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# Quantifying Patient Reported and Documented Compliance with Adjuncts to Venous Thromboembolism Prophylaxis

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# Quantifying Patient Reported and Documented Compliance with Adjuncts to Venous Thromboembolism Prophylaxis

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## Background

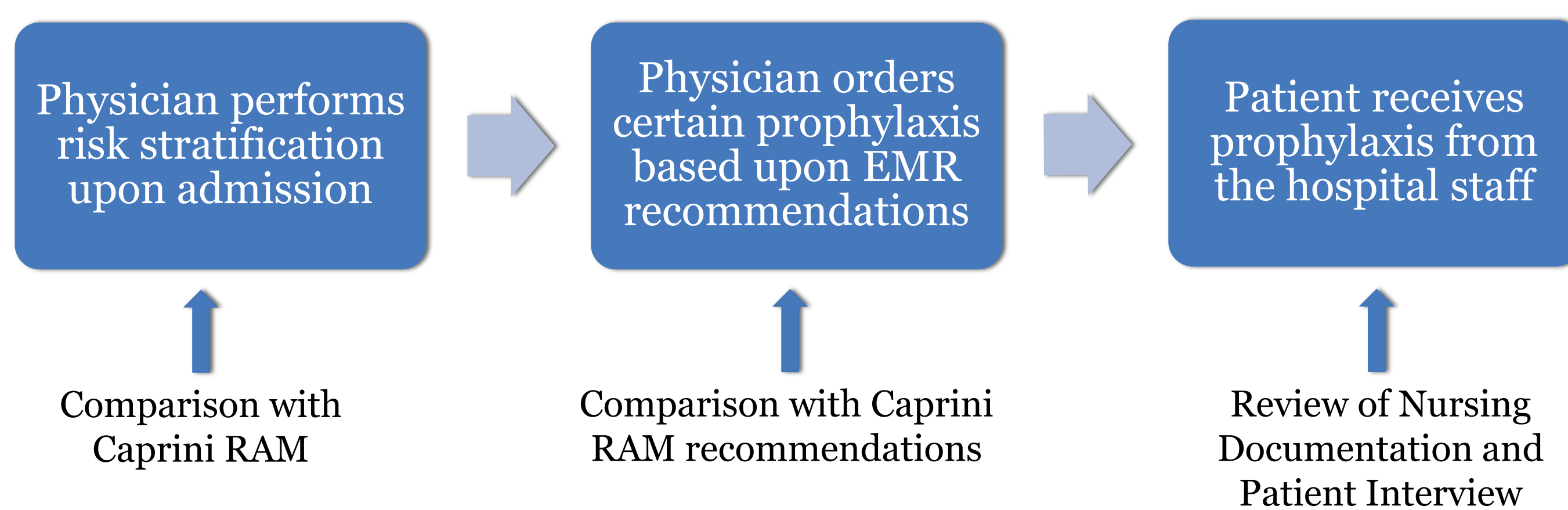
- Venous Thromboembolism (VTE) is a hospital-acquired condition that has a significant impact on morbidity, mortality, and hospital costs.
- Common VTE prophylactic measures include chemoprophylaxis with low dose anticoagulants, mechanical lower extremity compression and aggressive ambulation programs.<sup>1</sup>
- Case reviews of VTE have demonstrated poor compliance with prophylactic measures, but a baseline audit of compliance in the general hospitalized patient population has not been performed.

## Objectives

1. Measure patient compliance with pharmacologic, mechanical and ambulatory prophylactic measures.
2. Evaluate for agreement between nursing documentation and patient reported compliance with mechanical and ambulatory prophylactic measures.

## Methods

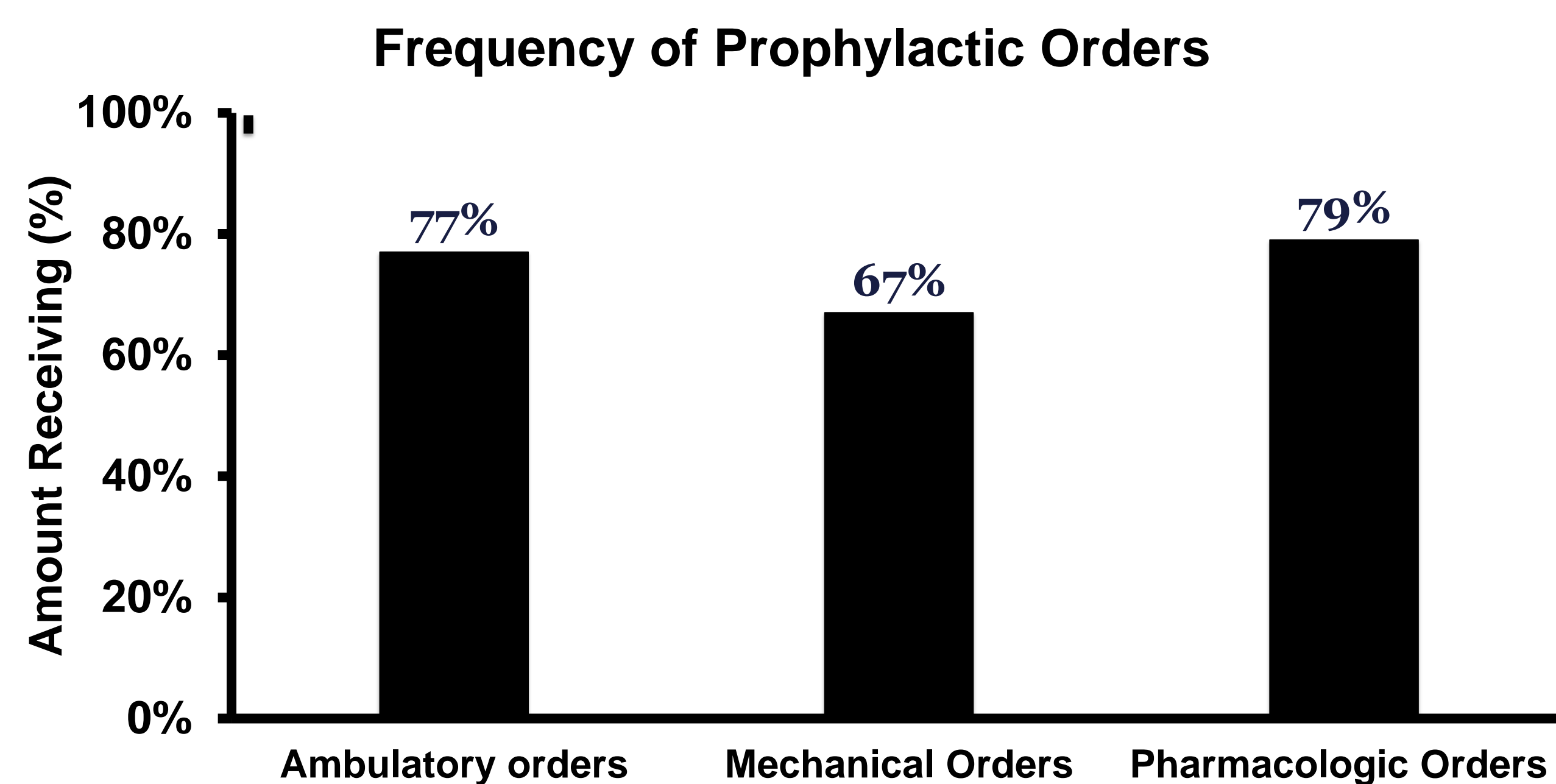
- A multidisciplinary team developed a concurrent audit tool utilizing Research Electronic Data Capture (REDCap), an online, cloud-based, and HIPAA compliant data management system.
- A random chart review and patient interview were carried out on 3 nursing units over one month.
- Prophylaxis was assessed by patient bedside interview and nursing documentation.
- Definitions of compliance:
  - Ambulatory prophylaxis – ambulation great than three times per day
  - Mechanical prophylaxis - intermittent pneumatic compression devices (IPC) and elastic stockings (ES) use for 18 hours or more per day.
  - Chemoprophylaxis – medication specific



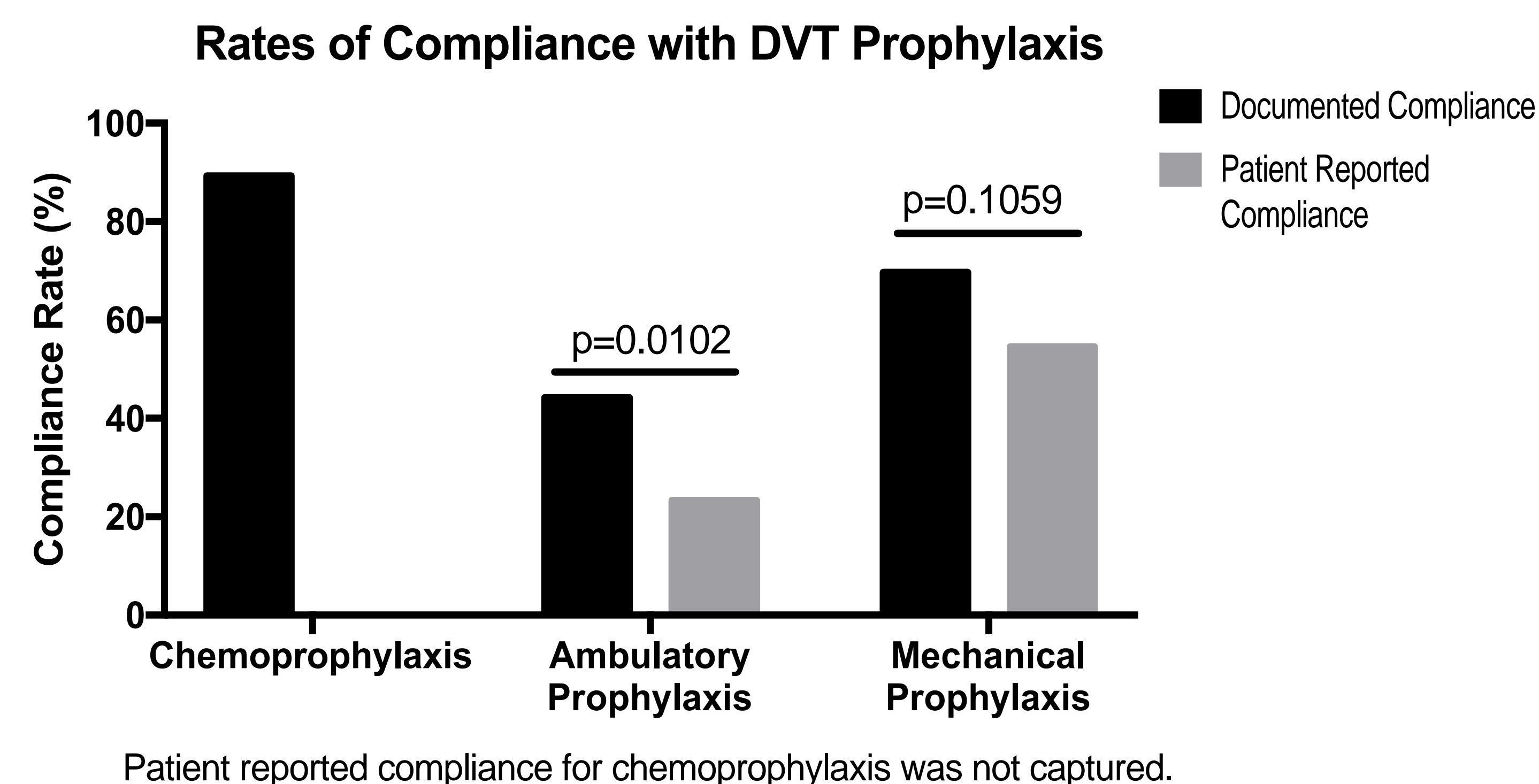
**Figure 1:** Process map for risk assessment, prophylaxis ordering and administration and points of assessment of the concurrent audit tool.

## Results

- The audit across three nursing units included one hundred random patients – 43% were male and 45% were on a surgical service.
- The medical and surgical groups did not differ statistically from each other in terms of gender, age, and consent rate
- The incidence of BMI > 25 was statistically different between medical (40%) and surgical patients (17.8%) (p=0.016).



- Pharmacologic orders was the most frequently prescribed prophylaxis.
  - Pharmacologic orders were 49% heparin, 39% Low Molecular Weight Heparin, and 11% other medications (fondaparinux, warfarin, Factor Xa inhibitors)
  - One patient (1%) received ES as mechanical prophylaxis, all other patients received IPCs.



- Compliance was highest with pharmacologic orders.
- There was poor agreement between documented and patient reported compliance with ambulatory orders (p=0.0102), but not mechanical orders (0.1059).

## Discussion

- Compliance with chemoprophylaxis was high, likely due to scheduled of administration of medications in an inpatient setting.
- Compliance with adjuncts to prophylaxis, such as ambulation and mechanical prophylaxis, was low.
- Conclusions about ambulation are limited due to poor agreement between patient interview and nursing documentation.
- A strength of this study is that data regarding prophylaxis was gathered concurrently with care, something that has not been reported in the literature to date.
  - This allowed certain data, such as patient reported compliance, to be collected, with minimized recall bias.
- Due to this being the first concurrent review of DVT prophylaxis, we do not know if these numbers are low compared to similarly sized institutions.

## Next Steps

- Patient reported compliance with adjunct therapies were low. This is apparent in both the nursing documentation and patient reported compliance.
  - Our Institution has decided to switch IPCs based upon multiple reasons, and the new IPCs may increase compliance rates.
  - Continue to improve ambulation programs to provide additional bedside support for patient ambulation.
  - We expect that the roll out of epic will improve agreement rates between patient reported compliance and nursing documentation
  - The data for this study will be recaptured after six months in order to record the change in compliance rates and agreement with nursing documentation.
- We will revise the REDCap survey that was used for this project and make it publically available for other hospitals to use to continue to monitor compliance with the application of these interventions.

## References

1. Alikhan R. Fatal pulmonary embolism in hospitalised patients: a necropsy review. *J. Clin. Pathol.* 2004;57:1254–1257. doi:10.1136/jcp.2003.013581.