CARBAPENEMASE PRODUCING ENTEROBACTERIACAE (CPE): COMMUNITY TOOLKIT

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CPE

- Carbapenemase producing enterobacteriaceae
- Gut bacteria (enterobacteriaceae) that have developed resistance to multiple antibiotics – including carbapenems
- They can ‘share’ resistance with other species of bacteria
NON-ACUTE TOOLKIT
Broken into 7 sections

1. Factors that increase risk of spread of infection
   1. Flow chart for infection prevention and control management of individuals positive for CPE
2. Keeping the environment clean
3. Where an individual is colonised/infected
4. Where an outbreak or cluster of cases is suspected
5. Communications
6. Management advice for differing care needs
   1. Assessing level of management
7. Guidance for undertaking a risk assessment on managing individuals with a positive laboratory result for CPE
FACTORS THAT INCREASE RISK OF SPREAD OF INFECTION

• The individual:
  - Is in a closed environment
  - Their family have not yet received information on how to best manage and prevent the spread of bacteria
  - Has a discharging wound or oozing from an infected area
  - Has diarrhoea or smears or protests with faeces
  - Is confused or has dementia
  - Requires physical care/rehabilitation

• Likelihood of spread increased with lack of compliance with:
  - NICE standard principles of prevention and control of healthcare associated infection in primary and community care
  - Environmental cleaning and communications with staff and clients
FLOW CHART FOR INFECTION PREVENTION AND CONTROL MANAGEMENT OF INDIVIDUALS POSITIVE FOR CPE

A1.2 Flow chart for infection prevention and control management of individuals positive for carbapenemase-producing Enterobacteriaceae (colonisation or infection)

Individual positive for carbapenemase-producing Enterobacteriaceae

Taking into account factors that increase risk of spread (section A1.1), the individual’s care needs and the care setting, refer to the risk assessment guidance (section A7) for appropriate measures. Discuss management with GP, clinician in charge, IP&C team / nurse (according to setting); seek further advice from PHE centre if appropriate measures are unclear.

Immediately inform GP, clinician in charge, and usual infection prevention and control (IP&C) team / nurse (according to setting). Advice can be sought from your local PHE centre.

Ensure individual’s status, ie history of colonisation or infection with carbapenemase-producing Enterobacteriaceae, is communicated to the receiving care provider (eg hospital, care home) on every occasion of transfer, transport or on discharge, and to visiting professionals providing care eg community nurse (Annex A).
Keeping the Environment Clean

- It is important that cleaning of the environment is thorough.
- Staff hand hygiene after contact with pts with CPE.
- Particular attention should be given to:
  - Hand touch surfaces, such as bed rails and door handles, and bathrooms.
- Effective hand hygiene can help prevent the contamination of unused equipment, items and the environment.
- Avoid storing unnecessary equipment and disposable items in the individual’s room.
- Use a designated sink to discard patient wash water, body fluids or secretions, or when cleaning/disinfecting equipment used with a colonised or infected individual.
- Standard precautions and cleaning – should be audited.
WHERE AN INDIVIDUAL IS COLONISED

- In a shared care environment, an individual who is colonised (a carrier) and who is not at high risk of infecting others does not need to be isolated and should be allowed to use communal facilities.
- Staff should use standard precautions.
- If possible, the individual should be accommodated in a single room with en-suite facilities, including toilet.
- If not possible, they should not share a room with an immunocompromised individual.
- Where an individual is in their own home and shares a bed or bedroom with a partner or family member, consult your usual IP&C advisor to assist in making a risk assessment.
WHERE AN INDIVIDUAL IS INFECTED

- Where an individual is infected with CPE they should be placed in a single room with en-suite facilities.
- If an en-suite room is not available, the individual should be placed in a single room with a designated commode with easy access to hand-washing facilities.
- A discharging wound should be secured with an impermeable dressing.
- Any environmental contamination, from the wound or other body fluids, should be cleaned immediately.
- If an individual requires short-term isolation, daily reviews and defined criteria for when isolation should end (normally when the infection has cleared) should be considered.
- If isolation is not deemed possible, the reasons must be fully documented in the risk assessment and alternative measures for preventing the spread of infection identified, e.g.:
  - A designated carer
  - Enhanced cleaning
- Where an individual is in their own home and shares a bed or bedroom with a partner or family member, consult your usual IP&C advisor to assist in making a risk assessment.
WHERE AN OUTBREAK OR CLUSTER OF CASES IS SUSPECTED

- Suspect a cluster/outbreak if second individual is identified with CPE
- Advise the clinician in charge of the individual or general practitioner (as appropriate to the setting) and your usual IP&C advisor
- You may also need to contact your local PHE Centre which will assist in assessing whether spread is likely to have occurred in your care setting & support management of the affected individuals
- Your local PHE centre may request a screening test (rectal swab or faecal specimen) of individuals in the community
- Screening helps the PHE centre to understand if there has been spread of CPE and what the source of this might be.
COMMUNICATIONS

- Robust inter-care communications (within and between settings and carers) are essential
- It is important that individuals (and/or their families) have a full understanding of their status and of the infection prevention and control measures needed
- Advice leaflets are provided
- A 'patient-held' card may assist the individual in explaining their carrier state to health and social care staff when attending or being transferred to another setting
- There is no reason for non-acute settings to refuse admission or readmission of service users only because they are colonised with CPE
MANAGEMENT ADVICE FOR DIFFERING CARE NEEDS

- The toolkit includes risk assessment guidance for a variety of care settings.
- Using the guidance, you should classify the affected individual according to their care needs and then match to this the infection prevention and control measures that are most appropriate to your setting along with that care need.
ASSESSING LEVEL OF MANAGEMENT

- There will be occasions where additional measures will be needed following a local risk assessment.
- The ‘Acute trust toolkit for the early detection, management and control of CPE’ may be helpful on some occasions.
- Section B3 of the acute trust toolkit includes a planning checklist for hospital IP&C teams for the management of an outbreak, suspected outbreak or cluster of cases.
GUIDANCE FOR UNDERTAKING A RISK ASSESSMENT ON MANAGING INDIVIDUALS WITH A POSITIVE LABORATORY RESULT FOR CPE

At all risk levels ensure the following:
- standard precautions are maintained at all times (Section C1)
- effective environmental hygiene (Annex F): prevention of faecal and environmental contamination is crucial; remain alert to episodes that risk direct transmission to others and/or environmental contamination; ensure timely and thorough cleaning
- hygiene advice to individual and family/contacts (Annex B-D): it is important to inform individuals and those around them to ensure they take appropriate personal hygiene measures to prevent the spread of infection, especially when using the toilet

Risk assessments must include consideration of the care environment, eg nursing care setting, specialist or general rehabilitation, haemodialysis unit, EMI, dementia care unit, community hospital or hospice, mental health trust, residential care, domiciliary care or detention centre/prison.

If the individual is colonised: single room with en-suite facilities including toilet or designated commode is recommended; no curtailment of communal activities is required where standard precautions and effective environmental hygiene are being maintained and there is no risk of infecting others.

If the individual is infected: conduct a risk assessment with usual IP&C advisor and/or PHE centre to discuss possible isolation (with defined end-of-isolation criteria; section A3.1); consider the mental and physical health and wellbeing of the individual when deciding to isolate.

Always communicate the positive status of an individual appropriately when transferring the individual between care settings (Annex A).

<table>
<thead>
<tr>
<th>CARE NEEDS</th>
<th>GUIDANCE for RISK ASSESSMENT</th>
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<tbody>
<tr>
<td>HIGH RISK</td>
<td>Eg patient has: diarrhoea, discharging wound, long term ventilation, confusion/dementia, device(s) in situ, undergoing invasive procedures, sneezing or ‘dirty protests’</td>
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<tr>
<td></td>
<td>- identify if there is an immediate risk of infecting others</td>
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<td>- discuss management with GP/clinician in charge, IP&amp;C nurse</td>
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<td>- consider the mental and physical health and wellbeing of the individual</td>
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<td>- consider if the individual requires supervision</td>
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<td>- consider options to facilitate terminal cleaning and disinfection and minimise the risk of spread of infection where possible:</td>
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<td>- giving individuals an end of list appointment</td>
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<td>- using mobile equipment away from others</td>
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<tr>
<td>MEDIUM RISK</td>
<td>Eg patient requires: assistance with hygiene, mobility or physical rehabilitation</td>
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<tr>
<td></td>
<td>- no immediate risk of infecting others identified</td>
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<tr>
<td></td>
<td>- standard precautions are maintained (Section C1)</td>
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<tr>
<td></td>
<td>- hygiene advice is provided to individual and family/contacts as appropriate (Annex B-D)</td>
</tr>
<tr>
<td></td>
<td>- effective environmental hygiene (Annex F)</td>
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<tr>
<td></td>
<td>- if unsure, contact your usual IP&amp;C advisor or PHE Centre</td>
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<tr>
<td>LOW RISK</td>
<td>Eg patient is independent and self-caring</td>
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**Scenarios**

1. We are a mental health Trust with a number of bedded areas and also have community services with bedded areas. We receive patients from a number of large acute hospitals and want to know what preparation is needed to receive a positive patient?

2. I am a manager of a residential care home and we have had two confirmed cases of CPE, one of which was picked up in hospital. We are unsure where the other resident picked up the bacteria as the gentleman has not been outside of the home. All of our residents have single rooms but there are some shared facilities, including bathrooms and toilets. Please will you advise whether or not we need to screen all of the residents, to check whether anyone else is colonised?
3. A hospice has admitted a patient who is positive for CPE. The hospice has not developed a plan as they are unsure whether the acute trust or non-acute/community toolkit is more applicable to the setting.

4. A patient colonised with CPE needs to attend our stroke rehabilitation sessions with other patients. Also, they require a patient transport vehicle to transport them to and from the rehabilitation centre. Please can you advise how the individual should be managed?
SCENARIOS

5. We are a regional neuro-rehabilitation unit and have started to decline admission of patients who are positive for CPE as we don’t wish to expose other patients to the risk of spread of these bacteria e.g. through use of communal facilities. Do you think this is the right approach?

6. An elderly lady in our community hospital has been identified as being positive for CPE six days after admission. The lady was in a six-bedded rehabilitation ward with two other elderly patient contacts. She also used shared rehabilitation facilities. Do the other two contacts need to be screened?
**Scenarios**

7. We have recently received a prisoner into our prison, transferred directly from hospital. The microbiologist at the hospital has informed our medical staff that the prisoner is colonised with CPE. Does the prisoner need isolating?