

Rashi Ramchandani^{1,2}, Eddie Guo³, Gift Anicho⁴, Jiale Xie⁵, Katie Oxford⁷, Antoine Eskander^{2,6}, Lisa Caulley^{7,8,9,10}

1 Faculty of Medicine, University of Ottawa, Ottawa, ON, Canada; 2 Institute of Health Policy and Medical Education, University of Toronto, Toronto, ON, Canada; 3 Department of Neurosurgery, University of Toronto, Toronto, ON, Canada; 4 The Ottawa Hospital Research Institute, Ottawa, Ontario; 5 Department of Medicine, Queen's University, Kingston, Ontario; 6 Department of Otolaryngology – Head & Neck Surgery, Sunnybrook Health Sciences Centre and Michael Garron Hospital, University of Toronto, Toronto, ON, Canada; 7 Department of Otolaryngology-Head and Neck Surgery, University of Ottawa, Ottawa, Ontario; 8 Acute Care Research Program, Ottawa Hospital Research Institute; 9 Institut for Klinisk Medicin, Aarhus University, Aarhus, Denmark; 10 Department of Otorhinolaryngology, Head & Neck Surgery, Aarhus University Hospital, Aarhus, Denmark

Key Points

Question

Are airway training manikins in Canadian simulation centers demographically representative of real-world patients, and what are the perceived barriers and facilitators to improving equity in simulation

Major Findings

Most existing manikins are white (91%), male (82%) and have a lean body habitus (100%). Only 2 of the 22 centers believed their manikins reflect clinical diversity. Key barriers to increased diversity of models identified by simulation educators included cost, vendor limitations and poor educator-manufacturer communication

Significance

Simulation design often overlooks inclusive patient representation. Embedding equity into manikin procurement is essential for preparing trainees to care for diverse patient populations

Results

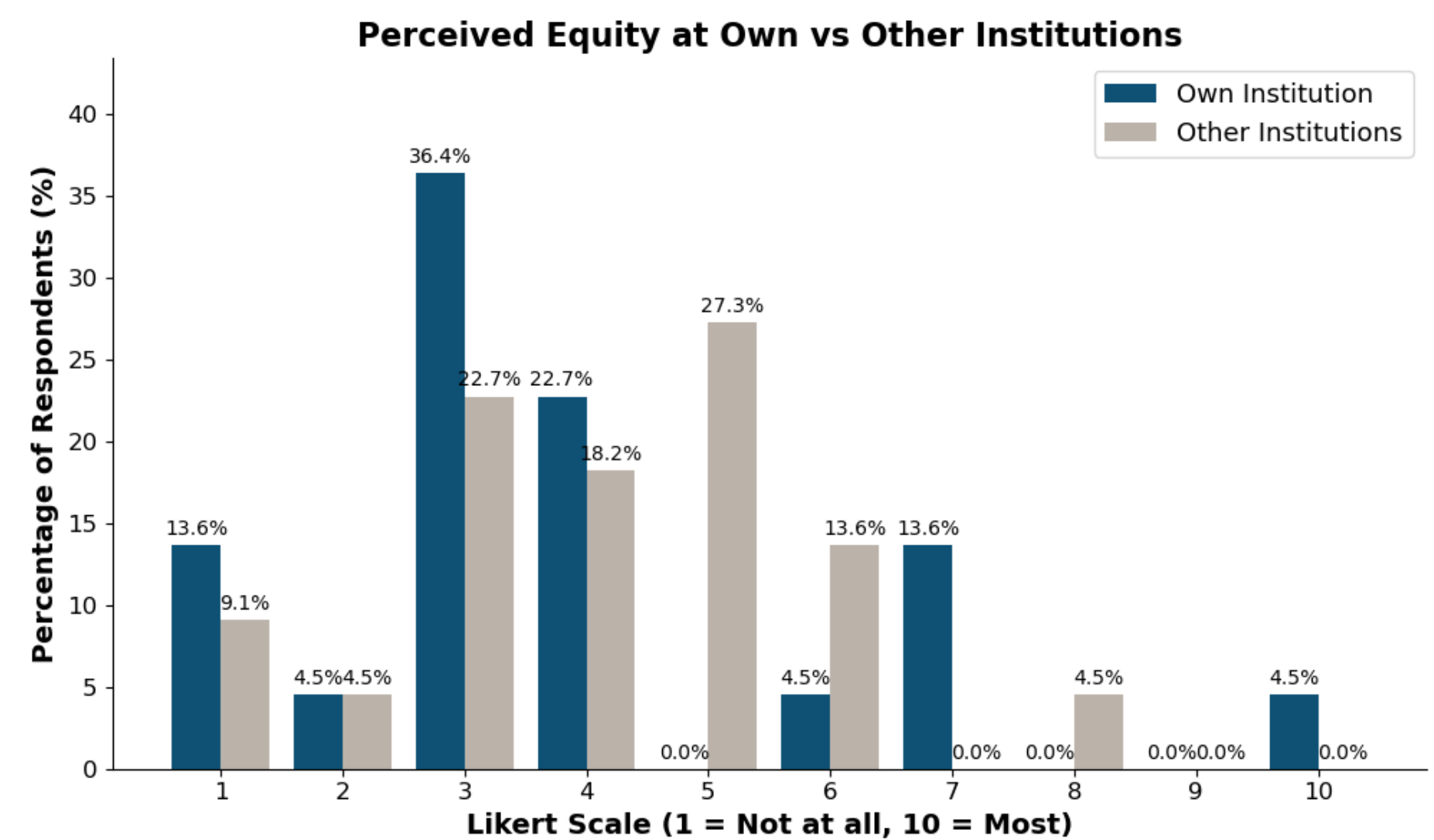


Fig2. Perceived equity and diversity of airway training manikins at respondents' own institutions versus other Canadian centers. Ratings were based on a 10-point Likert scale (1 = Not at all equitable/diverse, 10 = Most equitable/diverse)

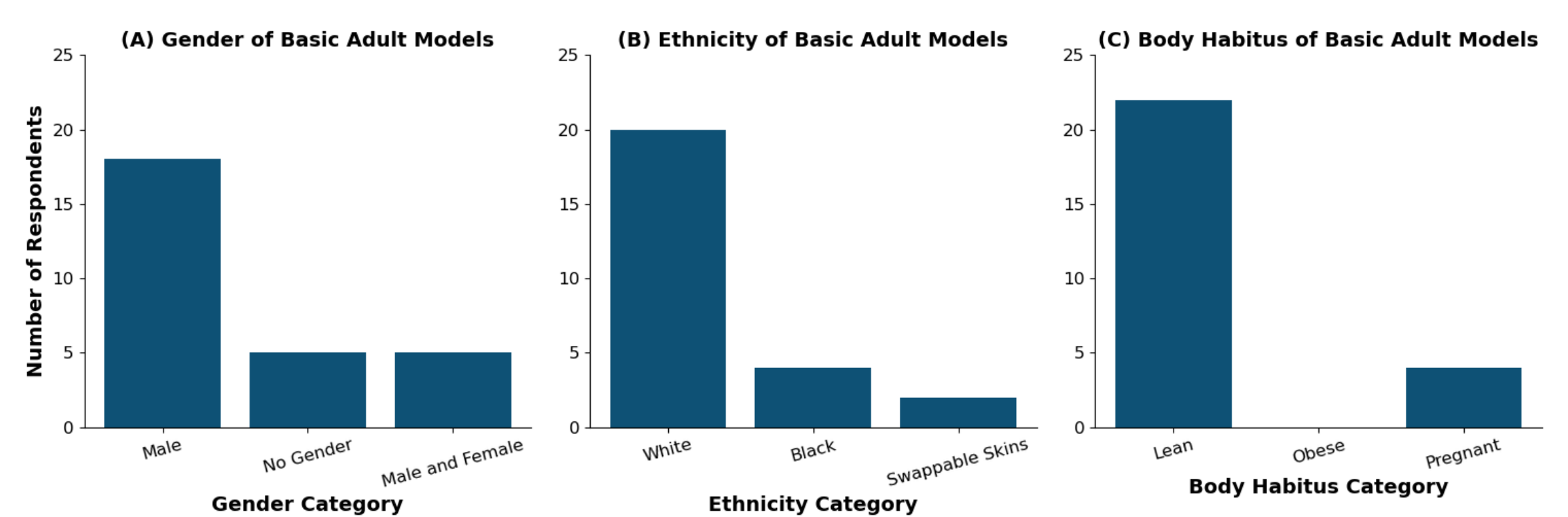


Fig3. Characteristics of basic adult airway manikins used in Canadian simulation centers in terms of (A) gender, (B) ethnicity, and (C) body habitus

Introduction

- Simulation is essential for airway training, but most manikins reflect a narrow demographic: historically lean, white, adult males; ultimately, failing to mirror the diversity of real-world patients (1-3).
- Traditional model designs have focused on anatomical accuracy, often overlooking sociocultural realism such as race, gender, and body habitus, which are critical for realistic clinical preparation (3).
- This study evaluated the demographic diversity of airway manikins across Canadian simulation centers and explored perceived barriers and enablers to more equitable, inclusive simulation design.

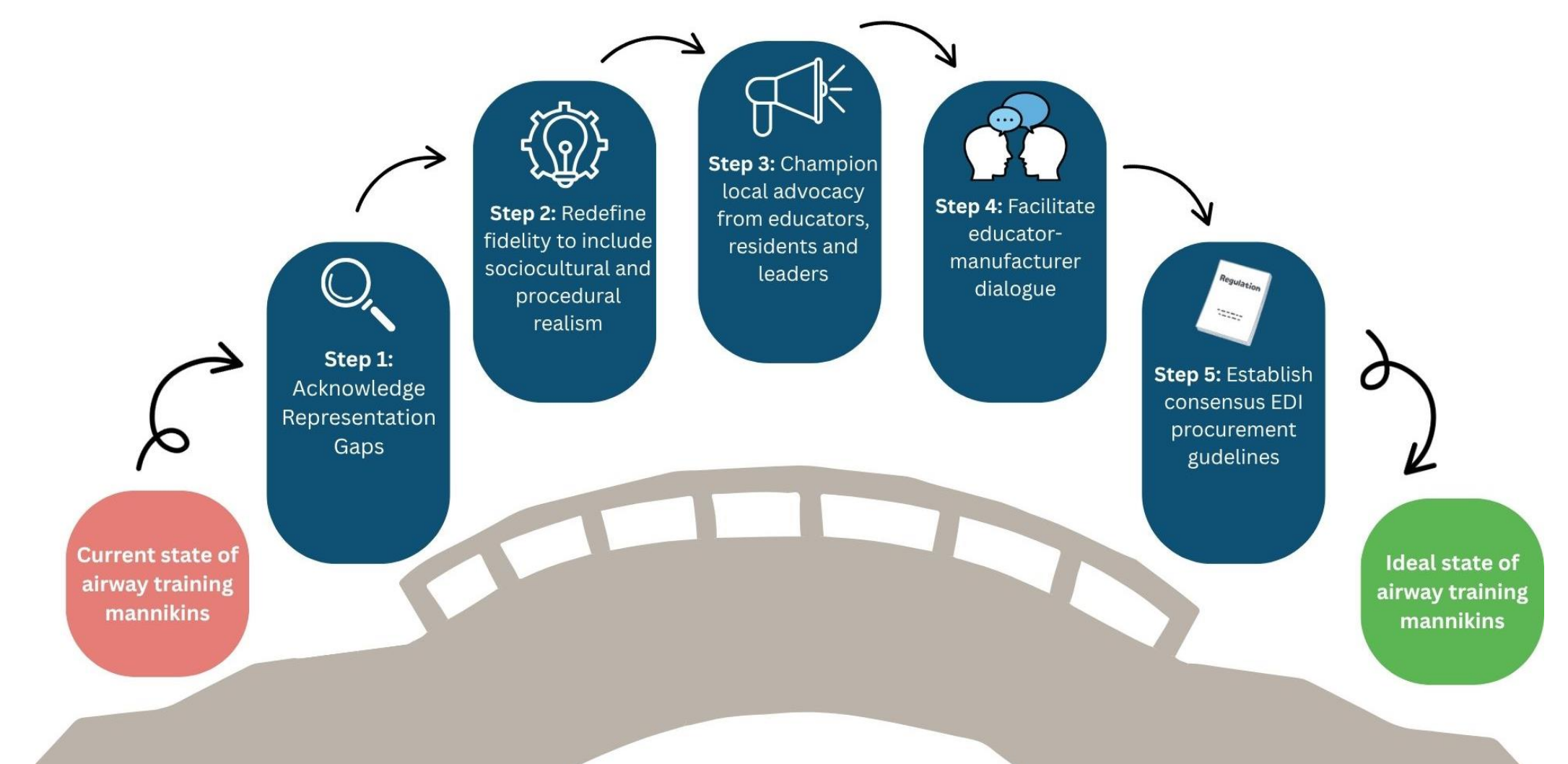


Fig4. Proposed pathway to improve equity and representation in airway training manikins. Barriers of limited vendor options, procurement rigidity, and unclear communication can be addressed through coordinated steps

Methods

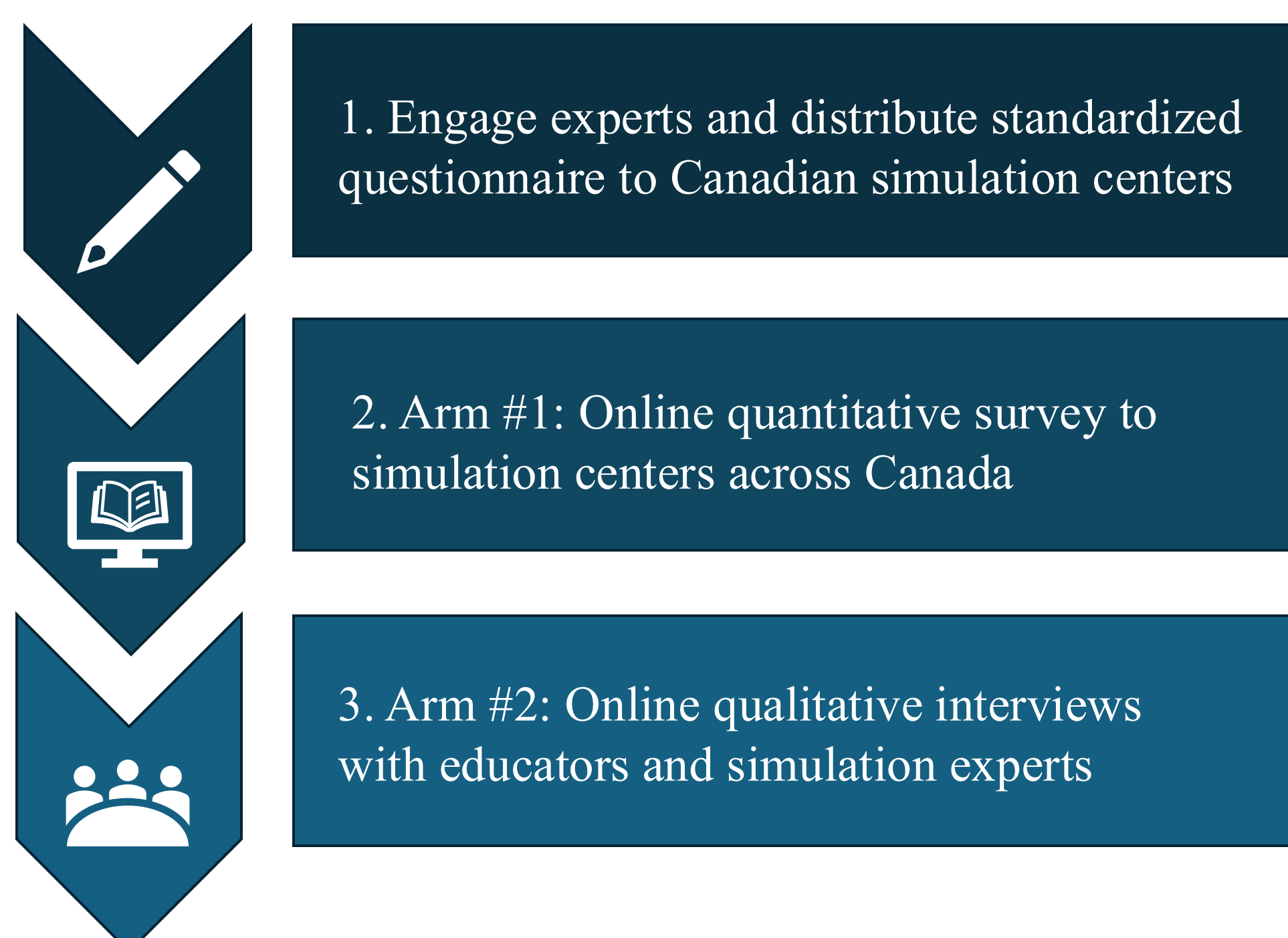


Fig1. Summary of study methodology

Discussion & Conclusion

- Most airway manikins lack racial, gender, and body habitus diversity, despite widespread recognition of the need for inclusive models.
- Barriers to change include procurement rigidity, limited vendor options, and lack of dialogue between educators and manufacturers.
- Embedding equity considerations into simulation design and developing consensus EDI guidelines are critical steps toward more representative training environments.

References



Contact

