Clinical Excellence Commission

Reduction of Central Line Associated Bacteraemia in Intensive Care (CLAB-ICU)

Project Scope

Version: 1.0 DCG

4 May 2007

1. Document Details

Document Purpose

The purpose of this document is to outline the scope of the statewide Clinical Practice Improvement initiative to reduce Central Line Associated Bacteraemia in Intensive Care.

Audience

The intended audience for this document is

- CEC CEO, Prof Cliff Hughes
- CEC Board
- NSW Health Quality and Safety Branch Director
- NSW AIDU A/Director, Ms Kim Stewart
- NSW Health Statewide Services Branch Director, Ms Kathy Meleady
- Dr Tony Burrell, Director, ICCMU
- NSW Intensive Care Taskforce

Preparation

This document has been prepared by

- Dr Annette Pantle (CEC)
- Ms Karena Hewson (ICCMU)
- Ms Kimberley Fitzpatrick (CEC)
- Ms Joe-anne Bendall (NSW Health Department)

Associated documents

Associated documents are:

- Reducing the Burden of Multiple Resistant Organisms (MROs), Proceedings of the MRO Summit, October 2005
- NSW MRO Expert Group Key Recommendations Report, July 2006
- NSW Health Infection Control Policy (PD 2005_247)
- SSSL Project – Preventing Central Venous Catheter Related-Bloodstream Infections Toolkit
- NSW Health Infection control program quality monitoring indicators. Version 2 users' manual. January 2005

Document information

The following table provides details about this document and file.

Item	Type	Area
Change Control	Version	1.0a DCG
	Author	Dr Annette Pantle
	Content	Final version
	Approval	
Location	Electronic	

GLOSSARY

Term	Description
AGREE tool	"Appraisal of Guidelines Research and Evaluation" instrument designed to provide a framework for assessing the quality of clinical practice guidelines
AHS	New South Wales Area Health Service
AIDU	AIDs and Infectious Diseases Branch, NSW Department of Health
BSI	Blood Stream Infection
CEC	Clinical Excellence Commission
CGU	Clinical Governance Unit (Area Health Service)
CLAB	Central Line Associated Bacteraemia
CPIP	Clinical Practice Improvement Projects Directorate, Clinical Excellence Commission
CVC-BSI	Central Venous Catheter Blood Stream Infections
CVCR-BSI	Central Venous Catheter Related Blood Stream Infections
DDG	Deputy Director General
DoH	NSW Department of Health
HAI	Healthcare Associated Infection
ICCMU	Intensive Care Coordinating and Monitoring Unit
ICUs	Intensive Care Units including Adult Intensive Care Units and Paediatric Intensive Care Units at Sydney Children's Hospital and Children's Hospital Westmead
MRSA	Multi Resistant Staphylococcus Aureus
MRO	Multi Resistant Organisms
QSB	Quality and Safety Branch, NSW Department of Health
SSSL	Safer Systems Saving Lives, a national project conducted in 2006 under the auspices of the ACQSHC. 10 teams (hospitals) in NSW participated in the project
VRE	Vancomycin Resistant Enterococci

2. Project Concept

Purpose

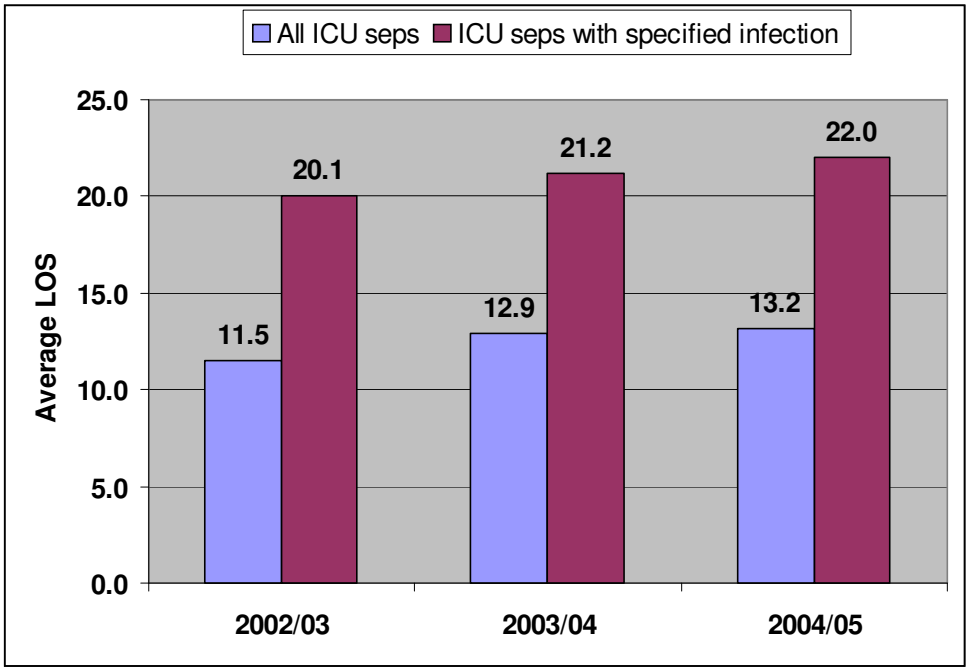
To reduce Central Line Associated Bacteraemia in all Intensive Care Units in NSW

Key Drivers – why is this important?

In Australia, reportedly more than 3,500 intravenous CVCR-BSIs occur annually, with the number of CVCR-BSIs occurring at a rate of 23 per 1,000 catheter days. A directly attributable mortality for all CVCR-BSIs is reported as 12 percent[1]. Nosocomial bloodstream infections prolong hospitalisation by seven days and estimates of attributable cost per bloodstream infection are between $3,700 and $29,000[2].

In NSW, preliminary data from the Department of Health (DoH) has suggested a longer average length of stay (LOS) for ICU patients with infection. Based on ICU separations for ICD-10 codes A41.0, A41.1 and A41.2 (codes for Septicaemia due to staphylococcus), the average LOS for ICU patients with these infections in 2004/05 was 22.0 days, compared with 13.2 days for all ICU patients (see graph). These data also revealed a gradual increase in the average LOS for ICU patients with these infections over time (increased from 20.1 days in 2002/03 to 22.0 days in 2004/05). Although these data do not tell the entire story, they give an indication of the impact that infection in the ICU can have on both the patient (i.e. prolonged stay in hospital) and health services (i.e. increased use of resources).

Each year, approximately 285 CLABs are acquired in NSW ICUs, resulting in an estimated loss of 24 – 58 lives/ year. Drawing on a recent South Australian study identifying the economic impact of each CLAB episode to cost approximately $20,000, NSW expenditure on CLABs is approximately $5.7 million annually.



[1] VICNISS Hospital Acquired Infection Project, Year 3 report. June 2005.
http://www.vicniss.org.au/Resources/VICNISSAnnualReport0705.pdf

[2] Soufir L, Timsit JF, Mahe C, Carlet J, Regnier B, Chevret S. Attributable morbidity and mortality of catheter-related septicemia in critically ill patients: a matched, risk-adjusted, cohort study. Infect Control Hosp Epidemiol 1999; 20: 396-401.

The proposed CLAB- ICU project will build on the work commenced through the SSSL project, implemented by the CEC. The SSSL project is an Australian collaborative initiated by the Australian Commission for Safety and Quality in Health Care, based on the IHI's '100K Lives'. The IHI care 'bundles' and measures were adapted to suit the Australian context with the assistance of expert panels. One of the six key interventions was preventing central venous catheter related bloodstream infections (CVCR-BSIs). In NSW, progress reports have shown a significant increase in compliance to CVC care components and other interventions.

International studies demonstrate compliance with evidence based care processes may lead to reduced mortality, morbidity and ICU length of stay[3]. Experience from the SSSL project highlights the importance for future related projects to conduct monthly data collection on process indicators (eg CVC care components such as hand hygiene, barrier precautions) to inform project strategies and monitor ongoing improvement. Regular reviews outcome indicators (reduction in CLAB) must also be conducted during the project period. To support ongoing monitoring and sustainability, data collection should be incorporated into existing systems and work practices. Where such systems do not currently exist simple systems developed as part of the project will continue to be used on an ongoing basis.

Performance indicators with AHSs have recently been agreed to ensure improvements in CVC-BSI rates have been met by January 2008.

Key Developments To Date

NSW Health Infection Control Quality Monitoring Indicators Program

From 1 January 2003 all NSW Public Health Organisations (excluding Psychiatric, Rehabilitation and Mothercraft) were obligated to collect specific healthcare associated infection data for two 6-month periods each calendar year as per PD2005_414 Infection Control Program Quality Monitoring. The Department contracted the Australian Council on Healthcare Standards (ACHS) to coordinate data collection, analysis and reporting, and provided Organisations with specific software to facilitate healthcare associated infection data submission.

Clean Hands Save Lives Campaign

In March 2006, the NSW Clean Hands Save Lives Campaign was launch in response to recommendations from MRO Expert Group to reduce MROs by improving hand hygiene compliance in NSW health facilities. During the campaign period, hand hygiene compliance has increased significantly from 47.1% to 63.3%, comparable with international studies.

Safer Systems Saving Lives Project

NSW has been engaged in a national project called Safer Systems Saving Lives (SSSL), which addressed prevention of CVC-BSI as one of six interventions. The SSSL project was based on the Institute for Health Care Improvement (IHI) 100,000 lives campaign in the USA which seeks to reduce harm to patients in hospitals by the implementation of six key clinical interventions.

SSSL in Australia was a national project involving 39 teams across 5 states and representing both public and private sector organisations. Ten teams participated in NSW. The project was sponsored by the Australian Commission on Quality and Safety in Health Care and supported by the national project management team, based in the Quality and Safety branch of the Victorian Department of Human Services, and project leads in each participating jurisdiction. The Clinical

[3] Pronovost PJ, Berenholtz SM, Ngo K et al. Developing and pilot testing quality indicators in the intensive care unit. J Crit Care 2003; 18:145-155.

Excellence Commission provided project leadership in NSW.

The aim of the SSSL project was to provide tangible evidence of the impact of six key interventions when consistently and comprehensively applied in Australian hospitals. The interventions, based on scientific evidence and known to improve outcomes and prevent harm to patients include:

1. Prevention of Ventilator Associated Complications
2. Prevention of Central Venous Catheter Related Blood Stream Infections
3. Prevention of Surgical Site infections
4. Implementation of Rapid Response Systems
5. Prevention of Adverse Drug events
6. Improved Care for Patients with Myocardial Infarction

Teams were required to address all interventions in the twelve months time frame from March 2006 - March 2007 Interventions are represented by a "bundle" of care components, which builds on the concept that whilst each component is important the impact is increased when all components of the bundle are used. Evaluation of the national project, which is nearing completion, will be linked to analysis of the data against these indicators. In addition, the CEC has commissioned an external evaluation of the project in NSW to determine key success factors, barriers to implementation and lessons learned which will be of significance to the CLAB-ICU project.

The CEC has recognised that there is considerable opportunity to utilise the framework of existing clinical networks or project structures for spread of these initiatives rather than a facility or AHS model. Key to this strategy is the development of partnerships with clinical groups.

Project Overview

The CLAB-ICU project is designed to reduce Central Line Associated Bacteraemia in Intensive Care. The project will be conducted in Intensive Care Units in NSW by the Clinical Excellence Commission in collaboration with ICCMU and with the assistance on the NSW Department of Health Quality and Safety Branch.

The project will develop and implement guidelines to reduce CLAB in Intensive care building on the work commenced through the SSSL project, implemented by the CEC. Guidelines for the SSSL interventions were adapted from the IHI care 'bundles' and measures to suit the Australian context with the assistance of expert clinical advisors panels. One of the six key interventions was preventing central venous catheter related bloodstream infections (CVCR-BSIs).

The project will use a modified collaborative methodology to implement the guideline in all intensive care units in NSW. The project will develop and facilitate simple data collection systems to monitor project outcomes that use existing data collections wherever possible and do not create additional burden for clinicians.

Objectives

Key project objectives of the project are to:

- Develop/adapt a NSW Health guideline/s for the insertion and management of Central Lines in ICU in NSW
- Use a modified collaborative methodology to implement the guideline in all intensive care units in NSW
- Develop and facilitate simple data collection systems to monitor project outcomes that use existing data collections wherever possible and do not create additional burden for clinicians
- Achieve measurable reduction in CLAB in ICU in NSW. Specifically, establish baseline measures, achieve 20% reduction in CLABS in ICU patients by

January 2008 (and enable reduction by 80% in CLABS in ICU patients by January 2010)
- Develop systems and processes to support sustainable reduction in CLAB in ICU

Deliverables

Key outcomes of the project will include:
- Development and implementation of NSW Health Guideline for insertion and management of Central Lines in ICU
- Implementation of CLAB- ICU practice improvement project including a comprehensive education program to support guideline implementation
- Development and collection of clinical indicators to monitor project outcomes that would be suitable for collection on an ongoing basis

Alignment with CEC Directions

The CLAB -ICU project links with the:
- CEC Strategic Directions KRA 4 – "Facilitate the uptake of clinical improvement programs"
- CPIP Operational Plan – Objective 3 "To design and deliver clinical practice improvement projects in metropolitan and rural area health services arising from key priority areas and current evidence based research".

Alignment with ICCMU Directions

The CLAB -ICU project links with the:
- ICCMU Strategic Directions KRA 4.2 – "Development & dissemination of medical and/or nursing evidence-based practice"
- ICCMU Strategic Directions KRA 4.5 – "Measure & evaluate effectiveness of EBP / Quality processes in NSW intensive care units"

Alignment with NSW Health Department Patient Safety and Clinical Quality Performance Agreements

NSW Health - CLAB Performance Indicator (QSB)
- 20% reduction in CLABs in ICU patients by January 2008
- 80% reduction in CLABs in ICU patients by June 2010
- Implement continuous collection of data on CLABs in ICU patients by May 2007
- Provide monthly facility level reports on CLABs in ICU patients to the NSW Health Department and Area Clinical Governance Units by June 2007

Duration

The project will be conducted over an 18 month period commence on 1 March 2007 and end on 31 August 2008 including 12 months project implementation and 6 months planning and evaluation.

3. Project Parameters

Assumptions, Constraints, Exclusions

Assumptions are factors that are accepted as true, real, or certain, that must be in place in the way they are planned, in order to successfully complete a project.

Constraints are factors, such as budgetary, timing or data, which limit the project's management and need to be considered in the design and delivery of the project.

Exclusions list tasks or areas that may appear related, but will not be addressed or delivered via the project.

Key Assumptions

The following key assumptions have been made:

- NSW DoH has provided funding to each AHS towards implementation of the recommendations of the MRO Expert Group including:

1. *Reduction of HAI – particularly CLABs*
2. *Strategies to monitor and investigate Staph Aureus BSI*
3. *Clinical improvement initiatives to control and prevent MROs including implementation of contact precautions and hand hygiene strategies*
4. *Compliance with reporting requirements for Infection Control Quality Monitoring Indicator Program*
5. *Establishment of MRSA screening programs for specified patient groups*
6. *MRSA typing services in nominated Pathology Cluster laboratories*

- NSW DoH will provide funding for the implementation of the CLAB-ICU Project
- NSW DoH will assist with the development and distribution of the NSW Health guideline for insertion and management of Central Lines in ICU
- CEC will support ICCMU and provide guidance in the implementation of CPI and change management methodologies to make the improvement including the development of educational strategies and tools
- The project will be conducted in Intensive Care Units in NSW by the CEC in collaboration with ICCMU and with the assistance of the NSW Department of Health Quality and Safety Branch
- ICCMU will facilitate involvement of clinician stakeholders in the project
- ICCMU and CEC will monitor the progress and participation of ICUs through appropriate process data collection and evaluation of the CLAB -ICU Project
- NSW Health in conjunction with the Project Expert Group will support the development of data collection tools to facilitate clinical indicator data collection and reporting at the unit level
- AHS executives will support and endorse the 'CLAB -ICU Project' to achieve the indicators described in the NSW Health Department Patient Safety and Clinical Quality Performance Agreements
- ICUs will establish local CLAB -ICU project teams who will be accountable for implementation of local CLAB -ICU strategies
- ICU's will provide local data for appropriate review within AHS Governance structure
- AHSs will be accountable for all change management processes required to reduce CLAB in Intensive care BSI by participation in the project

Constraints

The following constraints have been identified:

- DoH QSB requirement for full project implementation in 2007
- Baseline data collection required by May 2007

Exclusions

The project does not apply or extend to:

- Central Line insertion in Operating Theatres, Emergency Departments etc (focus is on ICUs for this project including Paediatric ICU at CHW and SCH)
- Management of Central Lines's more than 48 hours post discharge from ICU

4. Key Tasks, Deliverables and Milestones

Phase	Phase Description	Timeframe
0	Planning Phase (Prior to project commencement): - Sign-off on scope of project - Development of detailed project plan - Generate clinician interest in project, identify potential clinical leaders. - Formation of Clinical Expert Group & Project Steering Committee. - Recruitment of project staff - Develop strategies for communication and sustainability	Feb – Mar 2007
1	Development of statewide guideline and baseline data collection: - Obtain wider clinician buy-in via marketing strategies, ICU site visits & consultation. - Evaluation of existing guidelines e.g. using AGREE tool. - Update review of literature - Finalise guideline content including recommendations for practice, documentation and audit tools. - Production of final document - Baseline data collection	Mar – May 2007
2	Environmental scan: - Survey(s) to gather information on current situation on existing protocols, current practice, audit processes, microbiology/ pathology, vascular access teams, etc. - Focus groups with clinicians involved in existing CR-BSI projects. - Draw on lessons learnt from SSSL project officers and evaluations - Focus groups with clinicians at participating sites to identify barriers and enablers to guideline uptake. - Obtain available data on infection rates and number of line insertions.	Mar – May 2007
3	Implementation of statewide guideline: - Modified collaborative methodology including orientation workshop and two learning sessions, team based implementation of guideline following identification and mitigation of barriers using PDSA/lean thinking methodology - Supportive strategies including promotion and dissemination of guideline statewide via ICU connect, committee meetings e.g. Intensive Care Taskforce, conferences and written publication and educational strategies including academic detailing	June 2007 – June 2008
4	Implementation and embedding of practice change strategies: - Create Central Line Insertion Cart/pack - In conjunction with ICU clinicians, engage Vascular Access Teams (where available) for culturing tips, measure number of insertions, compliance with protocols, rates of infections.	June 2007 – June 08

	- Implement simple checklist to be completed on Central Line insertion (e.g. via stickers supplied in Cart and/or PDA). - ICU team to ask daily whether catheters can be removed. - Implement data collection systems and processes for appropriate documentation and audit. - Compliance data monitored and presented as monthly control charts as feedback to clinicians and the project team. - Learning Sessions (June 07, Oct 07 and Feb 08)	
5	Impact evaluation of implementation strategies: - Survey ICU staff. - Focus groups with ICU clinicians (1 per site). - Measure process- use Statistical Process Control (SPC) in evaluating compliance over time.	June 08 – Aug 08
6	Support ongoing data collection & feedback. Outcome evaluation- measure outcomes via number/rate of CLAB in Intensive care (pre- vs post- implementation) Project evaluation Review implementation strategies, make adjustments as necessary.	Jun 08 – Aug 08
7	Disseminate the learnings from project and spread to other areas within the hospital - Conference presentations & written publications. - Commence roll-out of implementation model across NSW hospitals (i.e. wider scope than just ICUs). - NSW Health Lessons Learned web site	Jun 08 – Aug 08
8	Project Evaluation and Close Out	August 2008

5. Resources

Successful delivery of the project is contingent on adequate resources being in place. This includes internal CEC resources, as well as those required in key interface / stakeholder areas.

The following resources will be in place to support the program.

Personnel	Project Director (in kind) Project Coordinator (CNC2 or HSM 3) Project Officer (HSM 1 or HEOG6)
Infrastructure **(goods and services; office accommodation, etc)**	Workshops Travel and accommodation for site visits Laptop, mobile phone, PDA (Project Coordinator) Production of resource materials including education resources eg e-learning package, DVD etc
Financial	Funding from QSB DoH

Contract / Procurement Management

- An e-learning educational resource may be required to be externally developed.
- Evaluation of project methodology by an external group will be required in order to demonstrate appropriate rigour in methodology for peer reviewed publication and spread of learnings to a wider audience. Evaluation strategy includes focus groups (qualitative data) and site visits.

6. Governance Framework

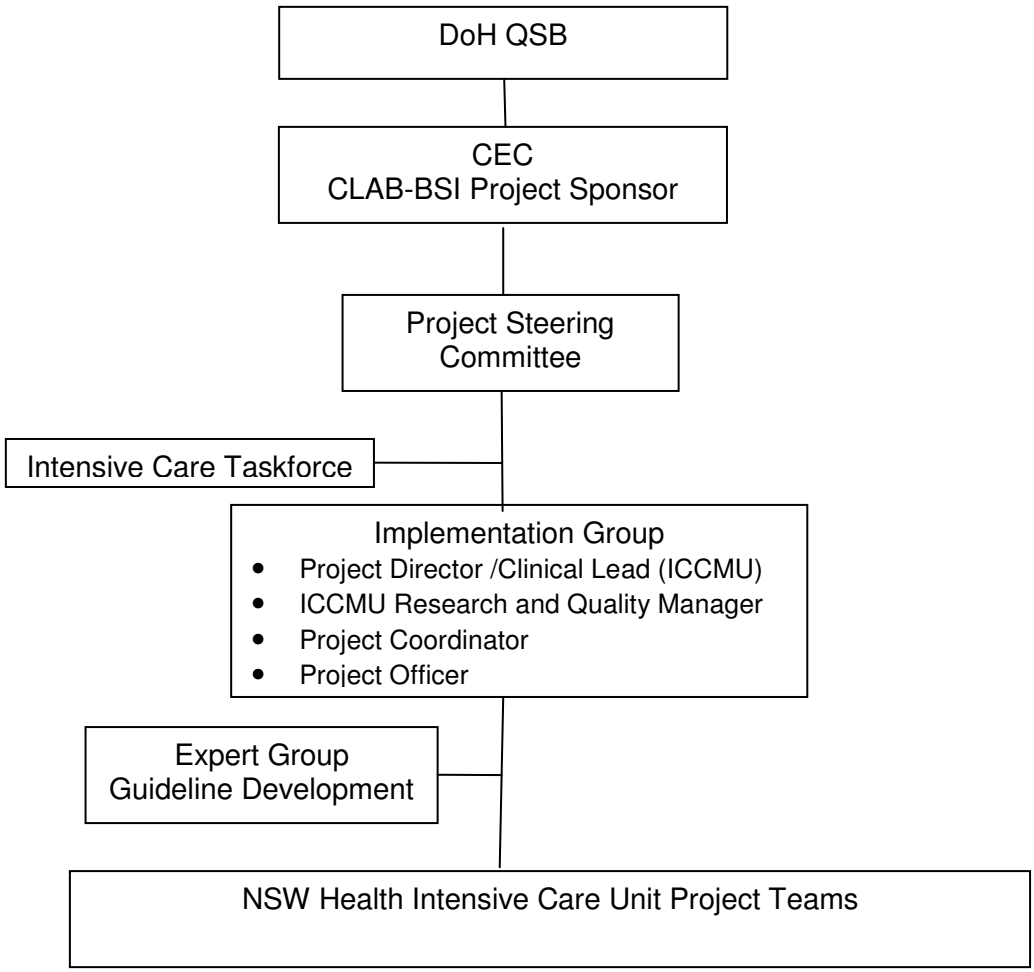
A robust governance and reporting structure is required to support clear accountability for project deliverables, project management and internal / external communication activities.

Project Management - Roles and Responsibilities

Project Sponsor	Executive sponsorship of the project on behalf of the NSW Clinical Excellence Commission will be provided by Director Clinical Practice Improvement Projects whose role incorporates: • Overall responsibility for the CLAB -ICU project, allocation of funding and detailing specific purposes, performance indicators and reporting arrangements • Reporting to funding body (QSB) regarding project progress, issues and risks
Steering Committee	The Steering Committee will be established to: • Provide overall direction for the project • Advise the systems and structures for the management and operation of projects • Oversee the timelines for the projects and ensure that they are implemented within the appropriate timeframe • Advise the processes for implementation of the projects • Advise the systems, processes and indicators for monitoring progress for the projects • Monitor the progress of the project • Membership will include A/Director QSB
Project Director and Clinical Lead	The Project Director and Clinical Lead, Dr Tony Burrell, will work in consultation with the Clinical Excellence Commission to: • Develop strategies for risk identification, prevention and monitoring of CLAB in ICU; • Develop clinical practice improvement strategies for CLAB reduction in ICU
Project Coordinator	Day to day management and oversight of the project will be the responsibility of the project coordinator, whose role is to: • Coordinate and contribute to the development and implementation of the CLAB -ICU project. • Provide expert, authoritative advice to the CLAB ICU Project Steering Committee, CEC, ICCMU, NSW Department of Health and ICUs in relation to the development and implementation of CLAB -ICU project. • Develop an education and training program for local ICU project teams; • Liaise with ICCMU staff for assistance and advice with implementation strategies for clinician engagement • Develop strategies, including promotional material for CLAB -ICU • Provide regular project status reports to Project Director and Steering Committee throughout project and coordinate final report to all relevant stakeholders
Project Officer	To provide specialist support to guideline development and implementation, educational strategies, data management and analysis and evaluation components of the project.

ICCMU Research and Quality Manager	To facilitate process of literature review and development of evaluation methodology
Project Implementation group	To oversee the operational aspects of project implementation and provide guidance and support to the project coordinator and project officer. Includes Project Director, Project Coordinator, Project Officer, Infection Control Program Manager (NSW Health QSB) and ICCMU Research and Quality Manager
Site Project Team	Team includes staff of each intensive care unit e.g. Senior Medical Staff, ICU registrar/resident, ICU Clinical nurse, local quality manager and Infection Control Consultant (ICP)
Expert Group	• development and content of the project documentation • development of change concepts to be implemented by the project • clarification of the aims of the CVC-BSI project • measures to be applied by project teams • liaison with other relevant groups and committees as appropriate in the planning of the CVC-BSI project • Membership by invitation will include key clinicians from relevant disciplines to provide appropriate advice
Reporting Lines	See Organisational Chart below

Central Line Associated Bacteraemia Blood Stream Infection
Project Governance



7. **Engagement, Communication and Sustainability**

This section outlines strategies for engaging stakeholders, including consultation, information and communication and the planned use of implementation strategies for sustainability.

Engagement Strategy

Stakeholders	Engagement Strategies
ICU medical clinicians	ICU visits, marketing via ICU Connect listserve and ICCMU newsletters, academic detailing, tabling of information at relevant committees.
ICU nursing clinicians	ICU visits, marketing via ICU Connect listserve and ICCMU newsletters, information sessions at relevant meetings/conferences/workshops.
Clinical microbiologists / Infectious Diseases Physicians	Engagement of medical leadership at a hospital level to broker connection with these clinicians via attendance by project team at regular or ad hoc meetings; email; letters to heads of department
ICPs	Communication via ICCN, email, inclusion in mailing list of project newsletters, recruitment into project teams by local clinical leaders
Pathology labs	Inclusion in project marketing information via mail, email, presentation at local/AHS meetings by project team.
Facility management	Letter advising of project aims and objectives, request for assistance in identification of local project teams, inclusion/participation as executive sponsor of local project team
AHS Clinical Governance	Presentation to DCG forum advising of project aims and objectives, outline of DCG role in project, inclusion on newsletter mailing list for regular project updates (email)
AHS Clinical Operations	Presentation to regular meeting, letter advising of project aims and objectives (as above)
CEC	• Clinical practice improvement methodology • Sustainability • Strategic direction
QSB	• Monitoring of clinical indicators • Funding body • Strategic direction

Communication Plan

Target Audience	Aim	Communication Tools	Who to Action	By When	Costs
External Communication					
All NSW ICU staff	Reduce CLABs in NSW ICUs	CVC-BSI project strategies		May 2007 – May 2008	
		Logo development	CLAB Project Officer	April 07	See budget
		Baseline data collection and feedback	ICUs; CLAB Project Officer	May 2007	
		Learning Sessions	CLAB Project Officer	May 2007 August 2007 Oct/ Nov 2007	
		Online discussion forum	CLAB Project Officer and ICCMU	May 07 – Feb 08	
		Bimonthly newsletters	CLAB Project Officer and ICCMU	Commencing May 07 (published bimonthly)	
		Website	CLAB Project Officer and ICCMU	Ongoing updates	
		Site visits	CLAB Project Officer	May 07 – Dec 07	
Nurses	Reduce CLAB in NSW ICUs	NSW Nurses Association brief	CLAB Project Officer	April 07	
		Royal College of Nursing brief	CLAB Project Officer	April 07	

Target Audience	Aim	Communication Tools	Who to Action	By When	Costs
Doctors	Reduce CLAB in NSW ICUs	Australian Medical Association brief	CLAB Project Officer	April 07	
		NSW Medical Board brief	CLAB Project Officer	April 07	
		Professional Medical College Brief	CLAB Project Officer	April 07	
		Other ICU publications	CLAB Project Officer	TBC	
SEAB	Engage in project including scope, reporting and outcomes	Presentation	CLAB Project Director and Exec Sponsor	April 07 and Feb 08	
AHS Executive	Report on project progress	Area Executive Presentations	Expert Group/ Steering Committee	April – Jun 07	
		Progress/ Status Reports	CLAB Project Officer	Bimonthly	
ICCMU Committees • Quality and Safety • Clinical Information Group	Report on project progress	Progress/ Status Report	CLAB Project Officer	Bimonthly	

Internal Communication					
Expert Group and Steering Committee	Report on project progress	Progress/ Status Reports List-serve	CLAB Project Officer	April 07 – August 08 (bimonthly reporting)	
Implementation Group	Report on project progress	Progress Reports List-serve	CLAB Project Officer	Fortnightly	
Evaluation					
All stakeholders (Including DoH – QSB; All ICU clinicians; AHS Executive; ICCMU Committees)	To provide a final report on the evaluation of the CLAB-ICU Project to all key stakeholders	Final Report – hard copy, e-copy	CLAB Project Officer; Steering Committee	Aug 2008	See budget

Sustainability

Strategies to make the project sustainable beyond its duration are outlined below:

- Checklists/ forms to be included as medical record
- Data management and reporting systems that are aligned to existing systems
- Audit processes ongoing
- Included in position descriptions
- Guidelines adopted as policy at facility level
- Development of education tools and programs that are appropriate beyond ICU (eg ED/OT) and support sustainability of project gains in ICU
- Development and implementation of a credentialing process for insertion of Central Lines

8. Issues and Risks - Assessment and Management

The following table outlines issues that may have a low or moderate impact on project quality, deliverables, cost or time but are manageable by the project team.

ISSUES			
Category	**Detail**	**Likely Impact**	**Mitigation Strategy**
Deliverables	Agreement on CVC Performance Indicator to reduce CLAB in ICU by Jan 2008	Performance Indicator not addressed by facilities If baseline not established, quantifying reduction is not feasible.	Engage ICUs by setting achievable targets. Establish baseline data at participating ICUs prior to project implementation.
Quality	Data collection - definition of central line days and definition of central line bacteraemia Potential for some units to lack existing data collection system	Lack of clinician buy-in to project Difficulty in benchmarking ie, comparison data	Obtain extensive input from ICU clinicians particularly those involved in SSSL Use definitions that are widely accepted nationally/ internationally
Cost	Guideline implementation facility costs (Insertion cart, electronic database, if identified)	Facilities unable to implement practice improvement strategies Efficiency of data collection if not automated	Obtain commitment from DoH to provide funding for required infrastructure Use existing electronic databases where possible
Staffing	Engaging clinical leaders Identifying resources required to support project	Lack of clinician buy in Practice change unsuccessful without the support of clinical champions Facilities unable to implement practice improvement strategies	Spend a significant amount of time promoting, motivating, actively engaging clinical leaders Academic detailing Ensure project is credible to clinicians, get extensive input Identify change champion or local “leader” for project Utilise existing staff with similar roles/skills required for project implementation

Risk Assessment and Management

Risk assessment includes identifying, monitoring and mitigating risks. A new risk can be identified or derive from an issue that is escalated as a risk. Risks will be discussed with the Project Director in the first instance, reviewed and action plan determined.

Risk management is a multifaceted quality function with the goal of explicitly and clearly mitigating risks through sound management and continual improvement. Key risks are strategic, which arise from outside the CEC but may impact on its ability to perform activities, and operational ones, which arise from 'day to day' activities.

The CEC Risk Management Policy and Framework provides outlines how risks are to be identified, managed and reported through the Audit and Risk Management Committee to the Board.

The following risks are generic organisational issues that may impact on the project, but are unlikely to require specific addressing by the project team:

Economic	Changes in government, Government policy
Environment	Natural disasters (fire etc), Service failures (gas, water, electricity)
Financial exposure	Fraud and/or misappropriation of funds, Changes in funding, Breaches of contract
Human behaviour	Productivity rates, Human error, Theft, Computer crime
Commercial	Business interruptions, Bad debts, Loss of reputation
Occupational health and safety	Safety measures, OH&S policy, Employment environment, Staff welfare management
Legal liability	Professional liability Public liability, Contractual obligations
Asset base	Property damage, Capital works Security of assets (cash, non-current assets etc)
Technology	Compliance, Intellectual property, Obsolescence

The assessment framework for rating and responding to risks, as identified in the CEC Risk Management Policy and Framework, is outlined below:

Likelihood x Consequence = Risk Rating Number (RRN)

LIKELIHOOD of hazard being realised	**CONSEQUENCE**				
	Negligible (1)	**Low (2)**	**Medium (3)**	**High (4)**	**Extreme (5)**
Rare (1)	1	2	3	4	5
Unlikely (2)	2	4	6	8	10
Possible (3)	3	6	9	12	15
Likely (4)	4	8	12	16	20
Frequent (5)	5	10	15	20	25

Actions to be taken based on the Risk Rating Number (RRN):

RRN	Risk Rating	Action to Reduce RRN
(1-4)	Very Low	• Accept Risk • Manage by routine procedures
(5-10)	Low	• Management action required • All financial losses must be reported to senior management
(11-15)	Medium	• Senior management action required as soon as reasonably possible • Notification to the Department of Health and/or an investigation to be undertaken at the discretion of management
(16-25)	High	• Immediate senior management action required • Chief Executive to be informed • Reportable Incident Brief (RIB) must be forwarded to the Department of Health

RISKS			
Risk	**Rating**	**Likely Impact**	**Mitigation Strategy**
ICU clinicians not actively engaged	Med	Implementation of program resulting in poor compliance with project objectives	Promotion of project widely Engage motivated/ interested clinical leaders to assist with instigating change
Lack of clinician buy-in	High	ICU clinicians not participating in project and lack of data collection	Spend a significant amount of time promoting, motivating, actively engaging clinical leaders Academic detailing – identifying incentives for clinician engagement Ensure project is credible to clinicians, get extensive input Provide resources necessary for program success (e.g. electronic database, insertion trolleys, in-unit reports etc)
Clinician scepticism surrounding the concept of 'bundles' and the value of Quality Improvement (QI) in general	Med	Implementation of program with mutual understanding by healthcare workers resulting in poor compliance with project objectives	Avoid use of 'bundle' terminology-place emphasis on essential components of care Demonstrate benefits of QI via education, promotion, academic detailing Engage opinion leaders and clinical champions to facilitate support and uptake

Variable success of previous projects in ICUs related to CVC care	Med	Implementation of program with mutual understanding by healthcare workers resulting in poor compliance with project objectives	Highlight where this project will improve on previous ones Share learnings with ICU community at large

Additional strategies that will be put in place to manage risk are outlined below.

Process Control

Planned control processes include:

- Internal communication activities such as scheduled meetings, status reports and shared project directory access
- Issues management process to ensure that issues are identified and mitigated or managed before becoming risks
- Risk assessment plan processes to ensure that risks are identified, assessed and mitigated or managed in agreement with the Project Director, Sponsor and/or Steering Group
- Change request process to ensure that proposed changes are documented, reviewed, impact assessed, changes authorised, implemented and tracked

Communication

The following internal project communication processes will be utilised:

- See Communication Plan required

Monitoring

To ensure that the project adheres to a high level of quality, the following processes will be utilised:

- Regular status reports provided to steering committee to monitor project progress
- Monitoring of issues and risks register by steering committee
- Interim and final project reports to funding body

9. Evaluation

Process evaluation.

1. Conduct surveys and focus groups with ICU clinicians evaluating the current practices and projects in place.
2. Review evaluations of SSSL and follow and/or make recommendations based on findings.
3. Conduct focus groups with ICU clinicians to identify barriers and enablers to guideline uptake.
4. Obtain baseline data on infection rates and the number of line insertions where data exists.
5. The number of methods used to disseminate the statewide guideline.
6. Survey ICU clinicians regarding awareness levels of statewide guideline.
7. Number of ICUs that supply staff with at least monthly feedback on compliance with protocols.
8. Percent of completed checklists per new line insertion.

Impact evaluation.

1. Conduct surveys and focus groups with ICU clinicians evaluating the effectiveness of implementation strategies and the impact on clinical processes & delivery of care.
2. Process measurement- use Statistical Process Control (SPC) in evaluating compliance with guideline recommendations over time.

Outcome evaluation.

1. Measure outcomes via number/rate of CLABs (pre- vs post-implementation)
2. Project management evaluation- external consultant.

10. Transition and Project Closure

- Project activity will be completed by 31 August 2008
- Progress reports will be provided bimonthly to DoH.
- The Final Report will be provided to the DoH on 31August 2008
- Ongoing indicator monitoring – process and frequency of data collection to be determined during project
- Handover of database to facilities – 2nd learning session