HIV CLINICAL PHARMACIST SERVICES

Evidence-Informed Structural Intervention
Evidence-Informed for Engagement in HIV Care
Evidence-Informed for Viral Suppression

INTERVENTION DESCRIPTION

Goal of Intervention
- Decrease time to HIV care
- Decrease time to ART initiation
- Decrease time to viral suppression

Intended Population
- People with HIV newly referred for care

Brief Description

HIV Clinical Pharmacist Services focuses on decreasing the time from referral to initial clinic contact. Prior to the clinical pharmacist service intervention, patients with HIV who were newly referred to the clinic were scheduled into a new patient appointment slot with the first available provider (physician or nurse practitioner). For the clinical pharmacist services intervention, four new appointment slots are provided each week. Patients who are referred to care, and initiating services are scheduled for the first available visit with a pharmacist, and the first available visit with a provider. These appointments are conducted face-to-face and consist of familiarizing the patient with the clinic, obtaining a select patient history, providing disease education, and ordering any appropriate baseline labs and/or referrals.

Theoretical Basis
- None reported

Intervention Duration
- Single session (duration time not specified)

Intervention Settings
- Ryan White HIV/AIDS Program federal grant funded clinic serving people with HIV from both urban and rural areas in Oklahoma

Deliverer
- HIV specialty-trained clinical pharmacist
- Nurse practitioner
- Physician

Delivery Methods
- Counseling
- Education
- Referral

Structural Components
- Access – HIV medical care
  - Increased access to HIV medical care by providing new appointment slots and scheduling patients for the first available appointments with the clinical pharmacist
  - The pharmacist's time in the clinic is supported through Ryan White funding. Pharmacists work within their scope of practice directly communicating with providers when needed. As pharmacists are not currently recognized as providers in Oklahoma, and secondary to institutional billing policy, pharmacists did not bill for services.
- Policy/Procedure—Institutional policy/procedure
  - Expanded service to provide four new patient appointment slots each week with a clinical pharmacist to decrease the time from referral to initial clinic contact

INTERVENTION PACKAGE INFORMATION

An intervention package is not available at this time. Please contact **Christin Kilcrease,** University of Oklahoma, Health Sciences Center College of Pharmacy, 1110 N. Stonewall Avenue, Oklahoma City, OK 73117.

Email: ckilcrea@gmail.com for details on intervention materials.

EVALUATION STUDY AND RESULTS

Study Location Information
The original evaluation study was conducted in Oklahoma City, OK between October 2013 to September 2017 (pre-service cohort: October 2013 to September 2015; post-service pharmacist cohort: October 2015 to September 2017).

Key Intervention Effects
- Reduced time to kept appointments (engagement in HIV care)
- Reduced time to ART initiation
- Reduced time to viral suppression

Recruitment Settings
Ryan White HIV/AIDS Program federal-grant funded clinic serving people with HIV from both urban and rural areas in Oklahoma

Eligibility Criteria
Patients were eligible if their initial clinic visit was within the defined dates. Patients were ineligible if they were pregnant or incarcerated within the study period or if they were younger than 18 years of age.

Study Sample
The analytic study sample of (n = 100) patients in the post-service pharmacist cohort is characterized by the following:

- *54% White, 24% Black or African American, 10% Hispanic, Latino or Latina*
- *79% male, 20% female, 1% transgender*
- *HIV risk: 63% men who have sex with men, 24% heterosexual, 2% intravenous drug use*

Assignment Method
None reported

Comparison
This was a retrospective cohort study using electronic medical records. Clinic patients were stratified into one of three cohorts based on their date of initial presentation to the clinic and the type of provider seen:

- Pre-intervention participants: patients seen before pharmacist service initiation (October 2013 – September 2015 (n = 139);
- Post-intervention pharmacist cohort: patients seen between October 2015 and September 2017 by a pharmacist (n = 100); and
- Post-intervention provider cohort: patients seen between October 2015 and September 2017 by a non-pharmacist provider (n = 45).

Pre-intervention participants was compared to both post-intervention pharmacist and provider cohorts. The post-intervention pharmacist cohort was also compared to the post-intervention provider cohort.

Relevant Outcomes Measured

- Engagement in HIV care was measured as the time from referral to the date that the patient arrived to be seen by a pharmacist or provider (i.e., kept appointment).
- Retention in HIV care was measured as a secondary outcome and was defined as patients who returned to the clinic for their second visit within 6 months of the first.
- Time to ART initiation was measured as the number of days between referral and ART initiation
- Time to viral suppression was measured as a secondary outcome and was defined as the number of days between referral and virologic suppression (defined as viral load <200 copies/mL).

Participant Retention
Because participant retention is not a criterion for the Structural Interventions chapter, the PRS project does not evaluate that information.

Significant Findings on Relevant Outcomes

- Participants in the post-intervention pharmacist cohort experienced a significantly shorter duration of time to kept appointments (39 median days) compared to pre-intervention participants (78 days), $p < 0.0001$.
- Among 158 participants meeting criteria for a new HIV diagnosis, participants in the post-intervention pharmacist cohort experienced a significantly shorter duration of time to viral suppression (208 days) compared to pre-intervention participants (316 days), $p < 0.0005$.
- Among 158 participants meeting criteria for a new HIV diagnosis, participants in the post-intervention pharmacist cohort experienced a significantly shorter duration of time to ART initiation (95 days) compared to pre-intervention participants (122 days), $p < 0.0488$.

Strengths
- None reported

Considerations
Additional significant positive findings on non-relevant outcomes
- Participants in the post-intervention pharmacist cohort experienced a significantly shorter duration of time to scheduled appointments (median 38 days) compared to pre-intervention participants (median 69 days), $p < 0.0001$
- Among 158 participants meeting criteria for a new HIV diagnosis, participants in the post-intervention pharmacist cohort were able to be started on opportunistic infection prophylaxis sooner compared with participants in the post-intervention provider cohort (31 vs 74 days [$p < 0.0206$]).

Non-significant findings on relevant outcomes
- Among participants in the pharmacist cohort, there was no statistically significant difference in days to kept appointments comparing patients with HIV and those with CDC-defined AIDS (38 vs. 33 days, $p = 0.3178$).
- There was no difference observed between the pre-intervention participants and the post- intervention pharmacist and provider cohorts in retention in HIV care. The rates were similar among the three cohorts and ranged from 91% to 93%.

Negative findings
- None reported

Other related findings
- This intervention is also determined to be evidence-informed for the Linkage to, Retention in, and Re-engagement in HIV care chapter.
- The comparison between the post-intervention provider cohort and the post-intervention pharmacist cohort is not relevant for the PRS project. However, there was a significant effect on time to kept appointments. That is, participants in the post-intervention pharmacist cohort experienced a significantly shorter duration of time to kept appointments (39 days) compared to participants in the post-intervention provider cohort (70 days), $p < 0.0024$.

Implementation research-related findings
- None reported

Process/study execution findings
- None reported

Adverse events
- None reported

Funding
Ryan White funding

REFERENCES AND CONTACT INFORMATION

Kilcrease, C., Miller, M. M., Neely, S., & Liedtke, M. D. (2020). Pharmacist impact on the HIV care continuum: Decreasing time to care. *Journal of the American College of Clinical Pharmacy (JACCP), 3*(3), 586-592.

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