Surgery, social responsibility, and the COVID-19 pandemic

Sarah C Rennie

Editor’s note: This article was written in June 2020.

Introduction
Coronavirus disease 2019 (COVID-19) was declared a global pandemic by the World Health Organisation (WHO) on March 11, 2020.1 A state of national emergency was announced for New Zealand on March 25, 2020 and continues currently.2 As of May 30, 2020, COVID-19 has been confirmed in 213 countries with over 6,000,000 cases and 350,000 deaths worldwide.3 It has overwhelmed health care systems in many major world cities, leading to non-urgent elective surgery being suspended due to lack of beds or staff.4 During Level 4 lockdown in New Zealand all non-urgent elective surgery, endoscopy, and outpatient clinics were cancelled to protect our resources and patients from potentially being exposed in a high-risk environment; emergency and urgent surgery continued, and urgent outpatient consultations were conducted remotely.

How did it feel as a surgeon watching this pandemic unfold?
At first it was hard to assimilate. Were we overreacting? Did COVID-19 really have the potential to cause devastation?

Talking with international colleagues, it was apparent that we needed to take the rapidly evolving situation seriously, but in early March my level of concern felt out-of-step with that of some colleagues. At the front door of one New Zealand hospital, clinic nurses wore their usual uniform, with no additional personal protective equipment (PPE), as they assessed the risk of COVID-19 exposure amongst those arriving to the hospital. What would the impact have been if there was a positive case amongst all of those people? In early March, I felt anxious as I conducted surgical clinics while New Zealand was pausing and assessing the situation. Most of my patients were over 70 with co-morbidities; my instinct was that they should all be at home, not coming to see me.

What are the tensions in delivery of surgical services during a pandemic?
There were huge tensions for New Zealand surgeons as the pandemic unfolded: the additional health care burden caused by COVID-19, the risk to vulnerable patients brought into the health care environment, the need to minimise staff exposure with the potential of decreasing workforce capacity, and the risk of death to health care workers.5 We have seen hospitals in some countries become high risk environments, incubators for COVID-19. Conducting surgery puts patients into an immunocompromised state — increasing their risk of contracting COVID-19 and their morbidity and mortality.6,7 These risks need to be considered against the individual good for patients in obtaining immediate health care, and the desire to mitigate developing an unmanageable backlog of unmet service-delivery.8,9

The potential benefits of service restriction need to be carefully balanced against the harms, both in the short and long term. Assessment of harms is not straightforward. For example, a reduction in throughput of patients, and delay in diagnosis, is likely to have a negative impact on long-term cancer survival. However, in the short term for some regions, there has been greater access to theatre for cancer-related surgery as non-oncological operations were deferred.

There has been an associated impact on education and training. Non-essential personnel, including surgical trainees, and medical and nursing students, were removed from procedure rooms, which reduced potential learning opportunities. At one stage the progression of surgical trainees was in doubt; fellowship exams were cancelled in May 2020 and selection for entry to surgical training was put on hold. Throughout this dynamic period, however, I have been constantly mindful that uncontrolled COVID-19 would have a negative impact on our population in terms of deaths, patient and health care professionals’ wellbeing, and the stress to our health care system.

What are the responsibilities of a surgeon during a pandemic?
There is little in the literature about the responsibilities of a surgeon. As surgeons we have a duty of care to our patients. Elective operations are conducted to improve patients’ quality of life and often allow patients to return to normal functioning. We recognise that receiving a date for surgery results in disruption to our patients, including time off work, care arrangements for dependents, and the emotional impact of facing surgery. Surgeons are aware that cancelling or delaying a procedure can be a significant burden for the patient and their whānau, as well risking a deterioration in the patient’s condition. Having surgery cancelled and treatments delayed due to the pandemic has felt devastating for some patients.

Surgery by its very nature does not lend itself to social distancing as identified by Moore et al in their linguistic analysis of communication in the operating theatre:

The nature of surgery requires that members of a surgical team work very closely together physically, adopting particular characteristic orientations and positions. Some procedures require team members to stand side by side, others to face each other across the table, and in all cases much closer together, more intimately than in any other social situation.10

During the lockdown period, our surgical practice has been altered in order to avoid surgical intervention where possible. For example,
there has been good evidence that uncomplicated appendicitis can be treated with antibiotics in the first instance, accepting that about 30% of patients treated conservatively will eventually need surgery.\textsuperscript{16} Traditionally in New Zealand surgeons have preferred the more definitive nature of surgery, but during this pandemic many patients with appendicitis and other infective or inflammatory surgical conditions have been treated conservatively in the hope that surgical intervention can be avoided or delayed.\textsuperscript{12}

Surgery and endoscopy performed during lockdown has taken much longer than normal, with increased time for additional procedures during set up, intubation, and decontamination designed to minimise the risk of transmission of COVID-19 to staff and other patients. There has been uncertainty about whether operations should be done laparoscopically or open to decrease the potential spread of the virus.\textsuperscript{4} The Royal Australian College of Surgeons has conducted some rapid reviews to try and help surgeons assess the literature to make informed decisions about how to conduct surgery.\textsuperscript{17}

Surgeons have been involved in writing protocols delivering surgical care during the pandemic including converting theatres into “hot” and “cold” spaces to minimise the risk of COVID-19 transmission to patients and staff.\textsuperscript{14} Patient referrals have been re-triaged to identify patients who must be seen as a matter of urgency with clinics moving to video or telephone consultations with face to face appointments as needed. Multidisciplinary meetings have also moved online to avoid contact while ensuring patient care continues.

Responsibilities for education
Surgeons have a responsibility for continuing our own education; we have a duty to remain up-to-date in terms of knowledge, technical, and non-technical skills. This usually involves taking part in training activities at departmental, national, and international levels through meetings and conferences. It also includes auditing practice to learn and improve. Face-to-face educational activities have been cancelled, but virtual communication has been extended, such as through educational webinars and regional and national information-sharing WhatsApp groups.

Surgeons are also responsible for training the next generation of surgeons. We provide learning opportunities for junior staff in all aspects of becoming a surgeon — technical skills, knowledge, professionalism, and, probably most importantly, judgement and decision making — in order to ensure they receive adequate experience and supervision to become independent practitioners. While many hands-on educational opportunities have been interrupted, online learning has continued, and indeed progressed, with additional webinars and creative use of existing platforms, such as such as spot surgical diagnosis via Twitter.\textsuperscript{19}

As role models we have a huge influence on the development of our junior staff; the actions we take are scrutinised and internalised by our juniors with the potential to impact on their lives, positively or negatively. This is particularly important at times of change or pressure, such as during the COVID-19 response. It is vital that we take the opportunity to be kinder to our colleagues, especially junior staff, who may be looking to us at a time of great uncertainty.

Responsibilities to self and colleagues
Surgeons have a responsibility to themselves, to their families and personal relationships, and to their lifestyle, health, and wellbeing. In 2017 the Declaration of Geneva (a modern version of the Hippocratic Oath) was changed to include the following: “I WILL ATTEND TO my own health, well-being, and abilities in order to provide care of the highest standard.”\textsuperscript{16} (p979)

Surgeons have been shown to have burnout rates ranging from 30–38%,\textsuperscript{17} and it is recognised that unwell or burnt out surgeons adversely affect patient care. There has been a move away from punitive responses preventing surgeons from accessing care or taking time out and increasing recognition that prevention rather than treatment of burnout is vital.\textsuperscript{17} The pandemic highlighted the need to stay home if unwell, rather than to continue to struggle through due to a feeling of responsibility to our patients and colleagues. Health care professionals have adopted COVID-19 protocols for moving between work and home to reduce the risk of transmission of the virus between these environments. Some surgeons have also self-isolated from their families, concerned about unknowingly infecting their loved ones.

Surgeons have responsibilities to their colleagues; rosters have been changed to ensure there is no contact between teams and one team on non-contact duties such that they could step in and provide care if a team was infected with COVID-19.\textsuperscript{4} Many surgeons have considered how we might need to be redeployed,\textsuperscript{4} with some doing a refresher course on how to use a ventilator and care for critically unwell patients in an intensive care unit (ICU).

Social responsibility
Surgeons have a social responsibility to advocate for the health of communities and to consider approaches and systems that maximise both effective, efficient, and sustainable care. We have a responsibility to understand that we, and the health care system we work in, succumb to unconscious biases. This results in inequity for our patients, contributing to the disparities seen within health care in New Zealand with Māori and Pasifika patients having worse outcomes than Pākehā patients. While COVID-19 as a virus does not discriminate who it infects, there are gaping imbalances related to socioeconomic factors such as housing density, employment in high risk environments,\textsuperscript{18} and those with income insecurity. Worldwide infection rates are higher and outcomes worse for those already disadvantaged by poverty, ethnicity, and communities where there are increased barriers to accessing health care.\textsuperscript{19}

PPE has run out in many countries.\textsuperscript{4} It has been frightening to see colleagues don bin bags in an attempt to protect themselves from catching COVID-19. It is worrying observing the disproportionately higher numbers of health care workers that have become infected with COVID-19 compared to the general population, often despite using PPE.\textsuperscript{14,18} If surgery continued in New Zealand during a pandemic it would necessitate the use of PPE, reducing stocks, and possibility leading to shortages. There is concern too that if surgery continued as normal it would mean hospital and ICU beds would be filled with post-surgical patients who could not be discharged, limiting beds available for patients with COVID-19. In some countries ICUs have overflowed into theatres with theatre ventilators needed for patients.\textsuperscript{14}

Where to from here?
It has been estimated that 28,404,603 operations have been cancelled or postponed worldwide during what has been perceived as the peak 12-week COVID-19 disruption.\textsuperscript{20} Many health care workers feel that the response to COVID-19 in New Zealand has avoided our health care system becoming overwhelmed. New Zealand has re-entered Alert Level 2 restrictions, with 1,504 COVID-19 confirmed and probable cases.\textsuperscript{21} Our hospitals remain open for emergency care and some elective surgery has resumed, but for some District Health Boards (DHBs) non-urgent treatment continues to be deferred as DHBs reconfigure their services. Outpatient clinic appointments remain mainly conducted by video or teleconsultations.\textsuperscript{22} The national breast and cervical screening programmes have started up again but bowel screening is being introduced in a phased manner.\textsuperscript{21} New Zealand appears to have successfully “crushed the curve”, with its just-in-time lockdown. However, we are left with different challenges as we move forward and assess the collateral damage.

The risk of pandemic death in our country currently is lower than the risk of non-pandemic death from lack of access to surgical services and ICU beds with long term effects related to cancellations and delays in access. The COVIDSurg Collaborative has predicted worldwide that even with increasing normal surgical volume by 20%, it will take a median of 45 weeks post-pandemic to clear the operations cancelled and postponed due to COVID-19.\textsuperscript{20} As surgeons try to reduce the backlog they will need to prioritise surgery, leading to
Further delay for benign conditions that may result in deterioration of the patient’s condition. This is not only a bad outcome for the patient but also may reduce their ability to work. In this turn has a knock-on effect for our society with increasing costs due to unemployment as well as more complex and often more costly management strategies.

As we move forward we need to pay attention to health inequities, we need to consider how we provide a better, more accessible surgical service for the whole of New Zealand’s population. To ensure equity in health care treatment in the post-pandemic phase requires assessment of how pathways to accessing appropriate care can be accelerated or adjusted to ensure Māori and Pacific Islander populations are prioritised to improve their health outcomes.

There are some positive benefits from the pandemic that need to be kept, for example, a better understanding of the importance of hand hygiene. We have a greater awareness of the need to be prepared — such as education in donning and doffing PPE and correct fitting of N95 masks ahead of time.

Telemedicine has much merit for some types of patient-doctor interaction, such as follow-up of patients. Telemedicine in our distributed environment also has many advantages for patients in minimising physical contact and reducing opportunities for viral spread. Patients often travel long distances for outpatient appointments, resulting in expense in terms of time and transport costs for appointments that are often delayed. Telemedicine enables patients to be seen and heard without the need to travel and potentially enables members of their whānau to be involved in their health care encounters. However, consideration needs to be given to facilitating telemedicine for those that don’t have access to the technology needed, such as having teleconference hubs in rural and remote communities. Continuation of educational virtual meetings for surgeons is also better for the environment and has lower costs.

COVID-19 has given the surgical community a chance to re-look at our values. In order to be responsible surgeons we need to show consideration, generosity, warmth, and concern to patients and colleagues. Responsible surgeons need to show tolerance and forgiveness even under provocation. These characteristics can be embedded in an ethical concern for others, often called kindness. Campling uses the prefix “intelligent” to denote kindness as “being in solidarity with human need” rather than a sentimental term.

When under pressure and requiring to make difficult decisions where one party may be perceived to be disadvantaged, kindness can require courage and strength. For a surgeon, kindness may come in many forms including not to treat a patient, to facilitate a trainee to operate, and to intervene when we see standards of behaviour that are detrimental. Research has shown that rudeness in the operating theatre has a negative impact on staff and is detrimental to patient care, but kindness is the antitheses of the inconsiderate. Kindness is facilitated by open, transparent communication. In the words of Campling: “Kindness rooted in kinship is a powerful concept — ethically, politically, socially and clinically — in the project of improving healthcare.”

So as we navigate our way through the post-pandemic era with its significant challenges for surgeons, we need to remember kindness can always be shown through careful consideration, communication, and empathy.

Conclusion

Ultimately this pandemic has been frightening for patients and health care workers, and has highlighted our vulnerability. The post-pandemic period in New Zealand will be stressful for surgeons as we address the health issues that were relegated during the lockdown period. Considering our responsibilities during a pandemic requires surgeons to take a broader approach beyond responsibilities to patient care, ourselves, colleagues, and education. Surgeons need to engage in considerate leadership to ensure that urgent needs of patients are balanced with societal needs to ensure wellbeing for all. As we move forward we have a responsibility to advocate for investment in our public health service to ensure fair and equitable care for all the population and above all we need to ensure we engage in “intelligent kindness”.

References


23. NZMSJ The New Zealand Medical Student Journal Issue 31 • September 2020


About the author

Ms Sarah Rennie (BMSc(Hons1), MBChB, PhD, FRCS(Ed)(Medal), FRACS) is the Clinical Skills Director at Te Pou Whirinaki Education Unit at the University of Otago, Wellington, and works as a General Surgeon and Surgical Endoscopist.

Correspondence

Ms Sarah Rennie: sarah.rennie@otago.ac.nz