

Review of the published literature to characterise clinical excellence in COVID-19 care

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ABSTRACT

COVID-19 continues to be a major source of global morbidity and mortality. It abruptly stressed healthcare systems early in 2020 and the pressures continue. Devastating hardships have been endured by individuals, families and communities; the losses will be felt for years to come. As healthcare professionals and organisations stepped up to respond to the overwhelming number of cases, it is understandable that the focus has been primarily on coping with the quantity of the demand. During a pandemic, it is not surprising that few papers have drawn attention to the quality of the care delivered to those afflicted with illness. Despite the challenges, clinicians caring for patients with COVID-19 have risen to the occasion. This manuscript highlights aspirational examples from the published literature of thoughtful and superb care of patients with COVID-19 using an established framework for clinical excellence (formulated by the Miller-Coulson Academy of Clinical Excellence).

INTRODUCTION

Since emerging, SARS-CoV-2, which is responsible for COVID-19, has threatened the health of the global community. The impact of this pandemic has not been uniform across countries; the USA has been hit particularly hard for myriad reasons.^{1,2} At the time of this writing, more than 32 million cases have been documented in this country and more than 585 000 people have died.¹ Black and minority ethnic communities have been disproportionately affected, due in large part to systemic inequities and structural barriers that limit access to healthcare as well as the higher proportion of members of these groups working in frontline industries where working from home is not possible.^{3–5} Many healthcare institutions have struggled with the volume of patients who are presenting with COVID-19; the demand for staffing, personal protective equipment (PPE), testing, treatment and beds have largely exceeded supplies and capacity. With the sudden and overwhelming pressure to care for affected patients, attention was rightfully focused on expanding capacity and ensuring that systems were able to attend to those who needed to be served. During the early months of the pandemic when most of the deliberate consideration was focused on meeting the needs of the population and ensuring the safety of healthcare workers, examples of the highest quality of clinical care were ubiquitous.

Describing overarching principles of clinical excellence in the care of those with any specific condition can lead to clinical progress by holding up

the ideals for how to optimally care for patients—both by individuals and teams of providers. The general description of clinical excellence developed by our group has seven domains,⁶ and this definition has been applied to more than 15 clinical specialties to characterise clinical excellence in those specific fields.^{7–9}

This manuscript depicts published examples which illustrate the behaviours and skills of clinicians caring for patients with COVID-19 as they relate to the definition of clinical excellence. Highlighting exemplary care, which was often achieved in the face of challenging clinical contexts, may be particularly inspiring and can inform care models as we face the ongoing challenges of the pandemic.

DEFINITION OF CLINICAL EXCELLENCE

Multiple methodological approaches were used to define clinical excellence by the founders of the Miller-Coulson Academy of Clinical Excellence (MCACE).^{6,10} After an extensive iterative process, the following definition was developed:

- ▶ Achieving a level of mastery in these areas as they relate to patient care:
 - Communication and interpersonal skills.
 - Professionalism and humanism.
 - Diagnostic acumen.
 - Skillful negotiation of the healthcare system.
 - Scholarly approach to clinical practice.
- ▶ Exhibiting a passion for patient care and modelling clinical excellence.
- ▶ Collaborating with investigators to advance science and discovery.

The last component of the definition may be more relevant for those practicing in academic medical settings, whereas the other domains are applicable to clinicians everywhere.

SURVEY OF THE LITERATURE AND SELECTION OF MATERIALS TO BE HIGHLIGHTED

A search of the literature was conducted with the assistance of a medical informationist. The search encompassed PubMed and Scopus from February through September 2020, with the parameters of English and human. Initially, a broad search was applied using the terms ‘clinical excellence’, ‘coronavirus’ and ‘COVID-19’. Further searches replaced the term ‘clinical excellence’ with each of the domains of clinical excellence listed above (eg, communication and interpersonal skills). Using these parameters and keywords, 298 published case reports and clinical programme descriptions were identified. The titles, abstracts and summaries were

used to sift through the published papers. Articles that appeared relevant to excellence in COVID-19 care were evaluated in order to fully understand the care that was delivered. In addition, the references of each article were examined, yielding a few other papers for review. The authorship team reviewed candidate articles about the papers that most prodigiously represented each domain of clinical excellence. The process was multiphasic and required several rounds to achieve consensus about the final articles that were selected to be highlighted in the paper.

APPLICATION OF THE DEFINITION OF CLINICAL EXCELLENCE TO THE CARE OF PATIENTS INFECTED WITH COVID-19

To illustrate how mastery in each of these domains is exemplified in COVID-19 care, the authors arrived at decisions by consensus about which reports from the literature would be highlighted. Each section below demonstrates how mastery of a particular domain of clinical excellence enables clinicians to provide the best possible care for patients while describing an example that can be replicated by others (see [table 1](#)).

Communication and interpersonal skills

Highly contagious infections that also cause critical illness and death, such as SARS-CoV-2, pose significant barriers to communication between healthcare providers and patients. During in-person interactions, communication barriers include (1) masks, face shields and respirators, (2) noises from fans and vents in hospital rooms and (3) the need for physical distancing. Telemedicine has its own technical barriers of inequitable access, slow internet speed and dropped connections, and at

times audio-only interfaces. Such contexts may interfere with the interpretation of non-verbal cues and limit the ability to convey reassurance through touch. Some healthcare systems are exploring options to provide locations where patients without home access to broadband internet can go in order to engage in telemedicine visits.¹¹ While providers and patients grapple with these external barriers, COVID-19 may have an even greater impact by reducing personal interactions because of fears that translate into isolation.

Whether caring for a patient in the hospital or at home, technology can facilitate new ways of connecting. Use of tablet computers in the emergency department and on inpatient COVID-19 units enables physicians to bond and talk with patients without layers of PPE so they can be seen and understood. This creates opportunity for reviewing results, educating patients, explaining prognosis and discussing what might be expected to come next. Emerging telehealth applications allow clinicians to connect with their patients in less sterile, chaotic and rushed environments; advocates of technological advancement in medicine point to the irony that such methods actually augment, rather than interfere with, the humanisation of medicine.¹² Likewise, taking advantage of noticing features of the patient's home environment, meeting their beloved pets and otherwise 'investing in the relationship' can all decrease feelings of isolation and loneliness.¹³ Inviting emotional expression during telemedicine visits can be one way in which providers address a patient's fears and anxiety. 'How you are managing your stress?' and 'Would you like to talk about your fears or concerns about coronavirus?' are questions that Dr Jeffrey Millstein started asking on realising that he 'needed to do more than give clear information and guidance'.¹⁴ During serious illness conversations, Back recommends physicians deal with apprehension

Table 1 Domains of clinical excellence applied to COVID-19 care despite notable challenges

Domain	COVID-19 challenges	Examples of clinical excellence
Communication and interpersonal skills	<ul style="list-style-type: none"> ▶ Fear and anxiety from COVID-19. ▶ Personal protective equipment (PPE) limits in-person communication. ▶ Limited access to broadband internet to access telemedicine visits. 	<p>Telemedicine allows providers to conduct a history and engage in shared decision making without wearing a mask. Healthcare systems are exploring alternative ways for patients to access telemedicine visits.</p> <p>Use of the CALMER acronym can help patients deal with apprehension and uncertainty.</p>
Professionalism and humanism	<ul style="list-style-type: none"> ▶ Difficulty maintaining humanity through the impersonal nature of encounters while wearing PPE. ▶ Physicians have taken on personal risk to care for their patients. 	<p>Use of the ABC mnemonic helps providers to Attend mindfully, Behave calmly, Communicate clearly.</p> <p>Intense clinical experiences, including witnessing the death of patients, can contribute to professional growth and identity formation.</p>
Diagnostic acumen	<ul style="list-style-type: none"> ▶ Physicians spend less time with patients due to PPE constraints and need to limit in-person contact due to infectious risks. 	<p>Attention to detail and careful observation can uncover life-threatening complications from COVID-19 or help to identify unique features of the clinical syndrome.</p>
Skillful negotiation of the healthcare system	<ul style="list-style-type: none"> ▶ Need to rapidly expand capacity to care for surges of patients with COVID-19. ▶ Inequities in healthcare access. 	<p>Redesign of clinical systems with an eye on efficiency and education were key to adapting to COVID-19 surges.</p> <p>Engaging with patients in their own language and meeting with healthcare advocates to understand specific issues and concerns of different communities is critical.</p>
Scholarly approach to clinical practice	<ul style="list-style-type: none"> ▶ Difficulty navigating the uncertainties of COVID-19 clinical care, particularly early on in the pandemic. 	<p>Sharing clinical experience through consensus guidelines (eg, on the timing and appropriate use of tracheostomy in patients with COVID-19) has improved the quality of care and the lived experience of patients.</p>
Exhibiting a passion for patient care and modelling clinical excellence	<ul style="list-style-type: none"> ▶ Keeping up with the pace of knowledge generation about COVID-19. ▶ Healthcare workers and their families were at higher risk of contracting COVID-19 and requiring hospitalisation. 	<p>Dedication (reading, listening to podcasts and attending teaching sessions) has enabled clinicians to keep abreast of the enormous amount of information that comes out regularly related to COVID-19 care.</p> <p>A committed workforce showed up to serve despite significant risk and safety concerns.</p>
Interface with researchers to advance discovery	<ul style="list-style-type: none"> ▶ Research on COVID-19 requires the collaboration of bedside clinicians with researchers to maximise relevance and impact. 	<p>Innumerable partnerships have led to important discoveries about COVID-19 including the potential role of proning in hypoxic patients, and the possibility that some cases of severe COVID-19 are due to autoantibodies against the ACE-2 receptor.</p>

and uncertainty using the acronym CALMER¹⁵: Check in (taking their emotional temperature); Ask about COVID-19 ('what have you been thinking about COVID-19 and your situation?'); Lay out issues ('Here are some things I want us to be prepared for'); Motivate the patient to choose a proxy and explain their goals of care, priorities and preferences; Expect emotions ('This can be hard to think about') and Record the discussion. In these ways, providers can leverage communication skills and technology to engage and comfort patients.

Professionalism and humanism

In their correspondence, 'Maintaining our humanity through the mask: mindful communication during COVID-19', Schlogl and Jones offer several excellent tips on how clinicians can continue to provide professional and humanistic care with older patients during the pandemic.¹⁶ However, their advice is applicable to the clinically excellent care of patients at any age. The authors' ABC mnemonic reminds us to: Attend mindfully, Behave calmly and Communicate clearly. Attending mindfully means being present in the moment at every patient encounter. A clinician can do this by creating a ritual to focus attention, as described by Zulman,¹⁷ perhaps anchored to a routine task such as handwashing. This kind of centering exercise is even more important when clinicians are experiencing additional stressors or distractions. Behaving calmly may be especially tough during times of unpredictability and uncertainty, such as a pandemic. When patients and clinicians alike are feeling uncomfortable and less in control, the authors highlight the importance of clinicians continuing to 'project a positive, calm attitude and avoid body language that shows frustration, anger or impatience'. Communicating clearly while wearing a mask and face shield means more than simply speaking more loudly or clearly, as described in the section above. To help patients feel more understood, Schlogl and Jones remind us of the power of first observing closely and then subtly mirroring the gestures of patients. Matching our patients' movements—a tilt of the head, for instance—creates a closer bond between clinicians and patients (a skill that coauthor MSC learnt in her long experience as a psychotherapist). Sonis asserts that although COVID-19 precautions may compel clinicians to reduce their time at the bedside, they must show the utmost of empathy to comfort patients.¹⁸ During these times, each member of the care team must introduce themselves, particularly given the anonymity caused by face masks and shields.¹⁹ Sitting at eye level with patients, as opposed to standing, increases their perception of both the amount of time that the clinician spent with them and their compassion and empathy.^{20,21}

Professionalism has been overtly evident throughout the pandemic. On a continuous basis, clinicians have overlooked personal risks to do whatever has been asked of them. Powerful experiences, including the death of patients we are actively caring for, can translate into professional growth and contributes to professional identity formation. Dr Weiss, a cardiologist from California, spent time in New York helping to care for critically ill patients with COVID-19.²² In caring for a young couple who were both hospitalised and separated for nearly a month because of the infection, he went to speak to the wife when the husband's death was imminent. Dr Weiss described the conversation as one of the most difficult of his life; they cried together.

With the concentration of morbidity and mortality from this pandemic, not to mention the other contemporaneous stressors, the humanism and professionalism displayed by healthcare professionals lifts us all up. This needed and valued reminder of our shared humanity brings meaning to our losses and offers hope of a brighter future.

Diagnostic acumen

The need to isolate patients and to limit exposure to suspected or confirmed COVID-19 cases has magnified the pre-existing problem of how little time physicians spend at the bedside with patients.²³ At the best of times, oversights in the physical examination are common.²⁴ The risk of missing crucial diagnostic findings is higher when patients are in isolation, and when providers feel pressure to spend less time in a patient's room. PPE can muffle the senses, limiting the examination's effectiveness. Perhaps the best example of this is the decreased value of auscultation while wearing a powered air purifying respirator or using a low-quality disposable stethoscope. The effects can also be more subtle. Providers wearing an N-95 respirator can hear, but their sense of smell is diminished. Face shields can blur visual acuity even while protecting mucous membranes from respiratory secretions.

Despite these limitations, the physical examination can uncover life-threatening complications of COVID-19 and lead to important changes in management. For example, pneumothorax and pneumomediastinum are potential complications of COVID-19 that can be diagnosed by physical examination.²⁵ Mohan and Tauseen describe the case of a 49-year-old man with COVID-19 who developed nausea and vomiting on day 5 of his hospital course. He was noted to have crepitus around his neck and chest area suggestive of subcutaneous emphysema which prompted further radiographic studies and a search for the potential cause.²⁶ Extensive pneumomediastinum was seen on chest radiograph and subsequent CT scan. It may have been easy to attribute the symptoms of nausea and vomiting to the SARS-CoV-2 infection itself, or perhaps to the medications that the patients was receiving. However, the attentiveness of Dr Mohan and Dr Tauseen to the physical examination led to the correct diagnosis and the appropriate next steps in management.

In addition to overcoming the limitations of PPE to recognise life-threatening cardiopulmonary complications, diagnostic acumen has been essential to describing rare but important manifestations of COVID-19. A number of dermatologic manifestations have been attributed to SARS-CoV-2 infection. Chilblains lesions on the toes, feet and hands of patients with COVID-19 were recognised early on in the pandemic.²⁷ They are so common that the term 'COVID-toe' has become a part of the medical lexicon.²⁸ Guarneri and colleagues reported three cases where COVID-19 was suspected based on the presence of these lesions and later confirmed through nasopharyngeal swab testing.²⁹

Over 100 years ago, William Osler wrote: 'The whole art of medicine is in observation...'³⁰ In the time of a new disease like COVID-19, an open mind, attention to detail and keen observational skills while caring can lead to novel insights about pathobiology that may lead to diagnostic and therapeutic advances.

Skillful negotiation of the healthcare system

Care of patients with COVID-19 spans the entirety of the healthcare system, including outpatient, emergency, inpatient and critical care, as well post-hospital and rehabilitation care. The surge of patients with COVID-19 has forced clinicians to view and navigate the healthcare system from an entirely new perspective: that of having to rapidly create new capacity while sifting through a changing array of established and novel therapies. COVID-19 has also highlighted existing inequities in access to care for those who have been marginalised and members of minority groups; this is an issue that health systems must tackle in order to provide outstanding clinical care to the entirety of the population they serve.⁵

The complexities of rapidly expanding existing capacity are illustrated by Griffin and colleagues, who report their preparations for an influx of critically ill patients at New York Presbyterian Hospital.³¹

They describe multiple parallel planning processes, including development of standardised clinical protocols, expanding intensive care unit (ICU) capacity, implementing measures to ensure staff protection and maintaining family engagement. ICU care was expanded into newly created spaces including step-down units and operating rooms. This required redeployment of clinical providers into these new units at provider-to-patient ratios that markedly differed from normal operations. To effect these changes a high premium was placed on efficiency, with development of specialised teams for procedures (eg, vascular access), airway management and prone positioning. In order to maintain quality, and understanding that the pandemic would be protracted, thoughtful attention was focused on measures to reduce clinician workload as much as possible. At many hospitals, education and simulation were key aspects of preparations, especially when redeploying providers with remote or limited critical care experience into ICU settings.^{32,33} At New York Presbyterian Hospital, an emphasis was placed on communication—across the interdisciplinary teams, with staff and with patients (coupled with designated calls to families); they did not lose sight of the human aspects of these unprecedented challenges with the need to both share information and listen to the lived experiences of all.³¹ This commitment did not end with death. As COVID-19 considerably increased the inpatient mortality rate, many healthcare institutions amplified resources to support staff, patients and families in the face of ubiquitous sorrow and loss.^{34–36}

In order to combat existing health inequities, health systems have attempted to engage minority communities in a number of important and creative ways. For example, clinicians from our institution hosted weekly Facebook Live events in Spanish, spoke with community advocates to provide up to date information on COVID-19, and even regularly met with Latinx individuals waiting to be hired as day labourers outside Home Depot.³⁷ They also created a service of bilingual healthcare providers to help provide effective communication to Spanish-only speaking patients in the emergency department and inpatient COVID-19 units.³⁸

Training the healthcare workforce, adapting to changes with an eye on efficiency, striving for premium quality, emphasising the importance of effective communication, focusing on physician wellbeing and addressing systemic inequities in access to care are vital to ‘normal’ clinical practice within our complex medical systems. The value of these elements is only multiplied in the face of a crisis, reminding us that many of our everyday clinical skills translate well to crisis management. Remembering these elements and the value of humanism allows healthcare professionals to serve patients and communities during the COVID-19 pandemic.

Scholarly approach to clinical practice

When the COVID-19 pandemic began, the care of our patients was primarily based on data from prior pandemics, such as severe acute respiratory syndrome (SARS) in 2003 and H1N1 influenza in 2009. Over the last many months, we have learnt a great deal in regard to the transmission and epidemiology of COVID-19, as well as best practices for the care of our patients.

From a critical care perspective, it was seen early in the pandemic that patients with COVID-19 induced respiratory failure required high levels of sedative medication infusion and prolonged periods of mechanical ventilation.^{39–41} On awakening, patients found themselves in unfamiliar environments without the support of family members, who were not allowed to visit the hospital. They also had limited ability to communicate due to the presence of an endotracheal tube. At the same time, significant fear existed on the part of healthcare professionals in performing tracheostomies; this is an aerosol-generating procedure that was associated with higher risks

of transmission of infection to healthcare workers during the SARS pandemic.⁴² Several institutions and societies initially recommended delaying tracheostomy until at least 28 days, or not performing the procedure at all. However, those recommendations undervalued the patient-centred benefits of earlier tracheostomy, including the need for less sedation and improved ability to communicate. During the pandemic, over 140 publications regarding tracheostomy in patients with COVID-19 have been published. A recent guideline from a global multidisciplinary team of experts (with input from patient and family stakeholders) makes recommendations based on the best available evidence.⁴³ This collaboration highlights the need to strive for clinical excellence, even during times of stress and fear. Ultimately, the guidelines hope to simultaneously reduce fear among healthcare workers and illustrate that patient outcomes and comfort can be improved with earlier action.

Many centres have published on their experiences performing tracheostomies during the pandemic.^{44–46} We could not find any published reports describing patients’ perceptions or the lived experience of having the procedure.⁴⁶ From our ICU, we have permission to share the story of a 56-year-old previously healthy man who was admitted in April with COVID-19 and respiratory distress. He was frightened by his increased work of breathing. He was alone and could only talk briefly to his wife via videoconferencing. His disease progressed, requiring intubation and mechanical ventilation, high doses of sedatives, renal replacement therapy and systemic anticoagulation for deep vein thrombosis / pulmonary embolism. By day 12 of mechanical ventilation, however, he was showing signs of clinical improvement, and a decision was made to perform a percutaneous tracheostomy. Within 2 days, his sedation was discontinued, he was participating in physical therapy, getting out of bed and able to communicate with his family with the use of an in-line ‘speaking valve’. The smiles that were regularly on his face during his recovery will not be forgotten by anyone on the ICU team.

Exhibiting a passion for patient care and modeling clinical excellence

‘Into whatsoever houses I enter, I will enter to help the sick...’⁴⁷ This excerpt from the ‘Oath of Hippocrates’ is uttered by physicians on their graduation from medical school. The solemnity of this commitment conveys the idea that service is indeed at the heart of caring for our patients; those who serve with passion are truly role models for clinical excellence. During the early weeks of this pandemic, clinicians walked into unknown personal risk, often feeling poorly equipped and unprepared, single-mindedly bringing their best efforts to help those in need.⁴⁸ New York City was the first American location to face a COVID-19 surge that overwhelmed their established healthcare capacity. Doctors flocked to New York; over 8000 physicians came out of retirement or travelled to New York to help.⁴⁹ Dr Gretchen Winter, an intensivist from The University of Alabama stated: ‘I saw the physicians and patients in New York City struggling, and I knew I was able to help, so there wasn’t much of a question. There was a need I could fill, so that’s what I wanted to do.’⁵⁰ Additionally, many physicians accepted roles to practice outside their specialty; they showed up with great attitudes, a willingness to learn and an understanding that medicine sometimes calls for all hands on deck.^{51–55} Medical trainees stepped forward cooperatively to serve⁵⁵; they were immersed in a crash course about the duties and responsibilities that are demanded from the medical profession.⁵⁶

Passionate medical caring in the midst of this pandemic involved bridging science and humanism.⁵⁷ Evidenced-based recommendations were changing week to week, if not daily, as patients with COVID-19 continued to present to healthcare centres. Once the healthcare team comes to consensus on the treatment that may be

most effective for a patient, it is the therapeutic alliance with that individual (and their family/caregivers) that enables them to have the trust to move forward with those recommendations.^{58 59} Both steps, keeping up to date with evolving data and educating patients, are time-consuming and complicated. Without genuine passion and dedication, doing this work conscientiously is truly impossible.

In the context of the abundance of life-threatening illness attributable to SARS-CoV-2, it may be natural to think about passionate physicians exemplars in end of life care like Dr Elisabeth Kubler-Ross and Dr Balfour Mount.^{60 61} Their teachings remind us all of the need to fully understand each patient's goals for care so that such preferences can be followed and respected.⁶² Further, symptom relief and attentiveness to patient comfort must be among the primary charges of the healer.⁶³

When serving during infectious pandemics, healthcare professionals may themselves become ill and even lose their lives; unfortunately, this eventuality happened globally with COVID-19.^{64 65} Patient-facing healthcare workers are more likely to be hospitalised if they become ill with COVID-19; their household members also face this greater risk of hospitalisation.⁶⁴ Since the risk of infection with SARS-CoV-2 is linked to exposure time, healthcare workers who prioritise spending more time with patients in order to provide outstanding care do so at an increased risk to themselves and their families. This combination of passion and professionalism has been exhibited by frontline providers since the start of the pandemic.

Interface with researchers to advance discovery

During this pandemic, clinicians and investigators have partnered extensively. Studies about epidemiology, diagnosis, prognosis and therapeutics have been guided by the observations and experiences of frontline clinicians. Since January 2020, over 35 000 publications have discussed various aspects of COVID-19. At institutional and national levels, a genuine understanding exists that the clinicians caring for patients need to be substantively influencing, if not guiding, the COVID-19 research agenda.⁶⁶ When cohorts of clinicians are intimately involved in developing the research questions and aims, their efforts to secure informed consent for participation and ensure the success of the studies may be even greater.

At the start of the pandemic bedside providers, lacking proven effective treatments for COVID-19, were especially attentive to clinical details that could provide therapeutic insights. In the hopes of preventing mechanical ventilation in patients who are hypoxemic, proning (placing someone face down instead of on their back), already proven to reduce mortality in intubated patients with severe acute respiratory distress syndrome,⁶⁷ was attempted to optimise matching of ventilation and perfusion within the lung parenchyma. A preliminary pilot study with 50 patients with COVID-19 positive showed that early self-proning in the emergency department was associated with improved oxygen saturation.⁶⁸ Ongoing clinical trials will assess the role of proning as a therapeutic intervention for non-intubated and intubated patients with COVID-19. Keen clinical observations have also accelerated important discoveries about the pathophysiology of COVID-19. Recognising potential similarities between COVID-19 and other autoinflammatory disorders that affect the lungs, Livia Casciola-Rosen and colleagues discovered an IgM autoantibody to the ACE-2 receptor that is more commonly found in patients with severe COVID-19.⁶⁹ This discovery could shed light on the pathobiology of COVID-19 and might provide additional therapeutic targets for a subset of patients who have evidence of this autoantibody. Asking pertinent clinical questions, engaging in research or partnering with scientists and disseminating newfound understandings about clinical medicine are fundamental practices of the clinically excellent provider.

CONCLUSIONS

Stein's law holds: 'If something cannot go on forever, it will stop'.⁷⁰ While COVID-19 will not continue indefinitely, it is likely that we will be continuing to care for patients infected with SARS-CoV-2 or suffering from its after effects, for quite some time. Now that we are entering perhaps the most difficult phase of the pandemic in the USA, the time has come to reflect on what constitutes clinical excellence in the care of patients infected with SARS-CoV-2.

Examples of clinical excellence in COVID-19 care during the pandemic were easily found in the literature. The cases came from clinicians across a breadth of medical specialties and illustrate how teams of healthcare professionals collaborated to rise to the occasion in support of patients. The domains of clinical excellence, described by the MCACE, apply very well to the entire spectrum of COVID-19 illness—from mild symptomatic disease to critically ill patients to those who suffer from the post-acute sequelae of COVID-19. They

Main messages

- ▶ During the initial response to COVID-19, much of the published literature has focused on the science of the infection and managing the excess volume of patients presenting in need of care.
- ▶ Few publications have focused on specific examples of clinical excellence, and optimal methods for caring for patients with COVID-19.
- ▶ This manuscript highlights aspirational examples of COVID-19 care from the published literature with the goal of outlining a framework for clinical excellence during the pandemic.

Current research questions

- ▶ To what extent is the quality of care considered when there is an overwhelming volume surge—such as during the SARS-CoV-2 pandemic?
- ▶ What are the best ways to teach healthcare professionals about the expected norms and best practices for the provision of clinically excellent care when there are redeployments of personnel to manage a great surge in patient volumes?
- ▶ To what extent do patients appreciate the difference between clinically excellent versus mediocre care during a pandemic?

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also apply to specific groups of patients who might have pre-existing conditions, or suffer disproportionate impacts from COVID-19 due to inequities in the healthcare system or barriers to accessing care.

In this expanding series of papers that highlights cases of exemplary care from the literature,^{7–10} it may be worth stating that a different team of clinicians writing a similar manuscript would have undoubtedly chosen different examples from those presented in this article. This is not a methodological weakness, but instead is a known expectation that is associated with more qualitative approaches to scholarship. In contrast to the methodologically rigorous empiric studies and valuable evidence-based medicine guidelines that have been published in great numbers, the examples and ideas highlighted in this paper emphasise the person-centric

nature of medicine that enters into every discussion about the provision of clinically excellent patient care. We also chose to focus on mostly examples involving physicians. Individuals across the continuum of healthcare have exhibited these same qualities throughout the pandemic and could easily have been the subject of aspirational examples.

Human beings are unique in our capacity to share and remember stories.⁷¹ The examples presented in this article may trigger a clinician's memory to recall a patient or clinical situation in which she was clinically excellent. This introspection can serve to remind us all of the success that can be realised when one is committed to excellence and the adjacent possible.⁷²

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Multiple choice questions

1. How many articles were published in the biomedical literature about SARS-CoV-2 infection in 2020?
 - a. <5000
 - b. 10 000
 - c. 25 000
 - d. >35 000
2. According to the Johns Hopkins Miller Coulson Academy of Clinical Excellence, which of the following pairs both represent a foundational element of clinical excellences?
 - a. Professionalism and humanism
 - b. Communication skills and interpersonal skills
 - c. Diagnostic acumen and scholarly approach to clinical practice
 - d. All of the above
3. Why is effective communication with patients especially challenging with patients who are hospitalised with SARS-CoV-2 infection?
 - a. Masks and face shields
 - b. Noise from powered air purifying respirator, negative pressure machinery, oxygen flow and other respiratory device support helping patients
 - c. Language barriers and poor health literacy among some patients
 - d. All of the above
4. What elements have interfered with the delivery of clinically excellent care to patients who are hospitalised with SARS-CoV-2 infection?
 - a. Family members are in-person at the bedside and are asking critical questions.
 - b. Providers are electing to spend too much time in each patient's room.
 - c. The diagnostic tests have been accurate and rapidly available from the outset.
 - d. The surges in volumes and the numbers of patients needing care have felt overwhelming to many healthcare professionals during the pandemic.
5. Which of the principles of professionalism have been especially relevant during the COVID-19 pandemic?
 - a. The primacy of patient welfare (including altruism, trust and patient interest).
 - b. Patient autonomy (including educating and empowering patients to make appropriate medical decisions).
 - c. Social justice (including the consideration of the available resources and the needs of all patients while taking care of an individual patient).
 - d. All of the above

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Answer

1. True
2. True
3. True
4. True
5. True