

## Highlights

- Hand hygiene and eye protection use was higher among participants reporting a higher organizational factors score<sup>1</sup>
- Use of face shield/goggles was higher among participants reporting a higher environmental factors score<sup>2</sup>
- Mask use was not associated with either organizational or environmental factors scores

**STUDY AIM:** To determine the organizational and environmental factors that influence health care providers' use of masks, face shields/goggles, and hand hygiene

## Methods

- Cross-sectional study (June 2020 to June 2023)
- 18-75 years old & provided  $\geq 1$  hour/week of direct patient care
- Robust multivariable Poisson regression models adjusted for age, occupation, work area, province, and government-mandated mitigation requirements

### Exposures

#### <sup>1</sup> Organizational factors

- Organizational support for health and safety
- Absence of job hindrances
- Peer and supervisor feedback
- Conflict / communication

#### <sup>2</sup> Environmental factors

- Availability of supplies
- Training

### Outcomes

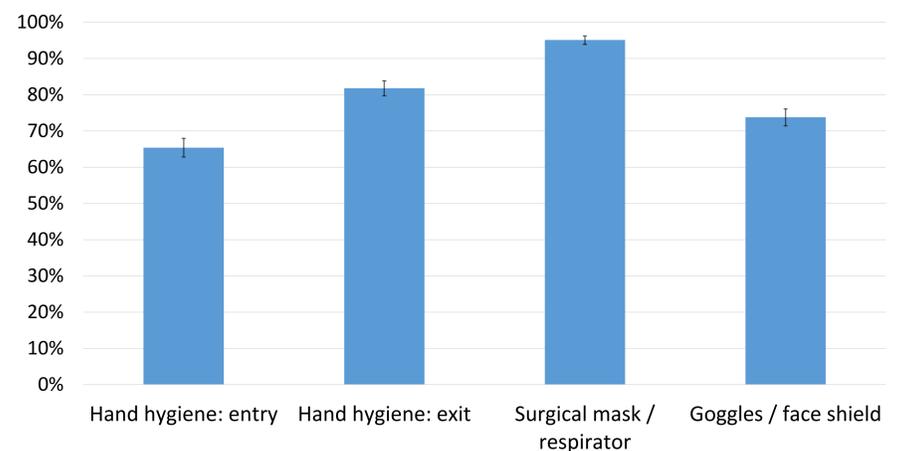
- Hand hygiene before entering patient room
- Hand hygiene after exiting patient room
- Surgical mask or N95 respirator when caring for coughing patient
- Goggles or face shield when caring for coughing patient

### Study sites (Canada)



## Results

Percent reporting 100% use of facial protection and hand hygiene relative to Canadian guidelines (N=1361)



Organizational and environmental factors associated with use of facial protection and practice of hand hygiene

Facial protection	IRR (95% CI)
Surgical mask/N95 respirator	
Organizational factors	0.99 (0.98, 1.01)
Environmental factors	0.99 (0.97, 1.01)
Goggles or face shield	
Organizational factors	1.07 (1.02, 1.12) ‡
Environmental factors	1.06 (1.01, 1.12)*
Hand hygiene practice	IRR (95% CI)
Before entering patient room	
Organizational factors	1.07 (1.02, 1.13) ‡
Environmental factors	1.01 (0.95, 1.07)
After leaving patient room	
Organizational factors	1.04 (1.01, 1.08) ‡
Environmental factors	0.99 (0.96, 1.03)

IRR: incidence rate ratio (adjusted for age, occupation, work area, province of work, and level of mitigation requirements)  
\*p<0.05; ‡p<0.01

### Study Limitations

- Observational study with self-reported data
- COVID-19 restrictions/mitigation varied across time and place

## Conclusions

- Organizational factors<sup>1</sup> are necessary above and beyond training and supplying equipment
- Lack of association between mask use and study factors suggests an influence from public health messaging during pandemic

### Factors influencing health care providers' adherence to infection prevention and control measures in acute care settings during the COVID-19 pandemic in Canada

Nicole M Robertson<sup>1</sup>, Allison McGeer<sup>1,2</sup>, Kanchan<sup>1</sup>, Joanne M Langley<sup>3,4</sup>, Shelly McNeil<sup>3,4,5</sup>, Louis Valiquette<sup>6</sup>, Otto Vanderkooi<sup>7,8</sup>, Robyn Harrison<sup>8,9</sup>, Samira Mubareka<sup>2,10</sup>, Matthew Muller<sup>2,11</sup>, Kevin Katz<sup>2,10,12</sup>, Mark Loeb<sup>13,14</sup>, Jeff Powis<sup>15</sup>, Curtis Cooper<sup>16,17</sup>, Saranya Arnoldo<sup>18</sup>, Jeya Nadarajah<sup>2,19</sup>, Marek Smieja<sup>14,20</sup>, Ayodele Sanni<sup>1</sup>, Iris Gutmanis<sup>1</sup>, Brenda L Coleman<sup>1,2</sup>

1) Sinai Health, Toronto, ON; 2) University of Toronto, Toronto, ON; 3) Canadian Centre for Vaccinology, Halifax, NS; 4) Dalhousie University, Halifax, NS; 5) Nova Scotia Health, Halifax, NS; 6) Université de Sherbrooke, Sherbrooke, QC; 7) University of Calgary, Calgary, AB; 8) Alberta Health Services, AB; 9) University of Alberta, Edmonton, AB; 10) Sunnybrook Health Sciences Centre, Toronto, ON; 11) Unity Health, Toronto, ON; 12) North York General Hospital, Toronto, ON; 13) Hamilton Health Sciences Centre, Hamilton, ON; 14) McMaster University, Hamilton, ON; 15) Michael Garron Hospital, Toronto, ON; 16) University of Ottawa, Ottawa, ON; 17) The Ottawa Hospital, Ottawa, ON; 18) William Osler Health System, Brampton, ON; 19) Oak Valley Health, Markham, ON; 20) St. Joseph's Healthcare, Hamilton, ON