

Disparities by Ethnicity, Language, and Immigrant Status in Occupational Health Experiences Among Las Vegas Hotel Room Cleaners

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Objective We examined disparities in workers' occupational health experiences.

Methods We surveyed 941 unionized Las Vegas hotel room cleaners about their experiences with work-related pain and with employers, physicians, and workers' compensation. Data were analyzed for all workers and by ethnicity, language, and immigrant status.

Results Hispanic and English as second language (ESL) workers were more likely than their counterparts to report work-related pain and, along with immigrant workers, to miss work because of this pain. Hispanic, ESL, and immigrant workers were not consistently at a disadvantage with regard to their own responses to work-related pain but were so with respect to reported responses by workers' compensation, physicians, and employers.

Conclusions There are indications of disparities in occupational health experiences within this job title. The use of different group classifications, while implying different mechanisms, produced similar results. *Am. J. Ind. Med.* 53:960–975, 2010. © 2010 Wiley-Liss, Inc.

KEY WORDS: occupational health; disparities; ethnicity; language; immigrants; workers' compensation; medical care; management

INTRODUCTION

Immigrants and ethnic minorities represent a growing proportion of the U.S. labor force and a growing share of low-

wage workers [Capps et al., 2003; Lee and Mather, 2008]. Yet, little is documented about their occupational health experiences. There is limited but mounting evidence that compared with other populations, immigrants, ethnic, and/or linguistic minorities have higher rates of work-related injuries [Chen and Layne, 1999; Friedman and Forst, 2008], illnesses [Wang et al., 2007], and deaths [Corvalan et al., 1994; Loomis and Richardson, 1998; Dong and Platner, 2004; Loh and Richardson, 2004] and more severe work-related health problems [Anderson et al., 2000; Pransky et al., 2002; Strong and Zimmerman, 2005]. There are also indications that immigrant and/or minority workers have distinct experiences with respect to reporting [Brown et al., 2002; Quandt et al., 2006], claim filing [Frumkin et al., 1995; Herbert et al., 1997; Pransky et al., 2002; Azaroff et al., 2003; Burgel et al., 2004; Lashuay and Harrison, 2006], and healthcare seeking [Burgel et al., 2004; Quandt et al., 2006] and, alternatively, that employers [Lashuay and Harrison,

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2006], workers' compensation insurance [Nevitt et al., 1994; Herbert et al., 1999], and physicians [Rudolph et al., 2002; Dembe et al., 2005] respond to their occupational health problems differentially. Responses to occupational health problems by stakeholders, which can be mediated by workers' socio-demographic characteristics, can influence the development of chronic disability [Krause and Ragland, 1994; Schultz et al., 2000; Franche et al., 2008], and as such they can create or exacerbate disparities in occupational health.

The present study aims to contribute to knowledge in this area by examining disparities in the prevalence and severity of, and in stakeholder responses to work-related pain among 941 unionized Las Vegas hotel room cleaners, a low-income, predominantly female immigrant population. Room cleaners are multiply disadvantaged socio-demographically as compared to other working populations [Messing, 1998; Dembe, 1999; Frumkin and Pransky, 1999], but within this occupational title some groups may face more adversity than others because of factors such as ethnic origin, language, and immigrant status [Premji et al., 2008a,b; Buchanan et al., 2009]. We examined workers' own responses to work-related pain as well as the reported responses of workers' compensation insurance, physicians, and employers. Management, medical care and compensation provide the main contexts for potential difficulties by workers or discrimination against workers in relation to occupational health. Prevalence of work-related pain and responses to pain by some stakeholders has previously been reported for Las Vegas room cleaners [Scherzer et al., 2005];¹ however, disparities in work-related health and in responses have not yet been explored in this population.

METHODS

Study Context and Design

The study is based on a collaborative project between the Culinary Workers Union Local 226 in Las Vegas, health educators from the Labor Occupational Health Program at the University of California, Berkeley, and researchers from the Department of Medicine at the University of California, San Francisco. The collaboration followed a participatory action research approach meaning that room cleaners were involved in all aspects of the project through a research advisory council made up of 25–29 room cleaners. Room cleaners were involved in the formulation of research questions, design of the study, development of the survey, implementation of the study, and interpretation of results. A

total of eight focus group sessions were held in which room cleaners described their working conditions including physical and psychosocial job stressors and discussed their experiences with work-related pain as well as with management, occupational health care, and workers' compensation. The participatory process has been described elsewhere in more detail [Lee et al., 2002]. The study protocol including implicit consent in taking the survey was approved by the Institutional Review Boards at the University of California at Berkeley and San Francisco.

Study Population

Five unionized hotels were selected for inclusion in the study, representing five hotel types: upscale, mid-level, convention, all-suite, and older economy. The total population included 1,724 room cleaners scheduled to work during the survey weeks, however due to layoffs following the September 11, 2001 terrorist attacks and the exclusion of swing and night-shift workers and workers who did not report to work, the eligible study population was 1,276 workers.

Instrument Development

The survey questionnaire was developed from the focus group discussions and also included standardized instruments previously used in other populations, including in a study of San Francisco room cleaners [Krause et al., 2002]. It includes questions on physical and psychosocial working conditions, health status and behavior, work-related pain and experiences with employers, physicians and workers' compensation insurance. The survey instrument was pre-tested with the room cleaner advisory council who also evaluated questions for validity and literacy level. The revised instrument was translated into Serbo-Croatian and Spanish.

Data Collection

Surveys were administered in March and April 2002 at the union hall after work hours. The meeting room was out of sight of union offices and had a separate entrance. Only survey administrators, university researchers, and participants were allowed entrance. The survey administrators were graduate students and room cleaners from non-participating hotels who had been trained and were supervised by university researchers. The majority of administrators spoke a language other than English and served as ad hoc translators when needed. Administrators also at times read the questions to illiterate participants. Completion of the survey took 1–2 hr and completed surveys were collected by university researchers. Respondents were not provided with incentives to complete the survey.

¹ Differences between the results presented in Scherzer et al. [2005] and this article are explained by the use of the "number of workers who were asked the question" as the denominator in Scherzer et al. [2005] versus the "number of workers who answered the question" in this article.

Measures of Work-Related Pain and Responses by Stakeholders

Prevalence of work-related pain was measured by asking “Have you had any pain or discomfort during the past 12 months that you feel might have been caused or made worse by your work as a hotel room cleaner?” This question reflects the medical-legal criteria used to establish the work-relatedness of an injury or illness (i.e., whether it arose out of and in the course of employment). Respondents were also asked how many days they missed in the past 12 months because of a work-related injury or illness (a proxy measure for severity).

Worker responses to work-related pain and discomfort (hereafter referred to as “pain”) were assessed with questions on whether workers reported this pain to management, whether they reported a work-related injury or illness to workers’ compensation in the past 12 months, whether they visited a doctor for this pain, and whether they used sick or vacation leave in the past 12 months because of this pain.

Reported responses to claim filing by workers’ compensation insurance were measured with two questions: (1) “If you filed a workers’ compensation claim, was it accepted?” and (2) “If you reported a work-related injury or illness in the past 12 months, did workers’ compensation pay for your medical care?” Reasons why workers’ compensation did not pay for medical care were identified in focus groups and were presented in the survey as a checklist where multiple responses could be selected (“check all that apply”).

Physicians’ reported responses to work-related pain were assessed by asking workers “If you were treated by a doctor or clinic, did you think that you had good medical care?” Reasons for poor care were again identified in focus groups and were presented in the survey as a checklist allowing for multiple selections. Physician responses were further measured by seven items on patient–doctor communication, rehabilitation, and return-to-work (as listed in Appendix A). For these seven items, data were analyzed using various sets of conditions (e.g., limited to individuals with lost-time injuries and illnesses) in order to improve comparability of results with that of other populations.

Employers’ reported responses were evaluated by asking workers who reported pain in the past 12 months whether they were taken to a healthcare provider or clinic, whether they were required to take a drug test, and whether they received a warning or other discipline for missing work. Workers were also asked whether their employer provided alternate or modified work if their doctor recommended it.

Socio-Demographic Variables

Ethnic origin was assessed by asking workers “What ethnic group do you consider yourself?” with check boxes including “African American,” “Native American,”

“Hispanic,” “Filipino,” “Asian,” “Caucasian,” and “Other.” Because of the small numbers of workers of non-Hispanic ethnicity and the concern for adequate population numbers for analyses, non-Hispanics were grouped as one category. This choice is further justified by findings that, in this population, Hispanics are disadvantaged as compared to non-Hispanics in relation to general health and effort–reward imbalance [Krause et al., 2009a,b]. Linguistic status was assessed with the question “What is your native language?” with possible answers including “Cantonese,” “English,” “Mandarin,” “Russian,” “Serbo-Croatian,” “Spanish,” “Tagalog,” “Vietnamese,” and “Other.” Workers were assigned to the category “English as first language” (EFL) or “English as second language” (ESL). Immigrants were defined as workers who checked that they were “Born outside the U.S.A.” while non-immigrants checked that they were “Born in the U.S.A.”

Despite overlap between Hispanics, ESL individuals, and immigrants, we considered all three classifications (ethnic origin, language, and immigrant status) for analysis since these socio-demographic characteristics imply different mechanisms regarding the genesis of disparities [Premji, 2008; Krieger, 2009] and can produce different results [Premji et al., 2010]. It should be noted that Hispanics, ESL individuals, and immigrants are minorities in the context of the U.S. workforce but constitute the majority of workers within our population of Las Vegas room cleaners. Non-Hispanics—with the exception of Caucasians—are also minorities in the U.S. workforce, in contrast to individuals defined as EFL and non-immigrants. Gender and socioeconomic status can also influence occupational health experiences; however, these influences could not be investigated because of the relative homogeneity of our population in terms of these characteristics.

Data Analysis

Participant characteristics, work-related health outcomes, and experiences with workers’ compensation insurance, physicians, and employers were analyzed with descriptive statistics. Analyses were done for all study participants and separately for socio-demographic groups. For differences in frequencies or proportions between groups of workers, chi-square tests were used. For differences in means, two-sample Student’s *t*-tests were used. All analyses were done using Stata statistical software, version 8.0 (Stata Corp., College Station, TX).

RESULTS

Participation Rate and Characteristics of the Study Population

Of the 1,276 eligible study participants, 941 completed the survey, giving a response rate of 74%. Table I presents

TABLE I. Characteristics of Las Vegas Room Cleaners—Data for All Workers and by Ethnicity, Language, and Immigrant Status

	Hispanics versus non-Hispanics						ESL versus EFL			Immigrants versus non-immigrants							
	All workers		Hispanics		Non-Hispanics		ESL		EFL	Immigrants		Non-immigrants		P-value			
	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N		%		
Women	930/941	99	690/699	99	216/218	99	0.661	809/820	99	100/100	100	0.244	770/781	99	138/138	100	0.161
Hispanics	699/917	76	—	—	—	—	—	685/812	84	12/99	12	0.001	642/771	83	52/137	38	0.001
English as a second language	820/920	89	685/697	98	127/214	59	0.001	—	—	—	—	—	767/775	99	44/136	32	0.001
Immigrants	781/919	85	642/694	92	129/214	60	0.001	767/811	95	8/100	8	0.001	—	—	—	—	—
Age < 35	216/903	24	170/678	25	42/213	20	0.109	185/795	23	29/99	29	0.185	162/758	21	52/135	38	0.001
High-school education or less	832/941	88	632/699	90	178/218	82	0.001	731/820	89	81/100	81	0.017	697/781	89	116/138	84	0.079
Working as room cleaner in current hotel < 5 years	388/924	42	294/685	43	85/216	39	0.354	354/807	44	29/97	30	0.009	334/768	43	46/135	34	0.041
Upscale hotel	271/941	29	204/699	29	60/218	27	0.636	239/820	29	28/100	28	0.812	221/781	28	44/138	32	0.391
Mid-level hotel	228/941	24	199/699	28	23/218	11	0.001	216/820	26	6/100	6	0.001	204/781	26	17/138	12	0.001
Convention hotel	197/941	21	127/699	18	64/218	29	0.001	163/820	20	29/100	29	0.034	159/781	20	36/138	26	0.129
All-suite hotel	141/941	15	98/699	14	40/218	18	0.119	122/820	15	17/100	17	0.576	117/781	15	20/138	14	0.882
Older economy hotel	104/941	11	71/699	10	31/218	14	0.096	80/820	10	20/100	20	0.002	80/781	10	21/138	15	0.085
Work 40 hr a week or more	774/871	89	579/653	89	179/199	90	0.613	676/762	89	82/92	89	0.905	642/725	88	118/131	90	0.611
Has at least 1 child living with her	672/720	93	535/566	94	129/146	88	0.008	598/636	94	66/76	87	0.018	564/602	94	99/110	90	0.160
Has at least 1 person living with her needing care	422/941	45	348/699	50	70/218	32	0.001	382/820	47	37/100	37	0.069	361/781	46	56/138	41	0.220
Sends money to family	534/909	59	429/689	62	102/213	48	0.001	510/800	64	17/100	17	0.001	502/762	66	27/138	20	0.001

n/N, number of affirmative responses/number of workers who answered the question. ESL = English as second language; EFL = English as first language.

characteristic of the study population cross-classified by ethnicity, language, and immigrant status. Almost all participants (99%) were women, 76% were Hispanic, 89% had English as a second language, and 85% were immigrants. Non-Hispanics were Caucasian (6% of room cleaners), African American (6%), Filipina (5%), Asian (5%), “other” (2%), and Native American (0.4%) (data not shown in table). There was considerable overlap among Hispanics, individuals with English as a second language, and immigrants. There was less overlap among non-Hispanics, EFL individuals, and non-immigrants. For instance, since 59% of non-Hispanics reported having English as a second language, comparing Hispanics to non-Hispanics is not equivalent to comparing ESL and EFL individuals.

Almost a quarter of room cleaners were under the age of 35 (median 42 years, range 20–67 years). The large majority (88%) had a high school education or less. Forty-two percent (42%) had been working <5 years as a room cleaner at their current hotel (median 5 years, range 6 months to 32 years). Most (89%) worked 40 hr a week or more. Ninety-three percent (93%) had at least one child living with them, and 45% had at least one person living with them needing child, elder, or disability care. In addition, 59% of room cleaners sent money to family not living with them. There were some substantial differences between socio-demographic groups in age, education, seniority, hotels, and family responsibilities. All study participants were unionized and covered by an employer-sponsored healthcare plan.

Occupational Health Experiences—All Workers

Table II presents data on the prevalence and severity of, and stakeholder responses to work-related pain for all room cleaners and by socio-demographic category. Seventy-eight percent (78%) of room cleaners experienced work-related pain in the past 12 months. Of those with work-related pain, 47% missed at least one workday in the past year because of this pain (6 workdays on average, range 0–132, data not shown). Thirty-two percent (32%) reported this pain to management and 24% filed a workers’ compensation claim in the past year. Sixty-two percent (62%) of workers visited a doctor for their work-related pain and another 62% used at least 1 day of sick or vacation leave because of this pain.

Fifty-seven percent (57%) of those who experienced pain and filed a claim in the past year reported that their claim was accepted, and 62% reported that workers’ compensation paid for their medical care. Reasons why workers’ compensation did not pay for medical care are presented in Table III. Physician responses to work-related injury and illness were asked of workers who experienced work-related pain in the past year and who visited a doctor for this pain or were taken to a doctor or clinic after reporting this pain to management or workers’ compensation (Table II). Sixty-six percent (66%)

reported that they received good medical care while 34% reported that they received poor care. Reasons for poor care are presented in Table IV.

Table II shows that 42% of workers reported that their doctor talked about their job “a lot” or “some” while 46% said their doctor seemed to understand their job “very well” or “fairly well.” Thirty-one percent (31%) of workers reported being told by their doctor how to avoid re-injury at work, 28% said their doctor suggested changes in their job to help their injury heal, and 36% reported that their doctor told them what work restrictions or changes in their job they needed in order to return to work. When asked if their doctor ever told them they were ready to go back to work, 70% of workers said yes. In addition, 30% of workers reported that their doctor recommended alternate or modified work in order for them to return to work.

Of those who had work-related pain in the last year and reported it either to management or workers’ compensation, 83% were taken to a healthcare provider or clinic by their employer. Thirty-three percent (33%) took a drug test, and 25% were disciplined for missing work. In addition, of workers with work-related pain whose physician recommended alternate or modified work, 55% reported that their employer provided such work upon doctor recommendation.

Differences in Occupational Health Experiences by Ethnicity, Language, and Immigrant Status

Table II also presents data on the prevalence and severity of, and stakeholder responses to work-related pain for Hispanic versus non-Hispanic workers, workers with ESL versus EFL, and immigrant versus non-immigrant workers. Hispanic and ESL workers reported work-related pain in the past year more often than their counterparts. There was no difference in the prevalence of work-related pain between immigrants and non-immigrants. Hispanic, ESL, and immigrant workers were more likely than their counterparts to miss at least one workday in the past year because of work-related pain. ESL workers also missed more days on average than EFL workers (6.5 days (SD 17.5, range 0–132) vs. 1.5 days (SD 2.8, range 0–10), $P < 0.107$ —data not shown). Of those with pain, Hispanic and ESL workers were more likely than their counterparts to file a workers’ compensation claim in the past year. On the other hand, non-immigrants and EFL workers were more likely to report work-related pain to management and to use sick or vacation days for work-related pain. There were no substantial differences in other worker responses to work-related pain between socio-demographic groups.

Of those with work-related pain and who filed a workers’ compensation claim in the past year, non-Hispanic, EFL, and non-immigrant workers were more likely than their counterparts to have their claim accepted, about 50% more likely. At

TABLE II. Prevalence, Severity of, and Responses to Work-Related Pain by Room Cleaners, Workers' Compensation Insurance, Physicians, and Employers—For All Workers and by Ethnicity, Language, and Immigrant Status

	Hispanics versus non-Hispanics						ESL versus EFL						Immigrants versus non-immigrants					
	All workers		Hispanics		Non-Hispanics		ESL		EFL		Immigrants		Non-immigrants		P-value			
	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%	n/N	%		
12-Month prevalence and severity of work-related pain																		
Pain	710/913	78	563/689	82	142/213	67	<0.001	630/803	79	71/99	72	<0.128	593/764	78	107/137	78	<0.900	
Missed work days	116/247	47	94/188	50	21/58	36	<0.066	104/213	49	10/32	31	<0.063	96/196	49	19/48	40	<0.242	
Worker responses to work-related pain																		
Reported to management	221/698	32	170/553	31	49/140	35	<0.333	192/619	31	26/70	37	<0.296	177/582	30	41/106	39	<0.092	
Reported to workers' compensation	160/680	24	135/541	25	24/134	18	<0.085	148/606	24	10/66	15	<0.092	135/569	24	24/103	23	<0.926	
Visited the doctor	430/692	62	341/549	62	85/138	62	<0.911	382/612	62	41/71	58	<0.443	357/576	62	66/107	62	<0.954	
Used sick or vacation leave	402/652	62	311/508	61	87/139	63	<0.769	350/573	61	47/70	67	<0.325	324/537	60	73/105	69	<0.076	
Workers' compensation insurance responses to injury and illness reporting and claim filing																		
Claim accepted	75/132	57	58/109	53	16/22	73	<0.092	65/120	54	8/10	80	<0.114	57/109	52	17/22	77	<0.031	
Medical care paid	92/149	62	77/124	62	14/24	58	<0.729	82/55	60	8/10	80	<0.207	75/126	59	16/22	73	<0.240	
Physician responses to work-related injury and illness																		
Received good care	267/405	66	227/328	69	40/76	53	<0.006	248/364	68	18/37	49	<0.017	234/342	68	30/58	52	<0.013	
Patient – doctor communication																		
Doctor talked about job	160/382	42	138/315	44	22/66	33	<0.117	150/346	43	8/33	24	<0.033	142/322	44	17/56	30	<0.055	
Doctor seemed to understand job	165/360	46	124/293	42	41/66	62	<0.004	142/321	44	22/36	61	<0.054	131/299	44	33/57	58	<0.051	
Rehabilitation																		
Doctor discussed avoiding re-injury	111/355	31	88/293	30	23/61	38	<0.240	98/320	31	12/32	38	<0.424	91/297	31	18/54	33	<0.694	
Doctor suggested changes in job	99/360	28	81/294	28	18/65	28	<0.982	89/322	28	10/34	29	<0.826	83/300	28	15/56	27	<0.892	
Return to work																		
Doctor discussed work restrictions	129/359	36	105/292	36	24/66	36	<0.951	115/323	36	14/33	42	<0.438	107/301	36	22/54	41	<0.465	
Doctor approved back to work	249/358	70	208/293	71	40/64	62	<0.182	222/320	69	25/34	74	<0.016	209/299	70	39/56	70	<0.969	
Doctor recommended alternate or modified work	109/360	30	87/295	29	22/64	34	<0.441	98/324	30	10/34	29	<0.920	90/300	30	18/56	32	<0.749	
Employer responses to work-related injury and illness and missed work																		
Taken to a care provider or clinic	153/184	83	129/152	85	23/31	74	<0.149	139/166	84	12/16	75	<0.375	126/152	83	26/31	84	<0.895	
Took a drug test	59/181	33	47/147	32	12/33	36	<0.627	57/162	35	1/17	6	<0.014	53/148	36	6/32	19	<0.062	
Got disciplined	45/181	25	39/148	26	5/32	16	<0.200	40/163	24	4/16	25	<0.967	36/149	24	8/31	26	<0.846	
Employer provided alternate or modified work	57/103	55	45/81	56	12/22	55	<0.933	52/92	56	5/10	50	<0.693	49/86	57	8/16	50	<0.606	

n/N, number of affirmative responses/number of workers who answered the question. ESL = English as second language, EFL = English as first language. See Appendix A for detailed survey items.

TABLE III. Self-Reported Reasons for Why Workers' Compensation Did Not Pay for Medical Care, Las Vegas Room Cleaners—Data for All Workers and by Ethnicity, Language, and Immigrant Status

	Hispanics versus non-Hispanics						ESL versus EFL						Immigrants versus non-immigrants								
	All workers			Hispanics			Non-Hispanics			ESL			EFL			Immigrants			Non-immigrants		
	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value
Workers' compensation did not pay for medical care	57/149	38	<0.0001	47/124	38	<0.0001	10/24	42	<0.0001	55/137	40	<0.0001	2/10	20	<0.0001	51/126	40	<0.0001	6/22	27	<0.0001
Reasons why workers' compensation did not pay for medical care																					
"I went to a doctor that was not approved"	5/36	14	<0.0001	4/28	14	<0.0001	1/8	12	<0.0001	5/35	14	<0.0001	0/1	0	<0.0001	4/32	12	<0.0001	1/4	25	<0.0001
"I filed the claim too late"	3/36	8	<0.0001	2/28	7	<0.0001	1/8	12	<0.0001	3/35	9	<0.0001	0/1	0	<0.0001	3/32	9	<0.0001	0/4	0	<0.0001
"They said my injury was not related to this job"	5/36	14	<0.0001	2/28	7	<0.0001	3/8	37	<0.0001	4/35	11	<0.0001	1/1	100	<0.0001	3/32	9	<0.0001	2/4	50	<0.0001
"They said I did not prove my injury was work-related"	8/36	22	<0.0001	5/28	18	<0.0001	3/8	37	<0.0001	7/35	20	<0.0001	1/1	100	<0.0001	6/32	19	<0.0001	2/4	50	<0.0001
"I needed medical bills to be paid so I filed with my health insurance"	8/36	22	<0.0001	5/28	18	<0.0001	3/8	37	<0.0001	7/35	20	<0.0001	1/1	100	<0.0001	7/32	22	<0.0001	1/4	25	<0.0001
"I did not file a claim"	19/36	53	<0.0001	15/28	54	<0.0001	4/8	50	<0.0001	19/35	4	<0.0001	0/1	0	<0.0001	19/32	59	<0.0001	0/4	0	<0.0001

n/N, number of affirmative responses/number of workers who answered the question. ESL = English as second language, EFL = English as first language.
 *The term "filing" in this case should be interpreted as filing a claim for reimbursement of bills (after the original injury claim has been filed).

TABLE IV. Self-Reported Reasons for Poor Medical Care Received by Las Vegas Room Cleaners—Data for All Workers and by Ethnicity, Language, and Immigrant Status

	Hispanics versus non-Hispanics						ESL versus EFL						Immigrants versus non-immigrants								
	All workers			Hispanics			Non-Hispanics			ESL			EFL			Immigrants			Non-immigrants		
	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value	n/N	%	P-value
Worker thought she had poor care	138/405	34	<0.0001	101/328	31	<0.0001	36/76	47	<0.0001	116/364	32	<0.0001	19/37	51	<0.0001	108/342	32	<0.0001	28/58	48	<0.0001
Reasons why workers thought they had poor care																					
"I had to push them to take care of me"	28/98	29	<0.0001	22/74	30	<0.0001	6/23	26	<0.0001	26/84	31	<0.0001	0/11	0	<0.0001	25/79	32	<0.0001	2/18	11	<0.0001
"The doctor did not check me out carefully"	42/98	43	<0.0001	30/74	41	<0.0001	11/23	48	<0.0001	35/84	42	<0.0001	6/11	55	<0.0001	30/79	38	<0.0001	11/18	61	<0.0001
"The doctor did not listen to me describe my problems or pain"	33/98	34	<0.0001	17/74	23	<0.0001	16/23	70	<0.0001	27/84	32	<0.0001	5/11	45	<0.0001	26/79	33	<0.0001	6/18	33	<0.0001
"A doctor was not available, or the clinic was closed"	3/98	3	<0.0001	2/74	3	<0.0001	1/23	4	<0.0001	3/84	4	<0.0001	0/11	0	<0.0001	2/79	3	<0.0001	1/18	6	<0.0001
"The doctor said I was OK when I was not"	57/98	58	<0.0001	41/74	55	<0.0001	15/23	65	<0.0001	46/84	55	<0.0001	8/11	73	<0.0001	45/79	57	<0.0001	11/18	61	<0.0001
"The doctor or clinic did not have adequate equipment or facilities to treat me"	6/98	6	<0.0001	5/74	7	<0.0001	1/23	4	<0.0001	6/84	7	<0.0001	0/11	0	<0.0001	5/79	6	<0.0001	1/18	6	<0.0001
"The doctor sent me back to work when I was still hurt"	57/98	58	<0.0001	39/74	53	<0.0001	17/23	74	<0.0001	47/84	56	<0.0001	8/11	73	<0.0001	45/79	57	<0.0001	11/18	61	<0.0001

n/N, number of affirmative responses/number of workers who answered the question. ESL = English as second language, EFL = English as first language.

the same time, EFL and non-immigrant workers more often than their counterparts reported that workers' compensation paid for their medical care. Of the reasons why workers' compensation did not pay for medical care (Table III), non-Hispanics and non-immigrants were more likely than their counterparts to cite "They said my injury was not related to this job" and "They said I did not prove my injury was work-related." Non-Hispanics were more likely than Hispanics to cite "I needed medical bills to be paid so I filed with my health insurance." Immigrants were more likely than non-immigrants to say "I did not file a claim."

In terms of physician responses (Table II), Hispanic, ESL, and immigrant workers reported good medical care more often than their counterparts. Of the reasons why workers thought they received poor care (Table IV), non-Hispanics and EFL workers were more likely than their counterparts to cite "The doctor did not listen to me describe my problems or pain" and "The doctor sent me back to work when I was still hurt." EFL workers were more likely than ESL workers to cite "The doctor said I was OK when I was not." Non-immigrants were more likely than immigrants to cite "The doctor did not check me out carefully." On the other hand, ESL and immigrant workers were more likely than their counterparts to cite "I had to push them to take care of me."

In addition, while Hispanic, ESL, and immigrant workers were more likely to report that their doctor talked to them about their job "a lot" or "some," they were less likely to say that their doctor seemed to understand their job "very well" or "fairly well" (Table II). A greater proportion of non-Hispanics reported being told by their doctor how to avoid re-injury at work while a greater proportion of Hispanics reported being told when they were ready to go back to work. There were no substantial differences in other physician responses to work-related injury or illness between socio-demographic groups.

Employer responses also varied between groups. Hispanic and ESL workers were more likely than their counterparts to be taken by their employer to a healthcare provider or clinic after reporting their pain. In addition, Hispanics were more likely than non-Hispanics to get a disciplinary measure for missing work and ESL and immigrant workers reported taking a drug test more often than their counterparts. Other employer responses did not vary substantially between groups.

DISCUSSION

The large majority of room cleaners experienced work-related pain in the past year; for most of them the pain was severe enough to miss work or to seek medical care. Yet, only a minority reported work-related pain to either management or workers' compensation. Responses by workers' compensation, physicians, and employers were also found to be problematic. Only about half of workers who filed a workers'

compensation claim reported that their claim was accepted. Most workers reported receiving good medical care, but only a minority reported adequate handling of their work-related pain by physicians when asked specific questions on patient–doctor communication, rehabilitation, and return to work. Lastly, only about half of workers whose physician recommended alternate or modified work reported that their employer provided such work.

Among room cleaners, occupational health experiences varied by socio-demographic characteristics as Hispanic, ESL, and immigrant workers generally reported more difficulties than their counterparts. Hispanic and ESL workers were more likely to report work-related pain and, along with immigrant workers, to miss work because of the pain. ESL and immigrant workers, however, were less likely to use sick or vacation leave because of work-related pain. It is unclear why the pattern varies between measures of disability (i.e., missed work days, use of sick, or vacation leave) but research has shown that results may be dependent on the definition of disability [Altman and Gulley, 2009].

With the exception of differences in the likelihood of reporting to management, disparities affecting Hispanic, ESL, and immigrant workers were not evident in workers' own responses to work-related pain but were observed in relation to responses by workers' compensation, physicians, and management. Hispanic, ESL, and immigrant workers were about 50% more likely to report that their compensation claim had been denied. While these three groups were more likely to report good medical care and that their doctor talked to them about their job at least "some," they were less likely to report that their doctor seemed to understand their job well. In addition, Hispanics were more likely to be told by their doctor that they were ready to go back to work, but they were less likely to be told how to avoid re-injury at work. After reporting their pain, Hispanics and ESL individuals were more likely than their counterparts to be taken by their employer to a healthcare provider. Hispanics were more likely than non-Hispanics to get disciplined for missing work, and ESL and immigrant workers reported taking a drug test more often than their counterparts.

Room Cleaners' Health, Reporting, and Care Seeking

Socio-demographic characteristics play roles in the distribution of individuals across occupations [Dubeck and Borman, 1996] and in the allocation of immigrant and ethnic minority women to low-wage, high-risk jobs where occupational health problems have been shown to be rampant [Burgel et al., 2004; Park and Pellow, 2005; Lipscomb et al., 2007]. Like other immigrant women, room cleaners have extensive familial and financial responsibilities—about half have homecare responsibilities and more than half have financial responsibilities abroad. The impact of a work-

related health problem among multiply disadvantaged populations can therefore reach far beyond the individual worker's health.

The high rate of work-related pain found in our study (78%) is especially problematic when considering room cleaners' low rates of reporting to both management and workers' compensation. Under-reporting is a problem affecting all workers [Pransky et al., 1999; Rosenman et al., 2000; Shannon and Lowe, 2002; House Committee on Education and Labor, 2008], but it may be especially prevalent among low-wage, immigrant, ethnic, and/or linguistic minority populations because of factors such as language barriers, lack of information or assistance, and fear of reprisals or deportation [Frumkin et al., 1995; Herbert et al., 1997; Pransky et al., 2002; Azaroff et al., 2003; Burgel et al., 2004; Lashuay and Harrison, 2006]. Barriers to reporting to management and workers' compensation among Las Vegas room cleaners have been reported elsewhere [Scherzer et al., 2005]. The availability of an employer-sponsored healthcare plan also may have played a role in the low rate of claim filing in our population. Previous research has identified patterns of cost-shifting from workers' compensation to health insurance for occupational health problems [Dong et al., 2007; Lipscomb et al., 2009].

The relatively high prevalence of health care seeking for work-related health problems among room cleaners (62%) is comparable to that of partly insured immigrant workers (57%) [Burgel et al., 2004], and higher than that of uninsured immigrant workers (34%) [Quandt et al., 2006]. Still, 38% of room cleaners did not visit a doctor for their work-related pain which may indicate the presence of other barriers to care. Previous studies have suggested that in addition to the above-cited barriers, dissuading employer practices, inability to take time off, and lack of transportation may represent obstacles to care in multiply disadvantaged workforces [Walter et al., 2002; Burgel et al., 2004; Arcury et al., 2006; Lashuay and Harrison, 2006].

Workers' Compensation Responses

Our study documents a low claim acceptance rate (57%). This is much less than has been reported, for example, in California where 96.3% of claims were accepted between March 2000 and June 2003 [B. Kahley, Research Manager, California Division of Workers' Compensation; written communication, March 2004 as cited in Scherzer et al., 2005]. Our study also documents a slightly higher rate of payment for medical care expenses by workers' compensation insurance (62%) than rate of claim acceptance (57%). Further analysis of our data indicates that out of the 57 individuals who reported claim denial, 20 reported payment for medical care expenses by workers' compensation insurance. The discrepancy could be explained by the

possibility that some workers initially obtained medical care through the workers' compensation insurer even if the claim was ultimately denied and the insurer got reimbursed by the health insurance plan without the worker being cognizant of or involved in this latter transaction. It is also possible that some workers interpreted the question about payment of care by workers' compensation to mean "someone else paid for my medical care." Reasons for the failure of workers' compensation to pay for care mainly concerned workers not filing for medical care expenses with the workers' compensation insurer and issues concerning the recognition of the injury or illness as work-related.

Physician Responses

There is little published information about experiences with care for occupational health patients. The proportion of room cleaners who reported dissatisfaction with care (34%) is higher than that found among California injured workers of various occupations (25%) [Rudolph et al., 2002] and much higher than that of enrollees in commercial, Medicare, or Medicaid health plans (13–19%) [Agency for Health Care Research and Quality, 2007]. The most frequently cited reasons for poor care concerned diagnosis and treatment as well as difficulty with being heard—"The doctor did not listen to me" and "I had to push them to take care of me"—as opposed to the availability of physicians, equipments, or facilities (Table IV).

When room cleaners were asked specific questions on experiences with care, only a minority reported adequate handling of their health problem by their physician. Comparison with two California and one Ontario-based studies of injured workers of various occupational categories that used some of the same questionnaire items [Dasinger et al., 2001; Rudolph et al., 2002; Kosny et al., 2006] indicates that the proportion of workers who report adequate handling with regard to specific aspects of care is much lower among Las Vegas room cleaners (Table V). For example, depending on the criteria used to delimit the population, between 26% and 33% of room cleaners were told by the doctor how to avoid re-injury at work, compared to 62–65% for other injured worker populations. Differences may be explained by variation in jurisdictions or in workers' socio-demographic characteristics. In fact, when comparing certain population groups using combined scales of experiences with care, Rudolph et al. [2002] found that respondents who were Spanish-speaking and non-white reported significantly lower scores. However, when room cleaners were asked whether their doctor told them that they were ready to go back to work, 70% of room cleaners answered "yes," a higher proportion than that reported elsewhere [Dasinger et al., 2001; Kosny et al., 2006]. These results suggest that room cleaners may be sent back to their jobs without proper consideration for their health conditions.

TABLE V. Reported Physician Responses to Work-Related Injury or Illness—Comparison of Las Vegas Room Cleaners With Other Injured Workers Populations

	Accepted lost-time claims			Pending or accepted lost-time claims		Received medical care for work-related pain or injury with time loss
	Las Vegas room cleaners, ^a N = 941 (%)	California workers [low back pain, Dasinger et al., 2001], N = 433 (%)	Las Vegas room cleaners, ^b N = 941 (%)	Ontario workers [musculoskeletal disorders, Kosny et al., 2006], N = 187 (%)	Las Vegas room cleaners, ^c N = 941 (%)	
Patient—doctor communication						
Doctor talked about job “a lot” or “some”	44	59	41		42	71
Doctor seemed to understand job “very well” or “fairly well”	35	69	32		44	79
Rehabilitation						
Doctor told worker how to avoid re-injury at work	33	65	26	62	32	64
Doctor suggested changes in job to help injury heal	21	60	24		27	73
Return to work						
Doctor told worker about work restrictions for return to work	51	67	44	48	36	67
Doctor told worker she was ready to go back to work	88	64	81		75	
Doctor recommended alternate or modified work for return to work	52		39		32	

For Las Vegas room cleaners' data, the actual N varies for each item presented depending on the number of workers who answered that particular question.

^aWorkers with work-related pain in the past 12 months and who filed a claim in the past 12 months and whose claim was accepted and who missed at least 1 day in the past 12 months because of a reported injury or illness.

^bWorkers with work-related pain in the past 12 months and who filed a claim in the past 12 months and who missed at least 1 day in the past 12 months because of a reported injury or illness.

^cWorkers with work-related pain in the past 12 months and who visited a doctor for this pain or were taken to a health professional after reporting a work-related health problem to management or workers' compensation and who used sick or vacation leave in the past 12 months because of a work-related injury or illness.

The higher percentage of workers with work-related pain who visited the doctor (62%) than who filed a claim (24%) indicates that physicians either may not consider that the pain is work-related [Plomp, 1993] or may not provide the necessary support in seeking workers' compensation benefits either because of the burdensome process [Lax and Klein, 2008] or the employer's dissuading influence [Higgins and Orris, 2002]. In focus groups, room cleaners stated that they sometimes were discouraged by medical care providers from reporting their injuries or illnesses. Currently, in Nevada, employees may not choose their physician if the employer's workers' compensation insurer has entered into a managed care contract or healthcare service provider contract. Employees dissatisfied with their care may choose an alternative physician from the insurer's provider list, but it is unknown if a significant proportion of workers are aware of and choose to benefit from this option.

Employer Responses

According to the Occupational Safety and Health Act,² employers must record occupational injuries and illnesses only if they involved lost work time, medical treatment other than first aid, motion or work restriction, loss of consciousness, or transfer to another job. Employers have many incentives to under-report work-related health problems, including decreasing their chance of being inspected by the Occupational Health and Safety Administration (OSHA) and decreasing their workers' compensation insurance premiums [House Committee on Education and Labor, 2008]. Disincentives to reporting and care seeking, namely drug testing and disciplinary measures for missing work, were experienced by a significant proportion of the workforce who reported their work-related pain to management or workers' compensation. These tactics may act both as punishment for and deterrent to reporting.

For the minority of injured or ill workers for whom the physician recommended modified or alternate work, only about half reported receiving it from their employer. Few data exist on the prevalence of modified work among injured workers, but data from Ontario indicate that the percentage of workers with soft tissue injuries who receive modified work arrangements is similarly low (36%) [Brooker et al., 2001]. Employer responses to work-related injuries and illnesses, including the provision of alternate or modified work duties, constitute one of the principal strategies for successful return to work [Loisel et al., 1997; Krause et al., 1998]. Previous analyses have shown that after returning to work, 34% of room cleaners missed additional workdays because of their injury [Scherzer et al., 2005].

Differences by Ethnicity, Language, and Immigrant Status—Prevalence, Severity, and Worker Responses

Disparities in the prevalence and severity of work-related health problems have been shown in studies conducted across sectors and occupations [Loomis and Richardson, 1998; Chen and Layne, 1999; Loh and Richardson, 2004; Friedman and Forst, 2008] and are typically explained by the over-representation of immigrants or ethnic minorities in high-risk jobs [Robinson, 1984; Frumkin et al., 1999; Moure-Eraso and Friedman-Jiminez, 2001]. In analyses that control for job title disparities at times persist [Richardson et al., 1997; Dong and Platner, 2004]; however, very few studies have investigated disparities in work-related health outcomes within identical occupational categories [Lloyd, 1971; Engkvist et al., 2000; Wang et al., 2007]. In the hospitality sector, Buchanan et al. [2009] examined 2003–2005 injury data from employer registries for the five main hotel chains in the U.S. Among housekeepers, Hispanics were 70% more likely to be injured than their White counterparts. Their overall injury rate was 10.6 per 100 workers, compared to 6.3 per 100 for Whites. This is consistent with our finding of a higher prevalence of work-related pain for Hispanic and ESL workers among Las Vegas room cleaners.

Various mechanisms can explain the existence of disparities in work-related health within the same occupational category. The evidence supports the role of environmental—including occupational—exposures rather than biological or genetic specificities in the differential distribution of diseases across populations [Goodman, 2000; Pearce et al., 2004]. It is also unlikely that immigrants “import” their health problems from abroad since they have better average physical and mental health in their country of origin than their offspring born in the U.S. [Escobar et al., 2000; Frisbie et al., 2001; Uppaluri et al., 2001]. Differential exposures within identical occupational categories may be explained by a number of factors, including differences in assigned tasks or in work environments. Room cleaners have rather similar and clearly defined job tasks and performance metrics; however, our data showed differences in the representation of socio-demographic groups across the various hotel types, and previous analyses of effort–reward imbalance in this population identified disparities by ethnicity, language, and immigrant status which would suggest differential working conditions [Krause et al., 2009a].

Other factors include proficiency in the dominant language, which can influence the ability to understand [Krahn et al., 1990; Loosemore and Lee, 2002; Trajkovski and Loosemore, 2006] and communicate [Premji et al., 2008b; Loosemore and Lee, 2002] information relative to occupational health and safety; cultural specificities [Huerta and Macario, 1999; Walter et al., 2004; Lin et al., 2007; Adamson and Atkin, 2008; Madan et al., 2008]

² 29 C.F.R. Section 1904.7(a).

and socioeconomic circumstances—such as the financial difficulties associated with sending money abroad [Premji et al., 2008a; Richardson et al., 1997; Aguilar and Podolsky, 2006]—which can influence perception of and attitudes toward risk, health, and treatment; institutional and individual discrimination, which may be directed at specific groups, and which can both directly and indirectly impact workers' health [Mays et al., 1996; Din-Dzietham et al., 2004; Bhui et al., 2005; Shannon et al., 2009]; and ethnicity or language-based networks in the workplace which can influence exposure to risks, for instance through the regulation of the workload [Seifert and Messing, 2006; Premji et al., 2008a].

Our study shows disparities in the likelihood of reporting work-related pain to management. Since Hispanic, ESL, and immigrant workers are more likely than their counterparts to be subjected to dissuasive employer practices, they may be less inclined to report their work-related pain to their employer. No disparities between groups were observed in healthcare seeking behavior and in the case of claim filing Hispanic and ESL workers were actually more likely to file than their counterparts. This latter finding is unexpected given that these groups have been shown to be at a disadvantage across most measures of occupational health experiences and that language barriers have been identified as an obstacle to claim filing in previous studies [Pransky et al., 2002; Burgel et al., 2004; Lashuay and Harrison, 2006]. One possible explanation may be that Hispanic and ESL workers have more severe injuries—as reflected by their higher likelihood to miss work because of work-related pain and, for ESL workers, their longer absences from work—and are therefore more in need of workers' compensation wage replacement benefits in order to attend to their health. Another possible explanation lies in the contextual specificity of the concepts of majority and minority. As the majority among room cleaners, Hispanics and ESL individuals may have established networks based on ethnic origin or language through which workers exchange information or provide support [Seifert and Messing, 2006] for instance in relation to the workers' compensation process. On the other hand, as minorities interacting with workers' compensation, physicians, and employers, Hispanic, ESL, and immigrant workers may face obstacles in having their work-related injuries recognized and compensated. For the same group, being simultaneously a minority in one context and a majority in another may therefore place it at a disadvantage or advantage, respectively.

Differences by Ethnicity, Language, and Immigrant Status in Responses by Management, Care, and Compensation

Differential responses to work-related pain and reporting by those responsible for management, medical care, and

workers' compensation can also create or exacerbate disparities in health. Hispanic, ESL, and immigrant workers were generally disadvantaged in relation to their counterparts in their experiences in these three contexts. Namely, they were much less likely to have workers' compensation accept their claim and pay for their medical care even though their counterparts were more likely to cite issues with the recognition of work-relatedness—possibly due to differences in the severity of their injuries and illnesses. On the other hand, Hispanic, ESL, and immigrant workers were more likely to report good medical care, which may be explained by the fact that their counterparts were more likely to cite difficulties with diagnosis and treatment. However, ESL and immigrant workers reported that they had to “push” to receive care more often than their counterparts, which could indicate the presence of communication difficulties by workers or prejudice on the part of medical personnel [Dembe, 1996]. Communication barriers and perceived discrimination are usually mentioned as possible mechanisms in the literature on disparities by immigrant or minority status in occupational health services [Burgel et al., 2004; Dembe et al., 2005; Lashuay and Harrison, 2006]. Lack of respect came out as an important theme in focus group discussions with room cleaners; however, it was investigated in the context of the workplace and not in relation to experiences with medical care or workers' compensation.

Delimitation of Population Groups

Generally speaking, our three socio-demographic variables produced similar results even though different definitions imply different relationships with occupational health. For example, ESL status would theoretically be associated with communication difficulties while non-immigrant minority status would not. However, our definitions overlapped so that Hispanic, ESL, and immigrant workers represented very similar populations. It would be useful for researchers to consider using different socio-demographic variables in relation to occupational health outcomes when these correspond to sufficiently dissimilar populations.

Study Limitations and Strengths

Our study has several limitations. First, it is based on self-reports. Recall may have been influenced by negative experiences or the presence of pain. However, the fact that a majority of workers reported good medical care would seem to indicate a lack of bias towards the reporting of negative experiences. One of the reasons for the restricted number of studies on disparities in responses by workers'

compensation, physicians, or employers is the general absence of data on ethnicity, language, or immigrant status in administrative databases. The large majority of studies that have examined these questions have therefore relied on data obtained from surveys.

While our classifications of population groups are based on both theoretical and analytical considerations, they remain relatively arbitrary, particularly with regard to the Hispanic/non-Hispanic categories. Considerable variation exists within each category so that population sub-groups could present widely different patterns from the ones presented. Also, our definition of an occupational health problem is limited to physical pain since we have no data on the prevalence and distribution of other occupational diseases or work-related mental health problems among room cleaners. Lastly, our data identified some differences between socio-demographic groups in age, education, seniority, hotels, and family responsibilities. It is possible that these differences could explain some of the disparities found in our study, namely in the prevalence and severity of work-related pain.

Our study fills a gap in the literature since it describes the occupational health experiences of an under-researched and under-served population of low-income, immigrant women workers. Our collaboration with the union and our participatory approach to research allowed us to access this hard to reach population. Results concerning the quality of medical care are especially of interest since very few studies have been published on the quality of care for occupational health patients. Our study is also one of a handful to investigate disparities in a work-related health outcome within a specific occupational title.

CONCLUSION

The hospitality industry is undergoing a process of work intensification associated with globalization and increased competition [Bernhardt et al., 2003]. In this context, understanding the occupational health experiences of hotel room cleaners is especially relevant. Among room cleaners, work-related health problems are not distributed equally and responses to work-related injury and illness are at least partially mediated by the workers' ethnicity, language, and immigrant status. This knowledge may be useful for informing targeted prevention, intervention, and policy strategies to protect workers' health. For example, industry- or occupation-based prevention strategies that only address ergonomic issues without consideration of their grasp by individuals with limited proficiency in the dominant language may fall short.

Our study supports the view that social differences in work-related health should be addressed explicitly. It also indicates that it may be useful for researchers to consider

different socio-demographic variables (i.e., ethnicity, language, and immigrant status) in relation to occupational health outcomes as each variable implies a different relationship with occupational health. There is a need for qualitative and quantitative research to be conducted in parallel so that mechanisms underlying the disparities identified may be explained. Namely, the implications for occupational health of the context specificity of minority status should be investigated.

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APPENDIX A

Table II items and corresponding detailed survey items:

12-Month prevalence and severity of work-related pain	
Pain	Had work-related pain in the past 12 months
Missed work days	Missed any days in the past 12 months because of work-related pain ^a
Worker responses to work-related pain ^a	
Reported to management	Reported work-related pain to management
Reported to workers' compensation	Reported a work-related injury or illness to workers' compensation in the past 12 months
Visited the doctor	Visited the doctor for work-related pain
Used sick or vacation leave	Used one or more days of sick or vacation leave for work-related pain in the past 12 months
Workers' compensation insurance responses to injury and illness reporting and claim filing ^b	
Claim accepted	Workers' compensation claim accepted
Medical care paid	Workers' compensation paid for medical care
Physician responses to work-related injury and illness ^c	
Received good care	Worker thought she had good medical care
Patient—doctor communication	
Doctor talked about job	Doctor talked about job “a lot” or “some” (versus “a little” or “not at all”)
Doctor seemed to understand job	Doctor seemed to understand job “very well” or “fairly well” (vs. “not too well” or “not at all”)
Rehabilitation	
Doctor discussed avoiding re-injury	Doctor told worker how to avoid re-injury at work
Doctor suggested changes in job	Doctor suggested changes in job to help injury heal
Return-to-work	
Doctor discussed work restrictions	Doctor told worker about work restrictions for return to work
Doctor approved back to work	Doctor told worker she was ready to go back to work
Doctor recommended alternate or modified work	Doctor recommended alternate or modified work for return to work
Employer responses to work-related injury and illness and missed work	
Taken to a care provider or clinic	Were taken to a healthcare provider or clinic after reporting a work-related health problem ^d
Took a drug test	Took a drug test when reporting the injury or illness ^d
Got disciplined	Got a warning or other discipline for missing work ^d
Employer provided alternate or modified work	Employer provided alternate or modified work if doctor ^e recommended it

^aIncludes only workers with work-related pain in the past 12 months.

^bIncludes only workers with work-related pain in the past 12 months and who filed a claim in the past 12 months.

^cIncludes only workers who experienced work-related pain in the past 12 months and visited a doctor for this pain or were taken to a health professional after reporting a work-related health problem to management or workers' compensation.

^dIncludes only workers who experienced work-related pain in the past 12 months and reported it either to management or workers' compensation.

^eIncludes only workers who experienced work-related pain in the past 12 months and visited a doctor for this pain or were taken to a health professional after reporting a work-related health problem to management or workers' compensation and whose doctor recommended alternate or modified work.