Better Safer Transfusion Program introduction and initial response to the enclosed document

The attached report of the *Evaluation of the hospital blood management program: transfusion nursing in Victoria 2003–2006 May 2007,* was commissioned by the Better Safer Transfusion (BeST) Program, Department of Human Services.

The Transfusion Clinical Governance Group of the Better Safer Transfusion (BeST) Advisory Committee, has reviewed the report and provided this interim response.

In summary, we commend this report as an initial review of this relatively new specialist transfusion nurse position. It confirms the value of the transfusion nurse role to coordinate and promote better, safer transfusion practice. In addition, it provides valuable information for health services to make best use of the transfusion nurse position.

The **aim** of the evaluation was to formally evaluate the current transfusion nurse role in order to learn how best to utilise the role in everyday hospital practice to improve transfusion safety and the outcomes of transfused patients. The aims of the proposed evaluation were to identify:

- the effectiveness of the transfusion nurse role in promoting safe and appropriate use of blood and blood components in Victorian hospitals and mechanisms that assist in embedding this new role into everyday hospital culture
- examples of 'best practice', in use of the transfusion nurse resource within Victorian hospitals and means for making these best practices common practices
- means for improving the effectiveness and efficiency of the role of a transfusion nurse
- alternate transfusion practice improvement models involving transfusion nurses or practitioners (from overseas or interstate) that are capable of delivering sustainable improvements in transfusion outcomes across the Victorian health system.

Limitations of the report

The scope of the evaluation was limited to Department funded positions within Victoria.

The transfusion nurse role was implemented in Victoria in 2002 in only two hospitals, and has subsequently evolved to 16 positions in metropolitan and regional health services. **The report therefore does not evaluate the outcomes of the role** because it is too soon in the development of this specialist nursing position. What the report does is:

- describe the achievements and benefits of the transfusion nurse role to date
- suggest strategies and approaches to optimise the transfusion nurse role, covering health services as well as factors outside the direct control of health services.

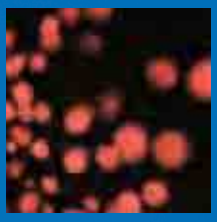
In section 5 'Transfusion Nurses in Victoria', *Table 5-1: Profile of funded health services*, the figures provided of transfused fresh blood products per year are estimates only and have not been independently verified. **Conclusions should not be drawn from these figures.**

Section 8, 'Models of Transfusion Nursing in Victoria' is intended to provide a guide on how best to implement the role. **The Transfusion Clinical Governance Group intends to refine and expand on this section, and release guidance documents to hospitals in 2007–08.**

AUSTRALIAN HEALTHCARE ASSOCIATES

Final Report






EVALUATION OF THE HOSPITAL BLOOD MANAGEMENT PROGRAM
TRANSFUSION NURSING IN VICTORIA 2003 - 2006

MAY 2007

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TABLES AND CHARTS

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APPENDICES

Glossary and Acronyms

ACHS	Australian Council on Health Standards
ACSQHC	Australian Council for Safety and Quality in Health Care
ADoN	Assistant Director of Nursing
AHA	Australian Healthcare Associates
Anti-D	Rh (D) immunoglobulin
ANZSBT	Australian and New Zealand Society of Blood Transfusion
ARCBS	Australian Red Cross Blood Service
ASBT	Australian Society for Blood Transfusion
B-Tag	Blood Tag – used for data collection; returned with blood bag to pathology
BeST	Better Safer Transfusion Program
BPO	Blood Projects Officer
CALD	Culturally and Linguistically Diverse
CMV	Cytomegalovirus
The Department *or* DHS	Department of Human Services (Victorian Government)
DoN	Director of Nursing
EQuIP	Evaluation and Quality Improvement Program
EUB	Effective Use of Blood Group (Scotland)
IVIg	Immunoglobulin
KPI	Key Performance Indicator
MeSH	Medical Subject Headings
NBA	National Blood Authority
NBTC	National Blood Transfusion Committee (UK)
nd	no date
NHMRC	National Health and Medical Research Council
ONTraC	Ontario Transfusion Coordinators
RCNA	Royal College of Nursing Australia
RN	Registered Nurse
SHOT	Serious Hazards of Transfusion (UK)
SPOT	Specialist Practitioner of Transfusion
TC	Transfusion Committee
TN	Transfusion Nurse
TNS	Transfusion Nurse Specialist (Scotland)
TSO	Transfusion Safety Officer

1. Executive Summary

1 EXECUTIVE SUMMARY

This chapter summarises the findings and conclusion of this review, which was conducted by Australian Healthcare Associates (AHA) on behalf of the Victorian Government Department of Human Services (DHS).

1.1 Overview

Over the past decade, numerous measures have been employed to increase both the safety of blood components for transfusion and the transfusion process itself. The greatest risks to patients from transfusion now relate to hospital-based steps in the process, particularly mistransfusion (transfusion of the wrong blood to a patient) (Dzik 2003). The Serious Hazards of Transfusion (SHOT) program in the UK reported that mistransfusion accounts for the overwhelming majority of reported adverse events (Love & Soldan 2002) and this result is mirrored by reports from other countries (Dzik 2003).

The role of the transfusion nurse is evolving as an integral part of efforts to reduce the risks of non-infectious hazards and improve transfusion practice in Australia and internationally. The transfusion nurse role is a relatively recent specialist hospital position and the role continues to change with growing experience.

Sixteen funded transfusion nurse positions are currently installed in Victorian hospitals and health services as in-house resources. Their role is to work with medical, nursing and laboratory staff to promote safe and appropriate use of blood and blood products.

In August 2006, AHA was engaged to review the transfusion nurse resource in Victoria. This report details the findings of that review, and is presented over eight chapters, as summarised in *Table 1-1*.

Table 1-1: Report structure

Chapter	Content
1. Executive summary	
2. Project objectives and methodology	▪ *Includes the project background, terms of reference and workplan.* ▪ *The project involved detailed review and consultation with each of the transfusion nurses and health services.*
3. Literature review	▪ *Presents findings of the literature review - Australia and internationally.* ▪ *Includes a summary of the key success factors affecting the role of transfusion nurses in improving transfusion practice.*
4. Transfusion nurses across Australia	▪ *Summarises current developments in each state/territory, supplementing information in the literature review.*
5. Transfusion nurses in Victoria	▪ *Profiles the current program, including:* – *history and development of transfusion nursing in Victoria* – *the activities of transfusion nurses (TN)* – *the health services and frameworks which TNs work within.*

1. Executive Summary

Chapter	Content
6. *Achievements and benefits to date*	▪ *Details the achievements and benefits to date. Benefits are identified for BeST and the Department; Health Services and for patients. Includes good practice examples.*
7. *Supporting and optimising effectiveness*	▪ *Identifies methods and strategies to support and optimise the effectiveness of the transfusion nursing role within health services.*
8. *Models of transfusion nursing in Victoria*	▪ *Examines different models of transfusion nursing, including the strategies and approaches which are most effective, for each of four types of health service:* *1. Large metropolitan* *2. Small metropolitan* *3. Regional network* *4. Rural health service.*

1.2 Project objectives and methodology

AHA was engaged to review the transfusion nurse resource in Victoria, in order to:

- evaluate the effectiveness of Victoria's transfusion nurses in undertaking their role;
- identify practices, policies and procedures implemented locally in hospitals;
- report on the success factors of these; and
- advise on possible improvements to the existing role.

Findings were based on the project research conducted, including:

- structured survey of all funded transfusion nurses in Victoria;
- interviews and in-depth interviews with all transfusion nurses and other major stakeholders, including BeST advisory committee members, DHS and health services;
- gathering and analysis of transfusion nurse collected de-identified data; and
- literature review of international and jurisdictional practices.

1.3 Literature review

There is a paucity of literature solely concerned with human solutions to improving transfusion safety internationally and in Australia. The fact that such solutions have only recently been implemented, and only in some countries, also means that there has been little opportunity for their evaluation. Only one formal evaluation of the transfusion nurse role has been conducted (Gray et al 2004a; 2004b; Scotland) and the literature is therefore mostly descriptive rather than focused on outcomes

Transfusion safety solutions in New Zealand, France and the Netherlands involve scientists, physicians or pharmacists. Countries where there is some experience with the transfusion nurse role are:

- England and North Wales

- Scotland
- Ireland
- Canada
- Australia.

Much has been learned to date, particularly in the UK where transfusion nurses have been part of national efforts to improve hospital transfusion practice for some years. The main lesson learned is that progress in systematically improving transfusion practice requires continuing effort across a range of areas. Lessons identified in the literature relate to:

- Transfusion nurse skills
- Training and education
- Coordination and consistency
- Leadership and support
- Raising awareness.

1.4 Transfusion nurses across Australia

Transfusion nurse positions are funded and supported by the respective state governments in Victoria, Tasmania and South Australia. There is no statewide transfusion nurse program in Western Australia however, transfusion nurses are employed and funded by individual hospitals.

Blood Watch is a NSW state-wide transfusion medicine improvement program and its' primary goal is to improve the safety and quality of fresh blood product transfusion in all NSW Public Hospitals. Blood Projects Officer (BPO) positions are currently planned to be introduced at each of the eight Area Health Services (AHS) in NSW. It is expected that some BPOs will be registered nurses, but this is not a requirement. Their role is to assist the Clinical Governance Unit of each AHS.

National initiatives by the ARCBS and the NBA include:

- National teleconferences of transfusion nurses
- Development of blood transfusion module for nurse undergraduate curriculum
- The ARCBS has recently employed four transfusion nurses, to focus on IVIg and special platelet support.

1.5 Transfusion nurses in Victoria

Transfusion nurses (TN) positions are currently funded at 16 health service networks; 12 in Greater Melbourne and 4 in regional Victoria. One position was vacant at the time of this evaluation, but has since been filled.

The size of the networks and the number of units of fresh blood product transfused annually ranges from:

- Southern Health, with 6 hospital sites and 30,000 units of blood transfused; to

- Ballarat Health Services with a single site only and which transfuses 3,000 units of blood per year.

The survey and interviews conducted identified the key activities undertaken by the transfusion nurses, as follows:

- Training and education of staff (approximately 20% of work time)
- Auditing compliance to guidelines (19%)
- Policies and procedures, developing and implementing (19%)
- Errors and adverse events, developing processes for monitoring and managing (14%).

These activities are consistent with the TN role as defined by BeST[1].

1.6 Achievements and benefits to date

The funding of transfusion nurses is a relatively new initiative, both internationally and within Australia. The initial focus in Victoria has therefore been on defining and establishing the role within health services. As indicated, 16 health services now employ a transfusion nurse.

The role of transfusion nurses in Victoria is to promote safe and appropriate use of blood and blood components/products. Achievements and benefits since the transfusion nurse model was introduced in 2004 are identified in this section for:

- BeST and the Department
- Health Services
- Patients.

1.6.1 BeST and the Department

The TN model in Victoria is designed to support the BeST program in achieving its aim and objectives. The ongoing development of the transfusion nurse role is described as being of key importance to the BeST program. The aim of the BeST program is -

> *to improve outcomes in patients requiring blood product transfusion in Victorian hospitals by enhancing the safety and appropriateness of blood and blood product use* (BeST nd).

Information from TN programs elsewhere suggests that transfusion nurses can contribute towards such outcomes. For example, in Scotland the TN program aims to deliver measurable improvements in transfusion safety and reduce blood use by 10% over three years (Todd 2004). At this stage however, evidence is not available to assess such outcomes in Victoria.

The BeST program's overall aim is underpinned by 13 objectives (BeST 2006), which define the specific roles and tasks required of the program. The activities of transfusion nurses directly contribute towards many of these roles and in particular, the following BeST objectives:

- Promotion of **education and training** programs
- Promotion and dissemination of clinical practice **guidelines**

[1] Role is set out at *Section 2.2 Project Objectives;* refer Evaluation Questions 7a to 7g.
[2] Audit of Blood Transfusion Policy, Procedures and Administration Practice;

- Support of performance monitoring and **audit** including development of standardised audit tools and processes and monitoring of relevant indicators across different sites
- Support of hospital **transfusion committees**.

These objectives represent the core activities of TNs in Victoria and much has been achieved in these areas. The following *Section 1.6.2* provides further details.

1.6.2 Health Services

Key achievements to date, of benefit to health services, have included:

- Development and implementation of a **comprehensive range of policies, procedures**, **guidelines, charts and forms**. All health services have now introduced the key policies and procedures required to support safe and appropriate transfusion practice. This is a major achievement, given that statewide BeST audit results indicated significant deficiencies in the transfusion policies and procedures at many health services (refer *Section 6.2*).
- **Nurse training and/or education programs** have been established at each health service. Most report positive results following training sessions, including an increase in reporting of incidents related to transfusion. Several transfusion nurses have also contributed towards training of medical staff (refer *Section 6.3*).
- **Transfusion committees** have been supported and resourced.
- **Audit activities,** including monitoring, reporting and comparing actual practice, are universally recognised as a powerful agent for change. Through such activities, some TNs have achieved major change and improvement in transfusion practices. One health service in particular believe that audit information reported has led to:
  - major improvement in transfusion practice; and an
  - improved culture of reporting in relation to transfusion, within the health service.
- Reporting of audit results range within health services, range from quarterly reports to transfusion committee only; to monthly newsletters plus the results of audits and other transfusion information collated at a ward/unit level and available to all hospital staff for comparison (refer *Section 6.4*).
- The collection and follow up of **errors and adverse event**s has varied, depending on the risk and quality programs within the health service and/or hospital. The reporting of incident/errors or adverse events appears to have increased significantly since the introduction of transfusion nurses (refer *Section 6.5*).
- **Communication between pathology and clinical staff** has improved. The TN role includes liaison between laboratories and clinical staff. Most laboratory staff consulted identified this as one of the most important roles and achievements of the TN (refer *Section 6.7*).
- Achievements in **managing change** have varied. In some health services, change has occurred not only in transfusion practices but also more broadly across the health service in relation to patient identification and patient right to refuse treatment (refer *Section 6.7*).

Health services with active quality/risk and/or clinical governance systems, which report directly to senior executives and to the Board, have been able to actively support transfusion nurses and achieve

positive results against objectives. For many health services, the TN role is now a permanent part of their safety and quality initiatives. Potential benefits identified by health services, include:

- Reduced risks to patients from blood transfusion
- Meeting new accreditation standards relating to transfusion practice
- Benchmarking with other health services; identifying potential areas for improvement
- Skilled workforce able to prevent and respond to adverse events.

1.6.3 Patients

As indicated, information is not available at this stage to assess overall patient outcomes.

Patient information and support has not been a major focus for TNs to date, however some progress has been made; details are provided at *Section 6.6*. The audit work completed by transfusion nurses has identified several issues that affect patients, and which have resulted in health service-wide improvement in patient management practices (refer *Section 6.7 Managing change in the organisation).*

1.7 Supporting and optimising effectiveness

Methods and strategies to support and optimise the effectiveness of the transfusion nursing role are identified in Chapter 7. Strategies include internal support from within health services and factors external to health services.

1.7.1 Internal support from health services

To optimise the effectiveness of the transfusion nurse role, health services must have appropriate arrangements for:

- Governance
- The Transfusion committee or team
- Support and alignment of the transfusion nurse, within the health service
- Ensuring and maintaining transfusion nurse skills and attributes.

Governance arrangements

Governance arrangements are critical to the success of the transfusion nurse role, including:

- Leadership and management
- Reporting, quality/risk culture and systems.

The complexity of the transfusion process means that support for safe, appropriate and effective transfusion practice must come from more than one senior management discipline. Nearly half (7 of 15) of the TNs interviewed report directly to a haematologist or pathologist; 5 to a DoN; and 3 to a quality manager. Most TNs (9 of 15) indicated that their direct report was very supportive; however others advised that improved support would enhance their role.

Health services with active quality/risk and/or clinical governance systems, that include reporting directly to senior executives and to the Board, have been able to support transfusion nurses and achieve positive results against objectives.

Transfusion committee or team

A strong transfusion committee that supports and guides the transfusion nurse; and regularly reports to others, is vital to the effectiveness of a transfusion nurse. The survey and interviews conducted indicated that some transfusion committees are very interested and supportive of the TN role, however in other cases there is scope for improvement.

In the absence of direction and support from a strong transfusion committee, the transfusion nurse is unlikely to be able to effect change within the health service.

Internal support and alignment

The effectiveness of the transfusion nurse role can be enhanced through:

- A medical champion – to promote the role of the transfusion nurse in supporting good transfusion practice with medical staff
- Professional nursing support – though senior nurse managers and through other specialist peers
- Alignment with quality – to be most effective, a transfusion nurse needs to be part of a team, who can support them in all aspects of their role. The activities of quality/risk and/or clinical governance teams best support many aspects of the transfusion nurses role.

Also, most TNs report that their role is highly task focused. Greater administrative support for TNs would increase their effectiveness.

Transfusion nurse skills and attributes

The specific skills and attributes required of a transfusion nurse include:

- In depth, up to date knowledge of transfusion practice, blood and blood products.
- People skills, ability to relate, communicate and network with a broad range of people
- Understanding of the 'politics' of hospitals/health services and/or having a medical and nursing champion to support them with health service politics.
- Ability to implement change.
- Education/training skills
- Data skills.

1.7.2 External factors

External factors include aspects which the BeST program or the Department may be able to influence or participate in, to improve the effectiveness of the transfusion nurse role.

Profile and awareness of transfusion and transfusion nurses

Possible strategies to improve the profile and awareness of transfusion and transfusion nurses include:

- Accreditation - the inclusion of accreditation standards, specifically addressing transfusion practice, are likely to increase awareness and recognition of the benefits of the transfusion nurse role
- Cost signals - this approach is being trialed in NSW

- Education and promotion - including staff within hospitals; hospital executives and board members; patients and the community.

Many TNs believe there is the need to improve the profile and regard for the TN role within their health network.

Audit and reporting

External audit and reporting strategies, to encourage quality transfusion practices, include:

- Statewide audit and benchmarking - continuation and extension of the BeST audits, including public reporting of data
- KPI reporting - such reporting to government is being trialed in other jurisdictions.

Networking and peer support

Transfusion nurses require peer support at a State and National level as well as a local level. Access to regular meetings of transfusion nurses across the State as well as a system to share progress and ideas is supported.

1.8 Models of Transfusion Nursing in Victoria

The preceding *Section 1.7* examines broad strategies for health services to optimise their TN's effectiveness. Different strategies are however suitable for different health services. The transfusion nursing role is significantly affected by the nature of the health service including:

- Location - based in metropolitan or regional Victoria
- Size and complexity - single or multi site; number of transfusions at each site; disciplines and specialities
- Pathology services - Internal or external; single provider across all health service sites or multiple pathology providers.

Chapter 8 examines the different transfusion nursing models which are effective for different types of health services. Four TN models are presented, reflecting the varying location and size of health services in Victoria, namely:

1. Large metropolitan network
2. Metropolitan small or single site
3. Regional network
4. Rural health service.

Definitions and assumptions for each model are provided. Strategies and approaches are identified to optimise the effectiveness of the transfusion nurse role for each model, including the following aspects:

1. Governance arrangements	▪ Quality/risk culture ▪ Transfusion committee ▪ Transfusion team
2. Internal support and alignment	▪ Transfusion nurse ▪ Medical champion ▪ Nursing champion

	▪ Pathology on site ▪ Pathology off site / private
3. Transfusion nurse skills and attributes	▪ Clinical experience / knowledge ▪ Management experience ▪ Change management ▪ Political awareness ▪ Data skills ▪ Education skills ▪ People skills ▪ Persistence
4. Transfusion Nurse Role	▪ Develop policies and procedures ▪ Train staff re policies and procedures ▪ Collect and report data related to policies and procedures

Chapter 8 is designed to provide specific guidance to health services wishing to introduce a transfusion nurse or to enhance an existing role.

2. Project Objectives and Methodology

2 PROJECT OBJECTIVES AND METHODOLOGY

This section details the project's:

- ***Background and objectives***
- ***Methodology and tasks***

2.1 Background

Victoria has the largest transfusion nurse (TN) resource in Australia, with 16 positions funded in public health services across the state.

The need for a specialist TN role was identified during the Blood Matters Collaborative in Victoria and Tasmania; and two health services successfully piloted the TN role in 2002.

The placement of transfusion nurses in public hospitals in Victoria commenced in 2003 and is coordinated through the Better Safer Transfusion (BeST) program. BeST aims to improve the quality of hospital transfusion care to patients. The Australian Red Cross Blood Service and Department of Human Services (DHS) collaborate to deliver the BeST program.

Australian Healthcare Associates (AHA) was engaged by DHS to review the transfusion nurse role within the BeST program in Victoria. The review commenced in August 2006 and was completed in January 2007.

2.2 Project objectives

The objectives of the project were to identify:

- the **effectiveness of the transfusion nurse role** in promoting safe and appropriate use of blood and blood components in Victorian health services, and **mechanisms that assist in embedding this new role into everyday hospital culture**
- **examples of 'best practice'** in use of the transfusion nurse resource within Victorian health services, and means for making these best practices common practices
- **means for improving** the effectiveness and efficiency of the role of a transfusion nurse
- benchmark the Victorian model against **alternate transfusion practice improvement models** involving transfusion nurses or practitioners (from overseas or interstate) that may deliver improvements in transfusion outcomes across the Victorian health system.

To address the primary aims of the project, the following evaluation questions were framed by DHS:

Evaluation Questions	*Report Reference*
1. How well does the transfusion nurse meet current needs of: ▪ BeST, the Department, ▪ the health service and their staff and ▪ patients	Chapter 6 - Achievements and Benefits to Date Section 6.1.1 Section 6.1.2 Section 6.1.3

2. Project Objectives and Methodology

Evaluation Questions	*Report Reference*
2. What alternate models exist in other jurisdictions, and what elements of these models may be applicable to in the Victorian context?	Chapter 3 - Literature Review Chapter 4 - Transfusion Nurses across Australia Chapter 7 - Supporting and Optimising Effectiveness
3. How does the role integrate with similar roles in the hospital?	Chapter 5 - Transfusion Nurse Program in Victoria
4. What was/is required from BeST, the department and hospitals, to successfully establish, operate and maintain the role?	Chapter 7 - Supporting and Optimising Effectiveness
5. What opportunities exist to streamline and improve what BeST, the department and hospitals provide in order to support successful outcomes from the role?	Chapter 7 - Supporting and Optimising Effectiveness
6. What have been the major achievements of the role and how are they linked to the activities of the transfusion nurse?	Chapter 6 - Achievements and Benefits to Date; Section 6.1
7. How effective has the transfusion nurse been in:	Chapter 6 - Achievements and Benefits to Date
a. Promoting safe and appropriate transfusion practice	Section 6.1
b. Coordinating transfusion training and education of staff	Section 6.3
c. Developing and implementing policies/protocols which are in accordance with national and international guidelines	Section 6.2
d. Developing processes for monitoring and managing errors and adverse events	Section 6.5
e. Auditing compliance to guidelines and effectively disseminating data	Section 6.4
f. Providing patients information and support regarding the blood transfusion process	Section 6.6
g. Managing change in the organisation?	Section 6.7
8. What models for the transfusion nurse role may be options for implementation in Victoria to support sustainable transfusion practice improvement within Victorian hospitals into the future?	Chapter 8 - Models of Transfusion Nursing in Victoria

2.3 Methodology and tasks

The project comprised four key activities:

1. Project initiation
2. Consultation and information collection
3. Literature review
4. Reporting.

2. Project Objectives and Methodology

An overview of the project activities and timeline is provided in *Table 2-1.* Details of each activity are provided in the subsequent sections.

Table 2-1: Project workplan

Project Activity	Completion	Week Ending (2006)															
		August		September					October				November				
		18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	
1. Initiation																	
1 DHS initiation meeting	**14-Aug**	●															
2 Transfusion nurse workshop	**23-Aug**																
3 Finalise workplan	**28-Aug**			●													
2. Consultation and information collection																	
1 Development of information collection strategies and tools	**30-Aug**			●													
2 Transfusion Nurses	**to 12 Oct**																
3 Hospitals																	
4 States and Territories																	
5 Other																	
3. Literature review																	
1 Provide literature overview of models and practices	**22-Sep**						●										
4. Reporting																	
1 Performance assessment	**to 12 Oct**																
2 Lessons learnt																	
3 Options for improvement																	
4 Bullet point summary of major findings and implications	**12-Oct**									●							
5 Draft final report	**1-Nov**												●				
6 Final report	**22-Nov**															●	

Legend: Task / Activity
Deliverable to DHS

1. Project initiation

The AHA team was provided with a briefing from DHS and BeST officials in August 2006, to initiate the project. This briefing encompassed the history and background of the Hospital Blood Management Program and covered a range of topics relevant to the evaluation. DHS outlined its expectations for the evaluation and identified specific issues of interest to be explored.

Following initiation, AHA worked with DHS to:

- finalise the project approach and workplan
- identify the key issues and success factors associated with the project
- develop information collection strategies and tools
- share project related information and materials.

All transfusion nurses were invited to attend a workshop session conducted on 26 August 2006. Seven nurses plus representatives from DHS and BeST attended. The interactive session was used to

encourage TN commitment to the project and formed the basis for development of the information collection tools. Discussion covered a range of topics, including:

- goals of the TN position
- day-to-day activities of TNs
- level of support and reporting structure
- what did and didn't work
- future improvements to the Program
- questions to be included in the survey tool
- health service representatives that should be targeted for consultation.

2. Consultation and information collection

Information was provided by DHS and obtained from the literature review. In addition, information was collected through consultation with the four main stakeholder groups, as follows:

- transfusion nurses
- funded health services
- State and Territory Governments
- other stakeholders - BeST Advisory Committees, Australian Red Cross Blood Service, National Blood Authority and Royal College of Nursing.

A full list of the stakeholders consulted is provided at *Appendix A - People and Organisations Consulted*.

Following the workshop and in collaboration with DHS, a range of information collection tools were developed including:

- TN survey questionnaire - provided at Appendix B
- structured interview guidelines and prompts for each of the other stakeholder groups.

All transfusion nurses participated and completed the survey questionnaire form. Interviews were conducted with each transfusion nurse and a selection of relevant personnel from their health service. All interviews, other than the three regional nurses, were conducted face-to-face.

Table 2-2 summarises the key topics discussed, and methods and tools used to gather information for each stakeholder group.

***Table 2-2:* Information collection – Target audience, key topics and methods**

Target Audience	*Key Topics*	*Methods and Tools*
▪ All Transfusion Nurses	▪ Activity analysis ▪ Role and profile ▪ Level of support and reporting structures - formal	▪ Workshop – all invited ▪ Survey questionnaire - all ▪ Clarification of survey responses - by telephone or

2. Project Objectives and Methodology

Target Audience	*Key Topics*	*Methods and Tools*
	and informal ▪ Achievements and benefits ▪ Potential improvements ▪ Quality indicators (KPIs) ▪ Role of DHS and BeST	email ▪ Structured follow up interview - by face-to-face and telephone
▪ All Funded Health Services (16), including Melbourne Health (no incumbent at time of survey) ▪ Transfusion Committee members ▪ Quality / Risk Manager ▪ Other people nominated by the TN as important - e.g Director of Nursing, Head Haematologist, Senior Scientist	▪ TN role and profile ▪ Hospital commitment and role ▪ Effectiveness of TN ▪ Link with other hospital quality or risk management programs ▪ Needs and benefits ▪ Potential improvements	▪ Letter from DHS to Chief Executive Officer inviting them to participate ▪ Structured interview, with questions and prompts sent in advance - sample ▪ Interview by face-to-face and telephone
▪ Other State and Territory Governments	▪ TN initiatives ▪ Benefits and lessons learned ▪ Other initiatives ▪ Initiatives in other regions	▪ Letter from DHS inviting them to participate ▪ Structured interview – sample ▪ Interview conducted via telephone
Other: ▪ BeST Advisory Committee members ▪ Australian Red Cross Blood Service ▪ National Blood Authority ▪ Royal College of Nursing	▪ Background ▪ Topics as above ▪ Transfusion guidelines ▪ Role of other bodies.	▪ Structured interview – sample ▪ Interview by face-to-face and telephone

3. Literature review

The literature review identified alternative transfusion practice improvement models, which may potentially deliver benefits within Victoria. The review identified practices and the lessons learned:

- internationally, focussing on Scotland, Wales, England and Canada
- by jurisdictions across Australia.

2. Project Objectives and Methodology

The results of the literature review were reported to DHS on 22 September 2006, and are detailed in *Chapter 3 - Literature Review*.

Examination of Australian practices described in literature was supplemented with direct consultation with the jurisdictions, as described in *Table 2-2*.

4. Reporting

This stage involved analysis of the information gathered and formulation of conclusions and recommendations. Initial findings were presented to DHS on 13 October 2006 in the form of a bullet point presentation.

Following input and feedback from DHS; major findings, examples of best practice, lessons learnt and future improvements were developed and are presented in this final report.

3. Literature Review

3 LITERATURE REVIEW

Details of literature review conducted for this research project are provided in this chapter. This review of the literature outlines the development of the role in Australia and overseas and gives an overview of the models and practices employed.

3.1 Introduction

Over the past decade, numerous measures have been employed to increase both the safety of blood components for transfusion and the transfusion process itself. Blood transfusion involves a complex chain of events, involving a diverse group of health professionals, with a number of opportunities for error (Stainsby et al 2005; Gray et al 2005). The greatest risks to patients from transfusion now relate to hospital-based steps in the process, particularly mistransfusion (transfusion of the wrong blood to a patient) (Dzik 2003). The Serious Hazards of Transfusion (SHOT) program in the UK reported that mistransfusion accounts for the overwhelming majority of reported adverse events (Love & Soldan 2002) and this result is mirrored by reports from other countries (Dzik 2003).

The role of the transfusion nurse is evolving as an integral part of efforts to reduce the risks of non-infectious hazards and improve transfusion practice in Australia and internationally. Health professionals undertaking this role are trained to work within hospitals to support transfusion safety and appropriate use of blood and blood products.

The transfusion nurse role is a relatively recent specialist hospital position and the role continues to change with growing experience. In Australia, the transfusion nurse role has been piloted in both Victoria and South Australia and in those states has now become an important part of hospital safety and quality initiatives.

Overseas, transfusion nurse specialist positions are well-established in the United Kingdom, particularly in England and Scotland, and transfusion safety officer positions exist in parts of Canada. In some countries (eg France and the Netherlands) the transfusion safety role tends to be undertaken by a physician (Dzik et al 2003; Engelfriet & Reessink 2004). In other countries the role has not yet been developed or is at an early stage; for example, until recently in the United States, the focus of oversight of transfusion practice has been the hospital transfusion committee (Dzik et al 2003).

The transfusion nurse role is known by various other terms, including transfusion nurse specialist or coordinator, specialist practitioner of transfusion, transfusion safety officer, haemovigilance officer and transfusion surveillance officer (ACSQHC 2004; Engelfriet & Reessink 2004). In England an additional role, the transfusion liaison nurse, has been developed to support hospital transfusion teams including the specialist practitioner of transfusion (Gerrard 2004).

This review of the literature outlines the development of the role in Australia and overseas and gives an overview of the models and practices employed.

3.2 Review of the evidence

3.2.1 Methodology

This report summarises published information concerning the role of the transfusion nurse. Papers selected for review were identified by searching Cinahl and Medline from January 1980 to August 2006 using the following search strategy.

Table 3-1: Literature search strategy

Primary Search Terms	*Other Terms*
MeSH terms Blood transfusion	Blood transfusion liaison nurse Haemovigilance assistant
Other terms Transfusion safety Hospital	Haemovigilance correspondent Haemovigilance officer Hospital transfusion nurse Hospital transfusion practitioner Specialist practitioner of transfusion Transfusion liaison nurse Transfusion nurse Transfusion nurse consultant Transfusion nurse specialist Transfusion safety officer Transfusion surveillance officer

The review was limited to published articles in English that were concerned with improving the safety of blood transfusion in the hospital setting through the employment of a specialist transfusion practitioner.

The bibliography is provided at *Appendix C.*

3.2.2 Description of the available evidence

Numerous studies have documented that the major transfusion errors result from human error and are therefore preventable (eg Linden et al 2000; Robillard 2002; Gray et al 2003; Novis et al 2003). Articles dating from the late 1980s propose a range of system-oriented solutions and emphasise the important role of nursing staff in improving transfusion safety (eg Devine & McClure 1988; Bradbury & Cruikshank 2000; Wilkinson & Wilkinson 2001). Proposed solutions can be grouped into three key strategies to address transfusion safety problems within hospital systems (Dzik et al 2003):

- new technologies (eg bar coding, machine-readable patient identification bracelets, smart tags)
- professional performance standards in patient safety
- 'human' solutions, particularly having a hospital-based health professional dedicated to oversight of transfusion steps that occur outside the laboratory.

However there is a paucity of literature solely concerned with human solutions to improving transfusion safety. The fact that such solutions have only recently been implemented, and only in some countries, also means that there has been little opportunity for their evaluation. Papers that provide information of relevance to the transfusion nurse role include:

- a report of a three-year (2000–2003) evaluation of the role of the transfusion nurse specialist carried out as part of the Quality Improvement Programme: Safe and Effective Transfusion in Scottish Hospitals (Gray et al 2004a; 2004b)
- a report of an international forum that collected information on measures taken to ensure correct sampling and patient identification, including a question specific to employment of hospital staff responsible for transfusion safety (Engelfriet & Reessink 2004)
- a survey of the implementation of recommendations for improving blood transfusion made by the United Kingdom National Health Service (Murphy & Howell 2005)
- a review of methods to reduce transfusion-related adverse events arising from non-infectious hazards and systems errors (Dzik et al 2003)
- a review of the role of the transfusion practitioner in England (Swann 2003).

Relevant findings of these papers are summarised in *Table 3-2* below. Other documents and abstracts that informed discussion in this review are listed in the bibliography at *Appendix C*.

Table 3-2: Summary of findings of recent major publications concerning human solutions to improve transfusion safety

Study	Study type	Relevant findings
Murphy & Howell (2005)	Survey	• Numbers of hospital transfusion practitioners (in the UK) have increased but there is a continuing need for national, regional and local support (eg educational materials)
Stainsby et al (2005)	Review	• There is an important role in hospitals for transfusion practitioners with the necessary expertise and a remit of improving transfusion safety and appropriate use of blood
Engelfriet & Reessink (2004)	International forum	• In most hospitals/countries surveyed, one or more special officers is responsible for hospital transfusion safety and sometimes also for haemovigilance activities
Gray et al (2004a; 2004b)	Program evaluation	• Delivering improved transfusion practice requires a coordinated, collaborative, inclusive approach, supported by senior management and clinicians, facilitated by the right person and informed by locally relevant data.
Dzik et al (2003)	Review	• The position of transfusion safety officer has been developed in some countries to specifically identify, resolve and monitor organisational weakness leading to unsafe transfusion practice
Swann (2003)	Review	• Although still in its infancy, the role of the transfusion practitioner is beginning to have an impact on the safety and appropriate use of blood transfusions

3.2.3 Limitations of the evidence

The quality of the evidence on the role of the transfusion nurse is limited by a number of factors:

- only one formal evaluation of the transfusion nurse role has been conducted and the literature is therefore descriptive rather than focused on outcomes
- reviews of the area are not systematic and are concerned with improving transfusion safety more broadly (ie through technology-based as well as human solutions) rather than the transfusion nurse role specifically
- as most hospital transfusion safety improvement initiatives involve a number of activities, positive outcomes cannot be directly related to the transfusion nurse role alone
- differences in approaches taken by different countries to improving transfusion safety and between their health systems in general mean that results are not comparable.

3.3 Models and practices - Australian experience

The states with the greatest experience in the transfusion nurse role are Victoria, Tasmania and South Australia (discussed in more detail below). In other states and territories, haemovigilance activities are being undertaken as part of safety and quality initiatives.

For example, in the Australian Capital Territory, a haemovigilance project involving a multifactorial approach resulted in improved transfusion practice but the improvement was not sustained beyond the short term (Quayle et al 2005). The authors conclude that there is a need for organisational commitment to long-term quality improvement strategies in transfusion, in particular the development of transfusion officers or nurses to improve bedside clinical practice (Quayle et al 2005).

Table 3-3 provides a summary of practice outlined in the literature. Further details are provided below.

3.3.1 Victoria and Tasmania

The breakthrough collaborative approach of the Blood Matters projects of 2002–2004 identified a range of improvements in transfusion practice. Central to these improvements was the establishment or strengthening of local transfusion teams to drive and sustain change. The specialist transfusion nurse evolved as a key member of the transfusion team in identifying opportunities for change and guiding improvements. The overall aims of the role were to:

- promote safe and appropriate transfusion practice;
- audit compliance to guidelines and effectively disseminate data;
- develop and implement policies/protocols which are in accordance with national and international guidelines;
- coordinate effective transfusion training and education of staff;
- provide patients with information and support regarding the blood transfusion process;
- develop processes for monitoring and managing errors and adverse events;
- effectively manage change in the organisation; and

- liaise between laboratory and clinical areas, to address issues related to transfusion practices between these settings.

Evaluation of the Blood Matters project found measurable improvements, including a significant reduction in patient identification error (Botting et al 2005). Examples of key success factors were:

- a committed transfusion team to direct improvements in the organisation;
- integration of transfusion data reporting into existing organisational quality/risk management structures to provide ongoing visibility for transfusion issues and;
- mentorship and support for the transfusion nurse role.

The authors conclude that improvements in hospital transfusion practice were successfully generated and hospital systems influenced to enable changes to be sustainable in the longer term (Botting et al 2005).

The Collaborative developed a specialised curriculum to train transfusion nurses, offered to nurses as a distance education course through the University of Melbourne. The Better Safer Transfusion (BeST) Program commenced in July 2004 with the aim of spreading and sustaining the improvements in transfusion practice initiated by Blood Matters, including the wider use of transfusion nurses.

Currently, there are 19 transfusion nurse positions in Victorian and Tasmanian public hospitals and rural and private hospitals are now also becoming involved. Gilby et al (2006) conclude that enthusiastic participation in transfusion enhancement initiatives in Victoria and Tasmania continues to improve transfusion practice and patient outcomes.

3.3.2 South Australia

As part of the statewide Bloodsafe program that began in 2002, four transfusion safety nurses were appointed in a trial of the role. The role has been primarily that of change agent, working with hospital-based transfusion teams to identify problem areas and implement interventions and education (SA Department of Health nd). Reaudit of practice found that the transfusion safety nurses were invaluable in addressing long-term system issues, with significant improvements found in (Engelfriet & Reessink 2004; SA Dept of Health nd):

- end-user education and awareness of clinical transfusion practice
- communication between the transfusion medicine laboratory and clinical units
- red cell use outside NHMRC/ASBT guidelines, which fell from 18 per cent to 4 per cent in one group of patients
- documentation, consent and administration.

Recurrent funding now allows coverage by transfusion nurses of the eight public hospitals within metropolitan Adelaide. Factors contributing to the success of BloodSafe include a multidisciplinary team, transfusion nurses of clinical nurse consultant level, demonstration of a clear need for the initiatives, evidence of successful practice improvement, statewide collaboration and interventions, benchmarking across hospitals, and impartiality of the BloodSafe name with acceptance by stakeholders (Robinson et al 2005).

3.4 Models and practices - International experience

Models and practices for human-centred solutions to transfusion safety problems differ between countries, depending on their health care systems. For example, in France, a network of 'haemovigilance correspondents' function as transfusion safety officers, and are generally physicians or pharmacists who have part-time responsibility for transfusion safety (Dzik 2003). In other countries, hospital transfusion teams have been developed which include a health professional with a nursing or laboratory background.

According to a report to the Australian Council for Safety and Quality in Health Care in 2005, the role tends to be a *"bridging and implementation role that blends facilitation of education, audit and change management in the specific context of transfusion safety and quality"* (ACSQHC 2005).

Models and practices for the hospital-based transfusion nurse role also differ between and within countries. While few countries have sufficient experience with the role to fully evaluate the effect of transfusion nurses in improving transfusion safety, the national and international literature strongly supports the value of the role.

Table 3-3 provides a summary of practice outlined in the literature. As indicated in the table, transfusion safety solutions in New Zealand, France and the Netherlands involve scientists, physicians or pharmacists. Countries where there is some experience with the transfusion nurse role are:

- England and North Wales
- Scotland
- Ireland
- Canada.

Further details are provided below for these countries.

3.4.1 England and North Wales

As part of the Department of Health *Better Blood Transfusion* initiative, the role of specialist practitioner of transfusion (SPOT) was developed so that a dedicated health professional had clear responsibility for overseeing transfusion safety in hospital outside the laboratory (Engelfriet & Reessink 2004).

Specialist practitioners of transfusion

Job descriptions for SPOTs vary between hospitals according to local needs — in some, the core role is directed towards education and training, and in others the main emphasis is on realising cost savings from more efficient use of blood (Dzik et al 2003). Activities include (Engelfriet & Reessink 2004):

- education and training of the many staff involved in transfusion
- observational audit of all steps of the transfusion process, including patient identification and bedside checking
- audit of blood use
- initiatives to improve the use of blood.

Where appropriate, practitioners may also be directly involved in near-patient testing and cell salvage techniques (Regan & Taylor 2002).

3. Literature Review

The National Blood Transfusion Committee (NBTC) recommends that all hospitals in England and North Wales appoint between one and four specialist practitioners of transfusion (SPOTs), depending on size and the complexity of clinical activities (Engelfriet & Reessink 2004). The role is still developing, with some SPOT posts well established but many still new or non-existent. At present there are around 70 SPOTs — if the NBTC recommendation was fully implemented this would increase to 300–600 SPOTS across the country (Engelfriet & Reessink 2004). Although the cost of employing SPOTs has deterred some hospital trusts, it has been found repeatedly that the savings from reducing inappropriate prescribing of blood products exceed the cost of employment (Regan & Taylor 2002).

Gray & Melchers (2002) concluded:

> *By breaking down inter-professional boundaries between doctors, nurses, ancillary staff and allied health professionals, and by acknowledging that the neglect of transfusion education for all professional groups can perpetuate mistakes and bad practice, the existing culture can be changed. The TNS can reduce out-dated and unwitting bad practice provided they are appointed in sufficient numbers and have adequate support, training and recognition. …all hospitals should consider employing a TNS. The TNS is already demonstrating the way forward by promoting safe and effective transfusion practice and ensuring that our patients' increasing expectations are met*.

Transfusion liaison nurses

In 2003, in response to national audit and SHOT data indicating that further support was necessary to improve transfusion practice, the role of transfusion liaison nurse was established (Gerrard 2004). These nurses work as part of a coordinated National Blood Service hospital liaison team, providing support and advice about transfusion issues to hospital staff including SPOTs (Boulton 2002; Dzik 2003). The aim is to overcome some of the issues faced by SPOTs working in local hospitals, such as isolation, lack of support and duplication of effort (eg each hospital developing its own training materials). Transfusion liaison nurses (Gerrard 2004):

- develop relationships with key stakeholders in hospitals and identify areas where they can offer support
- provide specialist transfusion advice and contribute to a national database of information
- develop educational programs in transfusion by coordinating the use of currently available educational materials
- promote a collaborative approach to transfusion training provided by the National Blood Service
- work with SHOT to improve hospital reporting rates
- within some hospital trusts, assist with business planning and selecting transfusion practitioners.

3.4.2 Scotland

In 2000, a program of clinical effectiveness in transfusion practice utilising the role of the transfusion nurse specialist was piloted in selected Scottish hospitals. Through employment of transfusion nurses, the project aimed to (Gray et al 2004a; 2004b):

- implement and evaluate a program of training and education
- support the implementation of transfusion guidelines
- define core data sets that would support a process of continuous quality improvement.

Evaluation of the project after three years demonstrated improvements in practice as the result of the deployment of the transfusion nurses (Gray 2006).

In 2003, the 'Better Blood Transfusion Programme' was launched nationally. The program employs 18 transfusion nurses who have been allocated on a pro-rata basis to hospital trusts (Todd 2004). The transfusion nurses support staff education using educational materials developed by the Effective Use of Blood Group (EUB), an initiative provided by the Scottish National Blood Transfusion Service. Through delivery of education and provision of transfusion data to clinicians, the program aims to deliver measurable improvements in transfusion safety and reduce blood use in Scotland by 10 per cent over three years. Results thus far suggest that a coordinated clinical effectiveness program with appropriate support and relevant data can improve transfusion practice (Gray 2006).

3.4.3 Ireland

A haemovigilance system in Ireland was established in 1999 to collect data on serious adverse reactions and events associated with transfusion (Engelfriet & Reessink 2004). Transfusion surveillance officers have been appointed in most hospitals around the country. The transfusion surveillance officer role is to provide information on adverse reactions and events at a local level and promote use of current guidelines through education and audit. The transfusion surveillance officer reports to the haematologist or pathologist in charge of the hospital blood bank. Currently, training is provided as an in-service, through the Irish Blood Transfusion Service. Transfusion surveillance officers generally have a background in transfusion nursing but may also be a laboratory medical scientist (Engelfriet & Reessink 2004).

3.4.4 Canada

The transfusion safety officer role was developed in Quebec in 1998 and more recently in Ontario (Feenstra 2003).

In Quebec, transfusion safety officers are employed in 20 hospitals. They are mainly nurses or laboratory technicians with an interest in transfusion medicine. The role includes education, implementing informed consent, and quality assurance. A typical hospital has two transfusion safety officers - a technologist who works as a compliance officer, and a nurse who works outside the laboratory as a patient safety advocate.

Transfusion safety officers have formal training in transfusion medicine, hazards, error management and reporting. They run the haemovigilance program and collected data have been used to identify region-wide transfusion hazards and establish priorities for setting transfusion policy (Dzik 2003). Results from the first two years of Quebec's haemovigilance system suggest that comparable reporting rates and high participation in a voluntary system can be attributed to the deployment in all high-volume transfusion centres of transfusion safety officers with a specific responsibility for investigating and reporting transfusion-related adverse events (Robillard et al 2004).

In Ontario, Nurse Transfusion Coordinators have been appointed in 23 hospitals as part of the ONTraC program. The coordinators play an integral role in the implementation of hospital blood conservation strategies and evaluation of practices. Evaluation of the Program found a reduction in allogeneic transfusion as well as enhanced patient satisfaction and safety (Freedman et al 2005).

Table 3-3: Summary of practice as outlined in the literature

Location	Position title	Background	Role	Situation*	Source
Victoria and Tasmania	Transfusion nurse	Nurse	• Promotion of practice in alignment with guidelines • Staff training and education • Audit of practice • Patient involvement and education	19 transfusion nurses are working in Victorian and Tasmanian hospitals	Gilby et al (2006)
South Australia	Transfusion safety nurse	Senior clinical nurse in haematology/ oncology	• Identification of problem areas • Staff education • Communication between laboratory and clinical units	Coverage of 8 public hospitals by four transfusion nurses	Robinson et al (2005)
New Zealand	Transfusion safety officer	Blood bank charge scientist	• Report transfusion-related adverse events	Pilot program initiated in 2005	Benson (2006)
England/ North Wales	Specialist practitioner of transfusion (SPOT)	Nurse (in some cases blood bank or medical background)	• Promotion of safe and effective transfusion practice • Staff education and training • Observational audit of practice • Audit of blood use	70 SPOTs in England/North Wales	Engelfriet & Reessink (2004)
	Blood transfusion liaison nurse	Nurse	• Support SPOT activities on a regional basis • Provide advice and support to hospitals	Pilot program employs 10 transfusion liaison nurses	Gerrard (2004)

Location	Position title	Background	Role	Situation*	Source
Scotland	Transfusion nurse specialist	Nurse	• Delivery of staff training program • Audit of transfusion guidelines • Observational audit of practice • Development of materials for patients and for staff • Facilitation of reporting and follow-up	Coverage of 18 hospitals	Gray (2004a; 2004b); Todd (2004); Gray et al (2005)
Ireland	Transfusion surveillance officer	Nurse or laboratory medical scientist	• Promotion of practice in alignment with guidelines • Education • Audit	TSOs in each hospital or group of hospitals (depending on size and number of transfusions)	Engelfriet & Reessink (2004)
France	Haemovigilance correspondents	Physician or pharmacist	• Development of transfusion protocols • Staff training • Monitoring of traceability of all blood components • Analysis and reporting of transfusion-related incidents	2,000 correspondents — full-time in large hospitals (university hospitals and cancer centres); part time in other hospitals	Dzik et al (2003)
Netherlands	Haemovigilance officer	Senior staff member (eg consultant haematologist or head of blood transfusion laboratory)	• Oversight of blood transfusion safety • Reporting of transfusion reactions and incidents	25% of hospitals have haemovigilance officers	Engelfriet & Reessink (2004)
	Haemovigilance assistant	Experienced nurse or laboratory technician	• Assistance of haemovigilance officer	25% of hospitals have haemovigilance assistants	
Canada — Quebec	Transfusion safety officer (TSO)	Nurse	• Support for transfusion-related patient care • Investigation and reporting of adverse reactions	45 TSOs employed in 20 hospitals, half on	Dzik et al (2003);

Location	Position title	Background	Role	Situation*	Source
		Technologist	• Analysis of laboratory errors • Improvements to process and quality of laboratory activities	wards and half in laboratories	Feenstra (2003)
Canada — Ontario	Nurse transfusion coordinator	Nurse	• Management of blood conservation program • Patient, family and staff education • Data management and analysis	Funded in 23 hospitals	Freedman et al (2005)

* Situation at time of publication of source document.

3.5 Lessons learned to date

Much has been learned to date, particularly in the UK where transfusion nurses have been part of national efforts to improve hospital transfusion practice for some years. The main lesson learned is that progress in systematically improving transfusion practice requires continuing effort across a range of areas:

- surveys conducted in 2001 and 2004 on the implementation of the UK Better Blood Transfusion program revealed that the number of hospitals with transfusion committees and with transfusion practitioners increased significantly between 2001 and 2004. However, there was a need for further progress in developing hospital transfusion teams, particularly in the areas of training and resource provision (Murphy & Howell 2005)
- according to Gray et al (2005), errors continue to occur at all stages of the transfusion chain, despite seven years of adverse event reporting and recommendations (in the UK) and the publication of national guidelines setting out principles for best practice.

Gray et al (2005) suggest that the continuing occurrence of errors reflect the:

- complexity of the transfusion chain and the number of people involved
- difficulty of changing hospital processes without having support from the highest level, consistent protocols and standards, and continuing education and training of all staff.

Lessons identified in the literature are summarised under the following headings:

- Transfusion nurse position
- Training and education
- Coordination and consistency
- Leadership and support
- Raising awareness.

3.5.1 Transfusion nurse position

- Gray et al (2004a) identify the personality of the transfusion nurse specialist in Scotland as a critical success factor. Desirable qualities include confidence, persistence, energy and good communication skills, together with technical and local knowledge and clinical experience.
- Gray et al (2004b) identify factors such as lack of support, training and resources which can lead to feelings of isolation among transfusion nurse specialists. In the UK the transfusion liaison nurse role was developed to provide support to hospital transfusion staff including specialist practitioners of transfusion (Gerrard 2004). In addition, a website and forum aim to support practitioners working in local hospitals (www.bloodspot.org).

3.5.2 Training and education

- Stainsby et al (2005) identify the need for a structured and sustained program of education and training of all hospital staff involved in the transfusion chain, to underpin blood safety initiatives.

- Clark et al (2001) showed that a program of training by transfusion service staff of staff involved in giving transfusions can improve compliance with guidelines on identification and monitoring of patients receiving transfusions.

3.5.3 Coordination and consistency

- Todd (2004) highlight the need to avoid duplication of effort at the local level, through national or regional coordination of training material development and implementation - in Scotland, the EUB Group has developed educational materials that are consistent with national guidelines on transfusion and these are used by transfusion nurses at the hospital level.
- Nanuck & McCombe (2003) stress the need for coordination and integration, and propose an integrated care pathway as a clinical tool to assist all those involved and increase consistency of transfusion practice across the hospital.

3.5.4 Leadership and support

- Murphy & Howell (2005) emphasise the need for strong leadership, with an effective transfusion committee and transfusion team, and continuing national and regional coordination of activities.
- Dzik et al (2003) consider that the transfusion safety officer position is more likely to be successful with the internal support of senior management, and more able to bring about changes in the hospital if supported by a multidisciplinary oversight group (eg transfusion committee).
- Todd (2004) emphasises the importance of a local 'champion' - usually a lead clinician - to support the transfusion nurse and encourage commitment by hospital managers, fellow clinicians and nurse managers; in Scotland, for each hospital group a lead clinician has been identified to provide support for the transfusion nurse in a number of different ways.
- Stainsby et al (2005) highlight the complexity of the transfusion chain, which involves different disciplines and many steps. Transfusion nurses need sufficient authority and support if they are to be successful in working with several hospital services, many different areas of the hospital, the transfusion laboratory, and the transfusion committee.

3.5.5 Raising awareness

- Gray et al (2004b) recognise that the importance of safe and effective transfusion needs to be raised in the priorities of hospital staff who are preoccupied with multiple conflicting priorities in providing optimal patient care.
- Gray et al (2004b) stress the importance of acquiring information and data on local practice and using it effectively to generate the interest and enthusiasm of people who can make change happen.
- Dzik (2003) raises the need for acknowledgement of the problem by hospital leaders, health care workers and the public, who tend to remain focused on blood safety and infectious hazards of transfusion.
- Dzik (2003) also raises the issue of funding, stating that an obstacle to development of the transfusion safety officer role in the US has been a reluctance by hospitals to fund new staff

positions, even though transfusion safety officers are expected to be highly cost-effective relative to other investments in transfusion.

The literature in this area highlights the fact that the transfusion nurse role is part of a multifaceted approach to improving transfusion safety. As well as support and training for those in the role, there is a need for continued emphasis on effective communication, support for the transfusion team, training and education of all staff involved in blood transfusion and development of clinical tools and professional standards.

Gray et al (2005) conclude that in order to support the hospital transfusion team to increase compliance in high risk areas of the transfusion process, blood transfusion policies are needed, supported by auditable performance standards and a continuing program of training and educational initiatives.

4 TRANSFUSION NURSES ACROSS AUSTRALIA

This chapter summarises the current use of transfusion nurses across Australia.

The ACSQHC 2005 report *Towards Better, Safer Blood Transfusion* provides an excellent analysis of the approaches and developments across Australia, towards improving blood transfusion practices.

The purpose of this chapter is to provide a succinct and up-to-date summary of the use of transfusion nurses and related initiatives across Australia.

4.1 National

Transfusion nurses nationally have recently commenced facilitating a regular national teleconference. This occurs approximately monthly and includes participants from Victoria, NSW, SA, WA and Tasmania. This initiative is designed to provide a national forum for transfusion nursing.

The NBA and ARCBS have recently developed a blood transfusion module for the nurse undergraduate curriculum. The draft of this module was to be presented to the Council of Deans of Nursing and Midwifery for approval prior to January 2007. It will also be presented to other peak bodies including the Royal College of Nursing.

EQuIP4, the latest version of the ACHS accreditation, will apply to hospitals from 2007. Approximately 80% of public hospitals in Australia are ACHS accredited. These revised quality standards include greater focus on transfusion practices. Safety standard 1.5 criterion requires that:

> *"the system for prescription, sample collection, storage and transportation and administration of blood and blood components ensures safe and appropriate practices."*

Many observers believe this requirement will increase hospitals' recognition of the need for quality transfusion practices, and therefore have a positive impact on the role of transfusion nurses.

The ARCBS has recently employed four TNs; one in each of Victoria, WA, NSW and Queensland. The role has a particular emphasis on IVIg and special platelet support.

4.2 Victoria, Tasmania and South Australia

The preceding *Chapter 3 - Literature Review*, identifies transfusion nurse positions in Victoria, Tasmania and South Australia. These positions are funded and supported by their respective state governments. In summary:

- Victoria - TNs funded at 16 health services under the BeST program. Further details are provided in Chapter 5.
- Tasmania - TNs funded on recurrent basis at three public hospitals; 1 full time and 2 part time.
- TNs are employed by the public pathology provider at two sites (Launceston General and Royal Hobart). The North West Regional Hospital in Burnie employs their TN directly, as the pathology provider is private.

- Tasmania co-operates with Victoria on a range of BeST initiatives, including implementation and development of the transfusion nurse role.
- South Australia - TNs funded on recurrent basis at eight metropolitan public hospitals, under the BloodSafe collaborative.

Each of these three states continues to support and be committed to these TN positions.

4.3 Western Australia

There is no statewide transfusion nurse program in Western Australia however, transfusion nurses are employed and funded by individual hospitals. There are currently two TN positions in WA, as follows:

- Royal Perth Hospital full time TN commenced in 1996. This was the first specialist transfusion nurse in Australia and helped inform other states in the development of their models. This model has a strong focus on audit data collection and reporting, which is seen as a key role of TNs.
- Women's and Children's Health Service in Perth appointed a part time Transfusion Coordinator in December 2005. The role is essentially that of a TN however, the incumbent is a scientist rather than a nurse.

Several other hospitals in WA have committed to, or are considering, employing a transfusion nurse in the future.

4.4 NSW

Blood Watch is a NSW state-wide transfusion medicine improvement program and its' primary goal is to improve the safety and quality of fresh blood product transfusion in all NSW Public Hospitals. Blood Projects Officer (BPO) positions are currently planned to be introduced at each of the eight Area Health Services (AHS) in NSW. It is expected that some BPOs will be registered nurses, but this is not a requirement. Their role is to assist the Clinical Governance Unit of each AHS.

Funding for each Area Health Service in NSW includes 'line items' for all blood products used (fresh and fractionated). There are financial consequences for each AHS of using more or less blood than that budgeted. NSW Health believes that such cost signals are an important component of its strategy to encourage and ensure the appropriate use of blood products.

It is estimated that there are six specialist transfusion nurses currently employed in NSW. These positions are funded by their respective hospitals rather than being part of a statewide program. TNs from the Royal North Shore and St George Hospital in Sydney participate in the AUS-Spot national forum (refer *Section 4.1*).

4. Transfusion Nurses Across Australia

4.5 Queensland

There is no statewide transfusion nurse program in Queensland, and we are not aware of any specialist TNs currently employed in the state. Recent national forums have included representatives from Queensland, albeit these were not nurses.

5. Transfusion Nurses in Victoria

5 TRANSFUSION NURSES IN VICTORIA

This chapter examines the activities and roles of transfusion nurses in Victoria. It is set out under the following headings:

1. ***History and development***
2. ***Profile and features***
3. ***Tasks and activities***
4. ***Staff information, training and education***
5. ***Support and reporting framework***
6. ***Perceived importance.***

5.1 History and development

The *Blood Matters* project was a coordinated series of blood transfusion improvement projects in Victoria and Tasmania, over the period 2002-2004. The project commenced as a pilot involving two hospitals (Royal Melbourne Hospital and Peter MacCallum Cancer Centre) and the Australian Red Cross Blood Service. The work of the Blood Matters pilot provided the groundwork for the subsequent Blood Matters Breakthrough Collaborative project involving 13 health services.

Blood Matters identified a range of improvements in transfusion practice. Central to these improvements was the need for local transfusion teams to drive and sustain change. The specialist transfusion nurse evolved as a key member of the transfusion team, identifying opportunities for change and guiding improvements.

The transfusion nurse role was piloted initially at the two Blood Matters pilot health services. Blood Matters developed a specialised curriculum to train transfusion nurses. This is currently offered as a post graduate Certificate in Transfusion Practice, accredited for nurses by the University of Melbourne, and is delivered online.

Evaluation of the Blood Matters projects found measurable improvements, including a significant reduction in patient identification error (Botting et al 2005). Key success factors included:

- a committed **transfusion team** to direct improvements in the organisation;
- integration of transfusion **data reporting** into existing organisational quality/risk management structures to provide ongoing visibility for transfusion issues and;
- **mentorship and support** for the transfusion nurse role.

The authors conclude that improvements in hospital transfusion practice were successfully generated and hospital systems influenced to enable changes to be sustainable in the longer term (Botting et al 2005).

The *Better Safer Transfusion (BeST)* program commenced in July 2004 with the aim of spreading and sustaining the improvements in transfusion practice initiated by the Blood Matters Collaborative, including the wider use of transfusion nurses. The Australian Red Cross Blood Service and DHS collaborate to deliver the BeST program.

5. Transfusion Nurses in Victoria

At the time of this research, 16 transfusion nurse positions are funded in Victorian public hospitals under the BeST program. The ongoing development of the transfusion nurse role is described as being of key importance to the BeST program. Support for this role includes:

- providing access to a subsidised specialist-training program
- funding the majority of the salary costs of the transfusion nurses
- co-ordination, liaison and facilitation of communication between stakeholders, including transfusion nurses.

Gilby et al (2006) conclude that enthusiastic participation in transfusion enhancement initiatives in Victoria and Tasmania continues to improve transfusion practice and patient outcomes.

5.2 Profile and features

As indicated, there are 16 transfusion nurse (TN) positions funded to work in public health services across Victoria. Of these, 15 were in place at the time of this survey; a further position at Melbourne Health was vacant but has since been filled.

Features of the 15 TN positions in place are:

- 14 nurses occupy the 15 positions; a single TN covers both the Royal Children's and the Royal Women's hospitals
- 4 of the 14 TNs work full time (4 or 5 days per week) in this role; at Bayside, Southern and Eastern health services and at the Royal Children's/Women's.
- 10 work part time (average 2.4 days per week) in this role
- most part time TNs (8 of 10), also work at the same health service in another role; each effectively being full time
- other roles by part time TNs include falls prevention, pain management, hand hygiene, medication safety.

Features of the 15 health services with a funded TN in place are:

- 11 are metropolitan based and 4 are regional (Barwon, Bendigo, Ballarat and Goulburn Valley)
- there are 41 hospital sites across the 15 networks
- 11 encompass multiple hospital sites (more than one), averaging 3.7 sites per network
- in total they transfuse approximately 156,000 units of fresh blood product per year; averaging 10,400 units per network.

The size of the health service networks and the number of units of fresh blood product transfused per year ranges from Southern Health, with 6 hospital sites and 30,000 units of blood, to Ballarat Health Services with only a single site which transfuses 3,000 units of blood per year.

Table 5-1 provides details for each of the 15 health services.

5. Transfusion Nurses in Victoria

Table 5-1: Profile of funded health services

	Health Service	Number of Sites	[1]Transfused fresh blood products (units per year)	Transfusion Nurse - Hours per week
1	Austin	3	16,600	16
2	Ballarat	2	2,500	16
3	Barwon	2	14,236	16
4	Bayside	4	23,000	40
5	Bendigo	1	3,000	16
6	Eastern	5	10,500	40
7	Goulburn Valley	3	2,500	8
8	Northern	3	3,285	15
9	Peninsula	5	7,200	20
10	Peter MacCallum	1	12,000	19
11	Royal Children's	1	8,000	16
12	Royal Women's	1	500	16
13	Southern	6	30,000	32
14	St Vincent's	1	15,654	16
15	Western	3	7,046	30

Notes:

1. Transfused fresh blood products (units per year) – estimated units of fresh blood product transfused per year (ie red blood cells, fresh frozen plasma, cryoprecipitate, platelets).

Each health service receives DHS funding towards the cost of employing a transfusion nurse. Funding is the same for each health service, other than Eastern and Southern which receive a greater amount to assist them to engage a TN approximately full-time. Bayside receives part-time TN funding, although it employs a full-time TN.

5.3 Tasks and activities

The research conducted for this project included:

- survey of all transfusion nurses
- individual interview of each transfusion nurse.

The survey form is provided at *Appendix B.* One section of the survey asked TNs to identify the proportion of their work time spent on each of the following nine activities. The average proportions reported for all TNs were as follows.

1. Staff information, **training and education** - representing 20% of work time
2. Develop and conduct audits and data collection, to monitor **audit compliance** - 19%
3. Develop/ introduce **policies, protocols**, procedures, guidelines - 19%
4. Develop processes for monitoring and managing **errors and adverse events** - 14%

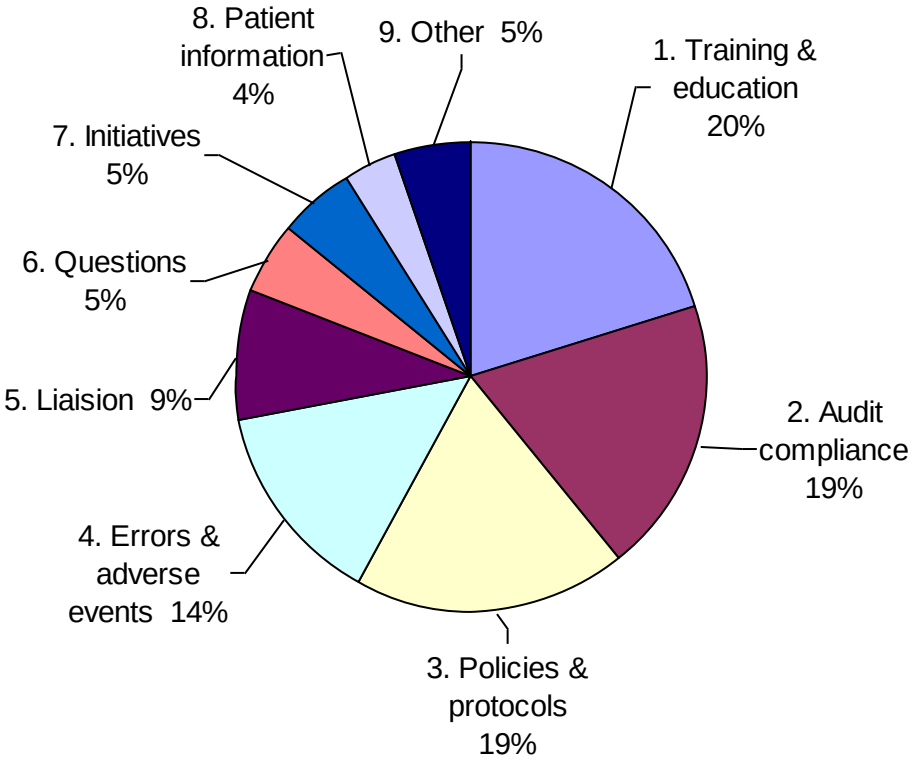
5. Transfusion Nurses in Victoria

These four activities combined represent 72% of TNs total work time. Other activities were:

5. **Liaison** between laboratories and clinical areas - 9%
6. Answer resource **questions** and queries - 5%
7. New **initiatives** - 5%
8. **Patient information** - 4%
9. **Other** - 5%.

Chart 5-1 illustrates the average proportion of time spent on each activity for all TNs.

Chart 5-1: Transfusion nurse activity analysis – Proportion of work time per activity



Note: Survey sample size, n = 15.

The amount of time spent on training (activity 1; 20%) is similar for most TNs. However for other activities there is greater variation between TNs. For example, the proportion of time allocated to activity:

- 2. Audit compliance - varies from 10% to 40%
- 3. Policies and procedures - varies from 5% to 50%.

Some TNs have more recently reduced the amount of time they spend implementing policies and procedures (activity 3), as much of this work has been completed. They are now increasing their focus on audit data collection, analysis and reporting (activity 4).

Providing patient information (activity 8) is a relatively minor activity, representing only 4% of total time.

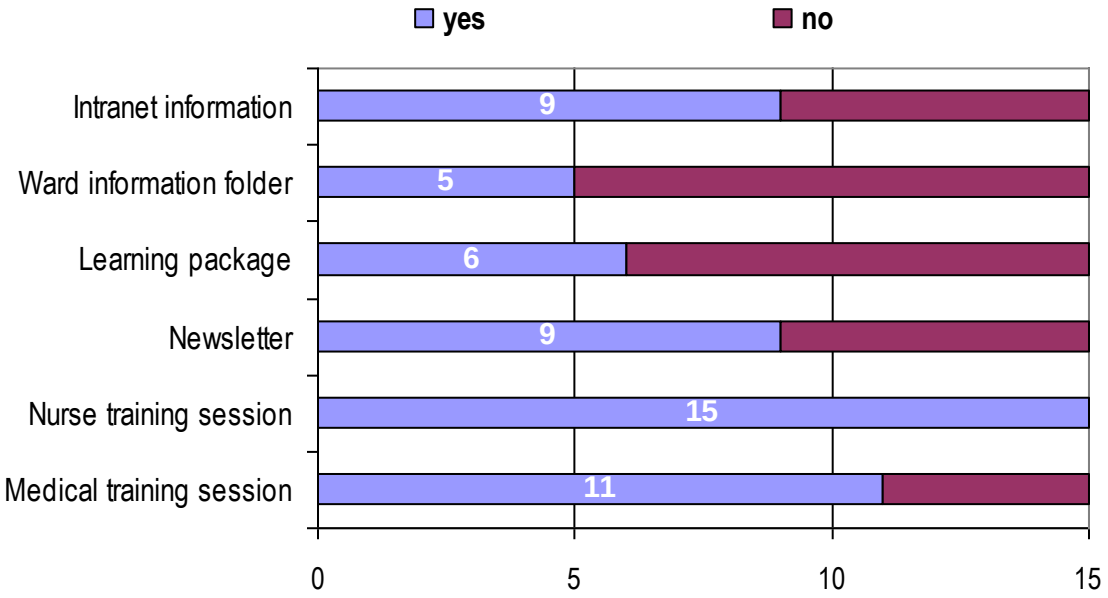
5. Transfusion Nurses in Victoria

Further details and examples of the tasks and activities undertaken by transfusion nurses and the outcomes achieved, are provided in *Chapter 6 - Achievements and Benefits to Date*.

5.4 Staff information, training and education

As indicated in *Section 5.3*, providing staff information and training is the major activity of transfusion nurses, representing approximately 20% of their work time. A range of techniques and methods have been developed by transfusion nurses to provide training, education and information to staff. The following *Chart 5-2* illustrates the number of the 15 TNs who report that they use each of the various training and education methods identified.

Chart 5-2: Training and education methods used by transfusion nurses



Note: Survey sample size, n = 15.

As illustrated:

- 9 of 15 TNs provide information which is available to staff via the health service's intranet
- 5 have developed information folders which are located on hospital wards for staff to refer to
- 6 have developed paper or computer based learning packages for nursing staff
- 9 provide a regular newsletter for staff
- all 15 provide face to face training sessions for nurses
- 11 are involved in training medical staff; however in most cases this is limited to new interns.

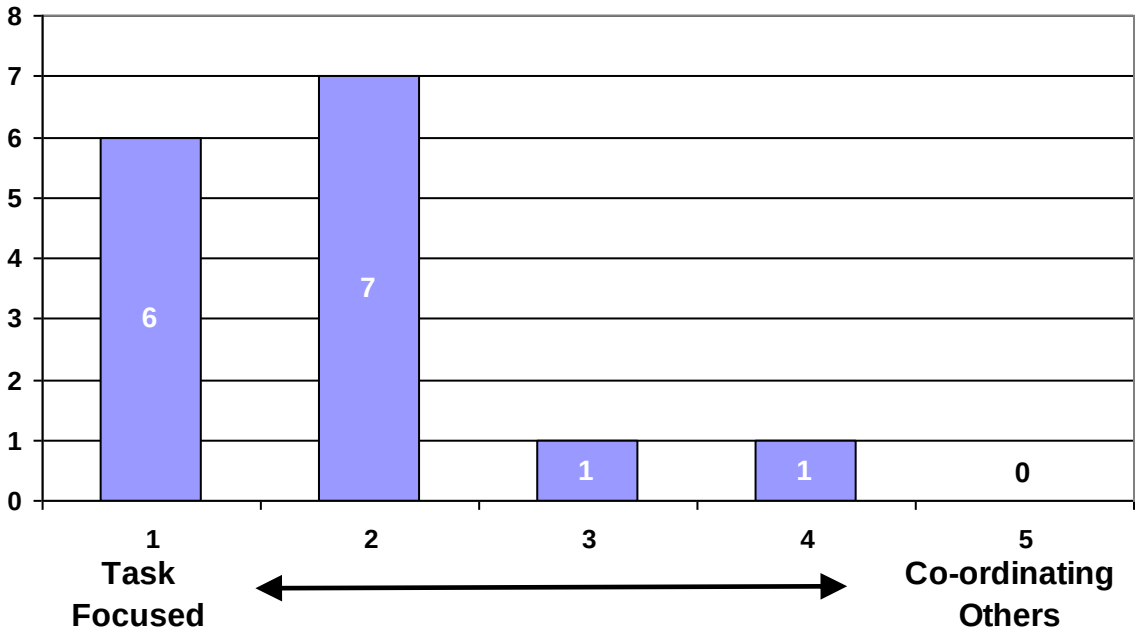
5.5 Support and reporting framework

The survey asked transfusion nurses a range of questions relating to the support and assistance they receive and the reporting framework they operate within.

5. Transfusion Nurses in Victoria

Transfusion nurses were asked whether their role was mostly **task focused**, involving doing tasks themself, or was more about **co-ordinating and organising others**. The results are illustrated in the following *Chart 5-3*.

Chart 5-3: Transfusion nurse role – Task focused or co-ordinating others?



Note: Survey sample size, n = 15.

As illustrated, the vast majority (13 of 15 TNs) indicated that their role was highly task focused (rating 1 or 2). Few TNs receive hands-on support in tasks such as collecting audit data or organising training. Several TNs believe that the absence of administrative support significantly limits their effectiveness.

5.5.1 Direct report

Transfusion nurses were asked who they directly reported to and the level of support that person provided. The following *Chart 5-4* identifies that nearly half the TNs (7 of 15) report directly to a haematologist or pathologist. In many cases the haematologist or pathologist also chairs the transfusion committee.

5. Transfusion Nurses in Victoria

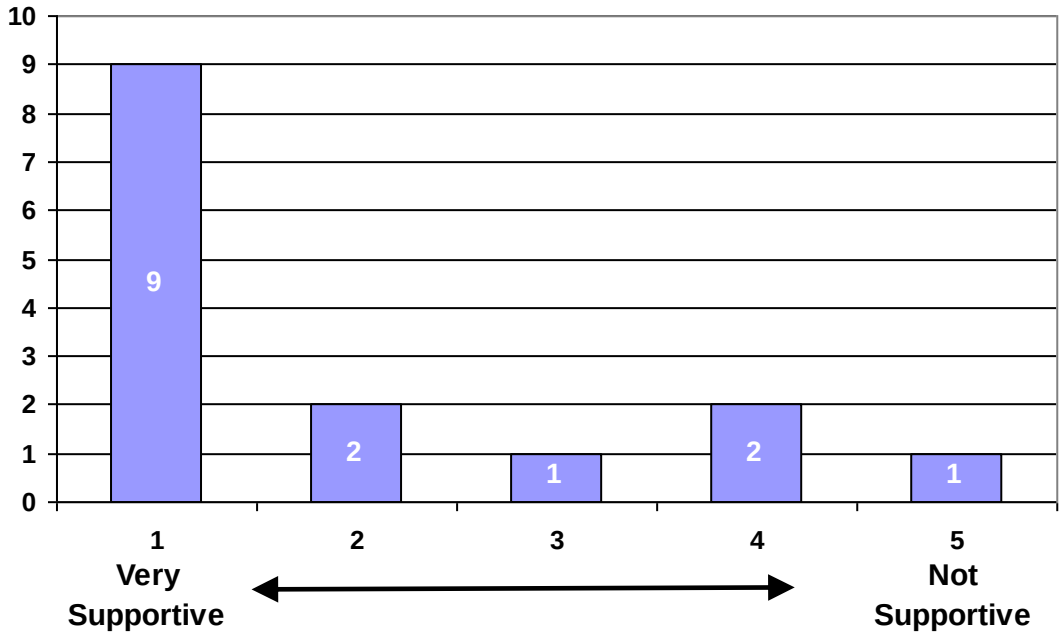
Chart 5-4: Direct report - Position

Note: Survey sample size, n = 15.

A Director of Nursing (DoN) or similar is the direct report for five TNs; and a Quality Manager or similar for three TNs.

The frequency and nature of such reporting varies significantly, as does the overall level of support the direct report provides to the TN. Transfusion nurses were asked about the level of support they received from the person to whom they directly reported. The results are illustrated in *Chart 5-5*.

Chart 5-5: Direct report - Level of support



Note: Survey sample size, n = 15.

The majority (9 of 15) indicated that their direct report was very supportive (rating 1). However some TNs were less positive about the level of support from their direct report, with four rating it as 3, 4 or 5.

5.5.2 Transfusion committee

Transfusion committees (TC) typically meet quarterly. One health service had a transfusion team that met weekly to expedite the work of the transfusion committee. Three TNs indicated that no transfusion committee operates at present or had not convened for between six months and two years.

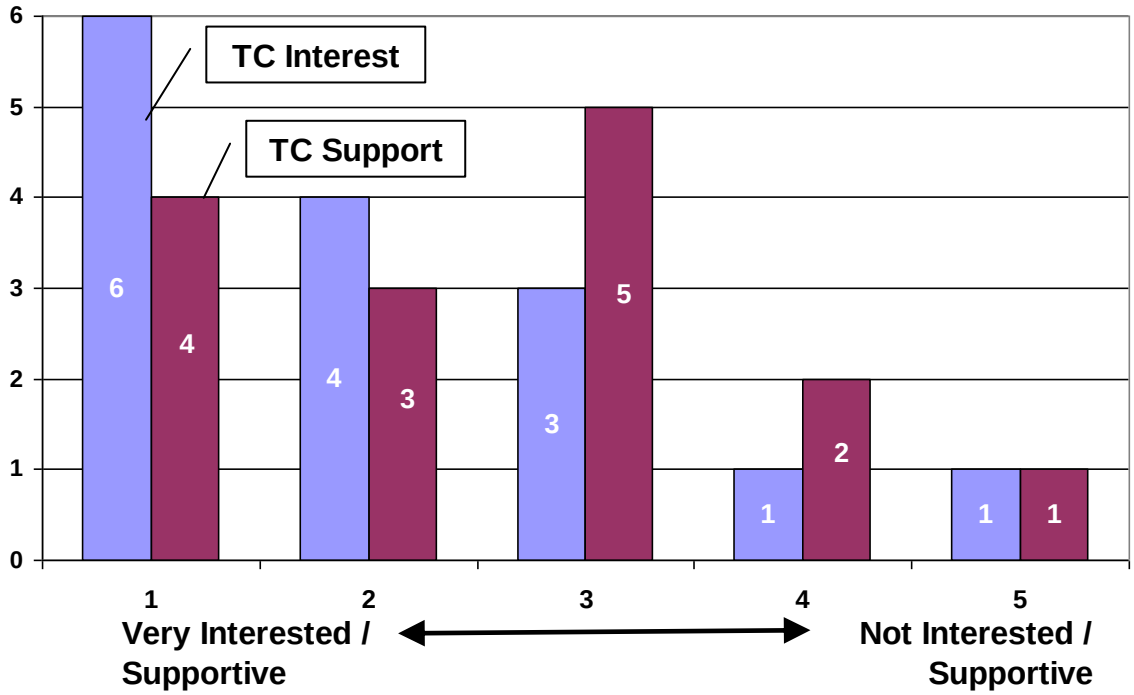
Feedback was sought regarding the level of interest and support which the transfusion committee provides to the transfusion nurse. Respondents were asked two separate questions:

1. Does the Transfusion Committee take a strong **interest** in what you do?
   Please tick one of the following boxes to rate the level of interest on a scale of 1 to 5 - from 1 (very interested) to 5 (little interest).

2. Does the Transfusion Committee provide you with **practical assistance and support**?
   Please tick one of the following boxes to rate the level of support you receive on a scale of 1 to 5 - from 1 (very supportive) to 5 (little support).

The results for the two questions indicate a mixed picture, as illustrated in *Chart 5-6*.

Chart 5-6: Transfusion committee – Level of interest and practical support



Note: Survey sample size, n = 15.

As might be expected, the level of **interes**t by transfusion committees tends to be greater than the level of **practical support** they provide to the TN.

- 6 of 15 TNs reported that their transfusion committee was very interested (rating 1) in the transfusion nurse role; and
- 4 of 15 indicated that their transfusion committee was very supportive (rating 1).

5. Transfusion Nurses in Victoria

The Transfusion committee's level of interest and practical support was rated more poorly (rating 3, 4, or 5) by a number of TNs:

- Interest – 5 of 15
- Practical support – 8 of 15.

These results indicate that at several hospitals there is scope for improvement in the level of interest and practical support which transfusion committees provide to transfusion nurses.

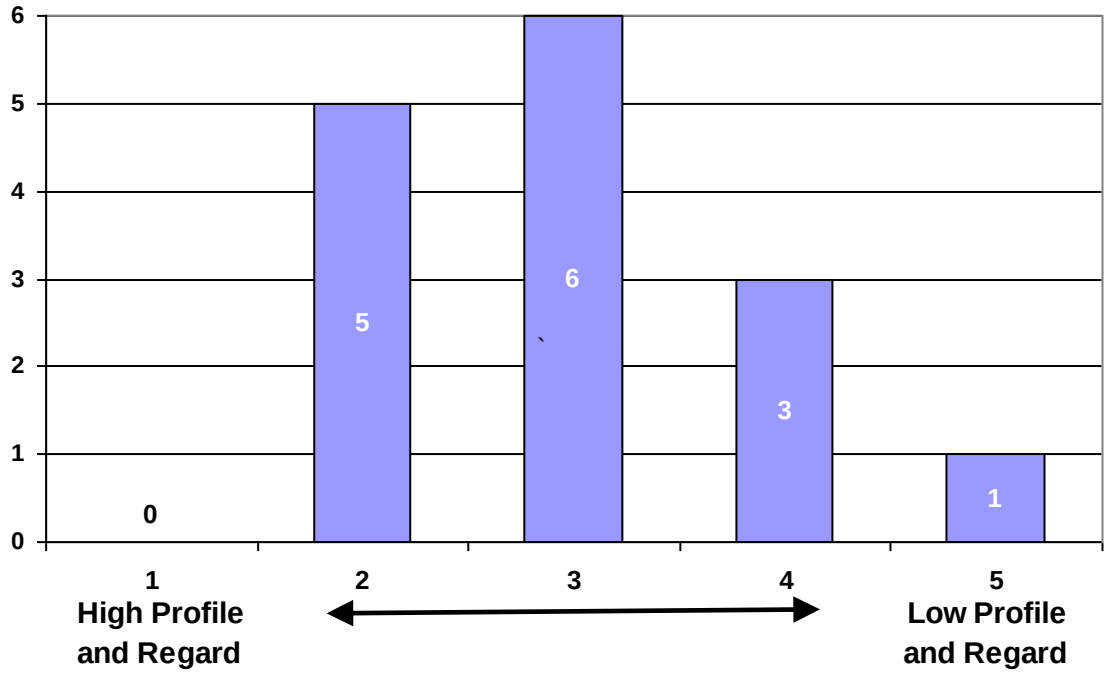
5.6 Perceived importance

Transfusion nurses were asked to rate the profile of the TN role within the health service, as follows:

> How would you rate the profile of the Transfusion Nurse role within the health service?
> How is it regarded – as important or of little importance?
> *Please tick one of the following boxes to rate the profile on a scale of 1 to 5 - from 1 (high profile and highly regarded) to 5 (low profile and little regard).*

The results are presented in *Chart 5-7*.

Chart 5-7: Perceived importance of transfusion nurse role



Note: Survey sample size, n = 15.

Overall, the results indicate that the profile and regard for TNs is variable, as follows:

- none rated their profile/regard as high (rating 1)
- the majority (11 of 15) rated the TN profile/regard as either rating 2 or 3 (5 and 6 TNs respectively)
- four TNs rated their profile/regard as relatively poor (rating 4 or 5).

This result indicates that the program would benefit from strategies to improve the awareness and perception of the TN role within health services.

6. Achievements and Benefits to Date

6 ACHIEVEMENTS AND BENEFITS TO DATE

This chapter focuses on the achievements of transfusion nurses in Victoria to date. Learnings from their activities, including strategies and approaches to optimise the transfusion nurse role, are examined in chapters 7 and 8.

6.1 Promoting safe and appropriate transfusion practice

The role of transfusion nurses in Victoria is to promote safe and appropriate use of blood and blood components/products. Achievements and benefits since the transfusion nurse model was introduced in 2004 are identified in this section for:

- BeST and the Department
- Health Services
- Patients.

6.1.1 BeST and the Department

The TN model in Victoria is designed to support the BeST program in achieving its aim and objectives. The ongoing development of the transfusion nurse role is described as being of key importance to the BeST program. The aim of the BeST program is -

> *to improve outcomes in patients requiring blood product transfusion in Victorian hospitals by enhancing the safety and appropriateness of blood and blood product use* (BeST nd).

Information from TN programs elsewhere suggests that transfusion nurses can contribute towards such outcomes. For example, in Scotland the TN program aims to deliver measurable improvements in transfusion safety and reduce blood use by 10% over three years (Todd 2004). At this stage however, evidence is not available to assess such outcomes in Victoria.

The BeST program's overall aim is underpinned by 13 objectives (BeST 2006), which define the specific roles and tasks required of the program. The activities of transfusion nurses directly contribute towards many of these roles and in particular, the following BeST objectives:

- Promotion of **education and training** programs
- Promotion and dissemination of clinical practice **guidelines**
- Support of performance monitoring and **audit** including development of standardised audit tools and processes and monitoring of relevant indicators across different sites
- Support of hospital **transfusion committees**.

These objectives represent the core activities of TNs in Victoria and much has been achieved in these areas. The following *Section 6.1.2 Health Services* provides further details.

6.1.2 Health Services

Key achievements to date, of benefit to health services, have included:

- Development and implementation of a **comprehensive range of policies, procedures**, **guidelines, charts and forms**. All health services have now introduced the key policies and procedures required to support safe and appropriate transfusion practice. This is a major achievement, given that statewide BeST audit results indicated significant deficiencies in the transfusion policies and procedures at many health services (refer *Section 6.2*).

- **Nurse training and/or education programs** have been established at each health service. Most report positive results following training sessions, including an increase in reporting of incidence related to transfusion. Several transfusion nurses have also contributed towards training of medical staff (refer *Section 6.3*).

- **Transfusion committees** have been supported and resourced.

- **Audit activities,** including monitoring, reporting and comparing actual practice, are universally recognised as a powerful agent for change. Through such activities, some TNs have achieved major change and improvement in transfusion practices. One health service in particular believe that audit information reported has led to:
  - major improvement in transfusion practice; and an
  - improved culture of reporting in relation to transfusion, within the health service.

- Reporting of audit results range within health services, range from quarterly reports to transfusion committee only; to monthly newsletters plus the results of audits and other transfusion information collated at a ward/unit level and available to all hospital staff for comparison (refer *Section 6.4*).

- The collection and follow up of **errors and adverse event**s has varied, depending on the risk and quality programs within the health service and/or hospital. The reporting of incident/errors or adverse events appears to have increased significantly since the introduction of transfusion nurses (refer *Section 6.5*).

- **Communication between pathology and clinical staff** has improved. The TN role includes liaison between laboratories and clinical staff. Most laboratory staff consulted identified this as one of the most important roles and achievements of the TN (refer *Section 6.7*).

- Achievements in **managing change** have varied. In some health services, change has occurred not only in transfusion practices but also more broadly across the health service in relation to patient identification and patient right to refuse treatment (refer *Section 6.7*).

Health services with active quality/risk and/or clinical governance systems, which report directly to senior executives and to the Board, have been able to actively support transfusion nurses and achieve positive results against objectives. For many health services, the TN role is now a permanent part of their safety and quality initiatives. Potential benefits identified by health services, include:

- Reduced risks to patients from blood transfusion
- Meeting new accreditation standards relating to transfusion practice
- Benchmarking with other health services; identifying potential areas for improvement
- Skilled workforce able to prevent and respond to adverse events.

6.1.3 Patients

As indicated at Section 6.1.1, information is not available at this stage to assess overall patient outcomes.

Patient information and support has not been a major focus for TNs to date, however some progress has been made; details are provided at *Section 6.6*. The audit work completed by transfusion nurses has identified several issues that affect patients, and which have resulted in health service-wide improvement in patient management practices (refer *Section 6.7 Managing change in the organisation).*

6.2 Developing and implementing policies/protocols in accordance with national and international guidelines

This area has been a major focus of most transfusion nurses over the past two years. Policies and procedures provide the foundation for safe and appropriate transfusion practice.

All have now completed developing and implementing the transfusion policies and procedures required to support safe and appropriate transfusion practice. Some have only recently completed implementation, while others are now reviewing policies and procedures that have been in place for several years.

A comprehensive range of policies, procedures, guidelines, charts and forms have been developed by TNs across the funded health services, as the examples in *Table 6-1* demonstrate.

Table 6-1: Examples of policies, procedures, guidelines, charts and forms developed

Policies	*Guidelines and Procedures*
▪ Blood Administration. ▪ Blood Administration in Neonates ▪ Blood Collection ▪ Blood Specimen and Request Form Labelling for Pre-transfusion testing ▪ Venesection ▪ Central Venous Catheter ▪ Hospital in The Home Blood Administration ▪ Jehovah's Witness ▪ CMV ▪ Leucocyte ▪ Cord Blood ▪ Granulocyte administration ▪ Refusal of blood products ▪ Octagam and Sandoglobulin (IVIG)	▪ Reversal of Warfarin/ oral anticoagulation ▪ Administration of: – Red Cells – Platelets – Fresh Frozen Plasma – Cryoprecipitate – Albumin – Prothrombinex – Iron Infusion – Intragam P – Sandoglobulin – Octagam – Recombinant Factor VIIa – CMV immunoglobulin – Anti-D postnatal

6. Achievements and Benefits to Date

Policies	***Guidelines and Procedures***
▪ Receipt of Blood products from other hospitals ▪ Pharmacy policies for Albumex 4% and 20% ▪ Patient Identification ▪ Unknown Patients	▪ Management of Patients who refuse blood products ▪ Emergency Blood Management ▪ Storage and handling ▪ Blood Refrigerator ▪ Transportation or blood/products ▪ Autologous Blood Collection ▪ Pre-transfusion sample collection ▪ Transfusion documentation ▪ Consent for transfusion ▪ Blood filters ▪ Blood warmers ▪ Leucocyte Depleted Blood Components Guidelines ▪ Irradiated Blood Components Guidelines ▪ CMV negative Blood Components Guidelines ▪ Crossmatch Specimen Collection ▪ Cord Blood Specimen Collection Storage and Temperature Control of Blood Components ▪ Volume and Shelf-Life of Blood Components ▪ Transfusion Reactions: Management and Reporting ▪ Retrieval of Blood Components from the Blood Bank ▪ Nursing Management of patients receiving blood products ▪ Jehovah's Witness.
Charts and Forms	
▪ Blood Product Administration ▪ Transfusion Reaction Algorithm ▪ Transfusion Reaction Report Form ▪ Maximum Blood Ordering Schedule ▪ Cross match/blood collection	

Source: AHA transfusion nurse survey 2006

In some cases policies and procedures have been developed to be implemented globally across the health service. While for others individual sites have separate policies and procedures. A global approach typically involves lengthy stakeholder consultation with each site and with their different pathology services.

It is relevant to consider the processes which transfusion nurses have participated in to develop, approve and implement policies and procedures. Some health services have adopted a streamlined approach, however for many the process is lengthy and time consuming. Typical steps include:

- Initial decision on requirement for policies and procedures
- Development of draft material by transfusion nurse
- Submission to transfusion committee for approval

- Following approval by transfusion committee, material is provided to relevant stakeholders for consultation
- Returned to transfusion committee for final approval
- Submission to committee responsible for policies and procedures, usually quality or clinical governance committee.

Most health service committees, including transfusion and quality committees, only meet quarterly and therefore implementing new policies and procedures takes several months or longer. In one case, the development and introduction of basic transfusion policies took over two years to complete. The absence of agreed policies and procedures impedes the effectiveness of the TN role, in particular regarding staff training and auditing of practice.

6.3 Coordinating transfusion training and education of staff

Nurse training is provided at all funded health services by the transfusion nurses. TNs use various methods designed to actively engage different staff groups. For example, for ward staff and experienced RNs, there is the need to provide short, highly specific training session to address particular issues which arise.

TNs reported that their training time increases when new policies or procedures are being introduced.

The methods developed and used to provide training, education and information to staff, include the following:

- Training sessions:
  - Formal lectures/sessions open to all staff
  - Scheduled sessions in ward areas
  - Scheduled sessions for specific groups
  - Ad hoc sessions in wards
  - Scheduled time in orientation programs
  - Practical skills based sessions
- Information provision:
  - Included in orientation packs
  - In folders located in wards
  - Intranet sites
  - Newsletters
- Learning packages:
  - Paper based learning packages
  - Computer based learning packages
- Competency based programs/packages
- Education days open to staff and external participants.

Some TNs also provide education and training to health services other than their own, namely:

- regionally based TNs provide education and information to other hospitals and practitioners in their region
- several metropolitan based TNs provide training and education to staff in private hospitals.

At some health services, transfusion nurse training is compulsory for nursing staff, as follows:

- four health services require all nursing staff to attend a transfusion practice training/education session and/or complete a training package
- a further two services are actively working towards such compulsory training for all nursing staff
- several other services have compulsory training for new graduate nurses only.

The major focus of training and education is on nursing staff, however training has also been developed and delivered by TNs to:

- Anaesthetic technicians
- Orderly's/ward assistants/patient service assistants
- Medical staff including Interns, Residents, Registrars, HMO's
- Medical students
- Laboratory staff.

Where transfusion nurses have been involved in training of medical staff, most transfusion nurses have been supported by medical colleagues. The majority of medical education has been aimed at interns, rather than more senior medical staff.

A variety of modalities have been instituted in regards medical training including:

- Joint session conducted by transfusion nurse and medical colleague
- Session by transfusion nurse alone
- Session by medical staff

In most cases the TN has developed the material used for the training sessions.

The transfusion nurse survey revealed several examples of good and innovative training/education initiatives that have resulted in improvement in transfusion practice and/or resulted in increased awareness of issues related to transfusion practice.

Good practice example – Medical training
One transfusion nurse, with the assistance of transfusion committee and medical champion, has successfully developed and implemented: ▪ a training session and mandatory completion of a learning package for all new interns; and also ▪ a learning package for residents and registrars. While the interns have completed their learning packages following training session, conducted during orientation, the completion of learning package by other medical staff has been poor. This is despite a

Good practice example – Medical training
letter of support from the Director of Medical Services.

Good practice example – Competency based program for anaesthetic technicians
At one health service, the audit of blood component administration revealed very poor documentation compliance in the operating theatre. In this service, anaesthetic technicians were employed to support anaesthetists. Following review of policies related to blood component administration, a competency based program was developed for anaesthetic technicians, which resulted in 100% of technicians now credentialed in blood product administration. The results has included: ▪ improved documentation of blood product administration ▪ better communication between anaesthetic technicians and pathology ▪ improved processes regarding Emergency O negative blood usage and restocking.

Good practice example – Innovative training session
The TN identified a large community population of Jehovah's Witness (JW) in health service catchment area and that a regular JW conference was held in the area. The TN identified the need for the health service to have specific JW policies and procedures, including relating to blood transfusion issues. These policies and procedures were developed in consultation with the JW community. JW community members were then invited to explain and discuss with staff, medical staff and nursing and laboratory staff, issues relating to this group's right to refuse blood and blood products. These sessions have now been completed several times with excellent feedback, from both staff and the community members as well.

6.4 Auditing compliance to guidelines and disseminating data

Monitoring, reporting and comparing actual practice is universally recognised as a powerful agent for change. Through such activities, some TNs have achieved major change and improvement in transfusion practices.

Most notably, the health service which uses Blood Tags (refer good practice example in this section) believe that information reported has lead to:

- major improvement in transfusion practice; and an
- improved culture of reporting in relation to transfusion, within the health service.

Reporting of audit results range within health services, range from:

- quarterly reports to transfusion committee only; to
- monthly newsletters plus the results of audits and other transfusion information collated at a ward/unit level and available to all hospital staff for comparison.

6.4.1 Audits conducted

Audits have been conducted at all health services and include both:

- documentation audits, which involve review of documents; and
- observational audits, which involve examining actual practice.

On average, 30 documentation audits have been conducted quarterly at each health service. Most transfusion nurse conduct several documentation audits at once. For example, a single documentation audit may examine appropriateness, nursing observations, patient consent and information provided. The majority of nurses continue to use the policy and procedures documentation audit format developed by BeST[2].

Observational audits are often specific to a unit (eg emergency department) and are usually only conducted annually or once-off.

Several sites have processes to collect continuous data. This includes ongoing collection of data related to zero tolerance of sampling, tube labelling and blood prescription form errors.

The range of audits conducted by TNs in the 12 months prior to the AHA survey, are summarised in *Table 6-2*.

Table 6-2: Audits conducted during previous 12 months

Documentation Audits	*Observational Audits*
▪ BeST audit of FFP use - 30 transfusion episodes ▪ BeST audit of Red Cell use in TKR and THR - 30 transfusion episodes ▪ BeST audit of clinical practice - 30 transfusion episodes ▪ Appropriateness of red cell and fresh frozen plasma transfusion ▪ Consent ▪ Patients provided with information ▪ Documentation of blood loss in theatre ▪ Appropriate indication for transfusion ▪ Appropriate documentation of indication for transfusion ▪ Appropriate documentation of transfusion reaction column ▪ Overnight transfusions	▪ Correct identification of patients prior to transfusion ▪ Spot audit of ward fridges looking for inappropriate storage of blood products ▪ Blood product administration ▪ Practice in patient ID and specimen labelling with the Quality Unit ▪ Continuous audit of cross match tube and form error received from ward (logbook) ▪ Unsuitable specimens ▪ Patient Identification ▪ Specimen labelling

[2] Audit of Blood Transfusion Policy, Procedures and Administration Practice; available at BeST web site: http://www.health.vic.gov.au/best/audit.htm

6. Achievements and Benefits to Date

Documentation Audits	*Observational Audits*
▪ Autologous units used ▪ Blood warmer maintenance ▪ B-Tag audits ▪ Appropriate to guidelines ▪ Compliance with zero tolerance criteria ▪ Equipment ▪ cardiac surgery intra-operative use ▪ Prescription form completeness ▪ sticker attached to blood sent via chute (ie tube transportation system) ▪ Blood usage – amount ordered against that actually used ▪ Blood fridge – correct temperature, correct documentation for removal of products ▪ Wastage – blood ▪ Anti-D compliance with guidelines ▪ Observations completed ▪ Albumin Release Process ▪ Cord Blood Specimen / Request Form labelling ▪ Administration start/stop times	

Good practice example - Use of data to improve practice
Blood Tags (B-Tags) were introduced at a metropolitan multi site health service and utilised at each site. A B-Tag is attached to every unit of blood issued by the blood bank. All blood bags with attached B-Tag completed by ward staff are then returned to blood bank. Blood bank staff and/or the transfusion nurse remove the B-Tag from the blood bag and record the details from the tag. The data collected on the B-Tag has evolved since they were first introduced. Currently the data collected includes: ▪ Product Number ▪ Ward ▪ Date ▪ Time unit commenced

Good practice example - Use of data to improve practice

- Time unit completed
- Name/Signature
- Clinical Reaction – Y/N
- Clerical error – Y/N
- Space for details and reminder to complete Transfusion Reaction Form.

The data is collated and reported monthly in a B-Tag newsletter. Each site receives a separate newsletter. Details are collated by ward including number of transfusions, completed B-Tags, number of transfusions completed at night, errors, reactions and adverse events.

The health service management, transfusion committee and quality staff all believe that the information reported has lead to major improvement in transfusion practice within the health service. They have also developed a culture of reporting, in relation to transfusion, within the health service.

Collecting, collating and reporting the data from the B-Tags is however a time consuming task, and is the major activity of the transfusion nurse at this health service. Changes to the processes are to be introduced in the new year – however all agree that this intense data collection has been effective in improving practice.

6.5 Developing processes for monitoring and managing errors and adverse events

There is general consensus that reporting of incident/errors or adverse events has increased significantly since the introduction of transfusion nurses. This has been attributed to:

- education of transfusion practice provided by transfusion nurses; and also
- introduction of new reporting systems and processes.

For a number of health services, the implementation of 'zero tolerance' to specimen and cross match form errors may also have increased the number of transfusion errors/incidents reported. Many TNs and quality staff believe however that there is still major under reporting of incident/errors and adverse events or near misses.

The TN role in the collection and follow up of errors and adverse events is varied, depending on the risk and quality programs within the health service and/or hospital. Reporting systems differ across the sector, ranging from:

- fully implemented electronic systems with TN linked into any incidents reported related to transfusion or transfusion practice; to
- paper based systems with several different reporting processes depending on the site and type of the incident.

The role of some TNs is proactive, involving analysis of information and events and then promotion of process or system change. However others report that their response to errors and adverse events remains reactive; focused on following up events and giving feedback and education regarding these events.

6. Achievements and Benefits to Date

The majority of services with electronic incident reporting use *RiskMan*. *RiskMan* allows the development and implementation of a classification system for events or incidents. They are usually categorised into specific areas such as falls, medication errors, medical procedures and transfusion. In addition, several health services have implemented specific subcategories for transfusion events.

Having subcategories of transfusion events helps with the monitoring and collation of data. In several services risk ratings have also been attached to certain events. These ratings can result in the escalation of reporting to senior risk/quality/clinical governance committees, rather than reporting to quality division or transfusion nurse.

The transfusion nurse survey and consultations indicates that electronic incident reporting is poorly used at some hospitals. While at least one major metropolitan service is yet to fully implement electronic system. Some clinical staff have limited computer access, which has an impact on whether or not reports are made.

There remains significant issues for several transfusion nurses with pathology reporting systems not 'articulated' with health service reporting systems. This includes health services with external pathology services. For example pathology document labelling and sampling errors on their own system and then the transfusion nurse, or others, must extract this data and transfer it to the hospitals reporting system.

In any incident reporting process, the timely follow up and provision of staff feedback to incidents is vital to facilitate change of practice.

Good practice example – Monitoring adverse events

At one health service, following the introduction of the electronic incident reporting system *RiskMan,* the Risk Manager worked with the Transfusion Team to develop the subcategory classifications of incidents related to transfusions and transfusion practice. The categories developed included:

- Labelling/sampling errors
- Delays
- Storage and handling
- Transfusion reactions
- Contaminated product
- Expired product
- Documentation related
- Given when not indicated
- Wrong patient
- Wrong product
- Management, including patient identification and consent.

Each subcategory of incident is also classified into one of four levels ranging from a Level 1 'sentinel' event to Level 4 'minor' incident. When any incident 'logged' into *RiskMan* fits one of the above subcategories, an alert is automatically sent to the:

- Clinical risk manager
- Transfusion nurse

- Nursing divisional head – of the unit in which the incident occurred
- Pharmacist.

The transfusion nurse receives all documentation related to the incident and is expected to follow up each incident. If a comment is not logged by the transfusion nurse within a designated time frame a further alert is sent.

All Level 1 and 2 incidents must be followed up by the Clinical Risk Manager, while other incidents are followed up by the line manager of the person logging the incident. The transfusion nurse is expected to have some level of input to all transfusion related events.

At another health service which uses *RiskMan,* similar transfusion related categories have been implemented. All transfusion related events are directed to the transfusion nurse and it is the responsibility of the transfusion nurse to allocate a risk rating which can escalate an investigation and notification to more senior or executive staff. The transfusion nurse uses *RiskMan* to develop reports for the Transfusion Committee or other relevant committees.

6.6 Providing patients information and support regarding the blood transfusion process

Providing patient information and support has been a relatively small aspect of the transfusion nurse work however, some progress has been achieved. Activities undertaken by TNs include:

- Development and distribution of patient information brochure
- Development of autologous information brochure
- Transfusion awareness week activities
- Development and distribution of immunoglobulin information brochure for patients
- Conducted a patient survey to ascertain how they would like information about transfusions to be provided
- Information posters
- Development of fact sheets
- Post-transfusion brochures - for patients who have transfusion as a day procedure and may experience delayed reactions
- The inclusion of a reminder on the blood prescription form prompting health professionals to provide patients with written and/or verbal information regarding transfusion
- Development of an area on the blood and blood product request form for a witness signature. Witness can be a patient or parent/guardian. This form is to be used when taking blood sample, with the need for this signature stimulating discussion about transfusion risks and benefits
- Making information brochures available to patients:
  - In all ward areas
  - In preadmission clinics
  - In information kits given to all patients to have elective surgery
  - To all new haematology patients
  - With each blood bag collected from the hospital Blood Bank.
- Introduction of transfusion informed consent, including:

  - Consent form to be signed by patient when blood taken
  - Process that includes discussing blood transfusion risks and benefits with patients and recoding this in client records.
- Providing details of the risks associated with blood transfusion on day surgery anaesthetic checklist, used by anaesthetists

TNs also highlighted the benefits of regular audits in this area. Auditing evidence that patients had received information about transfusion was one way of promoting improvement or deficits in this area.

Ongoing staff education, regarding the need to inform patients about the risks and benefits of transfusions, is regarded by most TNs as a key method of ensuring patients are informed. Making this clear to medical staff was also vital.

Good practice example – Providing patient information

Several health services have introduced changes to their Blood Prescription forms regarding patient information. Changes include reminders or checks for clinicians to ensure that:

- they have explained to the patient the risks and benefits of transfusion
- consent for transfusion has been gained.

The clinician's confirmation, that the risks and benefits have been explained to the patient and consent has been gained, must be completed on the Blood Prescription form prior to the transfusion commencing. There is also space to indicate if written material has been offered to the patient.

Health service also provide information to clinicians that –

> *'in an emergency there may not be time to discuss treatment and gain informed consent – this must be indicated on the prescription form and the reasons for any transfusion explained to the patient when they are recovering'.*

Another health service added the following to the Blood Prescription Form:

- Clinician confirmation – 'I have reviewed the Clinical Guidelines and explained to the patient/person legally responsible for the patient, the indications, the nature and the possible effects of the transfusion'
- Written information offered to patient – (tick boxes) yes or no
- Consent for transfusion obtained from patient/ person legally responsible for the patient – (tick boxes) yes or no
- Consent for transfusion not obtained – (tick boxes)
  Emergency; Other - Jehovah Witness; Refusal of treatment form completed.

6.7 Managing change in the organisation

Managing change within organisations is an important role of transfusion nurses. The capacity of nurses to manage change is linked to several important factors:

- Support to the transfusion nurse from senior management, both nursing and medical
- Influence of the transfusion committee

- The authority and profile of the transfusion nurse position within the organisation.

Methods, through which nurses can improve their ability to influence and manage change, include:

- Accessing data, through audit and other data collection
- Being visible within the organisation, through ongoing education and training of staff.

Notable achievements to date include:

- Improved patient management practices for transfusion, and also more broadly across health services
- Improved communication between pathology and clinical staff.

6.7.1 Improved patient management practices

Patient identification

Through audit activities, several TNs have highlighted major safety issues related to patient identification. Safe transfusion practice requires that patients have an identification band which includes their name, date of birth and unit record number. Such identification is also required of other processes within the hospital, including medication administration and any medical procedure. Auditing or review of transfusion practice has highlighted that patients do not always have correct identification.

This has further implications across the health service in regard to patient risk. This risk encompasses not only inappropriate blood transfusion, but also the risks associated with medications and other medical procedures. Some specific areas where this was seen include:

- Outpatients or day procedure areas where 'regular' patients present and staff 'don't bother' with labels because they 'know' the patients
- Operating rooms, emergency and intensive care units where labels are regularly removed to enable line insertions or access to operative areas
- Midwifery departments where the processes for labelling and registering new babies may complicate transfusion practice. For example, babies may not initially receive their own unit record number, may not have a name or may have their name changed after birth and before blood transfusion.

In a number of health services, the exposure of issues related to patient identification by the transfusion nurse has resulted in health service wide change. Changes have included the development of new policies and procedures and change in practice. Transfusion nurses have been instrumental in working with staff to develop and implement new processes related to patient identification.

Patient refusal of treatment

In the conduct of audits related to transfusion practice transfusion nurses in several health identified a lack of processes in place to deal with refusal of treatment. All patient areas within a health service need access to processes, including appropriate forms, to assist in managing a patient's refusal of treatment. This includes the refusal of blood products.

Several transfusion nurses also have identified poor staff understanding of the right of patients to refuse treatments and/or the correct process to document a patient's refusal to treatment. This has led to the

transfusion nurse being involved in service-wide changes to the systems and processes applicable to refusal of treatment.

6.7.2 Improved communication between pathology and clinical staff

Transfusion nurses indicated that one of their most important roles, that has resulted in change within the organisation, is that of liaison. This liaison role has managed to break previous barriers between clinical areas and the laboratories, leading to better cooperation and understanding between these areas. This was seen to be particularly important for laboratories that were external to the hospital/health service. Several laboratory staff commented that, as a result of the liaison and education given by the transfusion nurse, they now have an understanding of the 'language' spoken by clinical staff when they, clinical staff, contact the laboratory.

Examples cited in relation to language included – laboratory staff received enquiries from clinical staff about matters such as '*filter use'* or if other solutions could be used to '*flush*' a '*line*'. Laboratory staff were often not aware on what was meant by these terms, as they generally have little knowledge of the process or language relating to physically delivering a transfusion. Education from transfusion nurses has allowed laboratory staff to understand the transfusion process and the terms used by clinical staff.

Laboratory staff can therefore better assist clinical staff through referring them:

- to an appropriate policy or procedure, or
- directly to the transfusion nurse or other assistance, if needed.

TNs describe their liaison role as mediator, peacekeeper and educator – providing eduction to both areas about each others respective role and position. Positive feedback has been received when laboratory staff visit ward areas and vice versa. The presence of the transfusion nurse is reported to have had a positive impact when issues between clinical and laboratory staff arise.

The positive impacts reported have included:

- In health services with an external pathology provider, the transfusion nurse has been able to assist in mediation to develop policies and procedures that meet the organisational goals and requirements for each service, for the hospital and for the pathology provider.
- The transfusion nurse's insight to the dissatisfaction of some clinical areas regarding the amount of time taken to obtain blood for transfusion. The Transfusion nurse has, in some instances, been able to relay each side of the issue, which has increased the understanding of both the pathology or blood bank and the clinical areas. An example was - conflict between the laboratory and ICU around how long it takes to receive 'urgent' blood when requested in an emergency. Through mediation, the transfusion nurse helped highlight, for both parties, that:
    - ICU staff sometimes had unrealistic expectations regarding the mount of time it takes to cross match blood
    - Laboratory staff did not always fully appreciate the stresses on ICU staff during an emergency.

7 SUPPORTING AND OPTIMISING EFFECTIVENESS

This chapter examines the leanings from the transfusion nurse experience in Victoria and elsewhere; and in particular identifies the factors which underpin the success of the role.

7.1 Overview

This chapter identifies methods and strategies to support and optimise the effectiveness of the transfusion nursing role within health services. Details are provided under the following headings:

Internal support of health services:

- Governance arrangements
- Transfusion Committee or team
- Internal support and alignment
- Transfusion nurse skills and attributes.

External factors:

- Profile and awareness of transfusion and transfusion nurses
- Auditing and reporting
- Networking and peer support.

Organisational governance, including leadership, management and reporting, is of critical importance to the effectiveness of transfusion nurses in improving practice.

A number of authors identified the importance of leadership in promoting safe practice in regard to blood transfusion. This leadership must come from within individual health services, and include support from senior management of multiple disciplines (Dzik et al 2003).

The nurse must have some form of authority, whether through the status of the nurses position itself or through the reporting structure pertaining to the nurse (Stainsby et al 2005). This reporting structure should include a strong transfusion committee which provides predefined reporting through to the Board level (Gray et all 2004b, 2005; Murphy & Howell, 2005; Dzik et al 2003; Todd 2004; Stainsby et al 2005).

In Victoria, it has been found that greater progress has been achieved where transfusion nurses:

- have a strong, supportive transfusion committees and the support of a senior manager
- are required to provide information and reports to a health service wide quality/risk or clinical governance program, either directly or via the transfusion committee
- have a good understanding of the internal workings of their health service, and are able to negotiate internal pathways to achieve change.

The literature also highlights that, in order to improve transfusion practice, each area involved with transfusion should be informed by locally relevant data (Gray et al, 2004a, 2004b; Gray 2006).

Gray (2004a) also identified the desirable qualities of a transfusion nurse. These include confidence, persistence, energy and good communication skills, together with technical and local knowledge and clinical experience.

Sections 7.2 to 7.5 provide further detail as to how health services can provide *Internal Support* to transfusion nurse and *Sections 7.6 to 7.9* examine the *External Factors* which influence the effectiveness of transfusion nurses.

Internal Support

This section examines key strategies for health services to optimise their TN's effectiveness. It should be noted however that different strategies are suitable for different health services. In particular, the transfusion nursing role is affected by the size and characteristics of health services. Different models of transfusion nursing are examined in *Chapter 8*.

7.2 Governance arrangements

Governance deals with the processes and systems by which an organisation operates. In Victoria, each health service is overseen by a Board; however other governance arrangements differ between health services. Governance arrangements, critical to the success of the transfusion nurse role, include:

- Leadership and management
- Reporting, quality/risk culture and systems

7.2.1 Leadership and management

As noted previously, the literature and the findings in Victoria highlight the importance of leadership in promoting safe transfusion practice. Blood transfusion involves a complex chain of events, involving a diverse group of health professionals, with a number of opportunities for error (Stainsby et al 2005; Gray et al 2005). The greatest risks to patients from transfusion, relate to hospital-based steps in the process (Dzik 2003).

The complexity of the transfusion process means that support for safe, appropriate and effective transfusion practice must come from more than one senior management discipline. The three key disciplines involved in blood transfusion are medical, nursing and laboratory staff. Senior management of each of these disciplines must therefore support and promote systems and processes within the health service for safe and effective transfusion practice.

The transfusion committee, the health service Board and a medical champion, all form part of the governance arrangements relevant to transfusion nurses. These aspects are addressed at *Section 7.3 Transfusion Committee* and *Section 7.4 Internal support and alignment.*

7.2.2 Reporting, quality/risk culture and systems

Clinical and best practice guidelines for the safe and appropriate use of blood and blood products have been developed at a National level. The importance of these guidelines and of blood transfusion within a health services quality program has been highlighted by the inclusion of safe and appropriate use of blood and blood products in the ACHS-EQuIP 4 accreditation program. To support the role of the

transfusion nurse, there should be reporting of progress against these standards and good practice at Board level.

Health services with active quality/risk and/or clinical governance systems, that include reporting directly to senior executives and to the Board, have been able to support transfusion nurses and achieve positive results against objectives.

The quality systems and processes shown to support safe and appropriate blood transfusion practice include:

- Health service-wide policies, rather than different policies for each site (detailed procedures may however vary to suit individual sites)
- Health service-wide processes for review of policies and procedures that are streamlined and allow some decision making at different levels, through either sub committees or specialist committees
- Processes to ensure that consistent forms, charts and incident reporting are used across each site
- Integrated computer systems – especially between pathology and the health service. Alternatively, processes to transfer information regarding transfusion practice between computer systems. This is especially important for analysis of incidents and/or errors and where the health service uses external pathology services.
- A transfusion committee which is required to report to either a quality/risk and/or clinical governance committee, that in turn reports directly to the Board.
- Reporting processes and structures that require specialist committees to report to end users; eg the transfusion committee is required to report progress to users of blood and blood products.

7.3 Transfusion committee

A strong transfusion committee (TC) that supports and guides the TN; and regularly reports to others, is vital to the effectiveness of a TN. The literature and the findings in Victoria highlight the need for a multi disciplinary team to support transfusion practice.

To be effective, a transfusion committee needs to be seen as an important committee within the health service. The TC should have:

- Strict reporting requirements and processes
- Influential, multidisciplinary members who attend meetings. For multi site organisations, membership needs to include representatives from each site. All disciplines involved in transfusion should be represented, as well as management and quality/risk/clinical governance representatives
- Committee membership should include expertise in data collection, analysis and presentation.

Reporting by the TC should be two-fold:

- Through the hospital/health services quality improvement/risk and/or clinical governance structure to the Board

- Back to the transfusion end users - including all staff involved in the transfusion process.

Information reported depends on the organisational need and who the information is being reported to. However, there area number of specific audits and information that should be collected and reported. These are discussed in 7.3.1.

A significant role of the TC should be to support and guide the TN in implementing decisions made by the committee. The committee should agree and prioritise:

- TN performance indicators
- activities and tasks
- audits to be conducted
- data to be reported
- policies and procedures to be developed/reviewed
- education programs.

In the absence of direction and support from a strong transfusion committee, the transfusion nurse is unlikely to be able to effect change within the heath service.

7.3.1 Audit data and results

The literature suggests that to improve transfusion practice, all areas involved with transfusion should be informed by locally relevant data (Gray et al, 2004a, 2004b; Gray 2006). There is also strong evidence that comparison (benchmarking) of data with other health services can be effective in influencing Boards and senior management/executives.

The review of practice in Victoria has shown that TNs can achieve change in transfusion practice through the use of audit data. To illustrate this, the amount of time spent on audit activities by the three TNs which were assessed as being the most effective, was compared with that of the least effective three TNs. The average proportion of time spent on audit activities was:

- 32% for the most effective TN group
- 13% for the least effective TN group.

Transfusion nurses should therefore be encouraged to spend a considerable amount of their time devoted to this role. They should also be supported by ongoing education related to audit and data collection and be given the resources and support to complete audits.

The review highlighted the importance of TNs being able to interpret and present data in a way that engages and influences both end users and senior executives. Data must be meaningful to the organisation and presented in a manner which engages both:

- end users of blood products, to use blood in a safe and effective manner; and also
- senior executives and boards, to enable them to encourage, promote or demand the better use of blood products.

7. Supporting and Optimising Effectiveness

The audits conducted should include both BeST initiated audits that provide data that can be compared and benchmarked across the State; as well as internally driven audits. The internally driven audits need to:

- be guided by the transfusion committee
- include both documentation and observational audits
- reflect clinical practice
- if possible be 'real time', not historical
- be repeated to show change in practice over time
- be able to be reported at unit/ward level as well as at hospital and/or health service level
- be reported to units/wards on a regular basis
- be reported to quality/risk/clinical governance committees and then to executives and boards
- be able to be collected by individual units/wards. This reduces audit time by the TN and enables data to be collected in real time, rather than retrospectively – this includes both documentation and observational audits
- assess compliance with NHMRC/ANZSBT guidelines
- asses compliance with internal policies and procedures
- some audits may need to be ongoing until a specified level of compliance is met.

A strong link to the quality program is valuable to transfusion committees and TNs in addressing audit issues.

7.4 Internal support and alignment

Transfusion nurse internal support and alignment are examined in this section, as follows:

- Medical champions
- Professional nursing support
- Alignment with quality.

7.4.1 Medical champions

In addition to the support and guidance from a strong transfusion committee, the transfusion nurse also needs the support and influence of one or more medical champion. Their role in supporting the transfusion nurse should include actively promoting good transfusion practice and promoting the role of the TN with medical staff.

Medical champions should be someone who has both excellent knowledge of transfusion practice and also strong clinical experience and expertise with transfusion. Such clinicians are more likely to influence transfusion practice within wards and units. They should assist the transfusion nurse in managing change within the health service.

The medical champions of the Victorian transfusion nurses, who have been assessed as being most effective, included a medical director, anaesthetist and a haematologist.

7.4.2 Professional nursing support

Both the literature and the Victorian experience to date, indicate that transfusion nurses need to have links and a support structure, within the health service's nursing program. While the TN may not be part of the nursing services directly, they do need professional guidance and support.

This may include a reporting structure through a senior nurse such as Director of Nursing, which allows information to be passed through to senior executives from several sources. Alternatively or additionally, a nursing mentor may be utilised to support the nurse in managing change within the organisation.

Several of the Victorian transfusion nurses noted that they did receive support from other nursing specialists. In such circumstances, having a process for nursing specialists to network would be valuable. Such other specialists may include Infection Control Nurses, Diabetes Educators, Wound Consultants, Stomal Therapists and clinical educators. This group of professionals, including TNs, often:

- operate independently across hospital clinical divisions
- are involved in patient and/or staff education
- are involved in data collection and reporting
- may be involved in change management.

Networking of this group of nurses, to share experience and approaches; and to support each other, would be of benefit to all.

7.4.3 Alignment with quality

To be most effective, a transfusion nurse needs to be part of a team, who can support them in all aspects of their role, such as:

- Development of policies and procedures
- Education and training
- Collection and distribution of data – audit compliance with policies and procedures, monitoring and management of errors and adverse events

Several of the transfusions nurses in Victoria are physically located within pathology departments and feel supported by this arrangement. Positioning within pathology has been reported to have been effective in breaking down barriers between laboratories and clinical areas.

In the longer term however, it is unlikely that pathology departments are able to fully support the transfusion nurse with each aspect of their role. There is also the propensity for TNs to become focused on pathology issues, rather than broader transfusion matters.

The TN role is more closely aligned with the activities of quality/risk and/or clinical governance teams, which have specific roles in:

- Policy and procedure development,
- Education and training related to policies and procedures
- Collection and distribution of data including audit and monitoring and managing adverse events.

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Having the transfusion nurse positioned within quality/risk/clinical governance areas helps to promote the quality/risk aspects of the position. It gives the nurse a team to work with and access to administrative support. It allows more direct links for monitoring of incidents and errors and may also help smooth progress of policy and procedure development and implementation.

Having a transfusion nurse within the quality program should also provide additional support to the quality team when the new criterion related transfusion practice is introduced, under the Safety Standard of ACHS – EQuIP 4.

7.5 Transfusion nurse skills and attributes

Gray et al (2004a) identified that the desirable qualities of a transfusion nurse should include confidence, persistence, energy and good communication skills, together with technical and local knowledge and clinical experience.

The surveys and consultations conducted for this review highlighted the following specific skills required of a transfusion nurses:

- In depth, up to date knowledge of transfusion practice, blood and blood products. This can be achieved by ensuring that the transfusion nurse has completed a recognised course, has access to other transfusion specialists i.e. medical champion, other transfusion nurses, and can attend ongoing education and/or conferences related to transfusion
- People skills, ability to relate, communicate and network with a broad range of people, including:
  - hospital executives
  - quality/risk managers
  - senior medical staff
  - junior medical staff
  - nursing staff – clinical and management
  - laboratory staff
  - patients.
- Understanding of the 'politics' of hospitals/health services and/or having a medical and nursing champion to support them with health service politics. In practice this often means having a nurse who has worked in other than direct patient care settings i.e. having had a management position within a health service is ideal
- Ability to implement change – being able to use all processes, resources, knowledge and local data, to encourage and support change. This includes having a good understanding of the internal workings of their health service, and the ability to negotiate internal pathways to achieve change
- Education/training skills – ability to produce and/or deliver educational material, at a variety of levels, including patients, nurses, doctors and scientists
- Data skills – collection, analysis and presentation of data is of critical importance.

Transfusion nurse job descriptions should reflect the above requirements.

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External Factors

The preceding sections of this chapter identify how health services can support and optimise the effectiveness of transfusion nurses. This following section examines factors, outside of the direct control of health services, which can influence the effectiveness of TNs, namely:

1. Profile and awareness of transfusion and transfusion nurses
2. Auditing and reporting
3. Networking and peer support.

These areas are examined in the section following, including the potential for health services, transfusion nurses, BeST or the Department to participate in or influence such factors, in order to support transfusion nursing in Victoria.

7.6 Profile and awareness of transfusion and transfusion nurses

Influencing the behaviour of large organisations, such as hospitals, requires a range of strategies. Strategies range from simply providing clear information about good practice; to actively enforcing specified requirements. The key is to raise hospitals' awareness and acceptance of the need for quality transfusion practices.

Increasing the profile of transfusion within medical/hospital sector and the community should result in increased awareness and acceptance by health services of the potential of strong transfusion committees and a transfusion nurse role.

The lack of interest in supporting the transfusion nurse role appears to be related to a lack of knowledge within the community and the hospital sector of the risks associated with transfusion. ACSQHC (2005) identified that the major risk of blood transfusion is associated with unsafe clinical transfusion practice and inappropriate transfusion. Much work has been completed to improve and ensure safety with blood collection however, improvement is required to reduce risk in transfusion.

Transfusion nurses have a role in improving this knowledge to medical, nursing and laboratory staff involved in transfusion at a clinical level. While others, such as transfusion specialists and BeST, have a significant role in promoting the need for risk management programs in all health services. Risk management includes having a transfusion committee and a transfusion nurse to ensure health service wide promotion of best practice in transfusion.

Possible strategies to improve the profile and awareness of transfusion and transfusion nurses include:

- Accreditation
- Cost signals
- Education and promotion.

7.6.1 Accreditation

As indicated previously, the latest Australian Council on Healthcare Standards (ACHS) EQuIP4 accreditation standards specifically address transfusion practice. The question related to transfusion in

7. Supporting and Optimising Effectiveness

EQuIP4 requires the agency to have systems in place related to blood and blood components that cover:

- prescription
- sample collection
- storage and transportation
- administration.

This change is expected to increase the focus of ACHS accredited hospitals on this area.

It is estimated that approximately 80% of public hospitals are accredited by ACHS. The new standards are expected to be effective from 2007, and consequently it could take up to three years before recently accredited hospitals are assessed against these standards.

To ensure hospital focus on this aspect, an option would be to require reporting to DHS of ACHS accreditation results relating to transfusion practice.

7.6.2 Cost signals

Dzik (2003) identified that the main obstacle to the development of transfusion safety officers, a role similar to a transfusion nurse, in the USA is funding. Regan & Taylor (2002) also noted that some hospital trusts in England and North Wales were reluctant to employ specialist practitioner of transfusion despite findings of cost savings associated with the role. The experience in Victoria is similar, with few health services willing to independently fund a transfusion nurse or increase the transfusion nurse hours above that funded through BeST.

In most jurisdictions, there is no cost to hospitals for their use of blood and blood products; it is a free commodity to hospitals. It can therefore be difficult to mount a financial business case for the use of transfusion nurses or for other strategies to promote the appropriate use of blood. In this environment the predominant justification for the use of transition nurses is the mitigation of risk.

As indicated in *Chapter 4*, NSW has taken initial steps towards the use of cost signals to encourage the appropriate use of blood products by its Area Health Services. In addition to the cost of blood products, other costs identified by NSW include filter costs, staff time and hidden costs associated with addressing errors.

While NSW believes its approach is worthwhile; no empirical data is yet available to demonstrate that it has been successful in improving the use of blood products. In the absence of evidence as to the effectiveness of cost signals, it is unlikely that DHS would take the major step of introducing such mechanisms in Victoria.

7.6.3 Education and promotion

Education and promotion of best practice in transfusion and the consequences of inappropriate transfusions should be focused at:

- staff within hospitals
- hospital executives and board members
- patients and the community.

7. Supporting and Optimising Effectiveness

Transfusion nurses in Victoria are currently addressing the needs of nurses, non medical staff and, in some cases patients, within their own hospitals. However, there remain clear gaps in the education of medical staff, executives, board members and the broader public.

In terms of information and education to nurses the work being completed by ARCBS on a new module related to transfusion for undergraduate nurses may provide an appropriate starting point.

Some executives and board members may receive information regarding transfusion practice within their own organisation from audits and adverse event reporting. However, where the transfusion nurse does not have an audit focus or a role in monitoring and managing incidents and errors, and the quality/governance unit are not focused on these areas; no data or information may reach the senior level.

Information should be provided on the possible consequences of inappropriate transfusions not only on patients, but also the impact on the community and blood donors.

DHS can take a role in the promotion of transfusion practice and in identifying the type of data that should be being made available to executives and boards. Making all health services aware of major incidents related to transfusion practice at other services may highlight the need to consider the risk associated with transfusions more highly. The Serious Transfusion Incident Reporting (STIR) may address this reporting.

DHS also has a potential role in encouraging transfusion nurses and others to conduct research, write papers and reports for submission to journals and conferences related to transfusion practice in Victoria.

7.7 Auditing and reporting

Auditing and reporting strategies, to encourage quality transfusion practices, include:

- Statewide auditing and benchmarking
- Key Performance Indicator (KPI) reporting

7.7.1 Statewide auditing and benchmarking

In many sectors, benchmarking has been a powerful and successful motivator for change. The only source of such data for benchmarking transfusion practices is currently the rolling series of BeST audits. These have collected comparative data regarding the transfusion practices of health services in Victoria. Audits conducted have included:

- Audit of blood transfusion policy, procedures and administration practice
- Clinical audit of fresh frozen plasma
- Clinical audit of red blood cell use in orthopaedic surgery
- Blood storage and handling survey.

For the audit of policy, procedures and administration practice, health service have each received their results, and results have been published in non-identifying format. The failure to publicly identify individual health service's results diminishes the usefulness of the exercise for benchmarking.

The results of the other audits are due to be made available in the near future.

Consultation with health services and TNs, indicate that the BeST audits have been successful in increasing awareness and promoting change. The benefits of the BeST audits could potentially be enhanced through addressing the following aspects:

- Delays in providing the results back to health services.
  As a consequence, services may regard the results as historic rather than reflecting their current practice, and the power of the results as an advocate for change is diluted.
- Results are confidential.
  The audit results for each health service are not shared with other health services or the public. Such sharing of results would increase the benefits achieved.

A further possible strategy would be for DHS to encourage and facilitate voluntary benchmarking groups between health services. The DHS role could include development of definitions and categories for data collection and analysis. Two Victorian health services are currently co-operating to share some data, including the use of fresh blood and blood products and the percentage of product wastage. While this process in its infancy, it has provided some initial insight for these health services.

Suggested improvements to the BeST initiated audits include:

- results reported promptly to services and published
- results publicly reported for each health service, to allow benchmarking.

Support should be provided to transfusion nurses regarding audits, including:

- the provision of pre-packaged audit tools
- training and guidance in the collection, use and presentation of data.

Health services and DHS can promote the reporting of errors by encouraging reporting and discouraging negative repercussions of reporting.

7.7.2 KPI reporting

Health services currently report a range of key performance indicators (KPIs) to the Department; however these do not specifically address transfusion practices. The use of regular KPI reporting regarding transfusion practice would increase senior hospital management's focus on this area. In addition, public availability of such comparative information would be a strong motivator for hospitals.

The development of suitable, meaningful KPIs for blood transfusion is however a significant challenge. The South Australia government is currently exploring the use of transfusion KPIs and lessons may be learned from their experience.

A practical alternative to defining and reporting specific KPIs, would be to include the results of the BeST rolling program of audits as a KPI reported to the Department. Reporting could relate each health service's results, drawn from the most recent audit, to the overall state average.

7. Supporting and Optimising Effectiveness

7.8 Networking and peer support

The literature highlights the need for support of transfusion nurses at a national and/or state level (Todd 2004). TNs in Victoria confirmed the need for peer support with access to regular meetings of transfusion nurses across the State as well as a system to share progress and ideas.

DHS and BeST can support the transfusion nurses by:

- Continuing to support and facilitate regular networking opportunities between the transfusion nurses, such as face-to-face meetings of all nurses
- Reinforcement of the key success factors detailed in this report to health services and to nurses
- Facilitating ongoing education in regards to data collection, data presentation, leverage techniques and skills
- Encouragement to attend and speak at conferences by providing funding and promoting that funding is available
- Providing translation of patient information brochures into other languages.

Individual health services can provide peer support by facilitating specialist nurses within the service to meet and discuss issues and ideas to promote good practice.

8. Models of Transfusion Nursing in Victoria

8 MODELS OF TRANSFUSION NURSING IN VICTORIA

This chapter examines the models of transfusion nursing which are suitable for different types of health services in Victoria. This is designed to provide specific guidance to health services wishing to introduce a transfusion nurse or to enhance an existing TN role.

The project terms of reference include - *What models for the transfusion nurse role may be options for implementation in Victoria to support sustainable transfusion practice improvement within Victorian hospitals into the future?*

The preceding *Chapter 7. Supporting and Optimising Effectiveness*, examines broad strategies for health services to optimise their TN's effectiveness. Different strategies are however suitable for different health services. The transfusion nursing role is significantly affected by the nature of the health service including:

- Location - based in metropolitan or regional Victoria
- Size and complexity - single or multi site; number of transfusions at each site; disciplines and specialities
- Pathology services - Internal or external; single provider across all health service sites or multiple pathology providers.

This chapter examines the different transfusion nursing models which are effective for different types of health services. Four TN models are presented, reflecting the varying location and size of health services in Victoria, namely:

1. Large metropolitan network
2. Metropolitan small or single site
3. Regional network
4. Rural health service.

Definitions and assumptions for each model are provided. Strategies and approaches to optimise the effectiveness of each transfusion nurse role, are set out under the following headings:

1. Governance arrangements	▪ Quality/risk culture ▪ Transfusion Committee ▪ Transfusion team
2. Internal support and alignment	▪ Transfusion nurse ▪ Medical champion ▪ Nursing champion ▪ Pathology on site ▪ Pathology off site / private
3. Transfusion nurse skills and attributes	▪ Clinical experience / knowledge ▪ Management experience ▪ Change management ▪ Political awareness ▪ Data skills

	▪ Education skills ▪ People skills ▪ Persistence
4. Transfusion Nurse Role	▪ Develop policies and procedures ▪ Train staff re policies and procedures ▪ Collect and report data related to policies and procedures

8.1 Model 1 - Large metropolitan

8.1.1 Definition and assumptions

This type of health service includes the major Melbourne networks, such as Bayside Health, Southern Health and Eastern Health. Such networks have differing characteristics and therefore multiple definitions and assumptions (A, B and C) are identified for this group, rather than a single set of definitions.

Table 8-1: Definitions and assumptions - Model 1 Large metropolitan network

	Definitions and Assumptions		
	A	**B**	**C**
1. Location	Greater Metropolitan Melbourne		
2. Hospital sites	Multiple sites – up to as many as 10 (including Community Health Sites). Includes tertiary referral/teaching site	Usually more than three – must include a tertiary referral teaching centre	
3. Management structure	Governed by Board Single CEO, single DON and Director of medical services responsible across all sites. Divisional heads operate and responsible across all sites	Governed by Board Single CEO. Each site has separate managers reporting to CEO but responsible for all services on their own site. May have overarching Executive DON and Chief medical officer	
4. Transfusions	More than 10,000 units of fresh blood per annum		
5. Medical staff	Specialist medical staff including Pathologist and Haematology on staff. Includes training programs	Specialist services including Cancer services, emergency department, trauma, vascular and cardiac surgery Includes training programs	
6. Nursing staff	Includes many specialist	May include large turnover	

	Definitions and Assumptions		
	A	**B**	**C**
	services that include specialist nurses. Includes graduate and post graduate training programs.	of staff	
7. Policies	Overarching policies that effect all sites. Procedures that reflect individual sites	Separate policies and procedures for each site	
8. Pathology services	Managed by health services and on site at large site. Smaller sites supported by large site. All managed/overseen by single clinical head	Large site manages pathology services with single clinical head. Small sites use different pathology service.	Uses pathology services from other health service or private pathology service

8.1.2 Strategies and approach

Strategies and approaches to optimise the transfusion nurse role in large metropolitan health networks, are set out under the following headings:

1. Governance arrangements
2. Internal support and alignment
3. Transfusion nurse skills and attributes
4. Transfusion nurse role

Table 8-2: Large metropolitan based network transfusion nurse model - Strategies and approaches

	1. Large metropolitan network based transfusion nurse - Strategies and approaches	
1. Governance arrangements	Quality/Risk culture	▪ Quality/Risk Team established as part of executive ▪ Policies consistent across sites ▪ Process to review and alter policies documented ▪ Procedures may differ across sites ▪ Process to review and alter procedures documented and site specific ▪ All forms related to transfusion same across all sites ▪ All service committees report through overarching Quality/Risk committee ▪ Specific reporting for transfusion - may be related to requirements for accreditation.

8. Models of Transfusion Nursing in Victoria

	1. Large metropolitan network based transfusion nurse - Strategies and approaches	
1. Governance arrangements (cont'd)	Transfusion Committee	**Transfusion committee required** Committee should include representative from: ▪ Executive management ▪ Clinicians –Haematology, Oncology, Surgery, Medicine, ICU, Emergency, Anaesthetics ▪ Pathology ▪ Nursing ▪ Quality/Risk Meet at least three monthly Report through Quality/Risk committee Report to end users Committee determines work to be completed by: ▪ transfusion team ▪ transfusion nurse
	Transfusion Team	**Possible – in addition to transfusion committee** May meet to expedite work through committee If established in addition to committee, needs reporting and decision making documented – including reporting through transfusion committee **Team may include:** ▪ Transfusion nurse ▪ Transfusion registrar – Haematology/pathology registrar ▪ Medical champion (possible) ▪ Quality/risk representative (possible)
2. Internal support and alignment	Transfusion nurse	**Yes** Aligned with or part of quality/Risk team
	Medical Champion	**Yes** Needs strong clinical focus – have influence across divisions and sites
	Nursing Champion	**Yes** Needs influence and recognition across sites
	On site Pathology	Pathology data collection and quality/risk programs linked to other health service wide systems.
	Off site / Private Pathology	Risk management systems built into contracts to ensure specific quality/risk processes for: ▪ Policies and procedures related to blood transfusions ▪ Use of forms approved through health service ▪ Data collection and transfer ▪ Quality requirements and reporting including specific incident reporting

8. Models of Transfusion Nursing in Victoria

	1. Large metropolitan network based transfusion nurse - Strategies and approaches	
3. Transfusion nurse attributes	Clinical experience/knowledge	Strong clinical experience including in depth knowledge of transfusion practice Completion of transfusion nurse course
	Management experience	Experience at least at Nurse Unit Manager level. This level of experience helps to ensure that the nurse has an understanding of the 'political' working of health service and is better able to implement the changes in practice that may be required as a part of the transfusion nurse position.
	Change management	Desirable to have had experience in implementing change at an organisational level
	Political awareness	Person with comprehensive understanding of the bureaucracy within the health services and ability to work within this bureaucracy
	Data skills	Nurse needs to have good understanding of data collection methods, analysis and presentation of data
	Education skills	Ability to develop and present education material to all levels of staff
	People skills	Ability to relate to all levels of staff from senior executives to new graduates. Ability to relate to patients from diverse backgrounds.
	Persistence	It is especially important that the transfusion nurse working within a large metropolitan health service has persistence
4. Transfusion Nurse Role	Develop Policies and Procedures	This process should be completed at all large services. Review of policies and procedures should occur on a regular basis and this should be documented within quality program.
	Train staff re policies and procedures	Training includes: ▪ initial training for new policies and procedures ▪ initial training for all new staff ▪ ongoing updates and reminders for staff.
	Collect and report data related to policies and procedures	Data to be collected should be determined by the transfusion committee and state wide programs. Reporting of data to: ▪ Transfusion committee and then to quality/risk committee and/or Board ▪ End users i.e. ward or divisions who are involved in transfusions or transfusion practice ▪ DHS as required Reporting should include benchmark data with other health services.

8. Models of Transfusion Nursing in Victoria

8.2 Model 2 - Metropolitan small or single site

8.2.1 Definition and assumptions

This type of health service includes Northern, Western, St Vincent's and Peter MacCallum. Multiple definitions and assumptions (A, B and C) are identified for this group, rather than a single set of definitions.

Table 8-3: Definitions and assumptions - Model 2 Metropolitan small or single site

	Definitions and Assumptions		
	A	**B**	**C**
1. Location	Greater Metropolitan Melbourne		
2. Hospital sites	Less than three sites and does not include recognised tertiary referral/teaching site	May be single site service including a tertiary referral/teaching site.	
3. Management structure	Governed by Board Single CEO, single DON and Director of medical services responsible across all sites. Divisional heads operate and responsible across all sites	Governed by Board Single CEO. Each site has separate managers reporting to CEO but responsible for all services on their own site. May have overarching Executive DON and Chief medical officer	
4. Transfusions	On average, between 5,000 and 10,000 units of fresh blood per annum		
5. Medical staff	May not have Specialist medical staff including Pathologist and Haematology on staff. May have visiting haematology and/or pathology staff May have medical training programs	May not have specialist services including Cancer services, trauma, vascular and cardiac surgery May have medical training programs	
6. Nursing staff	Includes many specialist services that include specialist nurses. Includes graduate and post graduate training programs.	May include large turnover of staff	
7. Policies	Overarching policies that affect all sites. Procedures that reflect individual sites	Separate policies and procedures for each site	

	Definitions and Assumptions		
	A	**B**	**C**
8. Pathology services	Managed by health services and on site at large site. Smaller sites supported by large site. All managed/overseen by single clinical head	Large site manages pathology services with single clinical head. Small sites use different pathology service.	Uses pathology services from other health service or private pathology service

8.2.2 Strategies and approach

Strategies and approaches to optimise the transfusion nurse role in small or single site metropolitan health services, are set out under the following headings:

1. Governance arrangements
2. Internal support and alignment
3. Transfusion nurse skills and attributes
4. Transfusion nurse role

Table 8-4: Metropolitan small / single site based transfusion nurse model - Strategies and approaches

	2. Metro small / single site based transfusion nurse - Strategies and approaches	
1. Governance arrangements	Quality/Risk culture	▪ Quality/Risk Team established as part of executive ▪ Policies consistent across sites ▪ Process to review and alter policies documented ▪ Procedures may differ across sites ▪ Process to review and alter procedures documented and site specific ▪ All forms related to transfusion same across all sites ▪ All service committees report through overarching Quality/Risk committee ▪ Specific reporting for transfusion - may be related to requirements for accreditation

8. Models of Transfusion Nursing in Victoria

	2. Metro small / single site based transfusion nurse - Strategies and approaches	
1. Governance arrangements continued	Transfusion Committee	**Possible Transfusion Committee - if not see 'Transfusion Team' below** Committee should include representative from: ▪ Executive management ▪ Clinicians –Haematology, Oncology, Surgery, Medicine, ICU, Emergency, Anaesthetics ▪ Pathology ▪ Nursing ▪ Quality/Risk Meet at least three monthly Report through Quality/Risk committee Report to end users Committee determines work to be completed by: ▪ transfusion team ▪ transfusion nurse
	Transfusion Team	**Possible transfusion team – in addition to or instead of transfusion committee** Definite if no Transfusion Committee If established in addition to committee, needs reporting and decision making documented – including reporting through transfusion committee. **If transfusion committee, team should include:** ▪ Transfusion nurse ▪ Transfusion registrar – Haematology/pathology registrar ▪ Medical champion (possible) ▪ Quality/risk representative (possible) **If no transfusion committee :** Reporting through Quality/Risk committee Team may include: ▪ Transfusion nurse ▪ Medical representative - clinical ▪ Nursing representative – clinical ▪ Executive representative ▪ Pathology representative ▪ Quality/risk representative
2. Internal support and alignment	Transfusion nurse	**Yes** Aligned with or part of quality/Risk team
	Medical Champion	**Yes**
	Nursing Champion	**Yes**

8. Models of Transfusion Nursing in Victoria

	2. Metro small / single site based transfusion nurse - Strategies and approaches	
	On site Pathology	Pathology data collection and quality/risk programs linked to other health service wide systems.
	Off site / Private Pathology	Risk management systems built into contracts to ensure specific quality/risk processes for: ▪ Policies and procedures related to blood transfusions ▪ Use of forms approved through health service ▪ Data collection and transfer ▪ Quality requirements and reporting including specific incident reporting
3. Transfusion nurse attributes	Clinical experience/ knowledge	Strong clinical experience including in depth knowledge of transfusion practice Completion of transfusion nurse course
	Management experience	Experience at least at Nurse Unit Manager level. This level of experience helps to ensure that the nurse has an understanding of the 'political' working of health service and is better able to implement the changes in practice that may be required as aprt of the transfusion nurse position.
	Change management	Desirable to have had experience in implementing change at an organisational level
	Political awareness	Person with comprehensive understanding of the bureaucracy within the health services and ability to work within this bureaucracy
	Data skills	Nurse needs to have good understanding of data collection methods, analysis and presentation of data
	Education skills	Ability to develop and present education material to all levels of staff
	People skills	Ability to relate to all levels of staff from senior executives to new graduates. Ability to relate to patients from diverse backgrounds.
	Persistence	Important quality
4. Transfusion Nurse Role	Develop Policies and Procedures	This process may already be completed at all these services. Review of policies and procedures should occur on a regular basis and this should be documented within the quality program.
	Train staff re policies and procedures	Training includes: ▪ initial training for new policies and procedures ▪ initial training for all new staff ▪ ongoing updates and reminders for staff.
	Collect and report data related to policies and procedures	Data to be collected should be determined by the transfusion committee or team and state wide programs. Reporting of data to: ▪ transfusion committee and/or then to quality/risk committee and/or Board ▪ End users i.e. ward or divisions who are involved in transfusions or transfusion practice ▪ DHS as required Reporting should include benchmark data with other health services.

8. Models of Transfusion Nursing in Victoria

8.3 Model 3 - Regional network

8.3.1 Definition and assumptions

This type of health service includes Barwon Health and Bendigo Health. Multiple definitions and assumptions (A, B and C) are identified for this group, rather than a single set of definitions. Typically such networks provide support to smaller rural services.

Table 8-5: Definitions and assumptions - Model 3 Regional network

	Definitions and Assumptions		
	A	**B**	**C**
1. Location	Large regional centres		
2. Hospital sites	May have several sites	May be single site	
3. Management structure	Governed by Board Single CEO, single DON and Director of medical services responsible across all sites. Divisional heads operate and responsible across all sites	Governed by Board Single CEO. Each site has separate managers reporting to CEO but responsible for all services on their own site. May have overarching Executive DON and Chief medical officer	May have established connections and partnerships with other smaller services in region
4. Transfusions	Less than 10,000 units of fresh blood per annum		
5. Medical staff	May have Specialist medical staff including Pathologist and Haematology on staff. May have visiting haematology and/or pathology staff May have medical training programs	May not have specialist services including Cancer services, trauma, vascular and cardiac surgery May have medical training programs	
6. Nursing staff	Includes many specialist services that include specialist nurses. Includes graduate and post graduate training programs.	May include large turnover of staff	
7. Policies	Overarching policies that affect all sites. Procedures that reflect individual sites	Separate policies and procedures for each site	

	Definitions and Assumptions		
	A	B	C
8. Pathology services	Managed by health service and on site at large site. Smaller sites supported by large site. All managed/overseen by single clinical head	Large site manages pathology services with single clinical head. Small sites use different pathology service.	Uses pathology services from other health service or private pathology service

8.3.2 Strategies and approach

Strategies and approaches to optimise the transfusion nurse role in regional health networks are set out under the following headings:

1. Governance arrangements
2. Internal support and alignment
3. Transfusion nurse skills and attributes
4. Transfusion nurse role.

Table 8-6: Regional network based transfusion nurse model - Strategies and approaches

	3. Regional network based transfusion nurse - Strategies and approaches	
1. Governance arrangements	Quality/Risk culture	▪ Quality/Risk Team established as part of executive ▪ Policies consistent across sites ▪ Process to review and alter policies documented ▪ Procedures may differ across sites ▪ Process to review and alter procedures documented and site specific ▪ All forms related to transfusion same across all sites ▪ All service committees report through overarching Quality/Risk committee ▪ Specific reporting for transfusion - may be related to requirements for accreditation

8. Models of Transfusion Nursing in Victoria

	3. Regional network based transfusion nurse - Strategies and approaches	
1. Governance arrangements continued	Transfusion Committee	**Possible Transfusion Committee - if not see 'Transfusion Team' below** Committee should include representative from: ▪ Executive management ▪ Clinicians –Haematology, Oncology, Surgery, Medicine, ICU, Emergency, Anaesthetics ▪ Pathology ▪ Nursing ▪ Quality/Risk Meet at least three monthly Report through Quality/Risk committee Report to end users Committee determines work to be completed by: ▪ transfusion team ▪ transfusion nurse
	Transfusion Team	**Possible transfusion team – in addition to or instead of transfusion committee** Definite transfusion team if no transfusion committee If established in addition to committee, needs reporting and decision making documented – including reporting through transfusion committee. **If transfusion committee, team should include:** ▪ Transfusion nurse ▪ Transfusion registrar – Haematology/pathology registrar ▪ Medical champion (possible) ▪ Quality/risk representative (possible) **If no transfusion committee :** Reporting through Quality/Risk committee Team may include: ▪ Transfusion nurse ▪ Medical representative - clinical ▪ Nursing representative – clinical ▪ Executive representative ▪ Pathology representative ▪ Quality/risk representative
2. Internal support and alignment	Transfusion nurse	**Yes** Aligned with or part of quality/Risk team
	Medical Champion	**Yes**
	Nursing Champion	**Yes**

8. Models of Transfusion Nursing in Victoria

	3. Regional network based transfusion nurse - Strategies and approaches	
	On site Pathology	Pathology data collection and quality/risk programs linked to other health service wide systems.
	Off site / Private Pathology	Risk management systems built into contracts to ensure specific quality/risk processes for: ▪ Policies and procedures related to blood transfusions ▪ Use of forms approved through health service ▪ Data collection and transfer ▪ Quality requirements and reporting including specific incident reporting.
3. Transfusion nurse attributes	Clinical experience/ knowledge	Strong clinical experience including in depth knowledge of transfusion practice Completion of transfusion nurse course
	Management experience	Experience at least at Nurse Unit Manager level. This level of experience helps to ensure that the nurse has an understanding of the 'political' working of health service and is better able to implement the changes in practice that may be required as aprt of the transfusion nurse position.
	Change management	Desirable to have had experience in implementing change at an organisational level
	Political awareness	Person with comprehensive understanding of the bureaucracy within the health services and ability to work within this bureaucracy
	Data skills	Nurse needs to have good understanding of data collection methods, analysis and presentation of data
	Education skills	Ability to develop and present education material to all levels of staff
	People skills	Ability to relate to all levels of staff from senior executives to new graduates. Ability to relate to patients from diverse backgrounds.
	Persistence	Useful quality
4. Transfusion Nurse Role	Develop Policies and Procedures	This process may already be completed at all these services. Review of policies and procedures should occur on a regular basis and this should be documented within the quality program.
	Train staff re policies and procedures	Training includes: ▪ initial training for new policies and procedures ▪ initial training for all new staff ▪ ongoing updates and reminders for staff. Regional services may be called on to support smaller rural hospitals
	Collect and report data related to policies and procedures	Data to be collected should be determined by the transfusion committee or team and state wide programs. Reporting of data to: ▪ transfusion committee and/or then to quality/risk committee and/or Board ▪ End users i.e. ward or divisions who are involved in transfusions or transfusion practice ▪ DHS as required.

	3. Regional network based transfusion nurse - Strategies and approaches	
		Reporting should include benchmark data with other health services. Regional service may be called on to support smaller hospitals in determining data to be collected.

8.4 Model 4 - Rural health service

8.4.1 Definition and assumptions

This type of health service includes Alpine Health and Otway Health and Community Services. Multiple definitions and assumptions (A, B and C) are identified for this group, rather than a single set of definitions. Typically, such services receive support or are aligned with larger regional networks.

Table 8-7: Definitions and assumptions - Model 4 Rural health service

	Definitions and Assumptions		
	A	**B**	**C**
1. Location	Rural centres		
2. Hospital sites	May have several sites	May be single site	
3. Management structure	Governed by Board Single CEO, single DON and Director of medical services responsible across all sites. Divisional heads operate and responsible across all sites	Governed by Board Single CEO. Each site has separate managers reporting to CEO but responsible for all services on their own site. May have overarching Executive DON and Chief medical officer	May have established connections and partnerships with larger or smaller services in region
4. Transfusions	Limited blood transfusion per annum		
5. Medical staff	May only have visiting specialist medical staff. Unlikely to have visiting haematology/pathology specialists	No medical training places	
6. Nursing staff	May have limited specialist nurses. May have graduate nurse program.		
7. Policies	Overarching policies that affect all sites. Procedures that reflect individual sites	Separate policies and procedures for each site	

	Definitions and Assumptions		
	A	**B**	**C**
8. Pathology services	Uses pathology services from other health service or private pathology service		

8.4.2 Strategies and approach

Strategies and approaches to optimise the transfusion nurse role in rural health services are set out under the following headings:

1. Governance arrangements
2. Internal support and alignment
3. Transfusion nurse skills and attributes
4. Transfusion nurse role.

Table 8-8: Rural health service based transfusion nurse model - Strategies and approaches

		4. Rural based transfusion nurse - Strategies and approaches
1. Governance arrangements	Quality/Risk culture	▪ Quality/Risk part of executive ▪ Process to develop and review policies and procedures ▪ Transfusion policies and procedures linked to regional health service or to other health service where they share a single pathology provider ▪ Forms related to transfusion - same as regional health service or same as other health service where they share a single pathology provider ▪ Specific reporting of transfusion practice direct to executive - this may be necessary to address requirements for accreditation
	Transfusion Committee	**Not justified based on size of organisation and number of transfusions completed - see Transfusion Team below**
	Transfusion Team	**Transfusion Team** Should meet at least six monthly Should be required to report to clinical review committee or risk/quality committee if present. If no relevant committee is in in place, reporting should be required to the executive. **Team should include:** ▪ Executive management ▪ Medical representative ▪ Nursing representative ▪ Pathology representative ▪ Possible regional TN or representative

8. Models of Transfusion Nursing in Victoria

	4. Rural based transfusion nurse - Strategies and approaches	
2. Internal support and alignment	Transfusion nurse	**Possible part time; share with other services** Likely transfusion nurse role could be included as part of other specialised nurse role i.e. Nurse Educator, Infection Control, Quality. Aligned with or part of quality/Risk team or hospital executive
	Medical Champion	**Yes**
	Nursing Champion	**Yes**
	On site Pathology	Pathology data collection and quality/risk programs linked to other health service wide systems.
	Off site / Private Pathology	Risk management systems built into contracts to ensure specific quality/risk processes for: ▪ Policies and procedures related to blood transfusions ▪ Use of forms approved through health service ▪ Data collection and transfer ▪ Quality requirements and reporting including specific incident reporting
3. Transfusion nurse attributes	Clinical experience/ knowledge	Strong clinical experience including in depth knowledge of transfusion practice Completion of transfusion nurse course
	Management experience	Experience at Nurse Unit Manager level or equivalent
	Change management	Desirable to have had experience in implementing change at an organisational level
	Political awareness	Person with good understanding of the hospital, management and communication systems
	Data skills	Nurse needs to have good understanding of data collection methods, analysis and presentation of data
	Education skills	Ability to develop and present education material to all levels of staff
	People skills	Ability to relate to all levels of staff from senior executives to new graduates. Ability to relate to patients from diverse backgrounds.
	Persistence	Useful quality
4. Transfusion Nurse Role	Develop Policies and Procedures	If not already completed, transfusion nurse should be assisted by the transfusion team to develop initial policies and procedures. Liaison with the regional service to enable consistency.
	Train staff re policies and procedures	Training includes: ▪ initial training for new policies and procedures ▪ initial training for all new staff ▪ ongoing updates and reminders for staff. Support may be drawn from regional health services - for example contact and linkages made with transfusion nurse and/or transfusion teams at Regional centres

	4. Rural based transfusion nurse - Strategies and approaches	
		for advice and for support with policy and procedure development, specific issue or individual cases.
	Collect and report data related to policies and procedures	Data to be collected should be determined by the transfusion team or hospital executive and state wide programs. Thought should be given to liaison regional services for assistance re data collection Reporting of data to: ▪ transfusion team and/or then to hospital executive and/or Board ▪ End users i.e. ward or divisions who are involved in transfusions or transfusion practice ▪ DHS as required May consider reporting benchmark data with other health services.

AUSTRALIAN HEALTHCARE ASSOCIATES

APPENDIX A

Appendix A: People and Organisations Consulted

APPENDIX A – PEOPLE AND ORGANISATIONS CONSULTED

This appendix provides information about the consultation program conducted as part of this research project.

A comprehensive consultation program was used to obtain detailed insight regarding the role and effectiveness of transfusion nurses in Victoria, and regarding other related initiatives across Australia. Methods of consultation included:

- workshop of transfusion nurses
- survey questionnaire of transfusion nurses
- structured face-to-face and telephone interviews.

A range of people and organisations were consulted, including:

- all funded transfusion nurses in Victoria
- funded health services - including medical, nursing, quality and laboratory staff, and Transfusion Committee members
- State and Territory governments
- BeST Advisory Committee members
- Australian Red Cross Blood Service
- Royal College of Nursing
- National Blood Authority.

Detail of the people and organisations consulted are provided in this appendix as follows:

- A1 - Transfusion Nurses and Health Services
- A2 - Other Stakeholders.

A1 - Transfusion Nurses and Health Services

NAME	POSITION / ROLE
Austin Health	
Slavica Curcic	Transfusion Nurse
Dr Carole Smith	Haematologist / Transfusion Committee Chairperson
Alicon Bennie	Acting Director Clinical Governance
Anne-Marie Keenan	Director of Nursing
Ballarat Health Service	
Wendy McLeod	Transfusion Nurse
Barwon Health	
Lisa Stevenson	Transfusion Nurse / BeST
Jo Bourke	Clinical Risk Manager

Appendix A: People and Organisations Consulted

NAME	POSITION / ROLE
Helen Campbell	Clinical Nurse Consultant
Dr Phillip Campbell	Haematologist / Transfusion Committee Chairperson
Kellie Conners	Blood Bank Senior Scientist
Bayside Health	
Christine Akers	Transfusion Nurse
Bendigo Health	
Meryanda Jodoin	Transfusion Nurse
Goulburn Valley Health	
Sharon Bover	Transfusion Nurse
Eastern Health	
Claire Gray	Transfusion Nurse
Jigi Lucas	Quality Manager
Dr Sukanya Roy	Haematologist / Transfusion Committee member
Marilyn Garnham	Senior Scientist / Transfusion Committee member
Andrea McCance	Director of Nursing
Dr David Beilby	Director of Anaesthesia / Transfusion Committee Chairperson
Melbourne Health	
Cindy Hawkins	Transfusion Committee member
Dr Chris Hogan	Haematologist / Transfusion Committee Chairperson / BeST
Teresa Williamson	Quality / Transfusion Committee member
Northern Health	
Aurelia Magat	Transfusion Nurse
Christine Lamotte	Director of Nursing / Transfusion Committee member
Peter MacCallum Cancer Centre	
Casilda Cannon	Transfusion Nurse
Nancy Messino	Pathology Quality Officer
Prof Miles Prince	Transfusion Committee member / BeST
Filomena Ciavarella	Clinical Risk Manager
Dr Neil Came	Haematopathologist / Transfusion Committee member
Peninsula Health	
Maree Ryan	Transfusion Nurse
Humsha Naidoo	Quality / Transfusion Committee member
Sally Edgely	Senior Blood Bank Scientist / Transfusion Committee member

Appendix A: People and Organisations Consulted

NAME	POSITION / ROLE
Royal Children's Hospital and Royal Women's Hospital	
Selina Northover	Transfusion Nurse
Southern Health	
Julie Domanski	Transfusion Nurse
Joanne Moorfoot	Quality Manager
Kym Forest	Director of Nursing / Transfusion Committee member
St Vincent's Health	
Danielle Hedley	Transfusion Nurse
Mary Gaskell	Blood Bank Scientist
Western Health	
Susan McGregor	Transfusion Nurse
Claire Sheridan	Surgical Quality Manager
Dr Chris Hogan	Haematologist / Transfusion Committee Chairperson / BeST

Appendix A2 - Other Stakeholders

NAME	*POSITION / ROLE*
Department of Human Services (Victoria)	
Ashley Eccles	Program Advisor, Blood and Organ Donation
Australian Red Cross Blood Service	
Karen Botting	BeST / Quality Improvement Unit, DHS
A/Prof Neil Boyce	Transfusion Medicine Specialist
Beverleigh Quested	Transfusion Nurse Specialist, Adelaide
Royal College of Nursing Australia	
Elizabeth Foley	Director of Nursing Policy
National Blood Authority	
Jennifer Roberts	Director, Blood Counts
Department of Health (South Australia)	
Sue Ireland	Manager Blood, Organ & Tissue Programs
Queensland Health	
Simon Brown	Clinical Advisor / Consultant Haematologist
NSW Health	
Bill Heiler	Associate Director, Population Health

Appendix A: People and Organisations Consulted

NAME	POSITION / ROLE
North West Regional Hospital, Bernie, Tasmania	
Leeanne Turner	Transfusion Nurse
Royal Perth Hospital, Western Australia	
Annie McNae	Transfusion Nurse

AUSTRALIAN HEALTHCARE ASSOCIATES

APPENDIX B

Transfusion Nurse Survey

The purpose of this survey is to examine the current role and activities of transfusion nurses (TNs) in Victoria. The survey is part of a broad evaluation of the role of TNs, details of which have been provided to all TNs. The survey information will be used to develop ways to better support your role in improving transfusion practices in Victoria.

This survey contains six sections as follows:

A. General information
B. Activity analysis
C. Time spent for each activity
D. Structure and support
E. What worked /did not work
F. Future improvements.

If you have any queries or concerns, or would like to discuss any questions please contact:

- Richard Stock or Norma Currie (03 9663 1950) at Australian Healthcare Associates (the research consultants)
- Lisa Stevenson or Karen Botting (03 9096 0476) at the Department of Human Services.

This form is designed to be completed electronically – each box will expand as you write.

A. GENERAL INFORMATION

Your name	
Health service name	
Number of different hospital sites covered	
Approximate number of transfusions per year across all sites	

Average hours worked per week		
Role	**Hours per week**	**Comments**
Transfusion Nurse		
Any other employment		

B. ACTIVITY ANALYSIS

This section asks about your activities, who you work with, the support you receive and the results achieved. Questions relate to each of the following activities:

1. Staff information, training and education
2. Patient information
3. Develop/ introduce policies, protocols, procedures, guidelines
4. Develop and conduct audits and data collection, e.g. transfusion events
5. Developing processes, monitoring and managing errors and adverse events
6. Liaison between laboratories and clinical areas
7. Answer resource questions and queries
8. New initiatives
9. Other.

Transfusion Nurse Survey

For the survey to be useful, it is important that your response reflects what you actually do, rather than what you feel you should or would like to do.

1. Staff information, training and education

a. Describe your activities related to staff information, training and education.
Include all activities, i.e. formal/informal training sessions, development of training/educational material, newsletters, web sites, etc. Describe each activity separately.

b. Identify the number of training sessions conducted over the past year
e.g. nursing; medical (interns etc); laboratory; orderlies.

Group Trained	Number (year)	Describe / comment

c. Who do you work with to develop and/or deliver training and information?

d. Who do you consult with to develop material?
e.g. BeST, DHS, other transfusion nurses, internet, transfusion committee members.

e. Does your developed material include programs that can be delivered by others?
e.g. train the trainer, self directed learning packages. Please describe.

f. Describe how you receive feedback from participants regarding training sessions and material
e.g. post training feedback forms, post training tests.

g. What have been the results? What programs sessions appear to have delivered the best results and/or most positive feedback? Why have these been successful?
What has not worked or has been less successful, and why?

2. Patient information

a. Describe the activities you have undertaken in relation to providing information to patients.

b. How do you promote patient information?

c. How do you promote patient consent?

d. Describe any assistance or support you receive in these activities, i.e. what and from whom?

e. What have been the results?
What activities appear to have delivered the best results and/or most positive feedback? Why have these been successful? What has not worked or has been less successful, and why?

3. Develop/ introduce policies, protocols, procedures, guidelines

a. Describe/list the policies, protocols, procedures, guidelines you have been involved in developing.

b. Describe the process for implementing new policies etc in your institution, i.e. what committees or individuals do you work/liaise with?

c. Describe the support/assistance given by others within transfusion team/committee in this role.

d. What have been the results? What new policies etc. appear to have delivered the best results and/or most positive feedback? Why have these been successful? What has not worked or has been less successful, and why?

4. Develop and conduct audits and data collection

a. List and describe the audits **developed** in the last year

b. Describe/list the audits conducted in the last year

Describe / comment	Number (year)

c. Which of the audits (listed above) are planned to be repeated regularly? Which are to be 'one off' for a specific purpose?

d. Who provides you with direction or support in regard to audit development and conduct? – e.g. transfusion committee, quality committee, BeST, DHS. Please describe.

e. Who conducts the audits?

f. Describe the audit results that have created the most feedback and were the most successful. Where and who did you receive the feedback from? Why were these results of such interest?

g. Describe the audits that have not worked or have been less successful. Why was this?

h. Describe any other data collection you are involved with. Include who you collect data for and how it is used.

5. Developing processes, monitoring and managing errors and adverse events

a. Describe how transfusion errors or adverse events are reported and managed in your health service.

b. Describe your role in relation to transfusion errors and adverse events.

c. What have been the results? What activities appear to have delivered the best results and/or most positive feedback? Why have these been successful?

d. What has not worked or has been less successful, and why?

6. Liaison between laboratories and clinical areas

a. Describe the role you have in liaison between laboratories and clinical areas, include general wards, special areas (ICU, ED) and theatres.

b. Describe your role in liaison between:

- laboratories and nursing staff
- laboratories and medical staff
- nursing staff and medical staff.

c. What have been the results? What activities appear to have delivered the best results and/or most positive feedback? Why have these been successful?
What has not worked or has been less successful, and why?

7. Answer resource questions and queries

a. Describe the types and number of resource questions and queries you receive.

b. Which group contacts you the most ? – nursing staff, medical staff, laboratories.

c. What have you introduced to manage the number of resource questions and queries?
Which strategy has produced the best results – please describe.
What has not worked or has been less successful, and why?

8. New initiatives

a. Describe any new initiatives that may have come out of your work, e.g. research projects, quality improvement projects.

b. Describe your role in the above new initiatives.

c. What have been the results? What activities appear to have delivered the best results and/or most positive feedback? Why have these been successful?
What has not worked or has been less successful, and why?

9. Other activities

a. Describe any other activities that you are involved in, in your role as a transfusion nurse.

b. What have been the results? What activities appear to have delivered the best results and/or most positive feedback? Why have these been successful?
What has not worked or has been less successful, and why?

C. TIME SPENT FOR EACH ACTIVITY

1. Please estimate the percentage of your total work time as a transfusion nurse, which is spent on each of the tasks described – and enter in the table below.
   - The tasks are those referred to in the previous section - B. Activity Analysis.
   - Please add additional tasks to the list as necessary, to reflect all of your transfusion nurse work.

For the survey to be useful, it is important that your response reflects what you actually do, rather than what you feel you should or would like to do.

Task	% of Time	Comment
1. Staff information, training and education		
2. Patient information		
3. Develop/ introduce policies, protocols, procedures, guidelines		
4. Develop and conduct audits and data collection, e.g. transfusion events		
5. Developing processes, monitoring and managing errors and adverse events		
6. Liaison between laboratories and clinical areas		
7. Answer resource questions and queries		
8. New initiatives		
9.		
10.		
11.		
12.		
TOTAL	**100%**	

2. Overall, would you describe your role as mostly '**doing**' tasks or more about '**co-ordinating**' others to do tasks.
   Please tick one of the following boxes to rate your work on a scale of 1 to 5, from :

   1 My work is mostly *task focused*; to

   5 My work mostly involves *co-ordinating and organising others*.

1	2	3	4	5.
☐	☐	☐	☐	☐

task focused co-ordinating others

D. STRUCTURE AND SUPPORT

1. Who do you directly report to, how often and what form does this take? Describe the main person or group to whom you report, what information you report and how this is used.

2. Does your direct report take a strong interest in what you do and provide you with assistance and support. Please tick one of the following boxes to rate the level of interest and support you receive on a scale of 1 to 5; from 1 (very supportive) to 5 (not supportive).

1	2	3	4	5
☐	☐	☐	☐	☐

very supportive not supportive

3. Please comment on the above rating.

4. Which other people or groups do you report to, how often and what form does this take? Describe the other persons or group to whom you report, what information you report and how this is used.

5. If your direct reports do not include a senior nurse, do you have regular contact with a senior nurse or professional mentor? Please describe.

6. Describe your contact / relationship with other nursing specialists, i.e. infection control; educators. Identify the nature of the contact and how it supports or aids your role.

7. Describe your contact/relationship with others in the health service i.e. project officers, researchers. Include the nature of the contact and how it supports/aids your role or position.

8. Do you report to a Transfusion Committee or equivalent?
   If yes, please describe its membership, how often it convenes and your role.

9. Does the Transfusion Committee take a strong **interest** in what you do?
   Please tick one of the following boxes to rate the level of interest on a scale of 1 to 5 - from 1 (very interested) to 5 (little interest).

1	2	3	4	5
☐	☐	☐	☐	☐

very interested not interested

10. Does the Transfusion Committee provide you with **practical assistance and support**?
    Please tick one of the following boxes to rate the level of support you receive on a scale of 1 to 5 - from 1 (very supportive) to 5 (little support/interest).

1	2	3	4	5
☐	☐	☐	☐	☐

very supportive not supportive

11. Please comment on the ratings for the above questions D9 and D10.

12. Do you report to any other committees or groups within the health service?
    If yes, please describe their purpose, membership, how often they convene and your role.

13. Do you have access to a cost centre? Please describe.

14. Describe any administrative support you receive include type of support and hours of support, i.e. typing, photocopying, statistical analysis

15. How would you rate the profile of the Transfusion Nurse role within the health service?
How is it regarded – as important or of little importance?
Please tick one of the following boxes to rate the profile on a scale of 1 to 5 - from 1 (high profile and highly regarded) to 5 (low profile and little regard).

1	2	3	4	5
☐	☐	☐	☐	☐

high profile/regard low profile/regard

16. Please comment on the above rating.

E. WHAT WORKED /DID NOT WORK

Please describe any aspects of your role which have:

1. **Improved transfusion practice within your health service.**
Describe the strategies/programs that have worked well. Why do you think they have worked well? Describe the evidence which indicates that they worked well.

2. **Not been successful in improving practice.**
Describe the strategies/programs that have not worked well. Why do you think they have not worked well? Describe the evidence which indicates that they have not worked well? How could this be addressed or improved

F. FUTURE IMPROVEMENTS

1. Please describe any suggestions for future improvement. Think broadly about how to improve:
   - the effectiveness of your role, e.g. supports, reporting structures, access to information/resources.
   - transfusions practice more broadly, e.g. achievable through BeST, DHS other professional bodies.

2. As part of this review, we plan to talk to your health service to discuss how to improve transfusion practices and better support your role. Can you suggest who we might talk with at your health service? Please provide their name and contact details below.

Role	Name and position	Contact phone number or email
Transfusion Committee member		
Quality / risk manager		
Other		

Please direct your completed survey or any questions to:

Richard Stock or Norma Currie, Australian Healthcare Associates
Telephone 03 9663 1950; Email: richard.stock@ahaconsulting.com.au
Post: PO Box 1108. Carlton. Vic 3053

AUSTRALIAN HEALTHCARE ASSOCIATES

APPENDIX C

Appendix C: Bibliography

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