

University of the Incarnate Word

## The Athenaeum

---

Doctor of Nursing Practice

---

12-2020

### Incorporating HIV Pre-Exposure Prophylaxis in Primary Care

Daniel Manesh

University of the Incarnate Word, [daniel.manesh@hotmail.com](mailto:daniel.manesh@hotmail.com)

Follow this and additional works at: [https://athenaeum.uiw.edu/uiw\\_dnp](https://athenaeum.uiw.edu/uiw_dnp)



Part of the [Family Medicine Commons](#), [Nursing Commons](#), and the [Primary Care Commons](#)

---

#### Recommended Citation

Manesh, Daniel, "Incorporating HIV Pre-Exposure Prophylaxis in Primary Care" (2020). *Doctor of Nursing Practice*. 85.

[https://athenaeum.uiw.edu/uiw\\_dnp/85](https://athenaeum.uiw.edu/uiw_dnp/85)

This Doctoral Project is brought to you for free and open access by The Athenaeum. It has been accepted for inclusion in Doctor of Nursing Practice by an authorized administrator of The Athenaeum. For more information, please contact [athenaeum@uiwtx.edu](mailto:athenaeum@uiwtx.edu).

INCORPORATING HIV PRE-EXPOSURE PROPHYLAXIS IN PRIMARY CARE

DANIEL MANESH

DNP PROJECT ADVISOR

Julio Lujano, DNP, APRN, FNP-BC  
Ila Faye Miller School of Nursing and Health Professions

CLINICAL MENTOR

Barbra Kraus, MSN, APRN, FNP-BC

Presented to the Faculty of the University of the Incarnate Word  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF NURSING PRACTICE

UNIVERSITY OF THE INCARNATE WORD

December 2020

### ACKNOWLEDGEMENTS

I would like to dedicate this paper to the most important and supportive people in my life, my family. Your love and support have always sparked motivation to persevere in the direction of excellence. I would like to thank and emphasize the pivotal role of my life partner, Pedro Trevino, in improving my life experience for the past 9 years.

I am forever grateful for the countless individuals who have contributed to my academic achievement. Specifically, I would like to thank my compassionate project advisor Dr. Julio Lujano, who tirelessly guided me through this project. Finally, I would like to thank and congratulate my colleagues who braved this journey with me through some of the most challenging times humanity has ever seen.

Daniel Manesh

## TABLE OF CONTENTS

LIST OF TABLES .....	5
LIST OF FIGURES .....	6
ABSTRACT .....	7
STATEMENT OF THE PROBLEM .....	10
BACKGROUND AND SIGNIFICANCE .....	10
Assessment of the Practice.....	12
Organizational Readiness for Change.....	13
PROJECT IDENTIFICATION .....	13
Purpose.....	13
Objectives .....	13
Anticipated Outcomes.....	14
SUMMARY AND STRENGTH OF EVIDENCE .....	14
METHOD .....	16
Project Intervention.....	16
Barriers and Facilitators .....	17
RESULTS .....	18
Results by Objective .....	19
Results by Number of Patients and by Percentage .....	19
DISCUSSION .....	20
Limitations .....	21

TABLE OF CONTENTS—Continued

Recommendations.....21

Implications for Practice .....22

REFERENCES .....23

APPENDIX A: GUIDELINES .....25

APPENDIX B: WELL VISIT FORM .....26

LIST OF TABLES

Table	Page
1. Risk Assessment .....	12

## LIST OF FIGURES

Figure	Page
1. Sample Population by Sex .....	18
2. Results by Number of Patients.....	20
3. Results by Percentage .....	20

### **Abstract**

In 2012, the Food and Drug Administration approved a combination medication named Truvada® (tenofovir/emtricitabine) as a prophylactic treatment to prevent HIV transmission. Truvada® is also known as pre-exposure prophylaxis (PREP). PREP is a one-pill-a-day regimen proven to be 99% effective against HIV-1 transmission from sex and intravenous drug injection when taken daily. The uptake of PREP remains low because primary care providers fail to identify patients who meet the requirements to start PREP and fail to prescribe PREP for patients at risk. The purpose of this quality improvement project was to increase the uptake of PREP in patients at risk of HIV acquisition. The overall objective was to implement the U.S. Preventive Services Task Force screening guidelines for HIV acquisition risk and implement the guidelines recommended by the CDC for PREP in primary care. The providers were asked to screen all patients aged 19 to 65 years for risk of HIV acquisition during a well visit, prescribe PREP upon patients' consent, and monitor the patients on PREP according to the standard of care. The outcomes were evaluated by retrospective chart review to ensure that 85% of the patients aged 19 to 65 years for the risk of HIV acquisition were screened. Furthermore, the providers were asked to offer PREP to 85% of patients deemed at risk and then closely monitor those on PREP for side-effects, renal function, and sexually transmitted infections to remain compliant with the standard of care and the evidence-based guidelines. Of a total of 32 well visits, the providers screened 29 (91%) patients. Twenty-two patients were identified to be at substantial risk, and providers offered PREP to 19 (86%) patients. Three patients agreed to take PREP, and the rest refused. The providers prescribed PREP according to the standard of care for all three (100%) patients. Results showed that using the Well Visit Forms (WVFs) and the evidence-based guidelines for PREP in the primary care setting increased the number of patients identified as at

risk for HIV, increased the uptake of PREP, and assisted the providers in following the standard of care in prescribing PREP.

*Keywords:* PREP, primary care, Truvada®, HIV

### **Incorporating HIV Pre-Exposure Prophylaxis in Primary Care**

HIV infection has been an epidemic in the United States since the 1980s. HIV infection has taken many lives since its breakout and continues to infect people worldwide. In 2012, the Food and Drug Administration approved a combination medication named Truvada® (tenofovir/emtricitabine) as a prophylactic treatment to prevent HIV transmission. Truvada® is also known as pre-exposure prophylaxis (PREP). PREP is one pill a day regimen that has proven to be 99% effective against HIV-1 transmission from sex and intravenous drug injection when taken daily (CDC, 2019). The CDC predicted that 1.2 million adults in the United States might benefit from PREP (Silapaswan et al., 2016). However, the uptake of PREP has been significantly low. The literature cited six most common barriers to adoption and implementation of PREP in primary care practice—cost and financial coverage, implementation logistics, eligibility determination, adherence concerns, side effects, and anticipated behavior change, also cited as risk compensation (Calabrese et al., 2016). In 2017, new HIV diagnoses in the United States reached 38,739, and 52% (19,968) of those diagnoses were in the South (CDC, 2019). According to the San Antonio Metropolitan Health District (2017), the rate of new HIV diagnoses in Texas in 2016 were reported 16.1 per 100,000 people, and the rate of new HIV diagnoses in 2016 for Bexar County was reported 18.7 per 100,000 people. Despite the approval of the very effective PREP in 2012 and published guidelines for prescription and treatment in 2014, the uptake of PREP and the number of prescriptions given to the patient remains low (Petroll et al., 2017).

This project addressed some of the barriers to implementation of PREP in the primary care clinic. The main focus of the project was (a) to identify the patients at risk for contracting HIV, (b) to offer PREP to all the patients who are at risk of acquiring HIV infection, and (c) to

prescribe PREP for all of the appropriate candidates of PREP according to the standard of care through modifying providers' practice.

### **Statement of the Problem**

The problem was that not enough primary care providers (PCPs) identify the patients who are at risk for HIV infection or prescribe PREP for the PREP candidates. The CDC estimated 1.2 million individuals had an indication for PREP in 2015 (Silapaswan et al., 2016), but uptake of PREP had not been commensurate with the need (Garner et al., 2018). Although the CDC published guidelines for PREP in 2014, PCPs and HIV specialists had contradictory beliefs about the appropriate PREP providers. The contradictory beliefs were referred to as the “purview paradox,” meaning that PCPs believed that HIV specialists should handle the identification of appropriate candidates to receive PREP, while HIV specialists did not encounter enough HIV-uninfected patients who met the criteria for getting PREP prescriptions (Silapaswan et al., 2016). Some PCPs expressed that after a brief educational intervention on PREP criteria and treatment regimen, the intervention increased their willingness to prescribe PREP in the primary care clinics (Clement et al., 2017). Therefore, the lack of sufficient knowledge was an obstacle in the adoption and implementation of PREP among PCPs.

### **Background and Significance**

The Food and Drug Administration approved Truvada® in 2012 for HIV pre-exposure prophylaxis; in July 2014, the CDC published the electronic format of guidelines for PREP and updated the guidelines in 2017 to revise and add developing evidence without any changes to graded recommendations. Despite all the efforts and advancements, the uptake of PREP remained low (Adams & Balderson, 2016; Calabrese et al., 2016), and the incidence of HIV remained practically unchanged in the United States (CDC, 2019). The southern part of the

country had the highest percentage (52%) of the new HIV diagnoses in 2018 (CDC, 2019), and Texas was included in the highest prevalence region of the country. According to the CDC (2019), 1 out of 7 individuals who were HIV-infected, were unaware of their infection (CDC, 2019).

Furthermore, statistics showed that approximately 40,000 new HIV diagnoses appeared each year in the United States (CDC, 2017). Therefore, it was crucial to adopt PREP in the primary care arena as the standard of care to identify the patients at risk and to prescribe PREP according to the evidence-based guidelines. Taking a thorough sexual health history aids the providers in identifying the risk of HIV acquisition. Unfortunately, there were no accurately validated tools to identify the risk for HIV acquisition available for providers. The sexual history was often not assessed due to anticipated discomfort of the patient, discomfort of the provider, or urgent issues during a visit (CDC, 2017).

In this project, the providers were asked to perform the risk assessment during well visits (annual visit). The CDC and the U.S. Preventive Services Task Force (USPSTF) had developed the criteria for risk assessment (Appendix A) according to the epidemiologic data and enrollment criteria of PREP clinical trials to guide the assessment of individuals who may be at risk (USPSTF, 2019). The USPSTF and the CDC recommended that individuals who met one of the criteria in Table 1 to be considered for PREP. The adolescents were excluded from the guidelines due to lack of sufficient data on the possible adverse effects of PREP on this age group (CDC, 2017). The clinical trials of PREP provided incomplete data on the possible harmful effects of the PREP regimen on individuals younger than age 19 years; therefore, this project was designed to exclude adolescents younger than 19 years of age.

**Table 1***Risk Assessment*

Group	Criteria
Sexually active men who have sex with men	Inconsistent with condom use History of bacterial sexually transmitted disease in the past 6 months Have a serodiscordant sex partner
Sexually active women who have sex with men	Inconsistent with condom use History of bacterial sexually transmitted disease in the past 6 months Have a serodiscordant sex partner
Individuals who inject drugs sex with men	Inconsistent with condom use History of bacterial sexually transmitted disease in the past 6 months Have a serodiscordant sex partner Share the use of drug injecting equipment
Adults who engage in transactional sex	

---

From *USPSTF guidelines: Preexposure prophylaxis for the prevention of HIV infection* by the U.S. Preventive Services Task Force, 2019. <https://jamanetwork.com/journals/jama/fullarticle/2735509>

From *Preexposure prophylaxis for the prevention of HIV infection in the United States—2017 update: A clinical practice guideline, 2017* by the Centers for Disease Control and Prevention, 2017. U.S. Public Health Service. <https://www.cdc.gov/hiv/pdf/risk/PEP/cdc-hiv-PEP-guidelines-2017.pdf>

**Assessment of the Practice**

Assessment of the rural family medicine clinic revealed the need for this quality improvement project as PREP was only prescribed if the patients initiated the evaluation request. Furthermore, patients who were prescribed PREP in the past were not monitored according to the

standard of care. The project location was a private primary care clinic in Castle Hills in San Antonio, Texas. There were two providers in the clinic, a Family Nurse Practitioner and a Medical Doctor. The clinic employed two medical assistants who oversaw taking vital signs, documenting the vitals, and preauthorizing and performing phlebotomy. There were three front desk clerks with rotating schedules during the week who oversaw checking in the patients, making appointments, and answering phone calls. The clinic saw patients aged 10 years and older.

### **Organizational Readiness for Change**

It was determined that there was an opportunity to improve potential income by incorporating PREP guidelines in this clinic. The providers agreed that implementing the CDC guidelines through this quality improvement project would significantly improve patient outcome and expressed readiness for implementing the project interventions.

### **Project Identification**

#### **Purpose**

The pre-exposure prophylaxis guidelines for the prevention of HIV infection in the United States (CDC, 2017) necessitated the incorporation of PREP in primary care for adults aged 65 years and younger. The purpose of the project was to incorporate PREP guidelines published by the CDC and the USPSTF to facilitate identification of the individuals at risk of HIV acquisition and to prescribe PREP according to the standard of care.

#### **Objectives**

The objectives of this project were the following:

1. Providers were to screen 85% of the patients aged 19 to 65 years during a well visit for the risk of HIV acquisition within the 10-week implementation period.

2. Providers were to offer PREP to 85% of the patients identified to be at risk for HIV acquisition within the 10-week implementation period.
3. Providers were to prescribe and monitor the patients on PREP according to the standard of care 100% of the time in the 10-week implementation period. The providers were to order HIV status, Hepatitis B Virus (HBV) status, and renal function panel laboratory tests before PREP prescription to meet the standard of care.

### **Anticipated Outcomes**

It was anticipated that by implementing CDC and USPSTF guidelines, the number of patients screened for risk of HIV acquisition would increase by 85%. It was anticipated that 85% of the patients deemed at risk of HIV acquisition would be offered a PREP prescription. Finally, 100% of the patients who were offered PREP and received a prescription for PREP were to be monitored according to the standard of care provided by the CDC and the USPSTF. The standard of care for PREP prescription included confirmation of HIV status, Hepatitis B status, and renal function status laboratory tests at the time of PREP prescription.

### **Summary and Strength of Evidence**

Approximately 40,000 new cases of preventable HIV infection were identified in the United States annually. The CDC estimated that 1.2 million individuals had the indications for using PREP in 2018, although only 18.1% of those individuals had been prescribed PREP (Harris et al., 2019). In February of 2019, the Trump administration announced a national initiative, *Ending the HIV Epidemic: A Plan for America*, that called for enhanced efforts to prevent new HIV infection with PREP as one of its major strategies (U.S. Department of Health and Human Services, 2019). The goal was to cover 50% of the individuals who had the indications for PREP. Substantial improvement was required to reduce the number of new

infections. The USPSTF issued a recommendation with high certainty (Grade A) for clinicians to offer PREP to individuals who were at substantial risk of HIV acquisition. The coverage of PREP increased from 9% in 2016 to 18.1% in 2018 (Harris et al., 2019).

The CDC (2017) recommended the oral daily dose of Truvada® for PREP for prevention of HIV infection in sexually active adult men who have sex with men, heterosexually active adult men and women, and adult persons who injected drugs who were at risk of HIV acquisition according to the USPSTF risk assessment criteria mentioned in Figure 1 (Ia) and Appendix A. Sexually active men and women in a relationship with HIV-infected individuals (serodiscordant couples) should be offered PREP to protect the HIV-uninfected partner (IIb). PREP for adolescents should be weighed carefully because the current data on the safety and efficacy of PREP for adolescents are insufficient (Ia). The negative HIV status and negative hepatitis B status must be confirmed before directing the patients to take Truvada® and every 3 months after that due to the risk of drug-resistance and hepatitis B flare-up, respectively (Ia). Baseline renal function must be confirmed before PREP prescription and every six months thereafter to ensure that the renal function is normal (Ia) (CDC, 2017).

Multiple studies that examined providers' behavior and attitude regarding PREP revealed that purview paradox and risk compensation were the most common barriers to prescribing PREP among providers. The PCPs assumed that infection control specialists were the providers with the proper expertise to identify and treat persons at risk. The infection control specialists argued that PCPs had far more opportunities to identify HIV-uninfected individuals at risk. Several PCPs expressed unfamiliarity with PREP guidelines, and the standard of care was a barrier to adopting PREP in routine clinical practice (Silapaswan et al., 2016).

The CDC guidelines recommended that PCPs incorporate HIV risk assessment and PREP prescription in routine practice (CDC, 2017). Providers were also concerned about the efficacy and safety of PREP. According to several double-blinded randomized control trials, Truvada® was 99% effective in preventing HIV when used according to the clinical guidelines. Current data suggested that PREP had no severe safety concerns; however, Tenofovir had been associated with decreased bone mineral density and renal toxicity in patients with HIV infection. Therefore, it was recommended that the providers monitor the patients on PREP regimen closely for renal toxicity and reduction in bone mineral density (CDC, 2017). The CDC did not recommend routine bone mineral density imaging for patients on PREP unless there were signs and symptoms of decreased bone mineral density, such as bone pain and unexplained fractures (CDC, 2017).

### **Method**

This project was implemented using the “Plan–Do–Study–Act” quality improvement method. The interventions and the anticipated outcomes were discussed with the providers at the clinic. The providers and the project leader agreed on the 10-week implementation period and the individuals involved in the cycle were determined to be the providers. Both providers enthusiastically agreed to gather data using the Well Visit Form (WVF) found in Appendix B and to keep the filled-out WVFs at the designated location at the clinic to comply with the Health Insurance Portability and Accountability Act. The project leader audited the charts on the electronic health record and identified the patients who met the age qualification and compared the findings with the documented data on the WVFs by the providers. The analyzed data were discussed with the providers on a weekly basis.

**Project Intervention**

Data collected from the clinic revealed that before the implementation of project interventions, 0% of the patients had been prescribed PREP according to the standard of care. The providers, although familiar with PREP, expressed the need for a quick guide to the standard of care and risk assessment. Therefore, there was a one-page guide to risk assessment from the USPSTF and CDC guidelines posted in every exam room and on the walls by the physician documentation area. Every exam room had a transparent plastic pouch containing the WVF to remind the providers to fill out the form during the well visits (annual exams). The filled-out WVFs were to be kept at the clinic and used for evaluation and retrospective chart review.

The providers were asked to assess patients aged 19 to 65 years for the risk of HIV acquisition during annual visits and offer PREP to the patients at substantial risk according to the USPSTF and CDC guidelines for PREP. The providers were to fill out the WVFs to keep track of the patients they had screened. The data were collected along with the WVFs every week and compared with the electronic health record data to determine whether the patients at risk were screened, offered PREP, and prescribed PREP.

**Barriers and Facilitators**

The organizational barrier discovered during the implementation phase was the providers were failing to complete the WVF with every annual encounter consistently. The failure to consistently fill out the WVFs made it necessary to post the WVFs on the wall of every exam room next to the guidelines to make the forms more accessible and remind the providers to perform the risk assessment.

The coronavirus pandemic showed to be the most impactful barrier to this project as the number of visits to the clinic began to decline in March and April. The pandemic took attention

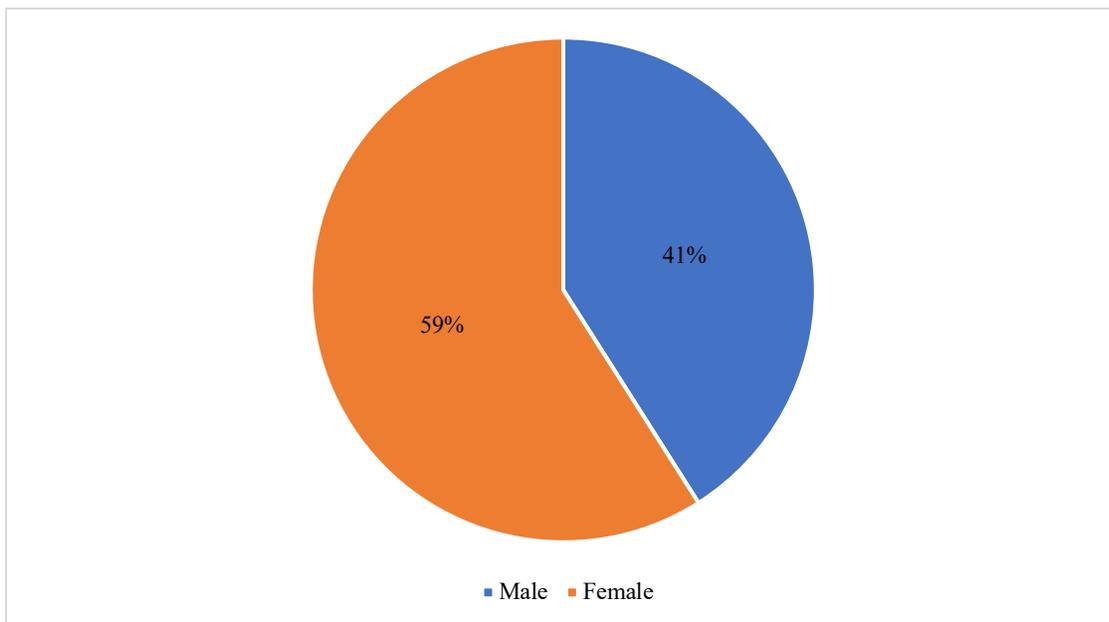
away from the benchmarks that the clinic was to make and, subsequently, negatively impacted this project. The providers were not as focused on this project after the shelter-in-place orders that started in March 2020. The facilitator felt that the project did not impose any extra work for the ancillary staff (e.g., Medical Assistants, Front Desk Clerk).

### Results

The project coordinator evaluated the results from the 10-week implementation using Microsoft Excel for data analysis. The sample population consisted of 32 patients aged 19 to 65 years, with a median age of 37.5 years. The project coordinator chose to implement this project only for annual visits because the HIV risk assessment and PREP were preventative measures, and they should have been addressed during annual visits. The sick visits may take attention away from the preventative measure. Figure 1 shows the sample population by sex.

**Figure 1**

*Sample Population by Sex*



## **Results by Objective**

### ***Objective 1***

Objective. Providers were to screen 85% of the patients aged 19 to 65 years during a well visit for the risk of HIV acquisition within the 10-week implementation period.

Result. Of a total of 32 qualifying annual visits, 29 (91%) patients were screened for risk of HIV acquisition. Therefore, this objective was met.

### ***Objective 2***

Objective. Providers were to offer PREP to 85% of the patients identified as at risk for HIV acquisition within the 10-week implementation period.

Result. Of 29 patients screened, 22 (69%) were identified as being at substantial risk of HIV acquisition. The providers offered PREP to 19 (86%) patients; therefore, this objective was met.

### ***Objective 3***

Objective. Providers were to prescribe and monitor the patients on PREP according to the standard of care 100% of the time in the 10-week implementation period.

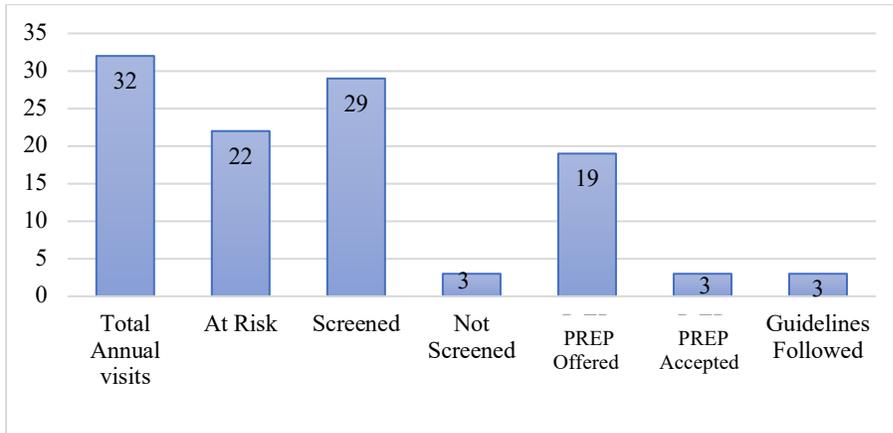
Result. Only three patients decided to start the PREP regimen. The providers prescribed PREP for all three patients (100%) according to the clinical guidelines. Therefore, this objective was met. The rest of the patients refused the offer for a PREP prescription.

## **Results by Number of Patients and by Percentage**

Figure 2 shows the results by the number of patients in each category and Figure 3 shows the results by the percentage.

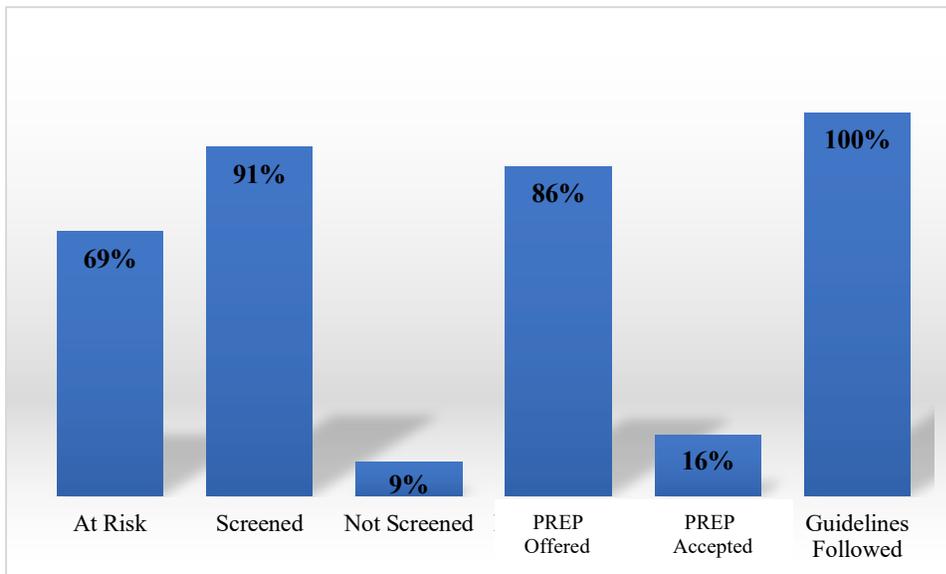
**Figure 2**

*Results by Number of Patients*



**Figure 3**

*Results by Percentage*



**Discussion**

Despite the published guidelines for PREP since 2014, the uptake of this potentially lifesaving medication has not been increasing. Approximately 1.2 million individuals could

benefit from PREP to reduce the incidence of HIV infection in the United States. Incorporating PREP in the primary care arena as routine preventative care was simple, practical, and viable. The patients who were at risk of HIV acquisition could be easily assessed, and the PCPs were qualified to identify the risk and offer PREP to those who were at substantial risk.

The process has proven to be a viable method for identifying the patients at risk of acquiring HIV infection, as supported by the 2014 and the 2017 update of the HIV pre-exposure prophylaxis guidelines. The essential aspects of the process were the simplicity and sustainability. The process was easily transferable to other practices, and any primary care practice can adopt, adjust, and incorporate this process to fit the practice's needs.

### **Limitations**

The novel coronavirus pandemic drove the providers' focus toward the extreme infection control measures and away from the implementation of this project. Simultaneously, the number of annual visits declined in the clinic as people began to follow the shelter-in-place and social distancing orders in early March 2020.

### **Recommendations**

After the initial implementation of this process, the clinic continued to offer PREP to the individuals who were at substantial risk of HIV acquisition. The patients who refused PREP (84%) may require more education to fully understand the risk of HIV acquisition. The CDC website provided a HIV Risk Estimator tool that can be easily accessed by providers and patients. The HIV Risk Estimator tool quantified the risk of HIV acquisition based on the type of sexual activity; the users can see how much PREP can reduce the risk of HIV acquisition by itself or in combination with other modalities, such as condoms.

**Implications for Practice**

Implementing the CDC and USPSTF guidelines for HIV pre-exposure prophylaxis with the WVF increased the uptake of PREP within an urban clinic in San Antonio, Texas. Although many patients refused PREP, the providers raised awareness of the option to prevent HIV infection among the patients. Furthermore, the providers were educated about the standard of care for prescribing PREP. Finally, the providers were educated on how to identify the patients at risk for HIV acquisition accurately.

Not only were the providers able to identify the patients at risk for HIV acquisition, but they were also able to offer PREP to most of the patients at risk and prescribe PREP according to the standard of care. The CDC and USPSTF guidelines for PREP provided information for the providers to easily and safely adopt and follow the standard of care for HIV pre-exposure prophylaxis in the primary care clinics, where it belongs.

### References

- Adams, L. M., & Balderson, B. H. (2016). HIV providers' likelihood to prescribe pre-exposure prophylaxis (PREP) for HIV prevention differs by patient type: A short report. *AIDS Care, 28*(9), 1154–1158. <https://doi.10.1080/09540121.2016.1153595>
- Calabrese, S. K., Magnus, M., Mayer, K. H., Krakower, D. S., Eldahan, A. I., Hawkins, L. A. G., Hansen, N. B., Kershaw, T. S., Underfill, K., Betancourt, J. R., & Dovidio, J. F. (2016). Putting PREP into practice: Lessons learned from early-adopting U.S. providers' firsthand experiences providing HIV pre-exposure prophylaxis and associated care. *Plos One, 11*(6). <https://doi.10.1371/journal.pone.0157324>
- Centers for Disease Control and Prevention. (2017). *Preexposure prophylaxis for the prevention of HIV infection in the United States—2017 update: A clinical practice guideline*. U.S. Public Health Service: Author. <https://www.cdc.gov/hiv/pdf/risk/PREP/cdc-hiv-PREP-guidelines-2017.pdf>
- Centers for Disease Control and Prevention. (2019, January). *HIV: Statistics and overview*. <https://www.cdc.gov/hiv/statistics/overview/ataglance.html>
- Clement, M. E., Seidelman, J., Wu, J., Alexis, K., McGee, K., Okeke, N. L., Samsa, G., & McKellar, M. (2017). An educational initiative in response to identified PREP prescribing needs among PCPs in the Southern U.S. *AIDS Care, 30*(5), 650–655. <https://doi.10.1080/09540121.2017.1384534>
- Garner, W., Wilson, B. M., Beste, L., Maier, M., Ohl, M. E., & Epps, P. V. (2018). Gaps in preexposure prophylaxis uptake for HIV prevention in the Veterans Health Administration. *American Journal of Public Health, 108*(S4). <https://doi.10.2105/ajph.2018.304788>

- Harris, N. S., Johnson, A. S., Ya-Lin, A. H., Fulton, P., Smith, D. K., Valleroy, L. A., & Hall, H. I. (2019). *Vital signs: Status of human immunodeficiency virus testing, viral suppression, and HIV Preexposure prophylaxis—United States, 2013–2018*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- Petroll, A. E., Walsh, J. L., Owczarzak, J. L., Mcauliffe, T. L., Bogart, L. M., & Kelly, J. A. (2017). PREP awareness, familiarity, comfort, and prescribing experience among U.S. primary care providers and HIV specialists. *AIDS and Behavior, 21*(5), 1256–1267.  
<https://doi.10.1007/s10461-016-1625-1>
- San Antonio Metropolitan Health District. (2017). *City of San Antonio, health data reports*.  
<http://www.sanantonio.gov/Health/News/HealthDataReports>
- Silapaswan, A., Krakower, D., & Mayer, K. H. (2016). Pre-exposure prophylaxis: A narrative review of provider behavior and interventions to increase PREP implementation in primary care. *Journal of General Internal Medicine, 32*(2), 192–198.  
<https://doi.10.1007/s11606-016-3899-4>
- U.S. Department of Health and Human Services. (2019). *Ending the HIV epidemic: A plan for America*. <https://hiv.gov/federal-response/ending-the-hiv-epidemic/overview#:~:text=Ending%20the%20HIV>
- U.S. Preventive Services Task Force. (2019, June 11). *USPSTF guidelines: Preexposure prophylaxis for the prevention of HIV infection*. <https://jamanetwork.com/journals/jama/fullarticle/2735509>

**Appendix A**

**Guidelines**

**Risk Assessment**

- **Sexually active men who have sex with men and have one of the following:**
  - Inconsistent use of condoms
  - An STI within the past 6 months
  - A serodiscordant sex partner
- **Heterosexually active women and men who have one of the following characteristics:**
  - Inconsistent use of condoms with a sex partner of unknown HIV status
  - An STI within the past 6 months
  - A serodiscordant sex partner
- **Individuals who inject drugs and have one of the following:**
  - Risk of sexual acquisition of HIV (based on the above criteria)
  - Shared use of drug injection equipment
- **Individuals who engage in transactional sex**

From *USPSTF guidelines: Preexposure prophylaxis for the prevention of HIV infection* by the U.S. Preventive Services Task Force, June 11, 2019. <https://jamanetwork.com/journals/jama/fullarticle/2735509>

**To Prescribe PREP (Truvada®)**

Before prescribing PREP	<ol style="list-style-type: none"> <li>1. Confirm negative HIV status</li> <li>2. Confirm normal renal function</li> <li>3. Confirm negative Hepatitis B status or history of vaccination</li> </ol>
Prescribe	Daily oral dose of Truvada® (emtricitabine 200 mg/tenofovir disoproxil 300 mg) ≤ 90 days
Follow up	<p>Follow-up visits at least every 3 months to provide the following:</p> <ol style="list-style-type: none"> <li>1. HIV test</li> <li>2. STI symptom assessment</li> <li>3. Assess and educate patient’s adherence to the regimen.</li> </ol> <p><b>At first 3 months and every 6 months thereafter renal function and STI test (including</b></p>

From *Preexposure Prophylaxis for the Prevention of HIV Infection in the United States—2017 Update: A Clinical Practice Guideline* by the Centers for Disease Control and Prevention, 2017. U.S. Public Health Service. <https://www.cdc.gov/hiv/pdf/risk/PREP/cdc-hiv-PREP-guidelines-2017.pdf>

**Appendix B**  
**Well Visit Form**

Patient Names:

Age/Sex:

Date:

Is the patient at risk for acquiring HIV?

Yes

No

PREP Offered?

Yes

No

PREP accepted?

Yes

No

HIV status test ordered?

Yes

No

HBV test ordered/Hx of HBV vaccine?

Yes

No

Renal Function Panel ordered?

Yes

No

Truvada® prescribed (for 90 days only)?

Yes

No

Notes: