

Bridging learning in medicine and citizenship during the COVID-19 pandemic: A telehealth-based strategy

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Comment

Considering the absence of effective and safe anti-viral treatments for SARS-CoV-2 infections, and the time required to achieve a successful vaccine to prevent COVID-19, non-pharmacological interventions (NPI) such as social distancing, movement restriction, quarantine and contact tracing remain among the most effective evidence-based strategy to curb the spread of SARS-CoV-2.¹ However, a caveat of social distancing recommendations is its potential to delay assistance of acutely-infected patients due to fear of attending health services. In addition, the strategy to avoid crowding, use of public transportation and the shortage of protective personal equipment precludes usual medical school activities in times of isolation. In an effort to respond to these challenges caused by the COVID-19 pandemic, new approaches for

providing unusual medical education to students and early health guidance to COVID-19 patients are warranted.

In response, a combination of telehealth and medical training offers an opportunity to engage supervised medical students in assisting the population during the pandemic. In Brazil, in face of suspended university classes, a tele-screening service remotely operated by 1,026 medical students enrolled in their final two years of undergraduate activities has been assisting voluntarily the community of the State of Bahia in a 12 hours-a-day/7 days-a-week service (<https://www.arca.fiocruz.br/handle/icict/41508>). Bahia, located in northeast Brazil, has a population of 14.8 million people throughout its 417 municipalities, with a territorial extension equivalent to that of France. An state-wide toll-free number was created and since March 24, a call center has been redirecting calls from potential COVID-19 patients to the mobile phones of the medical students remotely supervised by about 150 physicians (residents or volunteers of specialties not directly involved in the front-line assistance), using a messaging app. The screening decision algorithm employs a flowchart constantly updated to reflect current recommendations of the Ministry of Health as well as scientific evidence (supplementary figure 1). In support, short videos of medical faculty members discussing scientific advances are provided to the students for their education on COVID-19. Sociodemographic and clinical data are registered in an electronic database using a custom application, compliant to ethical guidelines, that is simultaneously accessed by the local government to assist in the epidemiological surveillance and management of health resources. By June 3, at day 70 of the operation, 60,590 patients had been advised. A fraction of 37.1% (n=22,492) were identified as at risk of poor outcomes and were recommended to attend an emergency unit in their neighborhood. Considering that more than 38,000 patients were advised to stay at home and received guidance to avoid disease transmission, the telehealth service may have also contributed to reduce virus spread by preventing unnecessary circulation of mild cases to the health services. Our strategy, termed Telecoronavirus, leverages the technical aspect of medical knowledge, abilities in telemedicine, and the will to help of well-trained volunteers to provide free-of-charge health guidance to state population. This citizenship activity brings medical students closer to the real-life activities of the public health system at this moment of distress and vulnerability and should be further valued in medical curricula.

As a strategy to advise patients suspect of COVID-19, tele-screening has several advantages over automated online screening services: 1) No formal education level or digital literacy is required to have access to the service; and 2) no access to an internet service is needed. These points are particularly important in low and middle-income countries such as Brazil, where in spite of recent improvements, there still exists a digital divide across the vast territory as well as across specific age-groups, particularly in the elderly.² Additionally, a humanized service provided by a health care team increases adherence to the social isolation guidelines or recommendation to seek medical care.

COVID-19 came to stay for at least a few years and will impose challenges to both health care practices and medical training. Remote tools for early detection of outbreaks of respiratory infections, with no cost for users, will be of paramount relevance for strengthening and expanding the classical epidemiological surveillance tools.

Additionally, connecting health care with medical student learning may also be applied to support patients with other illness, either acute or chronic, reducing the necessity of face-to-face consultations and the risk of infection transmission to patients, healthcare team and administrative staff.

Acknowledgement:

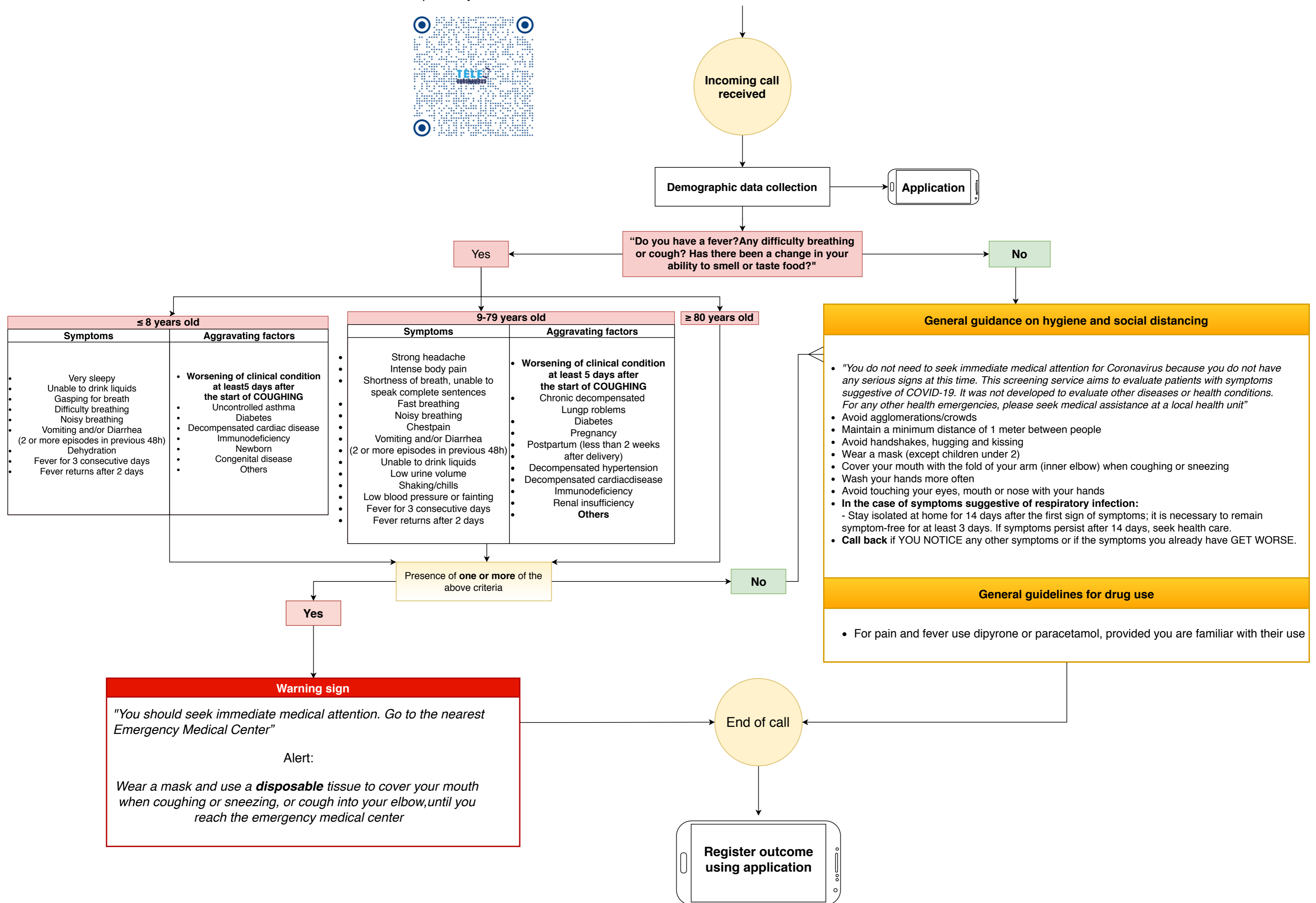
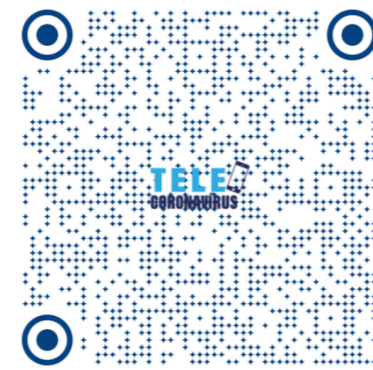
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References

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**Tele Coronavírus
Version 14
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Updated Flowchart:
<https://bit.ly/ultimofluxo>



Adaptated of Clinical Algorithm Telephone Screening from Atlantic Health System.
Updated by Protocolo de manejo clínico do Coronavírus(Covid-19) na Atenção Primária à Saúde (Ministério da Saúde- March2020)