

**Examining the need for
professional development
stand alone modules in
haemovigilance**

National Haemovigilance Office
At the Irish Blood Transfusion Service,
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Executive Summary

The partnership between the National Haemovigilance Office (NHO) at the Irish Blood Transfusion Service (IBTS) and Dublin City University (DCU) has enabled the provision of stand-alone professional development modules in blood transfusion and haemovigilance since 2004. This reports presents findings of a national survey which sought to identify potential demand for and benefits of degree level haemovigilance modules and training needs for haemovigilance staff.

Fifty nine percent of respondents were haemovigilance officers in a hospital setting. Responses were received from professional groups who had both previously undertaken the modules and those who had not. The positive impact of the modules for transfusion practice was highlighted. Future development of the modules should target both clinical and haemovigilance practitioners.

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Background

The initial partnership between the National Haemovigilance Office (NHO) at the Irish Blood Transfusion Service (IBTS) and Dublin City University (DCU) commenced in 2004 with the development and provision of two stand-alone Level 8 (5 Credit) haemovigilance modules (NS469 and NS470). These modules were aimed at newly appointed haemovigilance practitioners, principally nurses. These modules were very successful, well attended and positively evaluated. Module evaluations revealed a demand for greater professional development to enable career and academic progression for participants.

In 2008 a proposal to improve the breadth and depth of the available 5 credit modules by upgrading to 10 credits, along with development of another 10 credit module was approved by the Faculty Teaching Committee at the Faculty of Science and Health at DCU. The new modules (NS 447, NS 448 and NS 449) targeted not only clinical and haemovigilance practitioners (i.e. both nurses and medical scientists) but also sought to meet training requirements of practitioners working in blood donation (Irish Blood Transfusion Service). These modules were delivered for two academic years, and were positively evaluated.

In 2011, applications for these modules had reduced. Although the modules were very positively evaluated by participants, it was unclear why applications had reduced. While undoubtedly funding restrictions at service level were likely to be an issue, it was necessary at this time to gauge if sufficient interest existed at both hospital and blood donation service level to make delivery of these modules feasible. On this basis a decision was taken to undertake a national survey to assess if there is still a requirement for professional development haemovigilance modules and to identify specific training needs of the core haemovigilance staff.

Objectives of this survey

1. To identify potential demand for degree level haemovigilance modules
2. To identify the potential benefits of degree level haemovigilance modules
3. To identify training requirements of haemovigilance staff

Survey methods

A questionnaire was developed which sought information on

- Demographics including professional and education background
- Participation in previous haemovigilance modules
- Reasons for non-participation in haemovigilance modules
- Future development of haemovigilance modules.

See Appendix 1 for a copy of the questionnaire. This questionnaire was peer reviewed and included review by course co-ordinators at both the NHO and DCU.

The survey was uploaded to Survey Monkey (<http://www.surveymonkey.com/>). The IBTS has a licence to use this software for research purposes. The survey link was distributed by electronic mail to practitioners in hospitals and in the IBTS.

Respondents logged onto this link to answer the questionnaire. This survey was distributed to several distribution lists available to the survey coordination both at the NHO and IBTS. Respondents also had an option to complete the questionnaire and return it to the survey co-ordinator. Reminders were generated at beginning of each week of duration of survey and emailed to names on distribution list.

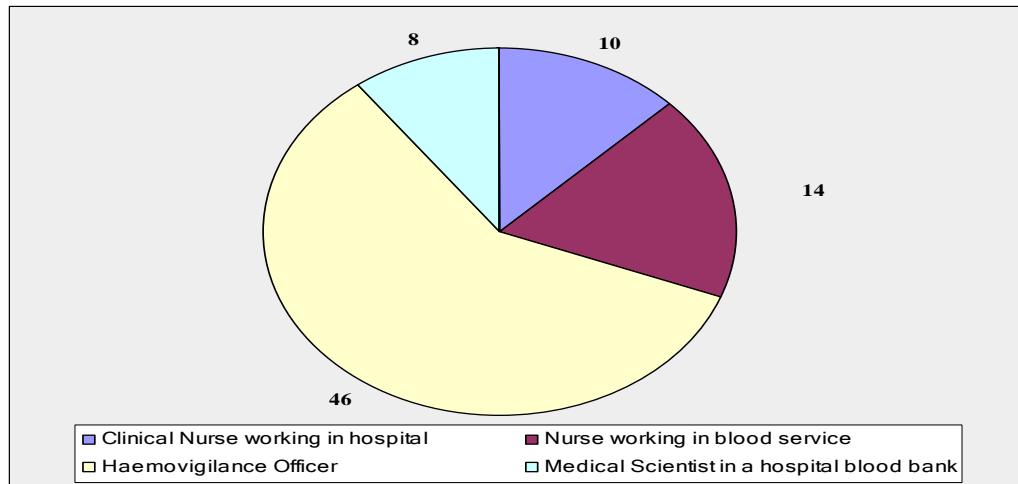
Data was collected 05th April 2011- 26th April 2011. Participation in this study was entirely voluntary. Complete anonymity was guaranteed, as there were no identifiers on the questionnaire.

Findings

Seventy eight people responded to this questionnaire. All respondents used the survey –monkey web log-on method. No respondent completed the questionnaire and manually returned it.

Background of survey respondents

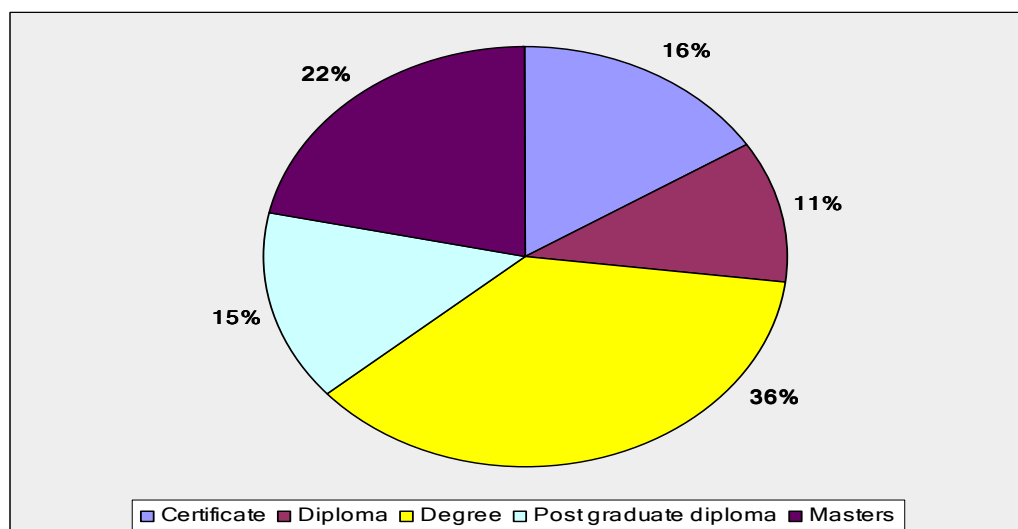
Figure 1: Professional background of respondents N=78



Forty-six respondents were haemovigilance officers (HVOs). Twenty four were nurses, 14 of whom worked in blood donation practice (namely the Irish Blood Transfusion Service) and 10 from hospitals.

Eight medical scientists responded, and all worked in the hospital transfusion laboratory. No medical scientist working in blood donation practice responded.

Figure 2: Highest education award attained by respondents.



Seventy four respondents answered and four respondents skipped this question. Twenty seven respondents had completed degree level education, and this was the largest category. Twenty six respondents had completed further post-graduate studies. Several respondents commented on other personal education achievements; “have done several Diplomas over 10 years ago”, “health service management”.

While 38 respondents had previously completed the haemovigilance modules at Dublin City University, 40 had not, thereby almost equally dividing the response rate. Responses were further analysed to identify professional background of respondents who had both completed and not completed the modules (Table 1).

Table 1: Cross –tabulation of professional background of respondents against completion of haemovigilance modules N=78

Professional background	Yes	No
Clinical Nurse working in hospital	5	5
Nurse working in the blood service	3	11
Haemovigilance Officer	30	16
Medical scientist in the hospital blood bank	0	8

Respondents who had undertaken these modules were pre-dominantly either haemovigilance officers (most likely nurses) or nurses in the clinical area. No medical scientist had undertaken the modules.

Reasons for undertaking the modules

The following four questions were opened to respondents who had previously completed the haemovigilance modules, therefore only 38 respondents were eligible to answer these questions. Respondents were asked which modules they had completed.

The first iteration of the haemovigilance modules (NS 469, NS 470) was delivered between 2005-2007. Following review in 2007, three new modules (NS 447, NS 448, NS 449) were delivered in 2008-2010.

Table 2: Modules completed by respondents N=38

Module Title /Years	N
NS 469 Understanding and management of blood transfusion in a haemovigilance context 2005-2007	20
NS 470 Haemovigilance /Blood transfusion nursing 2005-2007	23
NS 447 Blood donation and transfusion 2008-2010	16
NS 448 Haemovigilance practice 2008-2010	13
NS 449 Professional development for specialist practitioners 2008-2010	12

Between 20-23 respondents completed the modules between 2005-2007 and between 12-16 respondents completed the later modules.

Thirty five (92%) respondents reported the modules had impacted on their practices, while one (3%) respondent reported no impact and a further two (5%) respondents did not know if the modules had impacted on their practice. Twenty nine respondents described the “impact” and this is summarised in Table 3. Seven respondents did not answer this question.

Table 3: The “impact” of haemovigilance modules on respondents’ practices N=29

Impact	N	%
Improved knowledge and understanding of blood transfusion and haemovigilance ¹ .	23	79
Developed respondent for haemovigilance role	3	10
No impact on practice; lot of repetition, expensive,	2	7
Networking and sharing of practices	1	3

¹Ten respondents identified specific areas of practice e.g. audit, adverse event analysis

Respondents were asked to select the subject area they believed was most beneficial to their individual practice. All 38 respondents who had completed the modules answered this question.

Table 4: Subject areas which respondents found most beneficial N=38

Subject areas	Response Count	Response Percent
Haemovigilance and transfusion medicine subjects e.g. anatomy and physiology, adverse reactions and events	15	39.5%
Blood donation subject areas e.g. blood donation process, recruitment and retention of donors	3	7.9%
Professional development e.g. audit, root cause analysis, inter professional working	20	52.6%

Over 50 % of respondents choose the subject area termed “professional development” as being most beneficial to their practice.

Reasons for not undertaking the modules.

Respondents were asked why they had not completed stand alone haemovigilance modules. While this question was open to 40 respondents, only 35 responses were analysed. These findings are summarised in Table 5.

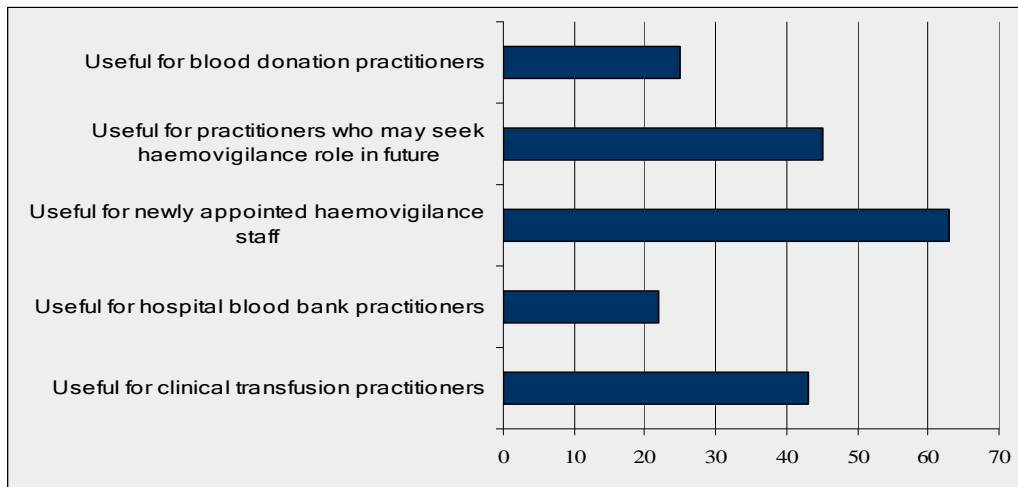
Table 5: Reasons that stand alone haemovigilance modules undertaken N=35

Reasons modules not undertaken	Response Count
No academic award available	3
Never aware of the modules	3
Not aimed at my practice in the laboratory	4
Not aimed at my practice in blood donation	1
Other (please specify) <ul style="list-style-type: none"> • Staff, financial and time (6) • Modules cancelled in 2010 (4) • Lack of a specific award for respondents who had already educational awards (6) • Location of DCU not suitable (2) • Planning to compete modules (1) • Health reasons (1) • Did not need it (1) • No reason (3) 	24

Future of the modules.

The final three questions were open to all survey respondents. Respondents were asked who would benefit from ongoing delivery of stand alone haemovigilance modules. The findings are summarised in Figure 3. Respondents had an opportunity to select multiple options. Sixty eight respondents answered this question

Figure 3: Who would benefit from degree level stand alone haemovigilance modules? N=68



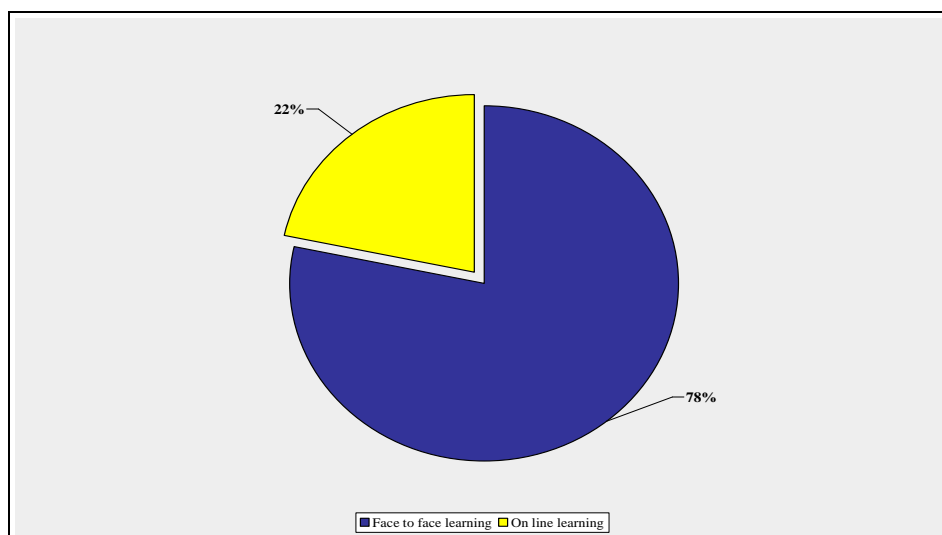
Respondents felt these modules will continue to benefit haemovigilance officers (93%), practitioners seeking a haemovigilance post (66%) and clinical transfusion practitioners (63%).

Only 36% of respondents believed that blood donation practitioners and 32% of respondents felt that hospital blood bank practitioners would benefit from the modules.

Further analysis and cross tabulation between professional background of respondents and respondents identification of professional groups who may benefit from undertaking the modules revealed that all four categories of respondents recommended that haemovigilance officers, practitioners seeking a haemovigilance post and clinical transfusion practitioners would benefit from undertaking professional development modules. Five medical scientists responded to this question, but failed to identify any benefit for their peers from these modules. A majority of nurses working in blood donation who responded to the survey (81%) identified benefits for their peers from completing the modules.

Respondents were asked which type of delivery of the modules was most suited to the modules. Fifty nine responses were recorded to this question. The findings are presented in Figure 4.

Figure 4: Method of delivery of modules N= 59



Twenty eight respondents took the opportunity to comment on the mode of delivery of the modules.

- Sixteen respondents commented on the advantages of face to face delivery for opportunities for interaction with both peers and lecturers, opportunities to network and learn from others, and in terms of developing a professional network.
- Four respondents commented on the advantages of on-line learning in terms of minimising difficulties in staffing and lack of funding and travel.
- Three respondents favoured a combination of both face to face and online learning.
- The comments of five respondents were unclear to the survey co-ordinator.

Respondents were asked which three subject areas should be included in the modules. Forty – nine respondents answered this question. The complete response is included in Appendix 2. Table 6 presents the most frequently cited subject areas by respondents.

Table 6: Subject areas which should be covered in future modules N=49

Subject areas	Response Count	Response Percent
Quality subjects including risk management, audit, education, data management, policy development	48	98%
Haemovigilance including serious adverse reactions/ events investigation	20	41%

Subject areas	Response Count	Response Percent
Clinical transfusion practice including appropriate transfusion, transfusion alternatives, massive haemorrhage, transfusion products	18	38%
Anatomy, physiology and biological perspectives of blood and blood transfusion	12	24%
Transfusion laboratory including transfusion serology and cross matching	10	20%

Discussion on findings

Respondents to this survey were pre-dominantly based in hospitals, while only 18% were nurses in blood donation service. Respondents in hospitals were haemovigilance officers, nurses and medical scientists respectively. This likely indicates where most awareness and general interest in these modules lies. Interestingly only 38 (49%) of respondents had completed the modules suggesting that while 51% of respondents who had not completed the modules were at very least aware of these modules. Therefore there was an almost equal distribution between respondents who had completed the modules and those who had not.. Since the partnership between NHO and DCU commenced in 2005, 222 students have completed the modules.

Respondents did not complete the modules for variety of reasons. One persistent area of concern to the haemovigilance module co-ordinators was the inability to achieve a minor award for module participants. Interestingly this was only high lighted by three respondents as a reason for not completing the modules

The impact of the modules on respondents who had completed the modules was pre-dominantly positive with 92% of respondents describing how these modules imparted knowledge, equipped participants for the haemovigilance role and allowed participants opportunities to network and share practices. The aim of these modules was to support practitioners in their blood transfusion and haemovigilance practice, and this was achieved.

Respondents suggested that of future development of these modules should be primarily targeted at haemovigilance practitioners or those who may subsequently seek a haemovigilance role. Respondents also suggest this may be suited to clinical practitioners. This was clear across all distinct professional groups. While there was also support from nurses in blood donation services for the modules, the small numbers of respondents within this professional group make this finding more tentative. In summary these findings clearly suggest future developments should target hospital based professionals namely haemovigilance and clinical nursing staff directly involved in blood transfusion.

Questions seven and 10 sought responses on most beneficial subject areas for previous module participants and potential future module participants respectively. Interestingly the responses appear broadly similar, with respondents identifying

quality or professional development modules as being important subject areas. These subject areas were the specific focus of Module NS 449. The similarity of these responses highlight the subject areas respondents identify as being important to their professional development not only in the past but also in future, and signify which subject areas need to be included in future developments of these modules. In terms of future delivery of the modules, respondents favoured face to face delivery. Respondents highlighted the importance of learning not only in class-room context, but also from other participants. In context of haemovigilance practitioners, this is likely to be even more significant as many practitioners work in a stand-alone role in hospitals. Further analysis of descriptive comments in favour of on-line options revealed these responses were concerned with minimising difficulties at place of work, and not on maximising learning opportunities for participants. This is undoubtedly a valid concern and will have to be considered in future developments of the modules.

Action plan

Action	Responsibility	Date
1. Present findings to Director of NHO	MC	May 2011
2. Present findings to DCU module co-ordinators	MC/ MK	May 2011
3. Agree plan for further development of professional development of modules	NHO and DCU	August 2011
4. Report to be published on NHO web pages including plans cited in no 3.	MC	August 2011

Update on Action Plan

Following discussion with School of Nursing at DCU and taking into consideration the following;

- findings of this survey
- sustainability of future modules both on perspectives of students, NHO and DCU,

a decision was made to develop and submit one 10 credit level professional development 8 module on haemovigilance to the Faculty and Teaching Committee for approval in 2011-2012. Assessment will be by means of an academic portfolio. This module will target newly appointed haemovigilance practitioners and practitioners with an interest in haemovigilance. It is envisaged this module will be available in Semester 2 2011-2012. A minimum of 10 applicants will be required to run this module.

Conclusion

The development of this level 8 module along with the continued availability of level 9 modules either as a stand alone option or as part of a graduate diploma in nursing / health care practice, is evidence of the NHO's commitment to provision of ongoing support and education on safe transfusion practice. This also demonstrates the commitment of the Irish Blood Transfusion Service to work with academic institutions to grow a research base (Irish Blood Transfusion Service Strategic Plan 2010-2).

Appendix 1: Questionnaire

	Question	Answers
Background		
1.	Professional background	<ul style="list-style-type: none"> • clinical nurse • haemovigilance officer • nurse in blood donation services • medical scientist in a hospital blood bank medical scientist in a blood establishment
2.	Indicate the highest education award you have achieved in your profession.	<ul style="list-style-type: none"> • Certificate • Diploma • Degree • Post graduate diploma • Masters Other please comment
3	Have you previously completed degree level stand alone haemovigilance modules at DCU?	Yes No Single answer
Please answer these questions if you have previously completed degree level stand alone haemovigilance modules at DCU		
4	Which of the following modules did you complete?	<ul style="list-style-type: none"> • NS 469 - Understanding and Management of Blood Transfusions in a Haemovigilance Context (2005-2007) • NS 470- Haemovigilance: Blood Transfusion Nursing (2005-2007) • NS 447 Blood Donation & Transfusion (2008- 2010) • NS 448 Haemovigilance Practice (2008-2010) • NS 449 Professional Development for Specialist Practitioners (2008-2010)
5	Do you feel these modules impacted on your practice?	Yes No Do not know
6.	Please describe the impact of these modules on your practice.	Descriptive answer
7.	In your opinion which subject areas were most beneficial to you?	<ol style="list-style-type: none"> 1. Haemovigilance & Transfusion medicine subjects e.g, Anatomy & Physiology, Adverse reactions and events, 2. Blood donation subject areas e.g. blood donation process, recruitment and retention of donors 3. Professional development e.g. audit, root cause analysis, inter professional working
Future development of degree level modules – all respondents		
8.	In your opinion who would benefit from the degree level	<ul style="list-style-type: none"> • Useful for clinical transfusion practitioners • Useful for transfusion laboratory

	Question	Answers
	modules?	practitioners <ul style="list-style-type: none"> • Useful for newly appointed haemovigilance staff • Useful for practitioners who may seek haemovigilance role in the future • Useful for blood donation practitioners
9.	In you opinion what method of delivery is most suited to these modules for newly appointed practitioners?	<ul style="list-style-type: none"> • Face to face learning • On line learning Please comment
10	Identify three subject areas which you feel should be included in the degree level modules?	1 2 3

Appendix 2: Subject areas which should be covered in future modules

Respondent	Answers		
	1.	2.	3.
1	Donation process	DNA typing for HLA matches	Collating of data for newly appointed haemovigilance staff
2	audit	trending of data	policy development
3	donor screening safety	virology	reactions to transfusion
4	Adverse Events/Reactions	Donor Vigilance	Staff Training
5	sampling	reactions/events	cannulation
6	Transfusion reactions	massive haemorrhages	
7	Adverse Reactions	Changes in usage of Whole blood /Platelets	Selection criteria for Paediatric use
8	from what i remember pretty much everything was covered, cant remember if we touched on blood products e.g. varicella and hepatitis immunoglobulin		
9	Infection Control	Accountability	Biological/Physiological Aspects
10	physiology blood (RCC,platelets,plasma and factors) their uses, and appropriate use	reactions and management of same	investigating to root cause of events and preventive action
11	Training Medical staff		
12	Anatomy and physiology of blood	Professional Development	Audits
13	Reactions/events	audits	
14	Theories of Learning	Auditing/Quality/GMP	IT/ Databases etc
15	Audit	Non Conformance, risk management	Imparting knowledge to staff involved in any aspect of blood Transfusion
16	Laboratory issues	auditing/ data handling	Q PULSE!!
17	sar/sae	audit	amllbb, iso standards, and inspections
18	Root cause analysis work shop	Investigation of events and reactions	Inspection process
19	tracability -Donation/transfusion	Haemovigilance Practice	Research skills and practice
20	Audit	Risk analysis	Basic physiology
21	Policy and procedure writing	Delivering education	Dealing with the area of non compliances /non conformances
22	biology	laboratory screening of blood products	blood types and grouping
23	More focus of EU directive	Preparing for accreditation/inspection	More in-depth sessions on undertaking RCA
24	Audit	Physiology of haematology/coagulation system	Legal aspects/advocacy

Respondent	Answers		
	1.	2.	3.
25	Quality management in haemovigilance		
26	Blood Group Serology for nurses	Coagulation theory for nurses	Clinical management of haemorrhage for medical scientists
27	audit	physiology	lab aspects of transfusion
28	Research/Research Methods	Development of SOP's	Some basic lab skills
29	Appropriate transfusion	Transfusion outcomes	Minor blood groups & antibody development
30	Haematological conditions	audit ,policy writing and education	management of haemovigilance in a hospital setting
31	audit/quality	EU directive/ Inspections	most recent theories on best transfusion practice
32	Pathology/Physiological aspect of Haematology & transfusion	Auditing Techniques	Risk Management/Legal issues
33	Risk management	Audit (practical ,hands on guidance)	Quality
34	Lecturing/education (face to face) skills	Power-point- skills workshop	Massive transfusion
35	Audit	Reactions	Change management.
36	Anatomy and Physiology	Audit	Root Cause Analysis
37	different blood products	massive haemorrhage	non conformances
38	indications for transfusion	EU Directive	clinical audit
39	lab perspective	Auditing	who to do root cause etc
40	post operative cell salvage	Management adverse reaction/events in dept	Iron infusions
41	Audit - conducting & reporting	Investigating - SAEs, SARs and Near Miss events	The anatomy, physiology and pathophysiology of blood
42	risk management	quality	communication
43	blood donation and grouping	transfusion reaction	professional haemovigilance issues
44	Haemovigilance practice and blood transfusion	More understanding of things like CMV/ IRRAD	Professional Development
45	Adverse reactions	infection control	blood collection
46	How to Investigate events and reactions Also advice re handling external audits and inspections.	seperate section for those haemovigilance staff working in a transfusing site and the difficulties accordingly.	how to encourage staff to attend training sessions and how to win over nursing admin and the doctors to free staff up for training purposes.
47	laboratory techniques for cross matching	more information on antibodies	improving communication between departments
48	Quality & Clinical Audit	Anatomy & physiology	Alternatives to transfusion and use of products
49	record keeping, audit, education of staff	investigation of SAE's and SAR's	evidence based practice

Appendix 3: Meeting the stated objectives of the survey.

This table presents the stated objectives of the survey against findings.

Objective	Finding
1. To identify potential demand for degree level haemovigilance modules	Future modules should be directed at <ul style="list-style-type: none">• haemovigilance practitioners,• those hoping to work in role,• nurses working in clinical area.
2. To identify the potential benefits of degree level haemovigilance modules	<ul style="list-style-type: none">• Imparted knowledge to participants,• Equipped participants for the haemovigilance role• Allowed participants opportunities to network and share practices.
3. To identify training requirements of haemovigilance staff	<ul style="list-style-type: none">• Quality• Haemovigilance• Clinical transfusion practice• Anatomy, physiology and biological perspectives of blood and blood transfusion• Transfusion laboratory