HIV epidemic (Chin et al., 2013). A systematic approach to HIV screening in the primary care setting has been recommended in several research articles (Chin et al., 2013; Ellman, Sexton, Warshafsky, Sobieszczyk, & Morrison, 2014). Two articles reviewed noted that primary care settings have the highest incidence of missed opportunities for HIV screenings (Chin et al., 2013; Ellman et al., 2014). One retrospective study reported that those 50 years of

age and older comprised 21% of newly diagnosed HIV infections in New York state (Ellman et al., 2014). Additionally, 70% of those 50 years and older who were diagnosed were identified as in a late stage of HIV infection (Ellman et al., 2014). The clinic selected for this project had 45.2% of patients over the age of 50, which further emphasizes a need for primary care screenings for HIV.

Chin et al. (2013) conducted a retrospective study that examined the CD4 cell count as a means of representing earlier detection both before and after the CDC published recommendations for routine screenings for HIV. They found that although there was a higher CD4 cell count in newly diagnosed patients (representing earlier diagnosis) there remained documented missed opportunities for earlier diagnosis (Chin et al., 2013). Since Chin et al.'s (2013) article was published, the CDC has published newer, more stringent recommendations regarding HIV screenings. These recommendations include an "opt-out" approach to testing where the patient is told he or she will be tested, and the patient has to specifically request to not be tested, as opposed to needing a separate written consent for HIV testing (CDC, 2015).

Newer studies have not yet been published to confirm or deny the improvement of HIV screening in the primary care setting. However, in the case of the rural clinic being studied it can be inferred that there have been many missed opportunities for early detection and intervention with their patients. With such being the case, implementation of routine HIV screenings is imperative.

Methods

This quality improvement study was initiated using the "Plan Do Study Act" quality improvement process.

Project Intervention

Prior to project implementation, data were collected via the EMR revealing that 0% of patients had a documented HIV screening. As mentioned previously, it was found that the reason providers were not routinely offering HIV testing was because they were unaware of the current recommendations outlined by the CDC guidelines. Therefore, an education plan was developed. A pretest was given to providers to measure baseline HIV knowledge (see Appendix A). Staff education (see Appendix B; CDC, 2016) was then provided to all providers and staff members on the CDC guidelines for HIV screening and the implementation plan (see Figure 1). A posttest, which was the same form as the pretest, was then used to measure HIV knowledge uptake.

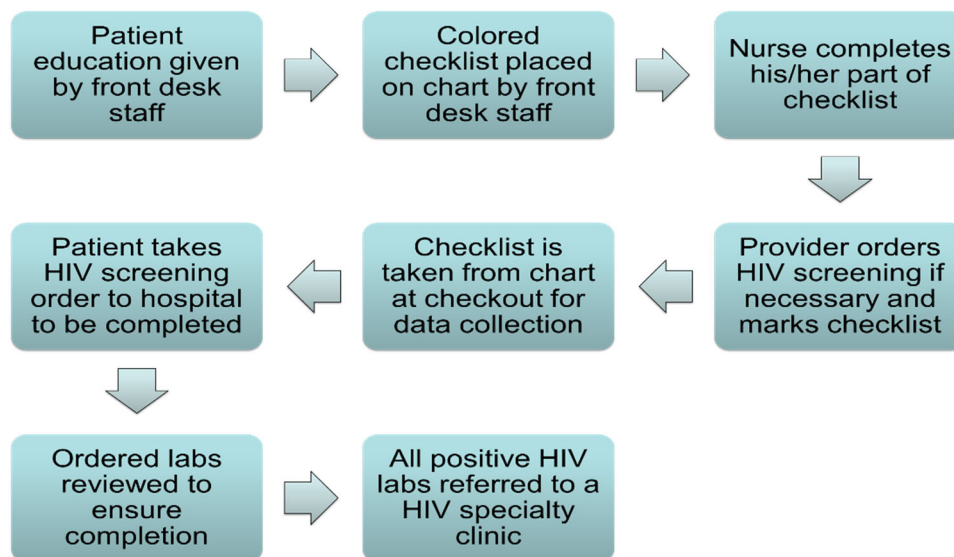


Figure 1. A flowchart describing the HIV screening process within the practice.

Data were gathered using yellow-colored checklists (see Appendix C) that were placed on charts by the front desk staff during the preregistration process based upon the inclusion criteria. These checklists served both as a reminder to the providers to screen for HIV testing and as a data collection tool. The checklists were completed by the nurses and providers and then

returned to the front desk staff for collection. If an eligible patient opted to have an HIV test completed, the order sheet was given to the patient to be taken to the hospital lab that was located across the street from the clinic. Data from ordered tests and the checklists were reviewed by the project coordinator.

Patients were educated using an HIV handout, created by the CDC (2016), entitled “HIV 101” (see Appendix D). These handouts were given to patients at the time of check-in. The patients were ensured to have the educational sheets by both the nurse and provider, and the education was documented on the checklist.

Barriers and Facilitators

Many barriers were discovered during the implementation of this project. Organizational barriers included changes in staffing, failure of front desk staffing to consistently place checklists on the charts, and providers failing to consistently complete the checklists. After preimplementation education of front desk staff, two of the front desk members left the clinic. This change in staffing left the clinic short-staffed for the first few weeks of implementation. Additionally, it posed the challenge of educating the new staff member. These unforeseen stressors in the clinic likely contributed to the inconsistency with placing checklists on the charts.

Organizational facilitators to this project included support from the clinic physician and office manager as well as accessibility to same day testing at the local hospital. Many patients voiced interest in HIV testing despite the recurring theme of financial constraints to having it done.

Results

Results from the 6-week implementation period were evaluated by the project coordinator using SPSS® for data analysis. The sample population was a reasonable representation of the clinic's total active patient population (see Figure 2).

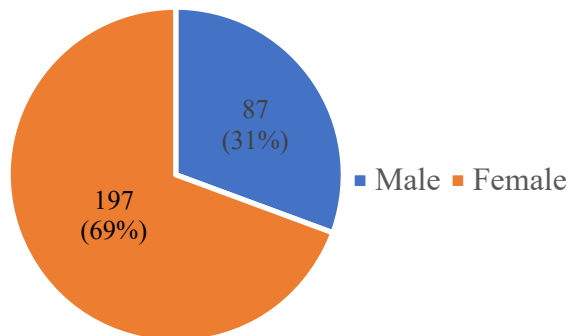


Figure 2. Sample population by sex.

Results by Objective

Objective 1: Increase the number of eligible patients within the clinic offered HIV screening from 0% to 100% within the 6-week implementation period.

Result: Of 518 patients identified as being eligible for screening, 284 (54.8%) had a checklist completed, indicating that HIV screening was offered. Therefore, this first objective was not met.

Objective 2: Increase the number of eligible patients within the clinic screened for HIV from 0% to 75% within the 6-week implementation period.

Result: This second objective was not met. During the implementation period, 120 patients (42.3%) of the 284 patients with a completed checklist had a documented HIV test or a history of screening. Thirteen patients had a HIV screening test ordered and completed, and 107 (20.6%) patients reported a history of a negative HIV screening. One hundred sixty-four patients

refused to have an HIV screening despite never having had a test in the past. Figure 3 depicts the reasons why HIV testing was refused by these patients.

Objective 3: One hundred percent of patients with a positive HIV screening test will have a documented referral to the local HIV clinic by the sixth week of implementation.

Results: None of the patients screened were found to have a positive HIV test.

Objective 4: One hundred percent of staff will be educated on the 2015 Sexually Transmitted Diseases Treatment Guidelines as it pertains to HIV screenings.

Results: All providers and staff (100%) were educated on HIV and the screening guidelines. Therefore, this fourth objective was met.

Objective 5: One hundred percent of patients eligible for HIV screening will be given an education handout regarding HIV and the necessity for screenings.

Result: Only 284, 54.8%, of the 518 eligible patients were given the educational handout on the importance of screening for HIV. Therefore, this objective was not met.

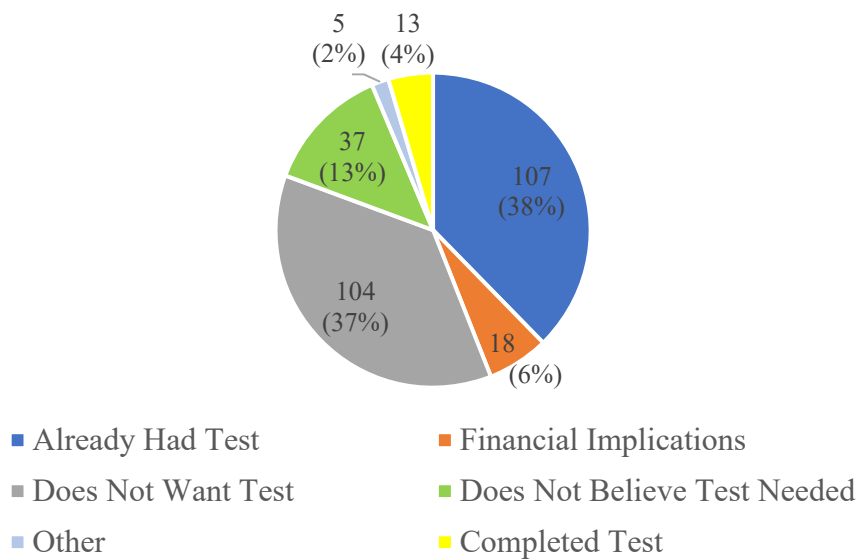


Figure 3. Reasons for refusal of HIV screening.

Interestingly, no statistical significance was found when analyzing payer source with whether or not a patient accepted HIV screening. Table 2 describes the data among payer source and patients that accepted HIV testing.

Table 2

Payer Sources for HIV Testing

	Cash	Commercial	Indigent	Medicaid	Medicare	Total
Test ordered						
Yes	0	8	1	3	1	13
No	14	203	5	30	19	271
Total	14	211	6	33	20	284

No statistical significance was found among the providers’ probability to order HIV testing (see Figure 4). The physician (MD) had 67% participation, while the nurse practitioner (NP) had 64% participation. The physician’s assistant (PA) had the lowest participation rate at 31%.

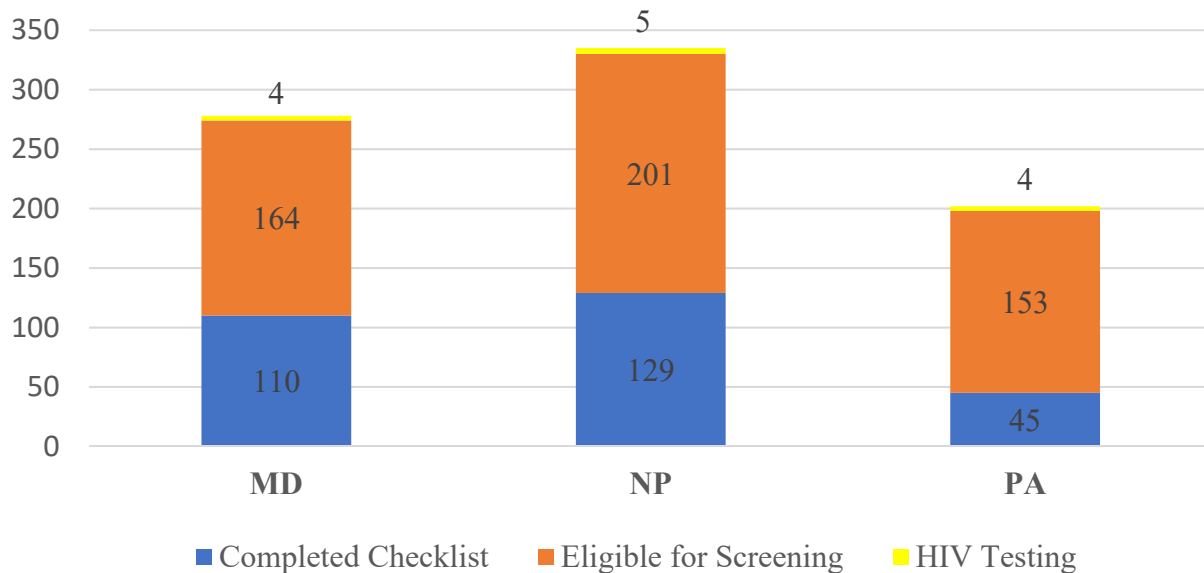


Figure 4. Participation by provider.

Discussion

The HIV implementation checklist was not consistently given to all patients who entered the office during the 6 weeks of project implementation. Without the checklist as a reminder, the providers were not prompted to assess for HIV screening. The lack of checklists impacted the overall screening adherence rate, leading to missed opportunities to identify patients that may benefit from testing. Provider adherence in both offering and ordering HIV screening improved over the course of the project, enabling more patients to be identified and tested.

The process as it stands has been shown to be a viable method for identifying and screening patients for HIV as supported by the 2015 Sexually Transmitted Diseases Treatment Guidelines (CDC, 2015). One of the most important aspects of the process is that it is transferable to other practices. This project has the potential to be replicated by any primary care practice and adjusted as needed to fit the individual office and staff.

Limitations

There were changes in staff during the course of project implementation that may have affected the overall screening rate. The addition of new staff required education and time for the new staff to incorporate the process into their routine.

A second limitation was that shortly prior to implementation, the clinic acquired a new EMR system. This new system required additional training and attention from the staff, which may have reduced the attentiveness to HIV screening from the staff.

A third limitation was that the project coordinator did not have direct access (i.e., a username and sign-on) to the new EMR system. This lack of access reduced direct daily observation of the project data. Data were collected weekly, which reduced timely intervention for weeks with lower participation. The project coordinator was the main “champion” for this

project. With the numerous changes within the clinic, none of the clinic staff took the position of “project champion.” This lack of internal drive may have reduced staff buy-in.

The clinic also did not have funding for HIV testing assistance. Many patients listed financial implications for their reason behind declining HIV testing. If testing assistance would have been made available, there may have been more patients that would have agreed to HIV testing.

Recommendations

After the initial project implementation, the clinic will continue to offer screening to eligible patients. It is hoped that the corporation managing the clinic will see the positive change in this health clinic and subsequently implement HIV screenings as part of all their clinics’ routine labs. Additional education should be focused on for continued patient and clinic buy-in. As mentioned previously, many patients voiced interest in HIV testing despite having financial constraints to having it done. This interest by the patients invites future projects to be implemented with an intervention of laboratory funding for tests.

Implications for Practice

Implementing the CDC guidelines pertaining to HIV screenings with the use of colored questionnaires improved HIV screenings within a rural healthcare clinic. Although many patients refused HIV screenings, awareness of the need for screening was still made clear to the patients. Increasing patient and staff education about the 2015 Sexually Transmitted Diseases Treatment Guidelines assists in reducing transmission and late diagnoses of HIV, which aligns clinics with the Healthy People 2020 initiatives for better evidence-based practices (CDC, 2015; Healthy People 2020, n.d.).

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Appendix A

Pre-Test/Post-Test

- 1) The CDC recommends that all persons ages 13-64 receive HIV screenings _____.
 - a. Every 5 years
 - b. At least once in their lifetime
 - c. Every year
 - d. Only if they feel they need it
- 2) HIV can be transmitted by _____.
 - a. Hugging
 - b. Holding hands
 - c. Using contaminated needles
 - d. Drinking after someone
- 3) One can protect themselves from contracting HIV by _____.
 - a. Wearing a mask in public
 - b. Always washing their hands
 - c. Using condoms, the right way, every time they have sexual intercourse
 - d. Being sure to always apply insect repellent
- 4) If someone tests positive for HIV it is important that they _____.
 - a. Alert their sex partners
 - b. Seek HIV care
 - c. Take their medication as prescribed
 - d. All of the above

Appendix B

Staff Education

In 2015, **nearly 40,000** people in the US received an HIV diagnosis

.....

1 in 2 had been living with HIV 3 years or more

.....

1 in 4 had been living with HIV 7 years or more

.....

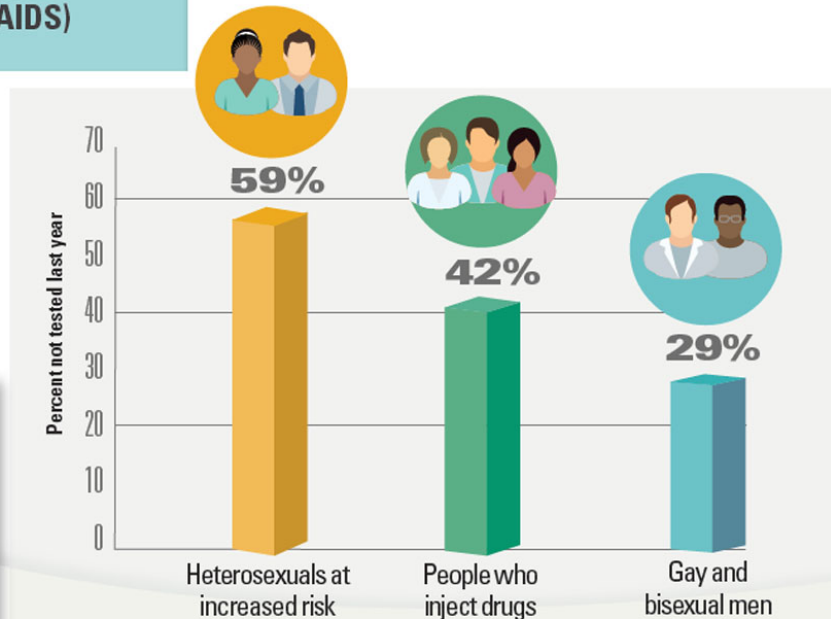
1 in 5 already had the most advanced stage of HIV (AIDS)

Half of heterosexual men with HIV got a diagnosis **5 years** or more after they got the virus—later than any other group.



MISSED Opportunities

7 in 10 people at high risk who weren't tested for HIV in the past year saw a healthcare provider during that time. More than **75%** of them weren't offered a test.



Many people at high risk* for HIV aren't getting tested every year

*People at high risk for HIV include: 1) sexually active gay and bisexual men, 2) people who inject drugs, and 3) heterosexuals who have sex with someone who is at risk for or has HIV.

Appendix C

Data Collection Form

If the patient is between the ages of 13 and 64 please complete the following:

Provider patient is seeing today: _____

Name: _____

Age: _____ Insurance: Commercial _____ Medicare _____ Medicaid _____ Cash _____

FOR NURSES:

Has the patient had an HIV lab screening completed in the past? Yes _____ No _____

-If yes, was the result **positive** or **negative**?

- Please notate under social history, sexual activity, if the patient has had a HIV test.

FOR THE PROVIDER:

Did the patient receive education on HIV? Yes _____ No _____

Is an HIV lab screening being ordered at this visit? Yes _____ No _____

If the patient refuses an HIV screening test, what is the reasoning?

- a) Financial implications
- b) Does not want it
- c) Does not believe he/she needs it
- d) Other _____

FOR OFFICE USE ONLY:HIV screening to include all three CPT codes: **86701** **86702** **86703**ICD 10 Code:**Z11.4 Screening HIV** **Z72.51 High Risk Heterosexual Behavior****Z91.89 At High Risk of Sexually Transmitted Infection**

Appendix D

Patient Education

HIV 101

Without treatment, HIV (human immunodeficiency virus) can make a person very sick and even cause death. Learning the basics about HIV can keep you healthy and prevent transmission.

HIV Can Be Transmitted By



Sexual Contact



Sharing Needles to Inject Drugs



Mother to Baby during pregnancy, birth, or breastfeeding

HIV Is **NOT** Transmitted By



Air or Water



Saliva, Sweat, Tears, or Closed-Mouth Kissing



Insects or Pets



Sharing Toilets, Food, or Drinks

Protect Yourself From HIV

- Get tested at least once or more often if you are at risk.
- Use condoms the right way every time you have anal or vaginal sex.
- Choose activities with little to no risk like oral sex.
- Limit your number of sex partners.
- Don't inject drugs, or if you do, don't share needles or works.



- If you are at very high risk for HIV, ask your health care provider if pre-exposure prophylaxis (PrEP) is right for you.
- If you think you've been exposed to HIV within the last 3 days, ask a health care provider about post-exposure prophylaxis (PEP) right away. PEP can prevent HIV, but it must be started within 72 hours.
- Get tested and treated for other STDs.



Keep Yourself Healthy And Protect Others If You Are Living With HIV

- Find HIV care. It can keep you healthy and greatly reduce your chance of transmitting HIV.
- Take your medicines the right way every day.
- Stay in HIV care.



- Tell your sex or drug-using partners that you are living with HIV. Use condoms the right way every time you have sex, and talk to your partners about PrEP.
- Get tested and treated for other STDs.



For more information please visit www.cdc.gov/hiv