



**Home &  
Community  
Health**  
Association

**PERSONAL PROTECTIVE EQUIPMENT (PPE)  
REVIEW**

**FOR HOME & COMMUNITY CARE PROVISION**

**A COVID 19 Pandemic and Post COVID 19 Pandemic Perspective**

**Within the Wider Context of Infection Control**

# Home and Community Health Association Personal Protective Equipment Review

## Discussion Paper

The Home and Community Health Association commissioned a leading New Zealand Occupational Medicine Specialist, Dr David Hartshorn, of Medicine at Work Ltd, to specifically review the activities of the Home and Community Support Sector and to prepare a discussion paper to address and discuss issues of infection control with particular reference to the appropriate utilisation of PPE.

## Purpose

The purpose of this discussion paper is intended to inform members of the Home and Community Health Association (HCHA) and other Home and Community Support (HCSS) providers, together with other stakeholders in the HCSS sector as to PPE issues, **within both a COVID 19 Pandemic and Post COVID 19 Pandemic environment**, in the context that specifically considers the delivery of HCSS services in the home of the client.

The intent of the paper is to:

1. To address and develop a framework which can be applied to the, as yet unknown, future infection control threats such as future epidemic or pandemic situations for pathogens as yet unrecognised.
2. To consider the implications of infection control for the clients or service users within the Home and Community Health Association remit.
3. To consider the infection control implications for the support workers/healthcare workers within this care environment.

This discussion paper focuses on hazards within the biological sphere where there is an infection control perspective. The discussion paper does not address any of the other hazards or risks within the context of the community and home care environment.

## Recommendations

This Report makes specific PPE recommendations as to Community Care Provider guidance in regard to:

1. Intra COVID-19 Pandemic PPE guidance – Alert Levels 1 & 2.
2. Intra COVID-19 Pandemic PPE guidance – Alert Levels 3 & 4.
3. Post COVID-19 Pandemic PPE guidance – The “New Normal”.

# Medicine At Work Ltd

Specialist Occupational and Environmental Medicine

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## **Personal Protective Equipment (PPE) REVIEW for Home and Community Care Provision.**

**A COVID 19 Pandemic and Post COVID 19 Pandemic Perspective**

**Within the Wider Context of Infection Control.**

December 2020

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### **Introduction**

This discussion paper is prepared in response to a request from the Home and Community Health Association of New Zealand. The request was to address and discuss issues of infection control with particular reference to the use of personal protective equipment (PPE). This request particularly occurs within the context of the covid-19 pandemic. The request particularly related to discussion of the appropriate utilisation of PPE. It is important however to appreciate that the use of PPE represents only one facet of control measures as part of wider infection control procedures.

Additionally, the discussion paper will attempt to address and develop a framework which can be applied to the, as yet unknown, future infection control threats such as future epidemic or pandemic situations for pathogens as yet unrecognised.

The discussion paper is to additionally consider the implications of infection control for the clients or service users within the Home and Community Health Association remit. It is also to consider the infection control implications for the support workers/healthcare workers within this care environment. This discussion paper will focus on hazards within the biological sphere where there is an infection control perspective and the discussion paper is not addressing any of the other hazards or risks within the context of the community and home care environment.

A risk assessment approach will be utilised whereby there is a sequential identification of potential hazards with an assessment of exposure information and exposure response considerations followed by comments around risk characterisation and finally discussion with respect to the implementation of appropriate control measures as a result of the risk assessment process.

### **Background Context**

Home and Community Health Association members provide in-home care for those with health and disability requirements. The service users include those with aged related illness and limitation but also includes younger service users with physical or intellectual disability. Additionally, there are clients of various ages who have needs associated with recent or long-term injury related disability and injury recovery.

In general terms therefore the service users can be seen as a potentially vulnerable group with respect to the risk of poor outcome from infection. The service users are largely of older age with Access Community Health figures nationally suggesting that over 75% of service users nationally (total 18,014) are 70 years or older.

Additionally, the support worker workforce is one with a relatively high age profile. Once again utilising Access Community Health figures nationally, almost 64% of support workers are 50 years of age or greater (total nationally 3,053). Additionally, some support workers are drawn from family members of the service users and thus have a dual role of family member and support worker within the context of the home and community health provision.

The work is performed in the service user's residential home or place of residence. It is common therefore for service users to have a number of support workers attending their home for both home care and personal care support during the week. Additionally, it is also common that a support worker has multiple service user clients across the week. Thus, the pattern of service is that of multiple interactions between support workers and service users with service users being seen as a potentially vulnerable group from a health and disability perspective, and acknowledging also that the workforce of support workers is also of generally older demographic and potentially also has thus some increased vulnerability with respect to infection risk.

By way of example Access Community Health, within the Wellington region, estimates approximately 10,000 service user and support worker contacts per week of which 70% represent those of personal cares where there is likely to be close interpersonal or physical contact.

Additional considerations are those of the support workers and their employer organisations having little or no direct control over the service user's home environment with respect to the potential implications for infection control management and procedures. In general terms equipment or supplies required on an ongoing basis by the service user are supplied and held within the service user's home environment. Additional ad hoc supplies and the required PPE are brought to the home environment on each visit by the support workers. In general terms current policy is that of disposal of used equipment, dressings or PPE within the service user's home environment with no routine provision for external disposal.

My understanding of the range of contract types as part of the home and community care sector include the following:

- 1. Ministry of Health contracts (generally under 65).** These contracts often involve the care of those with physical disability or developmental disability. The care is often in place for long term. Access Community Health reports that there is an attempt to provide a permanent support worker team within this context. Thus, there is often approximately two support workers in this type of contract provision environment.
- 2. ACC funded clients.** This includes short-term post-injury care contracts up to a duration of six weeks. Additionally, the ACC contracts include longer term serious injury related care. This includes serious and complex injuries including severe head injury and spinal injuries. This group includes all age groups including children with serious injury outcomes. Again, there is a focus on providing a stable or permanent team of support workers for the longer-term ACC clients.
- 3. DHB contracts** include contracts for care in those aged over 65 or with elder care related needs. These contracts are generally for the provision of support for up to twenty-eight hours per week and are frequently provided by a larger team of six to eight support workers. Sometimes the support work in this context occurs within the confines of a retirement village

where the person is still living in a semi-independent fashion. This can include those who require transitional aged care support prior to discharge back into the community where the support worker also provides support within the facility. Thus, within this context there is some interaction between the needs and requirements of the in-home support worker versus the approach policy and procedures of the facility management as a whole.

Additionally, there are some short-term post-discharge DHB care contracts which mostly have a convalescent or rehabilitation focus.

## **Assumptions**

**1.** It is assumed that there is a high likelihood of an ongoing threat of covid-19 infection within New Zealand due to the SARS-CoV-2 virus. This is based upon the high incidence and prevalence rates of SARS-CoV-2 around the world and the likely increase of international travel as therapeutics and vaccination become more widely available initially within the developed world. It is additionally assumed that any vaccination for SARS-CoV-2, similar to most vaccines, will not be 100% effective in obtaining immunity or seroconversion. Thus, vaccination will provide incomplete levels of immunity even assuming a high level of community uptake. Additionally, it is likely that the effectiveness of a vaccine will be less in the elderly and chronically unwell population as this is a consistent pattern whereby these individuals are less likely to mount a satisfactory immune response to vaccination. Furthermore, it is likely that there will be an uneven uptake of vaccine internationally to the extent that there is likely to be large pockets of circulating virus for a fairly prolonged period. Thus, it would not be unreasonable to assume that in time SARS-CoV-2 may result in a similar pattern of seasonally more active infection not dissimilar to influenza. This may be even more likely with the potential for relatively short-lived immune status following vaccination although this is clearly uncertainty at this point.

**2.** A Further assumption is that the overall public health measures and community response to the covid-19 pandemic has had a very positive impact upon the transmission of other respiratory viral illness. In particular the rates of seasonal influenza during 2020 are reportedly significantly lower than that usually seen. Thus, it can be assumed that in part, or in whole, the responses to the covid-19 pandemic have been effective in reducing the incidence, prevalence and thus morbidity and mortality usually seen related to seasonal influenza which is also most prominent within the vulnerable groups with respect to age and chronic health status.

**3.** It is assumed that influenza will remain a seasonally fluctuating threat for morbidity and mortality particularly within the aged and chronically ill sector of New Zealand community.

**4.** It is also assumed that there will inevitably be periods of community outbreak or epidemic of already known infectious disease which will then result in a requirement for some degree of disease specific risk assessment and potentially result in some adjustment with respect to infection control procedures. Recent examples include measles outbreaks and pertussis (whooping cough) outbreaks.

**5.** It is assumed additionally that there will inevitably be an emergence of further new infective organisms as a potential threat for epidemic or pandemic events both in New Zealand and globally. This may relate to significant structural shift in the influenza virus. It may relate to the emergence of other respiratory viruses similar to SARS, MERS, and COVID-19. It may be that it is a different organism such as a haemorrhagic virus such as Ebola. Thus, the risk assessment process needs to have a structure in place whereby the particular characteristics of a new organism are assessed. This will include a consideration of important factors such as:

- a) Severity of infection in terms of mortality and morbidity
- b) Ease of transmission
- c) Timing of transmission with respect to symptom onset
- d) Precise mode of transmission (droplets, aerosol, contact, faecal-oral, or insect or animal vectors)
- e) Availability of therapeutics or vaccine
- f) Identification of specific vulnerability factors for infection or adverse infection outcome
- g) Durability of organism in terms of ease of neutralisation

## **Risk Assessment Process**

The risk assessment process generally involves a multistep approach which includes the following:

1. Hazard identification.
2. Exposure assessment or information.
3. Dose response data.
4. Risk characterisation.
5. Development of control measures.
6. Ongoing audit in order to assess the effectiveness of control measures undertaken.

It is also important to note that risk assessment is a dynamic process. As the circumstances of the provision of care evolve so too does the process of risk assessment and risk characterisation which in turn may impact upon chosen control methods. Thus, if the health or vulnerability status of the service user changes this may affect the decisions made. Similarly, if there is a change in the wider environment, such as the emergence of a localised or more generalised epidemic or pandemic, this should also trigger a review of the risk assessment process.

This should then result in an approach whereby there is an initial or baseline risk assessment performed for each service user-support worker programme with triggers in place for this to be reviewed with any change in health status or change in the nature of care provision. Clearly local or regional changes in infectious illness burden in the community may also trigger updated risk assessments in those regions.

A last layer of risk assessment relates to acute changes in status such as checking whether a service user or support worker has any signs or symptoms of illness that may require specific change in control methods or care provision for that short period of time.

Thus, the process of risk assessment referred to in the appendices includes the baseline assessments, the process of interim adjustment with health and vulnerability status change, as well as the adjustment to acute illness.

### **1. Hazard identification**

This is largely straightforward within the context of infection control except within the context of new emerging threats such as antibiotic resistant organisms or the evolution of novel organisms such as has occurred within the SARS-CoV-2 related pandemic. Essentially however within the Community Health setting and specifically within the home and community health setting in New Zealand the primary issues of interest are as follows:

1. SARS-CoV-2 (covid-19).

2. Influenza.
3. Blood-borne viral infection (HBV, HCV, HIV).
4. Staphylococcus aureus.
5. Gastrointestinal infection (faecal oral/contact spread).
6. Other infections - measles, mumps, pertussis, diphtheria, meningococcal disease (will often follow localised intermittent community outbreak)

## **2. Exposure information/data**

In the context of infection control this includes an assessment of the community prevalence or incidence of the infection. In infections where there is a high level of case surveillance such as COVID-19 or other notifiable illness the community rates of background infection can be known fairly accurately both in terms of numbers and location. In other infections there is not a routine surveillance programme and the incidence and prevalence of infection within a specific community will only become apparent if there is a significant outbreak. In other situations there is an acceptance of a chronic rate of carriage for the potential pathogen such as the relatively high level of carriage of staphylococcus aureus in the general population within the nasopharynx or nose.

Exposure information required also includes the route and mode of transmission. In general terms this can be characterised as those infections with respiratory spread either via droplets or aerosol with secondary surface or contact contamination (COVID-19 and influenza). Respiratory viruses generally then enter the body to cause infection via exposure to a mucous membrane (moist areas of nose, eyes, mouth and throat). Droplets are larger respiratory generated particles which generally fall rapidly to the ground under the influence of gravity due to the larger size. As a droplet becomes smaller it is more likely to remain suspended in the air at which time it is more generally referred to as an aerosol. Both can potentially contain viral particles although in most cases droplet spread is felt to be the most important (exceptions being measles and TB).

Other paths of transmission include direct physical contact sometimes through intermediate surfaces such as that with staphylococcus aureus transfer. Additional modes of transmission can include faecal-oral contact again sometimes mediated by intermittent surface contamination with the portal of entry that of oral ingestion.

In general terms it would be reasonable to state that the vast majority of transmission of infective organisms occurs via droplet or hand contact either to mucous membranes of the eyes, nose or oropharynx or due to ingestion. There are fewer infective organisms whereby inhalation via aerosol is felt to be the major route although measles is implicated in this group.

A further mode of transmission is that of blood and body fluids with particular reference to the risk for hepatitis B, hepatitis C and HIV within the Community Health worker setting.

An important consideration is the risk of both support worker to service user transmission but also service user to support worker transmission.

## **3. Dose response data**

Within the context of the COVID-19 pandemic there is evolving understanding of the dose or exposure to an infective case as it relates to the risk of passing on the infection. This is broadly speaking defined using the elements of time or duration and elements of distance combined also to a degree by the nature of the interaction. In the particular context of COVID-19 there is felt to be a lesser risk with proximity in excess of 2m in distance due to the dominant mechanism of transmission being that of droplet spread. It is unusual for

droplets to remain suspended from an infectious source beyond a 2m distance. In terms of close proximity duration, it is generally felt that fifteen minutes or more within close proximity is a duration which increases the risk of transmission. It is also identified that household contacts are at increased risk, most likely on the basis of a combination of time and distance factors but very likely also the higher risk of shared contact surfaces increasing the risk of contact spread (fomites).

Thus, it can be seen that many of the mitigating factors and infection control factors rely upon an analysis of the mode and effectiveness of infection transmission.

#### **4. Risk Characterisation**

The characterisation of risk depends upon a number of factors. Firstly, it depends upon the incidence or prevalence of the infective organism. It depends upon the ease of transmission. It depends upon the severity of infective outcome. Within the context of a SARS-CoV-2 infection the risk of significant morbidity or complications is felt to be significantly greater than with seasonal influenza. There appear to be a number of vulnerability factors identified which further increase the risk of adverse outcome. The evidence suggests there is a strong influence of age potentially related to the increased rate of chronic health conditions. There appear to be strong associations with significant elevation of body mass index. There are associations with poor outcome related to chronic respiratory illness and also with respect to ischemic heart disease. There is a strong association between diabetes and a poor outcome. There appears to be evidence also of any pro-inflammatory state as being a risk factor for a poor outcome and, similar to other infections, any immunosuppressed state appears to be problematic. It would be therefore seen when considering the population of service users within the Home and Community Health Association setting that there will be a large proportion of vulnerable service users with a lesser proportion also of potentially vulnerable support workers.

There does not appear to be current evidence to suggest that pregnancy has any specific risk profile relating to COVID-19 outside of the non-specific risks of a febrile illness whilst pregnant. This is however based on a relatively short period of data. It would be important to assess the risks of any future emerging infectious disease in pregnancy. Additionally, whilst any new infectious disease was emerging a precautionary approach to those service users or support workers who were pregnant, or actively trying to conceive, would be appropriate.

It can be seen particularly within the context of COVID-19 that the risk of an adverse outcome is greatly influenced by the incidence or prevalence of the virus within the community. If there is no community presence or spread of the virus then the risk for those vulnerable community members will remain low.

#### **5. Control Measure Hierarchy**

There is a concept of a hierarchy of controls with respect to the management of risk associated with specific hazards. The hierarchy commences with elimination and then moves sequentially to substitution, isolation, and finally a range of minimisation strategies. PPE falls into the latter group.

The initial focus is that of **elimination** whereby the hazard is essentially removed from the environment. This is the preferred method of control for any hazard although clearly within the context of infectious disease or infection control this is in many cases difficult. Clearly the current approach of the New Zealand Government and Ministry of Health, to the COVID-19 risk, is that of maintaining an elimination status for the vast majority of the community.



The second tier of the hierarchy of controls is generally described as that of **substitution**. In this respect a hazard is substituted for something which is either less hazardous or more easily controlled. In the context of infection control a vaccination would be seen as fitting into a substitution form of control measure. The wild or native infection is substituted for a planned inoculation in the form of a vaccination which will then provide an immune response for the majority of recipients.

The effectiveness of vaccination depends upon the immunogenicity of the specific vaccine. This refers to the ability of the vaccination to provoke an immune response in an individual such that the individual then develops immunity to the natural or wild infection. This varies upon the nature of the vaccination itself but also varies on the ability of an individual to mount a satisfactory immune response. In general terms the elderly or chronically ill tend to less effectively mount an immune response. Thus, it is generally seen that vaccination is less effective for those in the elderly population or in those with chronic health issues, particularly those which have an adverse impact upon immune status. Thus, there is usually a general reduction in immunogenic response to vaccination with increasing age. The level of effectiveness for a COVID-19 vaccination is, as yet, not fully known outside of trials.

Despite this there is convincing evidence within the medical literature to support the routine population vaccination for seasonal influenza with significant reduction in morbidity and mortality documented within the elderly and chronically ill population. Thus, even without an optimal immunogenic response to vaccination across this population group there is likely to be substantial benefit in providing vaccination protection.

At this time there is only emerging information with respect to the variety of vaccinations for SARS-CoV-2. A number of vaccinations are, at the time of writing, concluding phase 3 trials. It is apparent that vaccinations do have the potential to provoke an immune response in otherwise generally healthy individuals. It is seemingly confirmed that this immune response provides protection to the wild or native infection but it remains unclear as to the extent or particularly duration of any immunity protection obtained.

There would be recommendations to ensure that support workers were routinely vaccinated for those infections potentially circulating in the community and it would be specifically important to ensure that there was consideration of hepatitis B vaccination given the Community Health worker status of many of the activities performed by support workers within the home environment. The ongoing focus of obtaining high levels of influenza vaccine uptake in both service users and support workers is supported. It is likely that this approach will also be a key component of managing COVID-19 in the post pandemic setting.

**Isolation** refers to the use of barriers or some other form of separation to isolate the hazard from those it may harm. The use of social distancing can be seen as a form of (partial) isolation by the use of distance when considering infections with droplet spread. In practice, when considering home and community care provision, this is unlikely to be a realistic form of hazard management. It is more applicable to those areas with capacity and facilities for isolation such as hospitals.

**Minimisation** is the focus on utilising all practicable interventions to then further minimise the risk of either exposure to the hazard or harm from the hazard identified. This is the last phase of control measures to be considered. These include the following types interventions:

#### a) **Administrative interventions**

These can include interventions such as staff rotation, rostering interventions, clear sickness absence policy, restriction of entry, and education and training interventions.

Such interventions within the Home and Community Health Association setting could include the minimisation of support worker team size, particularly for those service users who are seen as particularly vulnerable. Such a decrease in size of the support worker team will in effect decrease the potential contact exposure of the service user. This will additionally reduce the subsequent contact between the specific support worker and other service users as a high proportion of their work hours will be spent with the same service user.

In a similar vein a focus on geographical limitation of service worker utilisation could be pursued to reduce the risk of across community work activity such that intercommunity transmission will be potentially further reduced.

Other considerations would be those of time restriction with respect to contact between service worker or service user however this would be difficult to pursue given the nature of many interactions. Further interventions could include consideration of social distancing within the work environment as a routine outside of the specific requirement for close physical contact associated with the number of personal care procedures. There would be some adverse consideration with this type of intervention given that the support worker service user interaction is frequently a significant proportion of a service user's social contact and thus minimising social contact during the interaction may have some negative psychosocial outcomes.

At times of community presence of infectious respiratory or viral illness some discussion with the service user and family would be useful in terms of managing visits from those people outside of the residence.

The provision of education and training is an intervention within the administrative control area. It would be appropriate to optimise education training with respect to infection control interventions with particular reference to the infection control procedures for current and community significant infections.

**Sickness Absence:** It is important to have a clear guidance for support workers to avoid undertaking support work when unwell. This will need to be supported by a clear sickness absence policy which supports and reinforces this goal.

**Hand Hygiene:** The hand is a potentially very frequent conduit of infective organisms between mucous membrane, other contaminated surfaces, faecal contamination or food contamination or droplet contamination. Thus appropriate, effective and regular hand hygiene is a cornerstone of infection control procedures but not just for covid-19 but for a large range of organisms. Thus, the provision for frequent and effective hand washing within the work environment including prior to and immediately after each contact is essential. If handwashing facilities are not appropriately available then alternatives such as effective and appropriate hand sanitiser available to each support worker would be important.

It is important to note that the use of a shared or communal hand towel for drying after hand washing may compromise the effectiveness of this intervention. Thus, again provision of dedicated and personal hand drying capacity or the use of hand sanitiser is required.

An associated intervention is that of frequent surface cleaning whereby this reduces the likelihoods of a high touch surface being contaminated and thus reduces the likelihood of hand contact acting as a conduit to infection by subsequent contact with mucous membrane or mouth or open skin surface.

**b) Engineering interventions** such as ventilation are not applicable given the home-based nature of work activity and are essentially only applicable within purpose-built community health facilities.

**c) PPE**

PPE is generally seen as the last intervention within the hierarchy of control and is pursued where other interventions have not sufficiently reduced or eliminated the risk.

**Glove Use:**

The use of appropriate protective gloves is indicated when contacting potentially contaminated surfaces including those potentially contaminated by respiratory viruses, gastrointestinal organisms, or other blood or body fluids. It is however important to realise that the glove used in this situation then becomes a contaminated surface in its own right and thus there needs to be awareness of the appropriate donning and doffing of gloves and awareness that gloves worn during a potentially dirty or contaminated procedure that continue to be worn will have the potential to contaminate other surfaces touched thereafter.

Thus, in the absence of contact with blood or body fluids and assuming intact skin, glove use would not be seen as definitively superior to the use of frequent and timely hand hygiene prior to and immediately after any potential surface or personal contact.

Both frequent hand washing and prolonged glove use can be a risk factor for irritant contact dermatitis in the hands of the support worker. Avoiding the use of powdered latex gloves will minimise the risks of allergic contact dermatitis in the glove wearer.

**Mask Use:**

In general terms there needs to be some differentiation with respect to the type of mask or respirator use. This can vary from a straightforward homemade material mask, to a surgical mask, to an N95 particulate filter (P2 mask), or half-face particulate respirators up to full-face positive pressure air fed respirators, or self-contained breathing apparatus. For practical purposes the discussion of mask use within the Home and Community Care Association setting will be that differentiating surgical mask use versus N95 mask use versus no mask use.

There is evidence in the medical literature to suggest a protective effect when considering influenza transmission. There is a reduction in transmission risk if someone infected with influenza is wearing a mask. This is presumed to be due to the reduction in droplet emission in such a setting. There is however also a protective effect for the non-infected contact wearing a surgical mask and thus there is both potential protective effect utilising surgical masks for both the infected person and the non-infected attendant or service user.

Thus, during periods of community presence of COVID-19 within the pandemic or after the pandemic within the possible seasonal peaks of respiratory illness (influenza and COVID-19) it makes sense to pursue mask use by the support worker for close personal contact between support worker and service user. If the service user is either seen as highly vulnerable OR has any symptoms of respiratory illness mask use by the service user should be considered and discussed as part of their care plan.

An N95 respirator, if effectively fitted, is more effective in eliminating the inhalation of smaller aerosol sized particles. For this reason the use of N95 masks is generally recommended within the context of SARS-CoV-2 for those undertaking potentially aerosol producing procedures. These will not occur outside of a hospital or clinic setting and as such the use of N95 respirators within the home and Community Health environment would not

generally be recommended. The exception to this would be potentially if a person with suspected or known covid-19 infection was being cared for within the home environment. Any N95 mask use requires a process of fitting and fit testing as the efficiency depends entirely on a good seal and close fit.

### **Eye Protection:**

Eye protection is utilised if there is a high risk of potentially infective substance impacting upon the moist mucous membrane of the eyes. This would include potential for blood and body fluid splash but would also include the potential for respiratory droplet deposition such as is of potential consideration with covid-19 or influenza.

Thus, the use of eye protection would be recommended only during the performance of activities with a risk of blood or body fluid splash or if there was concern that the service user was exhibiting symptoms and signs of a respiratory illness and the personal care required was seen as essential or important. Once again the eye protection must be considered or seen as a contaminated service after such a contact and must be removed and cleaned, or disposed of in an appropriate manner to prevent this being a potential conduit to other contamination and transmission of infection.

### **Apron and Over boots:**

If there is close personal contact then there remains a potential for clothing to act as a contaminated surface or conduit of infection to other surfaces or people. For this reason, if there is close personal contact required it would be appropriate to use an apron to minimise the risk of clothing contamination which could then be passed on during the next service user-support worker interaction. If there is no physical contact required then, in the absence of the presence of respiratory symptoms potentially producing droplet spread, the use of an apron would not be required outside of also the potential for blood or body fluid splash.

Overshoes would not generally be seen as required unless there was a potential for blood or body fluid contamination to footwear or there was concern regarding potential respiratory droplet spread from a symptomatic service user.

## **6. Audit.**

Audit relating to PPE could take a number of approaches. A basic form of audit is to monitor the numbers of PPE items used against the number of interactions to assess the proportion of interaction where PPE of a certain type is used. This will give some guide as to the utilisation of PPE against the general guidance for that community status.

Another form of audit is that of spot checks or trainer observation to assess PPE use technique including donning, doffing, and disposal technique.

From a wider perspective audit could usefully include a collection of data around infection rates in service users. There could also be some observation and data collection around sickness absence due to infectious illness however collection of cause of absence data is difficult to achieve.

### **Specific PPE Recommendations**

PPE recommendations are made in Appendices 1-3 which follow.

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PMID: [32973285](https://pubmed.ncbi.nlm.nih.gov/32973285/)

Efficacy of masks and face coverings in controlling outward aerosol particle emission from expiratory activities

[Sima Asadi](#),<sup>1</sup> [Christopher D. Cappa](#),<sup>2</sup> [Santiago Barreda](#),<sup>3</sup> [Anthony S. Wexler](#),<sup>2,4,5,6</sup> [Nicole M. Bouvier](#),<sup>7,8</sup> and [William D. Ristenpart](#)<sup>1</sup>

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Efficacy of face mask in preventing respiratory virus transmission: A systematic review and meta-analysis

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**APPENDIX 1.**

**INTRA COVID-19 PANDEMIC PPE GUIDANCE COMMUNITY CARE PROVIDERS - ALERT LEVELS 1 and 2.**

Assume that risk assessment occurs prior to commencing initial service and duties (includes baseline assessments, any status updates, and pre service check for any acute changes).

Assume that other control measures are in place and PPE is last line of control.

Assume PPE disposal systems in place.

	Hand hygiene	Surgical/medical mask	N95 mask	Gloves	Eye protection	Apron gown	Overshoes
Cares with no contact with blood or body fluids	YES	YES, if unable to maintain social distancing	NO	NO	NO	NO	NO
Cares with possible contact with blood or other body fluids.	YES	YES	NO	YES	Assess risk of splash	YES, if any physical contact with clothing	YES, if any floor contamination likely

**APPENDIX 2.**

**INTRA COVID-19 PANDEMIC PPE GUIDANCE COMMUNITY CARE PROVIDERS - ALERT LEVELS 3 and 4.**

Assume that risk assessment occurs prior to commencing initial service and duties (includes baseline assessments, any status updates, and pre service check for any acute changes).

Assume that assessment of whether service is essential has been undertaken.

Assume that other control measures are in place and PPE is last line of control.

Assume PPE disposal systems in place.

N95 masks only recommended if dealing with probable or confirmed case of COVID-19 and requires fitting and fit testing\*\*\*.

	Hand hygiene	Surgical/medical mask	N95 mask	Gloves	Eye protection	Apron gown	overshoes
Cares with no contact with blood or body fluids	YES	YES, if unable to maintain social distancing- consider for both support worker and service user (indicated if service user unwell)	NO	NO	NO	NO	NO
Cares with physical contact or possible contact with blood or other body fluids.	YES	YES	NO***	YES	Assess risk of splash or droplets or cough.	YES, if any physical contact with clothing	YES, if any floor contamination likely

**APPENDIX 3.**

**POST COVID-19 PANDEMIC PPE GUIDANCE- COMMUNITY CARE PROVIDERS. THE “NEW NORMAL”.**

Assume that risk assessment occurs prior to commencing initial service and duties (includes baseline assessments, any status updates, and pre service check for any acute changes).

Assume Vaccination <100% effective and vaccine uptake <100%.

Assume COVID-19 as probable ongoing seasonal illness similar to Influenza and thus the guidance below applies to these seasons when considering mask use \*\*\*.

Assume that other control measures are in place and PPE is last line of control.

Assume PPE disposal systems in place.

	Hand hygiene	Surgical/medical mask	N95 mask	Gloves	Eye protection	Apron gown	overshoes
Home Cares with no contact with blood or body fluids	YES	YES, if unable to maintain social distancing	NO	NO	NO	NO	NO
Personal cares with possible contact with blood or other body fluids	YES	YES*** as will be unable to socially distance.	NO	YES	Assess risk of splash	YES, if any physical contact with clothing	YES, if any floor contamination likely