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Pilot testing of SSI surveillance tools and methodologies, including audit tools

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BACKGROUND

HAI (healthcare-associated infection) surveillance is a key function of infection prevention and control (IPC) and is considered a vital component of IPC programmes. It is also one of the eight core components of the minimum requirements for an IPC programme recommended for implementation at national and healthcare-facility level by the World Health Organization (WHO).¹

The WHO report on the burden of endemic HAI worldwide in 2011² highlighted that HAI data from low- and middle-income countries (LMICs) is limited because surveillance systems are weak or non-existent due to lack of standardised structures for surveillance and lack of funding. As a result, the actual burden of HAIs in the Pacific is not known because national and facility-level HAI surveillance systems are not standardised due to weak IPC structures.

The use of the same definitions of surgical site infection (SSI) across different sites and over time is a crucial aspect of HAI surveillance.³ To ensure comparisons can be made over time in the same institution, and between different institutions, requires that standardised definitions are consistently applied.

In July 2021, SPC sought the services of a technical assistance provider to develop a targeted HAI surveillance programme for SSI for post-operative caesarean sections for implementation at a national level in Fiji, Kiribati, Tonga, Samoa, Solomon Islands and Vanuatu. The Peter Doherty Institute for Infection and Immunity (Doherty Institute), Melbourne, Australia, was the successful contractor.

ACTION TAKEN

The project began by convening an expert working group in September 2021. The working group consisted of representatives from the project team, each project country and invited participants with expertise in IPC or other relevant knowledge.

The following were the specific objectives of the project and expected outputs.

Objectives:

- To standardize surveillance definitions and methodologies for conducting SSI for post-operative elective caesarean sections.
- To develop data collection tools to record SSI cases, and identify software or information system options best suited to the Pacific context.
- To develop HAI surveillance report templates.

Expected outputs:

- SSI surveillance programme developed and pilot tested in one of the six countries.
- SSI surveillance training package developed and delivered.

A review of the literature and established surveillance systems was conducted. As noted in the WHO *Global guidelines on the prevention of SSI*, there are many definitions of SSI, although only a small number are described as being a standardised definition developed by a multi-disciplinary group.⁴ The Centers for Disease Prevention and Control – National Healthcare Safety Network (CDC-NHSN) has well-established HAI surveillance definitions,⁵ including SSI surveillance protocols that have been widely used for many years in many countries.³

Since its inception in 2002, the VICNISS Coordinating Centre (VICNISS) has been responsible for the establishment and coordination of surveillance for a number of HAI for the State of Victoria, Australia.⁶ The VICNISS programme uses CDC-NHSN definitions and protocols. VICNISS kindly allowed some of its resources to be adapted for this project, including the SSI protocol, data collection forms and training resources. Project documents and training tools were drafted using these resources, with reference to and adaptations from the WHO *Protocol for SSI surveillance with a focus on settings with limited resources*, and the CDC-NHSN *Patient safety component manual*.⁷

Pilot testing of the training programme was carried out in Fiji. Initially, all three major hospitals where caesarean section procedures are conducted were to undertake the training at one venue. However, this was not possible due to COVID-19 pandemic restrictions. Training was then conducted for Lautoka Hospital alone.

The pilot training was conducted via Zoom on 9 December 2021 and ran for a full day. The 13 attendees included the IPC team, doctors from the obstetric team, an anaesthetist, and nurses from the post-natal ward. Training consisted of PowerPoint presentations from Ms Donna Cameron, Infection Control Consultant, and Ms Sandra Johnson, Epidemiologist, both from the Doherty Institute.

Data collection using the new tools and methodology began in January 2022. Evaluation of the training was conducted at the time of training and during further meetings held with both the IPC team and community-based clinicians. These meetings were an opportunity to provide feedback on the use of the tools and to discuss the use of standardised surveillance definitions versus clinical definitions.

Minor changes were made to the SSI protocol and training programme prior to the second training session, e.g. including an example script for post-discharge telephone calls in the protocol, and reducing the training to a half-day.

More than 60 people attended the second training session. They were from Kiribati, Tonga, Samoa, Solomon Islands and the two further facilities in Fiji. Vanuatu was unable to attend this session due to COVID-19 restrictions.

CONCLUSIONS

An SSI surveillance programme, with a standardised protocol and data collection tools based on established HAI definitions, was developed for use in Pacific countries. An associated training programme was also developed and delivered to more than 70 people across 5 different Pacific countries. Evaluation of these sessions showed overall satisfaction with the programme as delivered.

After piloting the training and SSI data collection at Lautoka Hospital, Fiji, minor enhancements were made to both the SSI protocol and training programme prior to roll-out to the other project countries. Although the specific project objective was to develop standardised surveillance definitions and methodologies for conducting SSI for post-operative elective caesarean sections, the protocol, tools and training can all be used with minimal adaptation for other SSI surveillance.

While this time limited project successfully achieved its goals, ongoing support, at least in the initial phases of implementation, will be needed to ensure the longevity of this type of surveillance.

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