Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Improving the good to get closer to the perfect

The interesting paper by Kennedy-Shaffer and colleagues[1] describes different options to tracing SARS-CoV-2 infections during the current pandemic. The most important conclusion is that tests with low sensitivity are useful when they are realised with high frequency (short turnaround time), which differs from the conventional clinical epidemiology view that prefers the exclusive use of gold standard tests. On the basis of mathematical models, we now know that public health surveillance during pandemics and other sanitary crises should prioritise accessibility, frequency, and sample-to-answer time over sensitivity of diagnostic tests.[2] Although these findings are useful for public health surveillance of the current pandemic, they can be further improved. During our successful experience with Colombian enterprises,[3] we proposed an alternative to testing closed cohorts (such as workers or students) to optimise public health surveillance, increasing sensitivity of imperfect diagnostic tests.

The alternative was inspired by pooling diagnostic tests and so-called social bubbles in a context of low availability of real-time quantitative reverse transcription PCR (RT-qPCR). In brief, the use of pooling diagnostic tests was proposed in 1943 by Dorfman.[4] For this pooling, several samples are mixed and processed as one. If the result of the mixture is negative, all individuals are considered negative. If the result of the mixture is positive, separate tests should be done for each individual. By using this pooling approach on a large scale, it is possible to have results from a greater number of people at a lower cost. Yet, social bubbles are small groups of individuals who only interact with each other. During the current pandemic, mathematical models provided evidence to define social bubbles in a better way, so that the probability of infection can be decreased and, if it occurs, the transmission among members of society diminished.[5]

With these two elements, we proposed the massive use of repetitively low-sensitivity tests (rapid IgM-IgG combined antibody tests) to trace workers of companies that never shut down production. The workers were organised into social bubbles, and when an individual result was positive, all the members of the social bubble were isolated until individual RT-qPCR results became available for all its members (appendix).[3] In this way, the probabilities of infection and transmission between workers were reduced, and the management of the pandemic throughout society was supported. The pandemic has forced epidemiologists to be more creative in giving rapid responses to isolate infected people, and not only to propose measures on the basis of so-called perfect diagnoses, which are common in non-pandemic clinical practice.

I declare no competing interests.

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3 Idrovo AJ, Moreno-Montoya J, Pinzón-Flórez CE. Desempeño de las pruebas combinadas de IgM e IgG rápidas en la vigilancia ocupacional de COVID-19 en empresas colombianas. *Biomedica* 2020; **40** (suppl 2)**:** 139–47.

4 Dorfman R. The detection of defective members of large populations. *Ann Math Stat* 1943; **14:** 436–40.

5 Block P, Hoffman M, Raabe IJ, et al. Social network-based distancing strategies to flatten the COVID-19 curve in a post-lockdown world. *Nat Hum Behav* 2020; **4:** 588–96.

See **Online** for appendix