

Health Care Associated Infections/ Antimicrobial Resistance (HCAI/AMR)		
	Version 1.0	Ref: HCAI/AMR P003
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Policy Document

Guide to Assessing if there is Evidence of Carbapenemase Producing *Enterobacteriaceae* (CPE) Transmission in an Acute Hospital or Other Facility Providing a Similar Intensity of Care

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Scope of the Document

This document is intended to guide infection prevention and control practitioners in evaluating if they have evidence of transmission of CPE (an outbreak) in an acute hospital or other healthcare facility providing a similar intensity of care. Haemodialysis facilities should be considered as providing an intensity of care similar to an acute hospital.

Introduction

Carbapenemase Producing *Enterobacteriaceae* (CPE) differs from many of the antibiotic resistant bacteria we have known in the past because the resistance mechanism is very highly mobile – moving from one species of *Enterobacteriaceae* to another very quickly. As the vast majority of people who carry CPE are asymptomatic and our screening methods are relatively insensitive it is very likely that there are CPE patients in the health care system that we are unaware of. This is especially likely to be the case in hospitals that are not implementing national policy on screening for CPE. Patients colonised with CPE and not identified as such serve as hidden links between apparent cases of infection and colonisation. In this sort of landscape there is a great deal of uncertainty about how to define evidence of transmission in the hospital.

It is likely that a very well demarcated clusters of one species (e.g. *E. coli*) on one ward (a self-evident outbreak) are very late signals of hospital wide transmission of CPE. The following offers some provisional guidance regarding a threshold for concluding that there is evidence of transmission of CPE in an acute hospital or service area. It is certainly possible that transmission may be happening in hospitals where the conditions specified here are not met therefore failure to meet these conditions should not prevent declaration of an outbreak that is evident on other grounds.

The purpose of the document is to define a threshold above which it should generally be concluded that there is evidence of transmission in settings where an outbreak might not be declared on traditional grounds. It is essential to notify the medical officer of health if there is evidence of transmission. Please also inform the national lead for HCAI/AMR and HPSC.

Haemodialysis centres represent facilities where the intensity of care is similar to that in an acute hospital and for purposes of this document a haemodialysis service should be considered in the same category as a hospital

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Judging if there is evidence of transmission

This process is presented as a flow chart in Appendix 1.

Step 1

Have you identified 2 or more patients who have been an inpatient in your hospital in the past 3 months with “the same CPE”. For this purpose “the same CPE” refers to the genetic mechanism of resistance (OXA, NDM, KPC, VIM, IMI). Organisms of different species with the same genetic mechanism of resistance should be considered as “the same CPE”.

Step 2.

To establish for each individual patient whether they should be considered as associated with your hospital, ask the following questions. If the pattern of answers is that shown in either column the patient should be regarded as associated with your hospital.

Questions	Answer	Answer
Has the patient been an inpatient in any other hospital or has attended any other hospital ² as an outpatient/day case on a regular basis in the past 12 months	No	Yes
Did the patient have a screening test reported as CPE not detected at any time since he/she last attended another hospital ²	NA ¹	Yes
Has the patient had contact with your hospital ² as an inpatient or on a regular basis as an outpatient/day case in the past 12 months	Yes	Yes
Does the patient normally reside in a long term care facility that is known to have other residents with this type of CPE	No	No

¹Not applicable

²For this purpose haemodialysis services should be considered as in the same category as hospitals.

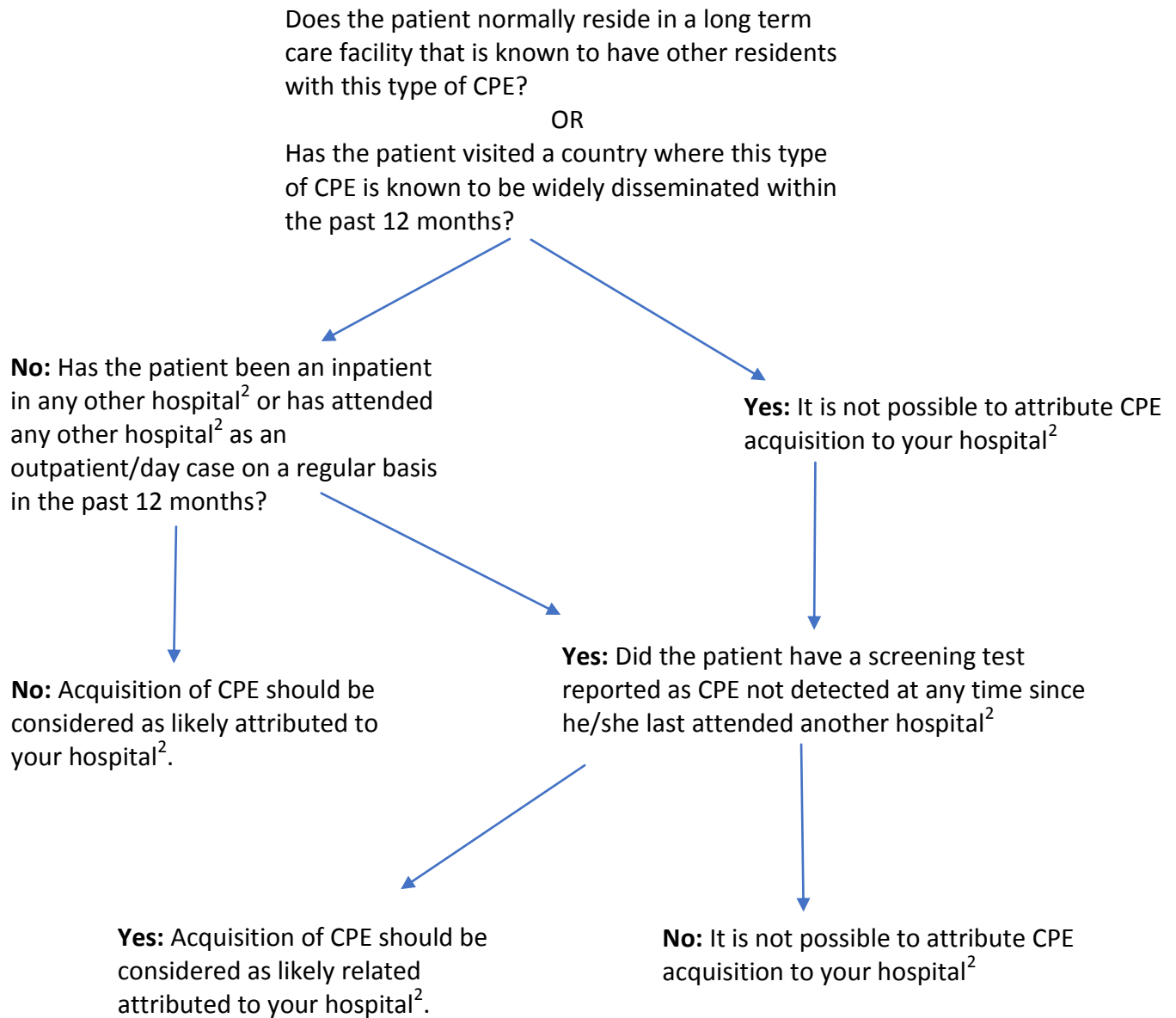
Step 3

If you have 2 patients with the same CPE associated with your hospital/treat in the past 3 months this should be interpreted as possible transmission in your hospital. Please notify the medical officer of health and inform the national lead for HCAI/AMR and HPSC.

If you have **3 or more patients** with the same CPE associated with your hospital in the **past 3 months** this should be interpreted as prima facie evidence of transmission in your hospital and an **outbreak control team should be convened** to assess what if any further action is required. Please notify the medical officer of health and inform the national lead for HCAI/AMR and HPSC.

Comments are welcome and will inform updated versions of this document as required.
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Appendix 1 - Flow Chart to determine if CPE is attributed to your acute hospital (or other facility providing a similar intensity of care)



²= Haemodialysis units should be regarded as providing a similar intensity of care to that of an acute hospital