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Fortalecer as Atividades de Informação e Vigilância Epidemiológica é Essencial e Urgente para Reduzir a Força de Transmissão do SARS-CoV-2

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SPECIAL ARTICLE

Strengthening the surveillance and information activities is urgent and essential to reduce the transmission force of SARS-CoV-2*

Título resumido: Information and Epidemiological Surveillance for COVID-19: Essential and Urgent

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Todos os autores participaram da concepção do manuscrito, MGT escreveu o primeiro rascunho, todos os autores reviram o manuscrito e aprovaram a versão final.

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Nenhum conflito de interesse.

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COVID-19 is caused by the SARS-CoV-2 virus, an agent that is rapidly transmitted by the respiratory route and from infected surfaces. After nearly 18 months of the pandemic and its effects, a sustained reduction in the incidence of cases, severe cases, and deaths is expected due to the increase in vaccination coverage. However, given the slow pace of vaccination¹, it is time for caution, making it necessary to implement new actions capable of reducing and maintaining the transmission threshold of SARS-CoV-2 to low levels. It must be noted that while vaccines are the most important weapon in the control of the pandemic, with high efficacy in reducing severe cases and deaths, they have lesser effects on the transmission of the virus². Therefore, until high levels of vaccination coverage are reached, it is extremely important to maintain the use of non-pharmacological measures, in particular the mandatory use of masks, social distancing, and control of the flow of intra- and inter-urban travel^{3–5}.

There is also a pressing need for measures that ensure continuous transmission control efforts by tracking cases and contacts in each community so that health professionals can guide and adopt measures indicated for each situation (isolation, quarantine, use of masks, etc.). Such measures aim to reduce to a minimum the force of transmission of the virus, as they contribute not only to the reduction of cases⁶⁻⁹, but also to contain the emergence or introduction of new variants to the country¹⁰, possibly more transmissible or pathogenic, as is happening with the Delta variant, recently introduced, but already actively circulating in Brazil¹¹.

Although Brazil's Epidemiological Surveillance System of the Unified Health System (SUS) is considered one of the best national surveillance systems compared to similar countries in terms of development and size of the population, the COVID-19 pandemic has exposed its weaknesses. It should be emphasized that, in addition to the lack of national coordination of epidemic control efforts, a large part of the resources added to SUS dealing with this Public Health Emergency have been directed towards expanding medium and high-complexity hospital care. These initiatives were of paramount importance to respond to the increase in this demand. However, in parallel, there should have been the implementation of control efforts in the primary care network to reduce the transmission of SARS-CoV-2. However, this only happened in a very timid way and, more often in municipalities that, on their own, took this initiative. For instance, the surveillance of new infections, new cases, and their contacts has been weak, although these actions, by interrupting transmission, prevent new infections, leading to a reduction in hospital demand and the number of deaths. Epidemiological surveillance

(EV) measures have a broad spectrum of action, ranging from promoting hygiene measures to active case and contact finding and notification, tracking contacts to guide and monitor the isolation of the infected, and quarantine, when indicated. Examples of success are the municipalities of Araraquara (SP)¹² and Eusébio (CE)^{13,14}, which managed to implement vigorous EV programs, with marked reductions in their infection rates.

Our proposal here aims to sensitize policymakers and implementors to the need to implement effective efforts to reduce the transmission of SARS-CoV-2 through the strengthening and expansion of traditional EV strategies at the community level. This requires identifying cases of COVID 19 - whether isolated or in clusters - and, with the support of a fast information network, adopting the necessary containment measures to reduce and maintain transmission at low levels.

Since a previously unknown agent caused COVID-19 there were technical difficulties for rapid diagnosis of cases (symptomatic or asymptomatic) both in health units and in communities. The only diagnostic procedure initially available requires collecting samples with a nasopharyngeal swab for RT-PCR, which must be sent to a specialized laboratory. Due to the overload of samples for analysis, it can take several days to return the results. Thus, there is substantial delay in the flow of information to health units about cases in their respective coverage areas, in addition to insufficient detection of cases. These problems, associated with the lack of incentives for measures to reduce community transmission, have made the efforts to contain the transmission of SARS-CoV-2 through case identification and contact tracing either non-existent or ineffective in many municipalities. Although some Governors and Mayors have adopted collective efforts to contain transmission through the implementation of non-pharmacological measures, such as social distancing, restrictions on travel and use of masks, the decisions to adopt them have been, in general, based on hospital indicators, especially the rate of occupation of ICUs, but not in epidemiological indicators related to the intensity of SARS-CoV-2 transmission.

Given this scenario, we propose that policymakers adopt mandatory active case finding, contact tracing, and prompt control efforts at the local level. Such actions must be developed by primary health care personnel in conjunction with epidemiologists ^{6,7}. It is noteworthy that many public schools are located in the areas covered by primary health care units, favoring interventions to protect education workers, students, and their families. In turn, for interventions to be adopted universally, it will be necessary to

allocate resources for the local level, mainly to train and expand work teams to implement these activities following the daily monitored epidemiological situation. It is important to emphasize that there has been an advance in diagnostic tools and that rapid testing of virus antigens is available, enabling the rapid detection of cases in communities. These new technologies are already in use and should be accessible to teams actively tracing cases and their contacts. Speed in diagnosis is one of the main factors that enable early identification of cases, contact tracing, and better control of the SARS-CoV-2 spread.

Propositions

In order to achieve these goals, we propose that guidelines for strengthening epidemiological surveillance for COVID-19 at the local level be quickly developed.

In addition to other guidelines and activities, these guidelines should include:

- 1) Identification of cases in their initial phase, using systematic, consistent, and continuous monitoring (antigen testing in symptomatic individuals; active search for cases and contacts; and adoption of other control measures). Each local health system must adapt the standard(s) according to its social and economic reality and family health coverage, among other aspects.
- 2) Contact tracing to identify individuals who have been exposed to infection because they have had close contact with a case, being symptomatic or asymptomatic. It requires rapid antigen testing of all contacts to detect potential symptomatic or asymptomatic transmitters regardless of symptoms.
- 3) Adopting measures to contain transmission by isolating positive cases and quarantining negative ones and monitoring these people. In addition to health system requirements, this requires guidance for individuals and families and verification of the possibility of home isolation;
- 4) Ensuring social support for cases and contacts who have difficulties complying with isolation and/or quarantine. If necessary, provide alternatives for home isolation (school, shelter, neighbourhood association, sports court, among other social facilities) or through family rearrangements. Professionals from the Primary Care Units must monitor these locations;
- 5) Adoption of collective containment measures when there is evidence of increased transmission in an area, seeking to verify the radius of influence of

these possible clusters of cases (clusters) to expand the control action to contiguous geographic areas;

- 6) Immediate sharing of laboratory test results of COVID-19 produced by state and other public or private laboratories that perform PCR and/or Antigen Tests with the primary care units for the adoption of the appropriate measures mentioned above.
- 7) Establishing or strengthening the flow of information on cases diagnosed in UPAs, clinics, and public and private hospitals to immediately trigger the indicated containment actions.
- 8) Guaranteeing access and use of personal protective equipment and other hygiene measures to prevent infections among the health professionals involved in these activities following current regulations.
- 9) Encouraging the widespread use of efficient face masks and providing them to vulnerable populations.
- 10) Increasing epidemiological surveillance in workplaces so that containment efforts are undertaken there on time.
- 11) Increasing epidemiological surveillance in schools and using rapid communication channels links these efforts to the Primary Health Care system to rapidly and effectively control outbreaks in the school community. It must involve school and health workers, social assistance staff, students and their families.
- 12) Ensuring broad vaccination, with an active search for the unvaccinated and those missing a second dose.
- 13) Implementation of comprehensive health education and communication efforts aimed to respond to fake news and strengthen the immediate adoption of all the measures to contain transmission.

The implementation of these strategies to strengthen the Epidemiological Surveillance of cases and contacts, systemically and universally, must be adapted to the reality of each community. It can only be conducted with adequate political, financial and technical, and operational support.

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