



The Royal College of Pathologists
Pathology: the science behind the cure

Meeting pathology demand

Histopathology workforce census



Pathology – vital to patient care

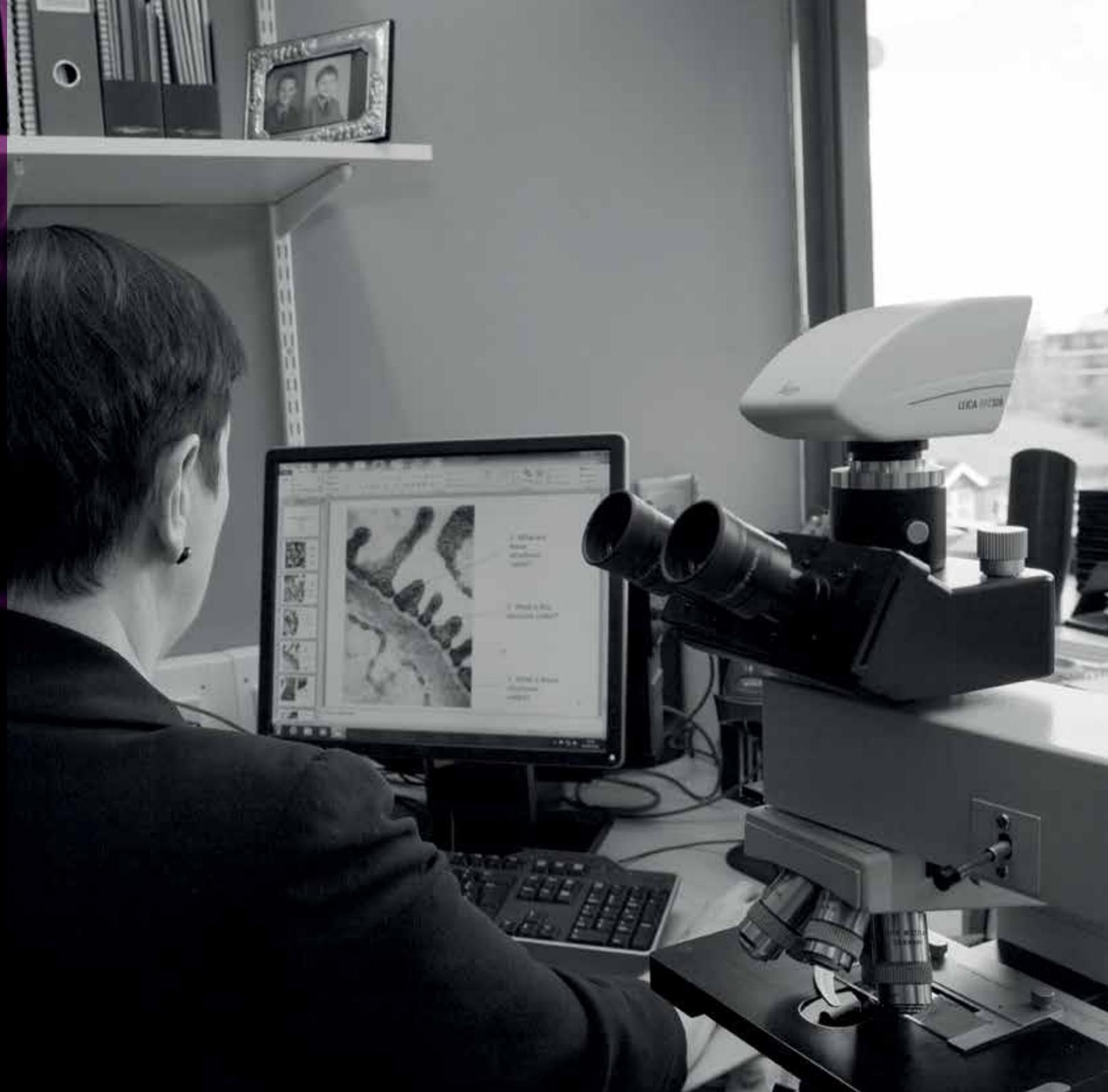
Pathology is the study of disease.

Pathologists work with front-line hospital clinicians, primary care practitioners and patients to prevent, identify, treat and monitor diseases.

Pathologists are involved in the diagnosis of disorders affecting every organ of the body, from before birth to after death.

The work of pathologists and clinical scientists is vital for effective healthcare. The majority of tests requested by doctors will be performed and interpreted by a clinical scientist or medically qualified pathologist.

Pathologists carry out millions of tests every day and are involved in almost all patient-care pathways within the NHS.



Foreword

Safe and effective high-quality patient care is dependent on having the right number of staff in the right places. Demand for pathology services has grown significantly in recent years – and continues to grow. The pathology workforce has not increased in line with this demand and is predicted to reduce to levels that may put clinical services in jeopardy. Making sure diagnostic services can cope with current and future demand is essential if we are to improve outcomes for patients.

This report focuses on the histopathology workforce – those doctors and scientists who diagnose and study disease using their expertise to interpret cell and tissue samples. The specialty is vital to cancer management, from initial diagnosis to planning further investigations and treatment for patients.

Many histopathologists are experiencing the intense and protracted pressures from increased workload, greater complexity of work and outdated IT. In our survey, only 3 per cent of histopathology departments said they had enough staff to meet clinical demand. To compound these pressures, there is an approaching retirement crisis – a quarter of all

histopathologists are aged 55 or over, and training places remain unfilled.

The cost of staff shortages in histopathology is high. For patients, it can mean worrying delays in diagnosis and treatment. For hospitals, it means spending more resources on locum doctors to fill staffing gaps, or outsourcing services. We estimate this costs £27m each year across the UK health service – money that could be better invested in staff and new diagnostic equipment.

The College is actively raising our concerns about the threats on service delivery due to workforce shortages – those that exist now and those that are expected in the future. We are making practical suggestions for solutions both in the short and longer term.

The additional funding announced for the NHS over the next five years is welcome. It is vital that part of that funding is invested in developing a sustainable pathology workforce that can meet the future needs of the NHS and the patients it cares for.

Professor Jo Martin
President, The Royal College of Pathologists



*"I call pathologists the
doctor's doctor. We're the
science behind the cure; the
evidence base that helps us
move forwards."*

Harziq is a consultant
histopathologist, London

Introduction

In 2017, the Royal College of Pathologists carried out a workforce survey of histopathology departments in the UK.

Of the three-quarters who responded, only 3 per cent reported they had enough staff to meet clinical demands. For those departments where staffing was inadequate, different ways of coping were used – including employing locums, outsourcing or overtime. If these figures were extrapolated, it could mean that 137 of 158 departments in the UK don't have enough consultant histopathologists to be able to provide the service we expect.

Yet workloads have increased and will continue to do so. Pathologists play a critical role in preventing, diagnosing, treating and monitoring cancer. This increasing workload is a particular concern. Large-scale NHS screening initiatives, such as those for breast and bowel cancers, place rising demands on histopathology services. In addition, the complexity of caseloads is growing, with genomics and molecular predictive tests guiding new therapies.

Adding to the list of pressures is an approaching retirement crisis. Currently, a quarter of all staff in histopathology are aged 55 or more, with 9 per cent aged at least 60. It can take up to 15 years to train a pathologist and experienced consultants typically report up to twice as much as newly qualified consultants.

The cost of staffing gaps runs into millions of pounds. The survey results show around £9.8m a year is spent on locum posts. This covers 77 posts at an annual average of £127,000 each. In addition, outsourcing could be costing as much as £10m a year.

This report looks at the issues, recommends some actions that could help to alleviate the difficulties – both now and in the longer term – and includes comments and case studies from histopathologists working in different areas of the UK.

What can help?

A woman with dark hair tied back, wearing safety glasses and a white lab coat, is focused on her work in a laboratory. She is wearing gloves and appears to be handling a specimen on a table. The background shows laboratory equipment and a computer monitor. The entire image has a purple tint.

The Royal College of Pathologists is recommending a range of solutions that we believe could help to alleviate some of the pressures, both now and in the future.

In the short term, we need:

- Better IT for day-to-day work, including modern, functional laboratory information systems, voice recognition support and remote working software for multidisciplinary teams.
- Capital investment to implement digital pathology more widely, enabling staff to work more efficiently, flexibly and remotely.
- Development of advanced clinical practitioner apprenticeships, helping more biomedical scientists to become independent practitioners, who can then work alongside medically-qualified histopathologists.

Looking further ahead, we need:

- More funded training places, plus 'golden hellos' for specialist trainees in hard to recruit areas.
- Extra foundation training placements, alongside tasters to encourage histopathology as a career choice.
- Increased funding to train more existing scientists to dissect and report. Develop a revised scientist training programme/higher specialist science training (STP/HSST) for histopathology to produce a cohort of advanced practitioners able to work alongside medically-qualified histopathology colleagues.

As a College, we are making three commitments:

1. To improve the gathering of national statistics about histopathology staffing, by carrying out an annual census and co-ordinating with NHS Digital to improve pathology classifications in the Electronic Staff Record (ESR).
2. To support the training of more scientists to dissect and report in histopathology.
3. To work with NHS Employers to develop more initiatives to encourage histopathology as a career choice.

Who are histopathologists?

Histopathologists microscopically examine tissue or cells, which have been removed from a patient in a clinic or during an operation, to discover if disease is present and what course of action should be taken. Some histopathologists also carry out post mortems to determine how someone has died.

We estimate there are around 1,444 consultant histopathologists working in the UK. Overall, around 52 per cent are male, and more than one-third are aged between 45 and 54.

A quarter are aged more than 55, but there are large variations between the UK's four countries. In Wales, 36 per cent of staff are aged 55 years or more, compared to 26 per cent in England, 22 per cent in Scotland and 15 per cent in Northern Ireland.

Across the UK, 5 per cent of all those in post are 'retired and returned' staff, although this is 10 per cent in Wales.

A new role of reporting biomedical scientist has been developed. Only five have been trained.



What is the context?

The College has been providing evidence to Health Education England (HEE) on workforce planning since 2013, providing submissions on each pathology speciality until 2016, when HEE decided to concentrate on pathways rather than specialities. In 2016, we joined HEE's working group, which was established to find solutions to the anticipated shortage of the workforce in histopathology.

But despite our best efforts, there has been a consistent lack of investment in pathology. In more recent times, training resources have been focused much more on nursing, midwifery and primary care, including encouraging more medical graduates into GP practice, with initiatives such as 'golden handshakes' to bolster numbers.

While we have successfully maintained the number of training places in histopathology, a lack of specific pathology teaching in medical school (due to changes in the undergraduate curriculum) presents difficulties. We are not surprised to find training numbers have gone down this year. Brexit is creating further uncertainty, both for our existing workforce and those considering coming to the UK.

Our findings

In 2017, the Royal College of Pathologists carried out a survey of histopathology departments in the UK, achieving a response rate of 73 per cent.

The following themes emerged from the data we collected:

- not enough staff
- increasing demand
- an uncertain future for the workforce
- the cost of workforce shortages.

Not enough staff

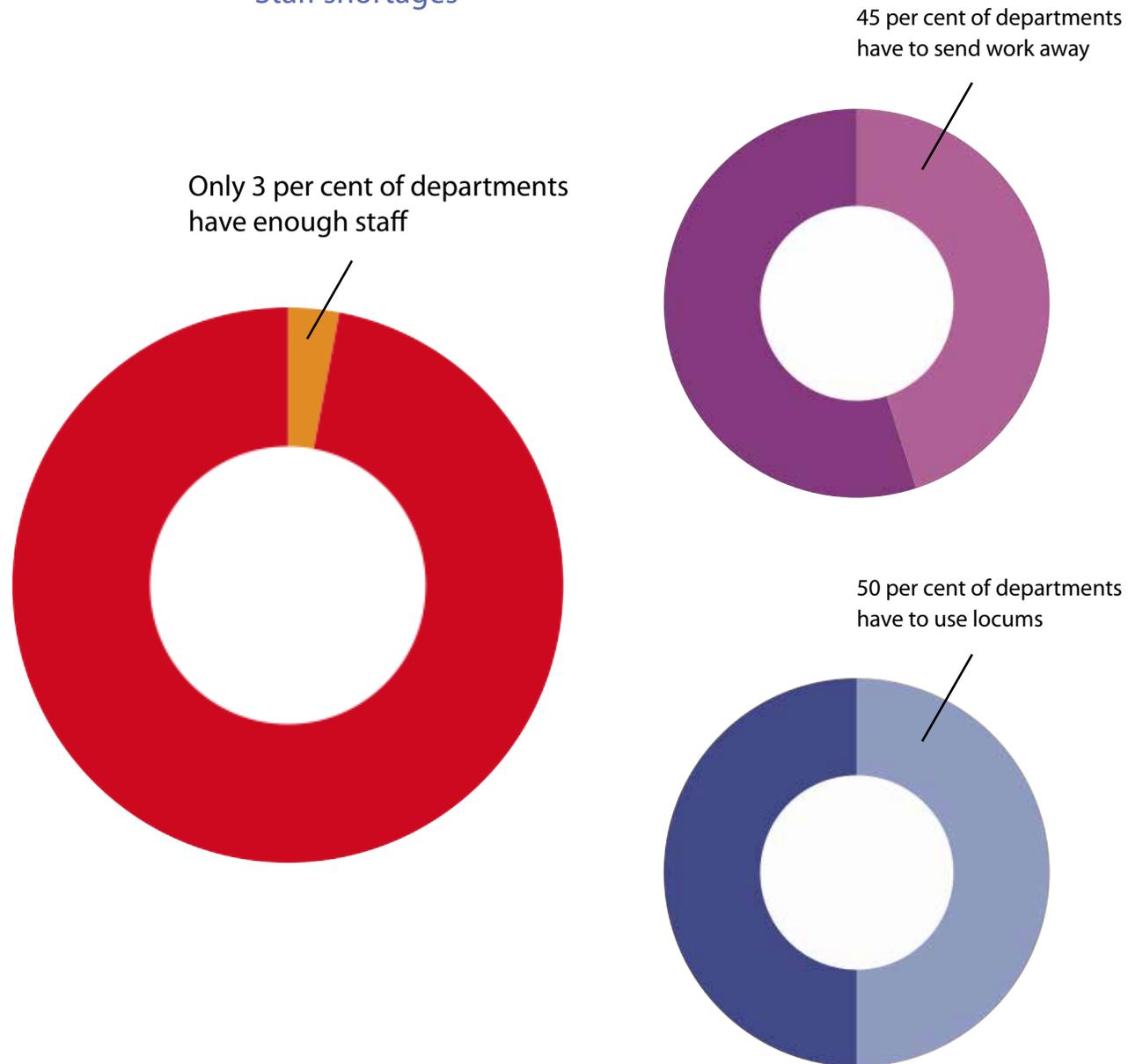
Of 103 histopathology departments that responded to our survey, 86 said that they had inadequate staff in post to meet current clinical demands, Of the 17 remaining respondents, 14 said they used additional methods to help them cope – including overtime, locums and outsourcing.

In total, this means that 100 of 103 departments say they have inadequate staffing or use at least one method to help them manage workloads.

Only 3 per cent of departments have enough staff.

45 per cent of departments have to send work away to cope with demand and half of departments have to use locums.

Figure 1
Staff shortages



“Over the last few years, we have seen a reducing number of academic pathologists, so there are fewer role models around who can teach medical students what pathology is all about.

If they are just skimming the surface of what they need to know – rather than being fully exposed to the specialty – then it is difficult for them to identify pathology as a potential career path.”

Sam is a consultant histopathologist working in London

Case study

“The real challenge we face is a mismatch of workforce with workload. There are huge expectations placed upon us to facilitate accurate and timely diagnosis of disease, while new standards and guidelines all require more work.

Studies have shown that the amount of information we are asked to provide on malignant disease doubled in the ten years from 1991 to 2001, and then doubled again in the next decade. Meanwhile the workforce has expanded slowly – by less than 1 per cent for consultants. We are struggling in the face of this to do the job.

For me, it's important to be able to deliver the highest quality of service locally, so patients don't have to travel a long way for regular treatment when they're already facing considerable burdens. In my hospital, we know from our workload we are around four or five consultants short; six more would make it comfortable. But we need extra administrative support too, alongside the scientific staff who run the laboratory, and the development work that is needed to bring the service forward. All of this needs investment. We need more people doing every aspect of the job.

But at the moment, we're starved of resources. I think it's neglect more than anything. Services are ignored until they become a bottle neck, patient pathways are obstructed and it becomes a crisis.

There is an impact on the quality of the service and the time it takes to deliver. On a personal level, it's hard for me to take a holiday and I have to put a lot of arrangements in place. I work silly hours and that's not sustainable, either for me or the department. I could retire, but I'm working full-time because what I do is worthwhile and I love my job greatly.”

Andrew has been a consultant histopathologist for more than two decades and works at a large teaching hospital in Scotland

Increasing demand

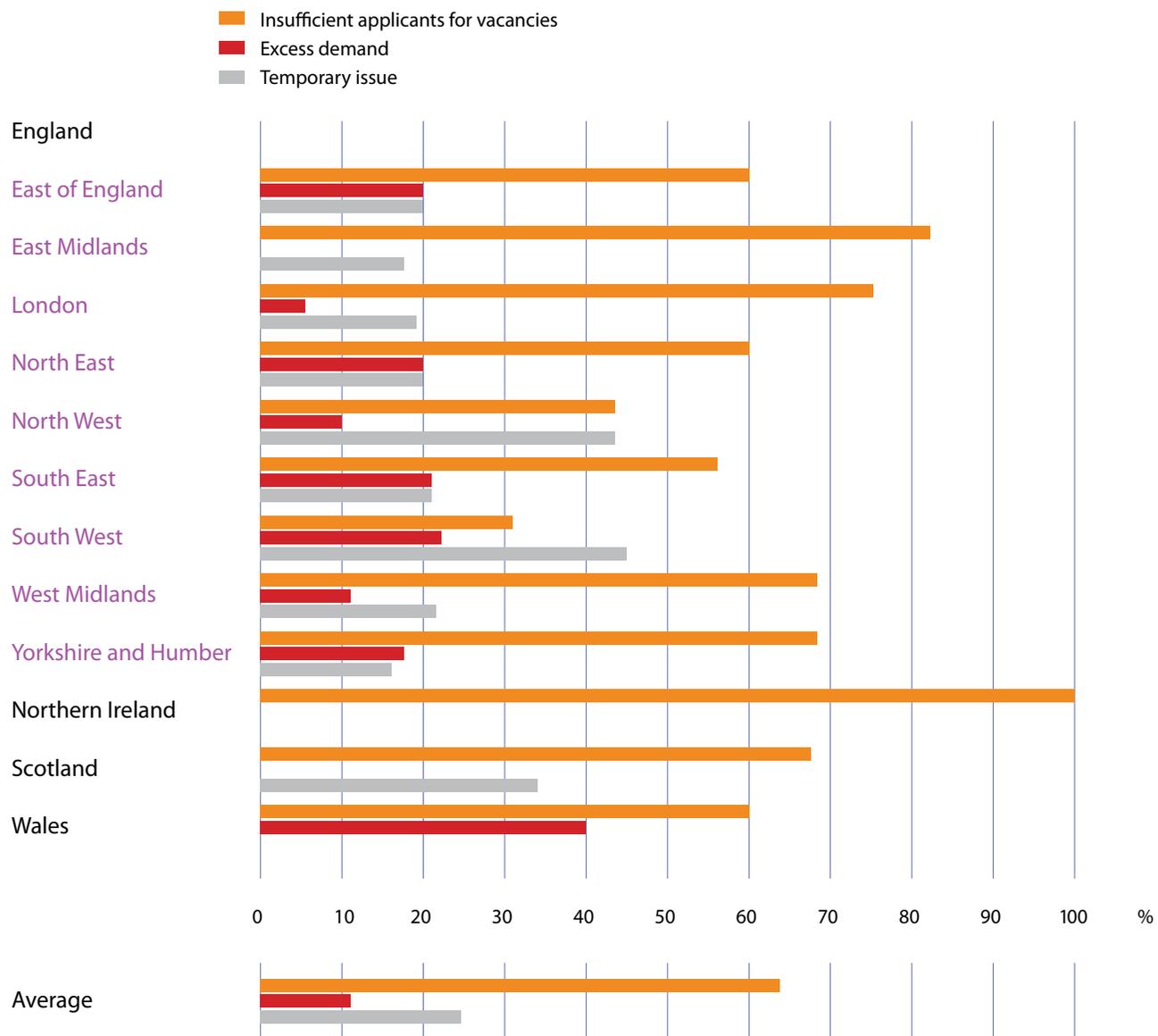
Cancer Research UK estimate that, with a growing and ageing population, the number of cancer cases is projected to rise by more than 40 per cent to about 514,000 new cases per year in 2035.

Early detection greatly improves the chance of successful treatment and NHS screening initiatives, such as those for breast and bowel cancers, place rising demands on histopathology services.

Genomics is going to increase histopathology workforce demand as those people at increased risk of cancer and other disease will undergo more testing in an attempt to catch the disease at an early stage.

Figure 2

Why hospitals use locums, percentage break down



“If 70 per cent of diagnoses are made by pathologists and we are seeing increasingly complex disease processes, alongside an older population who are surviving longer and have several co-morbidities, then the future need for pathologists will grow.

Our role is not about the black and white answer to a test, but interpretation, which needs a level of judgment and balance.”

Sam is a consultant histopathologist working in London

Case study

“Staffing is our biggest challenge and it has several impacts. The first is on patients, who are waiting to hear the results of their tests. There can be a delay in their diagnosis at a time when they’re already feeling anxious and want to know whether something is benign or malignant. The choice is either I keep working or I send the sample out – but that’s costly and not everyone can afford it.

The second impact is on staff morale. If you have a busy few days or even weeks, but you know it’s short term, you can manage. But if you can’t see any possibility of change ahead, it wears you down. You get up in the morning and the first thing you think of is your pile of cases and how much more that might grow during the day. You also worry about the possibility of mistakes. If you’re not performing at your optimum or hurrying through cases because you have a pile to finish, the chances of having an error are more frequent.

Many of my colleagues have not been able to have their appraisals, which are a necessary part of revalidation for doctors. A meaningful appraisal takes a good amount of time and without it, you either rush through or it happens by working very late at night or early in the morning. That’s the pattern. Personally, I’ve stayed almost the whole night at work because my day has been completely filled with meetings. You can see that it’s not good for your own health. If I didn’t love this job, I wouldn’t be doing it.

It’s also hard to do any research, which affects both your status as a doctor and your organisation’s standing. I have colleagues who are getting up at 4am to do their research projects and then working through the day. There are also impacts on training the next generation of doctors.

Investment in digital pathology would help and it really wouldn’t cost that much. It would give us greater flexibility, as slides could be examined anywhere, which would be much more efficient. There is a case for increasing staff numbers too, because we have an absolute shortage of histopathologists.”

Harziq is a consultant histopathologist at a busy London teaching hospital

An uncertain future for the workforce

In our study, more than three-quarters of departments reported vacancies for consultants – 78 per cent.

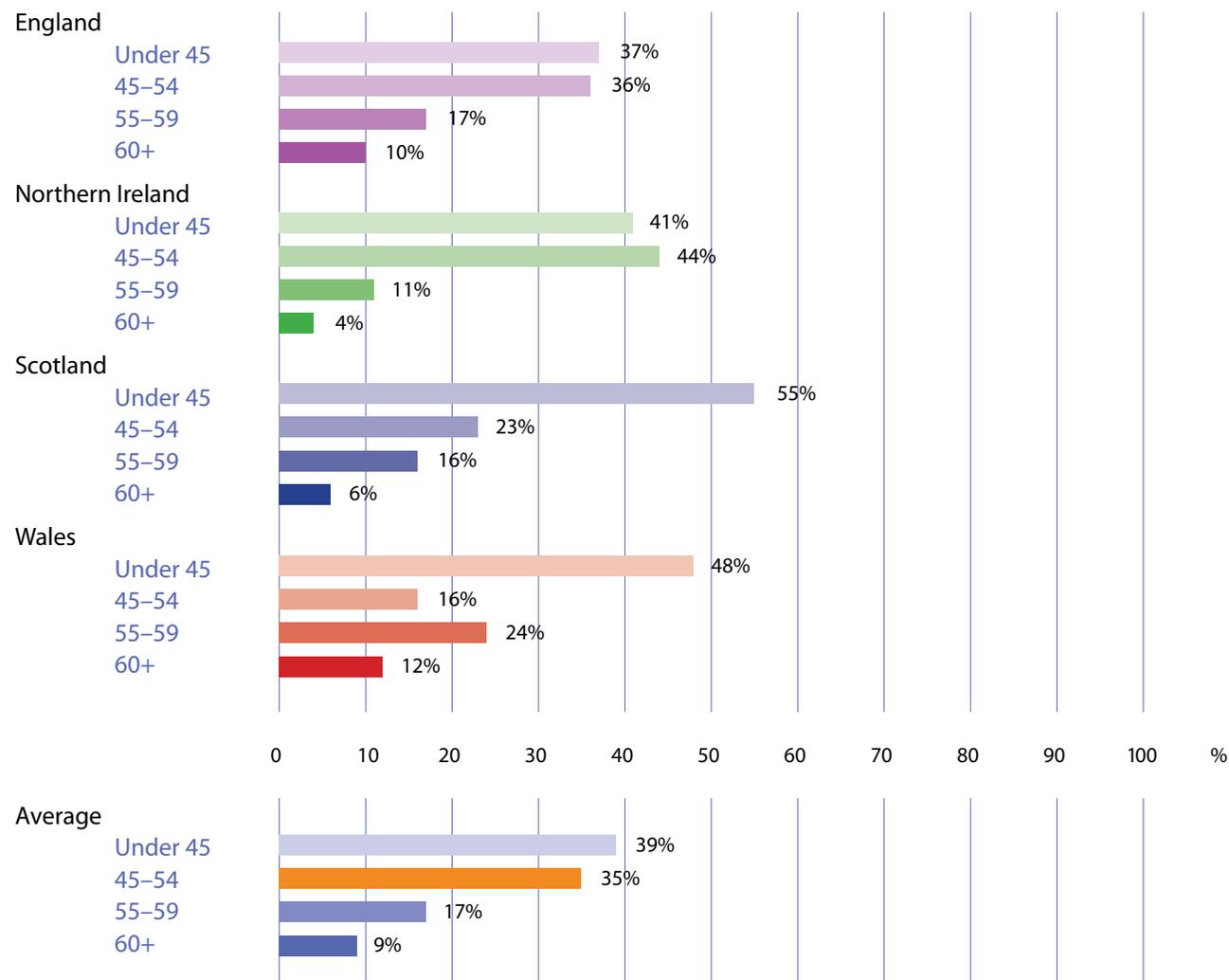
Meanwhile half employ locums in their departments. There are large variations between countries and regions in their use of locum consultants – 17 per cent of consultant pathologists in Wales are locums, compared to just 4 per cent in the East Midlands.

An aging workforce is another significant concern. A quarter of all staff in post are at least 55 years old, with 36 per cent of these are aged 60 or more. Wales has the highest proportion of staff aged 55 or more, at 36 per cent, with 12 per cent at least 60 – the highest of the four nations. In addition, 10 per cent of staff in Wales have retired then returned to work – twice the level of the UK average.

Assuming all staff aged 55 or more retire in the next five years, just 64 per cent of the current workforce would be in place in Wales – compared to 74 per cent in England, 78 per cent in Scotland and 85 per cent in Northern Ireland.

Figure 3

Ageing consultant workforce, by age and country



“A large cohort of histopathologists will be retiring soon and there are questions about whether there are enough people available to take up those posts over the next decade or so.

In addition, people will also choose to go to more attractive parts of the country, where the quality of life is better and the cost of living more reasonable.

There are areas where it's hard to attract staff.”

David is a consultant histopathologist working in Manchester

Case study

“In my department we should have 8.5 consultants and we have 4.5. That's been the case for around two years. It's a constant strain on the team and affects everything we do. It's not about cost-cutting, but a lack of applicants. Across the country, we're competing for a small pool of histopathologists.

Of course, work always comes in and we have to find ways to make sure we can do it, with greatly reduced numbers of consultants. We rely on locums and that brings its own challenges, impacting on the substantive members of staff. Locums are employed on short-term contracts for a few months at a time. This means they change from time to time and we don't have stability. They also don't participate in the full range of duties and their role within the team is quite different. It's extremely expensive to employ people in this way.

For us, rising demand is not so much about the number of samples we receive, but the complexity. What is required from the histopathologist has changed over the last few years and now it takes a lot more time, stretching the team even further. These are entirely appropriate demands that provide valuable pieces of information that help patient care, so it's entirely right that we're doing it.

At the moment, I feel development and innovation falls by the wayside because we have to focus on doing the day job. There are lots of exciting things we would love to do, but there's no time. If we had more staff, it would take a lot of stresses out of the system and there would be energy to develop and improve the service.

There is no overnight easy solution. We need a long-term strategy that encourages people into medicine, and particularly histopathology, from a very young age. We also need to give medical students the opportunity to find out more about histopathology. We need to get in there early, raising the profile of what we do and making it visible – if you don't know about histopathology, you won't think about it as a possible career.”

Rachel is a consultant histopathologist employed by a large health board in Wales

The cost of workforce shortages

Of the 38 departments who responded to questions on costs, around £9.8m a year is spent on locums, covering 77 posts at an annual average of £127,000 each. If this figure was extrapolated to cover the UK, it equates to around £17m.

Almost half (45 per cent) of respondents outsourced work, extrapolating to 63 departments across the UK. Costs vary widely between £5 and £51 per case, with an average of £35. Based on this figure, a typical department that outsources around 4,000 cases, spends around £140,000 each year. Extrapolated across the UK, this would equate to 290,000 cases at a total cost of £10m.

Figure 4

Percentage of departments outsourcing work, by region, to meet demand



Background

Histopathologists had anecdotally reported shortages in their departments to the College. The aim of this survey was to enable the College to compile a comprehensive and accurate picture of the histopathology workforce in the UK and to provide figures for the number of vacant posts. Case study interviews have been anonymised.

Methodology

The survey covered medical staffing in histopathology departments. The workforce figures in this report are given as headcount, unless otherwise stated. All data has been anonymised.

The survey did not include paediatric pathology, neuropathology or forensic pathology which are going to be surveyed separately.

Queries

Queries regarding this report should be sent to:
workforce@rcpath.org

Acknowledgements

For in-depth analysis of the raw, aggregated data, thank you to **Dr Gareth Lloyd Rowlands**, Consultant Histopathologist for Cardiff and Vale UHB, and Chair of the Royal College of Pathologists' Workload and Job Planning Working Group.

Appendix A

Survey completions

Thank you to the histopathology departments in the following trusts and health boards for completing the 2017 survey:

England

England – East Midlands

Chesterfield Royal Hospital NHS Foundation Trust
Derby Hospitals NHS Foundation Trust
Kettering General Hospital NHS Foundation Trust
Northampton General Hospital NHS Trust
Nottingham University Hospitals NHS Trust
University Hospitals of Leicester NHS Trust

England – East of England

Bedford Hospital NHS Trust
Colchester Hospital University NHS Foundation Trust
Ipswich Hospital NHS Trust
Luton and Dunstable Hospital NHS Trust
Norfolk and Norwich University Hospitals NHS Foundation Trust
Papworth Hospital NHS Foundation Trust
West Hertfordshire Hospitals NHS Trust

England – London

Barking, Havering and Redbridge University Hospitals NHS Trust
Barts Health NHS Trust
Kingston Hospital NHS Foundation Trust
London North West Healthcare NHS Trust
North Middlesex University Hospital NHS Trust
Royal Brompton and Harefield NHS Foundation Trust
Royal Free London NHS Foundation Trust
Royal National Orthopaedic Hospital NHS Foundation Trust
St George's University Hospitals NHS Foundation Trust
University College London Hospitals NHS Foundation Trust
Whittington Hospital NHS Trust

England – North East

County Durham and Darlington NHS Foundation Trust
Gateshead Health NHS Foundation Trust
Newcastle upon Tyne Hospitals NHS Foundation Trust
North Cumbria University Hospitals NHS Trust
North Tees and Hartlepool NHS Foundation Trust
South Tees Hospitals NHS Foundation Trust

England – North West

Blackpool Teaching Hospitals NHS Foundation Trust
Bolton NHS Foundation Trust
Central Manchester & Manchester Children's University Hospitals NHS Trust
Countess of Chester Hospital NHS Foundation Trust
East Lancashire Hospitals NHS Trust
Lancashire Teaching Hospitals NHS Foundation Trust
Liverpool Clinical Laboratories
(Royal Liverpool/Broadgreen & Aintree Trusts JV)
Mid Cheshire Hospitals NHSFT/E Cheshire NHST
Pennine Acute Hospitals NHS Trust
Salford Royal NHS Foundation Trust
St Helens and Knowsley Teaching Hospitals NHS Trust
Stockport NHS Foundation Trust
Tameside Hospital NHS Foundation Trust
The Christie Hospital NHS Foundation Trust
University Hospitals of Morecambe Bay NHS Foundation Trust
University Hospital of South Manchester NHS Foundation Trust
Wirral University Teaching Hospital NHS Foundation Trust

England – South Central

Hampshire Hospitals NHS Foundation Trust
Isle of Wight NHS Trust
Oxford University Hospitals NHS Foundation Trust
Portsmouth Hospitals NHS Trust
Royal Berkshire NHS Foundation Trust – Berkshire and Surrey Pathology Services

England – Kent, Surrey and Sussex

Ashford and St Peter's Hospitals NHS Foundation Trust – Berkshire and Surrey Pathology Services
Brighton and Sussex University Hospitals NHS Trust
East Kent Hospitals University NHS Foundation Trust
East Sussex Healthcare NHS Trust
Frimley Health NHS Foundation Trust – Berkshire and Surrey Pathology Services
Queen Victoria Hospital NHS Foundation Trust
Surrey and Sussex Healthcare NHS Trust
Western Sussex Hospitals NHS Foundation Trust

England – South West

Gloucestershire Hospitals NHS Foundation Trust
Great Western Hospitals NHS Foundation Trust
North Bristol NHS Trust
Northern Devon Healthcare NHS Trust
Plymouth Hospitals NHS Trust
Poole Hospital NHS Foundation Trust
Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust
Royal Cornwall Hospitals NHS Trust
Royal United Hospitals Bath NHS Foundation Trust
Salisbury NHS Foundation Trust
University Hospitals Bristol NHS Foundation Trust
Weston Area Health NHS Trust
Yeovil District Hospital NHS Foundation Trust

England – West Midlands

Birmingham Children's Hospital NHS Foundation Trust
Birmingham Women's NHS Foundation Trust
Heart of England NHS Foundation Trust
Royal Wolverhampton Hospitals NHS Trust
Sandwell and West Birmingham Hospitals NHS Trust
Shrewsbury and Telford Hospital NHS Trust
Worcestershire Acute Hospitals NHS Trust
Wye Valley NHS Trust

England – Yorkshire and the Humber

Airedale NHS Foundation Trust
Barnsley Hospital NHS Foundation Trust
Bradford Teaching Hospitals NHS Foundation Trust
Calderdale and Huddersfield NHS Foundation Trust
Doncaster and Bassetlaw Hospitals NHS Foundation Trust
Harrogate and District NHS Foundation Trust
Hull and East Yorkshire Hospitals NHS Trust
Leeds Teaching Hospitals NHS Trust
Mid Yorkshire Hospitals NHS Trust
Path Lincs – including Northern Lincolnshire and Goole Hospitals
NHS Foundation Trust & United Lincolnshire Hospital NHS Trust
York Teaching Hospitals NHS Foundation Trust

Northern Ireland

Belfast Health and Social Care Trust
Southern Health and Social Care Trust
Western Health and Social Care Trust

Scotland

NHS Dumfries and Galloway
NHS Fife
NHS Forth Valley
NHS Greater Glasgow & Clyde
NHS Highland

Wales

Abertawe Bro Morgannwg University Health Board
Aneurin Bevan Health Board
Betsi Cadwaladr University Health Board
Cwm Taf Health Board
Hywel Dda Health Board

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Breast cancer cell

