

## The Challenge: Measuring the Impact of COVID-19 On Workers

When COVID-19 started hitting workplaces in 2020, the need for standardized industry and occupation (I/O) data collection became clear. Wisconsin's Electronic Disease Surveillance System (WEDSS)—the state's information management system for COVID and most other reportable conditions—lacked a way to consistently track and quickly analyze employment data for people with COVID-19 and their contacts.

## The Response

Wisconsin's Occupational Health Program (now the Occupational Health and Safety Surveillance Program) took on the challenge of improving occupational data in Wisconsin in order better address the impact of COVID-19 on Wisconsin workers. In September 2020, Wisconsin implemented standardized industry and occupation (I/O) fields into the COVID-19 case interview form. The system was configured so that free-text responses could be auto-coded using the National Industry and Occupation Computerized Coding System (NIOCCS). Case investigators and contact tracers were trained to ask I/O questions during every interview and click the "standardize" button to send the response to the NIOCCS auto-coder. At the same time, Wisconsin's program sought other data sources that could provide employment information and be linked to WEDSS, such as professional licensure data and Worker's Compensation (WC) claims. Such linkages not only served to better identify worker populations, but also to fill other data gaps, such as race and ethnicity, which help us better identify the most impacted workers.



## The Impact

Wisconsin's multi-pronged efforts to identify worker populations within COVID-19 data paid off. Dr. Ian Pray, a former EIS officer in Wisconsin with the program, used the WEDSS I/O data to calculate COVID-19 incidence rates for different industries and occupations, which allowed Wisconsin DHS to target messaging to workers at increased risk, and has served as a model for other states looking to scale up their occupational surveillance programs.<sup>i</sup> Current EIS Officer Dr. Peter DeJonge linked WEDSS to teacher licensure data to analyze the effectiveness of school district masking and social distancing policies.<sup>ii</sup> Epidemiologist Collin Morris similarly used healthcare worker licensure data to calculate incidence among different health care occupations.<sup>iii</sup> He and Dr. Komi Modji linked WEDSS I/O data to WC data to analyze the extent and success of COVID-19 Workers Compensation claims across industries and occupations.<sup>iv</sup> In a separate analysis, Dr. Modji was able to analyze incidence and claim rate among industrial food processing workers.<sup>v</sup> Collectively, this new line of analysis has opened the doors to new strategic conversations in Wisconsin, with leaders from both the Department of Health Services and Department of Workforce Development expressing interest in the findings and their implications for workplace protections, even beyond the COVID-19 pandemic.

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<sup>i</sup> Pray IW, Grajewski B, Morris C, Modji K, DeJonge P, McCoy K, Tomasallo C, DeSalvo T, Westergaard RP, Meiman J. **Measuring work-related risk of COVID-19: comparison of COVID-19 incidence by occupation and industry - Wisconsin, September 2020-May 2021.** Clin Infect Dis. 2022 Aug 4:ciac586. doi: 10.1093/cid/ciac586. Epub ahead of print. PMID: 35924351; PMCID: PMC9384654.

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<sup>ii</sup> DeJonge PM, Pray IW, Gangon R, McCoy K, Tomasallo C, Meiman J. Risk of COVID-19 illness among in-person K-12 school educators and its association with school district prevention policies — Wisconsin, September 2–November 24, 2021. *Am J Public Health*. 2022;112(12):1791–1799. <https://doi.org/10.2105/AJPH.2022.307095>

<sup>iii</sup> Morris, C. “COVID-19 Risk Among Licensed Wisconsin Healthcare Workers” Presented at CSTE Annual Conference, Louisville KY, June 22, 2022.

<sup>iv</sup> Modji K, Morris C, Creswell P, McCoy K, Aiello T, Grajewski B, Tomasallo C, Pray I, Meiman J. Lost Time: COVID-19 Indemnity Claim Reporting and Results in the Wisconsin Worker’s Compensation System from March 12 to December 31, 2020. *Am J Ind Med*. 2022 Dec;65(12):1006-1021. doi: 10.1002/ajim.23428.

<sup>v</sup> Modji, K. “COVID-19 Cumulative Incidence and Workers Compensation Claims Among Food Processing Workers, March 1 2020-October 31, 2021.” Presented at CSTE Annual Conference, Louisville KY, June 20, 2022.