

and managers in strengthening light technologies and public policies for the prevention and control of public health emergencies.

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Impact of national-scale targeted point-of-care symptomatic lateral flow testing on trends in COVID-19 infections and hospitalisations during the second epidemic wave in Austria

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Background: In October 2020, amidst the second COVID-19 epidemic wave and before the second-national lockdown, Austria introduced a policy of population-wide point-of-care lateral flow antigen testing (POC-LFT). This study explores the impact of this policy by quantifying the association between trends in POC-LFT-activity with trends in PCR-positivity (as a proxy for symptomatic infection) and hospitalisations related to COVID-19 between October 22 and December 06, 2020. **Methods:** We stratified 94 Austrian districts according to POC-LFT-activity (number of POC-LFTs performed per 100,000 inhabitants over the study period), into three population cohorts: (i) high(N=24), (ii) medium(N=45) and (iii) low(N=25). Across the cohorts we a) compared trends in POC-LFT-activity with PCR-positivity and hospital admissions; and, b) compared the epidemic growth rate before and after the epidemic peak.

Results: The trend in POC-LFT activity was similar to PCR-positivity and hospitalisations trends across high, medium and low POC-LFT activity cohorts. Compared to the low POC-LFT-activity cohort, the high-activity cohort had steeper pre-peak daily increase in PCR-positivity (2.24 more cases per day, per district and per 100,000 inhabitants; 95% CI: 2.0-2.7; p<0.001) and hospitalisations (0.10; 95% CI: 0.02, 0.18; p<0.15), and 6 days earlier peak of PCR-positivity. The high-activity cohort also had steeper daily reduction in the post-peak trend in PCR-positivity (-3.6; 95% CI: -4.8, -2.3; p<0.001) and hospitalisations (-0.2; 95% CI: -0.32, -0.08; p<0.05).

Conclusions: High POC-LFT-use was associated with increased and earlier case finding during the second Austrian COVID-19 epidemic wave, and early and significant reduction in cases and hospitalisations during the second national lockdown. A national policy promoting symptomatic POC-LFT in primary care, can capture trends in PCR-positivity and hospitalisations. Symptomatic POC-LFT delivered at scale and combined with immediate self-quarantining and contact tracing can thus be a proxy for epidemic status, and hence a useful tool that can replace large-scale PCR testing.

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Neutralizing anti-sars-cov-2 antibody titer after three doses of mrna vaccine in a sample of italian nursing home personnel

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Background and Objectives: The titre of the anti-SARS-CoV-2 antibodies 6 months after the completion of primary vaccination cycle (two doses) shows a relevant decay, as also demonstrated in our previous study in a group of Italian nursing home personnel. We decided to evaluate the trend of antibody response after a third dose of anti-COVID-19 vaccine in the same workers. The possible role of individual factors was also explored.

Methods: A mixed retrospective-prospective observational study was performed on a sample of workers (healthcare workers (HCWs) and non-HCWs from an Italian nursing home. Antibody titre was evaluated after the third BNT162b2 vaccine dose and compared with the values determined 6 months after the second dose (baseline). Moreover, individual socio-demographic and anamnestic characteristics were collected through a self-administered questionnaire.

Results: Forty-five nursing home employees vaccinated with three doses of BNT162b2 vaccine were enrolled in this follow up. Results show a significant increase of the neutralizing antibody titre after the third dose compared to the baseline (1221 BAU/ml vs 647 BAU/ml, as median values). A previous COVID-19

diagnosis and being non-HCWs were found to be associated with a higher increase of antibody titre. Analysis on individual characteristics is still ongoing, but preliminary results suggest a possible role of BMI, and age on antibody titre variation after the third vaccine dose.

Conclusion: The results show a significant increase of antibody titre in the employees of the nursing home after the third dose of BNT162b2 vaccine, supporting the importance of adherence to the proposed vaccine campaigns for the prevention of COVID-19 infection in workers.

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COVID-19 testing experience among users of primary health care in communities with high socioeconomic vulnerability in northeast Brazil

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Background and objective: We aimed to understand the testing experience for COVID-19 (C19) among users of Primary Health Care (PHC) located in communities with high socioeconomic vulnerability in a northeastern Brazilian capital. Within the PHC model, Brazil launched the Family Health Program (FHP) in 1994, which provides a broad range of primary care services.

Methodology: This is the formative research component of an intervention study to expand the testing and monitoring of C19. A qualitative approach carried out between December/21-February/22 was used to evaluate the C19 testing experience. Seventy semi-structured interviews were conducted with PHC users. The interviews were transcribed, coded, and analyzed through thematic content analysis.

Results: Of the 70 interviews, 32 were conducted in Basic Health Units and 38 in units of the FHP. The age range was 19 to 82 years old; 62(88.6%) females and 8(11.4%) males; 47.1% of mixed race, 47.1% blacks. Only 21.4% were employed, 14.3% were retired, 27.1% did not work and 21.4% were unemployed. 31 users (44.3%) received social protection benefits (93.5% a cash transfer program or the pandemic emergency aid). Users reported barriers to accessing health services and C19 testing in PHC units during the pandemic. The reported difficulties were a limited number of tests in PHC units, long waiting time, and difficulty to access the test results. Nevertheless, almost all (69) were able to test in expanding testing options provided by the National Health System.

Conclusion: Based on the formative research results an intervention was developed for PHC in two Brazilian capitals, to respond to the barriers to accessing C19 testing. The proposed intervention seeks to expand testing; surveillance strategies, a digital platform with a real-time situation panel, availability of test results, telemonitoring and user tracking, health education material, and prevention strategies for C19.

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What makes health systems resilient? an analytical framework drawing on learnings from the covid-19 pandemic

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Background and Objective: The COVID-19 pandemic posed an unprecedented challenge which caught many health systems worldwide widely unprepared. The aim of this research was to develop a comprehensive analytical framework on health system resilience in the context of infectious diseases.

Methods: The analytical framework was developed based on a two-tiered approach. First, a comprehensive review of the existing literature was conducted to identify relevant frameworks on health system resilience. Second, input was gathered in several rounds of internal and external consultations with designated field experts and stakeholders, drawing on their experiences from the pandemic.

Results: The framework distinguishes between prerequisites of health system resilience, which address precautions to be taken in 'normal' times, and response strategies in the face of shocks (e.g., pandemics). Both sections are further divided into six building blocks that were adapted from the WHO health system framework: governance and leadership, information and research, financing, physical resources, human resources, service delivery. A comprehensive understanding of health systems is applied, as resilience is addressed in the action areas of public health, primary care, secondary care and long-term care. An