British Society for Haematology

BRITISH SOCIETY FOR HAEMATOLOGY

WORKFORCE REPORT 2019

LISTENING LEARNING LEADING

FOREWORD

I am delighted to present the BSH review of the UK haematology clinical work force in 2019. This project has been undertaken by our External Affairs Committee under the leadership of Professor Beverley Hunt OBE (Guy's and St Thomas' NHS Foundation Trust).

In 2018, BSH decided to commission this review from APCO Worldwide, an advisory and advocacy communications consultancy with a strong track record of working with partners in the haematology community, including the International Society for Thrombosis and Haemostasis (ISTH) and the European Thrombosis and Haemostasis Alliance (ETHA).

The last major study of the UK haematology workforce, published with the RCPath, dated from 2008 and had focused on consultant haematologists. We felt that a great deal of water had passed under the bridge since then in terms of treatment and how the workforce has changed; we wanted to look at other members of the modern clinical MDT as well as consultants.

BSH also wanted to carry out this research so that we could better understand our members, and other haematology professionals, and how they work within the NHS which has seen significant changes since 2008. This research would then inform the Society on the particular needs of and challenges faced by haematology professionals and inform the future work of the BSH. In particular, it would inform the next phase of the Society's strategic planning and be a strong foundation on which the organisation could build its plans to become more of a voice for the profession and to represent the interests of its members.

Professor Cheng-Hock Toh
BSH President

OVERVIEW

The Role of the Haematology Workforce

Consultant Haematologists undertake a thorough speciality training programme, developing both clinical and laboratory skills. Our report focuses on the clinical side of the workforce. For more detail on challenges facing laboratory-based staff, see the Royal College of Pathologists' very recently published workforce report, complementing this one[1].

All hospitals require the support of general (or liaison) Consultant Haematologists and their team to work with other specialities, from obstetrics and neonatal care, ITU and surgery through to care of the elderly; from interpretation of blood count results (done in the hundreds-thousands per day in most hospitals) to supporting individuals with rare genetic blood disorders. Hospital-based Consultant Haematologists also support GPs through advice and guidance, as well as supporting community-delivered DVT care.

Most UK-trained Consultant Haematologists have a primarily clinical role with varying degrees of diagnostic activity, including cutting edge work in genetics. A smaller number, such as those working in the transfusion service, provide clinical care to donors and the organisation of NHSBT. Others develop a primarily research-based role.

In most hospitals a group of Consultant Haematologists works with their team across these areas, but increasingly — and particularly in large centres — there is more specialisation. This reflects the changes in demand of the diseases managed, as well as the infrastructure and knowledge base required to provide high quality care.

This increasing specialisation and complexity of care means that Consultant Haematologists now need to sub-specialise to manage patients with complex conditions such as haematological malignancies which cover acute and chronic leukaemias, lymphomas, myeloma and bone marrow transplantation.

Non-malignant haematological specialisms cover thrombosis and thrombophilias; inherited and acquired bleeding; general haematology which includes the management of a number of anaemias; haemoglobinopathies and other red cell disorders; finally, there are the areas of laboratory haematology; paediatric haematology; and the growing field of obstetric haematology.

In district general hospitals, each consultant will tend to cover all of the above, perhaps with expertise in a special area. In tertiary centres there are opportunities for individuals to spend 100% of their working day in one area. As well as these special interests, Consultant Haematologists will be asked to advise on haematological problems affecting in-patients and out-patients; this is sometimes called "liaison haematology".

With the advancement of technology and an increasing understanding of the biology surrounding haematological disorders, laboratory haematology testing has expanded enormously in the past ten years; for example, specialist genetic testing is now critical to diagnosis of a wide variety of blood diseases.

Consultant Haematologists work within a multidisciplinary team. Clinical Nurse Specialists have a vital role in delivering care in the sub-specialities noted above. Pharmacists are also increasingly being brought into teams delivering care. Laboratory work is performed by a highly-trained workforce who, like the doctors, have spent many years in gaining knowledge and experience in their area. As with clinical care the level of complexity of care in laboratory haematology has grown as we understand how to deliver safe care and learn more about disease processes.

Together, the Clinical Haematology team needs to provide 24/7 cover for patients and the laboratory needs to provide 24/7 cover – for example blood transfusion services are vital in a hospital with in-patients and especially if providing a trauma and an obstetric service through the night.

Clinical Haematology and Patients

Haematological conditions affect many patients in the UK – for example over 44,000 new cases of haematological cancers are expected to be diagnosed in the UK each year[2]. Many other people are affected by non-malignant conditions such as thrombotic or bleeding disorders:

Venous thromboembolism, which affects up to one in every thousand individuals a year[3]

- Sickle Cell Disease (estimated to affect up to 15,000 current patients and rising4):
- Haemophilia (7,700 with type A, and a further 1,700 with type B)5.
- Von Willebrand Disease (10,600)6

Beyond the immediate health 'cost' for patients, the effects of these conditions are felt by carers, and by the NHS financially. For example, the annual cost of treating patients with severe Haemophilia A is estimated at £188,700,000[8]. Over a million people in the UK are receiving anticoagulants and many attend anticoagulant clinics for monitoring: these clinics fall within the remit of the haematology team.

[1] *https://www.rcpath.org/profession/workforce-planning/our-workforce-research.html*

For these patients, haematology staff are vital in managing their care from diagnosis to recovery or long-term management. Clinicians, nurses, pharmacists, physician associates and biomedical and clinical scientists are among those relied on to diagnose, monitor and provide increasingly advanced treatments, ongoing care, and ensure both diagnosis and treatment can draw on sophisticated tests and investigative laboratory procedures. Both patient-facing and laboratory staff are also supported by managers who have the challenge of optimising resources to deliver the best care possible.

This report examines the state of this workforce and the challenges facing teams across the UK. It also addresses an information gap, as the last major workforce study was conducted over a decade ago[9]. This previous report focused on consultants, and here we expand on this by looking at issues facing other staff such as trainees, nurses and laboratory scientists.

This report shows that haematology teams are under increasing pressure to deliver for patients. This is in the face of health service pressures, staffing shortages and increasing demands created by an expanding and ageing population, and by breakthroughs in treatments that increase the complexity of care.

The key findings of this report include:

- MANY VACANCIES IN THE HAEMATOLOGY WORKFORCE. As the 2008 study pointed out, even a stable workforce is insufficient given the increasing incidence of haematological conditions, combined with the complexity of newer treatments. The urgently called-for expansion – as recognised at the time by the Workforce Review Team at the Department of Health – has not occurred. The issue of unfilled posts is already affecting some Trusts. Departments are reporting situations where several vacancies remain unfilled for long periods, and often this leads to the employment of expensive locums to ensure work can be done.

- POSSIBLE WORSENING OF VACANCIES DUE TO RETIREMENT. Overall, the haematology workforce across the UK appears stable in terms of numbers. However, more than one in ten consultants are due to retire within the next few years, which could trigger a decline in numbers. This issue was identified in the previous 2008 workforce study, but has clearly not been resolved.

- REDUCED NUMBERS OF TRAINEES TO FILL CONSULTANT HAEMATOLOGIST POSTS The number of Medical Trainees / Foundation Year Doctors being recruited to haematology training posts has dropped dramatically. Averaged out across Trusts, the number has fallen more than a third (36%) over the past two years. The 2008 study called for the replacement of retiring consultants by training greater numbers of junior doctors to become Consultant Haematologists as a matter of urgency – this has not happened.

- SEVERE CONSEQUENCES OF INADEQUATE HAEMATOLOGY STAFFING LEVELS Rising vacancies and falling numbers of trainees come at a time when Clinical Haematology teams are facing unprecedented challenges. They are serving an expanding and ageing patient population that is often surviving longer. The introduction of cutting-edge treatments which could transform patients' lives is seen as an exciting development by Clinical Haematology Teams. However, a consequence of this is that many patients must be seen - and treated – over a much longer time period. This adds additional pressure to services already under strain.

- BARRIERS TO ACCESS Patients could face barriers or delays to accessing diagnostics and novel treatments such as immunotherapies. This is a possibility if the impending crisis over retirement and recruitment cannot be addressed. People may even be denied the radically improved outcomes that are now possible.

- STRESS AND SICKNESS AMONG THE WORKFORCE Low morale, sickness and absences are affecting the haematology workforce, as they are across the NHS. Between October 2017 and October 2018, the average number of sick days per haematology department was 796 across staff including consultants, nurses and lab scientists. More than a quarter (27%) of those absences were taken by employees suffering from stress or mental illness. The workload burden is a likely factor in employees suffering physical and mental health problems.

[2] *https://www.hmrn.org/statistics/quick*
[3] *https://www.thrombosisuk.org/admin/resources/downloads/thrombosisuk-venous-thrombosis-leaflet.pdf*
[4] *https://www.nice.org.uk/guidance/qs58/chapter/introduction*
[5] *http://www.ukhcdo.org/wp-content/uploads/2017/03/Bleeding-Disorder-Statistics-for-April-2015-to-March-2016-for-UKHCDO-Website.pdf*
[6] *http://www.ukhcdo.org/wp-content/uploads/2017/03/Bleeding-Disorder-Statistics-for-April-2015-to-March-2016-for-UKHCDO-Website.pdf*
[8] *Number of patients with severe Type A treated (2015/2016): http://www.ukhcdo.org/wp-content/uploads/2017/03/Bleeding-Disorder-Statistics-for-April-2015-to-March-2016-for-UKHCDO-Website.pdf (p16); Cost of treating each patient: https://ojrd.biomedcentral.com/articles/10.1186/s13023-017-0660-y. Exchange rate applied as of 11/11/2019*
[9] *https://www.rcpath.org/uploads/assets/c1e96504-e4fa-4027-b451d35cc06fc278/haematology-consultant-workforce-the-next-10-years-jan-2008.pdf*

METHODOLOGY

The British Society for Haematology (BSH) commissioned research from APCO Insight, an independent research agency. Freedom of Information (FoI) requests were sent out via email in March 2019 to 176 NHS Trusts across all four nations of the UK. They were asked for details relating to workforce and staffing including:

- The number of haematology staff by function and job role
- Vacancies within the haematology department by function and job role
- The number of staff within five years of retirement by function and job role
- Contextual information, e.g. the number of dedicated haematology beds
- Total sick leave days taken by clinical haematology staff, including those taken due to stress
- Involvement in multi-disciplinary teams
- The number of times job planning, mandatory training and continuing professional development sessions were missed due to work overload.

Trusts were also asked to indicate what they consider to be the most pressing issues facing haematology departments and why. This was to help provide greater insight into the challenges faced by teams.

Of the 176 Trusts that were sent FoI requests:

- 79 responded
- A further 47 said they did not have a haematology department[10]
- 50 did not respond at all[11]

In addition to the FoI requests, qualitative research was carried out in the form of interviews with haematology staff. Interviewees came from a range of roles and across the UK. The interviews explored the FoI results, the reasons behind them and the possible consequences for both the workforce and for patients.

The roles of those interviewed are listed in the Annex to this report, along with the names of responding trusts.

[10]The majority of these are Ambulance Trusts, although there are isolated instances of hospitals not having a haematology department: for example, Moorfields Eye Hospital

[11]FoI requests were completed by haematology departments at each Trust, who were also aware they would be used to compile this report. Potential reasons for non-response could include: (i) The department being too overwhelmed to find the time to complete the request; (ii) The department having low interest in completing the request (e.g. if they felt there are fewer issues they wished to highlight). Reason (i) would lead to those Trusts experiencing a high number of issues being less likely to complete the request. Reason (ii) would lead to those Trusts experiencing a low number of issues being less likely to complete the request. I.e. these two types of non-response to an extent cancel each other out.

HAEMATOLOGY WORKFORCE: OVERVIEW

Hospital haematology teams include clinicians and laboratory specialists as well as nursing and support staff. Data provided by Trusts shows a relatively even balance between the number of laboratory-based roles and those dealing directly with patients. The average department has 25 full time laboratory staff with 27 in medical and nursing roles. An average of six staff are in management and support roles.

In addition to asking about the current staffing mix, we also asked what the combination was in 2016:

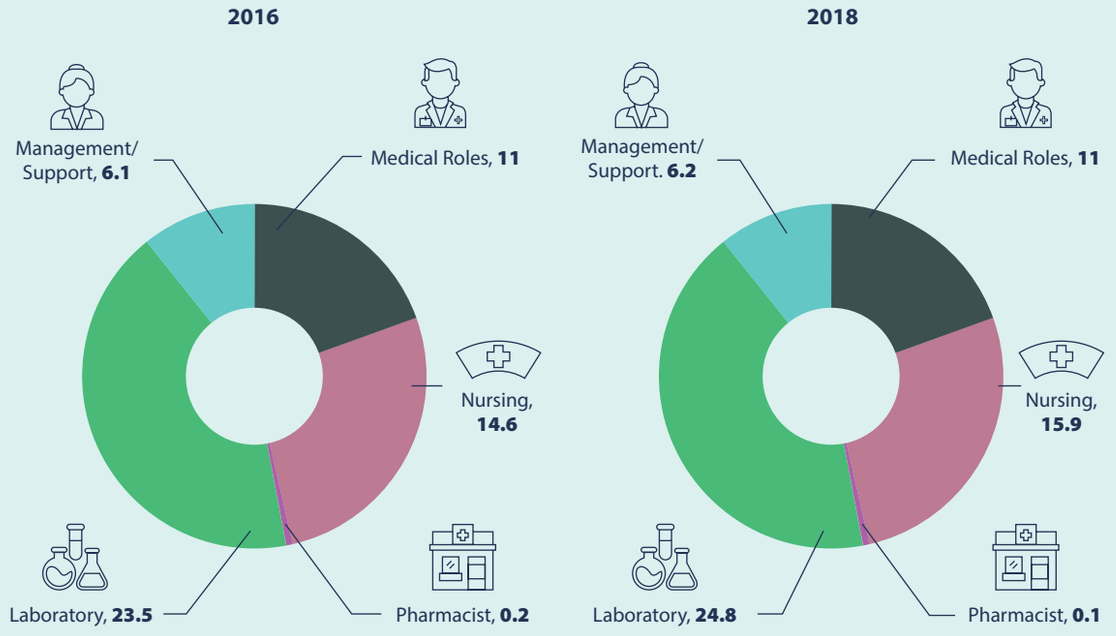
- Medical roles have remained static (the average team has 11)
- There has been a small expansion in nursing staff (from 14.6 to 15.9 on average)
- There is a marginal increase in the number of laboratory employees (from 23.5 to 24.8)
- Some Trusts reported having a pharmacist and physician associates/assistants within the department – representing a new development over the past few years.

While the average staff number in medical roles has not decreased, the fact that it has remained static is troubling, given:

- The ageing consultant workforce with many due to retire in the near future
- Declining numbers of trainees choosing to specialise in haematology
- An ageing population leading to increased disease incidence
- The increasing demands on medical staff due a larger range of treatments being available, and to patients now surviving longer – therefore requiring multiple treatments.

These factors are explored in later sections of this report.

Average Haematology Department by Employee Function (FTEs): 2016 vs 2018



* All hospitals reporting employees broken down by level for both 2016 and 2018

However, there is significant variation between individual trusts – in particular when we look at specialist and teaching hospitals compared to district general hospitals. This difference is shown below, illustrating the much larger size of the department at specialist and tertiary hospitals.

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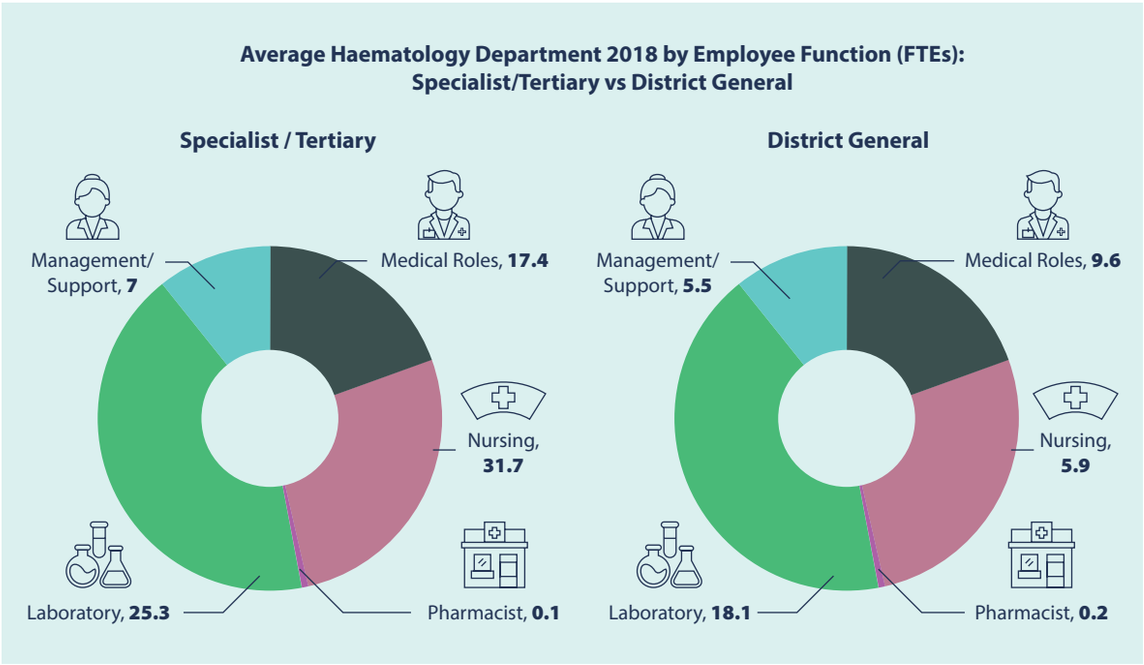


CONSULTANT AND TRAINEE WORKFORCE

A more detailed look at specific job roles reveals a staffing crisis for the profession – in particular with a dramatic drop-off in the number of Medical Trainees and Foundation Year Doctors over the past two years.

It is positive that consultant numbers in haematology departments have increased by around 12% since 2016 (from 4.87 to 5.48 FTE). However, Medical Trainee/Foundation Year Doctor numbers within the department have dropped by more than a third (36%) in this time – from 1.43 FTE per department in 2016, to 0.92 FTE in 2018. This shortage of new recruits coming up through the ranks echoes a trend highlighted by the British Medical Association (BMA) of fewer medical school graduates applying to specialist training, resulting in several specialities having unfilled posts[12].

This dwindling 'pool' of new recruits represents a major issue, which could lead to a lack of qualified doctors to replace consultants approaching retirement age (see below). This phenomenon was highlighted in the 2008 workforce review which noted that 'the delay in converting greater numbers of trainees into consultants may fail to compensate for rising early retirement rates.'[13] This issue is clearly not a new one, and we believe a continued failure to address it will have major implications for patient care.

Our interviews with practitioners have highlighted that this lack of recruits may also be a particular issue when it comes to paediatric haematology, with training for this being particularly complex and lengthy. Here the current requirement to study a large volume of adult haematology before adding in the specifics of paediatrics, may be putting many off pursuing a career in paediatric haematology.

The particular shortage in paediatric haematologists also reflects the staffing issues experienced by the wider child health workforce, as noted in the RCPCH's most recent workforce census[14].

"We have a rota that's dependent on a certain number of junior doctors to be able to give safe clinical cover, and we always have gaps on it. That's either because somebody's on long term sickness or because we've not managed to fill the non-training post" – *Consultant Haematologist*

We also asked Trusts to indicate the number of outpatients seen by the haematology department over the course of the year. The average was 10,608 – or 964 for every staff member in a medical role. What remains unknown is how many times each patient was seen on average over the course of the year, although our interviews with haematology professionals indicated that this has been on the rise due to the increasing effectiveness of treatments in helping to manage conditions over the long-term.

[12] *https://www.bma.org.uk/news/media-centre/press-releases/2017/september/staffing-crisis-in-nhs-laid-bare*
[13] *https://www.rcpath.org/uploads/assets/c1e96504-e4fa-4027-b451d35cc06fc278/haematology-consultant-workforce-the-next-10-years-jan-2008.pdf*

Table 1: *Medical Staff by Role: Average number per department and % change*

Role	2016	2018	Change
Consultant Clinical Haematologist	4.87	5.48	+12.3%
Haematology SpR/StR (or equivalent)	3.58	3.25	-9.4%
Haematology Core Medical Trainee / Foundation Year Doctor	1.43	0.92	-35.7%
Other medical haematology role (Associate Specialist, Trust Grade staff, etc.)	1.03	1.23	+18.4%
Haematology Physicians' Associate / Physicians' Assistant	0.04	0.17	+0.14

Examining changes by hospital type, we see differences emerging. As would logically be expected given their likely postings, the drop in Core Medical Trainees and Foundation Year Doctors is much more dramatic in Secondary/Tertiary Hospitals where training posts are mainly located (-39.1%) than in District General Hospitals (-10.4%). Meanwhile, numbers of Specialist SpR/StRs have increased in District General Hospitals (+7.4%) at the same time as they have decreased in Secondary/Tertiary Hospitals (-33.7%).

Table 2: *Medical Staff by Role: Average number per department and % change (District General Hospitals)*

Role	2016	2018	Change
Consultant Clinical Haematologist	4.31	4.84	+12.3%
Haematology SpR/StR (or equivalent)	2.02	2.17	+7.4%
Haematology Core Medical Trainee / Foundation Year Doctor	1.15	1.03	-10.4%
Other medical haematology role (Associate Specialist, Trust Grade staff, etc.)	1.14	1.35	+18.4%
Haematology Physicians' Associate / Physicians' Assistant	0.00	0.17	n/a

Table 3: *Medical Staff by Role: Average number per department and % change (Secondary and Tertiary Hospitals. Note: small sample size of 12 Hospitals)*

Role	2016	2018	Change
Consultant Clinical Haematologist	6.14	7.23	+12.9%
Haematology SpR/StR (or equivalent)	10.13	6.72	-33.7%
Haematology Core Medical Trainee / Foundation Year Doctor	2.33	1.42	-39.1%
Other medical haematology role (Associate Specialist, Trust Grade staff, etc.)	1.13	1.42	+25.6%
Haematology Physicians' Associate / Physicians' Assistant	0.22	0.56	+150%

[14] *https://www.rcpch.ac.uk/resources/workforce-census-uk-overview-report-2019*

LABORATORY WORKFORCE

This drop in junior staff coming through the ranks is not yet an issue in the laboratory. Indeed, the number of newly qualified staff recruited has increased since 2016. Breaking figures down by level, it is positive that the number of Band 5 recruits has gone up by more than a quarter (26%) and by more than 5% for Band 6. Although the increase in Band 6 scientists is smaller in magnitude, this is particularly noteworthy given the high level of responsibility they have within the laboratory. The greater increase in Band 5 scientists may reflect the increasing use of pre-analytic robots and automation – with several Trusts replacing Band 6 scientists with Band 5 and lower.

However, the decline in Band 8+ and Band 7 Biomedical Scientists is more of a concern, as this represents knowledge and skills that may become lost if numbers continue to decline. Furthermore, the unique nature of haematology as a specialism – involving both clinical and laboratory staff – means that departments are facing a 'double-squeeze' with the loss of senior staff within the laboratory and on the clinical side.

Table 4: *Laboratory Staff by Role*

Role	2016	2018	Change
Haematology Clinical Scientist (Band 8 and above)	0.25	0.26	+4%
Haematology Clinical Scientist (all other bands)	0.61	0.78	+27.9%
Haematology Biomedical Scientist (Band 8 or above)	1.72	1.56	-9.3%
Haematology Biomedical Scientist (Band 7)	3.98	3.81	-4.3%
Haematology Biomedical Scientist (Band 6)	8.46	8.93	+5.4%
Haematology Biomedical Scientist (Band 5)	2.92	3.68	+26.4%
Haematology Associate Practitioner / MTO (Band 4)	0.85	1.03	+21.1%
Haematology Medical Laboratory Assistant (Band 3)	2.82	2.57	+8.5%
Other haematology laboratory role	1.91	2.19	+14.7

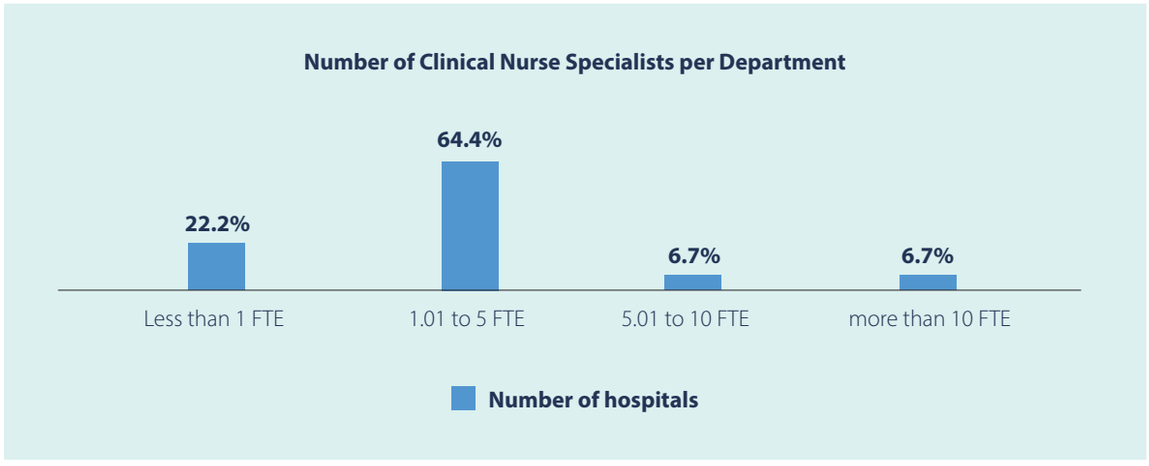
NURSING WORKFORCE

Table 5: *Nursing Staff by Role*

Role	2018
Haematology Clinical Nurse Specialist	2.67
Other haematology nursing roles	11.94

Clinical nurse specialists (CNS) have a crucial role in delivering direct patient care, supporting other nurses in delivering medical care, and educating patients on managing symptoms. They can make the difference between a successful health outcome and costly and avoidable readmission of patients to hospital.

On average, hospitals have between two to three haematology CNS on staff, with nearly two-thirds (64%) employing between one and five. However, considerable variation exists between individual Trusts: those with a small number of nursing staff overall tend to employ only CNS, while others report a very high number of nurses who are not CNS.



What is crucial in any hospital, is a safe ratio of patients to nurses across all healthcare settings. The wide variation for haematology appears concerning and could affect delivery of patient care. Trusts reported that the number of beds for haematology patients was 4.4 to each nurse (including CNS). For a small but significant number of Trusts the figure was as high as between eight and ten beds.

The health regulator NHS Improvement has stated that no single nurse-to-patient ratio can be applied across all wards of the same type[15]. However, guidance from NICE has stated that there is increased risk of harm associated with a registered nurse caring for more than eight patients. This relates to day shifts on adult acute wards.

[15] *https://www.nursingtimes.net/news/workforce/new-guidance-on-ward-staffing-levels-retains-18-ratio-21-12-2016/*

MANAGEMENT/SUPPORT STAFF WORKFORCE

Provision of a well-managed diagnostic, treatment and care service, producing timely results, is essential for patients with blood/bone marrow disorders. It is also crucial in ensuring the NHS runs efficiently.

The average hospital is lean in terms of haematology management, with several Trusts reporting they have no staff at management level responsible for overseeing a multi-disciplinary team on a daily basis.

There may also be an issue on data management. Less than one in five (17%) Trusts say they have a dedicated data manager and this amounts to less than one full-time equivalent staff member in many cases. The effect of shortages here would be felt in the accurate, ethical and secure collection of information, for example around patients taking part in clinical trials or receiving long-term care. Such data collection is also mandatory in several areas of haematology, such as bleeding disorders, blood transfusion and stem cell transplantation.

Table 4: *Management and Support Staff by Role (FTE)*

Role	2018
Haematology Management	0.81
Haematology Data Manager	0.34
Haematology Clerical Staff	2.83
Haematology Secretarial Staff	2.22

RECRUITMENT, RETENTION AND RETIREMENT: OVERVIEW

The fact that the NHS does not have enough employees to meet rising patient demand is well-documented. A report published this year by the **Nuffield Trust** for example estimated that about one in 12 posts are vacant, representing a shortfall of 8%. This is based on there being nearly 94,000 full-time equivalent advertised vacancies in hospital and community services alone between July and September 2018.

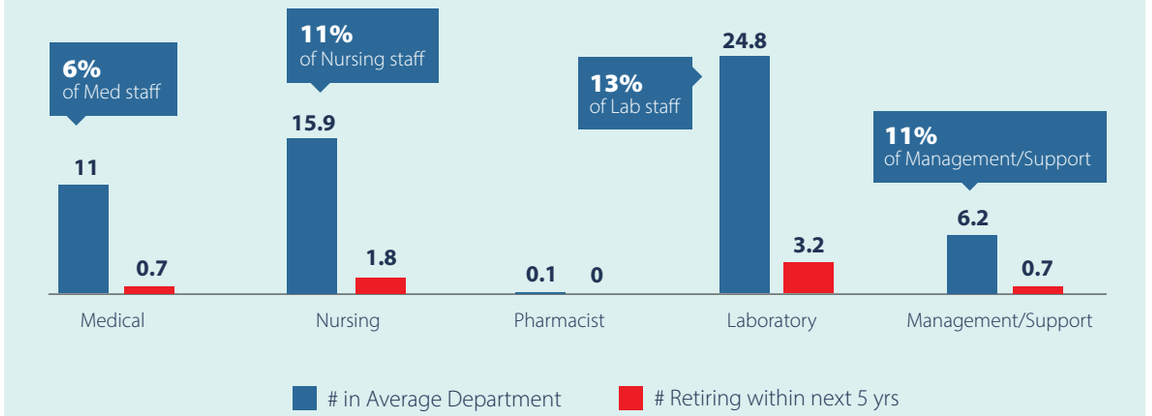
There are many reasons for this crisis in staffing, including an increase in people leaving because of job stress, as well a failure to train sufficient numbers of employees.

A particular issue within haematology is too few junior doctors starting out in their careers in haematology, who can replace consultants approaching retirement in the future, as already highlighted in this report (see page 7). Although the reasons for this were not covered by our FoI requests, Consultant Haematologists who were interviewed in depth mentioned a range of reasons why medical graduates might not be choosing to specialise in haematology. Their perceptions include that it is a difficult discipline, that a longer training period is required and limited opportunities exist to take on private work.

These factors are reflected in more detail here in the significant vacancy rate for trainee and junior doctors, and in the high percentage of consultants looking to retire in the next five years. The number of unfilled posts relative to those occupied is high for most haematology roles – for example in medical roles, nursing and management.

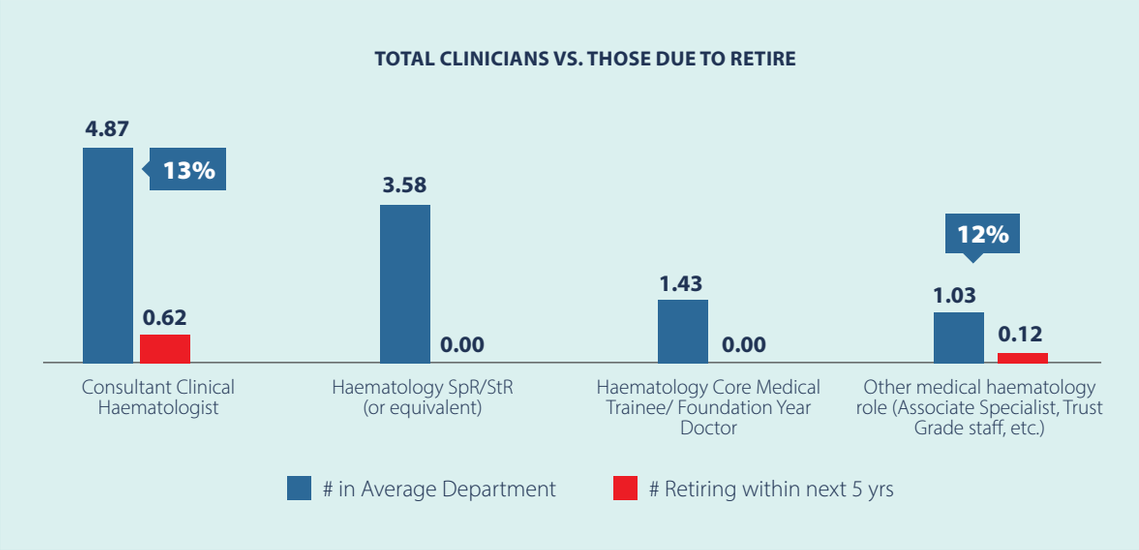
STAFF RETIREMENTS

Overall, 6% of clinical haematology staff (taking all grades together) are due to retire within the next five years. This compares with 13% of laboratory staff, 11% of management/support staff and 11% of nursing staff.



However, a concerning picture emerges from an analysis of individual medical staff roles. More than one in ten (13%) Consultant Haematologists are set to take their pensions in the next few years.

"Because of the age of consultants, lots of them are retiring, and t there aren't the people to replace them really. So, it's been quite difficult"
– Nurse



This high rate of staff retirement is even more of an issue in the laboratory. More than one in five (21%) senior (Band 7) biomedical scientists and 13% of biomedical scientists on the next pay band up (Band 8) are due to exit the workforce in five years, alongside 18% of highly qualified (Band 8) clinical scientists. The difference though is there has not been the same drop in junior laboratory staff coming through the ranks (see page 9).

Table 7: *Haematology Roles with more than 10% due to Retire within Five Years*

Role	Function	Retirement rate
Haematology Biomedical Scientist (Band 7)	Lab	21%
Haematology Data Manager	Support	19%
Other haematology laboratory role (please specify)	Lab	18%
Haematology Clinical Scientist (Band 8 and above)	Lab	18%
Haematology Biomedical Scientist (Band 8 or above)	Lab	13%
Haematology Clerical Staff (all roles)	Support	13%
Haematology Clinical Nurse Specialist	Nursing	12%
Haematology Medical Laboratory Assistant (Band 3)	Lab	12%
Haematology Biomedical Scientist (Band 6)	Lab	11%
Haematology Secretarial Staff	Support	11%
Consultant Clinical Haematologist	Medical	11%
Other haematology nursing roles	Nursing	11%
Haematology Associate Practitioner / MTO (Band 4)	Lab	11%

KEY
Green text = Laboratory Staff; Purple text = Support Staff; Red Text = Nursing Staff; Dark Red = Medical Staff

VACANCIES

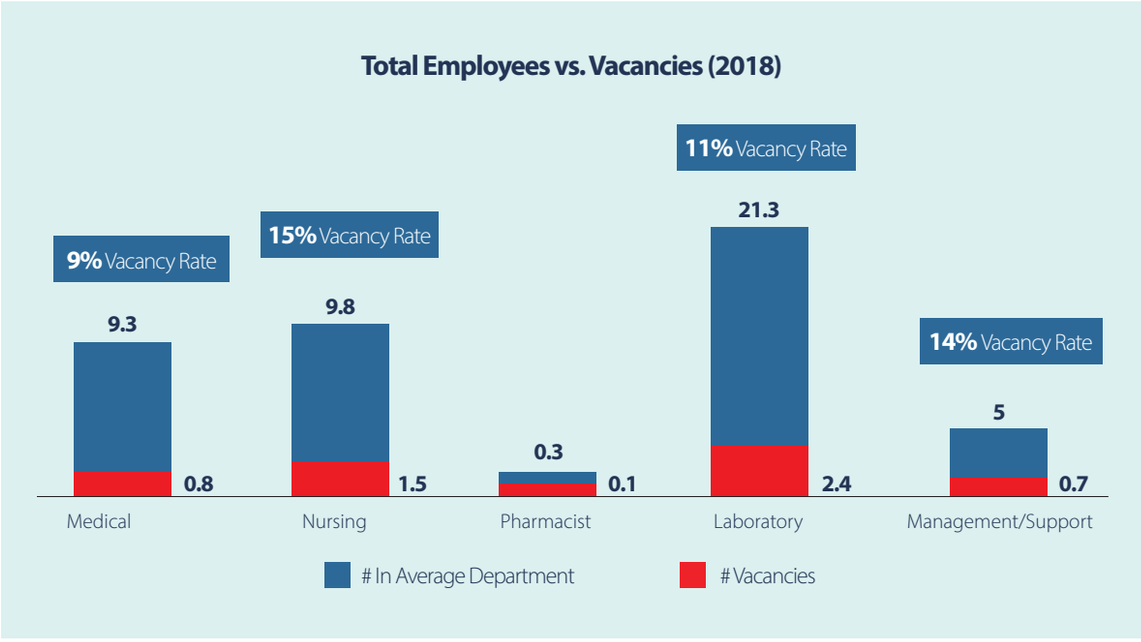
High job vacancy rates are to some extent an issue within most functions in the typical haematology department. This reflects the trend within the NHS overall.

The highest vacancy rate (positions open divided by positions filled) by role is seen for nursing, where our findings suggest the figure stands at 15%. This is well above the latest quarterly figure of 11.1% for nursing in general across England[16], which is based on figures from NHS Improvement[17]. Again, it raises questions over the ability of Trusts to provide a safe nurse-to-patient staffing ratio.

"We struggled each time to recruit our research nurses, we've currently got a vacancy for our research nurses and… [have had] staffing problems for as long as I can think of now, probably the last five years or so"
- Consultant Haematologist

Figures for specific roles also show that the vacancy rate for Trainee/Foundation Year Doctors stands at 9%. This reinforces the fact there is an issue attracting junior staff to the discipline, and difficulties compensating for the impending retirement of many senior consultants.

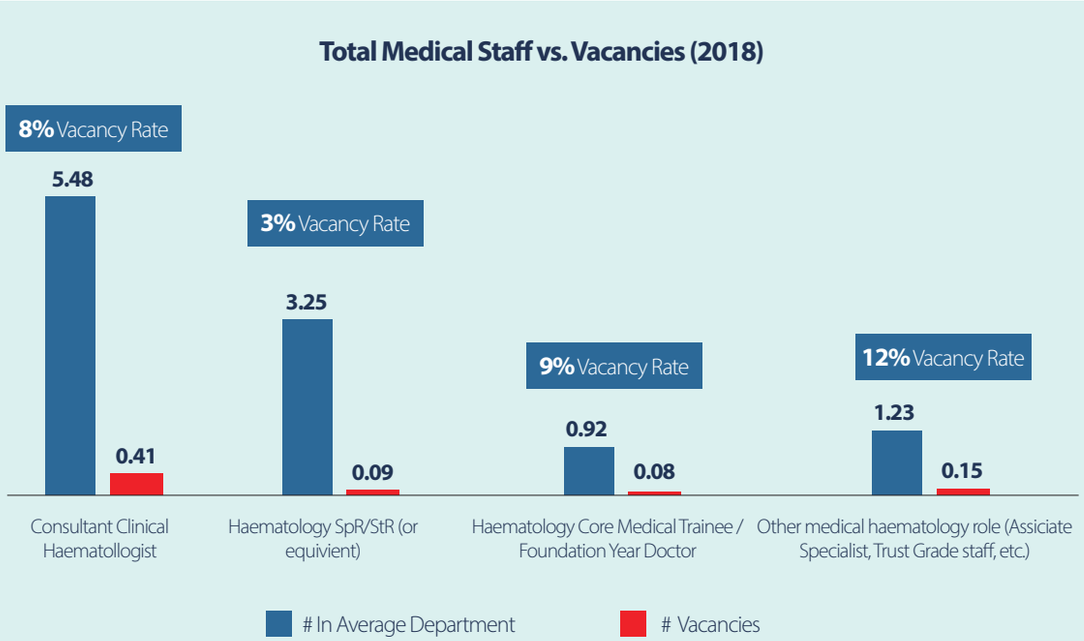
Several of the individual haematology professionals we interviewed said it can be a struggle filling the rota because trainee posts remain vacant. Reasons given for these vacancies include haematology being perceived as less desirable than it was, the long training involved and the generally shrinking pool of junior doctors who want to stay and specialise in haematology.



This is compounded by the consultant vacancy rate of 8%, which both our figures (see page 15) and qualitative feed-back from interviewees indicate is likely to rise as more senior consultants reach retirement age. At a local level, we already see this issue emerging – for example, 11 Trusts report having fewer than three specialist consultants. The consultant vacancy rate figure is the same as that highlighted in the 2008 workforce review which noted 'a general shortage of consultant haematologists in all sub-speciality areas. This will only worsen if trainee numbers are allowed to fall behind consultant vacancies'[18].

We believe any rise in consultant vacancies will affect the ability of hospitals to deliver an acceptable level of safety and support for haematology patients NHS-wide.

[16]https://www.nursingtimes.net/news/workforce/analysis-vacancies-indicate-nurse-staffing-still-crisis-06-09-2019/
[17]https://improvement.nhs.uk/documents/5404/Performance_of_the_NHS_provider_sector_for_the_quarter_4_1819.pdf



Vacancy rates are even higher in the laboratory. Here the problem is most acute among senior (Band 8) clinical scientists, where rates stand at 24%. The issue of unfilled laboratory posts therefore differs compared with clinical staff where vacancy rates are similar at both senior and junior levels.

Table 8: *Haematology Roles with Vacancy Rates of 10% and Above*

Role	Function	Vacancy rate
Haematology Clinical Scientist (Band 8 and above)	Lab	24%
Haematology Data Manager	Support	19%
Haematology Associate Practitioner / MTO (Band 4)	Lab	15%
Haematology Biomedical Scientist (Band 6)	Lab	13%
Haematology Biomedical Scientist (Band 5)	Lab	13%
Haematology Clerical Staff (all roles)	Support	13%
Other medical haematology role (Associate Specialist, Trust Grade staff, etc.)	Medical	12%
Haematology Secretarial Staff (all roles)	Support	11%
Other haematology nursing roles – Note: this applies only to haematology roles, not generalist roles	Nursing	10%

[18]*https://www.rcpath.org/uploads/assets/c1e96504-e4fa-4027-b451d35cc06fc278/haematology-consultant-workforce-the-next-10-years-jan-2008.pdf*

It should also be emphasised that issues with recruitment, retention and retirement highlighted here will vary from Trust to Trust, with some Trusts struggling with unfilled vacancies. In our interviews with practitioners, several mentioned that they perceived this being particularly an issue outside of London.

"My interview was in '97. There were four senior registrars of various descriptions at that interview, being interviewed on that day. That was the last competitive consultant interview for a haematologist in [Non-Metropolitan Location]. Ever since then, we've either had no applicants or one applicant. And usually we have no applicants. So, what's happening now is because people are getting pretty desperate, is that they are recruiting long-term locum consultants…with only a certain amount of haematology training."
-Consultant Haematologist

PART TWO: CHALLENGES HAEMATOLOGY DEPARTMENTS FACE

In addition to information on headcount and vacancies, our request to Trusts also asked haematology departments what they consider to be the biggest challenges they face.

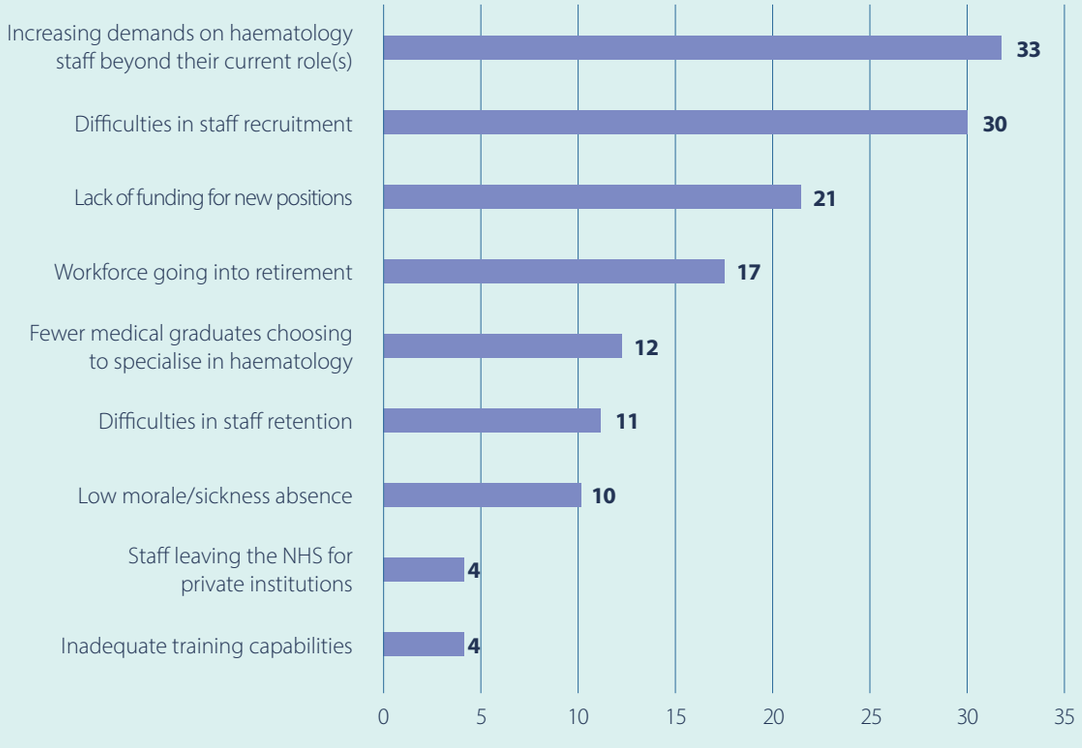
Top of the list of issues were staff recruitment, a lack of funding for new positions, retirements and fewer graduates choosing to specialise in haematology. This echoes those challenges identified in Part I of this report, and together reinforces the message that increased demands stretch existing staff well beyond their roles.

Our interviews with Consultant Haematologists, nurses, and other team members also show that increasing work pressures are not simply a function of being short-staffed. Several interviewees mentioned the introduction of new and more efficacious treatments in recent years, from monoclonal antibody therapy in some haematological malignancies to new treatments for haemophilia and thrombosis.

While undoubtedly a positive development, enhanced patient survival means that many conditions which were previously difficult to treat are now becoming almost chronic in nature. The consequence for staff is that patients are now seen repeatedly for multiple rounds of treatment, thereby stretching the workforce further.

"Patients are living longer, definitely…[But] patients are often staying longer on therapy, which means you need to review them more often"
– Consultant Haematologist

Biggest Challenges Facing Haematology Departments*



*Respondents were invited to indicate up to three challenges from the list above. Figures shown are the number of respondents selecting each item

INCREASING JOB DEMANDS

Demands on staff to go beyond their roles as defined in their job plan are familiar across the NHS. A lack of adequate staffing and resources is a common theme here, and one which is exacerbated by the ageing population. These factors are especially evident in specialisms such as haematology, given the lack of junior doctors that choose to specialise, and the transformative nature of recent innovations in treatment. More specifically, population growth and ageing has led to a rapid rise in the incidence of certain conditions. For example, the latest Global Burden of Disease (GBD) study[19] showed that, from 2006 to 2016, the incidence of non-Hodgkin lymphoma rose by 45%, and leukaemia by more than a quarter (26%). This increase is not limited to malignant conditions – for example, in the UK the prevalence of anaemia among women of reproductive age has increased every year since 2003[20].

The increasingly complex — and successful — nature of innovative treatments is another major reason behind job demands rising. Many of the haematology professionals we interviewed highlighted how innovative treatments can be challenging to administer. Several interviewees reported seeing the same patients in day unit and clinic visits on multiple occasions for ongoing treatment.

"There are continuous issues with patients, conditions changing, issues with chemotherapy prescribing. My colleagues that work four days a week, they frequently work on their fifth day when they should be with their families. I was just thinking the other day, that we have not met, all seven consultants together in the same room for several years"
– Consultant Haematologist

Patient access to trailblazing drugs and therapies is key to the NHS Long Term Plan[21]. As an example of this vision, NHS England has agreed to fund emicizumab for about 2000 people with haemophilia. The new drug will just involve a single injection once weekly or fortnightly instead of infusions multiple times a week.

Cancer services are also a priority area outlined in the Plan. However, some cutting-edge treatments — such as immunotherapy — are not straightforward to administer. For example, CAR T (Chimeric Antigen Receptor) cell therapy must be administered in a specialist centre.

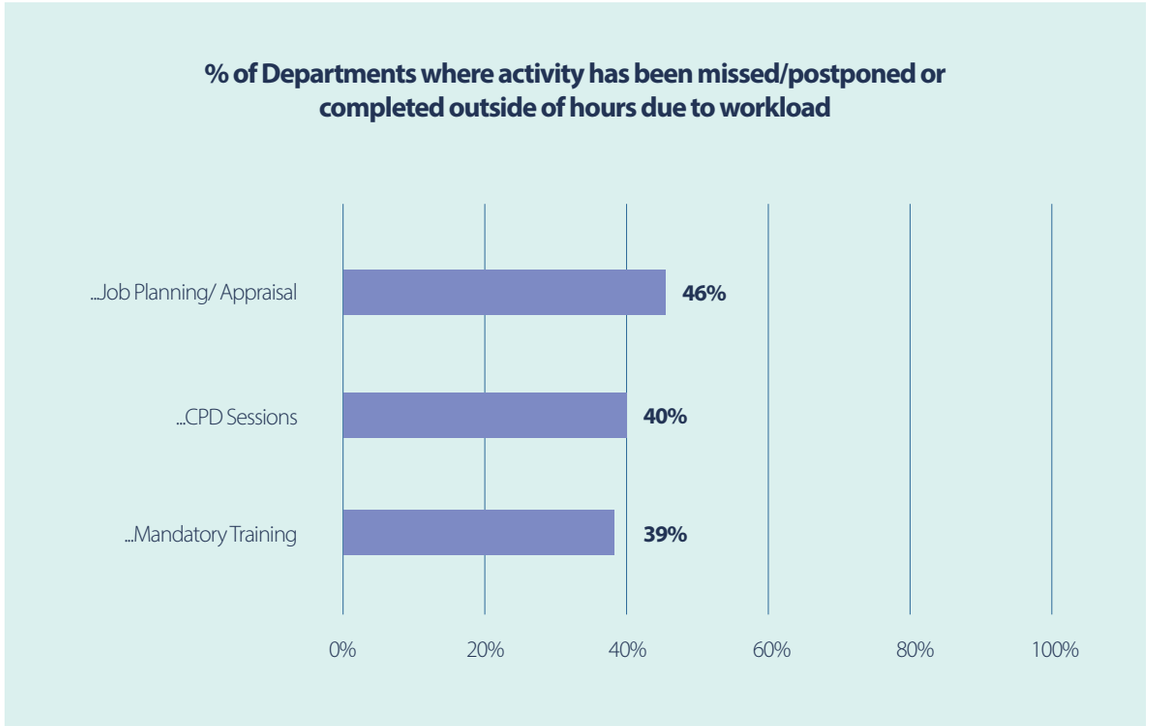
While the National Institute for Health and Care Excellence (NICE) has approved a handful of specialist centres to offer CAR T-cell therapy, aiming to expand these to treat a wider range of cancers, this is only achievable with fully staffed and adequately resourced multi-disciplinary teams. Access to ongoing training is also essential for the successful provision of CAR T-cell therapy. However, increasing workloads mean that staff are missing out on opportunities to increase their knowledge and skills (see page 21).

A workforce that remains static at best now must accommodate considerably more repeat appointments with patients. This additional pressure on services can only be managed through properly funded reform, modernisation of care pathways and incentives to attract additional clinical staff to the haematology workforce.

An additional consequence of overstretched staff is that essential non-clinical activities get missed or postponed as

[19] *http://www.healthdata.org/gbd*
[20] *https://www.indexmundi.com/facts/united-kingdom/prevalence-of-anemia*
[21] *https://www.longtermplan.nhs.uk*

staff naturally prioritise fitting in as much time with patients as possible. Our figures show that about 4 in 10 departments reported mandatory training sessions being missed or completed after hours, due to increased workload. These training sessions include topics such as blood transfusion, information governance, fire safety and manual handling.



Lack of Funding for New Positions

Financial problems in the NHS are endemic. According to the National Audit Office, the combined deficit for Trusts (including Foundation Trusts) was £991 million from 2017 to 2018[22]. The consequence of these monetary woes is that access to funding for new job posts is a distant dream for many haematology departments, with the lack of it emerging as the third most pressing challenge according to respondents to our FoI request.

This situation adds to a vicious circle in haematology relating to staffing. A large portion of the workforce is due to retire, difficulties exist in attracting and keeping replacements, already over-stretched existing staff are burdened with increasing demands, and stress is leading to absences.

Staff Retention

Patients benefit from continuity in care — especially when they require long-term support, as is necessary for blood disorders and cancers. This care can be jeopardised when a Trust has difficulties retaining staff. Issues over retaining employees can also undermine a Trust's ability to maintain a skilled and sustainable future workforce.

Increased demands on haematology departments and the accompanying stress are likely to be a major factor in retaining staff; this comes 6th in the rankings of top three challenges. A total of 11 Trusts said holding on to staff was a problem.

As part of the NHS Long Term Plan, a new scheme has been rolled out aimed at retaining staff with incentives such as gym memberships and targeted mentoring for new joiners [23].A new workforce implementation plan has also been published aimed at making the NHS a better place for staff, including for work-life balance[24]. However, it remains to be seen whether these initiatives will resolve the retention problem in haematology in the long-term.

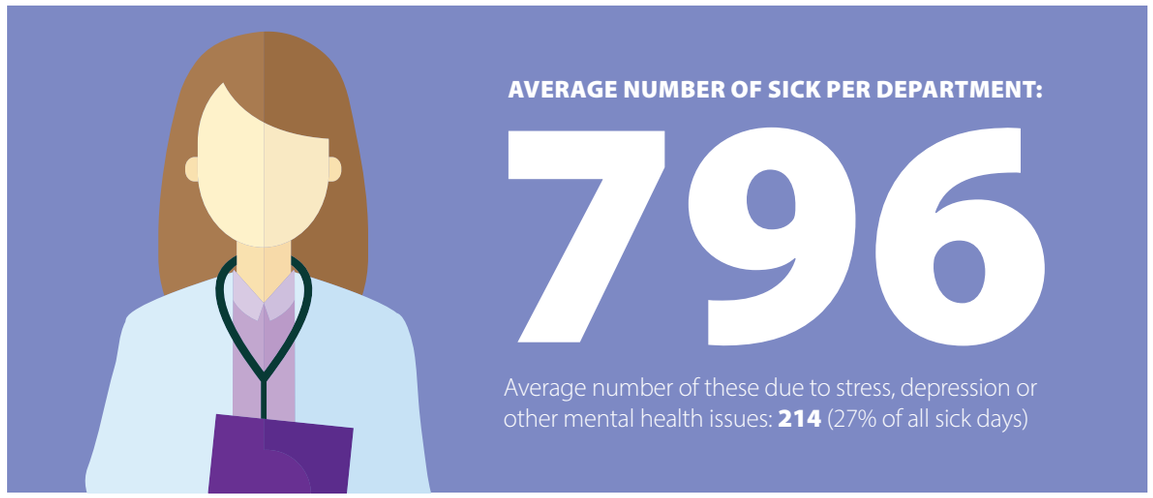
Overwhelming work pressures are also likely to be a factor in people leaving for the private sector.[25] Of the Trusts which responded, a total of four said that staff leaving the NHS for private institutions was a problem. It is fair to speculate that staff feel they will experience better pay and working conditions outside the NHS.

[22] *https://www.nao.org.uk/wp-content/uploads/2019/01/NHS-financial-sustainability-Summary.pdf*

SICK LEAVE AND STRESS

Low morale, sickness and absences were considered an issue by ten Trusts. The average number of sick days taken by clinical haematology staff, per Trust, was 796 between October 2017 to October 2018. This is the equivalent of 12.1 days off a year on average for each FTE member of clinical haematology staff– a figure three times higher than for the average UK worker[26], and somewhat higher than that for clinical staff across the NHS: the average sickness rate here is 3.5%[27], whereas that for within clinical haematologists is higher at 5.3%[28].

More than a quarter (27% or 214) of these sick days were taken because of staff suffering from stress. This figure is in line with that seen across the NHS for all professionally qualified clinical staff (27% of all sickness absence due to anxiety, stress and depression). Again, factors such as an increasing workload because of staff shortages, recruitment issues and retirements are likely to blame for employees suffering physical and mental health problems.



These levels are in line with trends observed across the NHS. According to NHS Digital, stress, depression and other psychiatric illnesses accounted for nearly a quarter (24%) of absences across all staff groups in 2018 — more than five per cent higher than reported in 2013. The Royal College of Physicians' 2018-19 annual census[29] also illustrates this point, with 45% of consultants and 61% of HSTs reporting that a trainee was absent due to sick leave during their last on call shift.

This level is more than three times higher than that observed in the general working population. Recent Office for National Statistics data shows that stress, depression and anxiety accounted for 7.6% of all workplace absences in the UK in 2016[30].

"I remember there was a time when I was only down to two colleagues on the transplant unit… But you just did it. That seems to be happening an awful lot more now. And, of course, it's bound to take its toll on the mental health of those people who are actually trying to deliver those services."
– Clinical Director

[23] *https://www.england.nhs.uk/2019/07/nhs-rolls-out-staff-retention-scheme-as-part-of-the-long-term-plan/*
[24] *https://www.england.nhs.uk/2019/06/more-staff-not-enough-nhs-must-also-be-best-place-to-work-says-new-nhs-people-plan/*
[25] *https://digital.nhs.uk/data-and-information/publications/statistical/nhs-sickness-absence-rates/july-2019-provisional-statistics*
[26] *https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/sicknessabsencefallstothelowest-ratein24years/2018-07-30*
[27] *https://digital.nhs.uk/data-and-information/publications/statistical/nhs-sickness-absence-rates/july-2019-provisional-statistics (July 2019 - Total FTE Days lost: 649,598; Total FTE days available – 18,756,039)*
[28] *Based on 46 contracted weeks, or 230 working days*
[29] *https://www.rcplondon.ac.uk/projects/outputs/focus-physicians-2018-19-census-uk-consultants-and-higher-specialty-trainees*

TRAINING ISSUES

A lack of opportunities for training can blight career progression and deprive today's NHS workforce of the additional skills needed to adapt to future change.

A total of four Trusts said inadequate training capabilities were a challenge. Several departments also reported that workload issues were to blame for job planning, continuing professional development (CPD) sessions and mandatory training having been missed, postponed, or completed outside of hours. This could mean staff are not receiving instruction on vital areas such as information governance and blood transfusion.

A potential consequence is that existing staff may not have enough opportunities to top up and develop their skills. Therefore, they may not be fully prepared for the adaptation of their clinical roles to the changes ahead. This is if the current lived reality in hospitals continues where training takes second place to staff working overtime as they attempt to maintain services at current levels.

This last point illustrates that the impact of heavy workloads is felt in missed training sessions and this dovetails with a more general concern that junior haematology professionals,

> **"I think it's time constraints. Particularly from a nursing point of view, we've looked at lots of different ways of trying to provide education sessions, doing micro-teaching sessions first thing in the morning, doing lunch time sessions, evening sessions. Doing all sorts of things. It's still really hard to get people to be able to be taken out of the workforce to attend these things."**
> ***– Nurse***

This is a concern given the focus in the NHS Long Term Plan on the importance of digital technology and staff acquiring related skills. In future, technologies such as algorithms to predict a patient's likely response to chemotherapy treatment could become routine in clinical practice — and staff will need to know how to maximise the benefit for the people they treat.

An NHS-commissioned review carried out by Dr Eric Topol[31] also concluded that the NHS must focus on building a 'digital ready workforce.' By acquiring new skills, staff can ensure patients are fully informed about health technologies such as genomic medicine.

One area where the implications of missed training sessions and reduced knowledge may be felt in particular is in carrying out transfusions. While our FoI request did not ask about this specifically, the BSH has recently identified a gap in training resources available for current haematology staff. The most recent *Serious Hazards of Transfusion (SHOT)*[32] report found that in the year leading up to the report (2018):

- Transfusion was implicated in 20 deaths
- 109 cases of major morbidity arose from transfusion.

This is backed up by the evidence provided here in this report that Trusts are concerned that haematology staff are not receiving the training needed.

whether clinicians or in the lab, are not entering the speciality with a uniform or sufficient skills base. There has been some research undertaken into the state of haematology teaching in UK medical schools[33], finding that while all institutions include it in the general core curriculum, only two-thirds of medical schools include haematology as a compulsory clinical attachment, and that in many schools there is no formal clinical haematology training. Where clinical haematology teaching is provided, the duration of a training placement can vary considerably – sometimes being as short as two days.

We therefore believe that the status of the skills base within haematology is as much an issue as headcount: this is occurring due to the convergence of three factors:

- Lack of a consistent approach to teaching haematology within medical schools; and in some cases, there is not enough haematology within curricula;
- The retirement of many senior staff within the workforce, with insufficient ability to recruit experienced replacements;
- Increased demands on the workforce, meaning the opportunity to acquire new skills and refresh existing ones is often missed.

[32] *https://www.shotuk.org/wp-content/uploads/myimages/SHOT-Report-2018_Web_Version-1.pdf*
[33] *file:///C:/Users/clevy/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/U57CUM7C/April2010BulletinTRAINING1.pdf*

CHALLENGES EXPERIENCED: VARIATION ACROSS TRUSTS

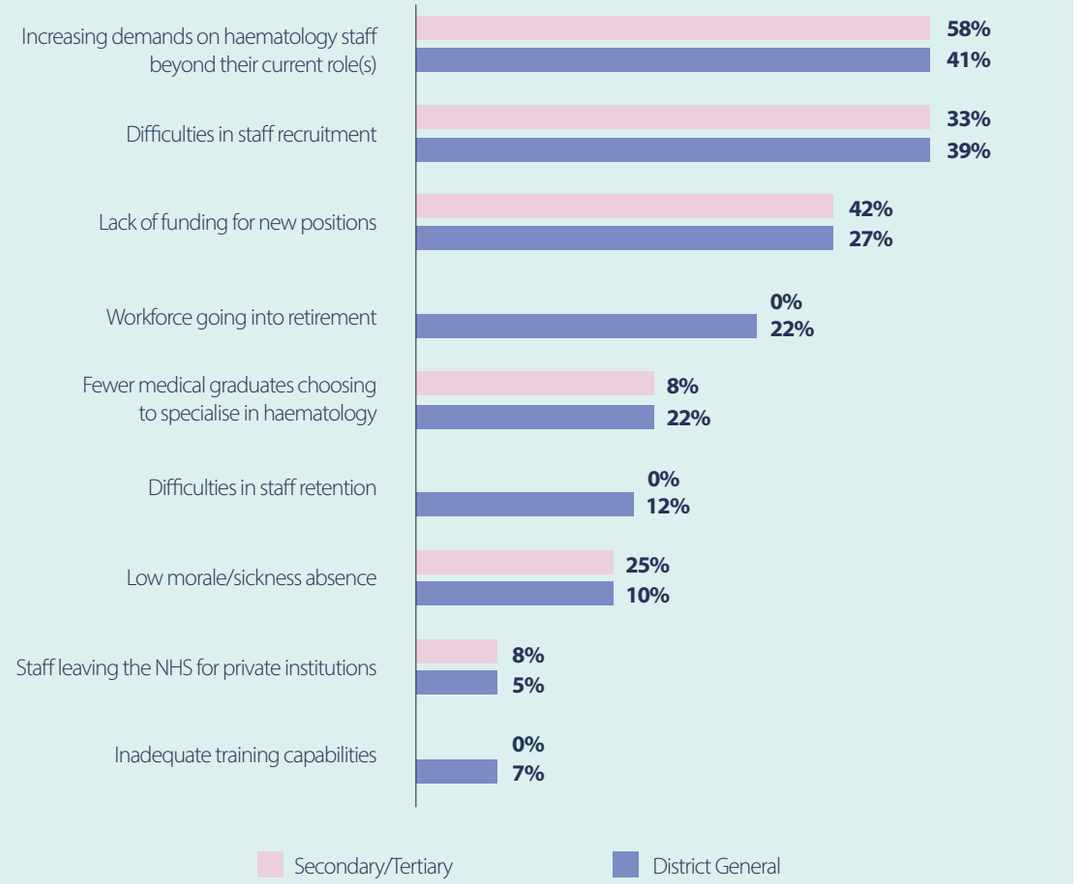
Examining results by Trust type, we can see the challenges outlined above are experienced particularly in certain types of Trust.

While increasing demands on staff are the most commonly-raised issue for both Secondary/Tertiary (58%) and District General (41%) Trusts, the latter are almost as likely to mention difficulties in recruitment as being an issue (39%).

Upcoming retirements are – as may be anticipated – more of an issue in District Generals (22% vs 0% in Secondary/Tertiary Trusts). The fact that fewer graduates choose to specialise in haematology is also more visible in District Generals (22% vs 8% of Secondary/Tertiary Trusts)

Conversely, the increasing demands on haematology staff to go beyond their specified roles look to be especially problematic in Secondary/Tertiary Trusts (58% vs 41% in District Generals). This is reflected in low morale and sickness/absence being more problematic (25% vs 10% in District Generals). Finally, we also see that a higher number of Secondary/Tertiary Hospitals mention a lack of funding for new positions (42% vs 27% in District Generals)

% of Departments selecting as one of top three challenges*



NEXT STEPS

This is the first time such a comprehensive analysis has been carried out into the state of the UK clinical haematology workforce. The detailed nationwide data we have obtained on workforce numbers and the challenges facing departments suggests that haematology professionals are increasingly being pushed to the limit. This is backed up by evidence from the in-depth interviews carried out with haematology staff including nurses, consultants and other healthcare professionals.

We recognise that the NHS is under unprecedented financial pressure. We also accept that change is inevitable. It is part and parcel of working in a dynamic environment that strives to ensure patients receive cutting-edge treatments and the right care to meet their long-term needs.

Haematology professionals have always risen to meet the challenges they face and will continue to do so. However, departments need to have the capacity to deliver new drugs approved by NICE and monitor all new treatments as they become available, as well as to learn the importance of new diagnostic tests for determining the prognosis and follow up of diseases. They require proper funding so they can grow their skilled multi-disciplinary teams, rather than just stand still. Staff must be given access to training if the NHS vision of a digitally ready workforce is to be realised.

The picture though is not only one of gloom and doom. Vacancies are going down in some nursing and laboratory roles. Consultants are more committed than ever to supporting trainees and finding new ways of ensuring they enjoy long and fulfilling careers. This is also a rewarding time to work in haematology thanks to rapid advances in genomics and other areas of precision medicine.

The next step for the BSH is to use this data in discussions with fellow professionals, NHS leaders and other stakeholders to find a way forward that will ensure haematology services are adequately staffed and resourced and that patients live longer.

ANNEX I: List of responding Trusts

Ashford & St Peter's Hospitals NHS Foundation Trust (Surrey)
Bedford Hospital NHS Trust (Bedfordshire)
Belfast Trust (Belfast)
Bradford Teaching Hospitals NHS Foundation Trust (W. Yorkshire)
Buckinghamshire Healthcare NHS Trust (Buckinghamshire)
Cambridge University Hospitals NHS Foundation Trust (Cambridgeshire)
Cardiff and Vale University Local Health Board (Cardiff, Vale of Glamorgan)
Chelsea and Westminster Hospital NHS Foundation Trust (London Borough of Kensington and Chelsea)
Croydon Health Services NHS Trust (London Borough of Croydon)
Cwm Taf University Health Board (Bridgend County Borough, Merthyr Tydfil and Rhondda Cynon Taf)
East Kent Hospitals University NHS Foundation Trust (Kent)
East Suffolk and North Essex NHS Foundation Trust (Suffolk and Essex)
East Sussex Healthcare NHS Trust (E. Sussex)
Fife NHS Health Board (Fife)
Guy's and St Thomas' NHS Foundation Trust (London Boroughs of Lambeth and Southwark)
Hampshire Hospitals NHS Foundation Trust (Hampshire and Berkshire)
Homerton University Hospital Foundation Trust (London Borough of Hackney)
Kettering General Hospital NHS Foundation Trust (Northamptonshire)
Kingston Hospital NHS Foundation Trust (London Borough of Kingston-upon-Thames)
Leeds Teaching Hospitals NHS Trust (W. Yorkshire)
Medway NHS Foundation Trust (Kent)
Mid Yorkshire Hospitals NHS Trust (W. Yorkshire)
Midlands Partnership Foundation Trust (Shropshire)
Milton Keynes University Hospital NHS Foundation Trust (Buckinghamshire)
NHS Ayrshire & Arran (E. Ayrshire)
NHS Borders (The Borders)
NHS Borders Response (The Borders)
NHS Dumfries and Galloway (Dumfries and Galloway)
NHS Forth Valley (Clackmannanshire, Falkirk and Stirling)
NHS Grampian (Aberdeenshire and Moray)
NHS Greater Glasgow and Clyde 1 (Glasgow)
NHS Western Isles (Outer Hebrides)
North Bristol NHS Trust (Bristol)
Northampton General Hospital NHS Trust (Northamptonshire)
Northern Lincolnshire and Goole NHS Foundation Trust (Lincolnshire)
Northumbria Healthcare NHS Foundation Trust (Northumberland)
Pennine Care NHS Foundation Trust (Greater Manchester)
Poole Hospital NHS Foundation Trust (Dorset)
Princess Alexandra Hospital NHS Trust (Essex)
Rotherham NHS Foundation Trust (S. Yorkshire)
Royal Berkshire NHS Foundation Trust (Berkshire)
Royal Bolton Hospital NHS Foundation Trust (Greater Manchester)
Royal Brompton and Harefield NHS Foundation Trust (London Borough of Kensington and Chelsea)
Royal Cornwall Hospitals NHS Trust (Cornwall)
Royal Free London NHS Foundation Trust (London Borough of Camden)
Royal Surrey County Hospital NHS Foundation Trust (Surrey)
Salford Royal NHS Foundation Trust (Greater Manchester)
Salisbury NHS Foundation Trust (Wiltshire)
South Eastern H&SC Trust (Ulster)
Southend University Hospital NHS Foundation Trust (Essex)
Southern Health & Social Care Trust (County Armagh)
St George's University Hospitals NHS Foundation Trust (London Borough of Wandsworth)
St Helens & Knowsley Teaching Hospitals NHS Trust (Merseyside)
Tameside and Glossop Integrated Care NHS (Greater Manchester)
The Royal Marsden NHS Foundation Trust (London Borough of Kensington and Chelsea)
The Royal Wolverhampton NHS Trust (W. Midlands)
Torbay and South Devon NHS Foundation Trust (Devon)
University Hospital of North Tees (County Durham)
University Hospitals of Leicester NHS Trust (Leicestershire)
University Hospitals of Morecambe Bay NHS Foundation Trust (Cumbria)
University Hospitals Plymouth NHS Trust (Devon)
Walsall Healthcare NHS Trust (W. Midlands)
Warrington and Halton Hospitals NHS Foundation Trust (Cheshire)
West Hertfordshire Hospitals NHS Trust (Hertfordshire)
Western Health & Social Care Trust (Derry)
Whittington Health (London Boroughs of Islington and Haringey)
Worcestershire Acute Hospitals NHS Trust (Worcestershire)
Wrightington, Wigan and Leigh NHS Foundation Trust (Greater Manchester)
Yeovil District Hospital NHS Foundation Trust (Somerset)

ANNEX II: Roles of Interviewees

Consultant Haematologist (Haemostasis, Thrombosis)
Consultant Haematologist (Clinical Lead)
Consultant Haematologist
SpR
Nurse
Clinical Director (Paediatrics)
Nurse
Consultant Haematologist

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