Policy Document

Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae* (CPE)[1] in the Acute Hospital Sector

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Requirements for screening of Patients for Carbapenemase Producing *Enterobacteriaceae* (CPE)[1] in the Acute Hospital Sector.
Updated October 2017

The following is an updated interim policy to identify patients who must be screened for CPE in acute hospitals. Hospital groups and hospitals must resource all relevant areas on the ward, in the laboratory and the IPC service to achieve this level of screening for CPE. In some circumstances additional screening beyond that recommended here may be required.

This level of screening should be implemented in all Hospitals from 1st October 2017.

a. All contacts of a patient with CPE. Where patients have been discharged before they are recognised as contacts or before the series of screening samples is complete their record should be marked to ensure screening on next admission[2,3].
b. All patients who were transferred from any other hospital in Ireland or elsewhere[2].
c. All patients who have been in-patients in any hospital in Ireland or elsewhere anytime in the previous twelve months. Any hospital includes previous admissions to the hospital to which they are now being admitted. [2,5,6]
d. All admissions to critical care areas (Intensive Care Units, High Dependency Units), on admission and weekly thereafter) [4]
e. All admissions to haematology and transplant wards on admission and monthly thereafter.
f. All patients who normally reside in a long term care facility[2].

For the purposes of this policy a **contact** is a person who:
(1) Has shared a multi-bed area and/or shared access to toilet facilities with a person identified as colonised or infected with CPE. This includes time spent in the Emergency Department and Acute Medical Assessment Units (AMAUs).

(2) Has been cared for in an inpatient area (including ED and AMAU) by nursing staff who were simultaneously caring for one or more patients colonised with CPE in the absence of contact precautions (this might arise in relation to a patient who was not known to be colonised with CPE at the time in question).
A person know to be CPE colonised/infected should be regarded as a potential source of infection from the beginning of the hospital admission during which CPE was detected **or** from the date of their most recent screening sample reported as CPE negative/not detected (whichever is the more recent).

(3) Each acute hospital should develop a process to ensure, in so far as possible, the flagging of records of all contact patients so that they are readily identifiable for screening and contact

precautions when they come back into hospital [This flag which may be electronic or manual can be removed if they have reached the target of 4 samples at the specified intervals reported as not detected].
(4) The National Emergency Medicine Programme states that "*All patients will undergo Infection Prevention and Control Assessment (IPCA) at Triage*." This assessment should include assessment of risks for CPE colonisation or contact. Screening should be performed if necessary.

In this context **screening** refers to collection of a rectal swab or sample of faeces. The sample should be submitted within 24 hours of the patient presenting to the hospital. Collection of rectal swabs lends itself to prompt sample collection and is generally preferred. If rectal swab sampling is not acceptable to a patient stool samples are acceptable. In some circumstances samples from additional sites for testing for CPE may also be appropriate based on clinical assessment. Note that in the acute hospital setting standard and contact precautions should apply to any contact of a patient colonised with CPE. Standard and contact precautions should be applied until a minimum of 4 samples taken at intervals of not less than 1 week have been reported as CPE not detected (or CPE negative). The final sample from a contact should be taken at least 4 weeks after the most recent contact. It is accepted that some patients may become detectable as positive more than 4 weeks after contact but it necessary to apply a pragmatic time limit to the process.

Note there is no evidence that collection of rectal swabs represents a significant risk to patients who are neutropaenic. Antimicrobial resistant *Enterobacteriaceae* may be a particular risk for these vulnerable patients. Several recent publications report routine screening by rectal swab collection in haematology cohorts including bone marrow transplant recipients (see below). These patients should be included in screening programmes.

Laboratory screening for CPE should at a minimum mean plating of rectal swabs/faeces on one of the accepted CPE chromogenic agars. Access to rapid molecular methods for rapid direct testing of selected samples and/or for rapid confirmation of suspect CPE from agar plates is very valuable. Where capacity to perform screening does not exist in each individual hospital laboratory, hospital groups may consider providing the testing from one centralised or from a limited number of laboratories if this is a more effective use of resources.

1. Over the years the terms CPE and CRE have both been used in Ireland. CRE is the term used in the regulations related to notification of infectious diseases. Often people use CPE and CRE to mean more or less the same thing. Most of the time it probably does not matter all that much if you say CPE or CRE but they are not exactly the same thing. The difference is explained in a FAQ document previously issued.
2. A key challenge for implementation is the ability to identify these patients readily. Information regarding inpatient stay in any other hospital in the previous 12 months and residence in a long term care facility

should be recorded routinely by the admissions office and should whenever possible be easy to obtain from the patient administration system.

3. Screening of contacts who have left the acute hospital is generally not appropriate until/unless they are subsequently readmitted to an acute hospital. Discharge should generally not be delayed purely for the purpose allowing completion of the screening process.
4. Hospitals with Neonatal Intensive Care Units may choose not to screen infants admitted to the NICU directly after their birth but should screen infants who are transferred from another hospital.
5. Rescreening of know positives on readmission is not essential for infection prevention and control purposes if the patient is managed as CPE positive but it may be of value to assess if they have acquired additional CPE variants. It may also have a value in providing assurance regarding the capacity of the screening system in place to detect CPE however it is important to ensure that patients are not considered cleared of CPE on the basis of a single swab result.
6. In some circumstances it may be appropriate to screen patients who have previously been hospitalised more than 1 year ago. One year is an arbitrary cut off and it is acknowledged that some hospitals had significant issues with CPE as far back as 2011.
7. This policy does not address environmental screening. Environmental screening may be valuable in certain contexts.

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