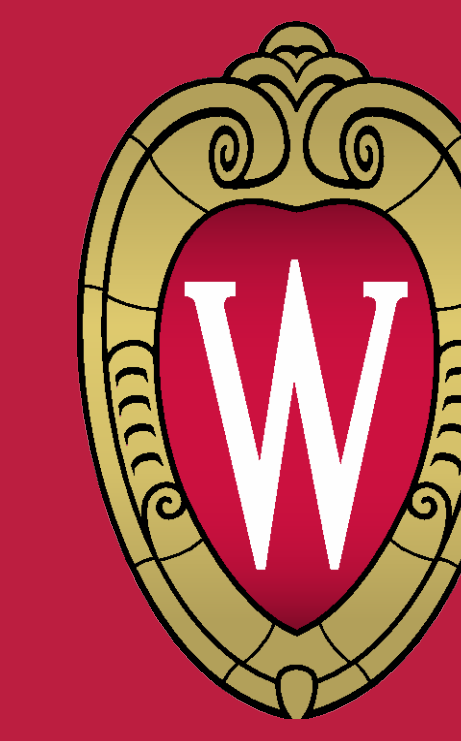


# Identifying Barriers to MRI and Ultrasound Use in the Emergency Department

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## Background

- Computed tomography (CT) has high diagnostic accuracy, but its use is not without risk. A typical CT study can reach radiation doses that have been shown to increase the risk of cancer. For this reason, guidelines have been developed that suggest the use of radiation-free imaging techniques such as magnetic resonance imaging (MRI) and ultrasound (US) when appropriate.
- Despite these guidelines, CT use remains high. The Cabana Model of physician adherence to practice guidelines describes seven general categories of barriers to successful guideline implementation. A complete understanding of barriers present is critical to designing successful interventions to improve compliance.

## Purpose

- In order to improve guideline adherence, the specific barriers and facilitators must be understood. The primary objective of this study was to identify barriers and facilitators to guideline-adherent use of MRI and US in the Emergency Department (ED).

## Methods

- Semi-structured focus groups were conducted with emergency physicians and radiologists.
- Focus groups were conducted at two hospitals in the City of Madison: one academic and one large private.
- Groups were moderated with discussion guides using open-ended questions. Discussions were audio recorded and transcribed for later analysis.
- Transcripts were analyzed using conventional content analysis to identify key themes.

## Results

- Barriers identified:
  - Time in the department
  - Access to the study
  - Operator experience
  - Patient factors
  - Patient preference
  - Lack of guideline awareness
  - Guideline change
  - Lack of acceptance by other specialties
- Facilitators identified
  - 24/7 availability
  - Experienced technicians
  - Having a protocol in place
  - Flexibility in guidelines

## Conclusions

- Our focus groups identified a number of barriers and facilitators to MRI and US use in the ED. These barriers and facilitators can be used to implement interventions to increase guideline adherence.

## Limitations

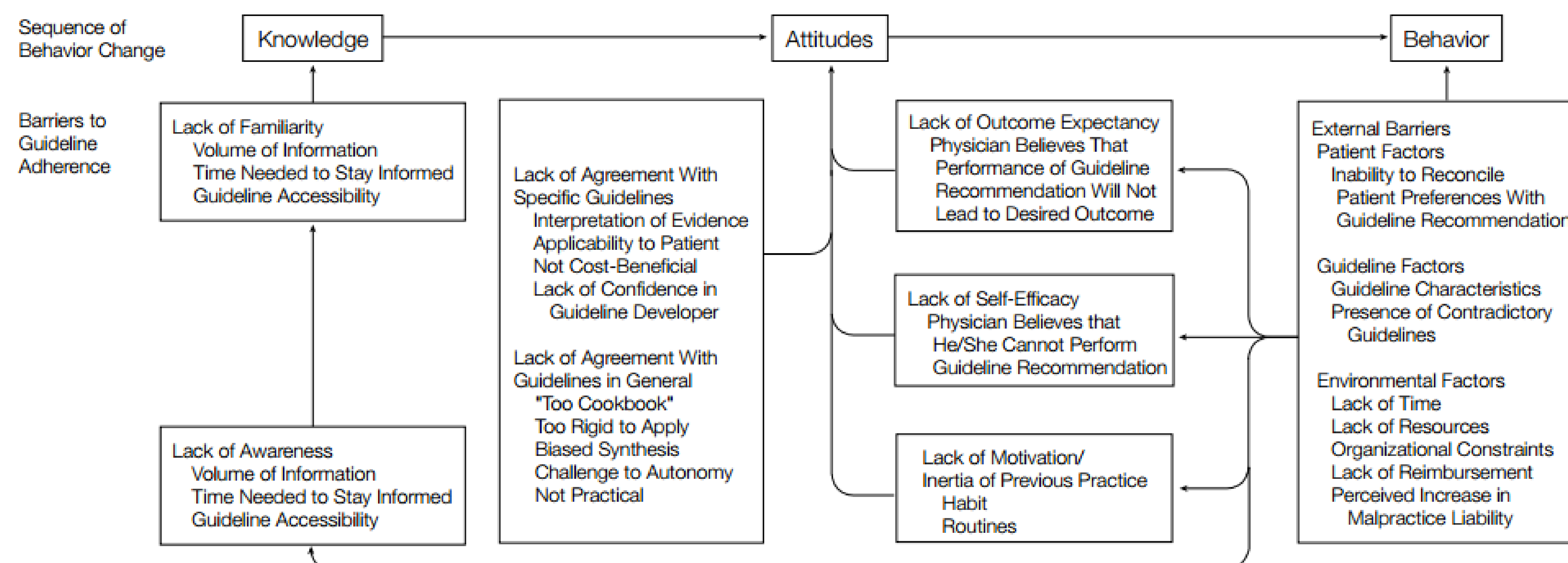
- Focus groups were conducted at large hospitals in a single urban center. Barriers and facilitators may be different in different regions and in smaller hospitals.

## Next Steps

- Conduct focus groups at medium and small-sized hospitals in suburban and rural areas to gain a more complete understanding of the phenomenon.
- Design an intervention bundle targeted at reducing the identified barriers to guideline-adherent use of MRI and US in the ED.

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The Cabana Model of physician adherence to clinical practice guidelines