Hospitality Workers' Attitudes and Exposure to Secondhand Smoke, Hazardous Chemicals, and Working Conditions

DAVE PEARSON, PhD^a

ANTOINETTE ANGULO, MPH^a

EMILY BOURCIER, MPH, MHA^a

ELIZABETH FREEMAN, BA^b

ROGER VALDEZ, MS^c

SYNOPSIS

Objective. Compelling reasons exist for labor and public health to collaborate. For example, compared to white-collar workers, blue-collar and service workers are much more likely to be targeted by the tobacco industry and become smokers. The purpose of this descriptive study was to assess if there were ways public health and labor could collaborate to document the health attitudes and needs of hospitality industry workers.

Methods. Eligible union members were identified through an electronic enrollment file consisting of 3,659 names maintained by the union. The mail survey instrument covered exposure to secondhand smoke, exposure to hazardous chemicals and materials, time pressure and job demands, and work-related pain/disability. Additional questions related to age, gender, race/ethnicity, level of education, employment history, English proficiency, and self-reported health status.

Results. Study results demonstrated that important health information could be successfully collected on unionized workers. Survey data showed that union members were a very diverse group who were exposed to secondhand smoke and supported working in clean-air settings. Workers, especially housekeeping staff, characterized their work as being chaotic and demanding, while almost half of workers reported work-related pain.

Conclusions. Key to the successful collaboration was establishing trust between the parties and emphasizing data collection that served the information needs of both organizations. Opportunities exist to improve the health and working conditions of this population. Health interventions need to be designed to take into consideration the very diverse, mostly female, and limited English proficiency of this group of workers.

^aGroup Health Community Foundation, Seattle, WA

^bUNITE HERE Local 8, Seattle, WA

^cPublic Health Seattle-King County, Tobacco Prevention, Seattle, WA

Address correspondence to: Dave Pearson, PHD, Group Health Community Foundation, 1730 Minor Ave., Ste. 1500, Seattle WA 98101; tel. 206-287-4391; fax 206-287-4710; e-mail <pearson.d@ghc.org>.

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Compelling reasons exist for labor and public health to collaborate.¹⁻⁴ For example, with respect to smoking (the number one preventable cause of death in the U.S.), blue-collar and service workers, compared to white-collar workers, are much more likely to be targeted by the tobacco industry and become smokers. Lack of resources, shifting priorities, and difficult relationships are a few of the barriers that hinder successful collaboration. At the same time, blue-collar and service workers are much less likely to (1) be covered by a smoking ban at work, (2) have insurance for smoking cessation services, and (3) successfully quit smoking.⁵⁻⁹ The purpose of this study was to assess if there were ways public health and labor could collaborate to better understand and document the health attitudes and needs of hospitality industry workers.

While strides have been made to reduce the burden of smoking at workplaces, labor and public health have rarely worked together to advocate for improved working conditions. Public health organizations traditionally have adopted strategies that focus on education, training, and advocacy to improve workplace conditions. In contrast, labor unions have historically viewed worker health and safety as part of bargaining and worker advocacy. In the past 50 years, membership in U.S. labor unions has decreased from almost 35% of the workforce to less than 15%.¹⁰ Recent national press articles have suggested that labor unions in the U.S. may need to completely rethink their missions, goals, and practices to remain relevant in today's dynamic and global economy.^{11,12}

Public health in the U.S. has experienced similar pressures in fulfilling its mandates. Dramatic and continued cuts in federal, state, and local funding have resulted in drastic reductions of services designed to promote and protect the health and safety of communities. Despite national trends that reduce the presence and impact of labor and public health, opportunities exist for the two types of organizations to collaborate, leverage resources, and improve the health of workers.

In the summer of 2003, staff at the Tobacco Prevention Program (TPP) of Public Health Seattle-King County (PHSKC) in Washington State began discussions with local union officials (Hotel Employees and Restaurant Employees International Union—UNITE HERE, Local 8) to determine if there were ways the two organizations could collaborate to better understand the needs of a large, unionized workforce. Local 8 provided sponsorship, support, and access to its 3,500 members; TPP provided expertise in health assessment, health intervention, and policy issues; and the Group Health Community Foundation (GHCF) provided

expertise in survey research and evaluation. GHCF is part of Group Health Cooperative, a large, nonprofit health-care organization providing prepaid health care in Washington, Oregon, and Idaho.

THE HOSPITALITY INDUSTRY

Hotel Employees and Restaurant Employees (HERE) is an international union that represents more than 440,000 active members and more than 400,000 retirees throughout North America. The industry employs almost 2 million workers in the U.S. and includes almost 500,000 members of UNITE HERE in the U.S. and Canada. Two unions, Union of Needletrades Textiles and Industrial Employees and HERE, merged on July 8, 2004, forming UNITE HERE. UNITE HERE Local 8 is a part of the new UNITE HERE union. Similar to other unionized segments, there have been few examples of public health and the hospitality industry working together to improve the health of union members. Lack of resources, shifting priorities, and political issues are a few of the barriers that have hindered collaborations.

The purpose of this study was to assess if there were ways public health and labor could collaborate to document the health attitudes and needs of hospitality industry workers. More specifically, TPP was looking for a way to collaborate with the union that would support worker health issues, while the union wanted to know more about what the membership thought about smoking, secondhand smoke, and policies. The resulting assessment, which was broadened to include other health issues at the request of the union, was designed to satisfy both parties' interests. According to one public health official, it was hoped that this collaboration would result in "making labor issues health issues and making health issues labor issues." (Personal communication with Roger Valdez, PHSKC, 2004 Dec 3.)

Survey findings were expected to answer the following questions:

- (1) What are the descriptive characteristics of the unionized workforce?
- (2) Are workers exposed to secondhand smoke and other hazards?
- (3) How much support is there for working in a smoke-free environment?
- (4) What daily work pressures and demands do workers report?
- (5) Do workers report work-related pain and how is that related to time off and visits to the doctor?

- (6) How do answers to questions 1 to 5 vary by type of worker (bar, food service, housekeeping, and kitchen)?

In addition, information collected was expected to support advocacy for worker safety issues with management and identify potential policy-level intervention strategies for both public health and labor.

METHODS

Sample

Eligible union members were identified through an electronic enrollment file maintained by UNITE HERE Local 8. The enrollment file included 3,659 names with addresses, phone numbers, job titles, company names, and addresses. An eligible respondent was defined as working full-time, having a job title in one of the four occupational work groups targeted by the study (bar, food service, housekeeping, kitchen), and employed at a business located in King County. From the entire enrollment file, 1,061 names were ineligible for the study because they worked outside the indexed county (600), were not in one of the four targeted work groups (397), were retired (45), had neither a valid mailing address nor phone number (16), or had a permanent address outside the State of Washington (3).

Of the remaining 2,598 names in the enrollment file, 53% were food service workers, 22% were housekeeping workers, 21% were kitchen workers, and 4% were bar workers. The sample was then stratified by job title and members were randomly selected for recruitment. Two hundred workers in each job group were selected for interviews, except for bar workers; all eligible bar workers were recruited for the study ($n=111$) because of the small sample size.

Instrument

The English-language mail survey instrument covered four general content areas: exposure to secondhand smoke, exposure to hazardous chemicals and materials, time pressure and job demands, and work-related pain/disability. Smoking-related items included questions about smoking status, knowledge and attitudes about health effects of secondhand smoke, attitudes about exposure to secondhand smoke, and support for smoke-free working environments. Additional questions related to age, gender, race/ethnicity, level of education, employment history, English proficiency, and self-reported health status.

The majority of questions were taken from previous national and local surveys: National Health Interview Survey,¹³ the Centers for Disease Control and Preven-

tion Behavioral Risk Factor Survey,¹⁴ Occupational Safety and Health Administration surveys,¹⁵ National Health and Nutrition Examination Surveys,¹⁶ Adult Tobacco Survey,¹⁷ Siegrist,¹⁸ Karasek,¹⁹ Lowe,²⁰ and Krause (unpublished report, "Working Conditions and Health of San Francisco Hotel Room Cleaners: Report to the Hotel Employees and Restaurant Employees International Union," August 1999). Evaluation staff, health department representatives, and labor union representatives designed new questions that solicited responses about support for local/statewide efforts to ban secondhand smoke in restaurants and bars.

Two major hotels located in King County with large numbers of union-represented employees agreed to participate in a pilot study in exchange for site-specific information about their workforce. The results of the pilot significantly shaped the overall study design and data-collection strategies.²¹ Recruitment for the study was designed by GHCF staff, completed by TPP staff, and supported by communication from the Local 8 union leaders with follow-up provided by worker advocates. Data collection involved up to five contacts per eligible union member.²²

ANALYSIS

Data from the questionnaire were analyzed using SPSS statistical software, Version 10.1.²³ To generate aggregate results, data were weighted by the probability of selection by job categories among the 2,598 workers in the eligible sampling frame (i.e., 52% of the original enrollment file were food service workers, 22% were housekeeping staff) (Table 1). Stratified sampling was used for this study; however, simple random sampling was used within each job type. Therefore, weighted and unweighted analyses have the same results within each job type, and total sample results are weighted.

As the original sampling frame targeting the four largest work groups represented 80% of the entire workforce, generating overall estimates was important. For differences in frequencies among job types (bar, food service, housekeeping, kitchen), Pearson's Chi-square tests were used. To better understand the contribution occupational (job title), sociodemographic (age, gender, ethnicity, education), and lifestyle (smoking, self-perceived health) variables had on the dependent variables (e.g., exposure and attitudes toward secondhand smoke and other hazardous chemicals, and working conditions), logistic regression was used to control for possible confounding.

RESULTS

Response rates

Of the 711 cases in the study sample, 144 did not have accurate contact information. From the remaining 567 cases, 215 did not respond to mail or phone requests to participate in the study and two refused to complete the instrument. The adjusted response rate was 62% (350/567). Based on questionnaire data, four cases were not working in one of the four eligible work groups. After excluding these four cases, data analysis was based on 346 cases. By job categories, the final response rate was 63% (70/111) for bar workers, 42% (84/200) for food service workers, 52% (103/200) for housekeeping workers, and 45% (89/200) for kitchen workers.

The mailed questionnaire took approximately 30 minutes to complete. Analysis of the survey data showed that almost half of the respondents indicated they did not speak English very well, and slightly more than

10% reported they had help from others to complete the questionnaire.

Workforce characteristics

The four employee work groups (bar, food service, housekeeping, and kitchen) came from very diverse backgrounds (Table 1). Three-quarters of food service workers were women while two-thirds of kitchen workers were men; almost all bar workers were white (81%) while only one-quarter of housekeeping workers were white. Among housekeeping staff, the single largest ethnic group was Filipino (32%). Diversity was also evidenced in country of birth, education level, and English language proficiency. Almost all housekeeping staff were born outside the U.S. (89%), while similar percentages of bar workers (86%) were born in the U.S. One-fifth of housekeeping staff reported that they spoke English very well, while the vast majority (92%) of bar workers indicated the same. Finally, bar

Table 1. Hospitality industry workforce characteristics by job title

Variable (p-value)	Total sample n=346	Bar worker n=70	Food service worker n=84	Housekeeping worker n=103	Kitchen worker n=89
Mean age in years (=0.018)	44.3	46.7	42.9	48.0	43.9
Mean number of years worked in hospitality industry (<0.001)	12.0	21.1	12.1	8.9	13.0
Percent					
Work >35 hours per week (<0.001)	76.6	46.4	70.7	86.3	87.5
Gender: female (<0.001)	63.2	56.1	75.6	64.2	31.8
Ethnicity (<0.001)					
White	41.5	81.3	43.2	25.8	44.6
Black	5.2	6.3	3.7	3.4	10.8
AI/Alaskan	1.2	1.6	1.2	1.1	1.2
Chinese	5.6	3.1	7.4	4.5	2.4
Filipino	21.3	3.1	21.0	31.5	15.7
Vietnamese	6.2	0.0	7.4	6.7	3.6
Asian Indian	4.1	0.0	4.9	3.4	3.6
Other Asian/PI	6.0	3.1	3.7	9.0	9.6
Other	8.9	1.6	7.5	14.6	8.5
Spanish/Hispanic/Latino (=0.002)	5.8	1.6	1.3	14.6	9.8
Born outside U.S. (<0.001)	57.2	13.8	52.6	89.0	45.2
Education: high school or higher (<0.001)	81.9	90.6	89.0	62.4	81.4
English competency					
Speaks very well (<0.001)	50.4	92.2	58.5	18.2	55.8
Received translation help (<0.001)	12.9	1.6	4.9	27.7	19.8
Smokers (=0.087)	18.7	29.0	17.7	13.8	23.9

AI = American Indian

PI = Pacific Islander

workers reported smoking rates more than twice that of housekeeping staff (29% vs. 14%).

Exposure to secondhand smoke

Almost one-quarter of all workers reported exposure to smoke at work on a daily basis (more than 50% for bar workers), with a range of exposure between 2.1 and 4.4 hours a day (Table 2). The majority of all workers believed that secondhand smoke was very harmful (64%), that smoking should not be allowed at all in the workplace (63%), and that they preferred to work in a smoke-free environment (73%). Logistic regression showed that smokers and males were less likely to believe secondhand smoke was harmful. Job type, age, and ethnicity were not influencing factors in any of these attitudes.

Support for smoke-free working conditions

More than half of all workers supported local bans on smoking in restaurants, in bars, and on a statewide basis. Support for working in a smoke-free environment was consistent across all four work groups. Almost half

(45%) of the workers believed that a ban on smoking would decrease business in both bars and restaurants. This attitude was most prevalent among bar workers; however, logistic regression showed that this belief was not significantly associated with this occupation. Similar to knowledge about the harmful effects of smoking, regression analysis showed that support for working in a smoke-free environment was not associated with any of the occupational or sociodemographic factors; however, smokers were less likely to support smoke-free working conditions.

Exposure to hazardous chemicals and materials

Approximately one-fifth of the workforce indicated they had experienced ill effects from chemicals on the job (Table 3). Ill effects from chemicals were most prevalent among housekeeping staff (27%) and food service workers (20%). Housekeeping staff also were the most likely to report knowing where to seek help for exposures from cleaning products or chemicals at the job site (82%). Logistic regression results showed that none of the occupational, demographic, or lifestyle

Table 2. Hospitality workers' exposure to secondhand smoke

	Total sample n=346	Bar worker n=70	Food service worker n=84	Housekeeping worker n=103	Kitchen worker n=89
Variable (p-value)	Percent				
Exposure					
Smoking is allowed in immediate work area (<0.001)	23.9	51.5	21.8	27.7	19.8
Bothered by smoke in work area within past two weeks (=0.006)	15.4	31.8	12.8	22.1	11.6
Mean number of hours/day can smell secondhand smoke at work (<0.001)	2.4	4.4	2.3	2.3	2.1
Opinions					
Secondhand smoke is very harmful (=0.764)	64.1	60.0	66.7	63.1	59.6
Smoking in indoor work areas should not be allowed at all (=0.116)	62.7	54.3	65.5	53.4	67.4
Prefer working in a smoke-free environment (=0.032)	73.2	74.2	75.3	73.7	67.4
Support local ban on smoking in restaurants (=0.164)	61.1	61.5	58.2	66.7	62.8
Support local ban on smoking in restaurants and bars (=0.148)	55.3	53.8	52.6	58.3	59.3
Support statewide ban on smoking in restaurants and bars (=0.675)	54.5	56.9	51.3	59.4	57.0
Believe a smoking ban will decrease business in restaurants and bars (=0.443)	44.5	54.0	43.2	41.8	48.2

Table 3. Hospitality workers' exposure to hazardous chemicals

	Total sample n=346	Bar worker n=70	Food service worker n=84	Housekeeping worker n=103	Kitchen worker n=89
Variable (p-value)	Percent				
Had ill health effects from chemicals on the job (=0.148)	20.2	13.0	20.3	26.4	15.7
Knew where to seek help (=0.591)	69.1	66.7	61.5	81.8	70.0
Received assistance from supervisor (=0.135)	43.8	11.1	40.0	56.5	40.0
Sought medical attention (=0.664)	36.8	44.4	31.3	38.1	54.5
Believe hazards are a problem in their workplace (=0.373)	47.6	55.9	47.4	51.6	42.4
Have not received enough training to protect self from chemicals used in their job (=0.823)	16.7	12.9	16.7	15.7	18.8

factors were associated with these ill effects except level of education. Workers with a high school education or less were more likely to report having ill health effects from chemicals on the job.

Nearly half (48%) of all respondents reported that they believed hazardous chemicals were a problem at their workplace, and of that percentage, bar workers were the most likely to believe that chemicals were a problem. Approximately one-sixth of workers indicated that they had not received sufficient training to protect themselves from chemicals, a statistic that did not vary across job types.

Time pressure and job demands

Almost all workers agreed/strongly agreed that their job required them to work quickly, while about one-third of respondents agreed/strongly agreed that they did not have enough time to get their work done (Table 4). Only about one-third of respondents considered their job not stressful (34%), while almost half of the workers thought their job was chaotic (46%). The majority of respondents that agreed with statements about time pressure and job demands indicated that they agreed with those statements, while a smaller group of respondents strongly agreed with those state-

Table 4. Hospitality workers' time pressure and job demands: percent agree/strongly agree

	Total sample n=346	Bar worker n=70	Food service worker n=84	Housekeeping worker n=103	Kitchen worker n=89
Variable (p-value)	Percent				
"My job requires that I work quickly" (<0.001)	87.8	98.6	89.0	76.5	94.3
"I have enough time during my shift to get my work done" (<0.001)	69.6	87.1	78.0	45.5	69.8
"I have a reasonable workload" (<0.001)	68.8	92.9	70.9	53.2	74.4
"I am often asked to work overtime" (=0.007)	41.2	24.3	37.2	47.4	48.2
"My job is not stressful" (=0.419)	34.3	28.6	32.1	40.4	34.5
"My job is chaotic" (=0.001)	46.0	63.8	47.4	29.5	55.0
"Able to keep up with my workload" (=0.006) ^a	88.6	98.6	90.2	81.6	89.7

^aMost or all of the time

Table 5. Hospitality workers' work-related pain/illness

	Total sample n=346	Bar worker n=70	Food service worker n=84	Housekeeping worker n=103	Kitchen worker n=89
Variable (p-value)	Percent				
Work-related pain or discomfort in past year (=0.635)	43.1	47.8	43.4	38.2	46.3
Pain began after starting current job (=0.212)	81.1	93.8	78.8	88.2	77.8
Visited doctor about this pain (=0.050)	57.9	69.7	45.5	73.5	72.2
Took time off from work due to this pain (=0.070)	29.5	39.4	18.2	48.5	38.9
Reported this pain to supervisor (=0.184)	52.6	54.5	45.5	51.5	70.3
Missed 1 to 5 days of work last year due to workers' compensation injury or illness (=0.273)	20.8	23.7	15.4	27.3	28.8

ments (data not shown). Regression analysis showed housekeepers were the least likely to report having reasonable workloads.

Work-related pain/illness

Almost half (43%) of the workers reported work-related pain in the past year (Table 5). A large majority of union members (81%) reported that the pain began after starting their current job, and two-thirds to three-quarters of workers with pain (except food service workers) visited a doctor about the pain. Logistic regression showed that work-related pain in the past year was associated with not being in good health more than four days during the past year. Work-related pain in the current job was related to being female and born in the U.S.

Housekeeping staff were the most likely to take time off from work due to pain (49%), while kitchen workers were the most likely to report pain to their supervisor (70%). Similar to the regression analysis findings reported previously, very few of the sociodemographic and occupational variables were associated with seeing a doctor and reporting pain to a supervisor. Only older age was associated with seeing a doctor, while older age and ethnicity (Filipinos compared to other groups) were associated with reporting pain to a supervisor.

Approximately 30% of kitchen workers reported missing one or more days of work in the past year due to work-related injury or illness, while 15% of food service workers reported the same. Filipino employees who reported not being in good health for more than four days in the past month and employees who did

not speak English very well were more likely to miss work in the past year.

DISCUSSION/POLICY IMPLICATIONS

Several limitations of this study warrant discussion. First, only two-thirds of eligible respondents returned questionnaires. It is possible that nonrespondents, for a variety of reasons, had different opinions and experiences at their places of employment than those who returned the questionnaire. Suspicion about the questionnaire was not uncommon. Several respondents removed the identification code from their questionnaire and, in some cases, from their return envelope, to establish complete anonymity. Due to the limited background information available from the electronic registry, we were unable to assess potential nonresponse bias.

Biases also may have been introduced as a result of language barriers. With only half of the sample indicating that they spoke English very well, it is possible that some potential respondents did not understand English well enough to accurately complete the questionnaire or did not understand the purpose of the survey. (PHSKC and evaluators considered translating the instrument for main non-English languages, but there were not sufficient resources to offer translation services.) This possibility was supported by examining response rates of the four target groups: bar workers had the highest level of English competency and the highest response rates—more than 60% compared to response rates more than 10 percentage points lower for the other three groups.

Because the sampling frame did not extend beyond union members working in King County (the largest county in Washington State), results cannot be generalized beyond this large, metropolitan county. Similarly, the sampling frame included only the four largest groups of union workers (bar, food service, housekeeping, and kitchen staff), or about 85% of the total enrollment. Statements about other types of service workers (e.g., front desk, valet staff) could not be made from these data.

CONCLUSIONS

Study results demonstrated that public health and labor could establish a mutually beneficial relationship that would result in the successful collection of important health information on the attitudes and needs of hospitality industry workers. While there were a variety of reasons for the successful collaboration, the most important appeared to be that both parties trusted each other. Ultimately, public health officials used the information to testify in state hearings that supported the passage of a new statewide ban on smoking in public places (Initiative 901).²⁴ Labor used the information in the winter of 2006 to negotiate with management advocating for improved working conditions. These negotiations focused on the job demands and job stresses of housekeeping workers. Negotiations between labor and management also demonstrated labor's benefit to its membership.

Survey data showed that hospitality workers in King County were very diverse, predominately female (except kitchen workers), born outside the U.S., and did not speak English very well. Health interventions that seek to improve worker health and safety will need to take into account the diverse characteristics and limited English proficiency (housekeepers only) of this worker population.

Consistent with national trends, hospitality workers in this study preferred to work in smoke-free settings and a majority supported bans on smoking in the workplace. While there was clear support for working in clean-air settings, this support was not without qualification; almost half the workers polled thought that adopting smoking bans would negatively impact business. Recent studies have not shown this to be the case.^{25–28} This finding suggests opportunities for educating workers about the myths and misconceptions associated with moving to a smoke-free environment.

While self-reported exposure to other hazardous chemicals was not nearly as prevalent as exposure to secondhand smoke, it remained a significant problem for workers in this study—especially housekeeping and

food service workers. One-fifth of housekeeping and food service workers reported ill effects from chemicals on the job. Fortunately, those most likely to report exposures (housekeeping workers) were also most likely to know where to go for help when exposed. With more than half of the workforce believing that hazards are a problem in their workplace, there appears to be justification for further investigation of the conditions and factors (real or perceived) associated with these beliefs. Public health and labor could play a critical role in designing interventions and supporting policies that reduce hospitality workers' exposure to hazardous materials.

Consistent with previous research,¹⁰ hospitality workers reported high levels of stress associated with their jobs. Housekeeping workers appeared to have the most demanding positions. This group of workers was predominately female, non-white (Filipino), born outside the U.S., with limited English proficiency, and lower levels of educational attainment. A better understanding of the unique causes and possible solutions associated with this high-stress occupation is needed.

Finally, more than 40% of the workers surveyed reported work-related pain in the past year, and most of this pain was associated with their current jobs. Other studies have reported higher levels of work-related pain.^{29–31} In our study, housekeeping workers were slightly less likely to report pain associated with work compared to the other work groups (bar, food service, and kitchen). Housekeeping and kitchen workers were more likely to report seeing a doctor about the pain than food service and bar workers. Similarly, both housekeeping and kitchen workers were more likely to have missed work because of illness or injury in the past year. Employees who had missed work in the past year were more likely to have limited English-speaking skills. The high levels of work-related pain, different absenteeism patterns, and different health-seeking behavior all suggested a very complicated set of interactions that need further study. Understanding the unique differences in this unionized workforce (types of workers, relationships with supervisors, and cultural backgrounds) could be a critical first step in designing interventions to reduce work-related pain, absenteeism, and health-seeking behavior.

Our study demonstrated that public health and labor could work together to understand and document the attitudes and working conditions among workers employed by the hospitality industry. Key to the success of this collaboration was establishing a relationship based on trust, identifying the information needs of both parties, and successfully translating the information into important policy statements. Les-

sons learned have important implications for other hospitality industry groups. Future collaborations between public health and labor appear possible when they first focus on establishing trust and successfully identifying the information needs of the collaborating organizations.

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