



Parkland

ACTHIV® ChangeMakers 2024-25: Optimizing Bicillin Administration for Syphilis Treatment in the Carceral Setting

Queennorah Anigbogu MSN, FNP-BC, AAHIVS¹; Edith Obikaram, BSN, RN, CCHP²; Ashley Ireigbe, BSN, RN, AMB-BC³; Yonas Kolaso, PharmD⁴; Nchekwube Ndife, LVN⁵; Justin Sellers, LVN⁶

¹Parkland Health

BACKGROUND

Syphilis remains a significant public health concern, particularly in carceral settings where individuals face unique barriers to diagnosis and treatment. Bicillin L-A (penicillin G benzathine) is the preferred treatment for syphilis, but technical and adaptive challenges often hinder its timely and complete administration.

OBJECTIVE

This project evaluates the impact of a dedicated optimization team on Bicillin administration in correctional facilities, aiming to improve treatment completion rates, decrease the percentage of missed doses, and reduce systemic inefficiencies.

METHODS

The optimization team was tasked with coordinating Bicillin administration, ensuring timely and complete treatment, providing patient-centered education, and facilitating communication between ordering providers, pharmacy, and institutional systems. Applying a continuous quality improvement approach through the adaptive leadership framework, we identified and addressed technical and adaptive barriers contributing to missed or wasted doses. Examples include the timing of dose administration, tracking doses dispensed, and missing doses when the patient is absent. The team found ways to standardize technical skills, engage stakeholders for their input, and train nurses to explain the rationale for treatment and importance of ongoing monitoring for syphilis titers after Bicillin treatment.

RESULTS

Implementation of the optimization team led to increased rates of Bicillin administration and treatment completion. The percentage of missed doses decreased from an average of 12.35% to 0.92% in the first month of implementation and 0.00% in the second month of implementation. Enhanced patient education improved understanding and adherence, while streamlined communication minimized delays and facilitated the resolution of patient-specific barriers. Also, the initiative reduced medication waste and highlighted systemic challenges affecting Bicillin utilization.

CONCLUSIONS

A dedicated optimization team for Bicillin administration in the carceral setting significantly improves syphilis treatment outcomes, enhances patient education, and promotes efficient resource utilization. Expanding similar models could strengthen infectious disease management in correctional health systems. Additionally, nurses could use this opportunity to discuss HIV PrEP with patients and encourage HIV screening. This would be a great opportunity for nurses to refer patients who do not have HIV to the jail prep navigator.

Workflow Before Optimization Team

Technical Challenges:	Adaptive Challenges:
Bicillin supply / shortages	Patient's unpredictable location
Bicillin stored in pharmacy, easier to track inventory by pharmacy	Patient's lack of understanding / not seen by provider
Bicillin ordered before 1pm is administered the next weekday	Patient's lack of trust in carceral setting
Bicillin ordered after 1pm on Friday is administered on Tuesday of following week	Patient's lack of trust in the medical system
Unpredictable Availability of officers at time of medication administration	Patient's unpredictable release date
Unable to provide documents with lab results or for patient education to protect HPI	Patient's mental status
Nurses have to document on Accuflo and PEARL	Patients continuing to be sexually active during treatment
Poor internet connection when translator services are needed for patients who do not speak English.	Patient's reaction / response to incarceration
	Patient's language barrier

Workflow After Optimization Team

Technical Challenges:	Adaptive Challenges:
Can appear on Accuflo as a missed dose	Patient's location can be unpredictable
Pharmacy needs to contact floor nurse for need to administer injection	Patient's lack of understanding / not seen by provider
Nurses cannot administer Bicillin with PO medication pass scheduled times due to limitations of privacy in carceral setting	Patient's lack of trust in carceral setting
Shortage of Bicillin supply, Nursing staff, and/or security officers	Patient's lack of trust in the medical system
Bicillin stored in pyxis – challenges with tracking inventory by pharmacy	Patient's unpredictable release date
Unable to provide documents with lab results or for patient education to protect HPI	Patient's mental status
Nurses have to document on Accuflo and PEARL	Patients continuing to be sexually active during treatment
No notification of ordering provider of missed dose or patient declining treatment	Patient's reaction / response to incarceration
No protocol for when patients are released before completing treatment	Patient's language barrier
Poor internet connection when translator services are needed for patients who do not speak English.	