Preliminary Results for the Pandemic Healthcare Workers’ Survey

John Oudyk (OHCOW), Peter Smith (IWH) & the COVID-19 ad-hoc Survey Group

May 1, 2020
Background:

• Invited to help with the healthcare unions in responding to draft infection control procedures from the PHO & PHAC

• Based on previous work done with them during SARS, 2009-nH1N1 and Ebola (also involved with PHO & MOH in organizing a summit to address infection control issues between pandemics – 2014-15)

• Reviewing the literature coming out of China, noted a number of surveys done to characterize mental health risks to HCW’s

• Floated the idea of doing a survey with Ontario HCW unions & the CFNU and created an ad hoc team to devise a survey
Studies in China:

  https://www.medrxiv.org/content/10.1101/2020.02.20.20025338v2

  https://www.medrxiv.org/content/10.1101/2020.03.03.20030874v1

  https://www.medrxiv.org/content/10.1101/2020.03.05.20032003v1
Members of **COVID-19 ad hoc Survey Group:**

- Ontario healthcare unions H&S staff reps (ONA, SEIU, OPSEU, CUPE, Unifor, USW)
- Canadian Federation of Nurses Unions (CFNU)
- OFL, BCNU, HSABC
- Guy Potter, occupational psychologist with Duke University Hospital in North Carolina (COPSOQ International Network)
- Peter Smith, researcher with Institute for Work and Health (IWH)
- A variety of interested academics and activists from Canada and the US
- Valerie Wolfe, Daryl Stephenson & myself (OHCOW)
Survey content

- COPSOQ scales measuring burnout, stress and sleep symptoms (2 questions each);
- GAD-2 and the PHQ-2 scales to measure anxiety and depression symptoms (2 questions each);
- 3 questions from the DSM5 acute stress scale (pre-PTSD);
- 3 questions from a German self-efficacy scale (General Self-Efficacy Short Scale (ASKU));
- Custom made exposure scales
- COPSOQ scales for work pace, predictability, role conflict, supervisor support, colleague support (created a similar question for family support)
- StressAssess questions about psychological H&S climate, and organizational culture’s tolerance of behaviours harmful to mental health
Survey characteristics

• about 70 questions
• takes about 15 minutes to fill out
• allows respondent to create an id code so they can fill out the survey more than once (things are changing over time)
• in French & English (thanks to USW for translating and Marie-Claude Letellier (Laval) for checking)
• available on OHCOW’s SurveyMonkey account:
  https://www.surveymonkey.com/r/Pandemic_Survey  (EN)
  https://www.surveymonkey.com/r/sondage_pandemie  (FR)
Number of responses by date (N = 4,313)

median time to complete survey = 16 mins (12–23 mins)
Results as of Apr 29th 4 pm:

4421 completed (at least 70% done) responses
≈30% abandonment (don’t reach 70% of survey done)

unions participating (>50 responses):

SEIU 998
OPSEU 807
ONA 652
BCNU 492
UNA 383
HSABC 234
Unifor 121
NSNU 100
CUPE 89
USW 71
Type of workplace and workplace size (N = 4,313)
Province and population density
<table>
<thead>
<tr>
<th>Province</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>391</td>
</tr>
<tr>
<td>British Columbia</td>
<td>729</td>
</tr>
<tr>
<td>Manitoba</td>
<td>24</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>68</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>51</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>158</td>
</tr>
<tr>
<td>Ontario</td>
<td>2627</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>1</td>
</tr>
<tr>
<td>Québec</td>
<td>3</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>53</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>1</td>
</tr>
<tr>
<td>Nunavut</td>
<td>1</td>
</tr>
<tr>
<td>Yukon</td>
<td>0</td>
</tr>
</tbody>
</table>
Identity

- Female
- Male
- Transgender
- Non-binary
- Lesbian
- Gay
- Queer
- 2 Spirit
- Aboriginal
- Visible minority/racialized
- Disabled
- Other
Exposure to patients with COVID-19 (1):

<table>
<thead>
<tr>
<th>Number of Patients</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>18.8%</td>
</tr>
<tr>
<td>only one</td>
<td>3.7%</td>
</tr>
<tr>
<td>2-5 patients</td>
<td>14.3%</td>
</tr>
<tr>
<td>6-10 patients</td>
<td>9.3%</td>
</tr>
<tr>
<td>11-20 patients</td>
<td>10.4%</td>
</tr>
<tr>
<td>20-50 patients</td>
<td>12.6%</td>
</tr>
<tr>
<td>50+ patients</td>
<td>10.4%</td>
</tr>
<tr>
<td>don't know</td>
<td>20.4%</td>
</tr>
</tbody>
</table>
Exposure to patients with COVID-19 (2):

How much contact do you have with COVID-19 patients?

- 35.6% direct contact with patient(s)
- 3.3% within 6 feet of a patient
- 1.3% in the patients' rooms (more than 6 feet away)
- 6.7% work on the same floor/ward/dept.
- 4.9% visit such a floor/ward/dept as part of my work
- 13.8% share work spaces with other workers who work with/near COVID-19 patients
- 34.4% none that I am aware of
Workers with COVID-19:

How many workers have been infected with COVID-19 (suspected/presumed &/or confirmed) in your workplace?

- none: 30.6%
- only one: 6.2%
- 2-5 workers: 14.5%
- 6-10 workers: 5.4%
- 11-20 workers: 4.0%
- 20-50 workers: 3.1%
- 50+ workers: 1.0%
- don't know: 35.2%
### Personal protective equipment (PPE) supply and adequacy

<table>
<thead>
<tr>
<th>Type of PPE is needed</th>
<th>Type of PPE is not needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Met</td>
<td>Needs not Met</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

- Personal protective equipment (PPE) supply and adequacy

<table>
<thead>
<tr>
<th>Appropriate type and adequate supply</th>
<th>Appropriate type but inadequate supply</th>
<th>Inappropriate type, but adequate supply</th>
<th>Inappropriate type and inadequate supply</th>
<th>Needed, but not available</th>
<th>Not sure/don’t know what is appropriate</th>
<th>Not applicable</th>
</tr>
</thead>
</table>

- (1) Gloves; (2) Eye protection/goggles; (3) face shield; (4) gown; (5) hand sanitizer; (6) surgical or procedure masks; (7) N95 masks; (8) PAPR (powered air particulate respirators)
Personal protective equipment (PPE) needs and needs met

- Gloves: Needed 95%, Needs Met 79%
- Eye Protection: Needed 83%, Needs Met 50%
- Face Shield: Needed 84%, Needs Met 40%
- Gown: Needed 90%, Needs Met 55%
- Hand Sanitizer: Needed 98%, Needs Met 69%
- Surg Masks: Needed 94%, Needs Met 39%
- N95 Masks: Needed 85%, Needs Met 26%
- PAPRs: Needed 21%, Needs Met 16%
Summary of proportion of PPE needs met (N = 4,245)

18% 35% 39% 8% 0% 5% 10% 15% 20% 25% 30% 35% 40% 45%

100% of needs met 50% to 99% of needs met Less than 50% to 1% of needs met 0% of needs met
Adequacy of preventive measures and procedures (P&P)

<table>
<thead>
<tr>
<th>Appropriate and adequately implemented</th>
<th>Appropriate type but inadequately implemented</th>
<th>Inappropriate</th>
<th>Lacking</th>
<th>Not sure/don’t know what is appropriate</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of P&amp;P is needed</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Needs Met</strong></td>
<td><strong>Needs not Met</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Not Applicable</strong></td>
</tr>
</tbody>
</table>

(1) Screening incoming patients; (2) Symptomatic patients wearing masks; (3) cohorting patients; (4) restrict access and control flow of COVID patients; (5) ventilation system; (6) Airborne infection isolation rooms (AIIR); (7) Personal hygiene facilities; (8) house cleaning practices; (9) laundry cleaning practices; (10) waste disposal practices
Preventive measures and procedures (P&P) needs and needs met

<table>
<thead>
<tr>
<th>Category</th>
<th>Needed</th>
<th>Needs Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening</td>
<td>89%</td>
<td>55%</td>
</tr>
<tr>
<td>Masks (SP)</td>
<td>77%</td>
<td>48%</td>
</tr>
<tr>
<td>Cohorting</td>
<td>73%</td>
<td>53%</td>
</tr>
<tr>
<td>Access and control flow</td>
<td>69%</td>
<td>59%</td>
</tr>
<tr>
<td>Ventilation</td>
<td>59%</td>
<td>46%</td>
</tr>
<tr>
<td>AIIR</td>
<td>56%</td>
<td>45%</td>
</tr>
<tr>
<td>Pers Hygiene</td>
<td>77%</td>
<td>35%</td>
</tr>
<tr>
<td>House Cleaning</td>
<td>87%</td>
<td>31%</td>
</tr>
<tr>
<td>Laundry</td>
<td>67%</td>
<td>54%</td>
</tr>
<tr>
<td>Waste disposal</td>
<td>63%</td>
<td>64%</td>
</tr>
</tbody>
</table>
Summary of proportion of P&P needs met (N = 4,205)

- 16% of needs met
- 39% of needs met
- 30% of needs met
- 15% of needs met
- 0% of needs met

100% of needs met | 50% to 99% of needs met | Less than 50% to 1% of needs met | 0% of needs met
Training related to COVID-19

- How would you rate the adequacy of your training in regards to working with COVID-19?
  
  (excellent; very good; good; neutral; not so good; poor; none at all; not applicable)

- Do you feel sufficiently trained to don and doff your PPE without contaminating yourself?

  (I have been trained and feel very confident; I have been trained and feel confident; I have been trained and feel somewhat confident; I have been trained but do not feel confident; I have not received such training)
Proportion of respondents indicating working with COVID-19 training and PPE training was adequate
Selected health outcomes (1)

**Generalized Anxiety Disorder 2-item (GAD-2)**
The following questions ask about thoughts, feelings, and behaviours, often tied to concerns about family, health, finances, school, and work over the last 7 days.
- Feeling nervous, anxious or on edge
- Not being able to stop or control worrying

**Patient Health Questionnaire-2 (PHQ-2)**
- Little interest or pleasure in doing things
- Feeling down, depressed or hopeless

Response options: *Not at all (0), several days (1), more than half the days (2), nearly every day (3).*

Scores of *three and higher* standard cut point for screening for anxiety and depression.
Selected health outcomes (2)

Fear
On a scale from 1 to 10 how would you rate your current level of fear about this whole pandemic situation?

  little to no fear at all = 1  2  3  4  5  6  7  8  9  10 = as much fear as I have ever felt

Concern
How concerned are you about bringing the virus home to those who you live and/or friends?

  no concern = 1, little concern, some concern, concerned, very concerned, extremely concerned = 6
Distributions (median and interquartile ranges) for selected mental health outcomes

- **GAD-2**
  - Optimal screening cut point: 3
  - 56.8% of respondents had scores of 3 or higher.

- **PHQ-2**
  - Optimal screening cut point: 3
  - 43.7% of respondents had scores of 3 or higher.

- **Fear**
  - 1 = little to no fear at all
  - 10 = as much fear as I’ve ever felt

- **Concern**
  - 1 = no concern
  - 6 = extremely concerned

Median and interquartile ranges are provided for a clearer understanding of the distribution.
Adjusted* mean anxiety (GAD-2) scores by PPE needs met, P&P needs met (N = 4,145)

<table>
<thead>
<tr>
<th>PPE met</th>
<th>0%</th>
<th>1 to 49%</th>
<th>50 to 99%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety (GAD-2)</td>
<td>2.71</td>
<td>3.21</td>
<td>3.01</td>
<td>3.47</td>
</tr>
<tr>
<td>P&amp;P met</td>
<td>2.67</td>
<td>3.31</td>
<td>2.86</td>
<td>3.56</td>
</tr>
</tbody>
</table>

* Adjusted for gender, age, facility type, province, population density, experiencing COVID-19 symptoms, told had contact with patient with COVID-19, COVID-19 training, and PPE don and doff training.
Adjusted* means anxiety (GAD-2) scores by training adequacy

* Adjusted for gender, age, facility type, province, population density, experiencing COVID-19 symptoms, told had contact with patient with COVID-19, PPE needs met, and P&P needs met.
Adjusted* means fear scores by PPE needs met, P&P needs met (N = 4,153)

* Adjusted for gender, age, facility type, province, population density, experiencing COVID-19 symptoms, told had contact with patient with COVID-19, COVID-19 training, and PPE don and doff training.
Adjusted* means fear scores by training adequacy (N = 4,153)

* Adjusted for gender, age, facility type, province, population density, experiencing COVID-19 symptoms, told had contact with patient with COVID-19, PPE needs met, and P&P needs met.
### COPSOQ Psychosocial Factor Scales (range of scale: 0 to 100):

<table>
<thead>
<tr>
<th>Factor</th>
<th>Average</th>
<th>Std Dev</th>
<th>% Missing</th>
<th>Floor</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>work pace</td>
<td>70</td>
<td>21</td>
<td>3.7%</td>
<td>0.3%</td>
<td>15.5%</td>
</tr>
<tr>
<td>predictability</td>
<td>44</td>
<td>23</td>
<td>3.7%</td>
<td>6.8%</td>
<td>1.5%</td>
</tr>
<tr>
<td>role conflicts</td>
<td>52</td>
<td>25</td>
<td>5.0%</td>
<td>4.9%</td>
<td>5.9%</td>
</tr>
<tr>
<td>supervisor support</td>
<td>60</td>
<td>28</td>
<td>3.8%</td>
<td>4.3%</td>
<td>15.4%</td>
</tr>
<tr>
<td>colleague support</td>
<td>78</td>
<td>19</td>
<td>3.7%</td>
<td>0.4%</td>
<td>23.8%</td>
</tr>
<tr>
<td>family support*</td>
<td>73</td>
<td>26</td>
<td>3.6%</td>
<td>2.9%</td>
<td>36.0%</td>
</tr>
</tbody>
</table>

### COPSOQ Symptom Scales (range of scale: 0 to 100):

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Average</th>
<th>Std Dev</th>
<th>% Missing</th>
<th>Floor</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>burnout symptoms</td>
<td>68</td>
<td>22</td>
<td>0.3%</td>
<td>0.9%</td>
<td>12.2%</td>
</tr>
<tr>
<td>stress symptoms</td>
<td>64</td>
<td>20</td>
<td>0.3%</td>
<td>0.6%</td>
<td>5.7%</td>
</tr>
<tr>
<td>sleep symptoms</td>
<td>61</td>
<td>26</td>
<td>0.2%</td>
<td>3.0%</td>
<td>12.6%</td>
</tr>
</tbody>
</table>
How are we doing?

<table>
<thead>
<tr>
<th>Agree/Strongly Agree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union is doing its best</td>
<td>57.0%</td>
</tr>
<tr>
<td>Employer is doing their best</td>
<td>39.7%</td>
</tr>
<tr>
<td>Government is doing its best</td>
<td>38.1%</td>
</tr>
<tr>
<td>H&amp;S Committee/Rep are doing their best</td>
<td>35.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Identity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member of a union</td>
<td>95.1%</td>
</tr>
<tr>
<td>Data missing</td>
<td>2.6%</td>
</tr>
<tr>
<td>Not a union member</td>
<td>2.1%</td>
</tr>
<tr>
<td>Not sure</td>
<td>0.2%</td>
</tr>
<tr>
<td>Unwilling to say</td>
<td>0.04%</td>
</tr>
</tbody>
</table>
Compared to Ontario’s 14.2%, China had 4.4%; when China was faced with this kind of situation they stepped up their controls to Ebola type protection and after that not a single case of infection occurred among over 42,000 healthcare workers.

whatever we’re doing – it’s not working!
Hierarchy of Controls

Figure 1. Examples for instituting hierarchy of controls for contact and aerosol exposures. * Protects workers from components of aerosols that may cause mucocutaneous exposure, including to non-intact skin, to intact skin from which pathogenic micro-organisms could then be transferred to non-intact skin or mucosa, and to mucosa. † Protects workers from facial mucous membrane exposure when respirator protects all or part of the face.
Help for stressed workers:

• Ontario COVID-19 Mental Health Network [https://covid19therapists.com](https://covid19therapists.com)
A Survey of Non-Healthcare Workers’ Experiences during a Pandemic

• This survey was adapted from the HCW’s survey by Dorothy Wigmore, Laura Lozanski, Alec Farquhar and the COVID-19 ad hoc Survey Group

• Similar to the HCW survey, it is designed to capture worker experiences during a pandemic.

• To access the survey please follow this link: https://www.surveymonkey.com/r/worker_survey

• In French: https://www.surveymonkey.com/r/pandemie_sondage
Thank you! ... any questions/comments?
(please use the chat box)