



An evaluation of cancer surgery services in the UK

A report for Cancer Research UK by the Health Services Management Centre, University of Birmingham, and ICF-GHK consulting

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EXECUTIVE SUMMARY

INTRODUCTION

Surgery is an essential component of the management and treatment of cancer. For many cancer patients it offers the greatest potential for cure, and innovations in areas such as laparoscopic (keyhole) techniques have increased access to surgical care. The availability of improved techniques, combined with demographic trends and projected improvements in early diagnosis, mean that more patients are likely to undergo surgery in the coming years.

But the question remains as to how cancer surgery services can be most effectively organised and delivered in a constrained environment - particularly with increased demand.

For many rarer and more complex cancers, there is a growing evidence base to support the reconfiguration of services into specialist units in order to improve both the quality and outcomes of care. But service centralisation is only one of many possible options for improving surgical care, and the evidence is not compelling in all cases. There are enduring questions about the potential risks of centralisation, and its impact on patients – especially those who have to travel further to access specialist care.

Cancer Research UK's mission is to save more lives by preventing, controlling and curing cancer. A key part of this is to drive the development and uptake of the very best treatment options for patients. Recognising the need to more fully understand the challenges and opportunities in this area, Cancer Research UK commissioned an independent research team from the University of Birmingham's Health Services Management Centre and ICF-GHK Consulting to evaluate cancer surgery services in the UK. The work, which was carried out between March and September 2013, comprised three main elements:

- A review of international literature and evidence;
- Qualitative interviews with stakeholders at a local, national and international level;
- An international survey distributed through networks in the following six countries: UK, Denmark, Sweden, Norway, Australia and Canada.

This report summarises the main findings, as well as outlining a series of recommendations to build on best practice and address challenges currently faced by surgery services.

SUMMARY OF FINDINGS

1. Centralisation and reconfiguration

Despite significant evidence to support centralisation of surgery for particular tumour groups, for example lung and gynaecological cancers, there are gaps in the evidence for many other tumour groups or procedures, and there is debate as to the appropriateness of centralisation in all cases. Amongst the interviews, some strong views were held in favour of centralisation and specialisation within centres, but interviewees were not universally persuaded by the evidence linking high volumes of procedures to better outcomes. The link between competence of individual surgeons and volume was also unclear.

It was acknowledged that further plans to centralise services could radically affect the health system as a whole, changing the nature of elective and emergency surgical provision across the board.

Access to surgery in general is a complex picture, and the effect on access of increasing centralisation in particular is an under-researched area. International survey respondents cited geographical location as the most significant factor affecting access to surgery, due to centralisation of services. Rates of surgery among older people seem to be increasing but the decision whether to operate or not often involves complex considerations of risk. Late presentation also impacts upon access for some patients by limiting surgical options.

2. Specialisation and sub-specialisation

Specialisation and sub-specialisation were seen by interviewees as a positive development given the increasing complexity of treatment. But as with centralisation, concerns were raised about the impact of specialisation on the wider system and about the balance of specialist versus generalist skills across the service. The main issues related to the ability and confidence of surgeons to manage emergency or general surgical procedures that were outside the scope of their specialist area when called upon to do so.

There was a general sense of disillusionment about the current structure of training for junior doctors and the opportunities it offered for engaging with surgical specialities in the earlier stages, and for developing a breadth as well as depth of experience in surgical procedures as training progressed. There was also frustration at delays in recruiting people to fill non-training grade vacancies (i.e. those that are not General Medical Council-approved Deanery training programmes and posts) because of the current financial climate.

3. Quality and performance

Understanding how best to measure quality in surgery has become an issue of increasing interest. This reflects a widespread appetite for more transparent information on clinical outcomes and the growing use of patient-reported measures of quality. In particular, developments in recent years to reduce length of stay in hospital are a response to patients' general preferences for returning home quickly after surgery. Significant time reductions have been achieved, for example, in breast cancer surgery.

Regarding the publication of surgeon-level clinical outcomes data, transparency was widely welcomed by the surgical community. However, concerns were expressed as to the meaningfulness of the data at the level of the individual surgeon, which are now being made public in England – cancer surgery was described as 'a team game', relying on infrastructure, number of people and processes.

There were also concerns that surgeons could potentially become more risk averse given that this data is publicly available and less likely to either perform more complex procedures, or operate on patients with higher clinical risk factors, thus affecting access for some groups of patients. While published data is subject to risk adjustment, this may need to be better communicated to the wider surgical community. The ability to interpret data without contextual information was raised. The view was expressed that more attention should be directed towards longer-term outcomes such as five-year survival rates.

4. Multidisciplinary teams

There was a widely held view amongst interviewees that indefensible variation of practice has reduced significantly over time, helped by centralisation, specialisation, peer reviews and the spread of the multidisciplinary team (MDT).

The MDT has become a central tenet of the service, empirically demonstrating its positive impact on patient outcomes, and interviewees were generally extremely positive about its role in improving the management of patient care. Survey results showed that MDTs are held in high regard internationally, and especially in the UK. However, there were concerns about capacity and having enough time at MDT meetings to discuss all cases appropriately, and the occasional difficulties in getting the necessary clinical experts to attend, as a result of other work pressures. In addition, there are grounds to focus more attention on patient-related factors, such as patient preferences and values, when determining courses of action.

5. Research and innovation

Interviewees reported that within cancer surgery services, the appetite for innovation and uptake of new technology was apparent but that capital investment was increasingly problematic in the current climate.

Meanwhile, survey participants gave mixed views on uptake of new techniques and technologies in their countries. Some argued that centralisation would quicken the pace of innovation because having the specialist team in one place would overcome some of the cultural and financial barriers to uptake. Almost half of the survey respondents (45%) thought that there was a strong research culture in their country, yet most respondents cited similar barriers to research such as time, access to funding and 'red tape'. A similar proportion (46%) said that surgical cancer research does not compete effectively for funding compared to other disciplines in their country.

Interviewees in the UK suggested there should be more targeted support from funding bodies for surgical research and recognised the need to change people's perceptions about the nature and contribution of this kind of research.

RECOMMENDATIONS

The findings in this report present a complex picture. The issues that shape and affect surgery services differ depending on the tumour group, speciality and type of procedure. Cancer surgery does not take place in isolation from other services, and it is clear that changes to cancer surgery services will impact upon the health system as a whole. Our findings suggest that there is considerable scope to improve understanding of what best practice cancer surgery looks like, and to embed this as the norm across all parts of the health system.

1. CENTRALISATION AND RECONFIGURATION

- **At a minimum, all proposals to centralise services should include a robust assessment of their likely impact on acute and emergency care in local general hospitals.** A system-wide perspective and strategic leadership are essential to help ensure that decisions which deliver benefits to one group of patients do not disadvantage others. All four UK nations must be clear about how this will be achieved.
- **Where surgical pathways are delivered across specialist units and local general hospitals, structures to specifically support integrated working must be put in place.** Further development and piloting of promising approaches such as shared care arrangements and hub-and-spoke models is needed.
- **Research should be commissioned to examine how centralisation impacts on patients in areas such as care coordination, transportation and out-of-pocket costs.** Currently, far too little is known about the impact of centralisation of cancer surgery on patients' experiences of care.
- **More research is needed to better understand variation in resection rates, in particular variation based on age and geography, as well as amongst certain social groups.** Evidence suggests that considerable variation exists, but it remains unclear whether this is indefensible or whether some variation may be appropriate for clinical reasons.

2. SPECIALISATION AND SUB-SPECIALISATION

- **A re-think of medical education and training is needed to ensure a surgical workforce with the right balance of skills to deliver high quality specialist and generalist care.** Our findings here support the conclusions reached by the recent Shape of Training review. Far more emphasis in training on the skills surgeons need to share information and decisions with patients is also needed. This could be coupled with investment to produce patient information tools which would support surgeons to present treatment options in a clear and comprehensible way.
- **In future, the governments of all four UK nations should commit to funding national programmes to train surgeons in innovative techniques where there is evidence of patient benefit.** All patients should have access to effective new surgical techniques. The experience of laparoscopic surgery suggests that this aim is unlikely to be achieved unless training in new techniques is funded and coordinated nationally.

3. QUALITY AND PERFORMANCE

- **National health departments should work with the National Cancer Intelligence Network, professional bodies, patient groups and others to develop a comprehensive set of quality indicators for cancer surgery services.** A wider range of

indicators – capturing short and longer-term outcomes, and clinical and patient-reported factors – are needed to make meaningful assessments of performance and drive improvements.

- **NHS England should reconsider the inclusion of certain cancer specialities in its drive to report surgeon-level outcomes.** Cancer surgery is a 'team game' and our findings strongly indicate that performance data are only meaningful when reported at the unit rather than individual level.
- **NHS policy makers should be required to routinely gather patient-reported outcomes, in order to assess the impact that surgical interventions (and other treatments) have on recovery outcomes and patients' quality of life.** This will require further work to develop patient-reported outcome measures to ensure that they are available for all cancer types, and more support for professionals to implement these tools within their practice.

4. MULTIDISCIPLINARY TEAMS

- **Commitments to developing and supporting MDTs are needed within both national and local plans/programmes to develop cancer services.** Organisations must regularly assess whether appropriate and sufficient resources are in place for MDTs to function effectively. This includes staff time to prepare for and attend meetings, which should be recognised in job plans. Given that the demand for cancer services is increasing, the NHS must be prepared to increase these resources to allow staff to participate in longer or more frequent meetings.
- **There is much research and piloting work underway to support the development of telemedicine within the NHS; this could usefully extend its focus to include models of remote clinical teamworking such as vMDTs.** Virtual MDTs (vMDTs) have emerged in response to the logistical challenges of coordinating teams working at different locations, but little is known about the circumstances in which vMDTs are most appropriate and the factors that contribute to their effectiveness.

5. RESEARCH AND INNOVATION

- **Research funders should consider creating dedicated funding streams for research involving surgery (standalone or multi-disciplinary) and programmes to train future research leaders within the profession.** Surgical research is under-represented compared to other clinical areas and more action is needed to help surgical teams access research funding and infrastructure support. Funders and professional bodies should also consider how their communications can help expand the pool of research-active surgeons.
- **Key organisations including Cancer Research UK, the National Institute for Health Research and National Cancer Research Institute (NCRI) should consider establishing a national body to drive forward surgical research equivalent to CTRad (the Clinical and Translation Radiotherapy Research Working Group).** Such a group could support implementation of the detailed recommendations to support and develop surgical research that have already been made by the NCRI and the Royal College of Surgeons.
- **Indicators of research performance should be incorporated into data reporting requirements for cancer surgery to allow research activity to be benchmarked and tracked over time.** These should be gathered at unit level and might include, for example, the number of trials that the unit is participating in and the proportion of patients recruited to take part.