

Section 330 revenue share were smaller, more often located in the South (68.5% vs. 27.7%; aOR = 2.94, 95% CI: 1.27–6.81 vs. Northeast) and primary care shortage areas (57.6% vs. 30.1%; aOR = 1.92, 95% CI: 1.23–3.00), and less likely in Medicaid expansion states (35.5% vs. 77.7%, aOR = 0.33, 95% CI: 0.21–0.52). In bivariate analyses, FQHCs with high Section 330 revenue share were located in counties with higher mean COVID-19 mortality rates (e.g., 102.2 vs. 84.8 deaths/100,000 for May–December 2020, $p < 0.001$).

Conclusions: Patient volume was more responsive to changes in Section 330 funding for FQHCs with high proportions of uninsured patients and non-patient revenue from Section 330 funds. FQHCs that could be more vulnerable to lapses in federal funding are more frequently located in the South, primary care shortage areas, states without Medicaid expansion, and counties with higher COVID-19 mortality rates.

Implications for Policy or Practice: These findings underscore the importance of longer-term reauthorization of the CHCF to maintain consistent access to safety net care for underserved populations, including those disproportionately impacted by COVID-19.

Primary Funding Source: Agency for Healthcare Research and Quality.

When Can We Lift Non-Pharmaceutical Interventions with the Availability of COVID-19 Vaccine in the United States?

Jagpreet Chhatwal¹; Ozden O. Dalgic²; Marco Mesa-Frias³; Nasuh Buyukkaramikli⁴; Andrew Cox⁵; Thierry Van Effleterre⁶; Adrian Griffin⁷; Turgay Ayer⁸; Ismail F. Yildirim²; Brandon J. Patterson⁹; Antoine El Khoury⁹

¹Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA; ²Value Analytics Labs, LLC, Boston, Massachusetts, USA; ³Janssen Scientific Affairs, Titusville, New Jersey, USA; ⁴Janssen Pharmaceutica NV, Beerse, Belgium; ⁵Janssen-Cilag, South Australia/Madrid, Spain; ⁶Janssen Pharmaceutica N.V., Beerse, Belgium; ⁷Johnson & Johnson, High Wycombe, UK; ⁸Georgia Institute of Technology, Atlanta, Georgia, USA; ⁹Janssen Global Services, LLC, Raritan, New Jersey, USA

Research Objective: Coronavirus disease 2019 (COVID-19), a global pandemic, has disproportionately inflicted deaths and affected the US economy. With the recent emergency use authorization of COVID-19 vaccines, ongoing non-pharmaceutical interventions (NPIs) could be lifted in the future. Our objective was to quantify the impact of the timing of the lifting of NPIs on COVID-19 infections and deaths.

Study Design: We developed a dynamic transmission model with Susceptible-Exposed-Infectious-Recovered (SEIR) compartments to simulate the evolution of COVID-19 over time in the United States from March 2020 to December 2021. We accounted for heterogeneity by including seven age groups and four contact mixing domains (school, work, household, and other locations) relevant to SARS-CoV-2 transmission. We extracted model parameters from published studies, available databases, and via calibration. We also calibrated the effect of NPIs (e.g., restriction on businesses, mask mandates, limited indoor gathering) on contact rates within each mixing domain. The model was calibrated to reproduce COVID-19 deaths, reported infections and hospitalizations from March–December. We introduced the

Outcome	Jan-Dec 2021 Maintain NPIs in 2021	Excess Outcomes with NPIs Lifting in:			
		Aug-2021	Sep-2021	Oct-2021	Nov-2021
Deaths: total	36,340	+262,956	+125,536	+28,708	+3360
age 0–19	71	+1299	+774	+221	+30
age 20–69	13,572	+89,067	+44,546	+10,711	+1371
age 70+	22,697	+172,591	+80,215	+17,776	+1959
Infections: total	11.19 M	+165.88 M	+110.10 M	+35.14 M	+5.29 M
undiagnosed	4.99 M	+84.63 M	+58.08 M	+19.31 M	+2.96 M
diagnosed	6.20 M	+81.24 M	+51.98 M	+15.82 M	+2.33 M
Infections: moderate/severe	2.11 M	+21.31 M	+13.48 M	+4.09 M	+0.60 M
Infections: asymptomatic/mild	9.07 M	+144.56 M	+96.58 M	+31,051,361	+4,691,031
Hospitalizations	224,247	+2,179,487	+1,394,693	+455,218	+69,833
ICU admissions	83,967	+738,179	+427,519	+121,676	+16,888

COVID-19 vaccine from January 2021, assuming an uptake rate of 15 million individuals per month and a prioritization schedule as defined by the Centers for Disease Control and Prevention. We assumed a vaccine efficacy of 70–90% (base case: 90%) for protection against developing COVID-19 symptoms, and we assumed 25% (relative to vaccine efficacy) of the protection against COVID-19 infection. We projected the total numbers of COVID-19 infections (diagnosed and undiagnosed), hospitalizations, and deaths in 2021 if NPIs are lifted in August, September, October, November, and not lifted in 2021.

Population Studied: US Population.

Principal Findings: Maintaining all NPIs in the US throughout 2021 is predicted to result in 36,300 deaths (22,700 deaths in age 70+), 11.19 million total COVID-19 infections (6.20 million diagnosed; and 2.11 million moderate/severe), 84,000 intensive care unit (ICU) admissions. **TABLE** shows the difference in outcomes if NPIs are lifted (compared with maintaining NPIs throughout 2021) in August, September, October, and November. All scenarios of the lifting of NPIs would result in additional deaths, infections, and hospitalizations. Sensitivity analysis showed that with the vaccine efficacy of 70%, the difference in outcomes would increase further.

Conclusions: Even though COVID-19 vaccines are being deployed through emergency use approvals in the US, the time at which NPIs are lifted will still have a substantial influence on COVID-19 mortality during 2021.

Implications for Policy or Practice: Social distancing and restrictions on businesses are needed, potentially throughout 2021, to mitigate COVID-19 hospitalizations and deaths in the United States before immunity through vaccination programs can become effective.

Primary Funding Source: Janssen.

SOCIAL DETERMINANTS AND SOCIAL NEEDS

Reimagining “the Social” in Education and Practice: A Longitudinal Study of Perceptions of Structural Competency in Medicine

Randall Burson^{1,2,3}; Olivia Familusi^{1,3}; Justin Clapp¹

¹University of Pennsylvania Perelman School of Medicine, Philadelphia, Pennsylvania, USA; ²University of Pennsylvania Department of Anthropology, Philadelphia, Pennsylvania, USA; ³Leonard Davis Institute of Health Economics, Philadelphia, Pennsylvania, USA

interact with these topics in the setting of medical education. In addition, this study aims to explore how physicians and medical students interpret, engage with, and use ‘structural competency’ in the clinic.

Study Design: This longitudinal qualitative study consisted of semi-structured interviews about the use of a ‘structural competency’ framework during a preclinical medical education course called *Introduction to Medicine and Society*. ‘Structural competency,’ an emerging educational framework for addressing patient’s social needs, reframes clinical issues and disease as the downstream result of upstream social, political, and economic decisions (Metzl and Hansen, 2014). Interviews were conducted at three time points during the course: before participation in a structural competency based module, after participation in the module, and after the full course was completed.

Population Studied: We conducted 53 interviews with 12 first-year medical students, 15 upper-level student course facilitators, and 8 physician facilitators who participated in the course.

Principal Findings: This paper focuses on three interrelated findings: (1) how medical students and faculty describe complex concepts like ‘structure’ and what developing a ‘competency’ of structures means; (2) what the barriers and facilitators are to developing and using structural competency in education and clinical practice; and (3) how participants understand their actions in the clinic as potential opportunities to enact structural competency or intervene on the structural factors that impact patients’ health.

Conclusions: Because structural competency gives an expansive lens for physicians to recognize the connection between health and society, it also highlights the ways in which physicians are constrained by the structure of health care itself, hindering their abilities to fully engage with the social aspects of their patients’ well-beings or meaningfully promote health equity. This further impacts physician efficacy and well-being, contributing to feelings of frustration and hopelessness.

Implications for Policy or Practice: These findings have practical implications for how clinicians are trained to conceptualize and act on social factors to not only address patients’ needs within the clinical encounter, but also to respond to their own professional and emotional experiences within the broader social world of US healthcare. This study also has conceptual implications for refining how existing frameworks and curricula conceive of the intersection between healthcare and broader social processes by better incorporating the lived experiences of clinicians who are practicing at these intersections everyday.

Research Objective: As clinicians are increasingly called to recognize and act on social needs contributing to their patients’ health, health professional schools are incorporating discussions of social factors and health equity into required curricula to help physicians navigate the intersections of society and medicine. This study aims to evaluate perceptions and attitudes of physicians and medical students as they