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The COVID-19 pandemic through the lens of a gastroenterology fellow: looking for the silver lining

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The COVID-19 pandemic through the lens of a gastroenterology fellow: looking for the silver lining

On Tuesday, March 10, 2020, an institutional email sent from our hospital President confirmed the first 3 cases of COVID-19 in our healthcare system. Twenty-four hours later, we learned that one of our co-fellows had been exposed and was forced into self-quarantine. Suddenly, what had seemed to be a distant problem hit close to home. As we sat around the "fellows' room" (socially distanced as much as possible in the luxurious expanse that is common to fellows' quarters), the uncertainty about our future raised several questions. How would we be impacted as we journey through this global pandemic?

Thankfully, our colleague's test was negative, but the episode sparked contemplation. We were worried about our loved ones while absorbing the jarring effects of the pandemic on our clinical and endoscopic training, as well as our in-person didactic learning. Herein, we share some thoughts and perspectives regarding the impact this has on our personal and professional lives. Additionally, we propose ways to maximize our educational and clinical growth as gastroenterology fellows while we continue caring for patients during this difficult time.

Effects on personal life

Challenges

On a personal level, some of us have children and are forced to consider the possibility of transmitting exposures through patient care to our families. In light of the present situation, many are unable to visit their families as they risk exposing their elderly parents and friends. Some medical personnel have been forced to move out of their homes and live in make-shift apartments or use separate rooms. Maintaining distance from loved ones to avoid causing them harm can be damaging to the mental health of trainees. This distancing also eliminates an important outlet for stress relief. Furthermore, there are increased demands for services such as babysitting, pet care, transportation, and groceries.

Implemented Solutions

It is vital to ensure our trainees are doing well from a mental health perspective. Many residency and fellowship programs already have established wellness programs and initiatives, and these must be advertised during these troubling times. Steps should be taken to ensure all fellows in need have the opportunity to pursue available resources at their institution and community. These may include wellness coaches, counselors, and virtual program leadership meetings. A coverage system may be devised, using fellows who were scheduled to be on research or endoscopy rotations, to ensure that clinical duties do not inhibit the pursuit of mental health resources. Additionally, volunteer programs can be designed to assist trainees in need of pet care, babysitting, transportation, and groceries. Fellows who are home, sheltering in place, can help with some of these needs for other fellows. Further, hospital and

departmental communication should focus on fostering a supportive environment, with ongoing support of mental health resources.

Effects on professional life

On a professional level, the pandemic has wide-ranging effects on nearly all aspects of gastroenterology fellowship training, both clinical and scholarly.

Impending serious impacts on medical trainees can be extrapolated from prior outbreaks such as the severe acute respiratory syndrome (SARS) outbreak at the University of Toronto in 2003. The house staff at the time reported fear and worry due to frequent changes in information about the disease and ineffective communication, social isolation, and a work environment with increased stress.[1]

Our current work environment is unsettling with guidelines and policies changing daily. We will provide a brief outline of new challenges in each area and suggest approaches to managing these difficulties (Tables 1 and 2).

A. Clinical Education

1. Inpatient rotations

Changes

Significant limitations on patient care have been put into effect in many hospitals across the nation, stemming from a necessity to conserve personal protective equipment (PPE), avoid unnecessary exposure, and be in compliance with the edicts of social distancing. Widespread policy changes include limiting in-room patient contact and withdrawing fellows from many endoscopic procedures. Although sensible, this represents a major change from the standard clinical teaching paradigm, in which the patient is seen first by the fellow alone and then again together with the entire team.

Implemented Solutions

Standard in-person pre-rounds followed by in-person rounds have essentially been eliminated. Among institutions with the resources, some have implemented seeing consults entirely via telephone or electronically to avoid or reduce patient contact. Alternatively, in other institutions, patients are seen only during either pre-rounds or rounds, but not both. When appropriate, at the discretion of the fellow or attending, chart review and discussion with bedside nursing and primary teams may be deemed sufficient, and direct patient contact by the consulting team is avoided altogether for that day.

Perspectives

We are practicing in an environment of fear of exposure and limited resources and have had to find ways to limit exposures and minimize the resources used. We have been forced to consider ways to practice excellent patient care while limiting the number of providers and instances of in-room patient contact. The solutions that various hospitals come up with offer interesting food for thought in terms of how much of our practice we do out of habit, as opposed to what is truly the most effective and efficient way to deliver patient care.

2. Outpatient Clinics

Changes

In order to adhere to social distancing, “nonessential” clinic visits have been canceled. Those deemed “essential” continue as in-person visits. The terms “nonessential” and “essential” vary widely among healthcare providers. Contacting patients before a scheduled appointment can be difficult and is potentially limited by the availability of the provider as well as patient telephone access.

Implemented Solutions

Patients can be contacted by their providers before the scheduled visit to determine whether virtual or telephone visits are appropriate. Telemedicine offers a means to complete clinical encounters and maintain rapport while complying with the concept of social distancing.

Perspectives

Although telemedicine is a useful solution, it is not without its problems. Some institutions integrated it as part of their practice a long time ago. For others it is new technology, and its implementation will be complicated by the challenges of learning a new system. Technical issues may also arise, such as connection disruptions that can make establishing rapport difficult. Furthermore, because this is a new technology for some providers, it may be challenging to triage patients between in-person office and telemedicine visits. This ability is crucial because precluding patients from a necessary office visit may lead to increased emergency department visits.

On the other hand, this can be viewed as an educational opportunity. We will be forced to become acquainted with the practice of telemedicine, something in which we would otherwise have lacked experience. Even when normalcy returns, telemedicine might gain an increasing role in medical practice. Our experience may allow us to incorporate new skills into future situations that warrant telemedicine visits, such as patients who lack adequate transportation. Additionally, this gives an opportunity to develop competency to triage between those who need in-person office and virtual visits. The solutions that have arisen out of this current crisis may continue to play an integral part in the outreach of difficult-to-reach patient populations.

3. Endoscopy

Changes

A number of institutions have withdrawn fellows from most, if not all, routine endoscopic procedures to preserve PPE, shorten procedure time, and limit exposure. For a procedure-focused specialty such as gastroenterology, attaining and maintaining competency in endoscopic skills has become a concern for fellows during this pandemic. The concern is augmented by the indefinite time period we will be away from the endoscopy suite. Because this is uncharted territory, there is fear of whether this will pose a detriment to our acquisition of procedural skills.

Implemented Solutions

This is an opportunity to reflect on endoscopic techniques by using nonclinical time to watch endoscopy videos, through *VideoGIE* and websites such as American Society for Gastrointestinal Endoscopy (ASGE), work on a goal-directed endoscopy curriculum for impacted fellows, and create a curriculum to use a simulator lab. To minimize use of PPE but preserve educational objectives, fellows may be given the option to participate in select cases such as removal of foreign body or therapy of gastrointestinal bleeding if the patient is judged to be low risk for COVID-19.

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Perspectives

Although we fear our endoscopic skills may be compromised, extended breaks from endoscopy has precedence. For example, fellows on a research track and those who take maternity or paternity leave have graduated as successful fellows. It is important to keep in mind that endoscopy is both a cognitive and technical discipline. This unfortunate circumstance provides the opportunity to develop the cognitive aspect of endoscopy in ways that may not have otherwise arisen. We are involved in real-time decisions on the urgency and necessity of endoscopic procedures we used to routinely perform. The exercise of choosing which procedures offer high enough yield and benefit to patients in the immediate setting to outweigh the risk of exposure and the use of limited personal protective equipment is a valuable one. It has also given us a new perspective on which endoscopic procedures really impact clinical management and which procedures are less urgent.

B. Academic Education

1. Formal Didactics

Changes

Many areas of education have been affected such as multidisciplinary conferences, lectures, and journal clubs, which have been delayed indefinitely.

Suggested Solutions

How can we maximize our educational experiences in these unconventional times? It is possible to use the time gained from social distancing to focus on education in an innovative way. In 2009, Lim et al[2] discussed the importance of re-imagining medical education via online and simulation methods during a SARS outbreak and even proposed contingency plans for a future outbreak. By learning from our past experiences, we can mitigate the negative impact on medical education and implement programs faster than before.[2] We suggest that gastroenterology programs use virtual platforms for board review and conferences, continue with journal clubs with the help of social media, and encourage the use of didactic videos for endoscopic procedures. Some programs are sending educational materials to fellows to review.

Perspectives

There will be a learning curve associated with using virtual platforms. Information technology can provide tutorials to assist in creating an effective virtual environment to maximize education. Faculty and fellows who are familiar with social media platforms can assist those unfamiliar in their use. It is also interesting to note that during the SARS outbreak in Toronto in 2003, limited social media platforms were available and not used as commonly. With the advent of Twitter, for example, we can participate in a journal club with leaders in the field of gastroenterology from around the nation and globe. Through *VideoGIE* and YouTube, we can watch endoscopy cases and discuss them in the comments section. These platforms along with many others can provide a key component in minimizing educational lapses.

2. National and Regional Conferences

Changes

The cancellation of major conferences, including Digestive Disease Week (DDW), decreases opportunities for networking and leaves many feeling that their hard work will go unnoticed.

Suggested Solutions

Although the cancellation of regional and national conferences is disappointing, there are novel alternatives for research presentation and dissemination. Examples include the planning of a future de novo regional presentation day in which trainees would have the opportunity to showcase their work. Similarly, the creation of a virtual conference would allow us to network and disseminate our research findings during this time of social distancing.

Perspectives

Creating a "virtual" conference would potentially allow conference registrants to present their research that was accepted to now-canceled meetings. Our GI societies have online education resources (eg, ASGE GI Leap, DDW on demand) that could be used to facilitate virtual research presentations. This avenue, however, has inherent limitations such as suboptimal or absent audience interaction, lack of widespread interest, and inability to participate in hands-on workshops. Another medium to facilitate virtual research dissemination is through social media; however, this is not universally used and would present a new logistical challenge. This may be surmounted through dissemination of tutorials on appropriate use of social media. If a virtual conference can be effectively done, this may provide an interactive option to use for years to come for those unable to attend the conference. We hope that the ASGE leadership will recognize this need and offer a solution once the pandemic is controlled.

3. Research

Changes

During this precarious time, fellows are still at increased risk for exposure and time away from clinical duties. A number of programs have instituted a precautionary coverage system, which has the potential to limit research time. Furthermore, patient recruitment may become limited or has ceased, and clinical research personnel may be unavailable.

Suggested Solutions

Although conducting clinical trials that require patient recruitment will be limited or halted, survey studies, pilot grants, database research, online courses in statistical methodology, systematic review and meta-analyses, or chart review through remote access are other methods to continue with clinical research.

Perspectives

Despite limitations in conducting randomized controlled trials, some fellows may find more time that can be allocated toward other types of research or learning new skills. Acquiring data through the combination of social media data and electronic health record data may be an innovative method to continue research endeavors.[3] Furthermore, crowd sourcing is another method that can be used. There has been success with the use of such tools in prior gastroenterology research.[4] Artificial intelligence is rapidly altering the endoscopy landscape, and much research can be done using existing image and video repositories, even in the current restrictive environment. Moreover, collaborative research projects may provide an opportunity to interact with peers in a stimulating academic environment while complying with social distancing.

Virtual and telephone meetings in the spirit of research can allow for a gratifying experience.

Conclusion

"Quarantine, self-isolation, COVID-19 rule-out, social distancing." These words have become modern colloquialisms. However, this is a time when we can still present a united front in fighting a pandemic while simultaneously maintaining morale. We encourage all programs to share their experiences and solutions during this rapidly changing landscape. In these unprecedented times, we can still ensure our success in becoming well-trained gastroenterologists by working together, taking advantage of unique opportunities, formulating novel solutions to new problems, being innovative, and always looking for the silver lining.

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Tables 1 and 2

Table 1: Clinical education				
Affected area	**Change**	**Suggested solution(s)**	**Challenges and barriers**	**New opportunities**
Outpatient clinics	1. “Nonessential” visits canceled 2. Minimize physical examination 3. “Essential” visits continue	Telemedicine	1. Lack of telemedicine experience 2. More difficult to establish rapport 3. How to define “essential” 4. How to arrange follow-up	1. Become effective in practice of telemedicine and learning how to bill 2. Learn to triage urgency of clinic visit 3. Expand experience beyond our specialty (monitoring of quarantined patients, understaffed areas)
Outpatient endoscopy	1. Most procedures postponed 2. Fellow does not participate	1. Use of extra nonclinical time for other endeavors 2. Watch ASGE videos 3. Volunteer opportunities outside of specialty 4. Future extra goal-directed endoscopy curriculum or rotations for impacted fellows 5. Simulator lab	1. Lack of structure 2. Lack of access to medical facilities 3. Unclear duration of canceled procedures 4. Unknown effect on development of procedural skills	1. Creation of an endoscopic simulator curriculum
Inpatient consults	1. Mandated limitation of exposure and contact 2. Personal protective equipment for suspected and confirmed COVID-19	1. Choose pre-rounds or rounds to see patient 2. Focused, goal-directed physical examination only when needed 3. When appropriate perform consult via chart review only	1. Fear of detriment to patient care 2. Lack of experience with style of practice 3. Decreased ability to establish rapport with a patient	1. Assess when in-person visit may change management 2. Assess when physical examination may change management
Inpatient endoscopy	1. Limited involvement of fellow 2. Postpone nonurgent procedures	Choosing high-yield procedures for fellow to perform (eg, foreign body removal, therapeutic hemostasis)	Fluctuating guidelines and variability of attending policy	1. Predict which procedures likely to offer high-yield experience 2. Triage urgency of endoscopic procedures

Table 2: Academic education				
Affected area	**Our experience**	**Suggested solution(s)**	**Challenges and barriers**	**Suggested workaround**
Didactics	1. Cancellation of educational opportunities: - journal clubs - multidisciplinary conferences - weekly didactics	Use of technology to make virtual group didactic sessions	Lack of familiarity with software	1. IT help with giving tutorial on these venues 2. Faculty and fellows to assist (peer -coach) 3. Board review
Scientific meetings	National and regional conferences canceled	1. Future regional symposium 2. Social media networking 3. Focusing on converting abstracts to manuscripts 4. Virtual conferences	1. Logistics of arranging regional symposium 2. Lack of experience with social media for this purpose 3. Social media not universally used 4. Unclear availability of mentors via social media	1. Guidance from GI societies on effective use of social media 2. Encourage increase in appropriate social media use 3. Disseminate tutorials on appropriate social media use
Clinical research	1. Coverage system (may limit research time) 2. Limited access to hospital facility for nonclinical activity	1. Complete components of ongoing projects that can be done from home 2. Attempt survey studies or chart review via remote access	1. Patient recruitment may be negatively impacted 2. Clinical research personnel may be “sidelined” or limited in work hours 3. Collaboration with co-investigators more difficult	1. Virtual meetings with collaborators and co-investigators

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