

## **An Overview of Safety and Health Issues and Concerns Associated with the COVID-19 Pandemic in the Construction Sector**

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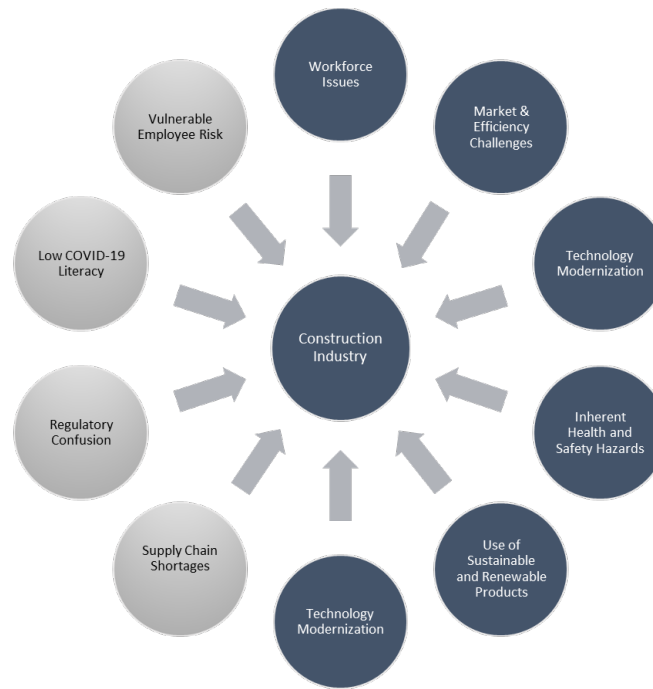
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### **Extended Abstract**

The global construction industry's economy and markets are expected to grow due to the increasing housing starts/urbanization and the growing population (Wood, 2021). Nevertheless, the construction industry is also inherently hazardous due to the high demands of physical work and business constraints such as tight schedules. Concurrently, the COVID-19 pandemic has significantly exacerbated the jeopardy, while also increasing operational burdens such as workforce shortages, increased construction costs, and safety & health challenges. For instance, in the early stage of COVID-19 pandemic in 2020, a significant number of construction workers reportedly tested positive for COVID-19 (Alsharef et al., 2021; Allan-Blitz et al., 2020), and construction workers were about *five time* more likely to be hospitalized as a result of COVID-19 infection, as compared to workers in other industries (Pasco et al., 2020). In the COVID-19 era, construction businesses must adapt and reconfigure their operations while also recovering from the impact of restrictive containment measures involving social distancing, remote working and the closure of commercial activities that resulted in operation challenges (Wood, 2021).

The authors have provided an overview of the safety and health issues and concerns associated with the COVID-19 pandemic in the construction industry, summarizing the challenges and opportunities for construction stakeholders in implementing COVID-19 safety and health measures in the construction industry. Specifically, the authors have explored the challenges in construction and COVID-19, including COVID-19 knowledge, preventative behaviors, risk perception among construction workers, and recommendations/practical implications/preventive measures. Please refer to Figure 1 below - Construction Industry Challenges Before and During COVID-19.



Note: Dark circles denote existing challenges in the industry, while gray circles denote challenges exacerbated by COVID-19

Figure 1. Construction Industry Challenges Before and During COVID-19

Regarding COVID-19 reduction and preventive measures, there are many resources available and easily accessible for construction employers to develop and provide education on SARS-CoV-2 spread, risk of exposure, and reducing transmission in the workplace. Key education topics and resources for pandemic planning in construction projects included the U.S. OSHA Safety Compliance and Guidance ([osha.gov/coronavirus/standardsand](https://www.osha.gov/coronavirus/standardsand)), U.S. CDC NIOSH Mitigation and Prevention Strategies ([cdc.gov/coronavirus/2019-ncov/community/organizations/construction-workers.html](https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/construction-workers.html)), Smart Digital Technologies (European Commission: <https://digital-strategy.ec.europa.eu/en>, WHO <https://www.who.int/health-topics/digital-health/dh-tag-membership>), and Wellbeing and Work-related Quality of Life (NIOSH *Total Worker Health*<sup>®</sup>: <https://www.cdc.gov/niosh/twh/default.html>).

The Total Worker Health<sup>®</sup> (TWH) approach “*that integrates protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being*” is particularly relevant today given the high level of stress and anxiety felt within the industry. As the workplace itself is a determinant of health, the TWH approach is useful in addressing such issues, particularly among vulnerable workers. While the COVID-19 pandemic is a seminal event in global history, it also serves as a stark reminder of the gaps in the pandemic response system to address the risks faced by vulnerable, essential workers. Essential workers are more likely to suffer COVID-19 related health and wellbeing impacts than the general work population, particularly gender and racial/ethnic minority workers (Sharma et al. 2020; Kantamneni 2020; Carli 2020; Rogers et al, 2020). Currently, the authors are engaging a qualitative research project aiming to determine how the COVID-19 pandemic has impacted women in the construction profession, classify key factors acting as barriers or facilitators to success in the industry, and identify policy and practice actions employers might take to improve health, safety and wellbeing among women and minorities in the construction profession.

NOTE: This extended abstract is a condensed/modified version of an article published. Choi, S. D., & Staley, J. A. (2021). *Safety and health implications of COVID-19 on the United States construction industry. Industrial and Systems Engineering Review*, 9(1), 56-67.

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