

## GUIDELINE

# PPE Estimator Tool for use in Residential Aged Care Facilities (RACFs)

<b>Effective Date</b>	18 March 2021
<b>Applies to</b>	Tasmanian Residential Aged Care Facilities (RACFs)

---

## Guideline Statement

This guideline has been developed for Residential Aged Care Facilities (RACFs) to assist with estimating minimum amounts of Personal Protective Equipment (PPE) required in the event of a Coronavirus (COVID-19) outbreak.

## Introduction

This guideline is designed to be foundational; a reference guide to better understand the minimum PPE required in the event of a COVID-19 outbreak. It can be used to support decisions about the amount of PPE to be stored on site to safely respond to suspected or confirmed COVID-19 cases. As a foundational tool, RACFs can also consider individual facility needs, and can add to or build upon this as required.

This tool is not intended to provide definite or exact amounts of PPE, nor is it to be used as a calculator.

## Purpose of this guideline

- Guide understanding of minimum amounts of PPE required in the event of a COVID-19 outbreak
- Ensure that RACFs can provide their staff with the necessary PPE to keep themselves safe and to effectively care for their residents
- Ensure adequate PPE is available so that residents have safe and timely access to appropriate care suited to their individual clinical care needs
- Reduce the risk of transmission of COVID-19 in a RACF
- Reduce the risk of healthcare worker COVID-19 transmission or quarantine

## Background

The safe and effective use of PPE is essential in managing COVID-19.

The correct use of surgical masks, particulate filter respirators (such as P2 or N95), gloves, goggles, face shields, gowns and aprons, contributes to the protection of the wearer and minimises the risk of transmission.

The Australian Commission on Safety and Quality in Health Care (ACSQHC), the Infection Control Expert Group (ICEG) and the Communicable Diseases Network Australia (CDNA), have developed information emphasising the importance of correct PPE usage during a COVID-19 outbreak. While these resources provide valuable information, there is little to assist RACFs in estimating and/or understanding the amount of PPE they should keep on hand in preparation for, or for use in, an outbreak.

The Aged Care Emergency Operations Centre (ACEOC) has developed a 'PPE Estimator Tool' to assist in planning and preparing for a COVID-19 outbreak.

## Key Risks

- Lack of clarity and understanding in estimating amounts of PPE required during a COVID-19 outbreak
- Inadequate supply of PPE to meet increased demand during a COVID-19 outbreak
- Inconsistent messaging surrounding PPE estimations
- Unnecessary stress and/or pressure on staff and management
- Increased risk of COVID-19 infection and/or transmission

## Key Considerations

- Attendance of visiting General Practitioners (GPs)
- Acuity and clinical need of the COVID-19 positive residents
- Location of the COVID-19 positive resident and potential close contacts (eg neighbouring rooms)
- Geographical layout of the RACF and access to the local stockpile
- Environmental risk factors

## Related Resources

- [Australian Commission on Safety and Quality in Health Care \(ACSQHC\)](http://www.safetyandquality.gov.au/covid-19) (www.safetyandquality.gov.au/covid-19)
- [Infection Control Expert Group](http://www.health.gov.au/committees-and-groups/infection-control-expert-group-iceg#icegendorsed-infection-control-guidance) (www.health.gov.au/committees-and-groups/infection-control-expert-group-iceg#icegendorsed-infection-control-guidance)
- [Novel Coronavirus Disease 2021 \(COVID-19\) CDNA National Guidelines for Public Health Units](http://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm) (www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm)
- [Department of Health Coronavirus \(COVID-19\) guidelines for infection prevention and control in residential care facilities](http://www.health.gov.au/resources/publications/coronavirus-covid-19-guidelines-for-infection-prevention-and-control-in-residential-care-facilities) (www.health.gov.au/resources/publications/coronavirus-covid-19-guidelines-for-infection-prevention-and-control-in-residential-care-facilities)
- [CDNA National Guidelines for the prevention, control and public health management of COVID-19 outbreaks in residential care facilities in Australia](http://www.health.gov.au/resources/publications/cdna-national-guidelines-for-the-prevention-control-and-public-health-management-of-covid-19-outbreaks-in-residential-care-facilities-in-australia) (www.health.gov.au/resources/publications/cdna-national-guidelines-for-the-prevention-control-and-public-health-management-of-covid-19-outbreaks-in-residential-care-facilities-in-australia)
- [COVID-19 Outbreaks in Residential Aged Care Facilities Toolkit to support planning, preparedness, and response](http://www.coronavirus.tas.gov.au/__data/assets/pdf_file/0034/89773/Aged-care-toolkit-for-COVID-19-outbreaks.pdf) (www.coronavirus.tas.gov.au/\_\_data/assets/pdf\_file/0034/89773/Aged-care-toolkit-for-COVID-19-outbreaks.pdf)

## Abbreviations

ACSQHC	Australian Commission on Safety and Quality in Health Care
ACEOC	Aged Care Emergency Operations Centre
CDNA	Communicable Diseases Network Australia
COVID-19	Coronavirus
ICEG	Infection Control Expert Group (ICEG)
PPE	Personal Protective Equipment
RACF	Residential Aged Care Facility

## Acknowledgements

- ACEOC Committee Members
- Sector and Peak Body Reference Group
- Commonwealth Department of Health

## Appendices

- PPE Estimator Tool

## PPE Estimator Tool

### I To be used in a COVID-19 Red Zone\*

#### Facility PPE Requirements based on an average of 10 Episodes of Care

No. of staff per shift	Average no. of Care Episodes* per staff member/ shift	PPE requirement per shift	No. of shifts/day	PPE requirement/ 1 day	PPE requirement/ 3 days	PPE requirement/ 7 days
5	10	50	3	150	450	1050
10	10	100	3	300	900	2100
15	10	150	3	450	1350	3150
20	10	200	3	600	1800	4200
25	10	250	3	750	2250	5250
30	10	300	3	900	2700	6300

#### Facility PPE Requirements based on an average of 20 Episodes of Care

No. of staff per shift	Average no. of Care Episodes per staff member/shift	PPE requirement per shift	No. of shifts/day	PPE requirement/ 1 day	PPE requirement/ 3 days	PPE requirement/ 7 days
5	20	100	3	300	900	2100
10	20	200	3	600	1800	4200
15	20	300	3	900	2700	6300
20	20	400	3	1200	3600	8400
25	20	500	3	1500	4500	10500
30	20	600	3	1800	5400	12600

Note: PPE = Gloves, gown, mask, protective eyewear

#### Scenario: COVID-19 Red Zone

In response to a COVID-19 outbreak, RACF-A has rapidly implemented isolation management plans to accommodate increasing numbers of infectious residents and to prevent ongoing transmission. This has resulted in the creation of a **COVID-19 Red Zone**, a geographically separate area cohorting COVID-19 positive residents **only** who have not met clearance criteria.

There are 5 staff members allocated to the **Red Zone** per shift and in total, each staff member has on average 10 physical interactions with the residents (*episodes of care*). This means that whilst working in this zone, each staff member will require 10 units of PPE per shift. Therefore, the PPE requirement will total 50 units of PPE per shift. RACF-A works on a 3 shifts/day pattern. As a result, 50 units of PPE per shift multiplied by 3 shifts will give the total amount of PPE that RACF-A requires for one day.

Multiplying this daily total by the amount of days required will then estimate the total amount of PPE RACF-A will require for ongoing management of the Red Zone.

#### Formula I:

PPE required = Total number of staff per shift x Number of care episodes (ie 20) x Number of shifts x Number of days required

- \* **Red Zone** refers to a geographically separated area cohorting confirmed coronavirus (COVID-19) residents *only* who have not met clearance criteria.
- \* Episode of Care (care episodes) refers to each occasion where close contact with a resident has occurred (eg meal delivery, clinical care, cleaning etc)

## 2 To be used for COVID-19 Positive **Red Residents\*** without zoning

Facility PPE Requirements based on an average of 10 Episodes of Care per resident

No. of COVID Positive residents/shift	Average no. of Care Episodes per resident/shift	PPE requirement per shift	No. of shifts/day	PPE requirement/ 1 day	PPE requirement/ 3 days	PPE requirement/ 7 days
1	10	10	3	30	90	210
2	10	20	3	60	180	420
3	10	30	3	90	270	630
4	10	40	3	120	360	840
5	10	50	3	150	450	1050
6	10	60	3	180	540	1260

Facility PPE Requirements based on an average of 20 Episodes of Care per resident

No. of COVID-Positive residents/shift	Average No. of Care Episodes* per resident/shift	PPE Requirement per shift	No. of shifts/day	PPE requirement/ 1 day	PPE requirement/ 3 days	PPE requirement/ 7 days
1	20	20	3	60	180	420
2	20	40	3	120	360	840
3	20	60	3	180	540	1260
4	20	80	3	240	720	1680
5	20	100	3	300	900	2100
6	20	120	3	360	1080	2520

### Scenario: COVID-19 Positive **Red Resident** being isolated within their room

RACF-B has declared a COVID-19 outbreak and has isolated the affected residents in their rooms while planning to implement cohorting.

Currently, there are 2 confirmed COVID-19 residents within the facility. Each resident is clinically stable and requiring on average 10 physical interactions (*care episodes*) with staff per shift. This means that staff will use 10 units of PPE per resident; as there are 2 confirmed COVID-19 residents, this will total 20 units of PPE per shift. RACF-B works on a 3 shifts/day pattern and as a result, 20 units of PPE per shift multiplied by 3 shifts will give the total units of PPE RACF-B will require for one day.

Multiplying this daily total by the amount of days required will then estimate the total amount of PPE RACF-B will require for ongoing management of the confirmed COVID-19 residents.

#### Formula 2:

PPE required = Total number of COVID-19 Positive residents per shift x Number of care episodes (i.e. 20) x Number of Shifts x Number of days required

- \* **Red residents** are those residents with confirmed coronavirus (COVID-19) who have not met clearance criteria.
- \* Episode of Care (care episodes) refers to each occasion where close contact with a resident has occurred (eg meal delivery, clinical care, cleaning etc)

You will need to estimate the frequency of PPE in line with the recommendations on the donning and doffing of PPE, for each resident, for each episode of care, noting that PPE will need to be estimated for use by all staff across the service<sup>1</sup>

<sup>1</sup> [Aged Care Quality and Safety Commission. Outbreak management planning in aged care. Australian Government, 2020, \(www.health.tas.gov.au/\\_\\_data/assets/pdf\\_file/0003/414489/COVID-19\\_Case\\_and\\_outbreak\\_management\\_framework\\_for\\_Tasmanian\\_settings.pdf\)](http://www.health.tas.gov.au/__data/assets/pdf_file/0003/414489/COVID-19_Case_and_outbreak_management_framework_for_Tasmanian_settings.pdf)