Tales of a City's Workers:

A Profile of Jobs and Health in San Francisco

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In its broadest sense, environmental health comprises those aspects of human health, disease, and injury that are determined or influenced by factors in the environment. This includes not only the study of the direct pathological effects of various chemical, physical, and biological agents, but also the effects of health of the broad physical and social environment, which includes housing, urban development, land use, and transportation, industry, and agriculture.
—World Health Organization

There is increasing evidence that workers health is determined not only by the traditional and newly emerging occupational risks, but also by social inequalities, such as employment status, income, gender, and race, as well as by health-related behavior and access to health services. Therefore, further improvement of the health of workers requires a holistic approach, combining occupational health and safety, with disease prevention, health promotion and tackling social - determinants of heal& and reaching out to workers families and communities.
—World Health Organization, Declaration on Worker's Health 2006

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Executive Summary

The San Francisco Department of Public Health is excited to release the research report, "Tales of a City's Workers: A Profile of Work and Health in San Francisco." The report was written to highlight the various attributes of work that affect worker health and to develop a set of recommendations that can improve the health of San Francisco's workforce. We believe the research and recommendations included in this report represent an important step towards assessing and acting on the health of the local work force in a comprehensive manner.

Research resoundingly illustrates that the relationship between employment attributes and health are significant, and can be both positive and negative. These "job-related health determinants" range from traditional elements such as workplace hazards, to psycho-social elements such as work pace control and decision-latitude. This research report is structured according to a conceptual multi-dimensional occupational health framework that includes eight "job-related health determinants": 1) employment and job security, 2) income, 3) physically safe workplace conditions, 4) access to health insurance, 5) work pace control and decision-latitude, 6) work-life balance, 7) workplace social support, and 8) potential for human development. A significant amount of quantitative data is available to assess some of these elements, including income, injuries and job security. Conversely, however, no routinely collected data exists to examine several other psycho-social attributes of workplace health. In this report, we combine available San Francisco-specific quantitative data and qualitative data from occupation-specific focus and key informant interviews to shed light on workplace health experiences in San Francisco.

Key findings with respect to multi-dimensional occupational health framework based on our quantitative and qualitative research include the following:

- **Employment/Job Security:** San Francisco has an unemployment rate of 5.1%, with approximately 20,000 people unemployed and looking for work in San Francisco. Data illustrate significant differences in unemployment rates among racial groups, with lower unemployment rates for Whites and Asian-Americans and higher unemployment rates among African-Americans, Native Americans and Hispanics. Individuals aged 35 to 39 make up the largest percentage of San Francisco's unemployment insurance claimants by age. Domestic workers, artists and restaurant servers who participated in our focus

groups reported very little job security or personal financial security. In contrast, computer software engineers felt their jobs were fairly secure.

- **Income:** In 2004, San Francisco created a living wage ordinance and set the minimum wage in the City of San Francisco at $8.50 and hour. Wages have since been increased to $9.14/hour or approximately $18,000/year. While this is much higher than the current state or federal minimum wages which are $6.75/hour and $5.15/hour respectively, it is important to note that $18,000 is still less than 200% of the federal poverty level. Of the four occupational categories we examined in the focus groups, only computer programmers were making a salary that could support a family in San Francisco. Domestic workers, artists and restaurant servers all reported struggling financially.

- **Physically Safe Workplace Conditions**: Available data on fatal work-related injuries, carpal tunnel injuries and amputations, acute work-related pesticide-associated illness and injury, and incident mesothelioma cases illustrate that workplace hazards and injuries exist in San Francisco, impacting various subsets of workers more than others. Our occupation-specific focus groups of restaurant servers, domestic workers, artists and computer programmers provided a significant amount of qualitative data to describe the context for such workplace hazards in San Francisco. Virtually all groups reported experiencing some type of workplace hazard, including physical strains, repetitive stress injuries, and exposure to toxic chemicals.

- **Health Insurance Coverage**: SFDPH found that job-based health insurance in San Francisco was directly related to income. Only 36% of San Francisco's adults living at or below 99% of the federal poverty level have job-based health coverage while 85% of those living at 300% or more of the federal poverty level have job-based coverage. Americans and Latinos are significantly less likely to have job-based health insurance than Whites or Asian-Americans. Domestic workers, artists and restaurant servers reported not having access to benefits through their employers. Computer software engineers reported they had access to excellent health care benefits as City employees.

- **Work Demand, Work Pace Control, and Decision-Latitude:** No routine data was available to provide information on work demand or work pace control in San Francisco. Consequently, information gathered solely through focus groups found that domestic

workers and restaurant servers reported the least control over their workplace or their work tasks. Artists also had a certain amount of control over their work and work pace; however, some of the artists reported experiencing stress related to work pace because they were trying to work at two or more jobs to make ends meet. The workers who experienced the least stress related to work pace were the unionized computer programmers who work for the City of San Francisco.

- **Work-Life Balance**: No routine data was available to assess work-life policies in San Francisco. Domestic workers found it difficult to balance work and family pressures, and artists also reported that it was a struggle to find work/life balance. In contrast, restaurant servers did not have difficulty managing life and work because all participants felt under-employed. Computer software engineers also reported did not experience significant difficulty balancing work and life.

- **Workplace Social Support**: No routine data was available to assess social support at work for all occupations. Based on focus group responses, domestic workers, artists and restaurant servers all felt that they lacked a supportive work-environment. Domestic workers also reported that they did not feel that they are respected by their employers or society at large.

- **Potential for Human Development**: No routine data was available to assess the potential for human development at work. None of our occupational focus groups felt that they had significant opportunities for personal development through work. While the artists had ample opportunities for self-expression through their art work, they reported limited opportunities for professional development.

With shifting patterns of economic development, we believe it is important to actively evaluate the extent to which our economic development patterns are benefiting and burdening worker health individually and collectively. Overall, our research found that San Francisco's occupational structure tends towards two extremes: highly paid professional positions and very low wage service jobs. These two extremes place different demands and burdens on workers, which have both direct and indirect affects on health. Unemployed and low-wage workers experienced challenges with respect to all aspects of the multi-dimensional health framework. Higher wage workers experienced far fewer challenges and appeared generally to be less frustrated with their working conditions.

Based on these findings, current labor market trends in San Francisco may perpetuate existing patterns of poverty and inequality, unless policymakers act to improve the quality of work for San Francisco workers. Based on data gathered in this report and identified gaps, we believe the following actions can contribute to the health and safety of San Francisco's workers.

1. **Improve data collection on the local labor force:** Data collection should be improved at many levels. First, researchers and policymakers need access to existing data that measure standard occupational health indicators (e.g., workers compensation data at a local level). Second, the City should consider conducting a survey of the local labor market to gather comprehensive information about the known psycho-social aspects of work empirically related to health outcomes.

2. **Ensure that the San Francisco's minimum wage provides for self-sufficiency:** Income is one of the strongest predictors of individual health status. Increasing the minimum wage is one practical method of ensuring that San Francisco's low wage workers can continue to survive and thrive in San Francisco.

3. **Provide occupational health and safety training for low wage workers and shift workers:** All low-wage workers who participated in focus groups conducted for this report (artists, restaurant servers and domestic workers) reported occupational health exposures and injuries. Ensuring that workers in high-risk San Francisco occupations be educated on common workplace hazards and on safe work practices and protective equipment in the context of existing job training and education programs could prevent avoidable injuries.

4. **Protect jobs that provide workers with living wages and benefits:** Jobs in light industrial and manufacturing and unionized professions typically provide greater resources for health than low-wage, shift jobs such as food preparation or cashier work. In such jobs, employees earn higher wages, work standard hours, receive sick leave, and often have access to education and training benefits.

5. **Support efforts to establish benefits for low wage workers:** Access to health insurance and benefits such as vacation time and sick time provide workers with the opportunity to take care of their health needs and those of their families. These benefits

help protect the health of San Francisco's workers, prevent workplace infectious disease transmission, and may reduce the severity of chronic illness. San Francisco's requirement for employers to provide paid sick days is a positive example of such a policy level intervention.

6. **Provide incentives for industries that provide workers with benefits:** Jobs, such as "production, distribution and repair" jobs, and unionized jobs, are better for workers' health. They provide workers' with much needed benefits; employees work standard hours; and employees frequently have access to training programs through groups or unions.

Introduction

The Eastern Neighborhoods Community Health Impact Assessment (ENCHIA) was an 18-month process to assess the health benefits and burdens of development in several San Francisco neighborhoods. Convened and facilitated by the Program on Health, Equity and Sustainability at the San Francisco Department of Public Health, ENCHIA was guided by a multi-stakeholder Community Council of over 20 diverse organizations whose interests were affected by land use development.

As part of it's evaluation of land use development impacts on health, the ENCHIA Community Council determined that ensuring residents healthful employment was a key objective for a healthy city. The Council recognized that in contemporary societies, secure, safe, meaningful, and adequately compensated employment was a prerequisite for good health. Council members suggested that current labor market trends in San Francisco, particularly the growth of the retail and service sectors and the decline of the manufacturing sector, had the potential to exacerbate health disparities among San Francisco residents. The Council argued that a comprehensive consideration of health effects in economic development planning and decision-making would help to highlight how jobs could protect and promote health. Such an analysis could also help counter the shifting labor market's negative consequences on health.

Taking action on the relationship of work and health requires an understanding of the San Francisco labor market with respect to several job-related attributes. Routine data sources provide only a partial picture of "how healthy work is" in San Francisco. Indicators of occupational health include rates of physical injuries and illness and documented exposures to toxic materials. Statistics also exist for health-related economic benefits of employment including wages and benefits.

Routine data sources do not exist for all health-related work attributes, however. Increasingly, studies find that the psycho-social elements of work, including a supportive work environment, job security, and work pace control, have a significant impact on health. Unfortunately, indicators for job security, work pace control, stress, and work-life balance, are either collected sporadically, or not at all. The lack of standard data collection methods and the normative qualities of some of these indicators understandably challenge routine data collection. For example, it is more difficult to quantify and evaluate, at a population level, levels of job satisfaction among workers than rates of carpel tunnel syndrome. Nevertheless, understanding

the relationship between employment and health is important. In response to this gap in information, this report profiles the local labor market with respect to social, economic, and environmental health determinants using both quantitative and qualitative data. This report seeks to address the following key questions:

- What are the key elements of job quality that impact human health (job-related health determinants)?
- What systematic data are available to assess San Francisco's labor market on these job-related health determinants?
- What is the status of San Francisco's labor market with respect to these health determinants?
- For which health determinants are we lacking sources of systematic data?
- What policy recommendations would improve job-related health determinants?

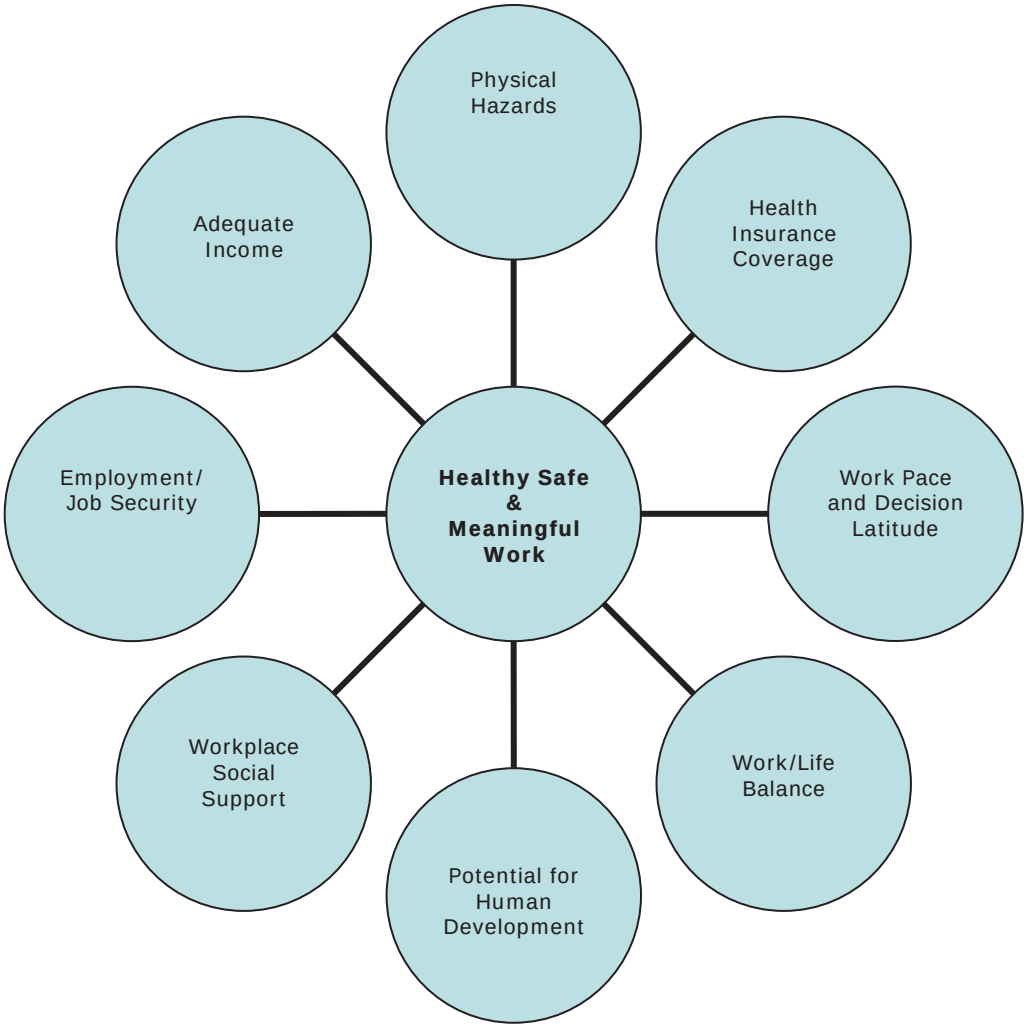
In this report, we use a multi-dimensional framework for considering the physical and psycho-social elements that impact the health of San Francisco workers. While the research takes advantage of statistics routinely available at the local level, we also explore qualitative methods for filling data gaps.

The first section of the report provides a framework for considering health-related job factors. The second section reviews the methodology we used to gather the data for this report. Section 3 summarizes general demographic data on San Francisco including information on workforce characteristics and its occupational structure. Section 4 draws together the quantitative and qualitative data to generate an evaluation of San Francisco's labor market using the multi-dimensional occupational health framework. We end in section 5 by providing a brief synthesis and by laying out recommendations for policymakers that target both specific occupation groups as well as the City overall.

Section 1: Work and Health as a Multi-Dimensional Relationship

Based on a review of the public health literature, SFDPH identified eight dimensions of work which have significant influences on physical and/or mental health. These eight dimensions are categorized as follows: 1) employment and job security, 2) income, 3) physical hazards, 4) access to health insurance, 5) work pace and decision-latitude, 6) work-life balance, 7) workplace social support, and 8) potential for human development. We used these eight dimensions to form a conceptual framework for this research. (Figure 1) Below we briefly summarize the literature on these occupational determinants.

Figure 1. Multi-Dimensional Occupational Health Framework



1) Employment and Job Security

Employment represents more than a mechanism for securing one's material needs. Employment is also a signifier of productive activity and social participation. The consequences of unemployment are not only poverty but also stigma, stress, and social isolation. Not surprisingly, research associates being unemployed with adverse health impacts including shortened life expectancy and higher rates of cardiovascular disease, hypertension, depression and suicide among unemployed men and women than among either employed people or the general population (Jin, Shah and Svoboda 1995; McKee-Ryan et al. 2005; Voss et al. 2004) In a recent study, researchers found that persons who reported losing a job prior to being interviewed were more than 85% more likely than those not losing a job to experience worsening health status, about 90% more likely to report the onset of disability and just under 50% more likely to report the onset of high levels of depressive symptoms. (Yen, Trupin and Yelin 2002)

Precarious or unstable employment is also detrimental to health, resulting in chronic stress and undermining social support networks (World Health Organization, 1999). The White Hall study, a longitudinal study of white-collar government workers in the United Kingdom showed that those experiencing job insecurity had worse self-rated health and higher rates of hypertension, longstanding illness, mild psychiatric morbidity and general illness symptoms than those not experiencing job insecurity (Ferrie et al. 2005).

2) Income

For most, income is primarily a product of wages or salaries received in compensation for labor in the workplace and the chief mechanism for meeting needs such as food, shelter, and transportation. Income is one of the strongest and most consistent predictors of poor health and disease in public health research literature. (Yen and Syme 1999) The magnitude of income's effect on health is significant. For example, people with average family incomes of $15,000 to $20,000 were three times as likely to die prematurely as those with family incomes greater than $70,000. (Yen and Bhatia 2002) The strong relationship between income and health is not limited to a single illness or disease; people with lower incomes have higher risks than people with higher incomes for giving birth to low birth weight babies, for suffering injuries or violence, for getting most cancers, and for getting chronic conditions. (Yen and Syme 1999)

3) Physically Safe Workplace Conditions

Physical hazards in the workplace represent a direct and immediate way that work affects health. In the twentieth century, countries have adopted numerous occupational health and safety laws to ensure a workplace safe from physical hazards; however, regulations do not prevent all hazards. Occupational health surveillance data, generally collected at a state-level, allows researchers and regulators to track the incidence of acute and cumulative occupational injuries and occupational illness. From 1995 through 1999, there were 30,824 fatal work injuries in the United States, for an average of about 17 fatal work injuries per day. These statistics underscore that workplace hazards remain a significant and avoidable concern in the U.S.

Injury and illness statistics allow identification of the mechanisms of injury and illness and comparison of the relative hazards of different occupations and industries. Transportation-related incidents and violent assaults are the two most important mechanisms of fatal injuries. In California, occupations with the highest rates of fatal injuries are specialty trade contractors, truck transportation drivers, building equipment contractors and heavy civil engineering construction workers. (EDD (a))

Nationally, the top five occupations with the greatest number of injuries are: (1) laborers and material movers; (2) heavy and tractor-trailer truck drivers; (3) nursing aides, orderlies, and attendants; (4) construction laborers and, (5) janitors and cleaners. (BLS 2003) In California, truck drivers, laborers (non-construction), janitors and cleaners, carpenters, nursing aides, orderlies and attendants are the top five occupations with the most non-fatal injuries and illnesses. (EDD (b))

4) Health Insurance Benefits

The United States does not maintain a system of universal health care access. Employment provides the primary means of accessing health insurance for working age adults. Families with at least one full-time, full-year worker are more than twice as likely to have health insurance coverage, compared to families whose wage earners work as part-time employees (less than 35 hours per week), as contingent labor (e.g., on a seasonal or temporary basis, as employees of contractors, self-employed), or in which there is no wage earner. (IOM 2001)

Union membership also predicts employer-provided health benefits, reduced cost sharing and substantially and increased extension of coverage to retirees. (Buchmueller, DiNardo, Valletta 2000)

Individuals without health insurance frequently forego timely health care, suffer more severe illness, and are more likely to die a premature death than their insured counterparts (IOM 2004). The Institute of Medicine estimates that 18,000 unnecessary deaths are attributable to lack of health coverage every year. (IOM 2004)

5) Work Demand, Work Pace Control, and Decision-Latitude

Chronic physiologic stress is an important but less acknowledged pathway relating work to negative health outcomes. Chronic illnesses that are caused or exacerbated by work-related stress include hypertension, coronary heart disease and depression. (Cheng et al. 2000; Schnall, Landsbergis and Baker 1994) An employee's ability to control the pace of their work has a significant moderating effect on their ability to manage work-related stress. Decision-latitude is defined as the degree of control that workers have over their work circumstances. The demand-control model, which combines three measures, job decision latitude, skill discretion and decision authority, is a conceptual framework which reflects that a worker with higher job control can moderate the stress of work when he has the opportunity to decide when and how to proceed and what skills to use and to develop new skills.

For example, researchers can assess decision-latitude by looking at the number of workers who agree or disagree with the statement "I have a lot to say about what happens in my job." and "My job allows me the freedom to decide how I do my job." (Statistics Canada 1994-1995) Employees who report some control over their job content and work environment experience better health than employees who lack control over their work.

Despite significant epidemiologic research associating of job-related stress and poor health, surveillance systems do not provide routine and reliable measures of stress at work. Furthermore, stress has occupational and non-occupational sources and no unique health outcome serves as a reliable indicator for the negative effects of workplace stress.

6) Work-Life Balance

Employees who experience an imbalance between work and home life tend to also experience high levels of stress, resulting in sleep disturbance, depression and fatigue. (Bohle et al. 2004) Working very long hours has also been linked to high blood pressure and cardiovascular disease. (Uehata 1991) Moving to longer working hours can increase risk-taking behaviors, such as smoking, drinking and poor diet. Long hours also create a high risk of conflict in

balancing work with domestic and community life. Overwork can also produce absenteeism. (Michie 2002)

A lack of control over work time (e.g., unpredictable hours) is also stressful. Shift work has been linked to sleep disturbances, digestive problems, cardiovascular disease, unhealthy behaviors, and stress from work/family conflict. (Shields 1999) Lower-skilled workers and shift workers, who have limited control over their working hours, tend to experience greater levels of dissatisfaction related to work-life imbalance. The United States is behind Canada and the European Union when it comes to considering issues of work-life balance broadly as they relate to the labor market. (European Network for Better Workplace Health; Canadian Center for Occupational Health and Safety)

Conversely, flexible work arrangements that allow workers to work non-standard hours, or share jobs, give workers a greater sense of control and reduce the impact of unpaid work demands on labor-market experiences. (Bond et al. 2002) Employees who are allowed to work flexible hours exhibit more positive work outcomes, such as job satisfaction, commitment to employer, and retention, as well as more positive life outcomes, such as less interference between job and family life, less negative spillover from job to home, greater life satisfaction, and better mental health. (Bond et al. 2002) Nationally, flexible schedules are more common among white workers (28.7%) than among black (19.7%) or Hispanic or Latino workers (18.4%). (BLS 2005)

7) Workplace Social Support

Strong social relationships and community cohesion provide material as well as emotional support, protecting health in multiple ways. (Cohen, Underwood and Gottlieb 2000) For example, even after accounting for income, race, smoking, obesity, and exercise, one study found that individuals with fewer social contacts (e.g. marriage, family, friends, and group membership) had twice the risk of early death. (Berkman 1979) Not surprisingly, a supportive work environment also has a protective effect on employee health. Supervisor support involves showing concern about workers, fostering teamwork and contributing to getting work done. Coworker support is demonstrated when coworkers are friendly, helpful, personally interested in the worker and competent. (Hayhurst, Saylor and Stuenkul 2005) A recent study found that workers who felt they were treated fairly by their supervisors had a reduced risk of coronary heart disease. (Kivimaki et al. 2005)

8) Potential for Human Development

A workplace culture that provides employees with opportunities for personal development and encourages employees to participate in the organizational decision-making process promotes employee health and job satisfaction. (Michie 2002)

Progressive Wage and Benefit Policies in San Francisco

San Francisco City and County maintains a number of progressive policies to promote good wages and benefits for workers, including a Minimum Wage Ordinance, a Health Care Security Ordinance, and a Sick Days Ordinance.

Minimum Wage Ordinance

Beginning February 2004 the minimum wage in San Francisco was $8.50 per hour for work performed within San Francisco. For each year thereafter, the minimum wage increased by an amount corresponding to the prior year's Consumer Price Index. Effective January 1, 2007, the minimum wage rate is $9.14 per hour. The minimum wage applies to all San Francisco employers, including small businesses with fewer than ten persons and nonprofits. The minimum wage applies to full-time and part-time employees who, in a particular week, perform at least two hours of work for an employer within the geographic boundaries of the City. The minimum wage covers both adult and minor employees, employees who work in San Francisco but are not City residents, and undocumented workers.

Health Care Security Ordinance

In July 2006, the San Francisco Board of Supervisors unanimously approved legislation entitled the San Francisco Health Care Security Ordinance. The ordinance creates a Health Access Program (SFHAP) that will offer comprehensive healthcare services to uninsured San Franciscans and their employers at a reasonable cost, regardless of income, immigration status, or medical condition. SFHAP will assign individuals to a primary-care doctor, nurse or medical assistant at one of the City's public or nonprofit clinics, deliver acute care and specialty services through a network, including San Francisco General Hospital and the city's nonprofit hospitals, and cover prescription drugs and home health-care services. SFHAP is not insurance in that it is not portable - residents must be treated within City limits. The Ordinance also sets a "minimum health spending requirement" for medium-sized and large businesses to spend a minimum amount per hour on healthcare for their employees. This amount will be increased by 5% annually through 2009 to accommodate unanticipated growth indices. Beginning in 2010, the rate will be based on the average contribution for a full-time employee to the City Health Service System. Non-profits with less than 50 employees are exempt from the spending requirement. Furthermore, businesses with less than 20 employees are exempt from the requirement.

Sick Leave Ordinance

In November 2006, San Franciscans approved Proposition F, mandating paid sick leave for all employees. Specifically every worker in San Francisco would earn one hour of paid sick leave for every 30 hours worked. Workers could use their paid sick leave to care for themselves, their families or their partners. There is a cap of 40 hours (5 days) of accrued paid sick leave for employees of employers for which fewer than 10 persons (including full-time, part-time, and temporary employees) work for compensation during a given week. For employees of other employers, there is a cap of 72 hours (9 days) of accrued paid sick leave. The cap applies to how many hours of paid sick leave an employee may have in the bank at any given time. It does not limit how many hours of paid sick leave an employee may accrue or use in a year. Once employees hit their cap of paid sick leave, they no longer accrue paid sick leave until they use some of the hours they have in the bank. An employee's accrued paid sick leave carries over from year to year.

More details about these Ordinances are available through the San Francisco Office of Labor Standards Enforcement: http://www.sfgov.org/site/olse_index.asp

Section 2: Research Methods and Data Sources

The multi-dimensional occupational health framework described above is used as a framework for this report. SFDPH staff used several research methods to gather information on San Francisco's workforce, including: 1) an analysis of existing available data on the labor market and occupational health indicators at a local level; 2) focus groups with workers in specific occupations; 3) key informant interviews with individuals who could provide insight into common occupational health hazards; and 4) local studies or surveys of occupational health conditions.

1) Routinely collected labor market and occupational health data

Sources of routinely collected secondary data on employment and job quality include the US Census, the American Community Survey, the California State Department of Health Services, and the California Employment Development Department (EDD). The Council of State and Territorial Epidemiologists (CSTE) in conjunction with the National Institute of Occupational Safety and Health (NIOSH) recently produced a guide to assist states with tracking occupational health conditions and their determinants, recommending that states summarize basic demographic data and track nineteen specific indicators. SFDPH staff obtained local data for these 19 indicators where available.

2) Focus groups with workers in specific occupations

Given the limited availability of data on many dimensions in the multi-dimensional occupational health framework, SFDPH conducted focus groups and interviews to fill these data gaps. SFDPH selected four occupations to profile including restaurant workers, domestic workers, computer software programmers, and artists. These choices reflected knowledge of occupational trends in San Francisco and our ability to access participants. The findings below are not representative of the entire occupational class or of the SF labor market as a whole. However, the results provide perspectives often overlooked in occupational health research and suggest a complementary method to more comprehensively assess workplace health conditions. Questions for the focus groups corresponded to the multi-dimensional occupational health framework discussed in the introduction. Focus group questions were primarily chosen to obtain information about the psycho-social impact of each job on the employee's health. The questions were modified slightly from group to group to ensure relevance. The focus group protocol is attached as Appendix 1.

Participants were recruited for focus groups by SFDPH staff with the assistance of several community-based organizations and local labor unions. Potential participants were screened over the phone to ensure that they were eligible for participation. Each focus group was recorded and then transcribed to ensure accuracy. Food and beverages were provided and participants who completed the group received gift certificates as compensation. The groups ranged in size from three to ten participants. Focus groups were conducted with the following occupational groups:

a. Domestic Workers: Domestic workers were selected for a focus group because they are considered to perform jobs that are critical to the households that rely on them. SFDPH staff conducted one focus group with 12 domestic workers, all of whom were Latina and most spoke only Spanish. The focus group was conducted in Spanish, recorded and transcribed in Spanish, and then translated into English. The women ranged in age from 23 to 52. Five of the women were married, three were divorced, one of the women lived with her boyfriend, and three were single. All the women were immigrants and most had been living in the United States for four or more years. The most recent immigrant had been living in the U.S. for a year and five months. Three group members had lived in the U.S. for more than ten years. Many of the workers in this focus group had taken training on the importance of using non-toxic cleaning supplies through Caring Hands, a project of the community-based organization Mujeres Unidas y Activas.

b. Artists: Artists were selected for a focus group because of the large role that the arts and artists play in the tourism economy and overall cultural vitality of San Francisco. SFDPH staff conducted one focus group with 9 artists (6 painters, a photographer, a printmaker, and an illustrator), ranging in age from 30 to 55. There were four men and five women. Seven of the nine participants were Caucasian, one was African-American and one was Latino. Three out of nine artists worked full-time non-art jobs to pay the bills; three out of nine worked part-time non-art jobs to pay the bills; and three out of nine worked full-time at their art. In addition to their work as artists, group members worked at a wide range of jobs including: industrial hygienist, teacher, administrative assistant, laborer, tutor, market researcher and retail salesperson. All the artists worked in San Francisco and eight out of nine also lived in San Francisco.

c. Restaurant Servers: Restaurant servers were selected as a group because of the high projected growth of this sector in the San Francisco job market. For example, EDD

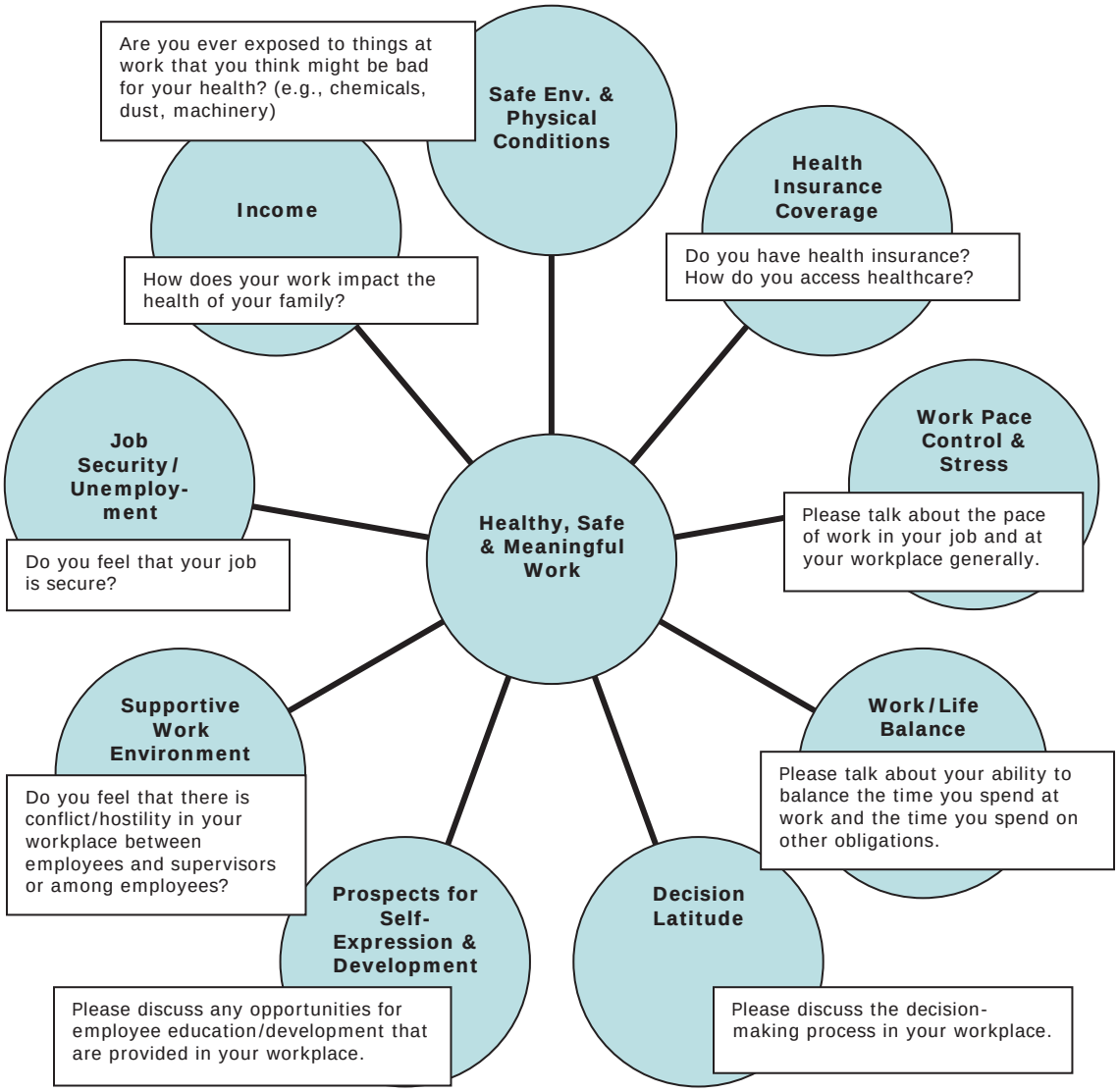
projected that from 2001 to 2008, there would be 5600 job openings for servers, second only to retail salespersons (n=7500) (EDD (d)).

SFDPH conducted one focus group with three young women between the ages of 18 and 24. Two of the women were Caucasian and one was of Asian descent. The women were all servers and they all worked for the same employer – a San Francisco restaurant that is part of a national restaurant chain. The women generally worked 6 to 7 hour shifts. All spoke English as a first language. Focus group participants were recruited with the assistance of a community-based organization that works with restaurant servers.

d. Computer Software Engineers: SFDPH decided to profile computer software engineers because of the relatively high projected growth in this sector. For example, EDD projected that from 2001 to 2008, there would be 1830 job openings in this sector city-wide. Nationally, the Department of Education lists "computer software engineers – applications" and "computer software engineers – systems software" as the number 1 and number 3 fastest growing jobs respectively over the 2002 – 2012 period. (U.S. Department of Education 2005) Additionally, San Francisco, greatly affected first by the dot-com boom and then the dot-com bust, has been uniquely impacted by the fortunes of information technology professionals.

Focus group participants were recruited with the assistance of Local 21, the Professional & Technical Engineers Union (IFPTE/AFL-CIO). The participants in this group were three men between the ages of 40 and 46. Two of the men were Caucasian and one was of Asian descent. The men were all computer software engineers and they all worked for departments within the City and County of San Francisco. The fact that the men were City employees means that, unlike most software engineers in San Francisco, these individuals were part of a union. As with the restaurant servers, although approximately one month was allotted for recruitment purposes, turnout was low. The group consisted of three members although a larger number of respondents committed to participating in the groups beforehand.

Figure 2. Working Conditions as a Determinant of Health and Related Focus Group Questions



3) Key Informant Interviews

SFDPH staff conducted key informant interviews with a number of individuals to expand on both the available occupational health data as well as the focus group findings. SFDPH staff interviewed two health and safety inspectors at SFDPH who saw frequent instances of specific occupational health violations. To supplement information on restaurant workers, staff also conducted an interview with Larry Bain, the former Director of Operations and Social Responsibility of Jardiniere Restaurant and the founder of Nextcourse, a non-profit which provides food and nutrition education to low-income communities. Mr. Bain has worked in the restaurant industry for 27 years in a variety of positions. SFDPH also interviewed a representative of United Here, Local 2, the restaurant workers union in San Francisco. To supplement the information on computer engineers, SFDPH staff also conducted interviews with three computer software engineers in the private sector, one of whom is a consultant. The interviews focused on the themes of occupational health with a specific focus on the psycho-social issues related to health and work.

4) Local Surveys

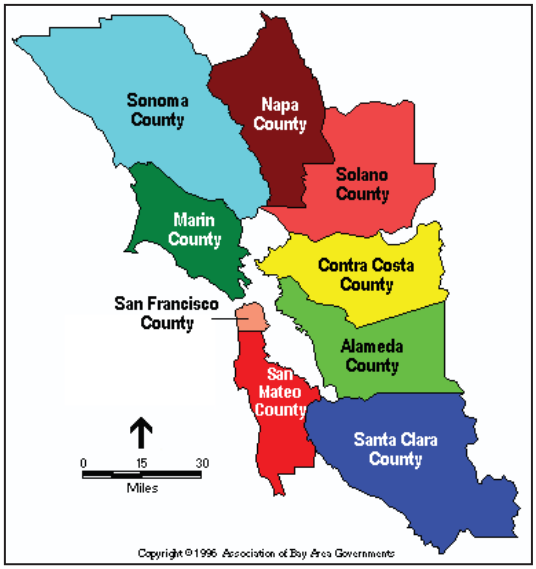
To supplement focus group information, SFDPH incorporated information from several local surveys conducted by community organizations in San Francisco. These surveys used convenience samples so cannot be used to provide general population estimates. Nevertheless, the surveys provide an additional source of relevant information. These surveys include:

a. Domestic Worker Survey: In 2005, the Coalition for Domestic Workers Rights in the San Francisco Bay Area conducted a survey of 247 domestic workers in San Francisco (Coalition for Domestic Worker Rights 2006). The domestic worker survey is a participatory research project that grew out of a partnership among multiple Bay Area groups including the DataCenter, Mujers Unidas y Activas, POWER, the San Francisco Day Labor Program Women's Collective of La Raza Centro Legal, and the San Francisco Department of Public Health.

b. Chinatown Restaurant Workers: In the summer of 2005, the Chinese Progressive Association (CPA), in conjunction with the Labor Occupational Health Program (LOHP) at U.C. Berkeley, surveyed experiences of restaurant workers in San Francisco's Chinatown. (Chu and Cooper 2005) CPA and LOHP conducted site visits, focus groups and key informant interviews to better understand the occupational health experiences of Chinatown's restaurant workers.

Section 3: Demographics and Workforce Characteristics in San Francisco County

San Francisco County is located in the center of the California coast, and bordered to the West by the Pacific Ocean, to the north by Marin County, to the south by San Mateo County and to the East by the counties of Contra Costa and Alameda. Based on the most recent US Census data, approximately 750,000 of California's 35 million residents live in San Francisco County's 49 square miles (US Census Bureau 2000 (a)). Of those 750,000 residents, approximately 426,000 comprise San Francisco's labor force (U.S. Census 2000 (a)).



Despite the high cost of living in San Francisco, it remains a racially and ethnically diverse community. The racial/ethnic distribution of San Francisco's population is: 50% white; 8% African American; 31% Asian; and 14% Hispanic or Latino.[1] Approximately 46% of families speak a language other than English at home. In addition to being racially and ethnically diverse, San Francisco's population is also more highly educated than the general population of California; 81% of adults over the age of 25 are high school graduates and 45% of adults over the age of 25 have a bachelor's degree or higher. The median household income is $59,148. (U.S. Census 2000 (b)). However, 11.3% of San Francisco's vibrant and diverse population lives below the federal poverty level (U.S. Census 2000 (c)).

San Francisco's civilian labor force numbers about 406,000. (SF Private Industry Council 2004) Table 1 provides describes the basic characteristics of San Francisco's workforce.

Table 1. San Francisco Workforce Characteristics

Characteristic	SF Data	Source
% of civilian workforce unemployed	5.1% (7/05)	Employment Development Dep't
% of civilian employment self-employed	9%	American Community Survey
% of civilian employment employed part-time	6.3%	California Health Interview Survey
% of civilian employment by sex	54% male 46% female	US Census Bureau

[1] The racial/ethnic data is from the U.S. Census Bureau. The percentages do not add up to 100% because Hispanics may be of any race, so also are included in applicable race categories as well as the Hispanic racial category. E.g., a resident of African descent from Cuba may be counted as Hispanic and African-American.

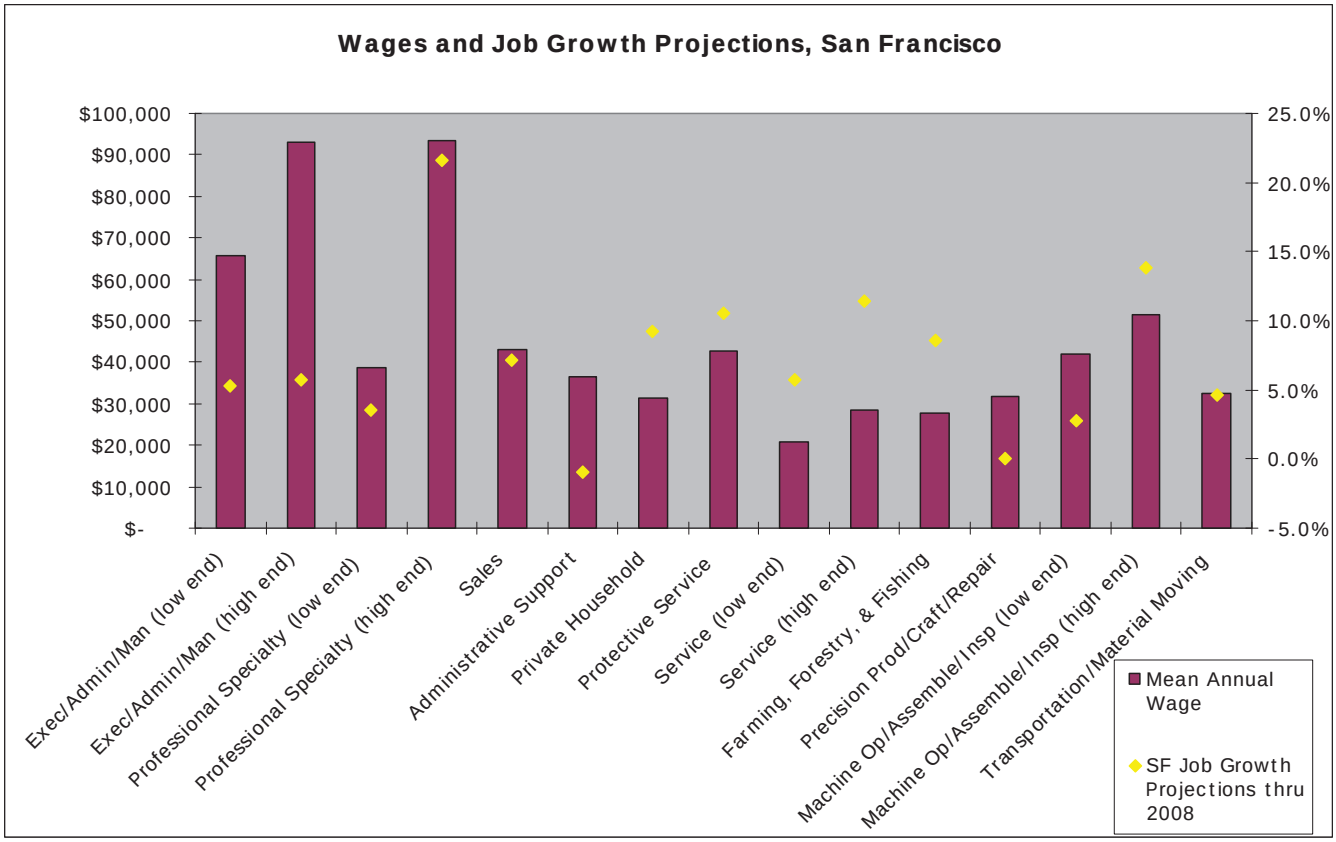
San Francisco's occupational structure includes large proportions of high paid professional positions and very low wage service jobs. There are also a significant number of sales and administrative support positions. As industrial activity in the City has slowed, the number of blue collar positions has declined. (SF Private Industry Council 2003) The City's current occupational structure is reflected in data from the Bureau of Labor Statistics (BLS) and the EDD's occupational projections. (Table 2) Forty-eight percent of San Francisco's workforce falls into the management and professional occupations category. This is substantially higher than the state and national figures. San Francisco has a much smaller proportion of production and construction jobs than is typical at the State or national level. These jobs are typically considered "blue-collar jobs' and workers often belong to unions. Local data from the EDD further underscore local labor market trends.

Table 2. Percentage of Civilian Employment by Occupation and Industry (BLS 2004)

Employed civilian population 16 years and over	**SF Total** 427,823	**SF %**	**CA Total** 14,718,928	**CA %**	**US Total** 129,721,512	**US %**
OCCUPATION						
Management, professional, and related occupations	206,804	48.3	5,295,069	36	43,646,731	33.6
Service occupations	61,364	14.3	2,173,874	14.8	19,276,947	14.9
Sales and office occupations	109,316	25.6	3,939,383	26.8	34,621,390	26.7
Farming, fishing, and forestry occupations	462	0.1	196,695	1.3	951,810	0.7
Construction, extraction, and maintenance occupations	17,990	4.2	1,239,160	8.4	12,256,138	9.4
Production, transportation, and material moving occupations	31,887	7.5	1,874,747	12.7	18,968,496	14.6
INDUSTRY						
Agriculture, forestry, fishing and hunting, and mining	825	0.2	282,717	1.9	2,426,053	1.9
Construction	14,961	3.5	915,023	6.2	8,801,507	6.8
Manufacturing	28,228	6.6	1,930,141	13.1	18,286,005	14.1
Wholesale trade	10,954	2.6	595,309	4.1	4,666,757	3.6
Retail trade	43,935	10.3	1,641,243	11.2	15,221,716	11.7
Transportation and warehousing, and utilities	19,111	4.5	689,387	4.7	6,740,102	5.2
Information	30,000	7.0	577,463	3.9	3,996,564	3.1
Finance, insurance, real estate, and rental and leasing	43,479	10.2	1,016,916	6.9	8,934,972	6.9
Professional, scientific, management, administrative, and waste management services	82,573	19.3	1,711,625	11.6	12,061,865	9.3
Educational, health and social services	69,461	16.2	2,723,928	18.5	25,843,029	19.9
Arts, entertainment, recreation, accommodation and food services	48,079	11.2	1,204,211	8.2	10,210,295	7.9
Other services (except public administration)	21,995	5.1	761,154	5.2	6,320,632	4.9
Public administration	14,222	3.3	668,811	4.5	6,212,015	4.8

As Figure 3 illustrates, significant job growth is occurring in occupations with low mean annual wages (e.g., protective services, private household, and sales) and relatively high mean annual wages (professional specialty – high end; machine operations, assembly and inspection – high end). Typical blue-collar jobs such as machine operator positions and repair positions have low projected job growth.

Figure 3. Wages and Job Growth Projections, San Francisco (EDD (d))



Between 2001 and 2008, EDD estimates that for the San Francisco Metropolitan Statistical Area (MSA) which includes Marin, San Francisco, and San Mateo Counties, the occupations with the greatest number of projected job openings, in order of magnitude, are: retail salesperson, cashiers, waiters and waitresses, combined food preparation workers, counter attendants and registered nurses. (EDD (c)) Only one of these positions, registered nurses, pays a salary that approaches the median household income of San Francisco. The other five occupations pay less than $23,000 (based on a 40 hour work week) and likely offer few benefits to employees.

Table 3. Occupations with Most Job Openings, SF Metropolitan Statistical Area (EDD (c))

Occupational Title	Job Openings	Median Hourly Wage	Education and Training Levels
Retail Salespersons	13,390	$10.95	30-Day OJT
Cashiers	12,280	$10.30	30- Day OJT
Waiters and Waitresses	11,060	$8.49	30- Day OJT
Combined Food Preparation and Serving Workers, Including Fast Food	6,880	$8.60	30- Day OJT
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	6,860	$9.39	30- Day OJT
Registered Nurses	5,170	$38.41	AA degree
OJT = On the job training; AA = Associates Degree			

The occupations with the greatest projected growth between 2002 and 2012 in the SF MSA are in science and technical fields. For the most part, these are not jobs that individuals without a college degree will be able to attain.

Table 4. Fastest Growing Occupations, SF Metropolitan Statistical Area (EDD (d))

Occupational Title	Average Annual Employment		% Change	Median Hourly Wage	Education Levels
	2002	2012			
Chemists	1,040	1,600	53.8	$33.22	BA/BS Degree
Biochemists and Biophysicists	450	610	35.6	$39.96	PhD Degree
Chemical Technicians	430	580	34.9	$24.16	AA Degree
Environmental Engineers	520	690	32.7	$41.10	BA/BS Degree
Network Systems and Data Communications Analysts	3,090	4,100	32.7	$39.46	BA/BS Degree
Medical Assistants	2,340	3,090	32.1	$16.62	1-12 Month OJT
BA/BS Degree = Bachelor of Arts/Bachelor of Science; PhD = Doctor of Philosophy; AA = Associate of Art; OJT = On the job training					

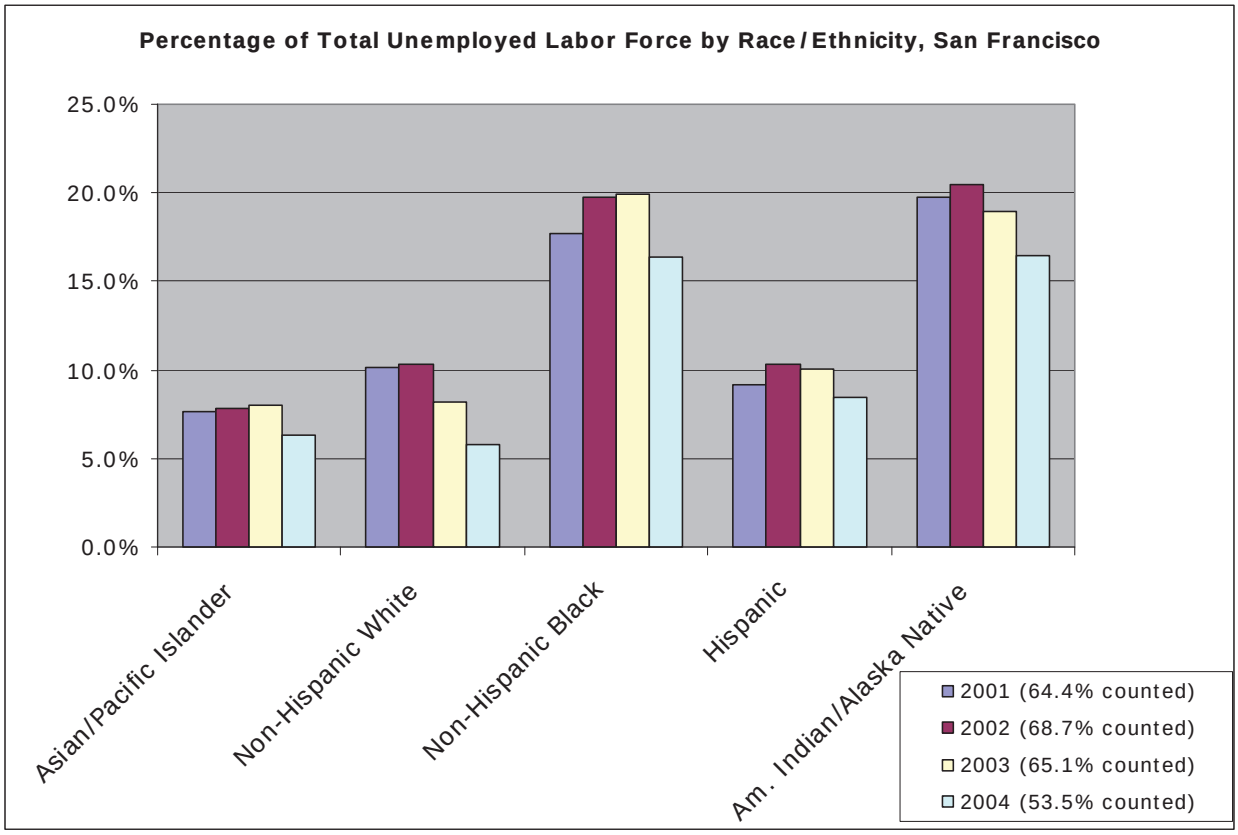
Section 4: A Profile of Health and the Labor Market

Using the multi-dimensional occupational health framework as a guide, we applied the data and focus group findings to evaluate the SF labor market on the framework's eight dimensions. Available data sources make this evaluation limited, especially with regards to the dimensions of work demands-decision latitude, work-life balance, social support, and human development.

a. Employment/Job Security

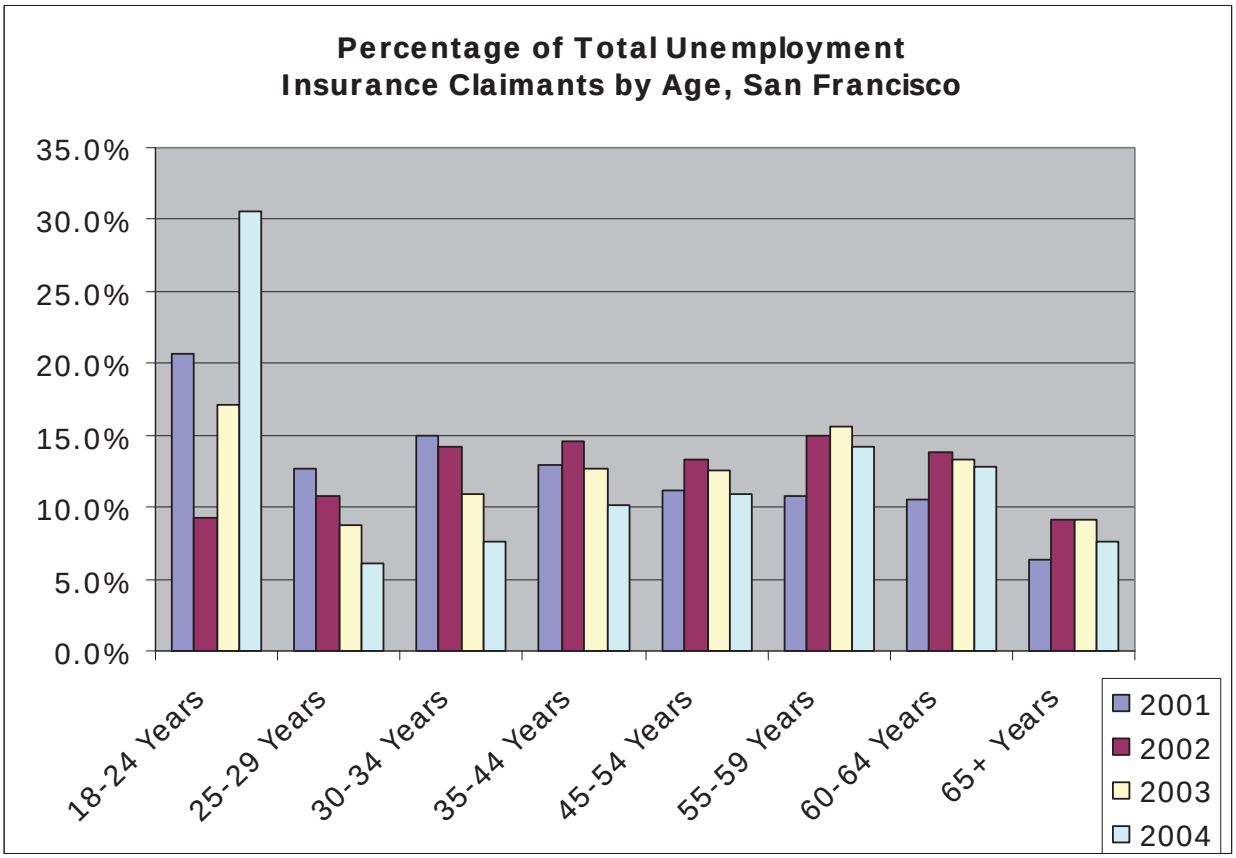
With an unemployment rate of 5.1%, approximately 20,000 people are unemployed and looking for work in San Francisco. (EDD (e), SF Private Industry Council 2004) While this figure is not high relative to historic trends, 2004 data from the EDD indicate significant differences in unemployment rates among racial groups. (Figure 4) Whites and Asian-Americans experienced unemployment rates of approximately 6%. During the same period, the unemployment rate among African-Americans was 16%; among Native Americans was 16% and among Hispanics was 9% (Figure 4 (EDD (f)).

Figure 4. Percentage of Total Unemployed Labor Force by Race/Ethnicity, SF (EDD (f))



When the same unemployment claim data is broken down by age, individuals aged 35 to 39 make up the largest percentage of San Francisco's unemployment insurance claimants by age (EDD (f)).

Figure 5. Percentage of Total Unemployment Insurance Claimants by Age, SF (EDD (f))



Employment statistics do not provide a complete reflection of the security and stability of employment. Various focus groups reported high levels of anxiety and stress due to their lack of financial stability. For example, domestic workers believed they had no job security. They also noted, correctly, that they have limited legal recourse if they are mistreated by employers. Many stated they were afraid to report unfair treatment because of their immigration status.

Artists reported very little job security or personal financial security as artists as well. Participants trying to support themselves primarily through their art work reported very poor job security. Participants working second jobs (e.g., teacher, administrative assistant) reported better job security, but greater anxiety trying to balance art work and other work. Most of the group members reported financial hardship. Group members also reported that it was extremely difficult to predict monthly or even annual income which added to participants'

feelings of anxiety and stress. All participants were concerned about the cost of studio space and housing in San Francisco.

In our key informant interview with Larry Bain, he reported that while some restaurants recognize the importance of maintaining customer loyalty by maintaining dependable, competent staff, many chain restaurants thrive on treating workers are if they are dispensable. This was confirmed in the focus group with restaurant servers, who reported feeling that they did not have much job security. All members of the group felt “disposable” and like “numbers.” Participants perceived job security to be based on favoritism of managers for particular staff. Servers’ work performance was also evaluated by mystery shoppers, making it difficult to contest an unfavorable performance review.[2]

Of the workers we spoke with, only the computer software engineers (both public and private) felt relatively confident about their job security. Though importantly, age discrimination generally, in the technology sector, was a concern. All members of the focus group were a slightly concerned about job security; however, all agreed their jobs were much more secure than they believed was true for the private sector. Individual interviews with private sector computer software engineers found that those engineers employed as employees felt they had good job security, while the one who was an independent contractor naturally felt a lower degree of job security.

[2] Servers are monitored using mystery shoppers – a standard evaluation method in the restaurant industry. Mystery shoppers come to the restaurant approximately 15 times a month. They pose as customers and evaluate all restaurant staff to ensure staff is following company policies. Servers can not discuss the evaluation with the mystery shopper once it is complete. The manager reviews the report with the server.

b. Income

In 2004, San Francisco created a living wage ordinance and set the minimum wage in the City of San Francisco at $8.50 and hour. Wages have since been increased to $9.14/hour or approximately $18,000/year. While this is much higher than the current state or federal minimum wages which are $6.75/hour and $5.15/hour respectively, it is important to note that $18,000 is still less than 200% of the federal poverty level. Furthermore, the median household income in San Francisco was $59,148 based on the U.S. Census Bureau.

For many groups of workers, including those occupations included in our focus groups, low wages still challenge self-sufficiency. The Domestic Worker's Survey found that the majority of domestic workers earned very low wages – 11% earned less than minimum wage; 23% earned below the poverty line (i.e., less than $9.06/hour); and 44% earned less than $14.26/hour. Furthermore, according to the Survey, many employers appeared to ignore wage laws. Only 8% of live-out domestic workers reported receiving overtime pay and only 12% of line-in domestic workers reported receiving overtime pay. Over three-fourths (78%) of workers reported that they do not always receive a meal break after five hours of work and 83% of workers reported not always receiving a paid ten-minute break.

Restaurant servers in San Francisco also appeared to be struggling financially. According to the Bureau of Labor Statistics, the median wage for a waitress or waiter in the Oakland, San Francisco, San Jose metropolitan area is $9.45 an hour in 2004, which translates into $19,660 annually. Although these workers may increase their salaries with tips, most server positions do not come with any benefits. (BLS 2004)

The Ford Foundation, through its Leveraging Investments in Creativity Initiative (LINC), surveyed Bay Area artists over a fifteen year period. The study found that the percentage of artists earning money from their art was on the decline (from a high of 86% in 1988 to 77% in 2003) and only 43% of these artists found that this income covered their art-related expenses. Researchers also found that 63% of artists earn less than $7,000 from their art. 78% of artists work more than one job, with all artists surveyed having a median gross income from all sources of $35,000. (Jeffri 2004) Focus group participants corroborated this bleak financial picture. Artists found it difficult to manage the business aspect of working as an artist. Participants reported that they spent a lot of time marketing their work and they did not enjoy that aspect of being an artist. Almost all participants agreed that the business aspect of working as an artist caused anxiety and stress. In 2000, the San Francisco Space for the Arts

Study found that market forces in the form of escalating real estate prices were severely limiting the ability of artists to access space suited to the physical and financial needs of their artist disciplines. (McDougall and Company 2000) Although the rents have decreased somewhat since 2000, artists in our focus group still clearly felt the pressure.

Of the four occupational categories we examined in the focus groups, only computer programmers were making a salary that could support a family in San Francisco. According to the Bureau of Labor Statistics, in 2004, the mean annual salary for a computer programmer was $96,310. (BLS 2004) The government employees that we spoke with made significantly less than this amount. However, they received excellent benefits through the City and worked fewer hours than would be required in a corporate setting.

c. Physically Safe Workplace Conditions

Overall, according to the U.S. Census Bureau's County business patterns data, only 3.4% of workers in San Francisco County are employed in industries at high risk for occupational morbidity. The Council of State and Territorial Epidemiologists (CSTE) and the National Institutes of Occupational Safety and Health (NIOSH) recommend that States track nineteen occupational health indicators to provide a comprehensive picture of environmental and physical conditions in the workplace (CSTE 2004). Appendix III lists CSTE's indicators and specifies the extent to which SFDPH was able to locate the indicator data at a local level. In sum, SFDPH research revealed that many of these indicators are not available at the County level. A brief discussion of the following five indicators is included below: fatal work-related injuries, carpal tunnel injuries and amputations, acute work-related pesticide-associated illness and injury, and incident mesothelioma cases. Focus group and interview findings are described to provide a broader context for understanding these data.

Fatal Work-Related Injuries (CSTE Indicator #3)

In 2003, there were 459 fatal occupational injuries in California. The greatest number of injuries occurred among workers in construction and extraction occupations (n=89) and the transportation and material moving occupations (n=101). These data mirror the occupational fatality data for the San Francisco Bay Area. In the San Francisco-Oakland-Fremont metropolitan area, there were 35 fatal occupational injures in 2003. The specific occupational breakdown of the fatalities is as follows: Construction and Extraction Occupations (n=10); Transportation and Material Moving Occupations (n=10); Installation, Maintenance, and Repair Occupations (n=4); and Protective service occupations (n=3). Out of the 35 fatalities in this area in 2003, 27 of them occurred within the four detailed occupations listed above. The remaining 8 fatal injuries were distributed throughout the remaining nineteen BLS detailed occupational categories and BLS would not release the breakdown for confidentiality reasons.[3] The annual crude fatality rate per 100,000 workers in the SF-Oakland-Fremont metropolitan area was 1.77.

[3] In order to protect the confidentiality of Bureau of Labor Statistics (BLS) data, BLS only publishes data that are of a certain value. BLS did not release the occupations of remaining 8 fatalities in the San Francisco metropolitan area in 2003 because the injuries were spread amongst the remaining 19 detailed occupations in a way that would violate confidentiality requirements if published.

Jornaleros Unidos con el Pueblo
A partnership to improve working conditions for day laborers

As local and national data indicate, construction jobs are among the most dangerous occupations. Day laborers are a particularly vulnerable subsection of this occupational group. Jornaleros Unidos con el Pueblo (Unidos) is a partnership between the San Francisco Department of Public Health's Program on Health, Equity and Sustainability, immigrant day laborers, and community service organizations. Its goal is improving working conditions for the immigrant day laborer community. The partnership has identified avoidable workplace hazards for both male day laborers and female domestic workers in the construction, house cleaning, and landscape industries. They also recognize that preventing workplace hazards means acknowledging and addressing the laborers' economic and social needs as well as their invisibility to government regulators. Unidos actions to address workplace hazards include leadership development for laborers, health and safety trainings, provision of personal safety equipment, and a vocational training curriculum that integrates job skills and safety knowledge. The partnership is conducting a feasibility study for a community based surveillance system to track injuries and their causes. Finally, the partnership has convened a Community Council of laborers, employers, service providers, and governmental institutions to prioritize and implement health promoting action on a sustainable basis.

Website of SFDPH's Worker's Rights and Occupational Health Programs:
http://www.sfdph.org/phes/phes_worker.htm

Carpal Tunnel Injuries and Amputations (CSTE Indicators #5 and #8)

Both carpal tunnel syndrome and amputations are preventable occupational injuries. The California Department of Industrial Relations (CA DIR), Division of Worker's Compensation provided SFDPH with data on carpal tunnel syndrome and amputation claims among San Francisco's workers. In 2003, 289 San Francisco workers filed worker's compensation (WC) claims for carpal tunnel injuries. The total amount of WC benefits (medical and indemnity) paid to San Francisco workers in 2003 for carpal tunnel cases was $1,059,641. In 2004, the total number of cases of carpal tunnel injuries increased to 309; although the total amount of medical and indemnity awards paid to workers decreased to $902,303. In both 2003 and 2004, the largest number of carpal tunnel claims was filed by workers working in the 94105 zip code (158 and 123 claims respectively). It is no surprise that the zip code 94105 encompasses San Francisco's financial district. The second largest cluster of claims for both 2003 and 2004 occurred in zip code 94128, which is the location of the San Francisco International Airport. (CA DIR, 2003 – 2005)

Given the overall economic costs of these injuries and the fact that cases increased from 2003 to 2004 suggests the need for effective prevention programs. Participants in two out of the four focus groups (computer software engineers and restaurant servers) identified RSS, particularly carpel tunnel syndrome, as an issue of significant concern.

As the number of amputations is far fewer than the number of carpal tunnel cases, the DWC was only able to provide data for 2004 and part of 2005. In 2004, 28 San Francisco workers filed WC claims. All 28 workers filed indemnity claims worth a total of $34,700 and twenty-one workers filed medical claims for a total cost of $7300. Of the 28 workers who filed WC claims based on amputations, 10 of the 28 workers worked in the 94133 zip code. This zip code is in the north eastern edge of the City and includes Pier 36, suggesting that these amputations might be related to San Francisco's fishing industry. (CA DIR, 2004 – 2005)

Acute Work-Related Pesticide-Associated Illness and Injury Reported to Poison Control Centers (CSTE Indicator #11)

Data provided by the CA Department of Health Services to SFDPH included only 4 reports of occupational pesticide illness/injury for SF county from 2001-2003.[4] Notably, DHS always considers such reports to represent an undercount of actual pesticide illness and injury. (California Department of Health Services, 2001 – 2003) The four cases occurred in very different industries: operators of apartment buildings; membership sports and recreation clubs; correctional institutions; and land, mineral, wildlife, and forest conservation. According to William Copenheaver, the SFDPH Agricultural Inspector responsible for investigating reports of pesticide poisoning, the San Francisco workers most commonly reporting pesticide poisoning include: janitors, hospital workers, landscapers working in parks, golf courses, cemeteries and nurseries, and restaurant workers. The janitors, hospital workers, and restaurant workers use bleach and other heavy duty cleaning materials which are classified as pesticides.

[4] When providing the data to SFDPH, DHS noted that unlike a Poison Control Center call, these cases were received medical care. (That is to say, these cases were reported to DHS by healthcare providers.)

Occupational Pesticide Exposure

Interview with William Copenheaver, SFDPH Agricultural Inspector

SFDPH's pesticide program is currently integrated within the Department's agricultural program and provides public and industry education on safe pesticide usage and best practices in pest management. Staff issues restricted pesticide materials permits, monitors pesticide applications for safety and environmental compliance, and investigates pesticide related illnesses and complaints. To protect the public health, worker safety and the environment, the Program enforces State and Federal laws and regulations governing pesticide use by pest control companies, agricultural operations and other pesticide handlers. Staff Biologists monitor pesticide applications to be sure they are performed in a safe and effective manner and that worker safety requirements are followed. Additionally the Program inspects application equipment, pesticide storage sites, employee training documents and business use records, and investigates complaints and pesticide-related illnesses. Information is provided to homeowners and industry on the appropriate use of pesticides.

The number of occupational pesticide-related poisoning that are reported to SFDPH has declined over the last decade. San Francisco adopted an Integrated Pest Management (IPM) Ordinance in 1996. This Ordinance commits the City to minimize the use of pesticides and instead use methods that pose a lower risk to public and environmental health. This IPM program has radically changed the way the City staff manages pest insects, rodents, and weeds. In San Francisco, IPM means regular monitoring to determine if and when treatments are needed, and employing biological, cultural, mechanical, physical, and educational tactics to prevent pests or keep their numbers down.

Website of SFDPH's Asbestos Program: http://www.sfdph.org/eh/Agriculture.shtml

Annual Number of Incident Mesothelioma Cases (CSTE Indicator #12)

Malignant mesothelioma is a rare form of cancer found in the sac lining the chest or the abdomen. Of the major asbestos-related diseases, mesothelioma is the most sensitive and specific indicator of the adverse health effects that resulting from airborne exposure to asbestos fibers. (Weill, Hughes and Churg 2004) It has a 30 to 50 year latency period and manifests most often in individuals who have worked in the construction industry - plumbers, pipefitters, steamfitters and electricians. (National Cancer Institute 2002) The Northern California Cancer Center (NCCC) provided SFDPH with statistics on cases of malignant mesothelioma. From 1994 until 2003, 110 cases of malignant mesothelioma were diagnosed among San Francisco residents, at frequencies that ranged from 5 to 16 cases per year. (NCCC Data 1994 - 2003) Nationally, the highest rates of mesothelioma incidence occurred in the mid-1990s and the number of cases has been declining since then. (Weill, Hughes and Churg 2004) Not surprisingly, given the long latency period, the majority of San Francisco's cases occurred in individuals between the ages of 65 and 85 (75/110). (NCCC Data 1994 - 2003)

Occupational Asbestos Exposure on Construction Sites

Interview with David Rizollo, SFDPH Asbestos Program Manager

The San Francisco Public Health Department has a unique asbestos program. By cooperating with CalOSHA and the Bay Area Air Quality Management District, SFDPH can promote greater regulatory enforcement of asbestos regulations city-wide, in addition to promoting regulatory compliance in city-owned buildings. While both CalOSHA and the local air district can cite a contractor and owner for the improper handling and disposal of asbestos, SFDPH oversees asbestos clean up work, assuring that the public is adequately protected. SFDPH, under City's Building Code and Health Code, issues clean up and abatement orders, closely monitors the cleanup process and levies fines against violators.

SFDPH is particularly concerned about the health risk for individuals working for small or medium sized contractors who handle asbestos with no controls, training or personal protective equipment. Unskilled/day laborers are at particular risk. Even if they are made aware of hazards related to asbestos, they may not be able to negotiate safer work practices on the job.

Today, the number of asbestos exposures is probably increasing. Although the number may be much lower than exposures in the 1940s and 1950s, it is likely that current estimates of asbestos exposure among workers are too low. Many of the workers who have been exposed to asbestos in San Francisco are day laborers. Many of workers return to their countries of origin during the long latency periods of asbestos-related diseases, and their exposure is never documented. SFDPH has tried various methods of increasing public awareness about occupational asbestos exposure including conducting workshops for day laborers and trainings for building owners who are cited for asbestos violations.

Policy Recommendation to Reduce Asbestos Exposure

Link asbestos surveys to building permits: In San Francisco, there is no connection between asbestos surveys and building permits. Although asbestos surveys are required before any demolition or renovation work, there is no mechanism to inform building owners and contractors of this requirement, or to assure compliance. The State should consider funding a program that requires enforcement at the local level. In 2001, Texas Governor Rick Perry signed Senate Bill 509 which requires building owners and contractors to provide municipalities with evidence that asbestos surveys have been conducted on portions of buildings affected by the planned renovation or demolition by a person licensed under the Act. (Texas Department of Health)

Website of SFDPH's Asbestos Program:
http://www.sfdph.org/eh/ChemHz/Index_asbestos.htm

Our occupation-specific focus groups of restaurant servers, domestic workers, artists and computer programmers provided a significant amount of qualitative data to describe the context for such workplace hazards in San Francisco. Virtually all groups reported experiencing some type of workplace hazard, including physical strains, repetitive stress injuries, and exposure to toxic chemicals.

One participant described her experience making tortillas. She was required to kneel on a table for hours at a time and grind maize. "It was hard because I could not move. The next day, my knee was very swollen as I spent 8 hours not moving."

Participants in the domestic worker focus group reported experiencing heavy physical demands on the job. For example, domestic workers were frequently lifting heavy objects such as furniture, vacuum cleaners, ladders and even people. They also frequently had to spend time in physically awkward positions such as bending over to scrub bathtubs and were often overreaching to complete tasks such as dusting because employers did not provide the appropriate tools. Participants reported working long hours doing hard physical labor without regular breaks. Overall, due to the heavy physical demands of the job, participants reported back pain, neck pain, and knee pain, among other ailments. Artists reported experiencing physical strains on the job as well. Almost all participants reported sitting in awkward positions while painting, drawing or doing graphic design work on the computer which puts strain on back and neck. Several participants noted that they work from home due to lack of studio space which means working in cramped spaces that can be uncomfortable. Painters and printmakers stated that they frequently lifted heavy canvases and paint products.

"My wrists hurt all the time. I've been in restaurants for five years and before that espresso and it's just the wrists. Doing the repetitive motions all the time. I now have to bend my whole body to put a plate down. That just comes with the job I guess."

In 2005, the Coalition for Domestic Workers Rights in the San Francisco Bay Area conducted a survey of 247 domestic workers in San Francisco. The responses from these workers about occupational health and survey corroborated the information we received in our focus group: 63% of the domestic workers surveyed believed their jobs were dangerous; however, only 26% of participants reported receiving protective equipment to prevent occupational exposure or injuries. Of all the domestic workers surveyed, only 14% had received occupational health training. Twenty percent of participants reported that they had suffered a workplace injury that requires medical attention; 9% of workers reported that they had been victims of sexual

harassment; and, 9% of workers also reported they had experienced violence on the job. The authors of the report note the high non-response rate to questions about sexual harassment and violence (43% and 44% respectively) and suggest that cultural norms may prevent the workers from discussing these issues with researchers.

Restaurant servers reported experiencing heavy physical demands on the job. Servers were required to walk or stand for an entire 6 – 7 hour shift. They also continually carried heavy trays and plates of food. Participants reported that repetitive stress injuries were very common. All participants reported tendonitis specifically in wrists and shoulders. Participants also reported it was difficult to take breaks partly due to the fast pace of the work. Slips and falls were also a common problem. While servers were generally not exposed to environmental dangers on the job, participants noted that they reported seeing cooks and busboys get burned frequently. Larry Bain also confirmed these findings in the key informant interview. He reported that the top three concerns for restaurant workers were 1) repetitive stress injuries from carrying heavy plates and trays, 2) slips and falls on slippery floors, and 3) back injuries related to the heavy lifting.

"Employers think we want to use non-toxic materials for our health only- they don't realize we also use them for their (the employers') safety. They don't understand. Each household has their own chemicals, and even though we may know they are harmful, we have to use what is in the house."

Domestic workers also reported being exposed to toxic chemicals regularly. Participants described that mixing cleaning products such as ammonia and Clorox (which causes dangerous Chlorine gas to form) in an effort to create a more effective cleaning product was a common practice. Participants often experienced eye and nose irritation due to cleaning products, and they were rarely provided with masks or gloves to protect their faces and hands from irritation. Artists were also exposed to toxic chemicals regularly. For our focus group participants, the most common occupational hazard was solvents, used to dissolve and mix with oils, varnishes, and inks; to remove paint and lacquers; and to clean brushes, tools, silk screens and even hands (McMann 1994). Solvents can be absorbed orally, through the inhalation of vapors, or through the skin. They can cause serious health problems including toxicity to the nervous system, reproductive damage, liver and kidney damage, respiratory impairment, cancer, and dermatitis. All the oil painters knew they were being exposed to toxic chemicals through their

"I have a mask in my studio and sometimes I use it but not all the time. There's something about putting the mask on that kind of interferes with the whole process. I've heard about water-based oils but they are not the same. I get wheezy from the fumes."

work. Several members of the group stated they took steps to mitigate the toxicity by ensuring proper ventilation in their workspaces and limiting the amount of time they work with oils. Some group members use gloves and masks when working with chemicals. Participants also reported light-headedness, rashes, and wheezing which they believed were caused by occupational health exposures. Finally, all participants reported that they had been exposed to toxic chemicals at one time or another due to their art work.

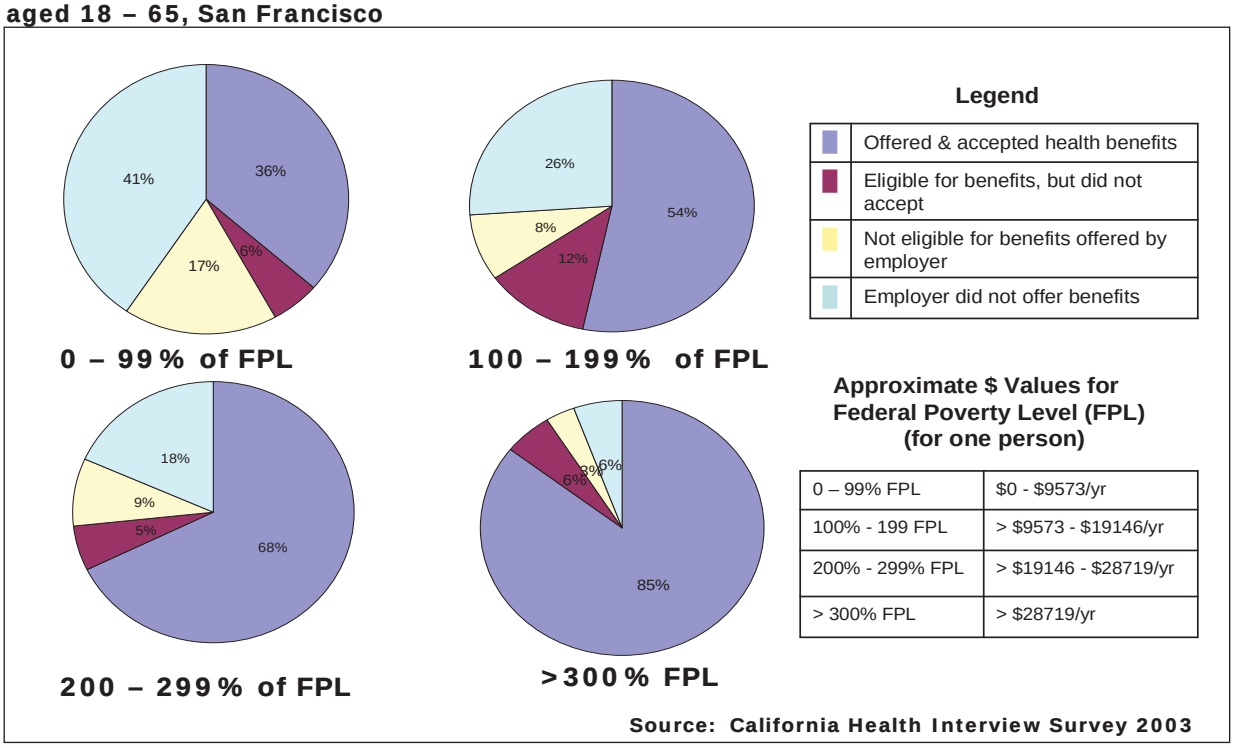
In contrast to the other groups, computer software engineers stated they were rarely required to do heavy physical activity on the job nor did they believe they were exposed to materials at work that are bad for their health. In their focus group, public sector computer software engineers stated they did experience repetitive stress injuries, particularly in wrists and shoulders from typing and using the mouse. They also reported a lack of understanding at a managerial level about how to prevent and treat repetitive stress injuries. Public sector engineers in the focus group and private sector engineers who were interviewed all reported a lack of physical activity. Workers working in City buildings described them as old with poor heating, cooling and ventilation systems. Focus group participants also reported that they relied on the union to give them occupational health and safety information.

"From what I've seen at [City Department], any kind of approach to ergonomics is completely dependent on the manager's initiative. There appears to be no department-wide approach. The City appears to have a policy for everything but 95% of the policies are never implemented. Some managers try to get you ergonomic furniture and others act as if you are a whiner if you bring it up."

d. Health Insurance Coverage

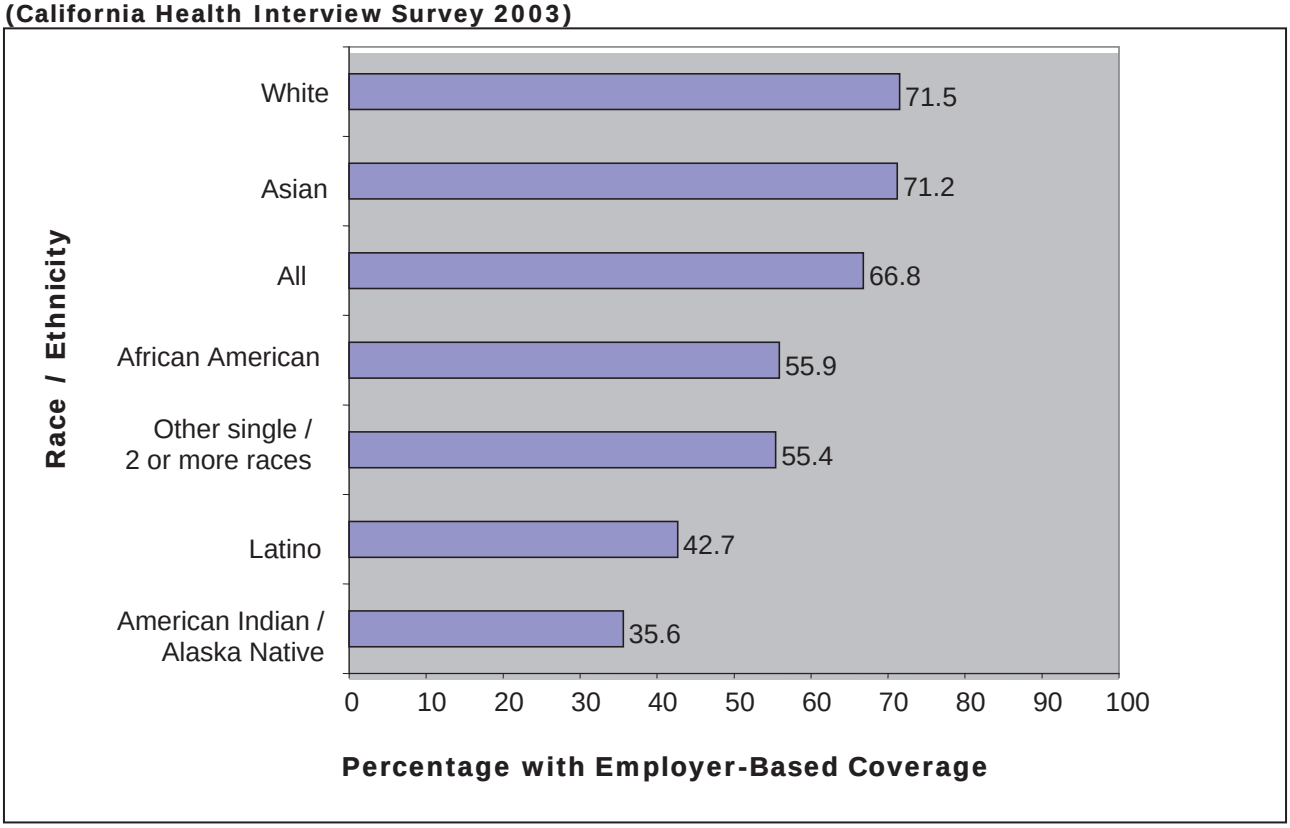
SFDPH found that job-based health insurance in San Francisco was directly related to income. Only 36% of San Francisco's adults living at or below 99% of the federal poverty level have job-based health coverage while 85% of those living at 300% or more of the federal poverty level have job-based coverage. (Figure 6)

Figure 6. Eligibility for Job-Based Health Coverage and Acceptance of Coverage Among Adults aged 18 – 65, San Francisco



The data also illustrate that African-Americans and Latinos are significantly less likely to have job-based health insurance than Whites or Asian-Americans. Health insurance coverage in California and San Francisco appear to mirror national trends. (Kaiser Family Foundation 2004; California Health Interview Survey, 2003) (Figure 7) Nearly all (95%) of workers surveyed in the Domestic Worker Survey did not receive health insurance. The largest barrier to accessing healthcare for domestic workers was ability to pay, followed by language barriers.

Figure 7. Distribution of Employer-Based Health Insurance by Race/Ethnicity, San Francisco (California Health Interview Survey 2003)



The focus groups generally corroborated the pattern of health insurance coverage described by the above. All the women who participated in our domestic workers' focus group were very low-income Latinas. None of the participants had access to health insurance benefits through their employers, nor did they receive sick time or vacation time through work. Domestic workers reported a heavy reliance on community clinics, and simultaneously described multiple barriers to accessing care, including fear of incurring overwhelming debts and fear of immigration consequences of medical visits. One participant (age 21) was covered by the County's Healthy Families program "Healthy Kids". Two participants reported that their children were uninsured; however, the majority reported that their children were enrolled in the Healthy Kids program.

Restaurant servers also reported limited access to health insurance benefits through work. For some, after a server has worked for an average of a set number of hours a week for six months, they are entitled to benefits. However, none of the participants had health insurance through the employer. They also reported no sick days or vacation benefits through work. However servers believed that their work had a significant impact on their health. They

reported resorting to home remedies due to fear of the cost of medical care. They also frequently experienced exhaustion on the job but continue to work because afraid of employer.

In our interview with Larry Bain, he also described that it was unusual for restaurants to provide benefits such as health insurance for employees. He attributed this to the fact that patrons refused to spend enough money on food to truly support the cost of food production. He also described chain restaurants as being established on the premise of offering guests the lowest possible price, which meant low compensation and benefits for workers. He felt that the City of San Francisco was paying a lot of money to support restaurants that did not offer benefits to their workers.

With respect to artists, access to health insurance was an issue of great concern. An Urban Institute study found that artists are more likely to pay for healthcare coverage themselves (51% of artists compared with 8% of the American population) and in many cases pay the high cost of non-group coverage. (Jackson et al. 2003) Among the artists who participated in the focus group, they reported not having access to benefits through their work as artists. However, 4 out of 9 artists had health insurance through their second jobs or through their partners. The 5 artists without health insurance used free clinics. Several group members stated that they felt lucky to live in San Francisco because they could access good health care services at the free clinics. One participant supplemented care at free clinics by going out of the country to take advantage of the socialized medicine in his home nation. Out of pocket costs were a significant concern to participants who had health insurance. Access to specialty care and waiting times for appointments were concerns voiced by participants who did not have health insurance.

"There's no such thing as savings, no healthcare, I don't have a car. It's hard to predict shows. I send out a lot of slides and stuff and sometimes it looks like I don't have a show for the next 8 months. It's nothing you can plan on."

All computer software engineers (private and public), whose incomes were much higher, all had job-based health insurance, with the exception of one participant who was an independent contractor. Overall, computer engineers working for the City agreed that they had access to excellent health care benefits as City employees.

e. Work Demand, Work Pace Control, and Decision-Latitude

No systematic data sources provide information on work demand or work pace in occupations in San Francisco. Consequently, we gathered information on this topic solely through our focus groups. The workers who experienced the least stress related to work pace were the unionized computer programmers who work for the City of San Francisco. They noted that they generally worked a forty-hour week but recognized that their experience was different from those workers in the private sector. The computer programmers in the private sector reported a fast work pace; nevertheless, they also felt they had some control over how they did their work and which tasks they prioritized, so they did not resent the pace of work. Artists also had a certain amount of control over their work and work pace; however, some of the artists reported experiencing stress related to work pace because they were trying to work at two or more jobs to make ends meet. The domestic workers and the restaurant servers reported limited work pace control and fast-paced work environments. The domestic workers stated that they regularly experienced pressure from employers to work excessively fast and also regularly experienced pressure from employers to work extremely long hours, a problem compounded by the fact employers frequently control workers' transportation to and from jobs.

"One of the things that I find a little bit stressful is the pace of technology. There are a lot of new technologies that are being introduced all the time."

Restaurant servers reported little control over their work-pace or their work tasks. Participants stated that they regularly experienced pressure from managers to work excessively fast. They reported feeling "harassed" by managers to perform quickly. Servers are expected to manage work flow in standard amounts of time set by the corporate headquarters and these set times frequently did not reflect the reality in the restaurant. Restaurant servers believed that their work has a significant impact on their health. Participants reported that they experienced high levels of stress at work, and they agreed that high rates of drinking and drug use among restaurant servers was due in part to the pace of the work. They also reported that repetitive stress injuries were related directly to work. Larry Bain also reported high levels of stress, with servers often being yelled at by everyone, as well as high levels of substance abuse as alcoholic beverages were usually easily available at restaurants.

Indicators for decision latitude are also not routinely collected in the United States. Qualitatively, of the four groups we profiled, only the computer programmers felt that they experienced high levels of decision latitude on the job. However computer engineers reported that decision latitude was highly dependent on management style of supervisor. Participants

reported that they much preferred working for a manager who recognized their expertise and allowed them to work independently. Private sector workers overall described having significant discretion over how they manage their work tasks and over final products.

The restaurant servers reported very limited decision-making latitude. They stated they have very little control over their schedules and schedules vary every week which makes it difficult to plan non-work-related appointments and meetings. Managers use scheduling as a method of controlling staff and rewarding staff for "good" behavior. Servers reported that most workplace policies are set by corporate headquarters which is located out of state. Servers only have influence over very small issues such as giving patrons another bread basket or adjusting work schedules by ten minutes.

"I don't feel like we have any say in policies individually. I feel like collectively, there's potential, like in any workplace. We all get paid minimum wage and we have very little control over our schedules. We're not guaranteed any number of hours. We could be scheduled 5-6 days one week and 2 days the following week. We start at different times every single day."

The concept did not apply well to the artists because they all worked independently as visual artists and generally made unilateral decisions about how to proceed with their work. The concept was also difficult to explain to the domestic workers focus group participants but for the opposite reason. Within the context of their work, most perceived little control over their work circumstances.

Chinatown Restaurant Workers

In the summer of 2005, the Chinese Progressive Association (CPA), in conjunction with the Labor Occupational Health Program (LOHP) at U.C. Berkeley, reported on the experiences of restaurant workers in San Francisco's Chinatown. (Chu and Cooper 2005) CPA and LOHP conducted site visits, focus groups and key informant interviews to better understand the occupational health experiences of Chinatown's restaurant workers. According the CPA/LOHP report, 13.4% of Chinese workers are employed in the restaurant industry, making it the largest source of employment for San Francisco's Chinese community. The vast majority of these workers are relatively recent immigrants who do not speak English fluently. Despite the fact that this population faces certain challenges unique to immigrant workers, there are still many occupational health and safety issues which are universal to all restaurant servers in San Francisco. Chinatown's restaurant workers reported the main physical occupational health concern as slip and falls, cuts, and sore wrists and arms. In terms of psychosocial issues, these workers reported severe stress brought on by long hours without breaks, job insecurity, lack of trust in the management, unclear work roles, and mistreatment by the boss. From their focus groups, the researchers found that for workers to care about health and safety issues in a restaurant, they have to address work organization issues such as poor management, job insecurity, and lack of trust. "Many times workers are aware that their workplace is hazardous but have already accepted a component of what it means to survive in America given their status as immigrants."

f. Work-Life Balance

We did not find a systematic data source for information about work-life policies among U.S. employers. At a local government level, the Department on the Status of Women with the City and County of San Francisco (CCSF) conducted a survey of work-life policies and practices among San Francisco City departments. (CCSF 2001) Many City agencies have a range of work-life policies in place such as flex time, compressed work weeks, part-time positions, job sharing and telecommuting. Similar data were not available for private sector employers.

Many of our focus group participants, particularly the low-income and non-unionized workers, found it difficult to balance work and family pressures. Among the domestic workers, participants stated that they frequently worked when unwell because they need the income for basic necessities and they are afraid they will lose their jobs if they do not come to work. All agreed they were afraid to tell employers that they have children because employers will not hire them. All reported that it was difficult to balance work, their children's needs, and other personal priorities such as learning English or studying for the GED. Artists also reported that it is a struggle to find work-life balance. Because most participants worked at jobs in addition to doing their art work, they reported difficulty balancing work and life. Partipicants reported feeling constant pressure to market themselves and their work, which made it difficult enjoy "down time".

"I was asked by an employer if I had children and I knew that if I answered yes, I would not be given the job. I have 3 children and they all get sick. My boss would ask me if I have someone to take care of them, so that I don't miss work and even though I do not have anyone to take

"Basically you work 24/7. What's a vacation? I've never had a vacation. The good news about that is that I like what I do except for the business part. But the actual painting part I really like."

Larry Bain also described the work-life situation for restaurant workers as a struggle. In his experiences, many servers juggled two jobs so they could afford to live in the Bay Area. For participants in the focus groups, work-life balance was an issue because of the nature of shift work. The restaurant servers reported that they generally worked less than 30 hours a week even though many servers would like to work more. Shift schedules changed weekly, making it difficult to schedule other activities or appointments around work. The restaurant servers did not know why shift hours at the particular restaurant where they work are limited and irregular. However, they believed it might be related to the fact that servers have to average a certain number of hours a week over six months to be eligible for their employers' health insurance plan. By limiting employees' shifts, the employer limits the number of employees eligible for health insurance coverage.

g. Workplace Social Support

No routine data was available to assess social support at work for all occupations. Based on focus group responses, domestic workers, artists and restaurant servers (lower wage workers) all felt that they lacked a supportive work-environment. For the most part, the domestic workers reported extremely unsupportive work environments where they regularly experienced sexual harassment and verbal abuse. They uniformly reported sense of powerlessness. Participants did state that they feel supported by Mujeres Unidas y Activas.

"I don't feel like we have any say in policies individually. I feel like collectively, there's potential, like in any workplace. We all get paid minimum wage and we have very little control over our schedules. We're not guaranteed any number of hours. We could be scheduled 5-6 days one week and 2 days the following week. We start at different times every single day."

The restaurant servers also reported unsupportive work environments. They described high levels of conflict in the workplace and an environment where workers were constantly competing with their peers for customer tips and attention from managers. Larry Bain confirmed this sentiment as well, describing turf wars over tips and conflict among servers to secure the best support from the bartenders and baristas. He also described a situation in which there was an unfortunate and fairly rigid hierarchy based on job description and race. For example, Latinos tended to find themselves relegated to positions as dishwashers, prep cooks and busboys, while waiters tended to be Caucasian. He found this dynamic to create tensions among employees.

Artists generally worked alone so this question did not translate well for them. They did not feel supported by the City in terms of funding for arts or opportunities for artists. The computer software engineers, in both the public and private sector, felt they had reasonably supportive work environments. During their years of working at the City, all the focus group members had experienced poor management which led to conflict; however, conflict in the workplace was not identified as a significant problem by the group. The computer software engineers in the private sector worked with customers, providing software support, and they all stated that these interactions with the customers could be very stressful.

h. Potential for Human Development

No routine data source exists to gauge relative potential for human development at work. None of our occupational focus groups felt that they had significant opportunities for personal development through work. While the artists had ample opportunities for self-expression through their artist work, they reported limited opportunities for professional development. None of the artists participated in any organizations or groups that helped artists with professional development. Some group members created their own professional development opportunities such as authoring a regular blog for artists and art-lovers, putting together shows in their homes, and taking classes.

The domestic workers felt strongly that they had no opportunities for self-expression and development. Their training opportunities again came from outside advocacy and support organizations. The restaurant servers also did not feel like they had opportunities for personal or professional development on the job. They described extremely limited skill-based training opportunities and reported no occupational health and safety training.

"For me the biggest frustration for working at the City is the lack of motivation and the lack of incentives to perform well. In my life I strive for excellence. I really like being part of an environment that cares about achieving something. I get frustrated at seeing people who really don't care about the work they produce, especially at higher levels…[W]e're using people's tax money. I really try hard to do well and I often get punished for it. I've been punished for suggestions or improvements. The lack of incentives for improvement or to do better can really be stressful for people who care about the quality of their work."

Even the computer programmers had concerns about their personal development opportunities. The programmers in the private sector reported that their employers provide them with skills training on a regular basis; however, personal development was one of the most significant work-related problems for software engineers working for City agencies. Municipal information-technology (IT) workers can end up working with much older technology than private sector IT workers which they felt significantly diminished their marketability. Employees frequently have to be willing to train themselves because managers rarely provide training plans. Participants also felt that the Union of Professional and Technical Engineers had a significant, beneficial impact on their work experience.

"Right now, I'm responsible for using two technologies that I have not been trained in. It's hard. I'm supporting 9 different systems so I don't have time to develop proficiency in these programs. I have no peers I can learn from and it's totally inefficient to try and learn something from the book."

Section 5: Synthesis and Recommendations

The aim of this report was to profile San Francisco's labor market using a health "lens." Our overarching goal is to inform "healthy employment" policy recommendations for San Francisco and assess the feasibility of initiating a more thorough study of the health of the local labor market.

Time, funding, data availability, and staff resources constrained our research. The report includes comprehensive demographic data on San Francisco's workforce including statistics of the labor force by age, ethnicity, and occupation. As occupational health data are generally collected at a state and national level, collecting physical and psycho-social data on workers at a county level, proved much more difficult. Focus groups of four specific occupations and key informant interviews supplemented available secondary data sources.

Few routinely collected data sources provide systematic information on work pace control and stress, work-life balance, opportunities for self-expression and personal development on the job and supportive work environments. SFDPH focus groups provided only limited information on these health-related dimensions for a selected group of occupations. In San Francisco, the Department on the Status of Women has conducted a survey of work-life policies and practices among San Francisco employees. (CCSF 2001) The comprehensive report of this survey provides a template for policymakers who may wish to expand the study to look at the policies of all the City's employers.

Despite these acknowledged limitations, a number of distinct issues were raised through the data and in each occupation-specific focus group that could be addressed through City policy and action. Overall, the focus groups provided rich information on the experiences of participants with respect to the multi-dimensional framework. All groups faced challenges in their work lives that had both direct and indirect effects on their health. For example, artists and domestic workers were exposed to toxic chemicals through their work. Restaurants servers and domestic workers experienced heavy physical demands on the job. All workers talked about stress associated with job insecurity, income, lack of benefits, work pace control and workplace social support. The data overall illustrate that workers have more in common with respect to these psycho-social attributes than not in common.
Below we provide a number of recommendations that could support workers in the occupations who participated in our focus groups. These include:

Domestic Workers

- Provide domestic workers with a form of legitimate employment status so they can negotiate with employers about working conditions and benefits.
- Provide funding for occupational health and safety programs targeted to domestic workers.

Artists

- Secure an adequate supply of new arts space that is protected from market forces.
- Explore the possibility of an artists' health insurance program in San Francisco building on the research and analysis that has been completed by the Urban Institute and the Washington Artists Health Insurance Project.
- Make it as easy as possible for San Francisco artists to access occupational health and safety information particularly about the products they are exposed to.
- Create fact sheets for artists on occupational health and safety hazards and post the information on SFDPH's EHS website.

Restaurant Workers

- San Francisco should enact legislation to require that employers provide sick days to restaurant workers.
- San Francisco should establish a program to educate restaurant workers about occupational health and safety hazards.
- San Francisco should establish a program to regulation occupational health and safety hazards as it is clear that Cal/OSHA does not have enough inspectors to fully enforce their occupational health and safety regulations.

Computer Engineers

- San Francisco should establish a program to educate local workers about repetitive stress injuries and ensure that employers are providing workers with relevant information.
- The City of San Francisco should consider instituting a wellness program for City employees.

The facts presented in this report raise important questions for policy makers. San Francisco's occupational structure tends towards two extremes: highly paid professional positions and very low wage service jobs. Blue collar jobs, which traditionally provided less educated workers with

secure employment, health insurance, vacation benefits and pension plans, are rapidly disappearing. In their place we find the occupations with the largest number of projected job openings have very low median hourly wages and typically offer few benefits. These types of jobs should not be considered "healthy" based on a comprehensive occupational health framework: they do not pay a living wage; they usually do not provide health insurance benefits; they are frequently shift-work which contributes to worker stress; they are rarely unionized positions; and, they do not provide workers with high decision latitude and the opportunity to control work pace.

The fastest growing occupations in San Francisco are in the technology and research and development sectors. These positions are much "healthier" based on our occupational health framework – they pay better; they provide workers with adequate benefits packages and relatively greater job security. However most of these jobs require at least a college degree, and do not appear to be accessible to a large proportion of San Francisco's diverse population. The California Work and Health Survey illustrates that Latinos and African-Americans in particular, have been left behind in the State's technology boom and that these groups find it hard to access the fast-growing technical fields.

Overall, current labor market trends in San Francisco have the potential to perpetuate existing patterns of poverty and inequality, unless policymakers act to improve the quality of work for San Francisco workers. In particular, policymakers must look at ways to include socially marginalized groups in the growth of technology-related industries and to ensure service and support jobs provide workers with living wages and benefits. Based on the data gathered and the data gaps identified, we believe the following actions would contribute positively to the health and safety of San Francisco's workers.

1) Improve data collection on the local labor force: One of the purposes of this report was to determine what data we do not have access to that would help us assess the health of San Francisco's workers. Data collection needs to be improved at many levels. First, researchers and policymakers need access to existing data that measure standard occupational health indicators (e.g., workers compensation data at a local level). As discussed above, we were unable to access data for many of the CSTE occupational health indicators. Of the missing indicators, the following four listed in the table below appear to be most significant for San Francisco. Second, the City should consider conducting a survey of the local labor market to

gather comprehensive information about the psycho-social aspects of work which have a significant impact on worker health.

Priority CSTE Indicators	Why This Information is Useful
Non-Fatal Work Related Injuries and Illnesses Reported by Employers. This indicator provides basic information about the types, frequencies and rates of injuries that impact local workers. Without this information, it is difficult for local policymakers to prioritize funding for occupational health activities.	Estimating the burden and tracking these injuries can help target prevention programs and activities.
Work-Related Hospitalizations. Individuals hospitalized with work-related injuries and illnesses have some of the most costly health outcomes. Tracking these hospitalizations can help local policymakers target prevention programs which in turn should reduce cost.	SFDPH could use this data to create occupational health intervention programs for high cost users of local public health safety net institutions.
OSHA Enforcement Activities. Most occupational health tracking and enforcement occurs at the State and Federal level. If this information was available at a County level, it would provide indications of the number and proportions of workers and worksites benefiting directly from OSHA inspection activity.	Local public health departments could provide training to non-compliant employers (with additional State and federal funding) and improve long-term OSHA compliance.
Workers' Compensation Awards. The total and average amounts of workers' compensation benefits paid estimate the burden of work-related injuries, which can help to justify prevention programs and activities. This information is currently unavailable due to confidentiality concerns cited by employers.	Local policymakers and officials from the Department of Industrial Relations should work together to establish a method of providing this information while protecting the employers' interests.

2) Ensure that the San Francisco's minimum wage provides for self-sufficiency: Income is one of the strongest predictors of individual health status. Increasing the minimum wage is one practical method of ensuring that San Francisco's low wage workers can continue to survive and thrive in San Francisco.

3) Provide occupational health and safety training for low wage workers and shift workers: All the low wage workers in focus groups conducted for this report (artists, restaurant servers and domestic workers) reported occupational health exposures and injuries. Ensuring workers in high risk San Francisco occupations be educated on common workplace hazards and on safe work practices and protective equipment could prevent avoidable injuries.

4) Protect jobs that provide workers with living wages and benefits: Jobs, in light industrial and manufacturing and unionized jobs, typically provide greater resources for health,

than low-wage, shift jobs such as food prep work or cashier positions. In such jobs, employees have higher wages, work standard hours sick leave, and access to education and training.

5) Support efforts to establish benefits for low wage workers: Access to health insurance and benefits such as vacation time and sick time provide workers with the opportunity to take care of their health needs and those of their families. These benefits both help protect the health of San Francisco's workers, prevent workplace infectious disease transmission, and may reduce the severity of chronic illness.

6) Provide incentives for industries that provide workers with benefits: Jobs, such as "production, distribution and repair" jobs, and unionized jobs, are better for workers' health. They provide workers' with much needed benefits; employees work standard hours; and employees frequently have access to training programs through groups or unions.

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Appendix I: Moderator's Guide for Focus Groups

Introduction

- Thank you for agreeing to participate in this focus group.
- Purpose of the session – want to talk about your physical work environment, the psycho-social aspects of your work environment (e.g., the stress you feel at work, the opportunities for self-expression, the opportunities for individual development), your work load, your work schedule, policies and rules at your work, job security, participation and relationships at work among staff people, and your ability to ensure you have enough time with your family.
- Goals – to create a narrative from workers in specific industries; to identify some ways that health might be impacted (positively and negatively) by occupational health experiences. Your opinions and feedback will be used to inform policy makers about the health consequences of policies that affect labor markets. Data will used to target occupational health resources effectively.

Logistics

Confidentiality

- Participation should be completely voluntary – folks can leave at any time
- Discussion is totally confidential - will not report/describe comments by name - will keep no records of participants' names/addresses
- Do not need to state full name--in fact, can use any name you want

Discussion

- There are no right or wrong answers so please feel free to be totally honest. Appreciate input, want to hear from all of you about experiences at work and how those experiences might relate to your health
- Hope the information can help identify ways to improve San Francisco's workplaces

Process

- Have gift certificates to compensate for participation - will distribute at the end – want to show appreciation for participation
- Will ask a few broad questions, but really looking to hear from participants
- My role is to guide the discussion – focus on some questions and let folks tell their stories
- Sometimes might have to move folks onto another question so we can get through it – or to give everyone a chance to speak - Please don't take it personally!
- We will be talking for about an hour.
- Permission to audiotape? Want an accurate description of what was said
- If folks agree to audiotape, will start recording after introductions
- Handing out information sheet with my contact information

Questions before starting?

Group introductions

Let's go around the room and introduce ourselves.

- My name is X.
- Lived in SF for the past X years.
- Current residence for X years.

Focus Group Format

A. General Questions

1. **Physical Activity:** Thinking about your specific job, can you talk about the physical effort required to do your job? Probes:
   - Time spent in physically awkward positions
   - Time spent sitting/standing/bending/kneeling at work.

2. **Physical Environment:** Thinking about your work environment, are you ever exposed to things at work that you think might be bad for your health? (e.g., chemicals, dust, machinery) Probes:
   - Have you received any training about occupational health hazards (e.g., through school, through advocacy groups etc.)
   - Exposure to chemicals at workplace (e.g., cleaning solutions, sprays etc.)
   - Exposure to air pollution at workplace (e.g., dusts, smoke, gas, fumes, fibers)
   - Exposure to dirty or badly maintained areas at workplace
   - Exposure to dangerous machinery, tools or equipment at workplace

3. **Decision Latitude:** Please discuss the decision-making process in your workplace. Probes:
   - Does the lack of structure help/hinder your work?
   - Do you feel that work successes are measurable?
   - Do you get positive feedback?

4. **Work Pace Control and Decision Latitude:** Please talk about the pace of work in your job and at your workplace generally. Probes:
   - How much time are workers given to complete tasks? It is enough/too much/too little?
   - Are workers frequently given conflicting demands by managers within the company/agency?
   - Are workers ever required to work excessively fast?

5. **Work-Life Balance:** Please talk about your ability to balance the time you spend at work and the time you spend on other obligations (e.g., second job, family, personal time, hobbies, exercise)

6. **Job Security:** Do you feel that your job is secure? Probes:
   - Is it possible to find secure jobs in the arts?
   - Does a second job provide some security?

7. **Individual/Personal Development:** Please discuss any opportunities for personal education/development that are provided in your workplace. Probes:
   - Are you satisfied with your job?
   - Did you get professional development training in art school?
   - Are you able to access information about legal issues, financial issues and market-based issues?

8. **Conflict at Work:** Do you experience conflict in your professional/working relationships (e.g., among peers, gallery owners, studio owners etc.)?

9. **Union Influence:** Please talk about whether or not there is a union or employee association influential in affecting work policies.

10. **Miscellaneous:** How do you see your health and the health of your family connected to your paid work? Probes:
    - Physical issues (fatigue, pain, high blood pressure, headaches)
    - Mental issues (depression, anxiety)

- Stress related to financial status

B. Summary Questions

1. Do you have any further comments on the topic of work and health?
2. Are there any other issues that you would like to address?

C. Conclusion

Thank participants and explain the next steps of this study.

Appendix II: List of Interviewees

Larry Bain
Next Course

Manuel Castro
Unite Here, Local 2

William Copenheaver
San Francisco Department of Public Health, Agricultural Program

Sara Flocks
Young Workers United

Katy McNamara
San Francisco Department of Public Health, Community Toxics Program

David Rizzolo
San Francisco Department of Public Health, Asbestos Program

Alex Tom
Chinese Progressive Association

Karen Yu
San Francisco Public Health Department, Community Toxics Program

Appendix III: CSTE/NIOSH Standard Occupational Health Indicators (CSTE 2004)

Category	Indicators	Rationale	SF Data
Occupational Injuries and Illnesses Combined	Indicator #1: Non-Fatal Work Related Injuries and Illnesses Reported by Employers	Work-related injuries and illnesses are preventable and control of occupational hazards is the most effective means of prevention. Estimating the burden and tracking these injuries can help target prevention programs.	Unavailable at the County level. Available at State level – DHS.[5]
	Indicator #2: Work-Related Hospitalization	Individuals hospitalized with work-related injuries and illnesses have some of the most costly health outcomes. Tracking these hospitalizations can help County health departments to target prevention programs.	Unavailable at the County level Available at State level – DHS.
Acute and Cumulative Occupational Injuries	Indicator #3: Fatal Work-Related Injuries	Surveillance of work-related fatalities can identify new hazards and case clusters, leading to the development of new interventions and development of new or revised regulations to protect workers.	Available for the SF, Oakland, Fremont metropolitan service area BLS[6] (2003 data)
	Indicator #4: Work-Related Amputations with Days Away From Work Reported By Employers	Work-related amputations are a preventable serious injury. Information on reported cases can be used to identify contributory factors and to develop improved or new prevention strategies or regulations to protect workers.	Unavailable at the County level. Available at State level – DIR[7]
	Indicator #5: Amputations Filed with the State Workers' Compensation System	Same as above	Collected from DIR -Workers Compensation Division.
	Indicator #6: Hospitalization For Work-Related Burns	Work-related burns are devastating injuries that are costly to treat. In addition, burns are the most common cause of work-related hospitalization for young workers.	Unavailable at the County level.
	Indicator # 7: Work-Related Musculoskeletal Disorders w/ Days Away From Work Reported By Employers	Work-related musculoskeletal disorders are a preventable serious injury. Information on reported cases can be used to identify contributory factors and to develop improved or new prevention strategies or regulations to protect workers.	Unavailable at the County level.
	Indicator #8: Carpal Tunnel Syndrome (CTS) Cases Filed w/ State Workers' Comp System	CTS is a preventable serious injury. Information on reported cases can be used to develop better strategies or regulations to protect workers.	Collected from the DIR -Workers Compensation Division.

[5] CA DHS = California Department of Health Services
[6] BLS = Federal Bureau of Labor Statistics
[7] CA DIR = California Department of Industrial Relations

Occupational Illnesses	Indicator #9: Hospitalization From or With Pneumoconiosis	Pneumoconiosis frequency varies geographically being largely determined by local industrial activities and migration of affected individuals. Tracking of pneumoconiosis is essential for targeting prevention and disease mgt programs.	Unavailable at the County level. Available at State level – DHS.
	Indicator #10: Mortality From or With Pneumoconiosis	Same as above.	Unavailable at the County level Available at State level – DHS.
	Indicator #11: Acute Work-Related Pesticide-Associated Illness and Injury Reported to Poison Control Centers Occupational Exposures	Workers who handle pesticides are at increased risk for exposure. These data can be useful to target prevention.	Collected from DHS. (SF Poison Control Center did not have this information.)
	Indicator #12: Annual number of incident mesothelioma cases	Malignant mesothelioma is a rare, fatal cancer largely attributable to workplace exposure to asbestos. Tracking of malignant mesothelioma should be undertaken to document the burden of occupational disease, to evaluate the impact of prevention efforts over time, and to identify previously unrecognized settings in which workers may continue to be at risk of asbestos exposure.	Collected from the Northern California Cancer Center.
	Indicator #13: Elevated Blood Lead Levels Among Adults	Among adults, lead poisoning is a persistent, mainly occupational, health problem that continues to be an important public health problem. Federal OSHA regulations to protect workers from lead-associated health effects include requirements from blood lead levels among employees who meet certain exposure criteria.	Unavailable at the County level Available at State level – DHS
	Indicator #14: Percentage of Workers Employed In *Industries* at High Risk for Occupational Morbidity	Work-related injuries & illnesses are preventable, & control of occupational hazards is the most effective means of prevention. Concentrating on high-risk industries for non-fatal injuries & illnesses helps prioritize limited resources.	Collected from the U.S. Census Bureau (2002 County Business Patterns)
	Indicator #15: Percentage of Workers Employed In *Occupations* at High Risk for Occupational Morbidity	Same as above.	Unavailable at the County level. Available at State level – DIR.
	Indicator #16: Percentage of Workers Employed In Industries and	Same as above.	Unavailable at the County level. Available at State level – DIR.

	Occupations at High Risk for Occupational Morbidity		
Prevention Resources for Occupational Health	Indicator #17: Occupational Safety and Health Professionals	Work-related injuries and illnesses are preventable. It is important to determine if there are sufficient trained personnel to implement occupational health preventive services.	Unavailable at the County level.
	Indicator #18: OSHA Enforcement Activities	The measures of frequency for this indicator provide indications of the number and proportions of workers and worksites potentially benefiting directly from OSHA inspection activity.	Unavailable at the County level.
Socioeconomic Impact of Occupational Injuries and Illnesses	Indicator #20: Workers' Compensation Awards	The total and average amounts of workers' compensation benefits paid estimate the burden of work-related injuries, which can help to justify prevention programs and activities.	Unavailable at the County level.