

Letter to the Editor: Patterns and Prevention of Occupational Eye Injuries: A Narrative Review [Letter]

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Dear editor

I read with interest the narrative review by Vought et al regarding patterns and prevention of occupational eye injuries.¹ The review provides a comprehensive synthesis of risk factors in traditional sectors such as metalworking and construction. However, as a resident managing acute ocular trauma in the emergency department, I have observed a notable demographic shift in my patient population that warrants consideration: an increasing proportion of injuries occurring among “gig economy” workers. Gig work refers to short-term, flexible jobs typically arranged through apps or platforms - such as food and package delivery - where workers operate as independent contractors rather than traditional employees.

The review identifies important barriers to personal protective equipment (PPE) compliance. These include fogging and poor fit. These barriers typically exist within the context of an established employer-employee relationship. Occupational safety oversight is structured and formalized in this setting. However, my clinical experience suggests an additional challenge. This challenge extends beyond these technical limitations. A growing volume of work-related ocular injuries in my patient population occurs in less regulated employment contexts, where safety protocols are often informal or absent.

Underrepresentation of Gig Workers in Occupational Injury Data

The Vought et al review relies substantially on Bureau of Labor Statistics data. This data systematically tracks employees within traditional employment relationships.¹ However, app-based food and package delivery workers are typically classified as independent contractors. They are therefore absent from these administrative datasets. Recent epidemiological work has documented higher injury rates in this population. Delivery workers dependent on gig employment as their primary income source experienced substantially elevated injury incidence compared to those in casual gig work.² These workers face distinct occupational hazards. These include road debris and high-velocity impacts. The time pressures inherent in app-based delivery systems may also discourage the use of standard protective eyewear.²

Potential Under Ascertainment of Occupational Eye Trauma

There appears to be a discrepancy between reported occupational injury rates in administrative databases and the clinical volume of severe ocular trauma I have observed in practice. Data from the American Academy of Ophthalmology’s IRIS Registry provide relevant context. Analysis of open globe injury repairs documented substantial cumulative incidence rates.³ This epidemiological observation suggests that significant numbers of occupational eye injuries may not be formally coded as such in federal databases. This is particularly true among workers in informal employment arrangements. They may lack access to standardized injury reporting mechanisms. The challenge of injury undercounting in administrative records is well-established. This is particularly noted in non-traditional sectors such as agriculture.⁴

Implications for Prevention Strategies

Vought et al propose usage tracking via smart PPE as a potential future intervention.¹ This approach merits further investigation. However, its feasibility and effectiveness in the gig economy context remains uncertain. Artificial intelligence-based monitoring of PPE compliance has demonstrated promise in controlled settings.⁵ Independent contractors operating without on-site supervision or institutional safety culture may face different behavioral incentives than employees in traditional occupational settings. Economic necessity and time pressures associated with app-based work may present distinct barriers to PPE compliance. These barriers warrant independent investigation.

I suggest that future educational resources and occupational health reviews consider extending the definition of occupational eye injury. This should encompass platform-based employment models. As a next-generation ophthalmologist, I believe it important to recognize workers outside traditional employment structures. They sustain work-related ocular injuries and fall outside conventional occupational safety frameworks.

Disclosure

The author reports no conflicts of interest in this communication.

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