





BLOOD TRANSFUSION LABORATORY STAFFING AUDIT

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BACKGROUND

Safe and effective functioning of a blood transfusion laboratory is dependent on adequate numbers of staff with an appropriate skill-mix. SHOT reports consistently show high numbers of errors arising from the laboratory setting and most of these are caused by 'human error' with inadequate staffing levels recognised as a contributing factor.

The UK Transfusion Laboratory Collaborative (UK TLC) sets out minimum standards for staffing within blood transfusion laboratories and compliance with these standards is expected as part of laboratory inspection and regulation by UKAS/CPA and MHRA. The latest UK TLC survey in 2017 showed persistent issues with staffing levels nationwide, thus raising ongoing concerns for the safe and effective functioning of blood transfusion laboratories.

Within Imperial College Healthcare NHS Trust (ICHNT), there are 3 blood transfusion laboratories located at Hammersmith Hospital (HH), Charing Cross Hospital (CXH) and St Mary's Hospital (SMH). Concerns were raised by staff in all three laboratories over staffing shortages and resultant pressures on workload and service provision. In response to these concerns, we conducted a prospective audit of staffing levels over a 6 month period, to investigate the severity of the issue and its impact.

AUDIT AIMS

To audit staffing levels in all 3 ICHNT blood transfusion laboratories against the agreed levels for service provision as set out in the Business Continuity/Contingency Plans for each laboratory.

AUDIT STANDARDS

Agreed staffing levels for service provision as per the Business Continuity/Contingency Plans for each blood transfusion laboratory

Staffing levels were coded as:

- **GREEN** normal working levels
- **AMBER** reduced working levels
- **RED** critical working levels

METHODS

UK TLC STANDARDS: STAFFING

1.1. It is expected that appropriate laboratory staffing levels will be in place to ensure the safe and effective delivery of all transfusion service activities and that they will be subject to annual review, risk assessment and agreement through local governance structures (NHSE 2014)

1.2. It is expected that laboratories as part of their capacity planning process (BSQR SI50/2005) will have operational protocols to make certain that sufficient staff with an appropriate skill-mix are available to match the workload and its complexity at all times.

1.3. It is expected that when considering 1.1. and 1.2. above that all of the requirements of a quality management system (BSQR SI50/2005) will be included as part of the workload and service delivery (NHSE 2014)

1.4. It is expected that in circumstances when staffing levels are such that standard 1.3. cannot be met, appropriate senior members of staff will have protected time agreed and available in order to provide quality management system elements of the workload and service delivery (NHSE 2014)

Each laboratory provided data on daily staffing levels, as well as, the reasons for staff shortages and the impact of staff shortages where relevant.

Data was collected over a 6 month period (2/8/2021 – 7/2/2022)

Primary data collected:

- Daily staffing levels coded as GREEN/AMBER/RED according to the Business Continuity/Contingency Plan for each laboratory
- Reason for staff shortage

Other data collected:

• Impact of staff shortages

RESULTS

Collective results for all 3 blood transfusion laboratories

- Over 6 months, staffing levels were sub-optimal (less than GREEN) over half the time (54%)
- Of the days where staffing levels were categorised as GREEN, 171/262 (65%) were Sat/Sun/bank holidays, i.e. when staffing levels are set lower due to reduced workload
- Staffing levels were suboptimal when laboratories were at their busiest providing their routine, as well as, emergency services during weekdays

Optimal staffing levels (GREEN) should be consistent across all days i.e. both weekdays and weekends. However, these graphs show the fluctuations in staffing levels day-to-day across all 3 sites over the 6 month audit period. Staffing levels were optimal mainly during weekends and bank holidays where workload is reduced compared to weekday routine hours.

Fluctuations in HH staffing levels between 2/8/2021 – 7/2/2022



CUMULATIVE DAILY STAFFING LEVELS FOR ALL 3 BLOOD TRANSFUSION LABORATORIES OVER 6 MONTH AUDIT PERIOD



Fluctuations in CXH staffing levels between 2/8/2021 – 7/2/2022



Fluctuations in SMH staffing levels between 2/8/2021 – 7/2/2022



Impact of staffing shortages

- Increased work pressures as overall workload unchanged
- Seniors / managers on bench or supervising staff still in training so unable to carry out usual senior / manager duties
- Staff not getting the required training and reduced quality of training
- Constant change in rota and movement of staff to cover shortages at short notice resulting in stress and disruption to work-flow
- Staff not getting adequate rest/breaks both within and between shifts
- Stressed and fatigued staff with resultant sickness absence
- Contributory factor to serious incidents within audit period
 - Transfusion of D positive red cells to a D negative woman of child-bearing age staffing and workload pressures were a contributory factor



REFERENCES

DAYS

- Chaffe B, Glencross H, Jones J, Staves J, Capps-Jenner A, Mistry H, Bolton-Maggs P, McQuade M, and Asher D (2014). UK Transfusion Laboratory Collaborative: minimum standard for staff qualifications, training, competency and the use of information technology in hospital transfusion laboratories 2014. *Transfusion Medicine*, vol. 24, 335-340.
- Bolton-Maggs P, Mistry H, Glencross H, and Rook R on behalf of the UK Transfusion Laboratory Collaborative (2019). Staffing in hospital transfusion laboratories: UKTLC surveys show cause for concern. *Transfusion Medicine*, vol.29, 95-102.

 Transfusion of D positive red cells to a D negative woman – incident still under investigation but staffing and workload pressures may have been contributory factors

CONCLUSIONS

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This audit provides evidence of significant staff shortages in all 3 ICHNT blood transfusion laboratories and highlights the impact these shortages have, both operationally, and on staff health and well-being.

Of particular concern are 1) the serious incidents which have occurred where insufficient staffing and workload pressures have been or may have been contributing factors and 2) the detrimental effect staffing shortages are having on staff well-being which may have longer term consequences for staff retention. It is therefore, critically important, that staffing level issues are urgently addressed in order for the blood transfusion laboratories to continue functioning safely and effectively.

Audit results have been presented and discussed within Trust Transfusion Team and Trust Transfusion Committee meetings and also within North West London Pathology* where it has been raised on the risk register. Currently, there is work ongoing to address the risk to provision of blood transfusion services arising from these staff shortages including planning for increased recruitment, changes to staffing models, rotation of staff between sites where appropriate and increased staff training.

*North West London Pathology is a NHS pathology provider serving and jointly owed by three London NHS Trusts: ICHNT, Chelsea and Westminster Hospital NHS Foundation Trust and The Hillingdon Hospitals NHS Foundation Trust