

HSE National Template for developing PPPGs (2016)

**Procedure on the use of Root Cause Analysis (RCA) for hospital acquired  
*Staphylococcus aureus* blood stream infection (SABSI) and *Clostridium difficile*  
Infection (CDI)**

Policy  Procedure  Protocol  Guideline

*Insert Service Name(s), Directorate and applicable Location(s):*

All acute hospitals

Title of PPPG Development Group:	Antimicrobial Resistance and Infection Control (AMRIC) Team		
Approved by:	AMRIC Implementation Team		
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## 1.0 INITIATION

### 1.1. Purpose

The aim<sup>1</sup> of this document is to provide a procedural guide on the application of the associated Root Cause Analysis<sup>2</sup> (RCA) forms (Refer to the separate PDF Forms and worked examples) relating to:

- (1) hospital acquired *Staphylococcus aureus* blood stream infection (SABSI), and
- (2) hospital acquired *Clostridium difficile* infection (HACDI).

By implementing this procedure or similar, it is anticipated that learnings will be shared by clinical teams, supported by IPC Teams to reduce and prevent the occurrence of HCAs in hospitals and improve patient safety.

The purpose of this document is to support hospitals in the use of RCA forms in evaluating factors contributing to two major healthcare associated infections; hospital acquired *Staphylococcus aureus* blood stream infection (SABSI) and hospital acquired *Clostridium difficile* infection (HACDI).

### 1.2 Scope

#### 1.2.1 Target Users

This procedure is intended for the use in acute hospitals by hospital managers, clinical directors, directors of nursing, quality and risk managers, IPC professionals/teams and clinical teams (with primary responsibility for care of the patient) in implementing a multidisciplinary process for Root Cause Analysis on hospital acquired *Staphylococcus aureus* blood stream infection (SABSI) and hospital acquired *Clostridium difficile* infection (HACDI).

#### 2.2.2 Populations to whom it applies

All patients that acquire either SABSI and HACDI.

### 1.3 Objectives

To support clinicians and hospitals to undertake RCA on SABSI and HACDI.

### 1.4 Outcomes

To have a completed RCA for all SABSI and HACDI to inform and support safe patient care.

### 1.5 PPPG Development Group

Antimicrobial Resistance and Infection Control Implementation Team.

### 1.6 PPPG Development Governance Group

Antimicrobial Resistance and Infection Control Oversight Group.

### 1.7 Supporting Evidence

1.7.1 Escalation procedure for outbreaks/incidents /situations of healthcare associated infection (HCAI/AMR P006).

1.7.2 Root Cause Analysis PDF Forms and Worked Examples

### 1.8 Glossary of Terms

RCA – Root Cause Analysis.

SABSI - hospital acquired *Staphylococcus aureus* blood stream infection.

HACDI - hospital acquired *Clostridium difficile* infection (HACDI)

## 2.0 DEVELOPMENT OF PPPG

- 2.1 Hospital Chief Executives and hospital managers with clinical directors should ensure that a RCA is completed on all hospital acquired SABSIs and on severe HACDI (<http://www.hpsc.ie/a-z/gastroenteric/clostridiumdifficile/casedefinitions/> )
- 2.2 A clinical risk incident report form must be initiated using local hospital risk management procedure<sup>3</sup> at a minimum for all cases of hospital acquired SABSIs and on severe cases of hospital acquired CDI.
- 2.3 In compliance with the HSE Incident Management Framework and Guidance and HSE Integrated Risk Management Policy and supporting Guidance<sup>3,5</sup> and HSE National Open Disclosure Policy<sup>6</sup>, patients must be informed if they have hospital acquired SABSIs and/or HACDI. Patients must be informed before RCA being performed. It should be documented in the healthcare record that the patient has been informed. Local hospital procedures for clinical incident management and open disclosure should be applied.
- 2.4 The RCA forms are colour coded in three sections as follows (Refer to separate PDF Forms):
- 4.4.1 Section 1; (green) for completion by the primary clinical team involved in care of the patient.
  - 4.4.2 Section 2; (pink) for completion by the Dept. of Medical Microbiology.
  - 4.4.3 Section 3; (blue) for completion by the Infection Prevention and Control Team.
- 2.5 The RCA form with these sections complete is emailed to the consultant with primary responsibility for the care of the patient at the time of diagnosis and to the relevant clinical director and to hospital risk manager.
- The consultant with primary responsibility for the care of the patient at the time of diagnosis is responsible for ensuring that the clinical section of the RCA is complete and returned to the office of the clinical director and hospital risk manager.
  - The office of the clinical director supported by the hospital risk manager will be responsible for convening a short meeting to discuss the cases and identify lessons learned.
  - On completion of the process the hospital risk manager will ensure that a clinical risk incident is raised related to the case.
  - The procedure should be completed within 1 month of the diagnosis.
- 2.6 In compliance with the HSE Incident Management Framework and Guidance and HSE Integrated Risk Management Policy and supporting Guidance<sup>3,5</sup> the patient must be informed of the outcome of the RCA.
- 2.7 The determination that a case as fulfils the case definition (refer to Section 6 below) for healthcare associated SABSIs or severe CDI is made by the Dept. of Microbiology and IPC Team. They complete the relevant sections of the HCAI monthly BIU reporting template applying the *HSE Acute Business Information Management Unit; HCAI Meta definitions 2019*.

## 2.8 Definitions

**Root cause analysis<sup>2</sup> (RCA)** is a method of problem solving used for identifying the root causes of faults or problems. A factor is considered a root cause if removal thereof from the problem-fault sequence prevents the final undesirable outcome from recurring; whereas a causal factor is one that affects an event's outcome, but is not a root cause. Though

removing a causal factor can benefit an outcome, it does not prevent its recurrence with certainty.

Essentially it is based on four general principles:

- Define and describe properly the event or problem ('five whys' technique).
- Establish a timeline from normal situation until the final crisis or failure.
- Distinguish between root causes and causal factor.
- Once implemented (and with constant execution), RCA is transformed into a method of problem prediction. RCA is typically used as a reactive method of identifying event(s) causes, revealing problems and solving them. Analysis is done *after* an event has occurred. Insights in RCA make it potentially useful as a pre-emptive method. In that event, RCA can be used to *forecast* or predict probable events even *before* they occur. While one follows the other, RCA is a completely separate process to incident management.

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#### **Clinical Definition<sup>4</sup>: Hospital acquired new cases of *Clostridium difficile* infection (CDI)**

Each case from the reporting hospital must meet all criteria (1-3) below:

##### **1. CDI case:**

A patient two years or older, to whom one or more of the following criteria applies:

- Diarrhoeal\* stools or toxic megacolon, with either a positive laboratory assay for *C. difficile* toxin A (TcdA) and / or toxin B (TcdB) in stools or a toxin producing *C. difficile* organism detected in stool via culture or other means.
- Pseudomembraneous colitis (PMC) revealed by lower gastrointestinal, endoscopy.
- Colonic histopathology characteristic of *C. difficile* infection (with or without diarrhoea) on a specimen obtained during endoscopy, colectomy or autopsy.

\*Diarrhoea is defined as three or more loose/watery bowel movements that take up the shape of their container (which are unusual or different for the patient) in a 24-hour period.

##### **2. New CDI Case:**

- A first positive result that fits the criteria above *or if the patient has previously had a positive result more than eight weeks prior and symptoms had resolved.*

##### **3. Hospital associated CDI (healthcare associate CDI):**

- A CDI case with either onset of symptoms at least 48 hours following admission to the reporting hospital or with onset of symptoms in the community within 4 weeks following discharge from the reporting hospital.

#### **Clinical definition<sup>4</sup>: Hospital acquired *Staphylococcus aureus* bloodstream infection**

For the purposes of this return a *Staphylococcus aureus* blood stream infection is considered as hospital-acquired within the reporting hospital if *Staphylococcus aureus* is isolated from a blood culture taken 48 hours or longer after the patient was admitted to the reporting hospital.

#### **Notes**

- Some hospitals may prefer to perform RCA on all cases of HACDI.
- The essential elements of this procedural guide is that the RCA includes both the primary clinical team supported by the Infection Prevention and Control Team, the Risk

Management Department and senior hospital management. All incidents that cause harm (as defined Reference 3; HSE Incident Management Framework – Guidance 2018, page 5) to patients must be disclosed as part of risk management and open disclosure policies.

### **3.0 GOVERNANCE AND APPROVAL**

- AMRIC Implementation Team
- AMRIC Oversight Group.

### **4.0 COMMUNICATION AND DISSEMINATION**

- This procedure is to be circulated through the Acute Operations Office to all Hospital CEOs and General Managers.
- This procedure will also be available on line [www.hse.ie/infectioncontrol](http://www.hse.ie/infectioncontrol).

### **5.0 IMPLEMENTATION**

Implementation of procedure is the responsibility of hospital managers, clinical directors, directors of nursing, quality and risk managers, IPC professionals/teams and clinical teams (with primary responsibility for care of the patient).

### **6.0 MONITORING, AUDIT AND EVALUATION**

- The learning from RCA should be shared by the clinical team at relevant case meetings.
- The IPC Team should present their findings at relevant IPC Committee meetings.
- The Quality and Risk Management Department should present the learning shared as part of the quality and patient safety metrics for Senior Management Team to consider as part of hospital performance.
- The HSE National AMRIC Implementation Team with the HSE Business Information Unit review all commentary submitted at the monthly HCAI Performance Review meeting and feedback (if deemed necessary) is returned to the hospital through the agreed governance arrangements.
- The data reviewed by the AMRIC Implementation Team with the HSE Business Information Unit does not contain any patient identifying information.

### **7.0 REVISION / UPDATE**

This procedure will be reviewed on an annual basis by the AMRIC Implementation Team.

### **8.0 REFERENCES**

1. HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs), 2016.
2. Wilson, Paul F.; Dell, Larry D.; Anderson, Gaylord F. (1993). Root Cause Analysis: A Tool for Total Quality Management. Milwaukee, Wisconsin: ASQ Quality Press. pp. 8–17. [ISBN 087389-163-5](https://doi.org/10.1002/9781118163895).
3. HSE Incident Management Framework and Guidance, 2018.
4. HSE Business Information Unit (BIU) Monthly Template Definitions, 2019.
5. HSE Integrated Risk Management Policy and supporting Guidance, 2017.
6. HSE National Open Disclosure Policy, (reference number QPSD-GL-063-1), 2013

**9.0 APPENDICES**  
Not Applicable.