ACCELERATING SEPSIS CARE

Intravenous Push Antibiotic Initiative

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Introduction

Sepsis remains a leading cause of mortality among Emergency Department (ED) patients, where every hour of delay in antibiotic administration significantly increases the risk of clinical deterioration. While rapid initiation is essential, traditional Intravenous Piggyback (IVPB) delivery often introduces delays due to the need for infusion pumps, tubing sets, and complex coordination with concurrent medications or imaging.

Design Setting

A 47 - bed, high - acuity community ED at Long Island Jewish Valley Stream.

The primary goal of this Quality Improvement (QI) project was to close the clinical gap between sepsis recognition and treatment. By implementing a nurse driven IV Push (IVP) Antibiotic Model, the team sought to:

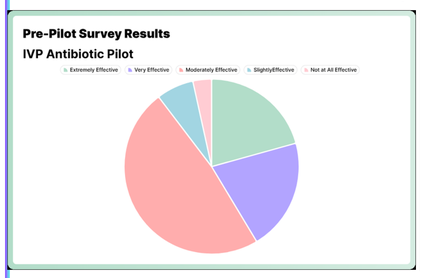
- Expedite efficiency by eliminating equipment - related delays
- Reduce the "Time to Antibiotic" to reliably meet the critical first - hour benchmark.
- Empower Nursing Autonomy through structured education and pharmacist collaboration.

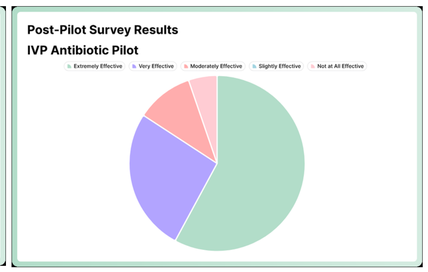
Antibiotic	Reconstitution	Admin Rate
Cefepime	1,000mg/10mL SWFI	5 Minutes IVP
Ceftraixone	1,000mg/10mL SWFI	5 Minutes IVP

Materials and Methods

1. Interdisciplinary Education : Clinical Professional Development Educators collaborated with Clinical Pharmacy to provide targeted instruction on pharmacokinetics, safe preparation, administration and post - administration monitoring.
2. Automatic Conversion : Pharmacy initiated an automatic conversion of all first dose (ED) orders from IV piggyback to IV Push to ensure protocol adherence.
3. Resource Optimization: Antibiotic vials were strategically stocked in the PYXIS to ensure timely access and mitigate barriers related to locating supplies.
4. Bedside Reconstitution : Nurses utilized 10mL syringes and vials of Sterile Water for Injection (SWFI) to reconstitute medications directly at the bedside.
5. Safety Framework : Staff monitored for infusion - related reactions, phlebitis, and drug - specific adverse effects (e.g., tachycardia or central nervous system effects) during the 5 - minute administration.

Overall, how effective is your current w orkflow in ensuring the timely and accurate administration of multiple IV medications for patients with sepsis?





Results

Clinical Outcomes & Efficacy:

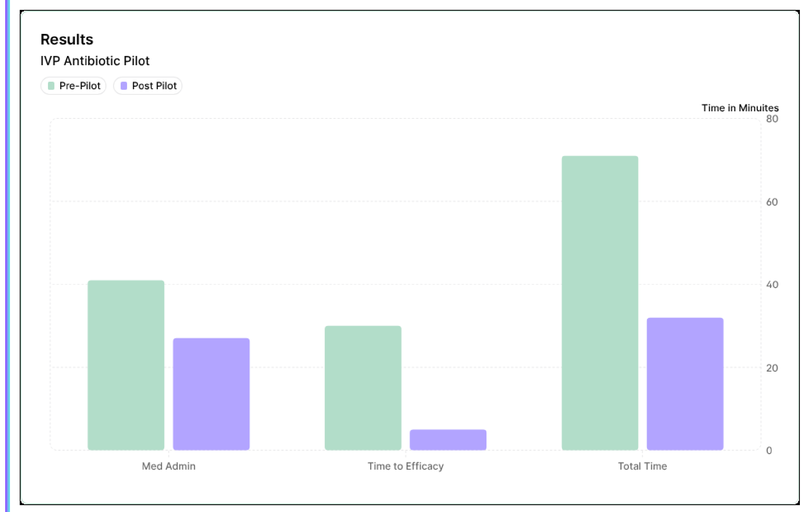
- Time to Treatment: The average time to reach drug efficacy was reduced by over 50%, dropping from 72 minutes to 32 minutes.
- 30- Minute Benchmark: Nurses able to "Always" or "Usually" administer the first antibiotic dose within 30 minutes improved from 10.3% to 31.6%.

Workflow Effectiveness:

- Staff rating the workflow as "Extremely Effective" increased from 20.7% to 57.9%.

Nursing Confidence & Safety

- Clinician Confidence: Nurses reporting they were "Extremely Confident" in safe preparation and administration rose from 37.9% to 52.6%.
- Safety Record: Zero medication errors or adverse events occurred during the pilot period.
- Barrier Resolution: While 57.1% of nurses initially feared resource location issues (like finding Sterile Water), 36.8% reported the piloy adressed their concerns “Completly” .



References