

Research Paper

What extraordinary times tell us about ordinary ones: A multiple case study of precariously employed food retail and service workers in two U.S. state contexts during the COVID-19 pandemic

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Disease prevention relies on a complex interplay between social context and individual behaviors. Work and the employment conditions that shape it are key domains where this interplay occurs, a reality highlighted by the COVID-19 pandemic. To explore the links between employment quality and social context as drivers of disease prevention, we conducted a multiple case study of food retail and services workers during COVID-19 in two U.S. states – Indiana and Washington – with differing norms and policy landscapes. We drew on public health surveillance data, government/NGO documents, and media sources to contextualize in-depth interviews with 26 precariously employed food workers. Analysis consisted of a within-case and a cross-case phase, each drawing on state contextual and interview data. Precariously employed food workers in Indiana and Washington had contrasting expectations of employers, government, and public health that we interpret as parallels of policies and norms in their respective states. Workers in both states discussed preventive behaviors in an individualized way, but appeared motivated by different constraints on their choices. Our study points to the importance of explicitly considering employment and the social safety net in public health to better prepare us for the next crisis and ameliorate health inequities under ordinary circumstances.

Introduction

Poor quality, or precarious, employment (PE) is a social determinant of health (Benach et al. 2014) that undermines individuals' ability to accumulate flexible socioeconomic resources – knowledge, money, power, prestige, and beneficial social connections – that help them engage in healthy behaviors and minimize health risks (Ahonen et al. 2018, Link & Phelan 1995). While debates around its exact definition continue, PE is generally thought to be characterized by employment instability, income inadequacy, and few to no rights and protections (Cano 2004, Kalleberg 2009, Rodgers & Rodgers 1989), and is conceptualized as the low end of an employment quality (EQ) spectrum. As in other countries (ILO 2016), PE is distributed inequitably in U.S. society, with Black, Indigenous, and People of Color, women, and foreign-born individuals overrepresented (Andrea et al. 2021, Eisenberg-Guyot et al. 2020, Oddo et al. 2020). In addition to its influence on socioeconomic resources, PE harms individuals' health through its negative influence on physical and psychosocial working conditions (Peckham et al. 2019). PE not only shapes exposure to hazards, but also susceptibility to and consequences of those hazards (Diderichsen et al. 2012), making it an important focus for health equity research and practice.

The role of PE as a driver of health inequities has been highlighted starkly throughout the COVID-19 pandemic. Through its influence on both working conditions and socioeconomic resources, PE limits individuals' ability to avoid exposure to an infectious disease, increases their susceptibility to infection, and worsens the socioeconomic consequences of the illness. In the parlance of Fundamental Cause Theory, EQ allows us to contextualize individual-level risk factors for COVID-19, or better understand what puts people 'at risk of risks.'

Understanding the ways in which PE shapes access to both resources and behaviors supportive of health is important because work is a context where, through intervention, collective action, or policy, the distribution of flexible resources needed for health can be changed, both in ordinary times and during crises. In this article we explore EQ and broader labor and social safety net policies as interrelated drivers of disease prevention by drawing on a multiple case study of food retail and services workers during COVID-19 in Indiana and Washington – two U.S. states with differing norms and policy landscapes. Farmworkers, food storage and processing workers, food retail (e.g., grocery) workers, and food services workers were among those classified as essential workers by U.S. states, allowing them to work during stay-at-home orders and other restrictions (National Conference of State Legislatures 2021). Unlike those working in medical settings – whose plight as essential frontline workers has been understandably centered in lay media narratives – food workers usually work in settings that are not designed to minimize respiratory disease transmission risks. Their entitlement to protections that would limit transmission, such as paid sick leave and other fundamental resources for health, is also generally inadequate (Food Chain Workers Alliance 2016) and varies considerably by U.S. locality and state. We chose Indiana and Washington as cases based on their different political cultures, social and labor policies, timing and extent of state-ordered preventive measures, and COVID-19 transmission rates and trends. We expected these differences might lead to variation in precariously employed workers' attitudes and behaviors related to COVID-19 prevention, thereby allowing us to explore the ways the workplace, the employment conditions that shape it, and broader state policies and norms shape access to resources and behaviors that influence health.

Methods

Study Design

We conducted data compilation, document review, and in-depth interviews using a multiple case study design with two states, Indiana and Washington, constituting the cases (Stake 2005). For each case,

sources consisted of secondary data regarding state context (e.g., policy landscape and health measures) and semi-structured individual interviews with food retail or service workers 40 years of age or older.

Compilation of State Contextual Data

We leveraged publicly available public health surveillance data (e.g., from State Departments of Health, the U.S. Census Bureau American Community Survey, and the Robert Wood Johnson Foundation County Health Rankings & Roadmaps), government/NGO documents (e.g., from Mayors' and Governors' offices, the National Conference of State Legislatures, and the COVID-19 U.S. State Policies (CUSP) Database), along with newspaper and magazine articles, to contextualize interviews in pre-pandemic state labor-related policy and health, and COVID-19 preventive measures and related outcomes. We chose sources that would help us understand aspects of time and place of potential relevance to EQ and health-related decisions and identified a list of indicators relevant to PE and COVID-19 practices. After compiling and tabulating data for those indicators, we compared values between the two states to identify patterns. We summarize this information in Table 1 and in the paragraphs that follow.

Pre-pandemic labor policy in Washington State, whose governor is Democratic, was considerably more supportive of workers than that of Indiana, whose governor is Republican, including higher minimum hourly wages and mandated paid sick and family leave (Table 1A). Indiana has a right-to-work law in place, which prohibits requiring anyone to join or stay in a union, or pay dues, as a condition of their employment, and has half the union representation rate of Washington. By contrast, of U.S. states, Washington boasts the third highest minimum wage, is one of eight states that eliminated the subminimum wage for tipped employees, and has the third highest percentage of workers represented by a union (Oxfam 2021).

Once COVID-19 appeared, while both states initially responded with non-essential business and school closures and eviction moratoriums, the extent and duration of protective measures and improvements to the social safety net were greater in Washington State (Table 1B). Unlike Washington, Indiana did not implement paid sick, family, or medical leave during the height of the pandemic, nor did the state expand workers' compensation insurance to include COVID-19 as a presumed work-related disease. Food business closures were shorter than in Washington, and no local jurisdictions adopted hazard pay for grocery workers, leaving this up to individual businesses to implement or not. Meanwhile, Washington employers and individuals faced fines and criminal charges for non-compliance with mask mandates. Food supply and grocery store workers became eligible for COVID-19 vaccination earlier than the general public, emphasizing the higher risk food workers faced. Extended unemployment insurance was in place twice as long as in Indiana, and the state implemented a moratorium on initiation and enforcement of evictions, beyond that provided by the federal Coronavirus Aid, Relief, and Economic Security Act.

Before the pandemic, Washington State residents enjoyed a higher life expectancy and lower burden of poor mental and physical health than those in Indiana (Table 1C). Consequently, a greater proportion of Indiana residents were at risk of serious illness due to COVID-19 because of underlying health conditions and other risk factors compared to Washington residents. By the end of our study enrollment period, vaccine uptake among eligible residents in Washington was 1.3 times the Indiana uptake rate, while COVID-19 mortality and hospitalization rates in Indiana were twice those in Washington (Table 1D).

	Indiana	Washington
A. Pre-COVID-19 Policy Landscape		
Minimum hourly wage, 2020 [for tipped workers, 2020]	\$7.25 [\$2.13]	\$13.50 - \$15.75 [\$13.50]¹
% Workers represented by union	9.8	20.2
Right-to-work law	Yes	No
Occupational Safety and Health Administration-approved state plan	Yes	Yes
Aerosol transmissible diseases standards	No	No
Air or ventilation standards	No	Yes
Permanent paid sick leave	No	Yes
Permanent paid family and medical leave	No	Yes
Governor is Democrat	No	Yes
B. COVID-19 Prevention, Economic, and Worker Protection Policies		
Date state of emergency declared	March 6, 2020	February 29, 2020
Stay-at-home order	2 months	2.25 months
K-12 schools closure	5 months	13 months
Restaurant dining closure	2 months	4.5 months, then 3 months
Face mask mandate for individuals in public spaces	8.25 months	10.5 months, then 6.75 months
Face mask mandate enforced by fines, criminal charge/citation	No	Yes
Stop initiation of evictions	5 months	3.5 months
Late-fee ban (housing)	NA	7 months
Non-payment limitation (housing)	NA	1 month
Order freezing utility shut offs	5 months	6.25 months
Reconnection of disconnected utilities	NA	6.25 months
Extended unemployment insurance (UI) benefits program	5.5 months	10.5 months
20-week extended UI benefits program	NA	6 months
Temporary COVID-19 paid leave expansions	No	Yes
COVID-19 anti-retaliation rules	No	No
COVID-19 business liability protections	Yes	No
COVID-19 workers' compensation expansion	No	Yes
Types of workers eligible for workers' compensation expansion	No	Yes

Hazard pay offered to grocery store workers	No	Select counties
Grocery store workers vaccine-eligible before general public	No	Yes

C. Pre-COVID-19 Health Outcomes

Life expectancy (years)	77.0	80.4
Age-adjusted death rate, per 100,000 people	401.1	287.1
% Fair or poor health	19.8	15.6
% Frequent physical distress	12.8	11.5
% Frequent mental distress	15.0	12.6
% Adults with obesity	33.4	27.8
% Adults with diabetes	11.9	8.8
% At risk for serious illness due to COVID-19	39.9	35.1

D. COVID-19 Vaccination and Health Outcomes

% Fully vaccinated by November 2021	50%	64%
COVID-19 Cases per 100,000 people by November 2021	151,882	95,131
COVID-19 Deaths per 100,000 people by November 2021	2,493	1,130

Table 1: State-level contextual factors.

¹ Green font indicates a value that is at least 10% better from a health perspective (quantitative indicators), more active (COVID-19 preventive measures), or more worker-supportive (social and labor policies) than the other state.

Interview Recruitment and Data Collection

Participants were recruited and interviewed between January and October 2021. Eligibility for the interviews was limited to English or Spanish-speaking adults, aged 40 years or older, who were employed in food retail or services for at least 3 months total since COVID-19 appeared in each state in 2020 until the time of the interview. We originally aimed to recruit workers 50 years and older because risk of severe consequences of COVID-19 increases with age. In order to boost recruitment and prioritize hearing from people who would have deep and nuanced perspectives on our issue of study, we subsequently lowered eligibility to age 40 or older. This allowed us to hear from those in prime working age and those who are older. We set income restrictions to those earning below a living wage in Indiana, defined by MIT's living wage calculator (\$11.04/hour), or earning below the minimum wage in Washington (\$15.75/hour). We sampled purposively to achieve variety in level of exposure to the public in one's job, race and ethnicity, sex/gender, and education – factors related to the likelihood for workplace exposures to COVID-19, sociodemographic characteristics important to understanding the experience of PE, and that appear related to COVID-19 severity and consequences.

We obtained ethical approval from the Institutional Review Boards at Indiana University (protocol #2010132596) and University of Washington (protocol #STUDY00011448). We used a multi-pronged recruitment strategy, including advertisements through research registries, media channels, and

Facebook; snowball sampling; distribution of flyers at food establishments; and postcards mailed to selected households based on census block groups most likely to have a concentration of residents meeting our eligibility criteria. Potential participants completed an online screening survey in English or Spanish that collected employment and demographic information and that allowed them to provide contact information if they wished to participate in an interview.

Table 2 shows job-related characteristics for the resulting sample of 16 individuals in Indiana and 10 in Washington who participated in an interview. Across the two samples, 18 participants identified as women, six as men, and two as transgender. Participants were racially and ethnically diverse: white (18), Black or African American (6), and Asian (2); four of the 26 participants identified as Hispanic or Latino/a/x. Participants' education levels varied: high school or GED graduates (4), some college (9), Associate's degree or equivalent (6), Bachelor's (4), and Master's (3). The median age was 54 (range: 42 to 79).

	Indiana (n=16)	Washington (n=10)
Employment status		
Currently working for pay or profit	15 (94%)	8 (80%)
Not currently working for pay or profit	1 (6%)	2 (20%)
Close contacts during workday		
1-4	3 (19%)	1 (10%)
5-10	2 (13%)	2 (20%)
11-20	2 (13%)	2 (20%)
21 or more	9 (56%)	5 (50%)
Job type		
Cashier, bagger, or stocker	5 (31%)	2 (20%)
Food delivery or shopper	4 (25%)	0
Server or bartender	3 (19%)	2 (20%)
Cook	2 (13%)	2 (20%)
Dishwasher	0	1 (10%)
Other (e.g., food product demonstrator)	2 (13%)	3 (30%)

Table 2: Participant job-related characteristics (n=26). Some percentages exceed 100 due to rounding.

Interviews took place by videoconference (Zoom) or telephone depending on participant preference. We obtained oral informed consent from all study participants and audio-recorded the conversations. A transcription generated automatically using Otter.ai was corrected and formatted using the recorded audio. The semi-structured interview guide consisted of open-ended questions about facilitators and barriers to following prevention guidelines, COVID-19 protective measures taken in the workplace, other influences on preventive behaviors, and sources of COVID-19 related information. It also contained a checklist meant to allow the interviewer to delineate workplace preventive efforts described by the participants. Interviews ranged from 53 to 133 minutes in length, and were all completed in English. Interviewees received a \$40 gift card for participating. De-identified transcripts are available through the Qualitative Data Repository (Vignola et al. 2024).

Data Analysis

Analysis consisted of a within-case and a cross-case phase, each involving several steps that drew on contextual data, interview data, or both (Table 3). Practices to increase trustworthiness and consistency in analysis included a codebook used by all analysts, methodologic and theoretical memos, and consensus-building about aggregated data. Thematic analysis of interview data was facilitated by Dedoose software version 4.12. Throughout, quoted excerpts from interview data are lightly edited for clarity.

Phase	Step	Contextual data	Interview data
Within-case	<ul style="list-style-type: none"> Reviewed contextual data to identify patterns for each case. 	✓	
	<ul style="list-style-type: none"> Read transcripts for data familiarization. Coded interviews first using a rough code list for data reduction, then with a more detailed, regularly updated code list. 		✓
	<ul style="list-style-type: none"> Proposed within-case themes, sought support for them in interview data, then refined them. 		✓
	<ul style="list-style-type: none"> Divided into two teams to write within-case narrative descriptions of themes. 		✓
	<ul style="list-style-type: none"> Each team integrated contextual data, building in journalistic sources, into theme-based narratives, refining each within-case narrative. 	✓	✓
Cross-case	<ul style="list-style-type: none"> One analyst from each within-case team compared and contrasted themes across cases; made tentative assertions about the aggregate; then interpreted findings through our conceptual framing. 	✓	✓
	<ul style="list-style-type: none"> Reviewed output of previous phase with full team and refined write-up through group discussion. 	✓	✓
	<ul style="list-style-type: none"> Further refined write-up of assertions, choice of exemplary quotes, and interpretations of findings while finalizing article. 	✓	✓

Table 3: Description of data analysis.

This study was conducted by public health researchers with different epistemological perspectives and research design experiences (social epidemiology, randomized controlled trials, qualitative health research). We also have varied social classes of origin and degrees of personal and family experiences of both PE and food work. The range of perspectives and experiences in our group benefitted the project because it meant that we regularly discussed the claims the project could make and built our collective confidence in the methods used.

We present key assertions resulting from descriptive and interpretive phases of the cross-case analysis below.

Results

We make two key assertions from our cross-case analysis. First, policies and norms shape contrasting expectations of the structure (i.e., rules and guidance coming from employers and city and state officials). Indiana and Washington participants' perceptions of risks, and expectations of employers and city and state officials to protect them from risks, varied in ways that we interpret as parallels of contrasting policy approaches and norms seen in the contextual data. These policies and norms differ in their protective capacity because they result in more or fewer layered measures to interrupt disease transmission; further, the degree to which individuals embrace them can support or undermine collective demands to do better. Both factors have implications for individual and community health and health inequities. Second, participants in both states ultimately navigated pandemic risks and made choices about preventive behaviors in an individualized way, but appeared to come to these conclusions because of different constraints on their choices and actions. Both of these assertions illustrate reasons for the importance of reshaping EQ and social safety nets in order to better align environments with preventive behaviors we wish people to engage in.

We provide illustration of these key assertions in the sections that follow, using excerpts from interviews. Further interpretation of our findings and their public health relevance follows in the Discussion section.

Policies and Norms Shape Contrasting Expectations of Employers, Government, and Public Health in Ways That Reinforce or Undermine Action on Behalf of the Collective

Policies and norms of the type highlighted in our contextual data framed participants' discourses around what workers, or people generally, should be entitled to. In its public-facing discourse, Indiana State emphasizes job creation and low unemployment without much comment on EQ, and elevates business interests over worker interests with policies that create a positive business climate and favorable taxes, among other incentives (Indiana Destination Development Corporation 2020). The needs of business were prominent in discussion among political and business leaders during pandemic-driven business closures and capacity limitations (Lange & Huang 2021), even though most such measures were short-lived. In our interviews with precariously employed workers in Indiana, the narrative that the needs and wants of businesses are paramount was echoed as workers framed themselves as small or unimportant, with the effect of limiting the ways participants saw themselves as both at risk and worthy of support or protections from either employers or government during a pandemic. For instance, Indiana participants generally did not describe themselves as being at risk because of the specific work they did, and only discussed risk explicitly, usually the risk that they might infect others, when citing family or others in their social circles. Workers reported a wide range of employer COVID-19 prevention practices, from relatively little to more comprehensive, and did not suggest that their employers ought to offer more benefits or supports, specific to COVID-19 or not. Sometimes they defended their employers, like a person who worked for a large grocery store chain who did not support unions because she did not want them to "browbeat employers" (IN-35). Many workers justified their lack of employer-provided benefits or supports with the idea that they were "just part-time", even when, like the first participant quoted below, hours had been increased because of the pandemic, which in turn increased chances of exposure.

IN-245: [Interviewer:] To what extent were employees involved in [COVID-related] plans, setup, precautions, and decision making about those things? [Participant]: At my level, I was not involved. Now I can't talk [about] other people, because I'm a lower level and so I'm just a part-time fill in...

IN-37: I'm very small in the overall [participant's employer] scheme of things...I don't spark a lot of interest. My ideas, my feedback, my suggestions are very small on their – I'm not on their radar. I'm just somebody who's making them money, you know what I mean?

In Washington, in contrast, the state's greater worker protections and social support resources before and during the pandemic aligned with the sense among most workers we interviewed that they were at risk because of their work and that they should have been better protected. Washington has a long history of activism and policymaking around workers' rights (Inslee 2022); during the pandemic, Oxfam America ranked Washington State as having the best social safety net in the USA for workers (Oxfam 2021). In interviews, even though Washington participants described more active safety measures on the part of their employers, the support for the needs of workers implied by the state's policies and practices was reflected in participants' perceptions that employers had only acted out of concern for their bottom line, like a grocery worker who described signs her employer had used to enforce masking among customers as a way for the business to say they'd "done their part" (WA-243) rather than to actually ensure compliance. Even where safety measures were perceived as effective, most workers were aware that they were at higher risk because of frequent exposure to members of the public, many of whom were both unwilling to follow safety measures and hostile towards workers. Some expressed indignation that no one seemed to care about the stress and health risks food workers faced.

WA-220: I feel [employers] did what they had to, but I felt they did it for their bottom line, not for workers. I'm not an anti-business person, it's just that seemed to be the blatant reality written in 50-foot-tall letters for all of us. The businesses were concerned about staying open, not so much concerned about us. That's no different than it's always been though. It was just brought into focus due to the nature of the pandemic.

With respect to government and public health decision makers, in Indiana, participants expressed frustration with shifts in rules and practices, and sometimes disdain for the people or agencies they perceived as mandating them. There was little focus on local policies or elected officials; attention, whether in support or against, was directed more at the federal level (e.g., the government's top infectious disease expert Dr. Anthony Fauci or former President Donald Trump). Workers talked about government as something far from them. Outright skepticism about the motives of public health professionals and the limits of their authority to direct behavior collided with some sense that no one could be fully trusted to be knowledgeable on this issue.

IN-52: It's hard to believe the crap they say anymore. Dr. Fauci and his changing every other minute. If you get vaccinated, you're still not safe, then what's the purpose? It's getting aggravating.

Expectations of government and public health decision makers differed among Washington participants in word and tone. Washington workers felt fortunate to live in a place that offered a protective structure they knew to be more supportive than other places. They were knowledgeable about general and pandemic-specific worker protections and supports, described protective and supportive measures as more successful when they were policy mandates, and even expressed a desire for more universal protections and supports.

WA-250: I feel like, because I live in Washington State, there are a lot of stopgap measures to say, "I know that you have \$8,000 in back rent due, but we're going to help you." Or, at least, "We're going to mandate that you can't be thrown out as long as you're trying to get rental assistance." But [eviction protections are] not [available] for everyone – that's always what gets me. Why isn't this a national thing?...We all need to work with our governments to have things like this, but why don't we?

The influence of state-level policies was seen even among those in Washington who did not express explicit skepticism of the motives of employers, but rather talked about things like paid sick leave being available to them because it was a state policy.

Thus, in Indiana, where the value of hands-off approaches to worker and broader social protections characterized local narratives, participants were ambivalent about the roles of employers and government agencies or officials. Signaling from the broader state context that the pandemic was a less serious concern than the needs of businesses and the functioning of the economy was reflected in participants' attitudes about the (limited) role that policies ought to play in their lives, and the pandemic-related preventive actions (e.g., getting vaccinated) they felt clear about taking. Limited support at a community (employer, local, state) level seemed to constrain their thinking about COVID-19, a collective problem. This was reflected in their low expectations of the structure that exists to address collective problems – various levels of government which can shape both institutional and individual actions. In contrast, Washington participants explicitly recognized the role that city and state policies played in protecting them at work and in filling in health-supporting gaps, and had a clear sense of what that afforded them in “normal” times. This appeared to inform their senses of deservingness and expectation of employment and the structures that shape it in extraordinary times. Living in a place that offered employment protections and social supports appeared to provide them with choices by limiting employer power. For instance, a social policy support such as rental assistance limited an employer's influence because participants had another option for meeting foundational needs.

Differing Constraints Lead to the Conclusion That You Have To Look Out for Yourself and Yours

Workers in both states ultimately talked about needing to look out for themselves or their families, but came to this conclusion because of what we interpret as different constraints on their choices and actions. While workers across both sites had a similar level of awareness of the importance of masking and distancing for COVID-19 prevention, Indiana participants expressed more confusion about how preventive practices work together, and reported more misinformation particularly about vaccines. In the face of this confusion, combined with frustration at shifting guidelines and little confidence in public health authorities described above, family-related concerns shaped preventive behavior the most in participant explanations.

IN-38: No one's telling me, it's me reading and deciding for myself what, how I should interpret that information. I want to be safe, I don't want to make stupid mistakes, but it's hard to know, am I being too dramatic about it in [my] mind or [should] I not be more conservative...It's hard to know what to believe, I guess, so I'm just doing what, in my head, seems the best practices.

IN-45: I haven't had a flu shot since the 70s. This is different. This whole thing has...and my kids, my grandchildren are all vaccinated. My kids have had their children vaccinated. And I've come to the realization that, for me, for now, being smart about it means getting the vaccination, so I'm doing it...I'm getting it because my grandsons want me around a little bit longer and I don't know what could happen...This is a scary virus.

In Washington, most participants also navigated pandemic risks and made choices about preventive behaviors in an individualized way, but for different reasons. Some participants felt this was the way things should be, believing people should be responsible for their well-being.

WA-25: If the information is being relayed to everyone, it's your own initiative to be safe. If some, like youngsters, if people are organizing parties, you have an option of not attending, for you to be safe. So I think [it's a] self-initiative task that everyone has to take responsibility of.

Others in Washington felt they needed to care for themselves because they could not trust others (e.g., to be honest about an infection or vaccination status) or because of a lack of concern for the common good in U.S. society. These participants, while cognizant that interrupting transmission of coronavirus requires more than individual-level behaviors, seemed resigned to the idea that, given the inadequacies in employer practices, government response, and concern for the common good, there was little to do but focus on their self-preservation.

WA-290: I'll take all the precautions I need, and to heck with [co-worker], to heck with [P's employer]. I have to take care of myself. Take care of my wife. At that age we're vulnerable, we have immune systems that are compromised.

Thus, in Indiana, in the vacuum created by limited required supports at employer, local, and state levels, concerns about infection and decisions to get vaccinated appeared shaped by participants' more immediate, individually identifiable social circumstances, such as their spouses or families. In Washington, in contrast, attitudes towards the inadequacy of support from employers, policy, and the public seemed to motivate an inward focus on participants' own prevention decisions. There was no mention of the possibility of collective action as workers or as ordinary people, despite the stronger sense of their value as workers and of the protections people should be entitled to, compared to Indiana participants.

Discussion

Precariously employed food workers in Indiana and Washington had contrasting perceptions of risk and expectations of employers, government, and public health in ways that reflected policies and norms in their respective states. Ultimately, workers in both states navigated pandemic risks and made choices about preventive behaviors in an individualized way that were shaped by their employment circumstances and by the broader policy landscapes allowing those circumstances. Specifically, both groups of workers were precariously employed, with limited material resources that might have provided them greater choice; in jobs deemed essential that cannot be conducted remotely; and in settings ill-equipped to manage respiratory disease hazards. Washington participants tied all this together with their employers' and state's responses and found them and/or the behaviors of others lacking, so did what they could. Indiana participants exempted employers from their focus and were confused by or didn't want the influence of the broader policies, and so did what they or their families thought best.

Using the lens of Constrained Choices Theory, we can further interpret these assertions as examples of constraints that were operating across multiple realms and were shaping the range of choices related to prevention that were available at the individual level. We saw differences in the social safety net and level of worker supports across the two states as likely contributors to Indiana and Washington participants' different perspectives about their work during the pandemic and different motivations for their individualized approach to prevention. However, during the study period, neither state used employment and work adequately to shape behavioral choices in ways supportive of the collective, nor did this occur at the federal level. Constrained by similarly poor employment conditions, the workers we interviewed figured out how to protect themselves and their families as best as they could. That workers in both states talked about looking out for themselves or their families echoes research among precariously employed food, retail, and hospitality workers in Oregon conducted by Loustaunau and colleagues, who describe these circumstances as “enforcing your own bodily integrity” (Loustaunau et al. 2021, p. 866) because employers and governments did not. Our study also aligns with and offers insight into potential mechanisms underlying quantitative evidence that employment conditions and gaps in the safety net created structural barriers to adopting COVID-19 preventive behaviors among low-income and essential workers in the USA (Capasso et al. 2022).

Inadequate worker safety, employment, and labor and social safety net policies created health risks for everyone, but their substantial variation across state, county, and employer also resulted in inequitable distribution of benefits and harms related to work. Bird and Rieker argued that policies across levels of influence are mutually reinforcing. They posited that policies aimed at shifting norms that influence peoples' decision-making are taken up most easily by those with most resources to shift, but policies aimed at restricting behaviors directly would be more equitable in their outcomes (Bird & Rieker 2008). Pandemic responses in the USA were normative in nature – states, localities, and individual businesses in them were encouraged in a specific direction but were generally not required to comply (Brudney 2020). This lack of restriction on behavior, of both employers and workers, created inequitable circumstances across and within states.

U.S. public health research has increasingly embraced the notion that conditions in the environments where people are born, live, learn, and age (e.g., through a focus on the quality of hospitals, housing, schools, and neighborhoods) shape individual health-related choices and behavior and drive health disparities. Less common is the understanding that work and employment also constitute and create an environment whose conditions can constrain or support individual health-related choices and behavior both inside and outside the workplace. This gap was clear in much of the U.S. response to COVID-19 at federal, state, and local levels, in which there was a general lack of interrogation of work as a site for preventive action (Michaels et al. 2023). Our study points to ways in which acknowledgement of PE could re-shape thinking about the COVID-19 pandemic, future emergencies, and the circumstances in which people labor. If PE had been more widely recognized as a driver of social disadvantage known to cause health disparities, we might already have had surveillance strategies that would have identified it as a place for action early on in the COVID-19 response. Absent that, those data collection efforts might have been immediately implemented when work's role in disease transmission became evident. Public health professionals might have been – and could still be – more active in advocating for enforceable Occupational Safety and Health Administration standards for COVID-19 (Michaels et al. 2023). In addition to the efficiency of acting on drivers of a problem through an emphasis on EQ, a focus on workplace health protection might have increased success in shaping individual behaviors by making environments align with desired actions.

Institutional actions guided by a social determinants of health lens that integrates EQ would also have provided an option for messaging in public health information campaigns that did not center individual traits and circumstances separate from conditions of employment. The Centers for Disease Control and Prevention provides guidance (CDC 2020) to employers, but messaging overwhelmingly approaches people as older, persons of color, or immunocompromised, rather than as workers who encounter the coronavirus in the course of their employment. This de-emphasizes employers' legal responsibility to provide a safe working environment and undermines collective demands to do better. Federal, state, and local public health authorities might have partnered with occupational safety and health professionals to assist workers with filing complaints against employers, leveraged state and local health department connections to communities to provide information about what people could expect from their employers under the law, and wielded their licensing power over food establishments (Davis & Souza 2009). This non-exhaustive list might provide immediately actionable strategies; it might also identify areas where continuing education and effort to develop ties between occupational health and safety professionals and public health professionals focused in other areas might be necessary.

Finally, the importance of modifying the context that distributes health resources cannot be overstated. PE, and the policies and norms allowing it, put people at risk of risks. Because PE is not equitably distributed in U.S. society (Andrea et al. 2021, Eisenberg-Guyot et al. 2020, Oddo et al. 2020), addressing it and strengthening the social safety net to buffer it might have meant less inequitable distribution of COVID-19 morbidity and mortality. While features of the U.S. sociopolitical context (widespread use of at-will employment, lack of universal healthcare, lack of federal paid sick leave, and low unionization, to name a few) likely exacerbate the threat of PE to health equity in the, PE is a threat to health equity in many places because it is not evenly distributed within and across societies. EQ shapes

exposure to hazards, but also susceptibility to and consequences of those exposures USA (Diderichsen et al. 2012), reminding us that equitable disease prevention is more complicated than individual behaviors and even workplace exposures. Therefore, addressing EQ is both imperative and an efficient strategy to address social disadvantage that drives health inequity under average and extraordinary circumstances.

Limitations

We designed our study to consider states as cases, because states have substantial latitude to make decisions regarding the public's health (Montez et al. 2022). As the pandemic has unfolded, in many places, these powers have been limited or shifted to counties. Therefore, while nuances in rules or practices required in specific employment settings may have existed across individual participants, our study design cannot, and was not meant to, assess the extent to which individual behaviors matched those rules or practices (Vuolo et al. 2016). Our study also represents a specific time period in a still-unfolding era. There has been an uptick in strikes among workers in the USA since we conducted our interviews (Bivens et al. 2023); participants' narratives might have differed if interviews had been conducted later. Finally, our sample makeup might mean that we have missed additional perspectives relevant to our interpretations. While recognizing these limitations, we believe they do not seriously undermine our intention to describe employment embedded in broader place as a phenomenon relevant to health, and to illustrate that what happens in any given workplace is the result of policies and norms at multiple levels of influence that can support or undermine health equity.

Conclusions

Disease prevention relies on a complex interplay between social context and individual behaviors. Work and the employment conditions that shape it are key domains where this interplay occurs, a reality highlighted by the COVID-19 pandemic. Using a multiple case study design, we found that precariously employed food workers in Indiana and Washington had contrasting expectations of employers, government, and public health that we interpret as parallels of policies and norms in their respective states. Workers in both states navigated pandemic risks and made choices about preventive behaviors in an individualized way but appeared motivated by different constraints on their choices. These assertions point to the importance of explicitly considering employment and the social safety net in public health to better prepare us for the next crisis and ameliorate health inequities under ordinary circumstances.

Acknowledgments

We are grateful to Samantha Childress for study coordination. We thank Robert Andrea, Tauno Ahonen, and Alexandria Thomopoulos for serving as pilot interview participants and providing feedback on our draft interview guide. We thank Aden Afework, Carissa Atherton, Abigail Brinker, Anna Heilers, Akia Hilderbrand, Chloe O'Keefe, Elizabeth Quinn, Preshia Rami, Lynder Worsley, Max Yde, Isa Weiss, Ruby Whelan, and Maddy Wiesenbahn for their work on transcript processing and early coding. Finally, we thank the anonymous reviewers for their helpful feedback.

Funding

This work was supported by the National Institute on Aging [grant number R01 AG060011]. EQA's work is also supported by NIOSH [grant number 1 U19OH012304-01—0] and the University of Utah Office of the Vice President of Research.

Data Statement

De-identified transcripts are available through the Qualitative Data Repository: Vignola, E. F., Ahonen, E. Q., & Hajat, A. (2024). "Data for: 'The Role of Precarious Work in Increasing COVID-19 Risk for Older Workers.'" Qualitative Data Repository. <https://doi.org/10.5064/F6Z82KER>. QDR Main Collection. V1.

Declaration of Conflicting Interests

The authors declare that there are no conflicts of interest.

References

- Ahonen, E. Q., Fujishiro, K., Cunningham, T., & Flynn, M. (2018). Work as an inclusive part of population health inequities research and prevention. *American Journal of Public Health, 108*(3), 306-311. <https://doi.org/10.2105/AJPH.2017.304214>
- Andrea, S. B., Eisenberg-Guyot, J., Peckham, T., Oddo, V. M., & Hajat, A. (2021). Intersectional trends in employment quality in older adults in the United States. *JSM – Population Health, 15*, 100868. <https://doi.org/10.1016/j.ssmph.2021.100868>
- Benach, J., Vives, A., Amable, M., Vanroelen, C., Tarafa, G., & Muntaner, C. (2014). Precarious employment: Understanding an emerging social determinant of health. *Annual Review of Public Health, 35*, 229–253. <https://doi.org/10.1146/annurev-publhealth-032013-182500>
- Bird, C., & Rieker, P. P. (2008). *Gender and health: The effects of constrained choices and social policies*. Cambridge University Press.
- Bivens, J., McNicholas, C., Poydock, M., Sherer, J., & Leon, M. (2023). *What to know about this summer's strike activity: What's spurring the rise in labor actions?* Economic Policy Institute. <https://www.epi.org/publication/summer-strike-activity/>
- Brudney, J. J. (2020). Forsaken heroes: COVID-19 and frontline essential workers. *Fordham Urban Law Journal, 48*(1), 1. <https://ir.lawnet.fordham.edu/ulj/vol48/iss1/1>
- Cano, E. (2004). Formas, percepciones y consecuencias de la precariedad. *Mientras Tanto, 93*, 67–81. <https://www.jstor.org/stable/27820778>
- Capasso, A., Kim, S., Ali, S. H., Jones, A. M., DiClemente, R. J., & Tozan, Y. (2022). Employment conditions as barriers to the adoption of COVID-19 mitigation measures: How the COVID-19 pandemic may be deepening health disparities among low-income earners and essential workers in the United States. *BMC Public Health, 22*(1), 870. <https://doi.org/10.1186/s12889-022-13259-w>
- CDC. (2020, February 11). *Coronavirus Disease 2019 (COVID-19)—Interim Guidance for Businesses and Employers*. Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html>

- Davis, L., & Souza, K. (2009). Integrating Occupational Health with Mainstream Public Health in Massachusetts: An Approach to Intervention. *Public Health Reports*, 124(Suppl 1), 5–15. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707268/>
- Diderichsen, F., Andersen, I., Manuel, C., Andersen, A.-M. N., Bach, E., Baadsgaard, M., Brønnum-Hansen, H., Hansen, F. K., Jeune, B., Jørgensen, T., & Søgaard, J. (2012). Health Inequality—Determinants and policies. *Scandinavian Journal of Public Health*, 40(8_suppl), 12–105. <https://doi.org/10.1177/1403494812457734>
- Eisenberg-Guyot, J., Peckham, T., Andrea, S. B., Oddo, V., Seixas, N., & Hajat, A. (2020). Life-course trajectories of employment quality and health in the U.S.: A multichannel sequence analysis. *Social Science & Medicine*, 264, 113327. <https://doi.org/10.1016/j.socscimed.2020.113327>
- Food Chain Workers Alliance. *No Piece of the Pie: U.S. Food Workers in 2016*. (2016). http://foodchainworkers.org/wp-content/uploads/2011/05/FCWA_NoPieceOfThePie_P.pdf
- ILO (International Labour Organization). (2016). *Non-standard employment around the world: Understanding challenges, shaping prospects* [Report]. International Labour Organization. http://www.ilo.org/global/publications/books/WCMS_534326/lang--en/index.htm
- Indiana Destination Development Corporation. (July 28, 2020) *Do Business in Indiana*. <https://www.in.gov/iddc/do-business-in-indiana/>
- Inslee, G. J. (2022, September 2). Washington is a leading state for workers—A long history of state action paved the way. *Washington State Governor's Office*. <https://medium.com/wagovernor/washington-is-a-leading-state-for-workers-a-long-history-of-state-action-paved-the-way-496305bc6c3e>
- Kalleberg, A. L. (2009). Precarious Work, Insecure Workers: Employment Relations in Transition. *American Sociological Review*, 74(1), 1–22. <https://doi.org/10.1177/000312240907400101>
- Lange, K., & Huang, B. (2021, January 11). Lawmakers propose protections for businesses over coronavirus-related lawsuits. *The Indianapolis Star*. <https://www.indystar.com/story/news/politics/2021/01/11/indiana-lawmakers-consider-covid-business-liability-protections/4142716001/>
- Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, Extra Issue*, 80–94. <https://doi.org/10.2307/2626958>
- Loustaunau, L., Stepick, L., Scott, E., Petrucci, L., & Henifin, M. (2021). No choice but to be essential: Expanding dimensions of precarity during COVID-19. *Sociological Perspectives*, 64(5), 857–875. <https://doi.org/10.1177/07311214211005491>
- Michaels, D., Wagner, G. R., & Ryan, L. (2023). Lessons from COVID-19 for protecting workers in the next pandemic. *JAMA*, 330(1), 23–24. <https://doi.org/10.1001/jama.2023.8229>
- Montez, J. K., Mehri, N., Monnat, S. M., Beckfield, J., Chapman, D., Grumbach, J. M., Hayward, M. D., Woolf, S. H., & Zajacova, A. (2022). U.S. state policy contexts and mortality of working-age adults. *PLOS ONE*, 17(10), e0275466. <https://doi.org/10.1371/journal.pone.0275466>

- National Conference of State Legislatures. (2021). *COVID-19: Essential Workers in the States*. <https://www.ncsl.org/labor-and-employment/covid-19-essential-workers-in-the-states#agriculture>
- Oddo, V. M., Zhuang, C. C., Andrea, S. B., Eisenberg-Guyot, J., Peckham, T., Jacoby, D., & Hajat, A. (2020). Changes in precarious employment in the United States: A longitudinal analysis. *Scandinavian Journal of Work, Environment & Health*, 47(3) <https://doi.org/10.5271/sjweh.3939>
- Oxfam. (2021) *Best and Worst States to Work in America 2021*. Oxfam. <https://www.oxfamamerica.org/explore/research-publications/best-and-worst-states-to-work-in-america-2021/>
- Peckham, T., Fujishiro, K., Hajat, A., Flaherty, B. P., & Seixas, N. (2019). Evaluating Employment Quality as a Determinant of Health in a Changing Labor Market. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 5(4), 258–281. <https://doi.org/10.7758/RSF.2019.5.4.09>
- Rodgers, G., & Rodgers, J. (1989). Precarious work in Western Europe: The state of the debate. In *Precarious Jobs in Labour Market Regulation: The Growth of Atypical Employment in Western Europe* (pp. 1–16). International Labour Organisation.
- Stake, R. E. (2005). *Multiple Case Study Analysis* (Illustrated edition). The Guilford Press.
- Vignola, E. F., Ahonen, E. Q., & Hajat, A. (2024). *Data for: 'The Role of Precarious Work in Increasing COVID-19 Risk for Older Workers.'* Qualitative Data Repository. <https://doi.org/10.5064/F6Z82KER>. QDR Main Collection. V1.
- Vuolo, M., Kadowaki, J., & Kelly, B. C. (2016). A multilevel test of Constrained Choices Theory: The case of tobacco clean air restrictions. *Journal of Health and Social Behavior*, 57(3), 351–372. <https://doi.org/10.1177/0022146516653790>