

ACHIEVING QUALITY 24/7

The impossible dream??

Bill Chaffe CSci FIBMS
IBMS Specialist Advisor, Transfusion Science

SHOT Standing Working Group member

Bill.chaffe@ekht.nhs.uk



Why worry?

- **SHOT Zooms in on Laboratory Errors**
- Debbie Asher
SHOT Standing Working Group
BMS3, Blood Transfusion
Norfolk and Norwich University Hospital

Spring 2006 – Cause for concern?

- Regulatory requirements e.g. CPA, BSQR's, BCSH guidelines, EU WTD
- BT is not simply about number crunching
- We are sitting next to the patient while other disciplines are in the next room – with the door shut!

Are these the problem areas?

- Numbers of staff
- Skill mix of staff
- Training of staff
- Continuity of management by senior staff
- Core hours/out of hours dilemma
- Competency assessments
- Legislative requirements



Horses for courses?

- Requirements of private/small/medium/large transfusion departments will differ
- Requirements for staff – career structure, personal development, knowledge base, competency, satisfaction

What we **MUST** aim to deliver

- A high quality, clinically safe and timely service 24/7 where
- Patient safety, appropriate component use, staff satisfaction and career development are our primary aims.
- Minimise the possibility for error to occur

Background to collaborative initiative

- 30% of errors reported to SHOT originate in laboratory (consistent since 1996)
- 20% pre transfusion testing occurs 'outside core hours'
- 40% lab errors reported to SHOT occur 'outside core hours'
- To date, initiatives targeted at clinical areas – Better Blood Transfusion HSC's

Lab based errors - contributory factors?

- Target setting – demand for reduced TAT
- EWTD – move to 24/7 working diluting workforce
- Lack of ‘current’ transfusion knowledge
- Multidisciplinary working diluting standards
- Increased regulatory demands
- Litigation worries increasing workloads

Nov 2006 - What's going on out there?

- Questionnaire distributed via UK NEQAS
- Aim: snapshot of lab staffing on 'a day'
- Workload (red cell issues and Gp/save)
- Ideal staffing numbers and banding
- Staffing level and banding on 'the day'
- 'On the day' staff – permanent or multi
- 'On day staff' – transfusion qualifications



Questionnaire results

- 323 returns (many difficult to interpret)
- 143 issue < 6000 rbc / yr (low user)
 - 94 issue > 6000 < 11000 rbc / yr
(moderate user)
 - 86 issue > 11000 rbc / yr (high user)



Ideal staffing numbers

- 171/ 323 (53%) have set 'ideal' staffing levels
- 9% labs issuing <6000 set ideal staffing at 1 member of staff (?private)
- 15% labs issuing >6000<11000 set ideal staffing at 3 members of staff
- 9% labs issuing >11000 set ideal staffing at 4 or less members of staff



Ideal staffing numbers

Highlights (?lowlights!!)

- Issues <6000, Gp/save 15-25000
6 labs 'happy' with 3 staff
- Issues >6<11000, Gp/save >25000
2 labs 'happy' with 4 staff
- Issues >11000, Gp/save >25000
3 labs 'happy' with 3 staff



'On the day' staffing

- 171 labs set ideal staffing levels
- 53% less than ideal 'on the day'
- 16% staffed at $\leq 50\%$ ideal
- Low workload labs maintain staffing levels
- High workload up to 60% below ideal



Qualifications

- Total staff working 'on the 'day = 1332
- 226 hold HNC
- 168 hold BSc
- 167 hold FIBMS / MSc (speciality not surveyed)
- 41 hold BBTS certificate

- 730 (55%) possibly without formal transfusion qualification



‘On the day’ qualifications

- 6% labs had no staff with transfusion qualifications working on the day of the survey

March 2007 - The next steps

- workshop meeting

Member bodies

IBMS – collaborative facilitator, BBTS, NEQAS, SHOT, BSH, BCSH, MHRA, CPA, HPC, RCPATH NBTC (and equivalents) to represent users

For information / specialist input

UK Blood Services, DH Blood Policy Group
NPSA, IT Working Group, CNST
DH (and equivalents)

March 2007 – Workshop outcomes, areas to address

- **Define the minimum knowledge and competency for blood bank staff at KSF levels 2 and 3.**
- **Produce a generic system of minimum standards to allow the award of competency. Professional bodies to develop toolkit**
- **Encourage greater use of IT throughout the whole process**
- **Generate minimum specification for IT appropriate for transfusion laboratories**
- **Promote automation as the preferred or essential process.**
- **Senior staff to be available during core hours**

March 2007 – Workshop outcomes

- **Paid back up staff for small laboratories**
- **If only one person is working then emergency XM only**
- **Locum / agency staff use in blood bank minimised**
- **Define acceptable level of work for sole workers**
- **Tools to allow correct selection of products**
- **Standardised procedures are essential**
- **Minimum staffing levels to be defined together with associated competencies and skill mix**

July 2007 - Telephone survey

Aims were to inform about

- use of automation
- use of EI
- Staffing levels
- Current qualifications
- 'out of hours' systems
- Training

Total hospitals = 311

- High use teaching hospitals = 33
- High use Dist Gen Hospitals = 19
- Moderate use hospitals = 100
- Low use hospitals = 102
- Low use (private) hospitals = 57



Number surveyed

- High use teaching 24/33 (72.7%)
- High use DGH 12/19 (63.2%)
- Moderate use 41/100 (41%)
- Low use 44/102 (43.1%)
- Low use private 23/57 (40.4%)

Too busy to take part

- High use teaching 6/33 (18.2%)
- High use DGH 1/19 (5.3%)
- Moderate use 3/100 (3%)
- Low use 5/102 (4.9%)
- Low use private 1/57 (1.8%)

Automation and EI

	%Depts with walkaway automation	%Depts using automation 24/7	%Depts automation interfaced to LIMS	%Depts using EI
High use teaching (n=18)	100	100	100	44.4
High use DGH (n=11)	100	100	100	36.4
Moderate use (n=38)	92.1	77.1	94.3	37.1
Low use (n=39)	76.9	81.5	81.5	22.2
Low use private (n=22)	18.1	75	100	25

But what about these examples?

- 3 of the automated 'low use' depts are semi-automated
- 1 low use automated lab using EI but NOT 24/7 automation

- 3 moderate use depts using EI but NOT 24/7 automation
- 1 moderate use dept using EI with no automation



Staffing

	% Depts utilising MLA grades on survey day	%Depts with minimum staffing set	%Minimum staffing level <3	%Depts with permanent BT staff	%Depts failing to meet minimum staff levels
High use teaching (n=18)	72.2	72.2	15.4	94.4	30.8
High use DGH (n=11)	54.5	72.7	50	90.9	25
Moderate use (n=38)	31.6	47.4	55.5	84.2	16.7
Low use (n=39)	28.2	51.3	8.5	69.2	20
Low use private (n=22)	4.5	63.6	100	31.8	7.1

'On the day boss' – grade and qualification (% labs)

	BMS 4	BMS 3	BMS 2	BMS 1	FIBMS BT	MSc BT	HNC	Other (not BT based)
High use teaching (n=18)	5.6	83.3	11.1	0	77.8	0	5.6	16.7
High use DGH (n=11)	0	81.8	18.2	0	54.5	18.2	0	27.3
Moderate use (n=38)	10.5	36.8	23.7	26.3	44.7	7.9	21.1	26.3
Low use (n=39)	0	35.9	46.2	15.4	38.5	0	33.3	28.2
Low use private (n=22)	0	22.7	40.9	36.4	27.3	0	13.6	59.1

'Out of hours work' (% labs)

	Shift system	Ext / on call	Back up available	BT Only	Haem + BT	Multi - disciplinary
High use teaching (n=18)	66.7	33.3	55.6	33.3	66.7	0
High use DGH (n=11)	72.7	27.3	54.5	18.2	81.8	0
Moderate use (n=38)	36.8	63.2	15.8	7.9	89.5	2.6
Low use (n=39)	15.4	84.6	17.9	0	82.1	17.9
Low use private (9.1%refer to NHS) (n=22)	4.5	95.5	13.6	0	4.5	86.4

'Out of hours work' Who does it?(%)

[* includes 1 permanent haem, ()Permanent coag]

	BMS 4	BMS 3	BMS 2	BMS 1	Multi-disciplinary staff	Rotational Haem/BT staff	Permanent transfusion staff
High use teaching (n=18)	0	11.1	44.4	44.4	(5.6)	50	44.4
High use DGH (n=11)	0	9.1	9.1	81.8	0	91.9	9.1
Moderate use (n=38)	0	10.5	28.9	82.1	10.5 *	78.9	10.5
Low use (n=39)	0	5.1	25.6	69.2	12.8	76.9	10.3
Low use private (n=22)	0	22.7	36.4	31.8	77.3	22.7	0



Training %

[* includes 1 'never']

	Trained within 3 months	Trained within 6 months	Trained within 12 months	Last training >12 months
High use teaching (n=18)	72.2	83.3	88.9	11.1
High use DGH (n=11)	45.5	63.6	72.7	27.3
Moderate use (n=38)	73.7	73.7	76.3	23.7*
Low use (n=39)	61.5	71.8	82.1	17.9
Low use private (n=22)	63.6	72.7	77.3	22.7

Nov 2007 - Recommendations

- Set minimum standards for all hospital blood transfusion departments
- Aim to cut IBCT errors originating in laboratory by 50% by December 2010
- Short and long term recommendations
- Technical and staffing recommendations

Short term (Dec 2008) - technical

- Full, walk away automation for Group and antibody screening i.e. system does not require any manual input AFTER samples have been loaded onto the analyzer and the analyzer started. Low workload blood transfusion departments should assess the possibility of a local collaborative approach in order to achieve this.
- All automated analysers are to be interfaced to the LIMS
- Automated analysers are to be used 24/7
- Electronic issue of red cells is only to be undertaken where the grouping and antibody screening is fully automated i.e. without manually manipulation of results and in use 24/7

Long term (Dec 2010) - technical

- Blood transfusion departments driving forward the development of IT based blood tracking and remote control issue blood fridges to do so as a means of supporting staff NOT at the expense of staff.
- EI of red cells is only to be undertaken where grouping and antibody screening is fully automated and where the decision to undertake EI is determined by the LIMS i.e. does not require the Biomedical scientist to make the judgment.

Short term (Dec 2008) - Staffing

- Core hour minimum staffing levels set
- Policy in place for workload planning when staff numbers fall below this level
- Numbers and skill mix to reflect needs
- Annual formal review of numbers and skill mix
- Non permanent BT staff to receive training equivalent to 2 days / month
- Training to be delivered annually and must be evidence based

Short term (Dec 2008) - Staffing

- All future registrants required to work a shift pattern in BT should be working towards a higher BT qualification (BBTS cert, IBMS Spec Dip) with evidence based progress
- Use of unregistered (not trainee) staff should be to full advantage of department
- Local areas to develop collaborative approach to availability of transfusion expertise 24/7
- All departments to send a minimum of 1 member of staff to the annual NEQAS 1 day meeting

Long term (Dec 2010) - Staffing

- BT department managers and those senior staff who may need to supervise the BT department should have a 'higher' qualification in blood transfusion e.g. MSc with blood transfusion modules or IBMS Higher Specialist Diploma in blood transfusion or equivalent
- Due to the requirements placed on blood bank managers by legislative and regulatory bodies persons in these posts should not participate in shift work that means they are not present during 'core' working hours.
- If there is a need for a biomedical scientist grade 1 to lead the blood transfusion department then this should be for <10% of the annual time.



**Martin Luther King
'I HAD A DREAM'**

**Achieving 24/7 quality – the impossible
dream**

It needn't be

What do YOU think?