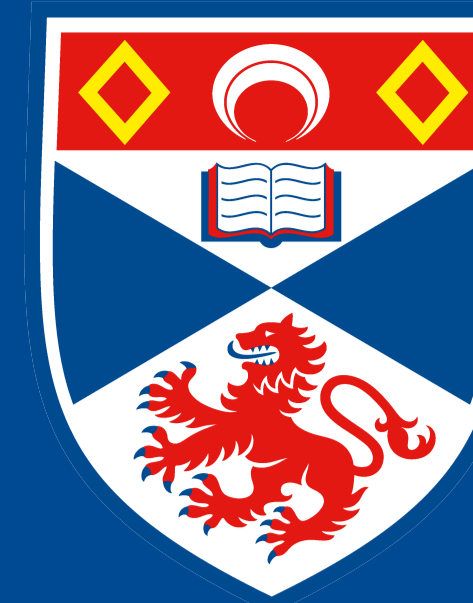


# PPE Guideline Comparison Between Scotland and Ontario, Canada for SARS-CoV-2

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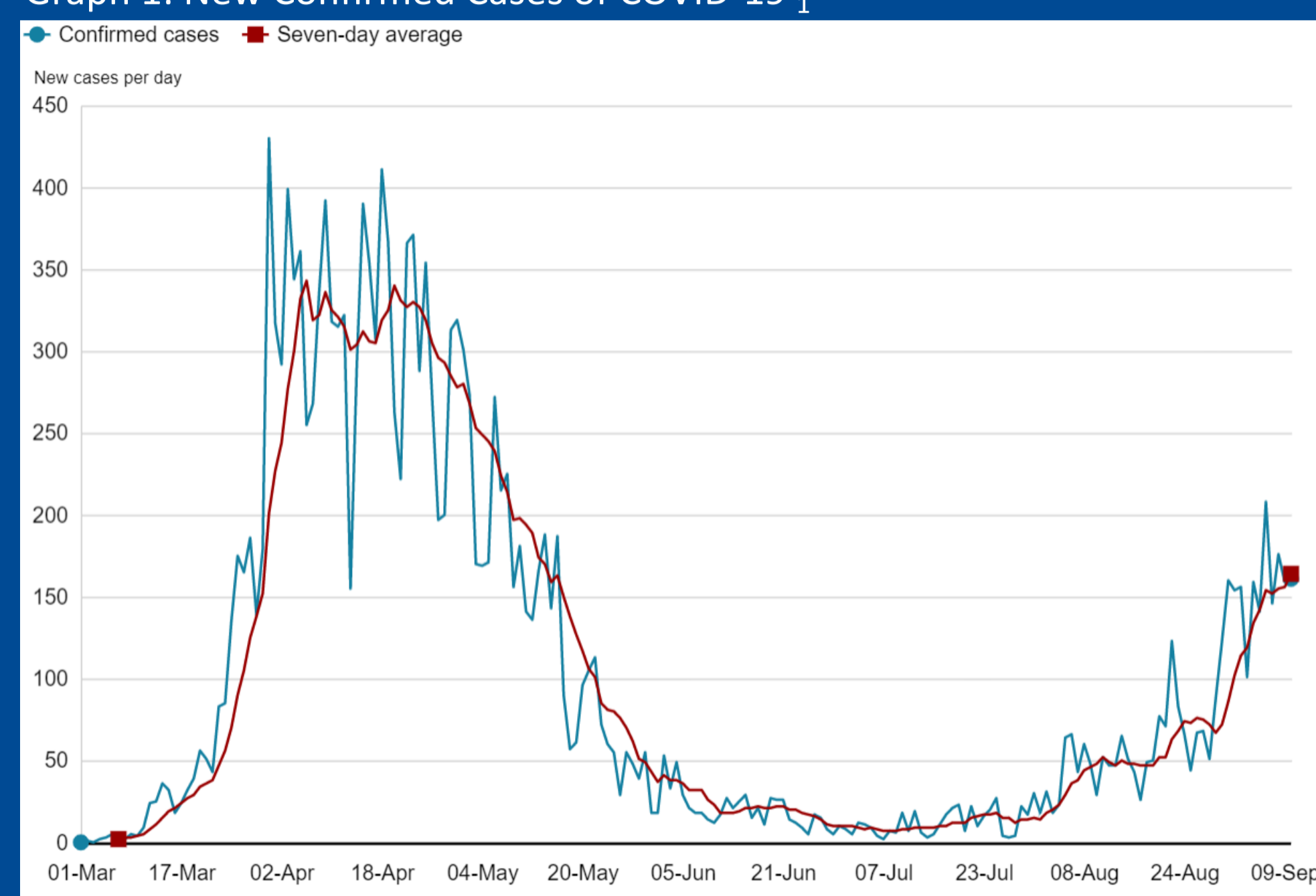
University of St. Andrews

## Background

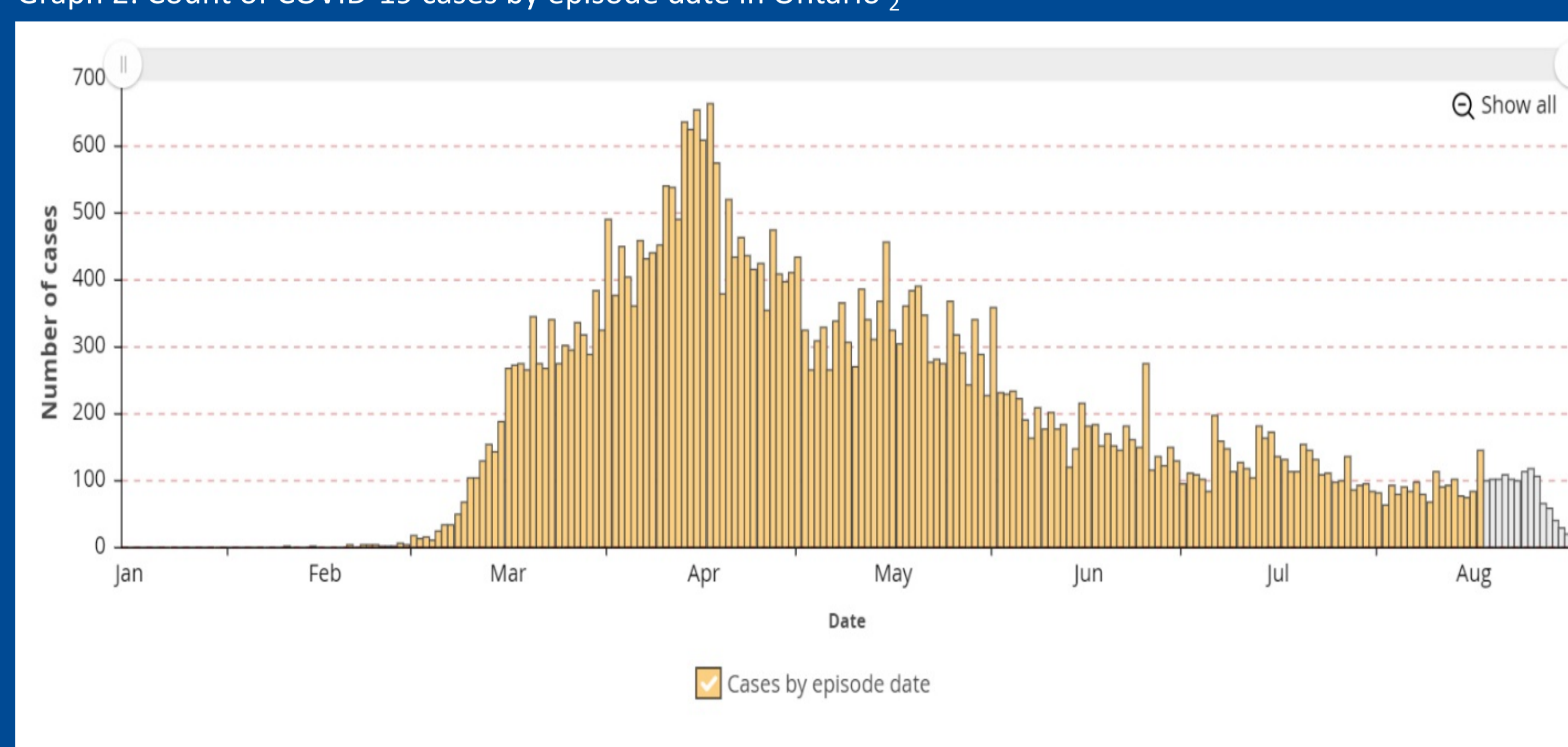
Sometime near the end of 2019, the origin of the third novel coronavirus, SARS-CoV 2019 (A.K.A. COVID-19) occurred in Wuhan, China. The primary transmission mode is person-to-person contact through droplets dispersed during breathing, sneezing, coughing, etc. as well as physical contact (direct contact with an infected individual or indirect contact via hand-mediated transfer of the virus through fomites). Several reports indicate that transmission of the virus is especially effective in crowded, confined, indoor spaces, even more so with poor ventilation. Because of the high risk of transmission, proper protective equipment is crucial, especially for healthcare workers who are in close exposure with the virus every day. This project compared how the guidelines were formed and laid out in Scotland and Ontario.

## Case Prevalence

Graph 1: New Confirmed Cases of COVID-19 <sup>1</sup>



Graph 2: Count of COVID-19 cases by episode date in Ontario <sup>2</sup>



## PPE Shortage

Since the start of the pandemic, there have been increased instances of PPE shortages which has consequently resulted in an increase in prices for these PPE. Surgical mask prices have increased sixfold, N95 respirators are now triple the prices, and gowns have doubled. "Based on WHO modelling, an estimated 89 million medical masks are required for the COVID-19 response each month. For examination gloves, that figure goes up to 76 million, while international demand for goggles stands at 1.6 million per month...To meet rising global demand, WHO estimates that industry must increase manufacturing by 40 per cent."<sup>3</sup> Healthcare workers need to watch the line between overuse, resulting in further shortages, and underuse, which would increase transmission rates.

## Importance of PPE

- Inadequate PPE increases risk of frontline healthcare workers testing positive for COVID-19 by 1.3 times compared to those who had access to proper PPE
- Reusing PPE makes healthcare workers 1.5 times more likely to test positive to COVID-19
- Fluid resistant masks protects staff against droplet transmission from patients 1-2 m away (Estimated 80% risk reduction)

## Differences in Guidelines

- When to use certain equipment
- N95 vs FFP masks
- Situational context

Image 2: Various Face Masks <sup>5</sup>

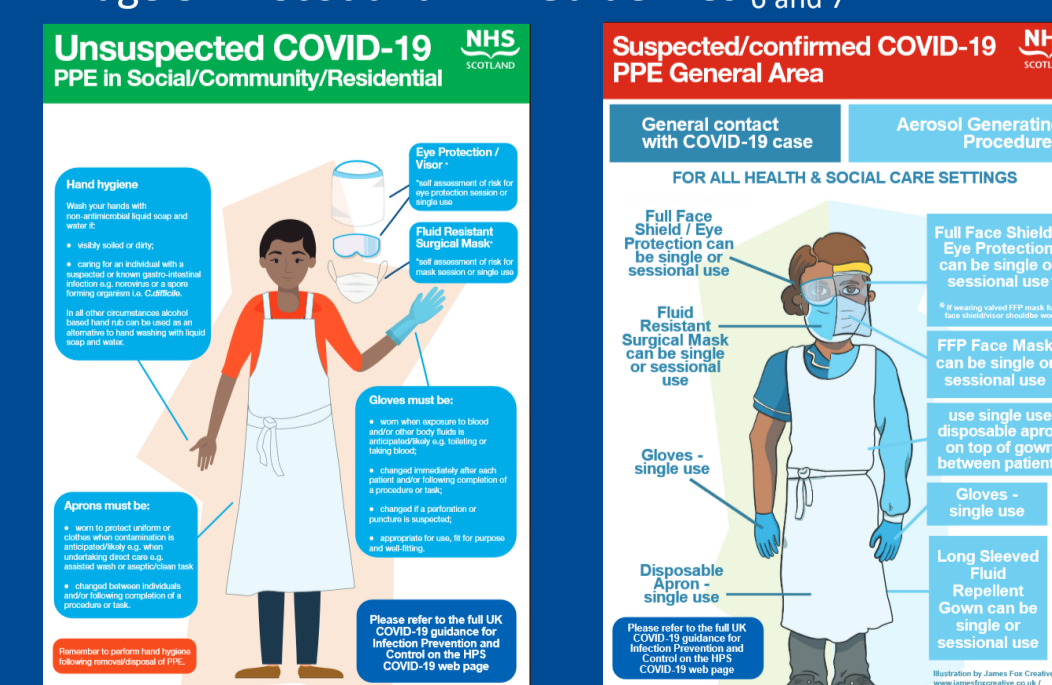


Image 5: Excerpt from Ontario PPE Guidelines <sup>8</sup>

Setting	Individual	Activity	Type of PPE or procedure
Consultation rooms/clinics	Health care workers	Physical examination of patients with suspected or confirmed COVID-19	<ul style="list-style-type: none"> <li>• Surgical/procedure mask</li> <li>• Isolation gown</li> <li>• Gloves</li> <li>• Eye protection (goggles or face shield)</li> </ul>
	Patients suspected or confirmed to have COVID-19	Any	<ul style="list-style-type: none"> <li>• Provide surgical/procedure mask if tolerated.</li> <li>• Perform hand hygiene</li> </ul>
Waiting room	Environment/ service workers	After and between consultations with patients suspected or confirmed to have COVID-19	<ul style="list-style-type: none"> <li>• Droplet and Contact Precautions, including:                             <ul style="list-style-type: none"> <li>• Surgical/procedure mask</li> <li>• Isolation gown</li> <li>• Gloves</li> <li>• Eye protection (goggles or face shield)</li> </ul> </li> </ul>
	Patients suspected or confirmed to have COVID-19	Any	<ul style="list-style-type: none"> <li>• Provide surgical/procedure mask if tolerated.</li> <li>• Immediately move the patient to a single patient room or separate area away from others. If it is not feasible, ensure spatial distance of at least 2 m from other patients.</li> </ul>
Administrative areas	All staff, including health care workers	Administrative tasks that do not involve contact with patients	<ul style="list-style-type: none"> <li>• Routine Practices</li> </ul>
Triage/Reception	Health care workers	Preliminary screening and involving direct contact	<ul style="list-style-type: none"> <li>• If able to maintain spatial distance of at least 2 m or separated by physical barrier:                             <ul style="list-style-type: none"> <li>• Routine Practices</li> </ul> </li> <li>• Otherwise, Droplet and Contact precautions, including:                             <ul style="list-style-type: none"> <li>• Surgical/procedure mask</li> <li>• Isolation gown</li> <li>• Gloves</li> </ul> </li> </ul>

- Visual addition

Image 3+4: Scotland PPE Guidelines <sup>6</sup> and <sup>7</sup>



## Similarities in Guidelines

### Equipment:

- Surgical mask
- Eye protection
- Gloves
- Disposable aprons

Image 1: Healthcare Worker in PPE <sup>4</sup>



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