TESTING TIMES TO COME? AN EVALUATION OF PATHOLOGY CAPACITY IN SCOTLAND

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CANCER RESEARCH UK

EXECUTIVE SUMMARY

Whilst cancer survival is at its highest ever level, our health services are under considerable pressure. Increasing cancer incidence, an ageing population and efforts to improve outcomes means that the demand for cancer diagnostics has never been higher.

There were around 352,000 new cancer diagnoses in the UK in 2013[i] and this is set to increase considerably as we live longer. Indeed, around half of us will be diagnosed with cancer in our lifetime.[ii]

The 62-day cancer waiting times standard has not been achieved in Scotland since the first quarter of 2013. In the first quarter of 2016 89.7% of patients began treatment within 62 days.

Our previous research showed that endoscopy and imaging services have been delivering more activity over recent years[iii],[iv] but they are currently struggling to meet demand – leading to a diagnostic bottleneck and thousands of patients waiting in limbo.

Ensuring diagnostic services can cope with future demand is essential if we are to improve outcomes for patients through early diagnosis.

Pathology has a major role in the diagnosis and treatment of cancer, as well as many other conditions. Pathology is comprised of 19 different disciplines and our research focussed on the most relevant to cancer: cellular pathology (which encompasses both histopathology and cytopathology); blood sciences; and molecular pathology.

Cancer Research UK commissioned this research[1] to understand the pressures facing pathology services across the UK and to identify solutions to address these issues.

BY 2035, 500,000 PEOPLE COULD BE DIAGNOSED WITH CANCER IN THE UK EACH YEAR: ENSURING DIAGNOSTIC SERVICES CAN COPE WITH FUTURE PATIENT DEMAND IS ESSENTIAL

CURRENT LANDSCAPE

Increased demand on pathology services is due to higher cancer incidence, the growing complexity of referrals and requests, and the introduction of initiatives to increase earlier cancer diagnosis.

Cellular pathology, blood sciences and molecular pathology have all experienced an increase in activity in recent years. Each specialty is also experiencing difficulties in staffing their services to different extents.

Based on the number of pathologists currently in training and the age profile of the current workforce, our study found there is likely to be a severe crisis in pathology capacity within the next five to ten years.

CELLULAR PATHOLOGY

Year on year, the amount of histopathology requests received by each laboratory has been going up by around 4.5% on average.[v] Demand has also increased as requests are increasing in complexity.

However, capacity has not kept up: staffing levels have not increased at the same rate as demand. Staffing estimates suggest that

[1] Conducted by 2020 Delivery.

consultant cellular pathologist numbers have increased, but only by 3%[vi] per year.

In the next five to ten years there will be a shortage of consultant pathologists across all areas of pathology. This will have the largest impact on cellular pathology, as there is a shortfall in the numbers becoming cellular pathology consultants compared to those leaving the profession.

Many organisations have reported staffing shortages. To tackle the difficulty at recruiting at consultant level, there has been some use of skill mix approaches and role expansion, but implementation is varied. Many cellular pathologists have been reducing their other commitments such as training and research.

Waiting times in cellular pathology are now starting to increase as a results of the increasing mismatch between staffing capacity and demand.

BLOOD SCIENCES

There has also been an increase in blood sciences activity. However, some processes in blood sciences have been automated, which has meant that the increase in demand has been absorbed by technological developments.

Delivery of blood sciences has changed, as the ratio of medical laboratory assistants to biomedical scientists increase – from 0.34 in 2008/9 to 0.51 in 2014/5[vii]. Vacancies are a problem for blood sciences but not to the same extent as cellular pathology.

MOLECULAR PATHOLOGY

Demand for molecular testing has increased. However fewer tests were being requested than would be expected from patient eligibility. There needs to be future-proofing of these services to keep up with rising demand for the tests and their accompanying treatments.

RECOMMENDATIONS

Without action taken now to address workforce issues and improve efficiency, waiting times are likely to increase as it will take longer to process and report all requests. This means more people will be left in limbo when they require tests, and it may delay patients' diagnosis and treatment.

Turnaround times will increase to unacceptable levels which could compromise efforts to diagnose cancer earlier. Immediate action is needed to avert a crisis in pathology capacity and ensure we have a service that is fit for the future.

ENSURE PATHOLOGY SERVICES ARE MAXIMISING EFFICIENCY

There are inefficiencies in pathology services that must be reduced. Networking and consolidation of pathology services should continue.

Haematology and biochemistry should continue to increase productivity – absorbing the increase in workload through enhanced utilisation of equipment capacity. Long term plans for staff, equipment and consumables should be made to address growing demand. Time for giving more clinical advice should acknowledge increasing complexity of tests.

Reducing pathology with limited clinical value (e.g. duplicative tests, or those which are not clinically recommended) could potentially reduce demand. This should be thoughtfully used as there is a risk it could undermine efforts to improve earlier diagnosis (and associated increase in referrals). However, reducing unwarranted demand has been recognised through the 'Choosing Wisely'[viii] efforts, and could be addressed through creating an Atlas of Variation, as well as the Royal College of Pathologists' 'Minimum Retesting Intervals Guidance in Pathology'[ix].

OPTIMISE THE PATHOLOGY WORKFORCE

Delivery of pathology services is currently getting more expensive due to increasing costs for staff overtime and outsourcing. To tackle this, pathology needs to utilise 'skills mix' approaches, where health professionals working within a service take on different but complementary roles and activities. However, efficiency and skills mix approaches will only go so far. In the long term, increasing demand means that we will need more pathologists and scientists.

NHS Education for Scotland may need to explore increasing the provision of training places for pathology. Pathology may need to be included on the curricula in medical schools where it is not currently offered.

Another way to boost supply of the pathology workforce is to keep people within the profession for longer. To retain near-retirement consultants, Boards should encourage them to remain at the organisation, for example by implementing flexible working and home reporting. NHS Scotland should give individual organisations flexibility in order to decide the terms that they arrange with individuals.

RECOMMENDATION 1: Health Boards and their pathology departments, supported through guidance from professional bodies and NHS Scotland, should:

a) Ensure biomedical scientists (BMS) are being utilised to cut up specimens where possible, in accordance with 'Principles of Good Practice for Biomedical Scientists Involved in Histopathological Dissection'[x].

b) Explore the role of clinical scientists to support complex diagnostics and research. Clinical scientist input should be recognised in their job plans with backfill provided for existing duties.

c) Develop graduated increase in trainee responsibility and supervised reporting in accordance with the Royal College of Pathologists guidance on graded responsibility.[xi] The Royal College of Pathologists should update and promote their guidance document.

d) Ensure widespread use of biomedical scientist reporting following their completion of the Biomedical Scientist reporting programme.

RECOMMENDATION 2: The Royal College of Pathologists should continue to run programmes aiming to attract more staff to cellular pathology. Pathology numbers should feature in workforce planning unit reviews.

RECOMMENDATION 3: NHS Scotland should ensure there is flexibility and the impact of contract negotiations on near-retirement consultants.

FUTURE-PROOF PATHOLOGY

As more pathologists are struggling to meet clinical obligations, many are deprioritising other activities like teaching and research. Without pathologists getting involved, academic input will decline and innovation in treatments and care may make slower progress.

Technology is changing, presenting new opportunities to improve pathology, including 'digital pathology'.

Another area of innovation is molecular pathology. The level of provision of molecular diagnostic tests should be audited to understand if there are areas where patients are not receiving the level of testing that would be expected. This should continue. Standardisation of testing could be achieved through the National Laboratory Medicines Catalogue, which is intended to act as the professional reference for all pathology tests approved for use in the UK.

RECOMMENDATION 5: There should be continued support from researchers, funders and professional bodies for the CM-Path

initiative[2] and delivery of the four work streams within its strategy. Workforce initiatives should allow pathologists to spend time on research. The recommendations from 'Every Patient a Research Patient'[xii] should also be implemented to encourage a more positive research environment in the health service, including investment in academic pathology training posts and chairs.

RECOMMENDATION 6: Departments and Trusts should invest in infrastructure to support digital pathology and businesses/researchers should look at how to make this worthwhile. Sharing results and on-screen examination of histological slides should both be utilised in the short term to enable more efficient, networked services. Electronic requests should also be used.

RECOMMENDATION 7: Molecular pathology should be more involved with the whole diagnostic process for solid tumours (including how molecular pathology results are reported), in a similar way to blood cancer. This should be facilitated through better IT connectivity and closer working between relevant staff groups.

IMPROVE UNDERSTANDING OF PATHOLOGY PROVISION

There is little pathology data currently collected at a national level, which makes understanding activity and capacity more difficult. There must be reliable data to enable effective planning and commissioning of services. This information should be made available for all to use: by government departments and health service organisations in workforce planning and by charities such as Cancer Research UK in understanding service challenges. The impact on pathology is also often overlooked when changes are made to service provision, such as the innovative diagnostic pathways.

RECOMMENDATION 8: Health Boards should invest in technology so departments can supply more comprehensive data to central collections. The Royal College of Pathologists should pro-actively collect comprehensive workforce information from departments across the UK.

RECOMMENDATION 9: The Scottish Government should ensure all work on diagnostic pathways factors in the impact on pathology. Workforce and resourcing plans must ensure pathologists and clinical scientists are involved in the dialogue.

[2] CM-Path aims to support academic cellular molecular pathology in the UK. See www.ncri.org.uk/initiatives/pathology/

http://www.cancerresearchuk.org/pathology-capacity
For more information, or for a copy of the full report, please contact **policydepartment@cancer.org.uk**

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[i] Cancer Research UK (n.d.) Cancer incidence for all cancers combined. www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/all-cancers-combined Last accessed 21/11/2016.

[ii] Ahmad A.S. et al. (2015) Trends in the lifetime risk of developing cancer in Great Britain: comparison of risk for those born from 1930 to 1960. British Journal of Cancer. 112(5): 943-947. http://tinyurl.com/gwhtuzl, Last accessed 21/11/16.

[iii] Scoping the Future: An evaluation of endoscopy capacity across the NHS in England (September 2016) Commissioned by Cancer Research UK and written by the Health Services Management Centre at the University of Birmingham and the Strategy Unit at NHS Midlands and Lancashire Commissioning Support Unit

[iv] Horizon Scanning: An evaluation of imaging capacity across the NHS in England (September 2016) Commissioned by Cancer Research UK and written by 2020 Delivery

[v] Keele Benchmarking data

[vi] Keele Benchmarking data: % increase in medical consultants, per year in the UK, 2007/8 to 2014/15

[vii] Keele Benchmarking data: ratio of medical laboratory assistants to biomedical scientists, mean per laboratory (UK), haematology, 2008/9 to 2014/15

[viii] See http://www.choosingwisely.co.uk/

[ix] The Royal College of Pathologists, 'National minimum retesting intervals in pathology: A final report detailing consensus recommendations for minimum retesting intervals for use in pathology' January 2016

[x] The Royal College of Pathologists and Institute of Biomedical Scientists, 'Principles of Good Practice for Biomedical Scientists Involved in Histopathological Dissection'; February 2012

[xi] 'A Competency Based Framework for Graded Responsibility for Specialty Registrars and Specialty Trainees in Histopathology and Cytopathology', Royal College of Pathologists Joint Committee on Pathology Training, December 2009

[xii] Every Patient a Research Patient? Evaluating the current state of research in the NHS (May 2015) Health Services Management Centre (HSMC), School of Health and Population Sciences, University of Birmingham, commissioned by Cancer Research UK

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