


**MAYO  
CLINIC**

**Driving Outcomes: Registered Nurses  
Performing Bone Marrow Biopsies Utilizing  
a Battery Operated Rotary Device**



the  
mayo  
effect


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mayoweb/creatingthefuture

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## **Objectives**

- Identify understand drivers for change
- Identify steps taken to implement new procedure
- Describe metrics used to ensure quality



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## Disclosure Statement

- Author and speaker have no financial or commercial interest in this content.
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## Background

The Arizona State Board of Nursing – Scope of Practice Committee Advisory opinion:

*“Based on national and local evidence, it is recognized that an RN who has satisfactorily completed an instructional program or supervised clinical practice in bone marrow aspiration and biopsy, can safely perform bone marrow biopsy and aspiration.”*



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## Overview of the Problem

- Performed in multiple areas in the organization and by various staff (nurses, physician, NP/PA, fellows, residents)
- Challenges
  - Conflicts in scheduling
  - Differences in paperwork among sites
  - Inconsistency in how the procedure is performed
  - Training and education of proceduralist
  - Quality of samples



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## Drivers for Change

- Team based model
  - Quality outcomes
  - Consistency of samples
  - Safety of nurses and patients
  - Nurses performing role at top of scope, education and training
  - Free up provider calendar for new patients



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## Timeline of the Journey



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### February – June 2008

- Consolidation discussion initiated
- Two physicians (hematologist and pathologist) agreed to champion the project
- Interprofessional planning meetings every 2 weeks
- Physician champions communicated the process changes with key referring physicians and hospital administration leaders via email, division meeting, presentations and newsletters.
- RN team implemented June 2008 with manual procedure



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## June – November 2008

- Team challenges encountered with manual method
- Explore alternative with the use of the driver
- Check with Arizona Board of Nursing
- Physician champions on board and committed to quality and safety



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## November 2008

- A subset of 10 Ambulatory Infusion Center nurses who had previously completed an instructional program and supervised practice were scheduled to attend a 1-day workshop
- Each nurse had to perform 10 supervised BMBX using the driver procedures over a span of 6 months until the trainer and the nurse were both comfortable of the operator's ability
- Documentation of satisfactory completion and competency is maintained in the nurses file
- Two laboratory staff personnel were also invited to attend the workshop



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## The Innovative Way of Delivering Care



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- All bone marrow biopsy procedures are performed by a subset of group of AIC RN staff who have undergone education and training.
- 2-3 nurses per day are scheduled to perform bone marrow biopsies (ambulatory & inpatient)
- One nurse performs the procedure and another RN provides analgesia and monitoring of the patient
- A lab technician is present to prepare the slides and transports samples to the lab.

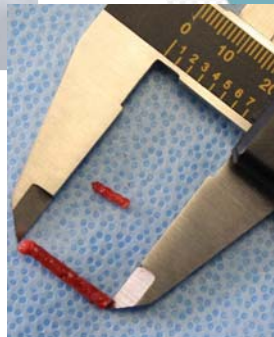
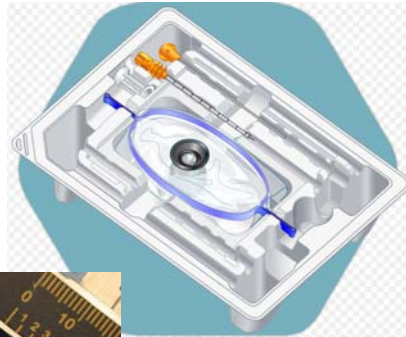


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- Outpatient BMBXs are scheduled in the morning and inpatient are performed in the afternoon
- Anticipated start-up volume was between 5-6 biopsies per day. Current volume from 5-10 per day
- An audit tool was developed to aid in evaluating outcomes.
- Patients will be called at home 24-hours after procedure by the bone marrow procedure nurse for follow-up assessment.



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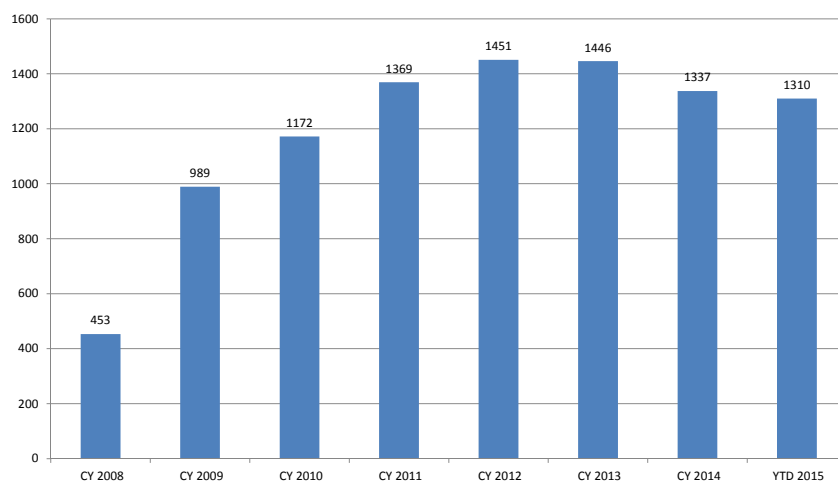
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## Metrics & Outcomes



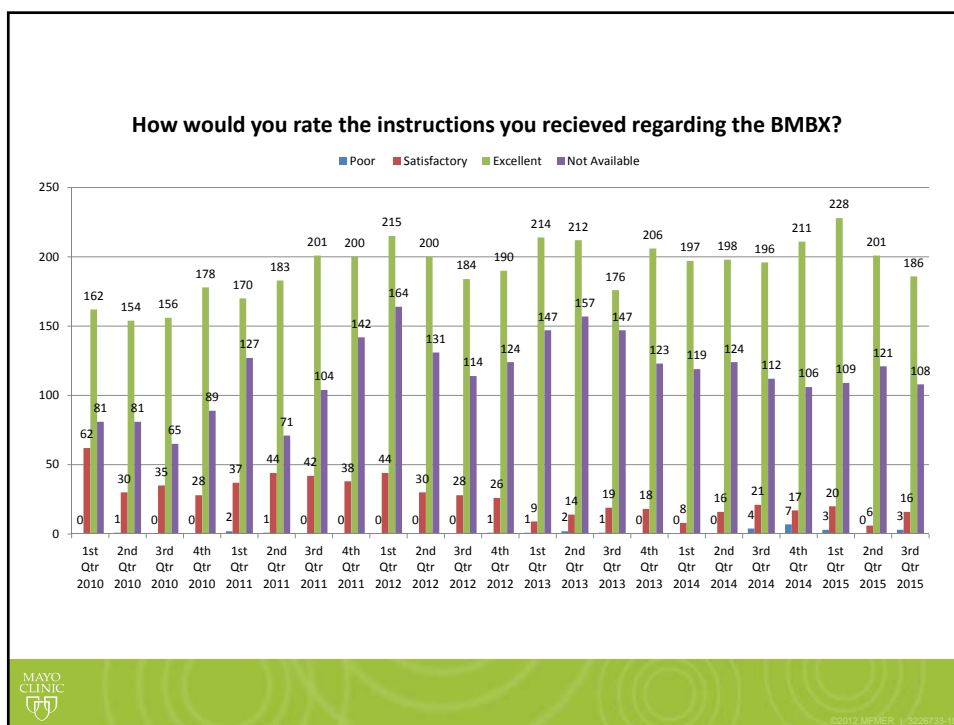
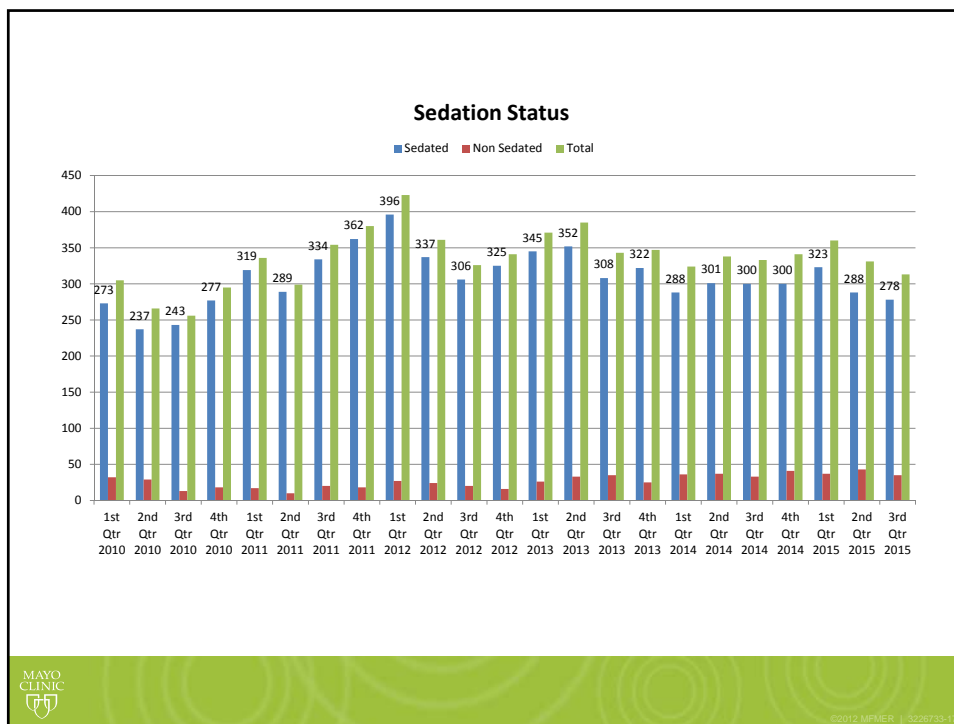
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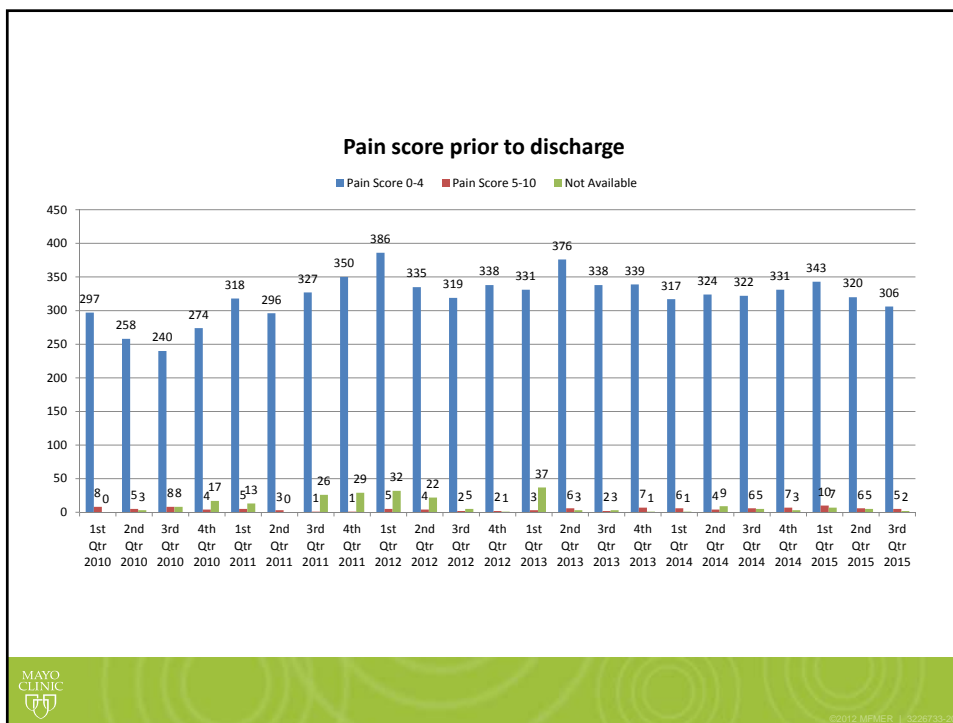
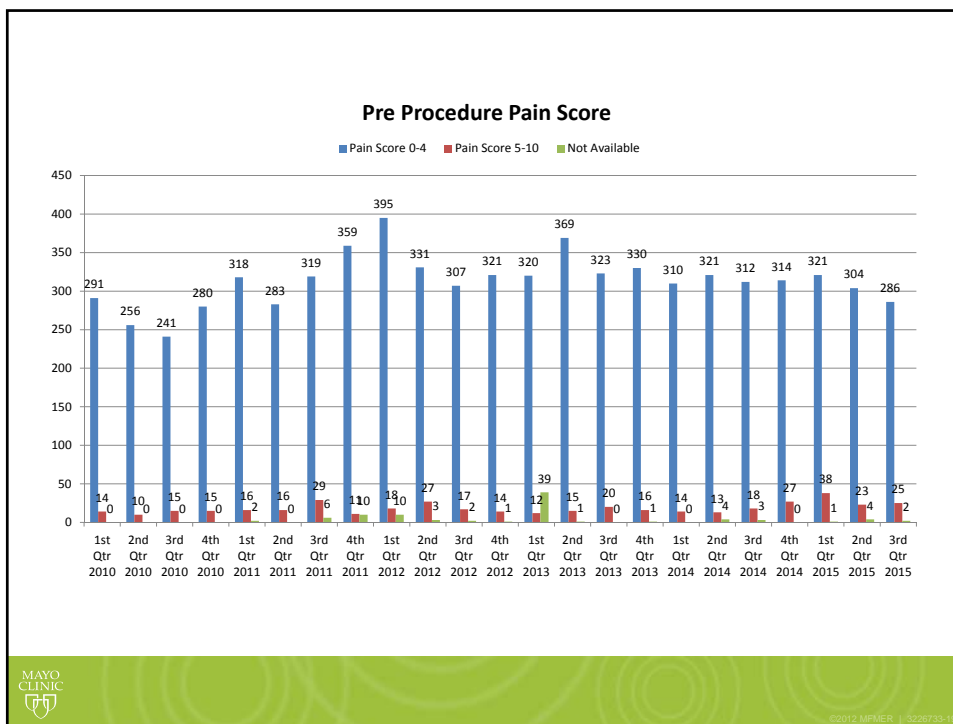
### BMBX Procedures 2008 - 2015

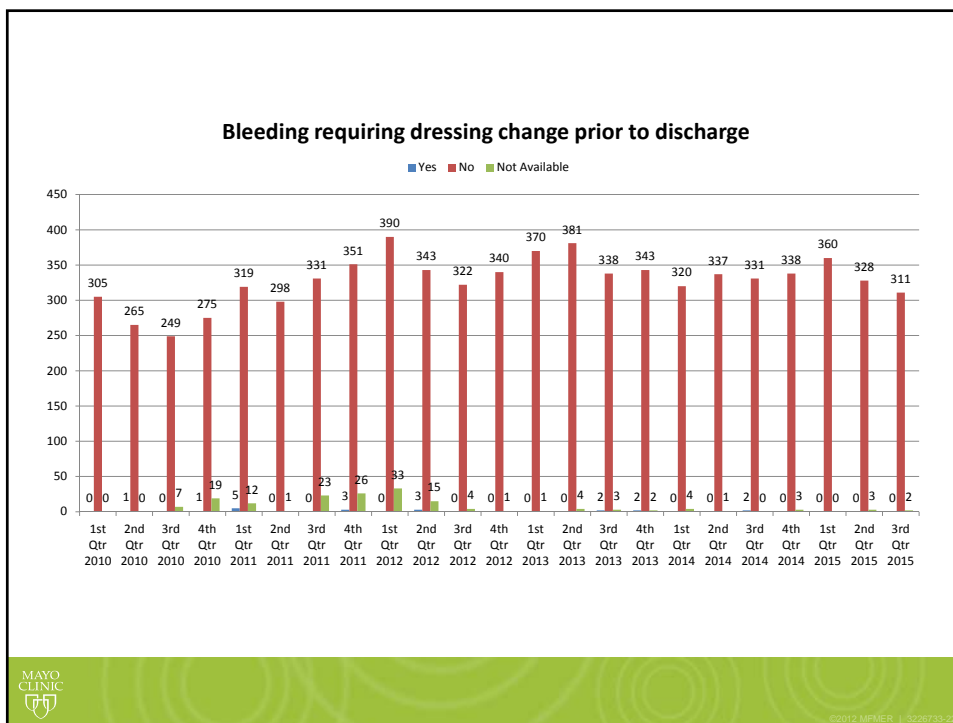
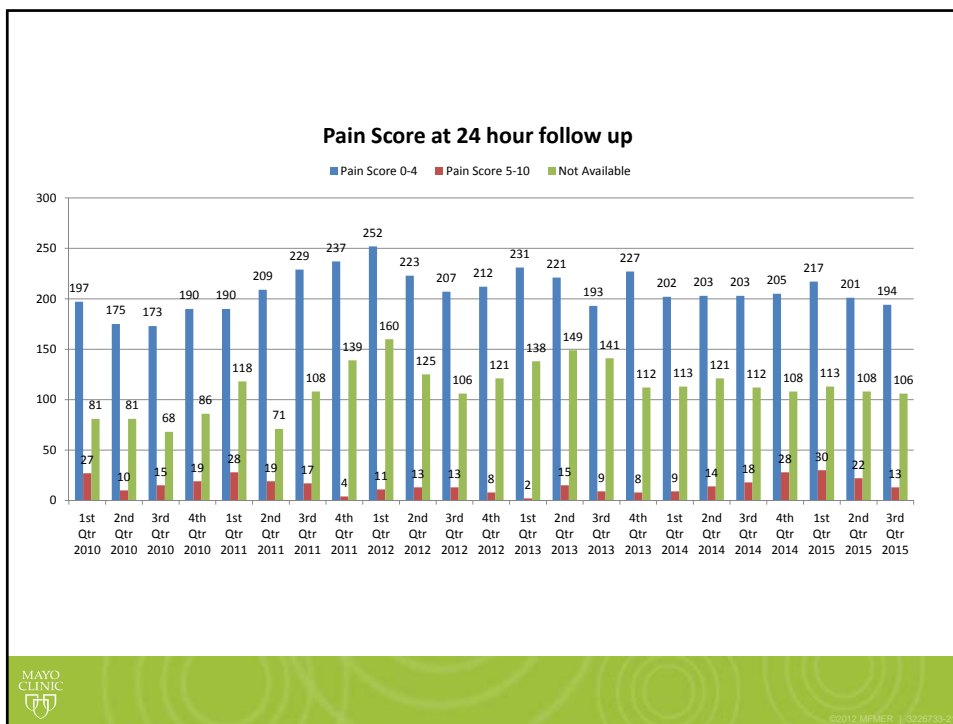


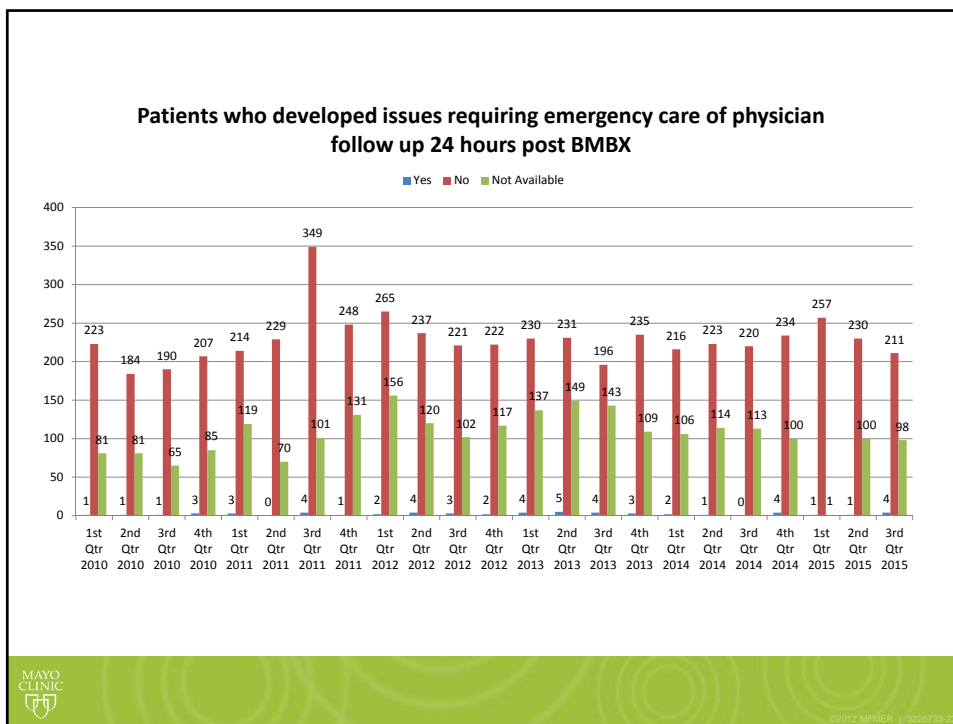
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**Questions ?**



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