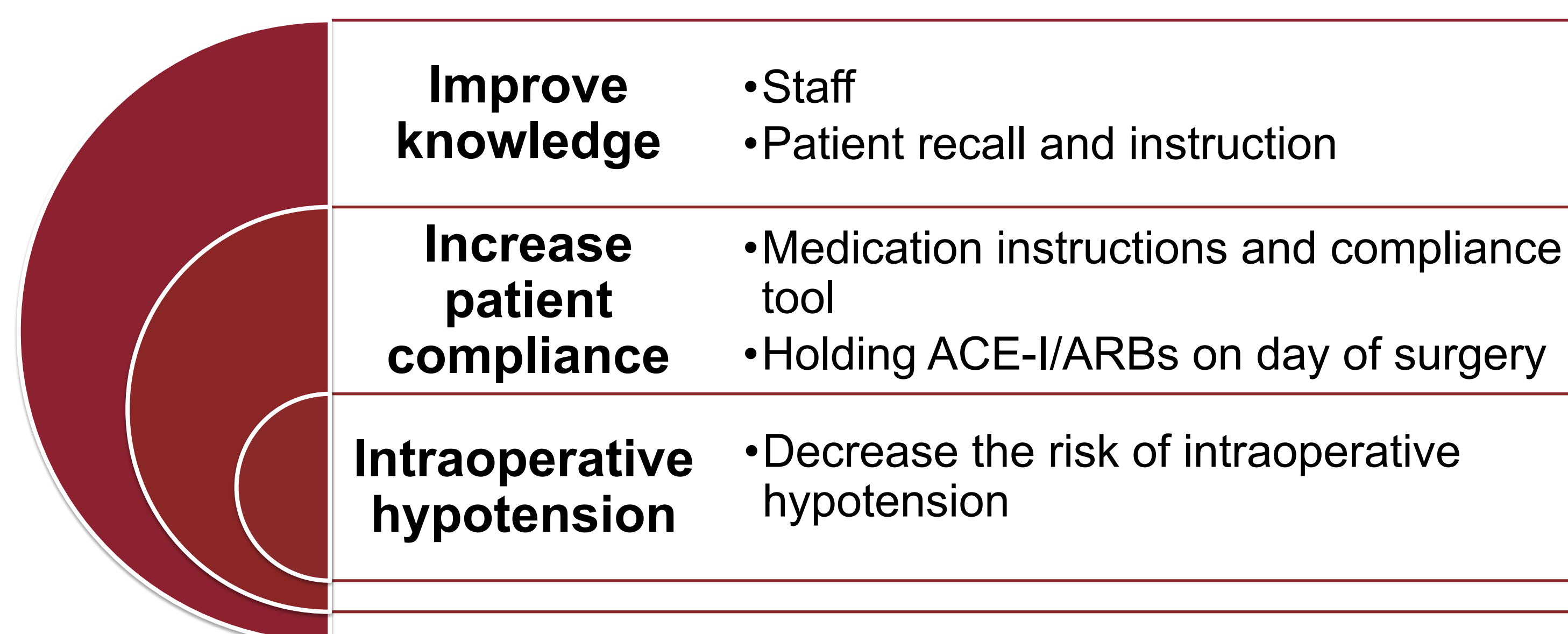


# Evaluating the Effectiveness of Preoperative Education on Antihypertensive Compliance at a Midwest Hospital Surgery Center

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## Aims of the Project



## Significance of the Problem

- A major government healthcare facility found that nearly **23% of its patients were noncompliant with their perioperative medication instructions**. 7% of surgical cancellations were attributed to medication nonadherence.
- A recent meta-analysis explored the association of intraoperative hypotension and post-operative sequelae. The findings indicated that **intraoperative hypotension significantly increased the risk of 30-day mortality** and was associated with major adverse cardiac events, acute kidney injury, and postoperative delirium.

## Methods

- Collaborated with a local community hospital surgery center to develop preoperative tools through iterative survey rounds and evidence-based education modalities (medication templates, staff education, patient education) to improve patient medication compliance.
- Reviewed current process and materials which revealed a disconnect between facility guidelines and patient perioperative guidance.
- The survey takers utilized the Patient Education Material Assessment Tool (PEMAT-P) for tool validation and to rate the level of agreement with proposed changes made by the investigators.
- Seven nurse anesthetists and one pre-admission testing (PAT) nurse responded to the initial survey in round one.
- Quota sampling with 25 males and 25 females with previously prescribed ACE-I/ARBs for both the pre-intervention and post-intervention groups.

## Medication Compliance Tool

- The revised tool was modified by prior synthesized best literature evidence, as well as at least 51% consensus using the modified Delphi Tool via an online survey.
- Consensus was obtained after one survey round. The feedback provided from the survey facilitated the customization of the final compliance tool based on the facility's needs.
- The completed implementation tool contained a mix of preformatted checklists, visual aids, and color schemes similar to the tool developed by Dr. Thomas Vetter and The University of Alabama's compliance tool.



### Instructions for Taking Your Medicines on the Morning of Your Surgery

An anesthesia provider is a clinician who provides care to patients like you during surgery. During your visit today to our Pre-Anesthesia Clinic, your medicines have been reviewed by one of our anesthesia providers. The anesthesia provider asks that you follow these instructions for taking your medicines on the morning of your surgery.

**By taking your medicines, as we have listed on this sheet, you can help us to give you the best and safest care for your planned surgery.**

Please **DO TAKE** the following medicines on the morning of your surgery:



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

You may use small sips of water but use the smallest amount of water possible to comfortably swallow any pills on the morning of your surgery.

Please **DO NOT TAKE** the following medicines on the morning of your surgery:



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

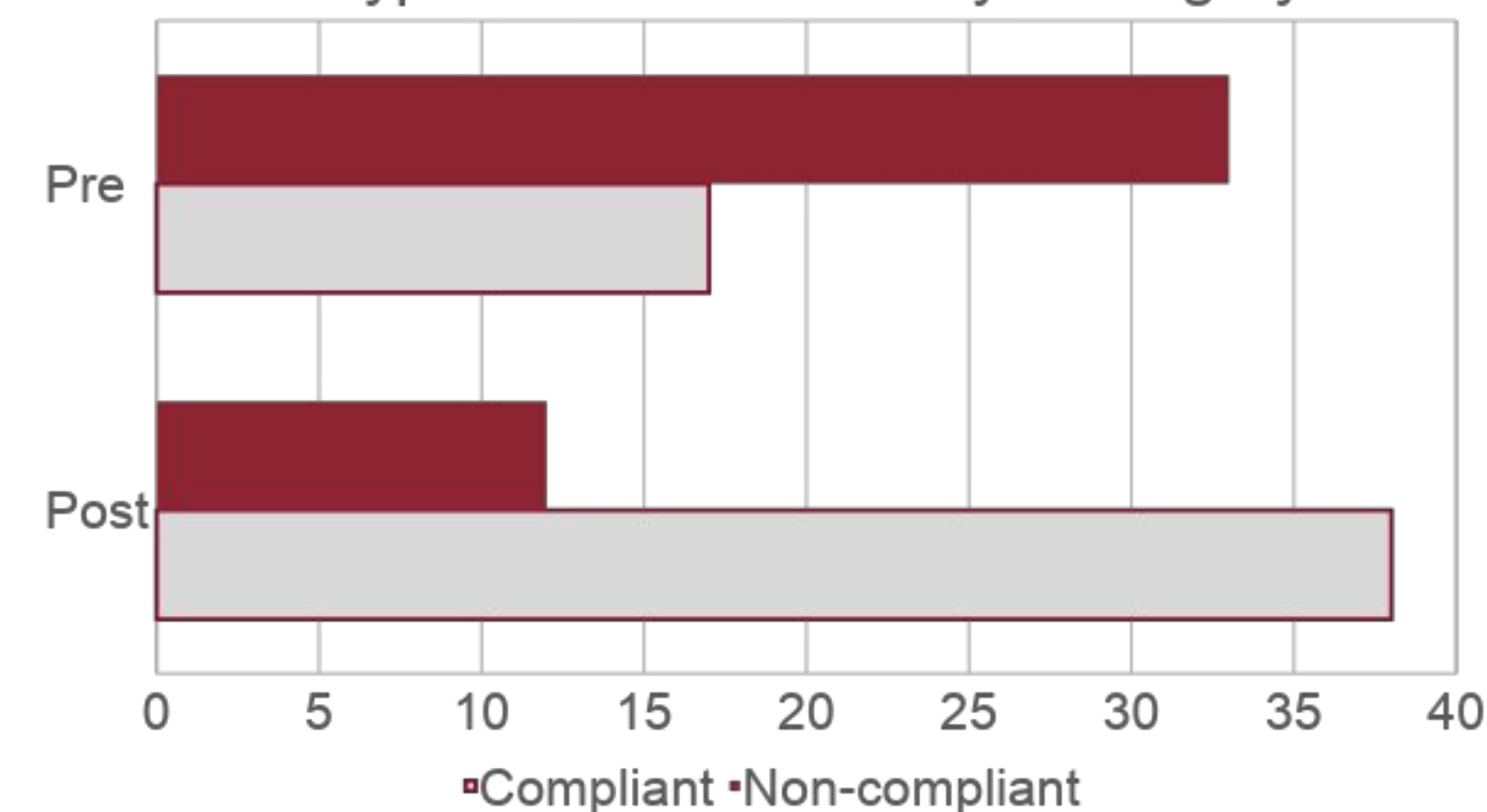
The following medicines are up to you. **YOU CAN DECIDE** to take or not to take the following medicines on the morning of your surgery.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

## RESULTS

Compliance of holding ACE-I and ARB antihypertensives on the day of surgery



- 50 pre-intervention and 50 post-intervention patients sampled.
- The initial survey demonstrated that anesthesia providers perceived that ACE-I/ARB use on the day of surgery **negatively impacted the patient's anesthetic course 40.5% of the time**.
- Seventy-five percent** (n=6) of healthcare providers surveyed **agreed** that the proposed handout/tool would help **improve medication compliance** for the facility's needs.
- Staff education** as well as a consensus validated compliance tool were **associated with increased compliance rates** by a statistically significant margin (n=50) = 17.8,  $p < .01$ .
- Visual cues or aides have been associated with improved memory recall versus written or verbal instructions alone.

## Practice Recommendations

- Compliance tool could be adapted for other hypertensive medications or used for the common GLP-1 inhibitor medications.
- The tool could be distributed to affiliated local clinics and PCPs who perform preoperative clearances. Extending the reach of compliance efforts beyond the original clinical site could potentially improve overall compliance rates at the target institution.

## Link to Tool



## References

