

The Non-Clinical Impacts of Delayed or Cancelled Surgery

Subjects: Nursing

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Prior to and during the pandemic, the impact of delayed surgical procedures on individual non-clinical, or non-physical harms has been an area of significant concern. There are reports of profound social harms, such as loss of earnings due to being unable to work, relationship breakdown, and difficulties in obtaining assistance with activities of daily living. Delays experienced by patients can also impact nursing care provision. If people are more clinically unwell or have experienced some loss in their ability to self-care, this may change their in-patient nursing needs and require additional staffing resource and changes in skill-mix. Thus, there is an emerging need to consider stratifying peoples' waiting list position within the RCS surgical priority category to which they have been assigned, based not just on potential physical harms resulting from an extended delay in resolving their clinical condition, but also risk of non-clinical harms.

Keywords: delayed surgery ; COVID-19 ; waiting for surgery

1. Introduction

The emergence of the SARS-CoV-2 (COVID-19) pandemic in the UK during January 2020 which rapidly resulted in a severe reduction in the capacity of National Health Service (NHS) Trusts to provide a timely elective surgical service. In March 2020, NHS England instructed that all elective surgery should cease by 15 April 2020 for a minimum of 3 months ^[1]. The NHS constitution standard decrees that 92% of people should not have to wait for non-emergency treatment for more than 18 weeks ^[2]. As a consequence of halting elective surgery, by the end of October 2021, 65.6% of people were still waiting at 18 weeks, a sharp deviation from the 8% deemed acceptable ^[2]. The number of people in England waiting at the end of October 2021 was 6 million, of whom 312,665 had been waiting in excess of 52 weeks ^[2]. In 2013/14, NHS England introduced a zero-tolerance policy of waiting lists being of this duration ^[2].

People waiting for operations are stratified according to clinical need (e.g., disease severity and/or pain). The Royal College of Surgeons (RCS) has developed guidance to determine surgical priority (with the exception of obstetrics, gynaecology and ophthalmology) during the COVID-19 pandemic ^[3]. It is important to note there is a distinction between “urgency” (a characteristic assigned to a patient about the speed required in order to obtain or maximise the desired outcome) and “priority” (the patients position relative to others on the waiting list ^[4]. **Table 1** summarises the definitions of the RCS priority level classifications.

Table 1. The Royal College of Surgeons' (2020) Surgical priority level classifications ^[3].

Priority Level	Timing of Surgery
1a Emergency	Operation needed within 24 h
1b Urgent	Operation needed with 72 h
2	Surgery that can be deferred for up to 4 weeks
3	Surgery that can be delayed for up to 3 months
4	Surgery that can be delayed for more than 3 months

Prior to and during the pandemic, the impact of delayed surgical procedures on individual non-clinical, or non-physical harms has been an area of significant concern. There are reports of profound social harms, such as loss of earnings due to being unable to work, relationship breakdown, and difficulties in obtaining assistance with activities of daily living ^[5]. Delays experienced by patients can also impact nursing care provision. If people are more clinically unwell or have experienced some loss in their ability to self-care, this may change their in-patient nursing needs and require additional

staffing resource and changes in skill-mix. Thus, there is an emerging need to consider stratifying peoples' waiting list position within the RCS surgical priority category to which they have been assigned, based not just on potential physical harms resulting from an extended delay in resolving their clinical condition, but also risk of non-clinical harms.

2. Impact on Employment

Data on the impact of waiting for surgery on patients' employment status was reported by 13 publications that had variable findings; one study [6] found that patients' potential loss of paid work was unknown, yet another review [7] found that longer waits for surgery were associated with a decreased likelihood of returning to work.

Another research team [8] found that amongst people in employment who were waiting for endoscopic sinus surgery ($n = 18$) that 4.8% of time at work was missed and that 34.4% time at work was impaired. Participants in four qualitative papers identified that time off work or adjustments to their work activity was necessary whilst waiting for surgery [9][10][11][12]. Furthermore, reports emerged of longer term negative impacts on career pathway plans [10] and negatively altered relationships with work colleagues [11].

Six quantitative publications reported data on the difficulties of maintaining employment by people waiting for surgery, particularly people waiting for joint replacement surgery. Three studies found similar proportions of people resigning from work; 33% ($n = 71/214$) with arthritis [13], and 30% ($n = 82/278$) [14] and 25.7% ($n = 78/303$) [15] of people waiting for a hip or knee replacement. Companies with a small number of employees and no access to occupational health services who could facilitate adjustments to the working environment were more likely to have difficulty retaining staff unable to work whilst waiting for surgery [14]. Pre-surgery sickness absence was also reported amongst some groups; 51% ($n = 24/47$) people waiting for joint replacement surgery [16] and 12% ($n = 7/55$) with gall stones [17]. The same study [17] noted also that 20% ($n = 13/65$) of people waiting for an inguinal hernia repair needed adjustments to their workplace in order to continue working. One paper reported a survey of individuals from five hospitals in the East Midlands (UK) whose surgery was cancelled during the 'winter pressures' of 2017/2018 [18]. Of the 339 survey respondents, $n = 163/399$ were of working age (<65 years) and $n = 111$ (68%) were employed. Unplanned working days were lost by 54% (+/-10) of participants. In addition, 33% ($n = 37/111$) of family members needed between one and five days off work to support the patient, totaling 581 days of work lost.

A further paper aiming to report employment-related issues surveyed patients and clinicians on factors which could contribute to the prioritisation of people waiting for surgery [19]. Both the severity of physical symptoms and impact of work had the greatest impact on priority.

3. Impact on Social Function and Leisure Activities

Data that described the impact of social function and leisure activities was reported by 17 publications, showing that waiting for surgery significantly compromised patients' leisure activities and activities of daily living [7][8][12][17]. Several publications found that the enforced abandonment of usual roles and activities led to altered relationships with families, friends, and work colleagues, as well as social exclusion [8][11][15][20][21][22]. The likely cause of these effects was identified as either pain or disability, directly leading to disengagement with participants' social lives [9][12][16][17][21] or the resultant tiredness from poor sleep due to pain or discomfort [8]. Two frequently used health-related quality-of-life (HRQoL) assessment tools were employed by some authors as a research method—the EQ-5D [17][23] and the SF-36 [14][16][24][25]. However, neither the EQ-5D or the HRQoL tools include questions to assess alterations to sleeping patterns which, if impaired, can negatively affect social function among the assessment domains.

Two quantitative papers by the same author [13][26] used an alternative HRQoL assessment instrument, the *Assessment of Quality of Life* (AQoL) [27]. The AQoL actively measures changes in social function such as relationships with others, sleep, and capacity to fulfil family roles, so is a likely more sensitive measure of the impact of a long wait for surgery on social harms.

Whilst the impact of waiting for surgery on employment and leisure activities was explicitly investigated in many publications, the ability to continue fulfilling roles in the family or as a carer, was reported in only three publications. The first study identified that 6.9% ($n = 4/58$), 3.2% ($n = 1/31$), and 9.8% ($n = 5/51$) of participants waiting for varicose vein, inguinal hernia, and gallstones surgery respectively experienced problems when caring for dependents [19]. The second study found that 53% ($n = 160/303$) of their population waiting for hip-replacement surgery had difficulty when caregiving [15], and the third paper reported patients feeling "useless" because of being unable to undertake usual activities in the home [9].

4. Impact on Patients' Finances

The financial consequences to patients and their families whilst waiting for extended periods of time for surgery were observed in three publications. This theme therefore focuses specifically on the financial impact of both employment difficulties and the costs associated with additional face-to-face hospital appointments while waiting for surgery. Whilst one research team observed that there were no data identified regarding the effects of surgical cancellation on the patient's potential economic consequences, e.g., loss of work, sick leave, ability to maintain their housing arrangements [6], other authors reported that 13.3% ($n = 40/303$) of participants waiting for hip or knee surgery experienced a loss in income, although this sum was not quantified or correlated with a specific waiting period [15]. The economic burden experienced by some patients was identified in a survey that found that 48% ($n = 143/303$) incurred additional travel costs for hospital appointments of between GBP 6.50 and 30 [18]. However, the questions asked of patients did not address specific economic issues such as any missed mortgage or rent payments, a need to access food banks, having to prioritise bill payments over food or goods needed for children.

References

1. NHS England. Next Steps on NHS Response to COVID-19: Letter from Sir Simon Stevens and Amanda Pritchard. NHS England and NHS Improvement Coronavirus. 2020. Available online: <https://www.england.nhs.uk/coronavirus/publication/next-steps-on-nhs-response-to-covid-19-letter-from-simon-stevens-and-amanda-pritchard/> (accessed on 8 April 2022).
2. NHS England. Statistical Press Notice NHS Referral to Treatment (RTT) Waiting Times Data October 2021. 2021. Available online: <https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2021/12/RTT-statistical-press-notice-Oct-21-PDF-421K-03857.pdf> (accessed on 8 April 2022).
3. Royal College of Surgeons. Clinical Guide to Surgical Prioritisation during the Coronavirus Pandemic—Update 8 June 2020. 2020. Available online: <https://www.rcsed.ac.uk/media/681261/clinical-guide-to-surgical-prioritisation-during-the-coronavirus-pandemic-version-2-8-june-2020.pdf> (accessed on 8 April 2022).
4. Kee, F.; McDonald, P.; Kirwan, J.; Patterson, C.; Love, A. Urgency and priority for cardiac surgery: A clinical judgment analysis. *BMJ* 1998, 316, 925–929.
5. Campbell, D. 'Almost Indescribable Pain': Life Stuck on an NHS Waiting List|NHS|The Guardian. The Guardian. 2021. Available online: <https://www.theguardian.com/society/2021/may/13/indescribable-pain-life-stuck-on-nhs-waiting-list-surgery> (accessed on 8 April 2022).
6. Søreide, K.; Hallet, J.; Matthews, J.B.; Schnitzbauer, A.A.; Line, P.D.; Lai PB, S.; Otero, J.; Callegaro, D.; Warner, S.G.; Baxter, N.N.; et al. Immediate and long-term impact of the COVID-19 pandemic on delivery of surgical services. *Br. J. Surg.* 2020, 107, 1250–1261.
7. Carr, T.; Teucher, U.; Mann, J.; Casson, A.G. Waiting for surgery from the patient perspective. *Psychol. Res. Behav. Manag.* 2009, 2, 107–119.
8. Tsang GF, Z.; McKnight, C.L.; Kim, L.M.; Lee, J.M. Exploring the psychological morbidity of waiting for sinus surgery using a mixed methods approach. *J. Otolaryngol. Head Neck Surg.* 2016, 45, 36.
9. Carr, T.; Teucher, U.C.; Casson, A.G. Time while waiting: Patients' experiences of scheduled surgery. *Qual. Health Res.* 2014, 24, 1673–1685.
10. Carr, T.; Teucher, U.; Casson, A.G. Waiting for scheduled surgery: A complex patient experience. *J. Health Psychol.* 2017, 22, 290–301.
11. Hilkuysen GL, M.; Oudhoff, J.P.; Rietberg, M.; van der Wal, G.; Timmermans, D.R.M. Waiting for elective surgery: A qualitative analysis and conceptual framework of the consequences of delay. *Public Health* 2005, 119, 290–293.
12. Johnson, E.C.; Horwood, J.; Gooberman-Hill, R. Conceptualising time before surgery: The experience of patients waiting for hip replacement. *Soc. Sci. Med.* 2014, 116, 126–133.
13. Ackerman, I.N.; Graves, S.E.; Wicks, I.P.; Bennell, K.L.; Osborne, R.H. Severely compromised quality of life in women and those of lower socioeconomic status waiting for joint replacement surgery. *Arthritis Care Res.* 2005, 53, 653–658.
14. Palmer, K.T.; Milne, P.; Poole, J.; Cooper, C.; Coggon, D. Employment characteristics and job loss in patients awaiting surgery on the hip or knee. *Occup. Environ. Med.* 2005, 62, 54–57.
15. Conner-Spady, B.L.; Johnston, G.H.; Sanmartin, C.; McGurran, J.J.; Noseworthy, T.W.; Weiler, R.; Brown, J.; Bryden, C.; Calder, D.; Donnelly, L.; et al. A bird can't fly on one wing: Patient views on waiting for hip and knee replacement surgery. *Health Expect.* 2007, 10, 108–116.

16. Derrett, S.; Paul, C.; Morris, J.M. Waiting for elective surgery: Effects on health-related quality of life. *Int. J. Qual. Health Care* 1999, 11, 47–57.
17. Oudhoff, J.P.; Timmermans DR, M.; Knol, D.L.; Bijnen, A.B.; Van Der Wal, G. Waiting for elective general surgery: Impact on health related quality of life and psychosocial consequences. *BMC Public Health* 2007, 7, 164.
18. Herrod PJ, J.; Adiamah, A.; Boyd-Carson, H.; Daliya, P.; El-Sharkawy, A.M.; Sarmah, P.B.; Hossain, T.; Couch, J.; Sian, T.S.; Wragg, A.; et al. Winter cancellations of elective surgical procedures in the UK: A questionnaire survey of patients on the economic and psychological impact. *BMJ Open* 2019, 9, e028753.
19. Oudhoff, J.P.; Timmermans DR, M.; Knol, D.L.; Bijnen, A.B.; Van der Wal, G. Prioritising patients on surgical waiting lists: A conjoint analysis study on the priority judgements of patients, surgeons, occupational physicians, and general practitioners. *Soc. Sci. Med.* 2007, 64, 1863–1875.
20. Morris, J.; Twizeyemariya, A.; Grimmer, K. What is the current evidence of the impact on quality of life whilst waiting for management/treatment of orthopaedic/musculoskeletal complaints? A systematic scoping review. *Qual. Life Res.* 2018, 27, 2227–2242.
21. Oudhoff, J.P.; Timmermans DR, M.; Bijnen, A.B.; Van Der Wal, G. Waiting for elective general surgery: Physical, psychological and social consequences. *ANZ J. Surg.* 2004, 74, 361–367.
22. Sjöling, M.; Ågren, Y.; Olofsson, N.; Hellzén, O.; Asplund, K. Waiting for surgery; living a life on hold—A continuous struggle against a faceless system. *Int. J. Nurs. Stud.* 2005, 42, 539–547.
23. de Gorter, J. How Patient Reported Outcome Measures (PROMS) Can Help Prioritisation of Elective Surgery and Value Based Healthcare Post COVID-19. Available online: <https://www.linkedin.com/pulse/how-patient-reported-outcome-measures-proms-can-help-value-de-gorter/> (accessed on 8 April 2022).
24. Brownlow, H.C.; Benjamin, S.; Andrew, J.G.; Kay, P. Disability and mental health of patients waiting for total hip replacement. *Ann. R. Coll. Surg. Engl.* 2001, 83, 128–133.
25. Desmeules, F.; Dionne, C.E.; Belzile, É.; Bourbonnais, R.; Frémont, P. Waiting for total knee replacement surgery: Factors associated with pain, stiffness, function and quality of life. *BMC Musculoskelet. Disord.* 2009, 10, 52.
26. Ackerman, I.N.; Bennell, K.L.; Osborne, R.H. Decline in Health-Related Quality of Life reported by more than half of those waiting for joint replacement surgery: A prospective cohort study. *BMC Musculoskelet. Disord.* 2011, 12, 108.
27. Hawthorne, G.; Richardson, J.; Osborne, R. The Assessment of Quality of Life (AQoL) instrument: A psychometric measure of health-related quality of life. *Qual. Life Res.* 1999, 8, 209–224.