

Covid-19 infection prevention and control in care homes

Report for JHOSC November 2021

Background

- In the first wave of coronavirus infections care homes and other institutions housing vulnerable individuals were particularly susceptible to introduction and internal spread of coronavirus infection.
- This led to high levels of infection, morbidity and mortality in these institutions between weeks 14 and 22 of 2020 (Burton et al., 2020, Lancet/Health Longevity doi.org/10.1016/S2666-7568(20)30012-X) in part as a result of lack of preparedness and shortage of PPE but also as a result of the government instruction for care homes to play their part in accepting patients discharged from acute care hospitals whether or not they had been tested for coronavirus. It must be said that sensitive and specific lab-based tests were not available at the time. Some care homes resisted this directive and avoided excess mortality (pers. comm.).
- It seemed highly likely that biosecurity protocols varied according to differences in barrier infection skills possessed by nursing staff in different care homes and whether or not the home was large enough to employ such staff.
- The pressures experienced by care homes were exacerbated by staff illness with more frequent use of agency staff who were considered to be an additional source of transmission between homes.
- I was asked by the previous chair of HOSC to produce a report on infection control in care homes as a result of my long experience in infection control in a zoonotic context. The current Chair of HOSC has supported liaison on this report with the Director of Social Care with a view to producing the recommendations in this report.
- This paper should be read in conjunction with the report “The first thirty days” produced by Dr. Alan Cohen and Barbara Shaw.

The view from and of care homes

- There are over 140 care homes in Oxfordshire. My observations are based on observations in the Health Watch report, individual case studies and discussions detailed in this paper. Contact was made with two care homes.
- Contact with Care Home 1 suggested that the owner had made many changes to their procedures including introduction of some technology.
- Care Home owner 2 said that she felt isolated with little reliable information being provided. The comment was also made that there was a plethora of information which was almost impossible to analyse to identify the most important bits of information. This view was supported by a Healthwatch report (vide infra).
- It was the opinion of these care homes that, in general, homes learned from each other.
- An acquaintance has recently been visiting care homes looking to place an elderly, frail relative for respite and it was their observation that there was very little consistency in the extent to which residents were allowed to visit or receive visitors with variation in residents being allowed out of the home with no protection or requiring lateral flow tests or re-isolation on return. Re-isolation after a hospital appointment was involved in one home. Some were accepting new residents while some were too scared to do so

- A local GP and a Healthwatch report (<https://www.healthwatch.co.uk/reports-library/listening-care-homes-during-covid-19-pandemic>) identified the additional factor that government requested discharge of patients from acute hospital beds. Some homes “expressed concerns for safety of their residents, and were obviously not happy to receive people from hospital discharge, with unclear communication and uncertain they could trust information given”. The GP’s opinion was that adequate infection control protocols based on risk analysis could have prevented at least a proportion of these cases and deaths (pers. comm.).
- PB also contacted OCHA (Oxfordshire Care Homes Association) and OACP (Oxfordshire Association of Care Providers) who were very helpful and pointed me in the direction of Oxford Health (OH) advice as a source of information on infection control which they used for Oxfordshire care homes. OH has also now developed a webinar. OACP identified a gap in current protocols and welcomed input from HOSC.
- Shortage of PPE is no longer a major issue but unless its use together with distancing is embedded in a detailed and integrated infection control and biosecurity system their deployment alone may be of little use.

The principals of biosecurity and infection control

- Biosecurity is used in many aspects of preventive infectious disease in man and animals mainly to prevent infection entering a specific susceptible population.
- A key component of biosecurity is Hazard Analysis and Critical Control Points (HACCP). Although designed initially for food production, it is also used extensively for infection control by adopting several key points including (i) risk and hazard analysis (identifying risks and hazards associated with all activities leading to infectious agents infecting the susceptible population), (ii) identifying critical control points which are steps or points where control can be applied. Additional steps include establishing limits to which the hazard needs to be controlled and which require monitoring and adapting should this show the risk exceeds acceptable limits. Record keeping is also an important aspect of biosecurity good practice.
- As an example, Intensive livestock rearing involves housing large numbers of highly susceptible individual animals at high density generally in enclosed spaces with dedicated and occasional staff attending. Vaccination is practised but this is not enough as problems arise very similar to those observed in care homes and other institutions with risk of infection from highly infectious RNA viruses (including coronaviruses) and the evolution of new viral strains. Livestock rearing is ideally carried out on a batch system so that animals of the same age and vaccination status are reared together and stock are not introduced to the batch from a different source and which may have an uncertain infection status.
- Extrapolating from approaches to managing infection control in livestock, in the absence of vaccination, a possible contributory factor to the high mortality rate observed in care homes in the early stage of Covid-19 infection was thus inadequate biosecurity and infection control procedures, together with acceptance of untested patients discharged from acute hospitals.
- Sources of infection from viruses spread by the respiratory route include droplets spread by sneezing, coughing and other forms of violent exhalation (shouting etc) in confined spaces. Large droplets will fall rapidly and contaminate surfaces. Smaller droplets will evaporate leaving the virus in the air for up to several hours. Infection can be transferred

to hands from the mouth and nose. As with many virus infections of this sort, infection can be transmitted by individuals before clinical signs of disease are apparent. This is a particular concern and such individuals will not be identified except by frequent testing.

- Thus, infection can occur directly by (i) contact or close proximity with any individual who is infected whether or not they show symptoms and also (ii) by contact with surfaces and other inanimate objects which have become contaminated from aerosols or from the hands of an infected individual.

What information is available that is relevant for biosecurity and infection control in care homes?

The quality of information available on infection control has improved markedly during the last year since this report was originally written.

- **The government web site** (<https://www.gov.uk/government/publications/coronavirus-covid-19-admission-and-care-of-people-in-care-homes>) deals essentially with use of PPE and physical distancing to avoid and prevent infection. There is further direction to www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control/covid-19-guidance-for-maintaining-services-within-health-and-care-settings-infection-prevention-and-control-recommendations which is not specific for care homes but includes information on disinfection but this is tucked away behind a huge amount of information on processes. Standard Infection Prevention Control Precautions (SICPs) are mentioned but not dealt with in depth. Cleaning and disinfection of the environment including solid surfaces, door handles, toilets etc are covered in detail (section 9.3.2).
- **Oxford Health** have now produced an e-learning course for care home staff at <https://www.oxfordhealth.nhs.uk/library/cpd/infection-control-e-learning-course-for-care-home-staff/>. This is not detailed.
- **ADASS** (Sept 2020, <https://www.adass.org.uk/cohorting-zoning-and-isolation-practice-commissioning-for-resilient-care-home-provision-sept-2020>) recognised the need to draw on best practice and also identifies the need for reform of funding for adult social care. ADASS states that it aims to put the residents at the centre of its infection control policy balancing infection control with dignity. Zoning to separate cohorts of residents within care homes who are Covid-positive physically from those who are negative is mentioned but not outlined in detail. Training staff in infection control and use of PPE is mentioned as important but what this entails is not. Safe working practices involve minimising staff movement between units and other steps to reduce physical contact between residents and staff including signposting, PPE and testing. Public health support and advice is regarded as pre-requisite.
- **Amnesty International's** report "As if Expendable" (October 2020 <https://www.amnesty.org.uk/files/2020-10/Care%20Homes%20Report.pdf?kd5Z8eWzj8Q6ryzHkcaUnxfCtqe5Ddg6=>) was highly critical of the practise of discharge of patients into care homes, misuse of the "Do not resuscitate" form, insufficient PPE guidance and poor, late or contradictory advice with the

negative effects of suspension of visits leading to prolonged isolation. The report calls for an independent inquiry but gives no further guidance in terms of infection prevention and control.

- **The Care Quality Commission** have produced information (<https://www.cqc.org.uk/guidance-providers/all-services/coronavirus-covid-19-pandemic-information-providers>) mainly on how they will assess the degree to which homes have been successful in controlling infection. Their web site contains documents related to best practice but there was no single compilation of best practice which care home management can access easily. They have monitored many care homes in Oxfordshire but detailed protocols for infection control are not included in their reporting.
- **Healthwatch Oxford** (June 2020, <https://www.healthwatch.co.uk/reports-library/listening-care-homes-during-covid-19-pandemic>) recognised that care homes which were better prepared with infection contingency plans had a better record of reducing Covid-19 cases. They also recognised that care homes were sometimes overwhelmed with masses of information which appeared to change rapidly.
- **The Department of Health** produced a report in 2013 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/214929/Care-home-resource-18-February-2013.pdf) which outlines approaches to prevention, management and control of infectious disease outbreaks in care homes in some depth. While not specifically targeting respiratory infections the importance of environmental cleaning and decontamination, handling dirty linen and throughout the importance of staff training is emphasised.
- **The British Geriatric Society** (BGS) produced a good practice guide on Covid-19 (June 2020, <https://www.bgs.org.uk/resources/covid-19-managing-the-covid-19-pandemic-in-care-homes>) which is comprehensive and specifically targets Covid-19. This recommended training in identification of symptoms and signs of Covid infection. It also recommended the use of Standard Operating Procedures for patients with confirmed or suspected infection. Zoning and cohorting should be considered or reviewed both for residents but also for staff and should be an important component of accepting infected discharged patients. Identification of an infected patient should result in isolation in their room but there is no indication of protocols to prevent infection leaving their room. Recommendations are made to review routes for entry and exit of care homes and approaches to donning and doffing PPE. These should form part of a larger approach to hygiene including hand washing, staff rotation and policies for waste and reuse of PPE should be included. This report refers to the comprehensive guidance produced by Bushproof (<https://www.bushproof.com/wp-content/uploads/2020/06/Care-home-strategy-for-IPC-of-Covid-19.doc>, see below).

It seems clear from the above, that frustrations at the time arose from a great deal of updated guidance being issued by government and it was therefore difficult for staff across the sector to keep up to date. There was generally no single clear and easily accessible set of Standard Operating Procedures or Accepted Best Practice providing a comprehensive set of protocols to reduce or prevent cross-infection of Covid within care homes in addition to prevent entry of infection and which is endorsed by government. There is clearly a large amount of information available online much of which is not detailed and appears to leave detailed hygiene procedures

to the care homes themselves or their associations. Frequently, it is recommended that these things be put in place without any indication as to what the “things” are.

- **The Bushproof organisation**, as identified by the BGS, produced a Care Homes Strategy for Infection Prevention and Control of Covid-19 (as above, <https://www.bushproof.com/wp-content/uploads/2020/06/Care-home-strategy-for-IPC-of-Covid-19.doc>, June 2020) which, until now, is the single most comprehensive and detailed source of advice for infection control within care homes. It builds on the expertise and experience in controlling SARS infection in the Far East 15-20 years ago and uses HACCP principles.
 - (i) It highlights the risks associated with introducing infection into homes, including infection from pre-symptomatic residents/staff and visitors, the potential problem of geriatric symptoms, and a number of activities within homes which could contribute to infection spread. Measures to counter and reduce these risks are dealt with in detail.
 - (ii) These include
 - a. the use of full PPE, including goggles, masks, gowns and reuse of PPE,
 - b. zoning (how far this is possible will depend on the care home and may vary enormously),
 - c. handwashing and frequent cleaning of touched surfaces and the extent to which this should be done,
 - d. disinfection, laundry and waste disposal,
 - e. signage,
 - f. agency staff – testing, training and registration,
 - g. arrangements for GP visits,
 - h. arrangements for visitors and
 - i. working with patients with mental and other health problems.
 - (iii) They have in addition compared their approach with government guidance in a number of these areas of concern.

Conclusions

1. There is a mass of information available online for infection prevention and control for care homes which has improved in the last year but much of it, including the gov.uk information, is not easily digestible and on most web sites much relevant detailed information is lacking or difficult to find.
2. The most comprehensive information pertaining specifically to control of Covid-19 infection in care homes is that contained in the Bushproof document. The DoH document is also very useful.
3. There is evidence that processes which affect residents' health vary considerably between care homes.

HOSC recommends that:

1. OCC, through its adult's service, should hold regular discussions with OACP, OCHA on how locally we can maximise the advice from online sources beginning with the Bushproof and Department of Health documents.

2. Oxfordshire County Council (OCC) carries out a regular review of current infection control procedures in care homes and the support provided.
3. OCC should ensure that its winter plan contains the recommended training and infection control support as identified by recommendation 1 and 2.

Cllr. Dr. Paul Barrow
Nov 16th 2021