Expanding Hospital at Home Eligibility Using Elastomeric Pumps

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Mount Sinai At Home

BACKGROUND

- Hospitalization at Home (HaH) provides inpatient-level care to patients in their homes.
- Most HaH programs follow the Medicare ACHAH Waiver requiring two in-person home visits daily.
- Therefore, patients who require more frequent infusion pose a significant challenge.
- We implemented elastomeric pumps to enable delivery of high-frequency dosing IV antibiotic.

Elastomeric infusion pumps may be used to expand Hospital at Home eligibility.

INNOVATION

- The HaH program partnered with the Home Infusion and Infectious Diseases pharmacists and Infectious Diseases specialists to create a clinical pathway supporting elastomeric pump use for patients requiring >2 daily IV antibiotic infusions.
- **Clinical pathway:**
  - Antibiotic library created based on infusion-pharmacy literature
  - Multidisciplinary review by Home Infusion and Infectious Diseases pharmacists and Infectious Diseases specialists.
  - Pumps orders created in EMR
  - Pumps prepared by Infusion Pharmacy
- **Building the elastomeric Pump Library:**
  - 35 formulary IV antibiotics identified
  - 23 were excluded:
    - 11 did not require more than q12h infusion
    - 12 were either incompatible with elastomeric technology, had limited stability, or had suitable alternatives
  - 12 unique antibiotics with 26 different doses were included in the elastomeric antibiotic library

INNOVATION (Cont.)

- Elastomeric antibiotics pathway went live December 2023
- Data Collection: Retrospective review of elastomeric pump utilization from December 2023 through July 2025
- Data collected: Utilization and safety outcomes

RESULTS

Program Utilization December 2023-July 2025	
Metric	**Value**
Unique patients	120
Elastomeric pump orders	193
Antibiotics Treatment Days	587
Total Pumps Used	642
*Some Regimens required muiltple pumps per dose	

RESULTS (Cont.)

Most Common Antibiotic Regimens	
Antibiotic Regimen	**Number of Patients**
Piperacillin–tazobactam 3.375 g q6h	29
Cefepime 2 g q8h	26
Cefazolin 2 g q8h	26
Meropenem 1 g q8h	23
1.5 g q6h	20

Safety
- No clinically significant adverse outcomes reported
- Therapy successfully delivered in the home setting

VALUE/CONCLUSIONS

- Implementation of elastomeric pumps expanded patient eligibility
- Operational feasibility: The elastomeric pump workflow integrated smoothly into existing HaH processes in collaboration with pharmacy
- Elastomeric pumps represent a feasible and scalable solution for expanding HaH eligibility, increasing access and supporting patient-centered, home-based acute care.