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Correspondence

Planning phase two for endoscopic units in Northern Italy after the COVID-19 lockdown: An exit strategy with a lot of critical issues and a few opportunities



Dear Editor,

Since the beginning of May 2020, Italy will gradually emerge from the novel coronavirus (COVID-19), lockdown [1], which began on March 9. With the deceleration of the pandemic across the country, disease control measures have been eased through a well-structured plan and Italy is now in the so-called “Phase Two” of lockdown, moving toward an eventual return to normalcy. After a pause for all but urgent procedures, Endoscopy Departments (EDs) are converting back to their pre-COVID-19 configurations and are returning to carrying out elective endoscopic procedures [2–4].

However, safely recommencing outpatient activity raises several critical issues, such as the risk of exposure to infection for health-care personnel and patients, the reduced availability of staff, the presence of infrastructural barriers and the lack of a clear policy regarding the timely rescheduling of cancelled or postponed endoscopies.

We conducted a survey among the Directors of EDs in high-risk areas of Northern Italy with the aim of investigating the barriers and strategies to safely resume elective endoscopy activity in Phase Two of the lockdown.

The study was conducted between April 20th - 25th, 2020 (two weeks before the start of “Phase-Two”). A total of 55 EDs, which participated in a previous survey on the COVID-19 outbreak in Italy (3), received by e-mail a structured questionnaire, which consisted of 3 sections (Table 1). The first section focused on the organizational characteristics of EDs before and after the outbreak, in order to assess the impact of the pandemic on EDs. The second section explored the availability of specialist staff and personal protective equipment (PPE) in the EDs at the start of Phase Two. In the third section, the Directors of EDs were asked to foresee the endoscopy workload they would realistically estimate as achievable, according to local resources, in Phase Two (from May to July 2020), and to indicate strategies to optimize endoscopic activity in this reference period.

Of the 55 EDs invited, 43 (78.2%) completed the questionnaire. The median interval time from construction or last renovation of EDs was 9.8 (7.2–13.2) (range 1–25) years. The main characteristics of EDs in the pre-COVID-19 period are shown in Table 2. Due to the COVID-19 outbreak, 17 (39.5%) centres had their normal endoscopic activities reduced by 50–74% and the remaining 26 (60.5%) by 75–99%.

Overall, 353 endoscopists (range 3–20/ED), 643 nurses (range 7–65/ED) and 179 health assistants (range 1–15/ED) had been working in EDs in the pre-COVID-19 period. At the end of April, 48/353 (13.6%) endoscopists, 162/643 (25.2%) nurses, and 25/179

(14%) health assistants were not available due to Covid-19 infection (9, 25 and 4 respectively), or reallocated to other units (39, 137 and 21 respectively) (Table 2).

Of 188 endoscopy rooms used in the pre-COVID period, 67 (35%) in 32 EDs were not available, since they were either converted to COVID-19-care areas ($n=9$) or devoted to endoscopic procedures in COVID-19 positive patients ($n=58$). Regarding structural characteristics, 29 (67.4%) centres had either the waiting area (22/43, 51.2%) or the recovery area (24/43, 55.8%) or both (17/43, 39.5%) that were too small to guarantee sufficient distancing between patients or caregivers/escorts at the pre-crisis workload; 10 (23.2%) centres could not guarantee a “infected patients pathway” separated by “non-infected” areas; 30 (70%) were lacking at least one negative-pressure room; 10 (23.2%) did not even guarantee the separated dirty/clean pathways for endoscopes. In this phase of the pandemic, PPE shortage represented a critical issue for a minority (5–11.6%–) of centres. In general, only 3 (7%) EDs reported that they were able to immediately resume elective endoscopic activity at the pre-crisis volume, with respect of the safety protocols.

When asked to foresee which increase in the endoscopic workload would have been bearable in the upcoming months, according to the services resources, the majority of the Directors (34/43, 79%) envisioned as realistic a workload increase up to 33% for the month of May as compared to the actual one. For the month of June, this figure was up to 33% and 50% in 26 centres (60.5%) and in 15 (34.9%), respectively. For the month of July, the majority of centres (30/43, 69.8%) envisioned a workload increase of at least 50% ($n=22$). Returning to the pre-crisis workload by the end of July, September and October was judged as a realistic goal by 8 (18.6%), 10 (23.2%), and 14 (32.6%) participants, respectively (Fig. 1).

All participants agreed that, once completely returned to elective endoscopy, the chance of overcrowding would be very high, due to the very large number of postponed cases that need to be rescheduled. However, only 10 of them reported they were confident in being able to significantly increase (at least 33%) their activity with respect to the pre-COVID-19 vol; conversely, the majority of participants realistically declared no (14 centres) or minimal (10–25%) increases in their activities to be possible.

Endoscopists suggested that implementing the application of guidelines ($n=12$), organizing a direct-line with general practitioners (GP) for triaging and scheduling/rescheduling patients ($n=21$), and promoting telemedicine and virtual visits ($n=10$) could be strategies to optimize endoscopic activity and promote a more rational use of resources. Only 10% of those interviewed were pessimistic, fearing that the COVID-19 crisis would have not brought any changes and improvements in ED organization. All centres claimed their availability to immediately restart screening activity at the pre-crisis volumes, but 38 of them suggested to replace pre- and post- colonoscopy visits by telemedicine.

Table 1

List of questions presented in the survey.

Characteristics of Endoscopic Units	
1	How many procedures do you perform in your Endoscopic Unit every year? A < 5000 B ≥ 5000
2	How many physicians do you have in your Endoscopic Unit?
3	How many nurses do you have in your Endoscopic Unit?
4	How many health assistants do you have in your Endoscopic Unit?
5	When was your Endoscopic Unit built or renovated?
6	Does your Endoscopic Unit allow a differentiated clean/dirty path for the equipment?
7	How many endoscopic rooms do you have in your Unit?
8	Is your Endoscopic Unit provided with negative-pressure rooms? A Yes B No
Changes in your Endoscopy Unit related to the COVID-19 outbreak	
9	How much has the endoscopic activity of your Unit reduced? A 100% (stopped) B 75–99% C 50–74% D 25–49% E 0–24%
10	How many endoscopic rooms are presently not available since converted to another use?
11	How many physicians are presently infected?
12	How many physicians have been relocated to other departments?
13	How many nurses are presently infected?
14	How many nurses have been relocated to other departments?
15	How many health assistants are presently infected?
16	How many health assistants have been relocated to other departments?
Modifications in your Endoscopy Unit organization and its suitability for resuming endoscopic activity	
17	In your opinion, is your Endoscopic Unit adequate to manage infected and non-infected patients? A Yes B No C Only reducing the number of procedures
18	Is in your Endoscopic Unit possible to have separated paths for infected and non-infected patients? A Yes B No C Only reducing the number of procedures
19	Is the waiting room of your Endoscopic Unit suitable to ensure adequate distance between patients/relatives/caregivers? A Yes B No C Only reducing the number of procedures
20	Is the recovery room of your Endoscopic Unit suitable to ensure adequate distance between patients? A Yes B No C Only reducing the number of procedures
21	Do you fear any shortage of PPEs in your Endoscopic Unit after resuming the endoscopic activity? A Yes B No
Perspective and proposal for resuming the endoscopic activity	
22	What would you suggest to restart safely and affectively the endoscopic activity?
23	In your opinion, which increase in the endoscopic activity can be achieved in the month of May? A 0% (the activity remains as today) B 10% C 25% D 33% E 50% F Return to the pre-COVID-19 activity

(continued on next page)

Table 1 (continued)

Characteristics of Endoscopic Units	
24	In your opinion, which increase in the endoscopic activity can be achieved in the month of June? A 0% (the activity remains as today) B 10% C 25% D 33% E 50% F Return to the pre-COVID-19 activity
25	In your opinion, which increase in the endoscopic activity can be achieved in the month of July? A 0% (the activity remains as today) B 10% C 25% D 33% E 50% F Return to the pre-COVID-19 activity
26	In your opinion, when will your Endoscopic Unit return to the pre-COVID-19 activity?
27	Once completely re-opened, which further increase in the endoscopic activity is achievable to reduce the waiting list? A 0% (the activity will remain as in the pre-COVID-19 period) B 10% C 25% D 33% E 50%
28	When could the CRC screening activity restart in your Endoscopic Unit? A Immediately (in the month of May) at the pre-COVID-19 vol B Immediately (in the month of May) at a reduced rate C I would wait to restart the screening activity
29	In your opinion, will the COVID-19 crisis promote a significant evolution in the organization models/mentality of the Endoscopic Units?

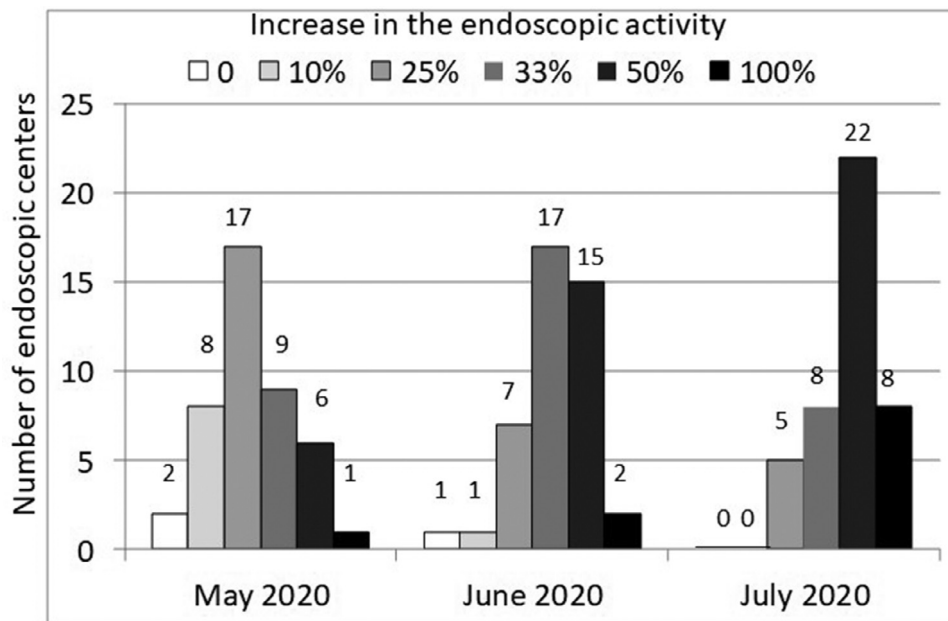


Fig. 1. Hypothesized increase in the endoscopic workload, as compared to the actual one, bearable in the upcoming months after re-opening of the Endoscopic Departments.

The present survey demonstrates that there are several barriers preventing EDs in Northern Italy to safely manage elective endoscopy activity in Phase Two of the pandemic. Professional societies have issued guidelines to safely return to elective procedures [5,6]. These guidelines call for a pre-procedure screening of patients to assess risk of transmission, combining it with PCR-based testing prior the procedure, the use of PPE, and policies to facilitate social distancing for patients and visitors in the waiting and

recovery rooms, restrictions on accompanying visitors, and distancing the procedure start times [5,6]. Presently, PCR testing prior to the procedure is not available in Italy. Thus, social distancing and the appropriate use of PPE remain critical issues. Unfortunately, despite 50% of EDs had been recently (< 10 years) built or renovated, waiting and recovery areas are inadequate in guaranteeing distancing among individuals in several services, and most units are not able to ensure high flows of patients, personnel and equipment.

Table 2

The main characteristics of the Endoscopic Departments in the pre-COVID-19 period and at the time of questionnaire administration
ED: Endoscopic Department.

Involved Endoscopic Departments (n)	43
EDs performing >5000 exams/year (n, rate)	40/43 (93%)
Time from ED construction or renovation (year; mean \pm SD; range)	11.9 \pm 7.3; 1–25
EDs >10 year-old (n, rate)	20/43 (46.5%)
Available/non-available endoscopic rooms	121/67
EDs with at least one non-available endoscopic room (n, rate)	32/43 (74.4%)
Available endoscopic rooms/ED (mean \pm SD; range)	
- Pre-COVID-19	4.44 \pm 2.13; 2–11
- Present time	2.80 \pm 1.38; 1–7
COVID-19 -related procedure reduction (n, rate)	
- 50–74%	17/43 (39.5%)
- 75–99%	26/43 (60.5%)
Available endoscopists/ED (mean \pm SD; range)	
- Pre-COVID-19	8.34 \pm 4.53; 3–20
- Present time	7.27 \pm 4.51; 1–19
Available/non-available endoscopists (n)	305/48
Reason for non-availability	
- COVID-19 infection	9
- Reallocation to another unit	39
Available nurses/ED (mean \pm SD; range)	
- Pre-COVID-19	15.19 \pm 10.46; 3–65
- Present time	11.34 \pm 9.92; 2–62
Available/non-available nurses	481/162
Reason for non-availability	
- COVID-19 infection	25
- Reallocation to another unit	137
Available health assistant/ED (mean \pm SD; range)	
- Pre-COVID-19	4.24 \pm 3.36; 1–15
- Present time	3.22 \pm 2.17; 0–15
Available/non-available health assistants	154/25
Reason for non-availability	
- COVID-19 infection	4
- Reallocation to another unit	21

Other issues hinder a prompt restart of elective endoscopy: Endoscopy staff is still lacking in many endoscopy services, since physicians and nurses have been either infected or are still reallocated to other departments; some EDs rooms are still unavailable due to their conversion to the management of COVID-19 infected patients. Indeed, most participants agreed that re-opening EDs should be accomplished very slowly, with a limited increase in the number of procedures over the upcoming months and that it was unrealistic to return to pre-crisis workload in the next three months.

Phase Two will be challenging: effort should be made to avoid overload of EDs, but several procedures that were cancelled or postponed during the outbreak need to be rescheduled. There is, thus, an absolute need to redesign the organization models of EDs and their interaction with territorial services. The Italian “open access” system has several advantages (eliminating unnecessary pre-endoscopic office-based consultations), but it has also generated a high level of inappropriateness and misuse of resources [7,8]. From now on, a clear and thoughtful policy regarding the timely scheduling/rescheduling of endoscopy procedures according to their priority will be required. This can be achieved only on a case-by-case basis; priority should be given to patients for whom even a short delay would significantly alter the patient's prognosis. Due to the great uncertainty about the duration of the pandemic [9], a further category of patients who should not be postponed are those who do not have life-threatening conditions but for whom treatment should not be indefinitely delayed until the

end of the pandemic, such as colorectal cancer screenings. EDs should, thus, strongly consider further postponing elective procedures or their cancellation, if inappropriate by reviewing and categorizing the procedure lists by both prescriber physicians and endoscopists. This scenario inevitably implies, at least temporarily, the shift from an open access endoscopy to a filtered access [10]. A prioritization model for referrals has already been tested in Italy [11,12], but this process implies a close interaction between GPs and specialists and requires a lot of time. Telemedicine, as highlighted by our survey, could represent a useful tool to fill the gap between GPs and specialists. Telemedicine and virtual visits have never been performed in Endoscopy Units in Italy but are advisable to promote the appropriate use of resources.

Measures for the return to routine endoscopy during the pandemic have been suggested by gastroenterological societies [5,6] and experts [13–16], but local applicability has never been evaluated. The present survey has been conducted in Italy, but has provided data that are likely generalizable to most EDs in the Western countries.

Crisis periods, like wars, are usually followed by great technological and social evolution. Nearly all endoscopists have agreed that the COVID-19 pandemic may represent a great opportunity to re-model and rationalize the EDs processes. Nothing will be the same again and what we are organizing, planning and changing today will likely represent the basis of our work tomorrow: this opportunity has to be exploited to the best of our possibilities.

Declaration of Competing Interest

Authors declare that they do not have any conflict of interest

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