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Healthcare professional experiences of making surgical oncology decisions and delivering COVID-19 safe care: a qualitative study

Salonee Shah[a*], Alanah Kapur[a*], Alastair Young[b], Florien Boele[c], Hilary Bekker[d†] and Cecilia Pompili[a†]

[a]Leeds Institute of Health Sciences, Faculty of Medicine and Health, University of Leeds, Leeds, UK; [b]Department of Pancreatic Surgery, St James's University Hospital, Leeds, UK; [c]Section of Patient Centred Outcomes Research, Leeds Institute of Medical Research at St James's, Faculty of Medicine and Health, University of Leeds, Leeds, UK; [d]Faculty of Medicine and Health, Leeds Institute of Health Sciences, University of Leeds, Leeds, UK

ABSTRACT

Background: The COVID-19 pandemic was declared a public health emergency in March 2020. The British National Health Service (NHS) redirected medical attention towards prioritising COVID-19-positive patients in favour of less urgent care affecting cancer service provision. This study aims to explore experiences of healthcare professionals (HCPs) and investigate the impact of COVID-19 on decision-making in surgical oncology.

Methods: HCPs with experience in surgical oncology were recruited from January 2021 to June 2021. Qualitative semi-structured telephone interviews were conducted and transcribed verbatim. Interviews were conducted until data saturation. Thematic analysis was used to identify frequently discussed themes.

Results: A total of 13 participants were interviewed, identifying three main pandemic-related challenges: multi-disciplinary team (MDT) processes – telephone pre-operative assessments impoverished information elicited from in-person examination; service delivery – personal protective equipment (PPE) added complexity to surgical practice and more difficult communication; work routines – increased workload to deliver COVID-safe remote practices and decreased training time.

Conclusions: COVID-19 influenced cancer service provision with teams making significant changes to ensure that effective clinical reasoning and surgical standards were maintained. Managing safe COVID-19 surgical care impacted daily-life and work stressors. Post crisis, service delivery is looking to integrate telemedicine within care whilst reducing its impact on workload and in-practice training.

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COVID-19; surgical oncology; decision-making; qualitative

Introduction

When the coronavirus disease (COVID-19) pandemic was declared a public health emergency in March 2020 by the World Health Organisation (WHO) [1], the UK National Healthcare System (NHS) faced new acute pressures. Medical attention was redirected towards prioritising management for COVID-19-positive patients [2]. Issues regarding staffing, lack of personal protective equipment (PPE) and reduced hospital resources, whilst simultaneously trying to reduce nosocomial spread of the disease, has required adaptations to the delivery of surgical care [3]. During the start of the pandemic, elective and routine operations were cancelled, and recovery rooms were used to provide more space for the critically ill [4]. Staff were redeployed, de-specialised and asked to work where there was greater acute need; the delivery of treatments for people with COVID-19. In addition, there was a move towards telemedicine, with many outpatient clinics and multi-disciplinary meetings occurring *via* telephone or through video conferencing platforms.

NHS England prioritised care for more advanced cancer patients who required surgical management to avoid disease progression and elective surgical oncology procedures were scaled-down [2]. HCPs were encouraged to use telemedicine and minimise patient contact to reduce the risk of COVID-19 infection to other vulnerable cancer patients [3, p.2]. As a result of postponed procedures, a backlog of patients increased healthcare professionals (HCPs) workload and psychological stress [4]. Furthermore, stresses around being

CONTACT Cecilia Pompili c.pompili@leeds.ac.uk Faculty of Medicine and Health, Section of Patient Centred Outcomes Research, Leeds Institute of Medical Research at St James's, University of Leeds, Beckett Street, Leeds LS9 7TF, UK
*These authors contributed equally to this work.
†Both senior authors contributed equally to this work.

Table 1. Summary of main questions asking during semi-structured interviews.

MDT meetings	How has the COVID-19 pandemic influenced the conduct of MDTs since March 2020?
COVID screening	Do you think that the protocol for screening patients before arrival in surgical oncology departments have influenced surgical practice? If so, how?
Pre-operative assessment	How has the COVID-19 pandemic influenced decisions in pre-operative assessment for surgical oncology patients?
Surgical practice	As a result of the effects of COVID-19, how have any changes made to cope with the pandemic affected surgical practice?
Post-operative care and follow up	How has the COVID-19 pandemic affected protocols in post-operative care and follow-up within surgical oncology?
Physical and mental wellbeing	How has COVID-19 impacted your personal wellbeing, in the context of both work and personally?

redeployed into roles outside their specialities and skill set impacted on HCPs well-being [5]. Whilst dealing with workplace-related changes, HCPs have been affected by home-related stressors such as carer responsibilities, home-schooling and worries surrounding placing themselves and their families at risk of contracting COVID-19 [6].

Whilst HCPs' experiences including wellbeing and job satisfaction have been investigated across several specialities including critical care, gastroenterology and urology [7–11], the impact of continuing to provide COVID-19 safe surgical oncology services is unclear. This study investigates the experiences of HCPs making surgical oncology decisions with patients and delivering services during the COVID-19 pandemic.

Materials and methods

Sample and procedure

A cross-sectional observational study employing semi-structured interview methods was carried out between February 2021 and June 2021. HCPs with relevant experience in surgical oncology during the pandemic from The Leeds Teaching Hospitals NHS Trust were eligible for participation. A purposive sample matrix was developed based on sex, speciality (lung, breast and pancreas) and profession (nurse, doctor and administrative roles). An estimated sample size guide for this method is to include 2–3 participants per sampling category, resulting in approximately 12 participants. The study and its methods were classed as a service evaluation, exempting it from requiring a research ethics approval. A study information sheet was provided and circulated by clinical leads across surgical oncology settings. To maintain anonymity, the speciality of participants is not reported alongside direct quotes.

Interviews

Semi-structured telephone interviews conducted by medical students (SS and AK) trained and supervised by experienced qualitative researchers (CP and HB) took place at a time convenient for participants. Interviews lasted approximately 30–40 min. An interview schedule was developed to prompt discussion around six topics in the context of COVID-19 safe care: multi-disciplinary team (MDT) meetings; COVID-19 screening and patient care; pre-operative assessment; clinical practice; post-operative care and follow up; physical and mental wellbeing (see Table 1). With participant permission, interviews were audio-recorded and verbatim transcriptions were produced replacing any identifiable characteristics by pseudonyms. Interviews were performed until data saturation occurred i.e. the point where no new themes emerge [12].

Data analysis and reporting

Thematic analysis was carried out along the following steps [13]. Transcripts were read to allow familiarisation of content and noting down of initial ideas to inform grouping terms. Researchers independently read transcripts several times to familiarize themselves with the content and highlighted sections related to the research aims. They also discussed their interpretations and developed themes and sub-themes to classify codes to develop a coding framework and code book. The code book was discussed with CP and FB before being applied to the transcripts by SS and AK. The coders reviewed and discussed differences in interpretation until consensus was agreed. All transcripts and codes were reviewed independently by an experienced qualitative researcher (FB).

Results

Participants

A total of 18 HCPs were invited to take part in the study; 13 participated involving five females and eight males. The sample consisted of six pancreatic, five thoracic, one gynaecological and one

lung cancer specialist. Job roles included five consultant surgeons, four surgical registrar or fellow, three nurse specialists, one pathway manager. Seven themes were identified in relation to the impact of COVID-19 on surgical oncology care.

MDT meeting changes

Participants reflected on the changes to MDT meetings. This included the following sub-themes: patient outcomes, in-person to virtual changes in communication, workload, staff present and patient prioritisation as detailed below.

The move to online meetings was associated with enhanced involvement in decision making as the infrastructure encouraged a more formal way for all team members to contribute to the decision-making process.

> In terms of decision making, you'll have everything available to you online. And sometimes sort of, in a way it has enhanced, has made us more effective at making a decision and deciding who is safe is for surgery and who isn't. (SN 1)

However, responses indicated that the online environment made it more difficult for people to discuss the patient situations in-depth and make judgments:

> I would say I don't want to use the word less than adequate but the discussion is limited. (SN 2)

This finding may have been associated with the reduced attendance of MDTs during COVID-19 practices where social distancing requirements, changes in responsibility of team members, and illness meant fewer staff were present in online meetings.

> Not all the key members of MDT were in the discussions. So, that would have potentially impacted on the outcome as it was not comprehensive as before. (SN 3)

This reduced MDT format seemed to impact on the efficiency of the MDT decision process as additional meetings needed to be held with more senior clinicians to prioritize patients requiring urgent surgical intervention, and those most likely to benefit from radiotherapy and chemotherapy options.

> We also have now surgical meetings, after every MDT … to go through who's ready for surgery, or who needs to be prioritised, and that's just among consultants. (SN 3)

> We would have an additional meeting to discuss what we felt should go on and argue the case - why your patient should probably be given a higher priority than your colleagues. (SN 2)

Furthermore, participants reported reduced number of cases to be discussed during MDT meeting as patients were more frequently presenting at a later stage and were recommended for palliation instead of operative management.

> MDTs got shorter, but the patients that were coming through seemed to be coming through at stage four so they weren't operable. (SN 3)

Impact of COVID-19 positive patients and HCPs

A dominant theme was the impact of COVID-19-positive patients on the delivery of care. There was frustration towards having to delay their treatment and rearrange appointments. In addition, participants reported an increased workload in organising the next prioritized patient, preparing for surgery, and finding availability given reductions to the surgical teams.

> I think the screening routine of them having to be shielded for two weeks preoperatively had an impact on our ability to operate because it meant you couldn't replace patients or change things close to within two weeks of the operation day because other patients wouldn't be shielded. (SN 4)

There was minimal impact on the delivery of care when HCPs were COVID-19 positive, as other members of the team were able to deliver services.

> I don't think it's ever really affected patient care or affected our decisions regarding patient. (SN 5)

Pre-operative assessment

HCPs had concerns about patient rapport and the shift from in-person to telephone consultations for pre-operative assessments, as they reiterated the importance of seeing the patient before surgery. The importance of the consent process during the preoperative consultation was highlighted, with a final doctor-patient shared decision to proceed with surgery, usually involving an eyeball assessment of the patient's fitness and performance status.

> It is not just evaluating data or numbers or parameters, but also the gut feeling … because, you know, especially by experience, you immediately see, you have this snapshot judgement, that you immediately perceive, how if this patient would be a good surgical candidate or not. (SN 6)

Fears of not establishing a good patient-doctor relationship were described.

> To receive a phone call, that is telling you that you have cancer, and then not being able of actually talking directly with a doctor or not being able to have any an idea of the images or what is going on

> is not really ideal … it did add a lot of stress to the patient as well on top of the COVID. (SN 7)

Changes to workload

Generally, participants agreed that clinical workload had increased since the COVID-19 pandemic. They were faced with a change in responsibility requiring them to adjust, leading to additional workload, e.g. offering patients and their families extra emotional support over the phone when breaking bad news.

> The amount of patients ringing and seeking support over the phone increased massively. (SN 3)

In addition, the implementation of COVID-19 rotas meant that staff were redeployed to different areas, which impacted on being able to follow up on patients in their care.

> You had a little bit less continuity of care when looking after patients, because you were constantly moving around because of the COVID rotas. (SN 4)

Consultant and trainee surgeons perceived no change in their overall technical surgical performance but highlighted the potential impact on training for surgical trainees as 'if you're operating less, you're training less' which means it 'takes longer to get your skills' (SN 8).

Overall, participants felt they were able to deliver the same standard of care and meet the aims of their jobs through adapted MDTs, implementation of COVID-19 rotas and extra communication for teams and patients at different stages along the care pathway.

> I feel like we've still managed to get the support to our patients which is the important thing. (SN 3)

Personal protective equipment (PPE)

Views on PPE implementation generally referred to the fact that it was physically more demanding, with some participants reporting issues around communication and working environment whilst in theatre.

> t's perhaps a little bit more difficult to speak with the PPE, with a mask, and it is certainly more physically more demanding. And what I feel is that I'm certainly more tired now after a day in theatre than I was before. (SN 6)

> The old environment in theatre is different, because it was a little bit more relaxed before. (SN 6)

However, it is clear that PPE implementation did not affect patient care.

> Patient care wasn't affected, it was just you have to think about things a little bit more to reduce potential exposure of aerosols and to make sure everybody could hear. (SN 9)

Post-operative care

Participants frequently mentioned changes to the discharge and follow-up protocols during the post-operative period. Positive aspects included reduced travel and less hassle for patients, though an important negative aspect was potentially offering a false sense of security that patients are well post-operatively.

> It's a lot more difficult to assess a patient accurately over the phone than it is face to face, which can give you a false sense of security that the patient's doing well and inside they're not. (Alanah 6)

HCPs described that if there was any concern over the telephone, patients would be brought back into hospital for further assessment. In general, telephone post-operative assessments were seen as best practice during this pandemic context.

> If there was any concern on the telephone, we would bring them up for a face to face. (SN 4)

> I've heard about trying to expedite it [early discharge] but I've not seen it. I think, I genuinely think you wouldn't discharge the patient if you didn't think you could. (SN 9)

Stressors and personal wellbeing

Due to uncertainties and lack of routine, many participants found the pandemic to be a stressful period.

> At the beginning there was quite a lot of stress. The stress of trying to offer the best care possible and the fact we had to change every couple of weeks. (SN 7)

> And now, we've gone the other way where we feel as if psychologically, we're giving a lot more support to people. But then, obviously, some of the impact it's having on us. (SN 10)

> I don't think there is a section or area of my life that wasn't affected – stress and demand. Not being near my parents, not being able to rely on my family for babysitting. Nurseries being closed, children in the nursery having COVID and not having childcare. Obviously, at that time it puts pressure on the family. (SN 1)

Many participants also discussed positive impacts of the pandemic which included being able to go to work which gave a 'sense of

normality' and the growth in confidence and skills within their roles.

> During the course of pandemic, for me, I felt my decision-making and all sorts of things have come on quite a lot. (SN 11)

Discussion

This study explored HCPs' experiences of delivering surgical oncology services during the COVID-19 pandemic and identified several mechanisms explaining the impact of COVID-19 on patient-professional decision-making about care. Overall, HCPs felt they were able to make appropriate patient-centred decisions and provide a suitable standard of care, despite the challenges faced. Impact of forced implementation of telemedicine, effect on surgical training and an increased workload have been highlighted. However, delivering COVID-safe surgical oncology care whilst living through the pandemic impacted HCP wellbeing.

Prior to the pandemic, national strategies in the UK had already emerged driving the digital transformation of healthcare through government programmes, e.g. NHSx [14]. However, the pandemic resulted in this change occurring at a much faster pace [15]. Adapting to the use of telemedicine created a mixed response; some participants thought that virtual MDT meetings and having information available online enhanced the clinical decision-making process, whereas others thought discussions to be less comprehensive, and staff-to-staff interactions less personal. Sidpra et al. investigated the effectiveness of virtual MDT meetings during COVID-19 through a survey completed by 50 practicing physicians of mixed specialties, and found a similar pattern of mixed findings: 91.7% of respondents found viewing histological samples worked equally well or better in the virtual setting, but 42% of respondents preferred in-person communication as it allowed for stronger relationships to be built and encouraged more robust conversation [16].

The emergence of telemedicine within usual practice has left HCPs with the challenge of establishing good patient rapport [17,18]. Difficult conversations surrounding the diagnosis and outcomes of cancer can be difficult to conduct remotely as non-verbal cues can be missed [17,19]. In this study, participant concerns were described as adding 'a lot of stress to the patient'. In addition, the advanced skill of 'eye-balling' a patient has been widely described as an important clinical tool, requiring years of clinical observation to develop [20–22]. The change to telephone pre-operative assessments meant clinicians were not able to draw on these observations and gain a 'snapshot judgement' of the patient as they engage with the clinic and staff. HCPs reported that telemedicine may lead to less comprehensive clinical judgments, which could impact on shared decision making and patient care. Future studies could investigate methods including patient reported measures and telemedicine communication prompts to address differences by consultation method [17].

Following the rapid development of COVID-19-related guidelines by Healthcare Systems and surgical re-organisations during the height of the pandemic [23,24], there was a global reduction in elective surgical services to care for patients with COVID-19 [25]. With reduced lists and the impact of PPE on communication, participants in our study expressed concerns about the reduced training opportunities for surgical trainees, e.g. SN6 expressed difficulties communicating through masks in theatre as well as a less relaxed working environment. These changes may have impacted on the training model *in situ*, impoverishing the learning environment for junior staff. A recent systematic review of 61 articles reports similar concerns from trainees [26,27]. Simulation-based training allows trainees to learn in a protected environment, but surgical curriculums lag these simulator-led programmes [28–30]. However, trainees were required to adapt to a public health crisis, and it is likely more generic transferable skills were enhanced, including teamwork, communication, and recognising one's own limitations. To develop skills in dealing with unprecedented events and avoiding negative impacts on surgical training, there should be greater emphasis on the development of simulation-based training that improves crisis management.

Since the pandemic, HCPs have been faced with increasing workload pressures e.g. working in unfamiliar roles, added work hours and fatigue [31], as well as balancing the risk of contracting the virus themselves and putting their family and friends at risk [32]. Our participants reported increased efforts to ensure adequate support was provided to patients and their families during difficult telephone conversations and there were no detrimental effects on patient care. However, this did not come without negative effects on HCPs personal wellbeing, work-life balance and career development. It seems likely that although

participants managed these stressors in the short-term, the wellbeing of HCPs to prevent deterioration and burn-out in the long term is needed.

Limitations

This study followed established guidance for carrying out qualitative methods. The main limitation for this type of method is the selection of a sample representing only three oncology specialities, Lung, Pancreas and Gynaecology within a single hospital trust [33]. It is likely participants from different oncology or surgical specialities, at different types of hospitals or trusts, had different experiences of delivering surgical care during the COVID-19 pandemic. However, the themes this study identified resonate with findings across the UK and internationally. Furthermore, this study was conducted during the second wave of the pandemic, which may reflect an adaptation by HCPS to working with COVID-19 practices. Although the participants reported sharing experiences since the start of the pandemic, it is likely there were different factors impacting the delivery of services at the start of the crisis.

Conclusions

Several unexpected changes in COVID-19 surgical pathways have been experienced by HCPs in surgical oncology to deliver care, such as the implementation of telemedicine and increased workload due to rapid adaptations to new responsibilities. A suitable standard of care was felt to be maintained throughout the pandemic; however, surgical training and HCP wellbeing suffered. Ensuring the wellbeing of HCPs and optimal alternative training options for surgical trainees are vital to maintain excellence in the healthcare system.

Ethics approval

This study and methods are classed as a cross-sectional observational study, exempting it from requiring a research ethics approval.

Consent to participate

Informed consent was obtained from all individual participants included in the study.

Consent to publish

Individual or identifiable participant information has not been used in this study.

Author contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Salonee Shah and Alanah Kapur. The first draft of the manuscript was written by Salonee Shah and Alanah Kapur and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Disclosure statement

The authors have no relevant financial or non-financial interests to disclose.

ORCID

Cecilia Pompili http://orcid.org/0000-0001-6746-5441

Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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