

IV Acetaminophen (OFIRMEV®) Stewardship in Cardiovascular Surgery

Mary Eche, Pharm.D, Mark Courtney PA, Dawn McDougal NP, Jennifer, Dundon PA, George Abdallah Pharm.D., Katherine Cunningham Pharm.D.

Beth Israel Deaconess Medical Center, Boston MA

Introduction/Problem

IV acetaminophen was FDA approved in November 2010 for:

- Management of mild to moderate pain
- Management of moderate to severe pain with adjunctive opioid analgesics
- Reduction of fever

Added to the Beth Israel Deaconess Medical Center (BIDMC) formulary in April 2011 for patients unable to take oral or enteral acetaminophen. Anticipated benefit: prevention of the over-sedation of patients and/or other adverse effects associated with opioid analgesic use in the ICUs and PACU.

Following formulary approval, annual utilization increased, paralleled with an increase in cost, with projected annual expenditure to be >\$1 million at BIDMC.

In 2014, a task force was created to evaluate and develop strategies for appropriate utilization of IV acetaminophen. While the initial implemented strategies demonstrated some improvement, additional opportunities exist.

Unit specific data analysis identified the cardiovascular surgery practice sites as having high utilization of IV acetaminophen and opportunity for intervention.

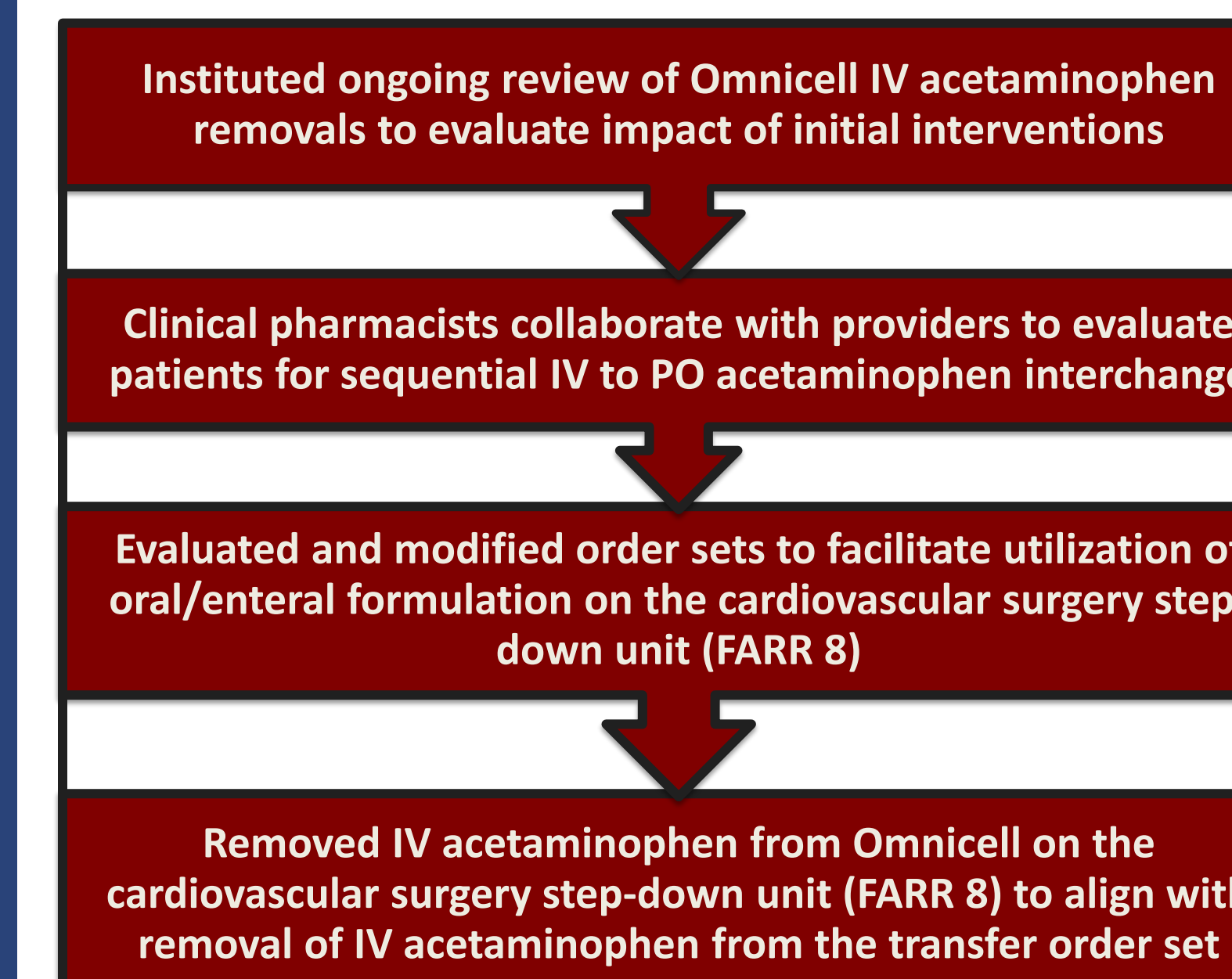
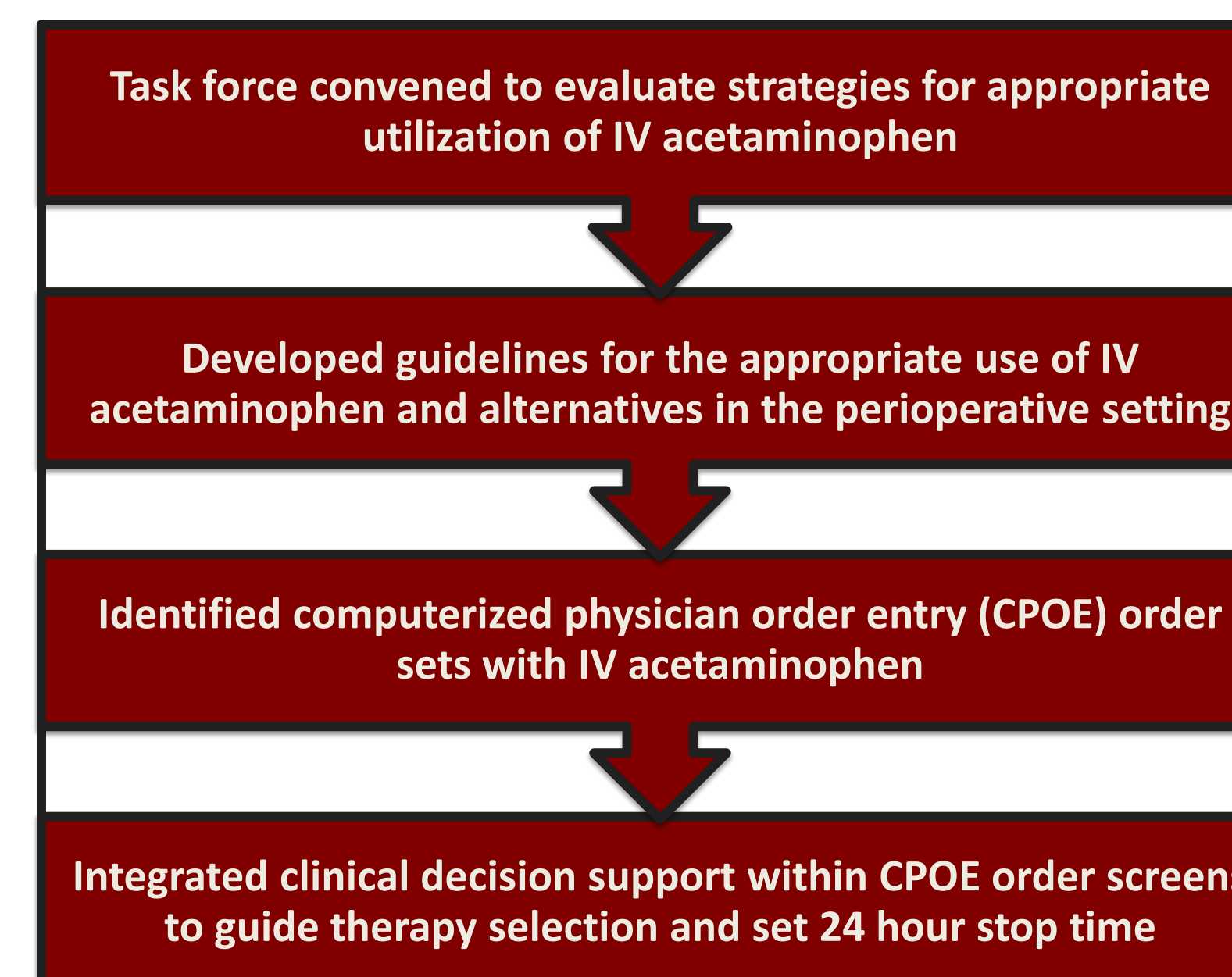
Aim/Goal

To ensure appropriate IV acetaminophen utilization in the immediate post-operative period (e.g. 24 hours) and to facilitate conversion to oral therapy as soon as patients are able to tolerate oral/enteral medications. It was anticipated that this strategy would reduce the use of IV acetaminophen in cardiovascular surgery patients by approximately 50%. This single center utilization-and-expenditure data analysis was conducted between February 1, 2016 and December 31, 2017.

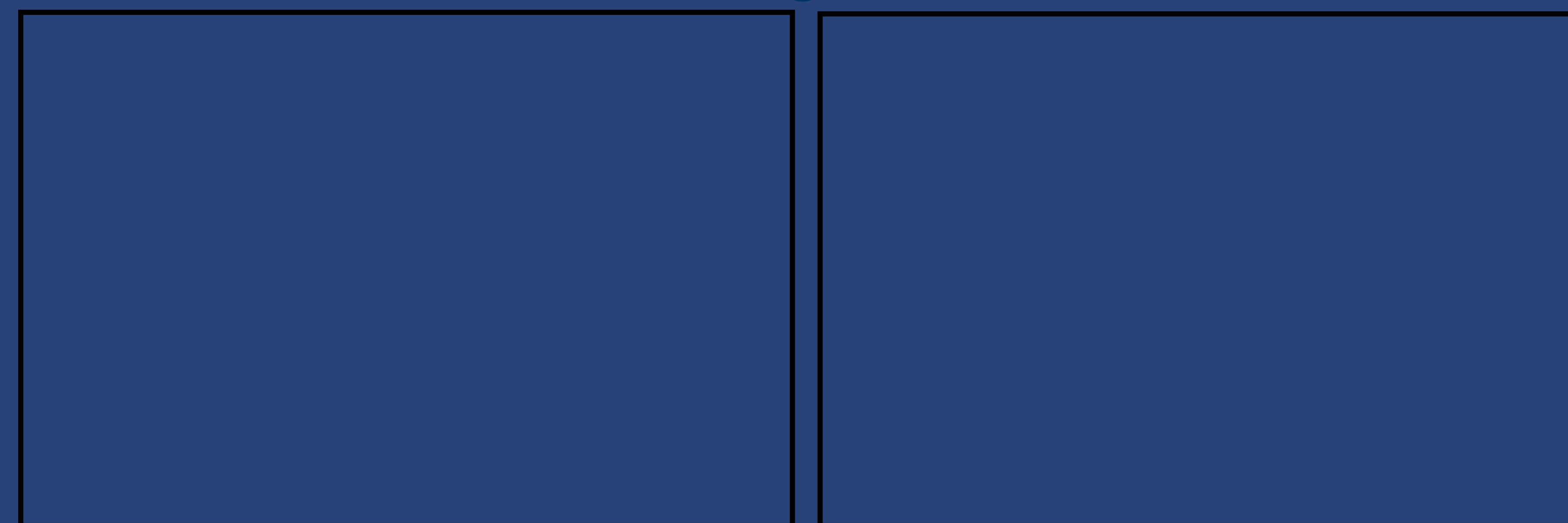
The Team

- Mary Eche, Pharm.D., Pharmacy
- Mark Courtney PA, Cardiovascular Surgery
- Dawn McDougal NP, Cardiovascular Surgery
- Jennifer Dundon PA, Cardiovascular Surgery
- George Abdallah, Pharm.D., Pharmacy
- Katherine Cunningham, Pharm.D., Pharmacy

The Interventions



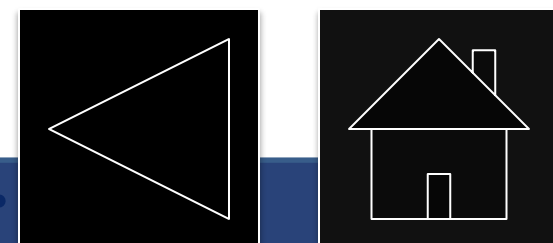
Results/Progress to Date



CPOE order sets with IV acetaminophen include utilization recommendations and a default stop time of 24 hours

For more information, contact:

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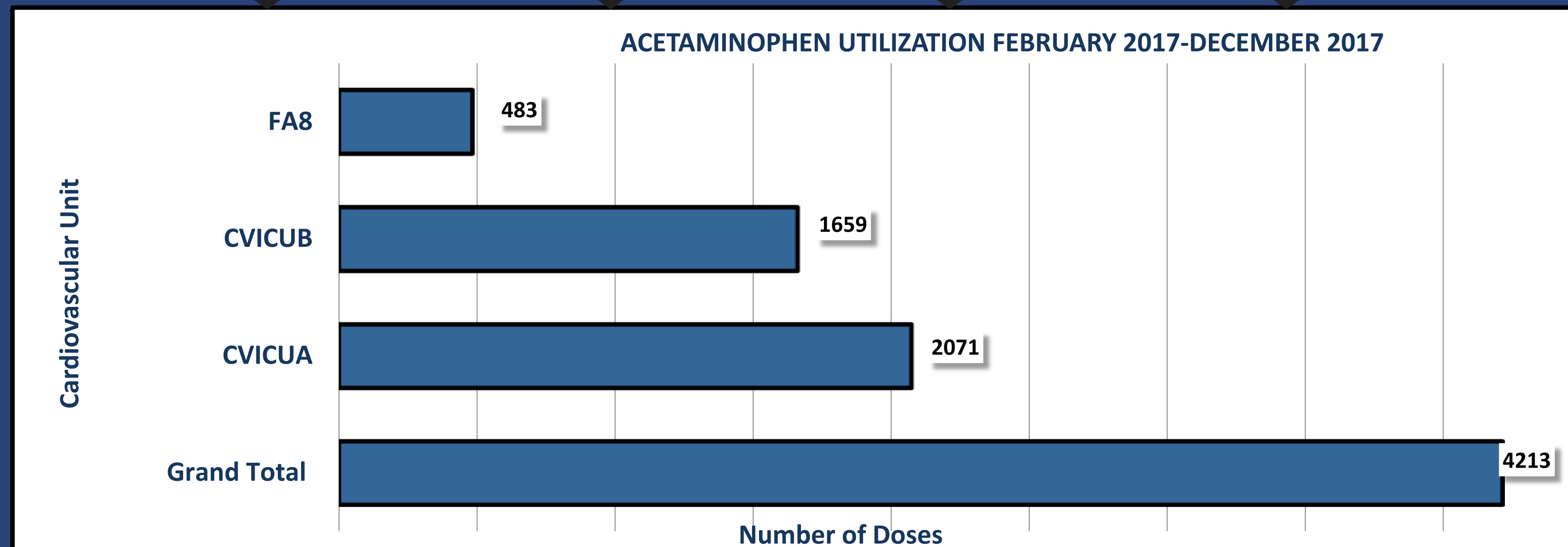
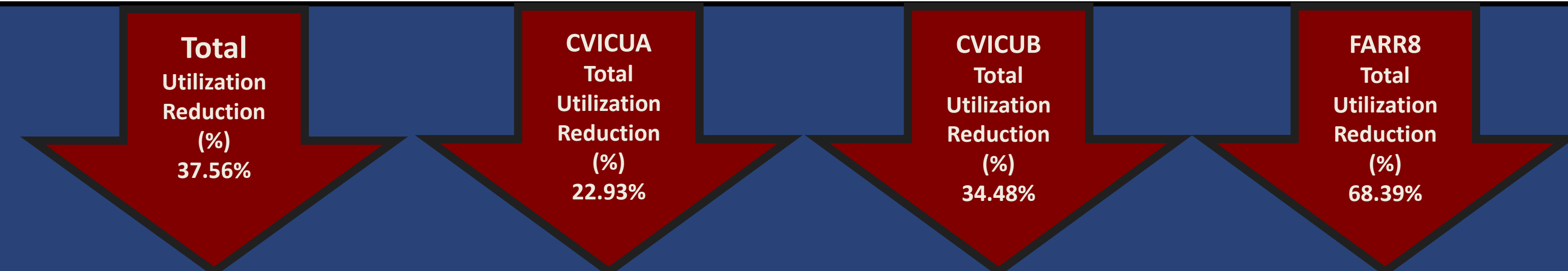
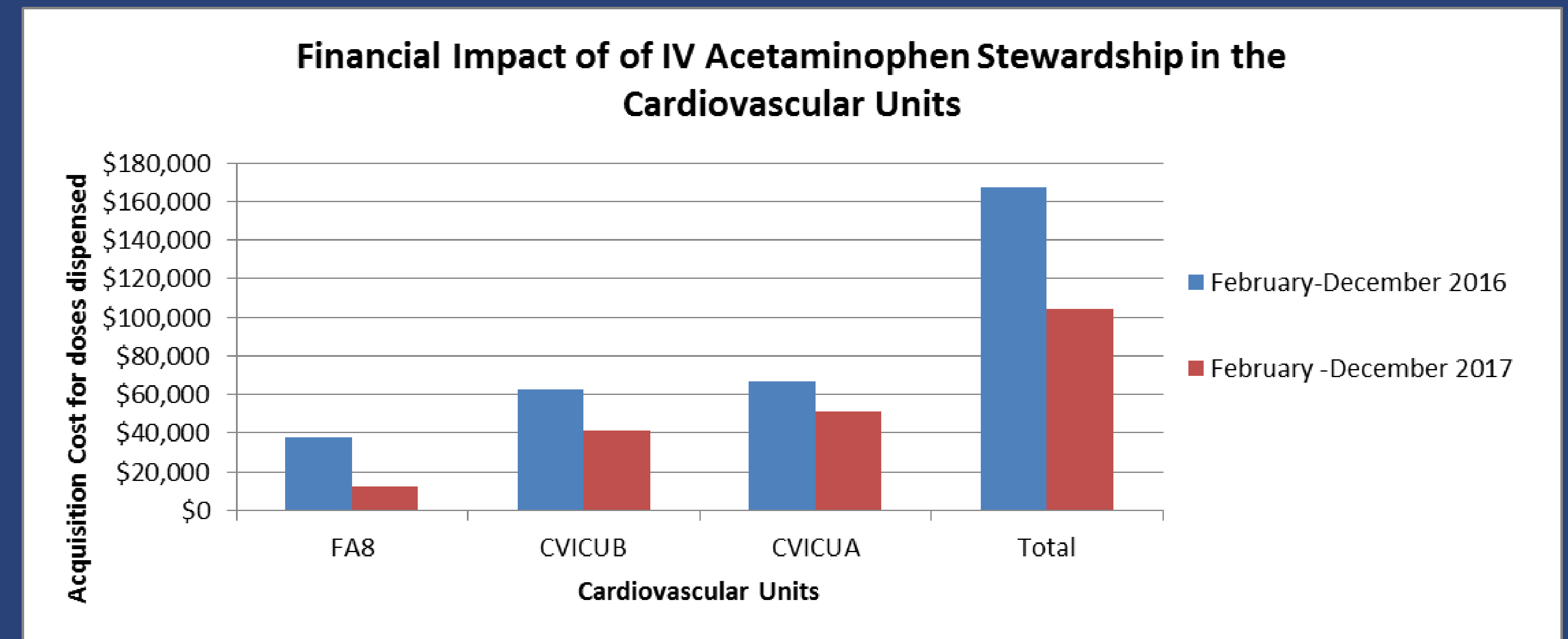
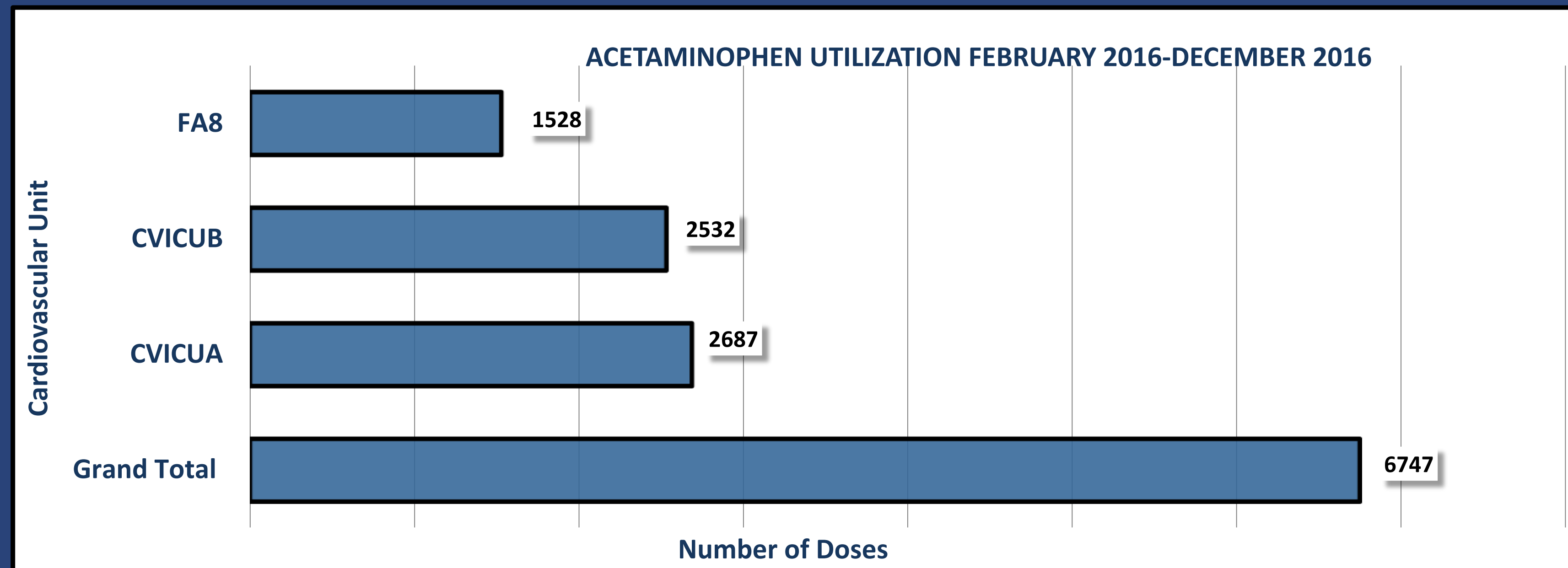


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More Results/Progress to Date



Lessons Learned

- Practice guidelines, CPOE Decision Support, and Medication Order Sets can assist to guide medication utilization.
- A team approach to reassess the need for continued IV acetaminophen is optimal.
- Interdepartmental collaboration is necessary to sustain practice changes.

Next Steps

- As of February 2018, patients in the CVICUs are transitioned to oral/enteral acetaminophen following 24 hours IV therapy if they are tolerating other oral medications and have no evidence of hyperemesis, bowel obstruction, or malabsorption.
- Integrated CPOE order screens have been created to ensure that upon transfer to the step down unit, patients are continued on oral/enteral acetaminophen rather than IV therapy.

After instituting the acetaminophen stewardship strategies, total IV acetaminophen utilization in cardiovascular surgery units was reduced by 37.5% during study period

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