

Readers are invited to submit letters for publication in this department. Submit letters online at <http://joem.edmgr.com>. Choose "Submit New Manuscript." A signed copyright assignment and financial disclosure form must be submitted with the letter. Form available at www.joem.org under Author and Reviewer information.

The Role of Occupational Risk Assessment and Health Surveillance in SARS-CoV-2 Antigen Testing of "Unexposed Asymptomatic Workers in Selected Workplaces"

To the Editor:

The commentary from Schulte et al.¹ fairly raised the issue of the protection of some categories of workers during the Corona Virus Disease 19 (COVID-19) pandemic, who can get infected and maintain the chain of transmission of SARS-CoV-2 in their workplaces and community.

The issue is relevant because it affects many categories of workers employed in some high-risk sectors, such as hotel, bar and restaurants, recreational and sport services, as well as social and trade (mainly retail) industries among others. Physical proximity with clients and co-workers, indeed, is a major risk factor for COVID-19 infection. In Italy, for example, the Italian National Institute for Insurance Against Accidents at Work (INAIL) has recognised COVID-19 infection as "biological injury," not only in healthcare professionals, but also in all types of workers in contact with the public (eg, social workers, every type of worker employed at hospitals, cashiers, grocery staff, etc.), as well as in frontline workers.²

This issue is relevant even for occupational health stakeholders, as sharing test results with local public health authorities and conducting contact tracing activity of

workers who resulted to be positive is mandatory for employers not only in some states of the United States, but also in European Union countries.

The framework proposed by the authors is surely valuable, because it can be incorporated in a wider workplace COVID-19 preparedness, response, and control plane carried out by employers in collaboration with public health authorities. The authors propose periodic "testing of a large proportion of asymptomatic workers without known or suspected exposure" in selected workplaces, that is, where are employed workers who work in close proximity of each other, and with customers and suppliers, as part of a most "comprehensive workplace program." The "point-of-care" testing is surely valuable, because it is inexpensive and may produce quick results, facilitating in case of positive results the timely interruption of the chain of transmission.¹

However, the proposed framework deserves more clarification about some critical points. As recognized by the authors, antigen testing can detect asymptomatic people, even if this is "not well established" in literature.¹ Asymptomatic COVID-19 infections, indeed, have a substantial role in the spread of SARS-CoV-2, but the high viral load, rather than symptoms, might be the predominant driver of SARS-CoV-2 transmission. As a consequence, many asymptomatic workers with low viral load may produce false negative results and still be able to transmit the infection.³

Secondly, monitoring closely asymptomatic workers with antigen testing requires financial resources that many employers do not have. This is particularly true in low-resource settings, but also in high-income countries, where this type of surveillance requires the implementation of resources for testing and contact tracing activities, including trained personnel and specific infrastructures.

Thirdly, a close antigen testing has some ethical and legal issues, including keeping workers' data confidential privacy, and relevant implications for their fitness for job. As suggested by the authors, this should be considered as a measure of prevention in the framework of health and safety practices. As a result, it is necessary involving occupational health physician in charge of the company for cooperating with both employers and local health authorities. This, however, represents an additional burden of costs and resources on employers. Moreover, clear

regulations by governments to clarify the role of occupational health surveillance to tackle COVID-19 pandemic, which is a public health emergency, are needed too.

SARS-CoV-2, for this purpose, has been recognized by European Union as a "group 3" biological risk factor at workplace, as it "can cause severe human disease and present a serious hazard to workers; It may present a risk of spreading to the community; There is usually effective prophylaxis available."²

For this reason, SARS-CoV-2 should be addressed by employers in the framework of the risk assessment process required by occupational health and safety regulations.

Occupational health physicians may have a decisive role by collaborating with local health authorities for contact tracing activities, but, first of all, they may provide employees on the fence with exhaustive information about cost-effectiveness of vaccines against COVID-19, and this may be a precious prevention measure against fake news spread by media. After, occupational physicians should intervene with possible restrictions when formulating fitness for job of high-risk workers, for example, when workers who are not vaccinated or are affected by comorbidities (eg, hypertension, diabetes, etc.) are highly exposed to risk of infection. Protecting vulnerable workers encouraging teleworking may be an effective solution in the short time, and remote work may be not suitable in jobs requiring direct contact with the public or third parties. For this reason, workers should be informed and encouraged to get vaccinated. Furthermore, occupational physician should check workers affected by severe forms of COVID-19 or with post-COVID-19 syndrome, when returning at work.

Another complication, furthermore, concerns workers who, despite they are vaccinated, may get infected with SARS-CoV-2 and remain asymptomatic or paucisymptomatic, thus spreading the infection to others and causing local outbreaks at workplace. Workers who are affected by asymptomatic COVID-19 infection may maintain the chain of transmission of SARS-CoV-2 in their community, causing severe forms of disease in those who are unvaccinated.

Therefore, many of needed actions to address occupational transmission of COVID-19 infection require the intervention of occupational physicians. The role of occupational health surveillance is decisive for protecting schoolteachers⁴ and healthcare

The authors report no funding sources.

The authors report no conflicts of interest.

Ethical considerations and disclosure(s): The manuscript has not been published in, submitted to, or accepted for publication in any other journal.

Address correspondence to: Francesco Chirico, MD,

Via Umberto Cagni, 21 20162 Milano, Italy (francesco.chirico@unicatt.it).

Copyright © 2021 American College of Occupational and Environmental Medicine

DOI: 10.1097/JOM.0000000000002392

workers.⁵ We believe health surveillance may play a decisive role in the framework proposed by authors, even for workers at contact with the public and third parties. Health surveillance, however, is a prevention measure required in the framework of the risk assessment process, which has been defined as a “cyclic process where employers identify hazards (hazard identification), evaluate the probability of occurrence of injury or disease (risk analysis) and establish the most effective preventive and protective measures to eliminate risk and protect workers’ health and safety (risk control).”⁵ Therefore, the risk assessment process should specify, through the protocol of health surveillance, if self-testing by workers at home is needed, the frequency of testing, and the interpretation of results, as well as actions following antigen test. Health surveillance may inform this process at individual level, because the vulnerability of workers may be different from one worker to another. The risk assessment process should require the implementation of engineering and administrative measures, such as physical distance, hand washing, and type of personal protec-

tive equipments (PPEs). Vaccinations and testing should even be planned and managed by employers in collaboration with health and safety managers and occupational physicians and carried out in collaboration with local health authorities. Finally, the results of health surveillance may inform the effectiveness of the risk assessment process.

Most of all, the cooperation between local health authorities and employers is key for effective workplace prevention programs against COVID-19.

ACKNOWLEDGMENTS

Including all sources of support: none.

Francesco Chirico, MD

School of Occupational Health
Università Cattolica del Sacro Cuore
Rome, Italy

Health Service Department
Italian State Police
Ministry of Interior
Italy

Lukasz Szarpak

Institute of Outcomes Research
Maria Skłodowska-Curie Medical Academy
Warsaw, Poland

Maria Skłodowska-Curie
Białystok Oncology Center
Białystok, Poland

REFERENCES

1. Schulte PA, Piacentino JD, Weissman DN, et al. Proposed framework for considering SARS-CoV-2 antigen testing of unexposed asymptomatic workers in selected workplaces. *J Occup Environ Med*. 2021;63(8).
2. Chirico F, Magnavita N. Covid-19 infection in Italy: an occupational injury. *S Afr Med J*. 2020;110:12944.
3. Marks M, Millat-Martinez P, Ouchi D, et al. Transmission of COVID-19 in 282 clusters in Catalonia, Spain: a cohort study. *Lancet Infect Dis*. 2021;21:629–636.
4. Chirico F. The role of Health Surveillance for the SARS-CoV-2 Risk Assessment in the Schools. *J Occup Environ Med*. 2021;63:e255–e266.
5. Chirico F, Magnavita N. The crucial role of occupational health surveillance for health-care workers during the COVID-19 pandemic. *Workplace Health Saf*. 2021;69:5–6.