

SUPPORTING STATEMENT THE NATIONAL AGRICULTURAL WORKERS SURVEY (NAWS)

Introduction

The Department of Labor's Employment & Training Administration (ETA) requests the Office of Management and Budget's (OMB) approval to continue collecting employment, demographic, and health information on hired crop workers for three years via the National Agricultural Workers Survey (NAWS). Associated with the extension, the ETA, in partnership with several Federal agencies, is seeking to administer new questions on occupational mental health, alcohol consumption, child care arrangements, and place of birth.

The NAWS, an establishment-based survey, is the only national information source on the demographic, employment, and health characteristics of hired crop workers. The DOL has conducted it since fiscal year (FY) 1989. Created in response to the 1986 Immigration Reform and Control Act (IRCA), the survey was designed to monitor the supply side of the farm labor market. The DOL uses the survey to evaluate the human resources available to agriculture and to observe the terms and conditions of agricultural employment. In addition, the survey's findings are used across several Federal agencies to estimate the need for migrant and seasonal farm worker program services and for other purposes.

On September 5, 2007, the ETA solicited comments regarding this collection via a 60-day pre-clearance Federal Register Notice (Volume 72, Number 171, pages 50983-50985) (Appendix A). The notice indicated the ETA's intention to continue administering the primary questionnaire (Appendix B) with new questions on occupational mental health (Appendix C), as well as the currently approved agricultural occupational injury supplement (Appendix D). For comparison purposes, the currently approved primary questionnaire appears as Appendix E.

Justification

1. Circumstances that Make the Collection of Information Necessary

Collection of information on the U.S. hired farm labor force is necessary to monitor the terms and conditions of agricultural employment and to evaluate the human resources that are vital components of the nation's thriving agricultural sector.

The U.S. government has collected information on the employment and demographic characteristics of hired farm workers since 1944. Prior to the NAWS, the information was obtained via a supplement to the Current Population Survey (CPS). The Department of Agriculture (USDA) funded the supplement and also analyzed and published the data. The CPS supplement provided detailed national estimates about farm workers for use by the public. Federal and state government programs also depended on this information.

The DOL assumed responsibility for collecting data on hired crop workers in response to the IRCA mandate that required the DOL to estimate the availability of seasonal farm labor from 1990 to 1993. To comply with the mandate, it became necessary to replace the CPS methodology, which resulted in a large undercount of migrant farm workers, with a new survey methodology: the NAWS. Other parts of IRCA authorized permanent appropriations for the purposes of: (1) recruiting domestic workers for temporary labor and services which might otherwise be performed by nonimmigrants and agricultural transition workers; and (2) monitoring terms and conditions under which such individuals are employed.

NAWS data are essential for understanding changes in and estimating the sizes of populations eligible for assistance via farm worker and farm worker-related programs. The Federal government currently allocates approximately \$1 billion per year to such programs, including those administered by the departments of Health and Human Services (Migrant Health and Migrant Head Start), Education (Migrant Education) and Labor (National Farmworker Jobs Program). As the only national information source on the employment, demographic, and health characteristics of hired crop workers, NAWS data are central for informing and evaluating these programs. The Wagner-Peyser Act, as amended (29 U.S.C. 49f (d) and 491-2(a)) authorizes the DOL to collect this information.

Justification for Occupational Mental Health Surveillance in the Farm Labor Force

Since 1985, the Department of Health and Human Services (DHHS) has coordinated initiatives to reduce or eliminate racial and ethnic health disparities. These disparities result in less than optimal productivity, higher health-care costs and social inequity (CDC, 2004). According to a supplement to the Surgeon General's Report on Mental Health (http://www.mentalhealth.samhsa.gov/cre/ch1_intro.asp) there are striking disparities for minorities in mental health services and the underlying knowledge base. Racial and ethnic minorities have less access to mental health services than do whites and are less likely to receive needed care. When they receive care, it is more likely to be poor in quality. According to a study by the World Health Organization, the World Bank, and Harvard University, mental disorders are so disabling that, in established market economies like the United States, they rank second only to cardiovascular disease in their impact on disability (Murray & Lopez, 1996). Similar prevalence, combined with lower utilization and poorer quality of care, means that minority communities have a higher proportion of individuals with unmet mental health needs.

Farm workers comprise a priority population as defined under the National Occupational Research Agenda (NORA), i.e. vulnerable populations at risk, and meet CDC/NIOSH Surveillance Strategic Goal 3: to strengthen surveillance of high risk populations.

Despite four decades of Federal funding intended to assist hired farm workers, relatively little is known about the occupational mental health of this population. Other than anecdotal data describing the psychosocial and work organization conditions affecting hired farm workers and migrant farm workers in particular, there is little or no information on the organization of work

and work strain on this population. Information needed to make policy and resource decisions is not currently available at the national level.

This surveillance effort will be the first to provide prevalence estimates of mental health problems and psychological distress in a nationally representative sample of farm workers. This surveillance activity will also be the first to provide descriptive information on work organization and psychosocial factors experienced by migrant farm workers on a national level. Together, this surveillance will provide the necessary data for monitoring farm worker health, identifying potential ways of improving farm worker health, and targeting farm workers most at risk for poor health because of their work. Prevalence data collected can be used to measure the impact of interventions or changes in policy that may have an effect on the health of hired farm workers.

When combined with the currently approved questions on health and injury, the collection of information on occupational mental health will help describe the magnitude and scope of occupational health problems, as well as provide data to guide intervention and prevention activities. Potential users of this data include: researchers interested in the health of farm workers, including the area of health disparities, clinicians who care for migrant and seasonal farm workers, local and national organizations that serve farm workers, and the migrant clinic network. Program staff and administrators will be able to use this information to plan interventions to target health problems and health behaviors that affect the greatest number of workers. Researchers will also be able to compare local survey data to national data to show where disparities exist. Policy makers interested in the needs of this special population include those in the Environmental Protection Agency and the National Institutes for Health, including the National Institute of Mental Health, National Advisory Mental Health Council, and the Health Resources and Services Administration.

Selecting the Questions to be Included in the Module

The Centers for Disease Control and Prevention, National Institute on Occupational Safety and Health (CDC/NIOSH), Division of Surveillance, Hazard Evaluations, and Field Studies (DSHEFS) began using the NAWS in FY 1998 to conduct occupational health surveillance among hired crop farm workers. Consensus was reached during the first questionnaire planning meeting that, similar to other occupational groups, obtaining information on occupational mental health was a high priority for understanding the overall occupational health of farm workers. It was also agreed that, because of the unique nature of farm work and the concentration of low-literate, immigrant populations with little familiarity with standard mental health vocabulary, more time was needed to determine appropriate items to examine mental health and associated psychosocial and work organization factors impacting farm workers than was available before the first occupational health supplement was put in the field.

Background work for developing an occupational mental health supplement began in FY 2003. In FY 2004, investigators in the Surveillance Branch of DSHEFS (CDC/NIOSH) convened an

expert meeting of mental health and farm worker specialists to review activities to date, and prepare general recommendations regarding mental health, work organization, and psychosocial factors that could be examined in future surveillance of minority workers, particularly hired agricultural workers. A smaller working group was later formed to develop a list of occupational mental health, work organization, and psychosocial questions for cognitive testing for possible inclusion in a future NAWS supplement.

Interagency Agreements in fiscal years 2004 and 2005, between the CDC/NIOSH and the DOL, provided funding for the cognitive and pilot testing of questions recommended by the working group. The question domains selected for testing were “decisions latitude”, “job demands”, “work limitations”, “job insecurity”, “general health”, and “family worrying and concerns”. In addition, the Center for Epidemiologic Studies Depression Scale (CES-D) Short Form 10 (SF-10) was selected.

Job strain questions were taken from the JCQ, a widely used well-validated 49-item instrument based in part on questions drawn from the U.S. Quality of Employment Surveys (QES) (Karasek and Theorell, 1990; Karasek et al., 1988; Quinn and Staines, 1977). Researchers have established reasonable reliability and validity for shortened versions of this scale (e.g., Lansbergis et al., 2002; Karasek et al., 2002; Muntaner et al., 2005). Work-family stress and job insecurity questions are currently being used in surveys of migrant workers in North Carolina (Grzywacz et al., 2006). General health and disability questions have appeared in the National Health Interview Survey conducted by the National Center for Health Statistics in the U.S., and the CES-D SF-10 has been used to measure depressive symptoms among Mexican immigrants (Grzywacz et al., 2006).

In the winter interview cycle of FY 2006, the selected questions were piloted along with the NAWS. Analysis of the pilot indicates that the questions worked well and will generate data of high quality. Based on testing, the proposed occupational mental health supplement contains fourteen questions plus the CES-D-SF-10, which includes ten items, for a total of 24 questions. These questions (Appendix C) appear on pages 24-25 of the primary instrument (Appendix B).

As this is a surveillance activity, i.e. administration of a survey to a national group of minority workers in a high risk occupation, there are no specific hypotheses. Rather, this is a continuation of efforts to collect descriptive information on the working conditions and health of farm workers, with a focus on psychosocial factors, work organization, and mental health. Survey data collected on this population can be compared with data collected through the National Health Interview Survey, and the Quality of Work Life Module (QWL) designed by the CDC/NIOSH. In 2002, the QWL was added to the General Social Survey, a biannual U.S. national survey conducted by the National Opinion Research Center. The QWL module assessed a broad range of work environment and health and safety factors and has been used to examine psychosocial factors in the workplace (Tausig et al., 2004; Roberts et al., 2004).

Occupational Mental Health Surveillance: Importance for Agricultural Employers

Occupational mental health is a critical issue for employers. A number of studies have found that depression and depression related illness were the most costly conditions affecting employers (Goetzel et al., 2003; Goetzel et al., 2004). Depression in the workplace causes an estimated \$44 billion loss each year in both presenteeism (the act of remaining on the job but not being as productive because of illness or stress) and absenteeism (Stewart, et. al., 2003). Mental disorders account for approximately 25 percent of all disability in the United States, and are a leading cause of premature death (WHO, 2001; DHHS, 1999). Five of the ten leading causes of disability and premature death worldwide are psychiatric conditions. Annually, more than 26 percent of the U.S. population will be diagnosed with a mental disorder but only about one third (8.6%) of those will receive treatment (Palpant, et. al., 2006). Another important finding comes from the largest disability study ever conducted in the United States; one-third of disabled adults (ages 18–55) living in the community reported having a mental disorder that contributed to their disability (Druss et al., 2000).

Depression has also been associated with farm safety practices. Those with higher scores on the CES-D were found to be less likely to read instruction manuals and to keep moving equipment parts shielded (Stallones and Bessler, 2004).

Numerous studies have found evidence to support a link between work and adverse mental health outcomes (deJonge et al., 2001), general physical health (Parkes et al., 1994; Chapman et al., 1995), all cause-mortality (Wulsin et al., 2005); immune functioning (Sapolsky, 2003); blood pressure levels (Landsbergis et al, 1995); substance use (Muntaner et al., 1995) and psychological disorders and depression (Eaton et al., 2001; Mausner-Dorsch and Eaton, 2000; Muntaner et al., 1991). McKay et al. (2004) reviewed research focused on a number of biological processes that mediate the pathways between stress and disease. Mechanisms cited for the link between psychosocial factors and health endpoints include: homeostatic and allostatic changes in response to stress; development of metabolic syndrome and insulin resistance; inflammatory and immune responses which mediate susceptibility to infection, and psychological mechanisms such as anxiety, hyper vigilance, and risk taking.

The farm labor force is susceptible to occupational mental health-related problems. A number of studies have focused on Mexican migrant farm workers in the U.S. (Alderete et al., 2000; Magena and Hovey 2003), the major demographic group in the farm labor force. According to surveillance data from the Mexican American Prevalence and Services Survey, a substantial number of Latino immigrants from Mexico have poor mental health. Results from this survey indicate that one in four Mexican immigrants have had a psychiatric illness such as depression or anxiety disorder in their lifetime, and a substantial number of Latinos with one mental illness have a co-occurring mental illness (Vega et al., 1998; Vega et al, 2003). Although the prevalence of psychiatric illness is lower among Mexican immigrants than U.S.-born Mexican Americans and the general population, additional research is needed because the factors that contribute to poor mental health among immigrant Mexicans are poorly understood (Alderete et

al, 1999; Magena and Hovey, 2003).

Common explanations for poor mental health among Mexican immigrants in the U.S. emphasize factors that occur after migration. Theories used to explain this include acculturative stress, social marginality, or identity disintegration (anomie). Social marginalization, or the sense that immigrant Latinos have few opportunities to engage in social life in the U.S., was associated with greater depressive symptoms, particularly among immigrant men (Hiott et al., 2006). Researchers often cite the clash of cultures experienced once immigrants arrive in the United States, or injustices encountered while living in American society, including occupational factors, as the primary cause of poor mental health among immigrant Mexicans (Alderete et al., 2000; Cuellar et. al., 2004). According to a report by the PEW Hispanic Center, Latinos overwhelmingly say that discrimination against Latinos is a problem both in general and in specific settings such as schools and the workplace. An overwhelming majority (83%) of Hispanics also report that discrimination by Hispanics against other Hispanics is a problem, and almost half (47%) feel that this is a major problem. Latinos are most likely to attribute this type of discrimination to disparities in income and education, though a substantial number also feel that Latinos discriminate against other Latinos because they or their parents or ancestors are from a different country of origin.

The panel of experts convened by the CDC/NIOSH and the working group identified three sets of factors that may be related to occupational mental health outcomes. These were: work-family stress, work organization, and job insecurity.

Work-family stress has received recent attention in the literature (e.g. Gryzwacz et al., 2005). Previously, the work-family literature was dominated by studies of white middle-class workers. Gryzwacz et al., (2006) expanded this focus by examining work-family issues from the perspective of Mexicans who have immigrated to the U.S. within the past five years. Using data from qualitative in-depth interviews and quantitative structured interviews, they documented work-family experiences associated with immigration. In-depth interviews clearly indicated that separation from family and community was a common and poignant strain experienced by Mexican immigrants who came to the U.S. to find work. These experiences did not differ between women and men. Quantitative analyses corroborated the qualitative findings by indicating women and men had similar levels of work-family strain. Analyses also indicated that higher levels of work-family strain were associated with more perceived stress, anxiety, and depression.

The demand-control-support model is the most frequently used model to understand the relationship between social and organizational work factors, stress and health. The model predicts that jobs with high job demands (e.g. work fast and hard) and low control (e.g. few opportunities to make decisions on how work should be performed) will have an adverse effect on health (Karasek et al., 1988). One study documented that, among immigrant Latino farm workers in North Carolina, those with high-job-related autonomy also reported better mental health-related quality of life (Grzywacz, Quandt, & Arcury, nd). Similarly, among immigrant Latinos in poultry processing, greater control was associated with lower risk of musculoskeletal symptoms suggestive of carpal tunnel syndrome, while greater psychological demand was

associated with greater musculoskeletal symptoms as well as work-related injury (Grzywacz et al., n.d.).

Minimal social support has also been linked with stress related health (Johnson and Hall, 1988). A recent study of garage workers found that the lowest use of personal protection equipment (PPE) was in jobs with high demands and low support (Torp et al., 2005). Job strain has also shown an association with depression in a cross sectional study, although the strongest evidence points to job demands as a risk factor (Eaton et al., 2001). Researchers have also found relationships between job insecurity and poor self-rated health (DeWitt et al., 1999; Ferrie et al., 2001) and with depression (Ferrie et al., 2002; Ferrie et al., 2005).

Similar to occupational injury information, collection of occupational mental health data is authorized under the Public Health Services Act, as amended, Section 301 (a) (42U.S.C. 241(a)); the Occupational Safety and Health Act of 1970, Sections 20(a) and 22 (29U.S.C. 669(a) and 671). The applicable regulation is 42 CFR Part 52. Data collection is also authorized by statute in the 1997 Omnibus Consolidated Appropriations Act (PL-104-208).

2. The Uses of the Information

The NAWS furnishes a unique opportunity for various government agencies to be served efficiently by one cost-effective data collection process. Designing NAWS questionnaires is a collaborative undertaking, involving several Federal agencies that directly use the results. In addition to the ETA, these have included the Environmental Protection Agency, the Department of Health and Human Services (DHHS), and the Department of Education (DoEd). Representatives of these and other agencies regularly meet to discuss program-specific uses of NAWS data.

The ETA uses NAWS data in its formula for allocating farm worker employment and job training funds across states under Section 167 of the Workforce Investment Act. The DHHS' Head Start Bureau also relies on NAWS data to estimate the need for migrant and seasonal Head Start programs. Similarly, the DoEd's Office of Migrant Education utilizes NAWS findings to better understand the needs and characteristics of the population served in its various programs.

In FY 2006, the Congressional Budget Office (CBO) relied on NAWS data to estimate the number of unauthorized farm workers who would qualify for legalization under Section 613 (a) "The Blue Card Program" of Senate Amendment 3192 to the Securing America's Border Act (S.2454). The CBO used the resulting finding and other NAWS data to project the costs of the proposed legislation. Similarly, the Congressional Research Service used NAWS data in FY 2006 to estimate the share of newly legalized farm workers who would quickly leave the farm labor market upon obtaining a legal status.

The Bureau of the Census also uses the NAWS. In preparation for the Decennial Census, it used NAWS findings on farm worker household characteristics and living arrangements to inform its

approach to locating and administering the census questionnaire to migrant and seasonal farm workers, a population that has historically been undercounted.

In FY 2004, the Whitehouse Task Force on Disadvantaged Youth recommended the creation of a joint venture between the departments of Labor, Education, and Agriculture to develop a model program to provide workforce training and basic education services to out-of-school migrant youth ages 16-21. NAWS findings are being used to inform the design of a model program.

In FY 2004, the DHHS utilized NAWS health insurance data to fulfill its obligations under Section 404 of Public Law 107-251, "The Health Care Safety Net Amendments of 2002." Section 404 required DHHS to report to Congress on the problems experienced by migrant and seasonal farm workers in obtaining health services from the State-administered Medicaid and State Child Health Insurance Programs. In FY 2002, the Bureau of Primary Health Care (DHHS) used NAWS findings to construct enumeration profiles of migrant and seasonal farm workers and their dependents in ten states.

While NAWS data are used primarily by U.S. federal government agencies for programmatic purposes, they are also used to exemplify the U.S. government's fulfillment of responsibilities under international agreements. In FY 2000, NAWS data were utilized at the Department of State conference "Best Practices for Migrant Workers," which was held in preparation for the spring 2001 Summit of Americas. The DOL's Bureau of International Labor Affairs has used NAWS findings at each of the last four U.S.-hosted government-to-government meetings with Mexico regarding the labor rights of Mexican migrant farm workers. These meetings are part of the dispute resolution process under the North American Agreement on Labor Cooperation (NAALC), the labor side-bar agreement to the North American Free Trade Act. In 2002, the Commission for Labor Cooperation, which was established under the NAALC, made extensive use of NAWS data in its report "Legal Background Paper on Migrants in North America."

Several Presidential Commissions have used NAWS findings for program evaluation purposes. These include the Commission on Migrant Education, the Commission on Agricultural Workers, and the Commission on Immigration Reform. Moreover, the NAWS provides timely information to Congress on agricultural labor and child labor issues. The Government Accountability Office has utilized NAWS data in its reports to Congress about information gaps on the immigrant population and the DOL made extensive use of NAWS findings in its December 2000 report to Congress "The Agricultural Labor Market - Status and Recommendations."

The information obtained from the occupational health and injury questions will be used to create a database of demographic and occupational health data that can be analyzed and reported in the scientific literature, CDC/NIOSH publications, and CDC/NIOSH and DOL Websites describing the health and health risks of farm workers. The CDC/NIOSH will also use the information to delineate variation among farm workers in organizational aspects of work that are linked with illness, with specific attention to variation by gender, immigration status, and years

in the U.S. Population prevalence estimates will be prepared for reporting and tracking mental health, psychosocial factors, and work organization among farm workers. The CDC/NIOSH and the DOL will use the collected information to prepare meaningful summaries of survey results to be shared with agricultural employer associations, worker groups, and farm worker health clinicians and administrators. For example information may be presented at DHHS-sponsored migrant farm worker health conferences, and shared with the National Center for Farmworker Health and the Migrant Clinician's Network for further dissemination and potential prevention and intervention planning.

3. Burden

To reduce burden, a stratified sample is used to represent the national population of farm workers. To minimize burden on employers, farm workers are not interviewed during work-time and, whenever possible, the interview occurs outside the workplace.

The proposed questionnaire (Appendix B) will require approximately 57 minutes to administer. Farm workers are and will be provided an honorarium of \$20 to offset the inconvenience and any expense incurred (e.g. childcare, transportation) for their participation. The use of information technology to reduce respondent burden is inappropriate due to the low literacy rate among farm workers and because the information is collected in-person.

4. Efforts to Identify Duplication

There are no reliable national estimates of the employment, demographic, and health characteristics of hired crop workers that render the NAWS duplicative. Prior to the NAWS, information on farm workers was collected via a supplement to the CPS. The CPS, however, excludes large numbers of employed crop workers from its sample, particularly the foreign-born and migrant workers. Many of these workers are difficult to find because they do not live at recognized addresses for long periods of time. The USDA's Farm Labor Survey (FLS) was also considered. The FLS collects wage and other employment data at the national level. It is conducted with employers and personnel managers, however, and cannot be used to describe the characteristics of hired crop workers.

In addition to considering other surveys, the DOL also investigated the possibility of using existing data sets to evaluate the characteristics of workers in U.S. crop agriculture. Unfortunately, data recorded by social security numbers in the Unemployment Insurance (ES202) files, as well as files of the Social Security Administration, do not provide the appropriate employment, demographic, and health characteristics. The DOL determined that only a survey that was both personally administered and establishment-based (workers are sampled at their place of employment) would be appropriate for describing the population of hired crop workers. The NAWS is the only survey that satisfies these requirements.

5. Minimizing Small Employer Burden

As described in Section 12, and in Part B below, employers will be randomly chosen as part of the sampling technique. It is necessary to sample employers first as there are no universe lists of farm workers. The farm worker sampling frame is constructed with the help of the employer, packinghouse manager, personnel manager, farm labor contractor, or crew leader, as appropriate. In each case, the ‘employer’ serves as a voluntary contact point for the purpose of creating the worker frame.

The DOL’s contractor for the NAWS minimizes the burden of this activity on small employers by trying to determine if the small employer is still in business before contacting that business and by notifying the employer ahead of time by mail that they have been selected to participate. As mentioned in part 3 above, farm workers will be interviewed outside the workplace whenever possible and interviews will not interfere with employers' production activities.

This information collection does not have significant economic impact on small entities.

6. Consequences of Less Frequent Data Collection

The NAWS is conducted yearly in three cycles to ensure sensitivity to seasonal fluctuations in labor across the country. Staggered sampling cannot be avoided due to the seasonality of crop employment. A representative random sample of employed farm workers can only be obtained by conducting interviews at various times in the year. The seasonality of crop employment and the high mobility of workers require seasonal sampling in order to avoid bias.

7. Explanation of Special Circumstances

None of the circumstances listed in this section apply to the NAWS. This information collection is consistent with 5 CFR 1320.5.

8. Consultations with Outside Agencies Regarding the Availability of Data

Over the survey’s 19-year history, the DOL has consulted with many outside agencies regarding the availability of information on the demographic, employment, and health characteristics of farm workers. These have included the departments of Agriculture, Health and Human Services, Homeland Security, and Education, as well as other agencies, including the Social Security Administration, the Bureau of the Census, the Bureau of Economic Analysis, the Environmental Protection Agency, and the Food and Drug Administration. These departments and agencies support the extension of the NAWS survey as a means of complementing other data available to them. Indirect but useful data about farm workers are available from the USDA, which conducts the Census of Agriculture and the Farm Labor Survey. None of the USDA data, however,

overlaps with NAWS data.

The DOL consulted with the Bureau of Labor Statistics (BLS) Office of Survey Methods Research in October 2001 regarding the survey's methodology. The BLS approved the NAWS methodology with no comments. The survey's methodology has not changed since then.

On September 5, 2007, the DOL solicited comments regarding the extension of this collection via a 60-day pre-clearance Federal Register Notice (Volume 72, Number 171, pages 50983-50985) (Appendix A). The ETA received three letters, each of which was highly supportive of the continuation of the survey. The public comments and the agency responses to each are summarized below in Table 1.

Two of the submissions were from non-profit, farm worker service providers. These submissions included recommendations for a number of new questions regarding demographics, housing, and health. All but one of the recommendations will require consultation within and outside the ETA; the ETA has already begun meeting with NAWS Federal partners to discuss the proposed changes. Further discussion, however, will be required before decisions can be made regarding how to modify the questionnaire.

One of the recommendations, however, can be implemented at this time. The recommendation is that the place of birth of the respondent's parents be elicited. Capturing this information will allow the NAWS to more accurately estimate the share of farm workers who are indigenous. The proposed change is well justified and, on average, will add less than ten seconds per respondent. To address this proposal, questions B26a and B27a have been added to capture the country where the respondent's father and mother, respectively, were born. If foreign-born, questions B26b-d and B27b-d will capture the state, municipality, and town of the respondent's parents. These questions appear on page 8 of Appendix B.

Justification for Eliciting Place of Birth of Parents

The number of Mexican indigenous farm workers is growing, especially in California and the Pacific Northwest. Many of these workers do not speak Spanish, which is the language used in most government and service provider materials for farm workers, e.g., health and safety information, including pesticide safety. Indigenous workers have other unique characteristics that make them a difficult population to serve. Survey data, however, underestimate the size of this population. For historical/cultural reasons, it is believed that a significant number of Mexican indigenous farm workers do not self identify as being indigenous.

Asking for the parents' place of birth will provide a more dependable measure for estimating the size of the indigenous farm worker population. When a parent is born in the U.S., additional information will not be elicited. When a parent is foreign-born, however, the respondent will be asked to identify the parent's state, municipality, and town of birth. When a parent is born in Mexico, the information will be cross referenced with Mexico survey data

<http://www.inegi.gob.mx/inegi/default.aspx> and <http://www.municipios.com.mx/> which identifies municipalities as being either eminently, predominantly, or partially indigenous when at least 70, 50, and 30 percent of the population, respectively, speaks an indigenous language.

Table 1. Summary of Public Comments and Agency Responses

Public Comment Summary	Agency Response
<p>The Bureau of Economic Analysis (BEA) strongly supports the continuation of the NAWS. The NAWS is the main data source for key components of BEA’s economic statistics. Since 1997, NAWS data have been used to estimate the compensation of undocumented migratory workers, which is used to estimate Gross Domestic Income. These data are not obtainable elsewhere and are indispensable to BEA’s estimates. BEA’s compensation estimates compose an ongoing time series and the large increases in undocumented workers in the United States make the continual updating of BEA’s data vitally important.</p>	<p>The DOL is pleased that BEA is able to use NAWS data to estimate Gross Domestic Income. The ETA will advise the BEA of any proposed changes to the questionnaire that would impact BEA’s ability to calculate economic statistics.</p>
<p>A farm worker service provider stated that NAWS data is critical in several ways and that it strongly supported the continuation and expansion of the survey. While finding the proposed additions on occupational mental health necessary, it recommended that new questions also be added on health and housing. Regarding health, the commenter suggested that the currently collected information on doctor and nurse verified health outcomes is of limited utility because a very small percentage of farm workers sees a doctor or nurse. The commenter suggested that a short inventory of health conditions over the past year would be much more useful. Specifically, the commenter would like the NAWS to include questions on diarrhea, fevers, persistent cough, asthmatic conditions, rashes and other conditions linked to the environments in which farm workers are employed and live. Regarding housing, the commenter suggested that the NAWS ask about the availability of indoor sanitation, bathtubs/showers, washing machines, and refrigeration.</p>	<p>The DOL will take these suggestions into consideration and will discuss them with CDC/NIOSH, the Health Resources and Services Administration, and Housing and Urban Development.</p> <p>Some of the suggested health questions have been asked in previous versions of the NAWS and the DOL will go back and look at the quality of those data and determine, in consultation with NAWS Federal partners, if adding new health questions is warranted.</p>

Table 1 (cont.)

Public Comment Summary	Agency Response
<p>A farm worker service provider supports the inclusion of new questions on occupational mental health and also suggested that the current NAWS vastly underestimates the number of indigenous farm workers. To better estimate the subpopulation of indigenous workers, the commenter suggests that new questions on the respondent’s parents’ place of birth be added. Specifically, the commenter would like the NAWS to capture the parents’ place of birth at the municipal level and added that this information could be cross referenced with Mexico survey data to identify indigenous workers.</p>	<p>The DOL proposes to add the suggestion questions on parent’s place of birth to the questionnaire. Questions on languages spoken by adults at home to the respondent when the respondent was a child have already been added in an effort to better identify workers’ ethnic/indigenous origin. Asking for the place of birth of the respondent’s parents, and cross referencing this information with Mexico survey data would strengthen the NAWS’ ability in this regard.</p>

Additional Proposed Changes to the Questionnaire

While the ETA was responding to public comments, two Federal agencies requested that new questions be added to the survey. In response to the December 2007 passage of Public Law 110-134, entitled “The Improving Head Start for School Readiness Act of 2007,” the DHHS Office of Head Start (OHS) asked that new questions on child care arrangements be added immediately. The second agency requesting additional information is the National Institute on Alcohol Abuse and Alcoholism (NIAAA). In FY 2007, two NIAAA-sponsored questions on alcohol consumption were administered. Upon reviewing the findings, NIAAA determined that the data were of high quality and that it was necessary to collect additional alcohol consumption information on this population.

Justification for New Questions on Child Care Arrangements

The Improving Head Start for School Readiness Act of 2007 took effect December 11, 2007. It mandates that the secretaries of Health and Human Services (DHHS) and Labor collaborate to collect new information on migrant and seasonal farm workers. DHHS determined that the NAWS is the best vehicle for collecting the new information.

Congress requested that the Office of Head Start (OHS) work in collaboration with the Secretary of Labor and other relevant departments and bureaus, in order to “adequately account for the number of children of migrant and seasonal farm workers who are eligible for Head Start services and determine how many of such children receive services.” The legislation also called for OHS to “identify barriers that prevent children of migrant and seasonal farm workers who

are eligible for Head Start Services from accessing Head Start Services.”

OHS determined that the NAWS, which interviews a nationally representative sample of migrant and seasonal workers, is the only data collection vehicle for addressing these legislative requirements. OHS therefore requested that seven new questions on child care services be added to the NAWS. The new questions (Appendix F) will enable OHS to estimate the number of children who are eligible for Head Start services and provide descriptive information regarding barriers to participation.

As OHS is mandated to report the eligible population estimate and descriptive information to Congress by June 2009, it is imperative to immediately begin collecting the new information. As such, the new questions are currently being piloted. They are being administered to farm worker parents who have children less than six years old: approximately 20 percent of the respondents.

Justification for New Questions on Alcohol Consumption

It is the mission of the NIAAA to determine the causes of excessive alcohol use patterns and to develop prevention and treatment strategies for application in the nation’s healthcare system. Further, it is a major purpose of the NIAAA to conduct epidemiologic studies to assess the magnitude and risks of these alcohol use patterns among various subpopulations in the U.S. population. Hired farm workers represent an important subgroup of the population often missed in large household surveys of the general population. If data were not collected on alcohol use among hired farm workers, the NIAAA could not achieve its mandated mission.

The proposed thirteen alcohol abuse and dependence questions (Appendix G), if approved, would be included in the NAWS for two years, beginning with the first interview cycle of FY 2009. These questions will provide the National Institute on Alcohol Abuse and Alcoholism with essential Institute program data on the prevalence of alcohol abuse and dependence on a special population, hired crop workers in the United States, a population for which no alcohol abuse information is available. The questions will be administered to respondents who self-reported having at least one alcoholic beverage in the previous year, approximately 60 percent of the respondents. Information on the prevalence of alcohol abuse will contribute to the NIAAA’s understanding of the magnitude of the problem and sociodemographic and other risk factors that relate to alcohol use disorders in this special population with a view toward their prevention and intervention.

While these abuse questions have appeared in numerous NIAAA-sponsored national and other surveys (OMB No. 0930-0151; OMB No. 0925-0455; OMB No. 0930-0140; OMB No. 0930-0148; OMB No. 0925-0484), these surveys do not collect information from the NAWS respondent pool.

Among over 130,000 individuals participating in NIAAA surveys since 1991, item non-response to these has been less than 0.1% and there have been no problems related to interview break-offs

or refusals due to this series of alcohol questions.

9. Remuneration to Respondents

Farm workers will be compensated \$20 for their time responding to the survey. NAWS interviewers are trained to provide the incentive just prior to the start of the interview.

10. Confidentiality Assurances

The survey collects information on wages and working conditions, legal status, occupational health, and recruitment practices. The workers are guaranteed confidentiality to help them overcome any resistance to discussing these issues. The workers are informed of the purposes of the information collection as well as the safeguards to protect its confidentiality. Additionally, farm worker respondents are protected by the DOL/ASP-1 System of Records which was established by the DOL under the Privacy Act (USC552a). At the conclusion of the survey, all records of the names and addresses will be destroyed.

Interviewers are sworn to protect the confidentiality of both agricultural employers and farm worker respondents. To protect the identity of agricultural employers, only the direct-hire employees of the contractor who have been made agents of the BLS and who have sworn to abide by the confidential safeguards in the Confidential Information Protection and Statistical Efficiency Act may have access to the names and address of employers and may only use this information for the purpose of locating hired crop workers. Workers are interviewed alone to protect their privacy. Additionally, farm worker respondents will be protected by the DOL's System of Records for the NAWS, which was established under the Privacy Act (USC552a). At the conclusion of the survey, all records of the names and addresses will be destroyed.

11. Sensitive Questions

The questions on legal status and health are likely to be the most sensitive. Based on responses to these questions, however, it is evident that the confidentiality assurances, as well as the rapport that develops between the interviewer and respondent, make them less intrusive. The legal status questions provide valuable information to Congress when it considers legislation to amend the Immigrant and Nationality Act. Likewise, the CDC/NIOSH and other agencies that have mandates concerning the health status of farm workers require complete information on occupational health in order to plan, implement and evaluate their programs effectively. Farm workers respond well to all the health questions and the data obtained is of high quality. Information will be analyzed in aggregate form and individual health histories will not be available to researchers. The confidentiality of the respondents will be guaranteed.

12. Hour Burden for Respondents

The estimated annual total hour burden is 3,411 (see Table 2 below). Approximately 5,344 respondents will be divided into two groups and approached for different purposes. The first group of 3,000 randomly selected farm workers will be administered the NAWS questionnaire. The time to administer this instrument will vary in length from 48 to 65 minutes, with an average of 57 minutes. The time varies with the number of individuals in the respondent's household and the number of jobs held in the preceding year. Approximately three percent of the interviewed workers will have a qualifying injury to report. Such workers will be administered the occupational injury supplement, which requires approximately ten minutes. Approximately 20 percent of the interviewed workers will have children less than six years old. Such workers will be administered the child care questions, which require approximately six minutes. Likewise, approximately 60 percent of the interviewed workers will self-report having consumed at least one alcoholic beverage in the previous year. Such workers will be administered the alcohol abuse pattern questions, which require approximately five minutes.

The second group will be the approximately 1,008 employers who will be approached in person and invited to participate in the survey. The number of employers is based on the number of interviews done per farm and the employer response rate for fiscal years 2002-2006. Over that period, 13,529 workers were interviewed on 2,637 farms, or a little over five workers (5.13) per farm. A total of 4,544 farms were determined to be eligible for participation, meaning that farm workers were employed there when interviewers arrived to speak with the employer. Interviews were conducted at 2,637 of the eligible farms, for a response rate of 58 percent. To collect information from 3,000 farm worker respondents, interviews will need to be done on approximately 585 establishments. Assuming the employer response rate will be at least 58 percent, 1,008 eligible growers will need to be approached and invited to participate.

Participation occurs when the employer allows interviewers to explain the purpose of the survey to the workers and to select a random sample of them for an interview. In fiscal years 2002-2006, 68 percent of the employers who had workers at the time of contact, and were thus eligible to participate, agreed to allow interviewers to contact the workers. As noted above, interviews were conducted at 58 percent of the eligible establishments. Employers who agree to participate inform the interviewer about the number and location of the potential worker respondents. The discussion with employers, including those who decide not to participate, can last from five to 30 minutes, depending on the number of questions the employer might have about the purpose of the survey. The average length is approximately 20 minutes.

Table 2. Estimated Burden Hours Associated with the FY 2009 NAWs

Who will be interviewed?	Survey Instrument	Respondents per Year	Average Time per Respondent	Total Hours
Farm Workers	Primary Questionnaire, including occupational mental health questions	3,000	57 minutes	2,850
Farm Workers with a qualifying injury	Occupational Injury Supplement	90*	10 minutes	15
Farm Worker Parents with children less than six years old	Child Care Questions	600*	6 minutes	60
Farm Workers who drank alcohol in previous year	Alcohol Abuse Pattern Questions	1,800*	5 minutes	150
Employers	Point of Contact Only	1,008	20 minutes	336
Total		4,008		3,411

* Not included in total respondents; they are a subset of the Primary Questionnaire respondents.

The only additional cost is that which employers incur for helping the interviewer establish a worker frame. This request, however, does not encompass interviews of employers. The employer is approached strictly as a contact point for the selection of a random group of workers. As noted above, the employer contacts require an average of 20 minutes per farm. The estimate of 336 hours is based on 1,008 employers at 20 minutes per employer. Assuming an employer's time is worth \$45 per hour, the total cost is \$15,120 of employer time. Any potential cost to workers will be off-set by the \$20 honorarium.

13. Cost Burden to Respondents

Since farm workers are compensated for their response time, there is no cost to them.

14. Costs to the Federal Government

Assuming a sample size of 3,000 in FY 2009, the survey will cost approximately \$3 million. The costs reflect approximately 24,000 hours of labor (interviewing, training, supervising, coding, cleaning and analyzing data), and fees paid to farm worker respondents.

15. Program Adjustments

The slight reduction in burden hours from the previously approved inventory of 3,570 to the current request of 3,411 is accounted for in Table 3, below.

Table 3. Change in Burden Hours Associated with the FY 2009 NAWS

Respondent Type	Respondents per Year		Average Time per Respondent (minutes)		Total Hours		Change
	FY 2004	FY 2009	FY 2004	FY 2009	FY 2004	FY 2009	FY 2009
Farm Workers	3,600	3,000	50	57	3,000	2,850	- 150
Farm Workers with a qualifying injury	144*	90*	15	10	36	15	- 21
Farm Worker Parents with children less than six years old	0	600*	0	6	0	60	+ 60
Farm Workers who drank alcohol in previous year	0	1,800*	0	5	0	150	+ 150
Employers	1,600	1,008	20	20	534	336	- 198
Total	5,200	4,008			3,570	3,411	- 159

* Not included in total respondents; they are a sub-set of the Primary Questionnaire respondents.

16. Publication Plans

The DOL plans to publish the next report on the demographic and employment characteristics of hired crop workers in the spring of 2008. The report will summarize the data that was collected in fiscal years 2005-2006 and will cover the major findings related to labor force participation and wages, education, family structure, migration patterns, income, social service use and other demographic factors. The 2007-2008 findings will be published in the spring of 2009. The CDC/NIOSH will publish findings from the occupational injury and health questions.

17. Display of OMB Number and Expiration Date

The OMB Clearance Number and Expiration Date are published on the main NAWS questionnaire in the upper left-hand corner.

18. Not applicable

2 Collection of Information Employing Statistical Methods

1. Description of Universe and Sample

a) Universe

Entity	Universe	Sample
Agricultural Region	12	12
Farm Labor Areas	487	80
Farms	2,000,000	1,008
Crop Workers (estimated)	1,800,000	3,000

The universe for the study is the population of field workers active in crop agriculture in the continental U.S. The NAWS will use multi-stage sampling relying on probabilities proportional to size to interview approximately 3,000 randomly selected crop workers in FY 2009.

b) Response Rate

The sampling design (described below) involves obtaining a random selection of employers. In fiscal years 2002-2006, 68 percent of the randomly selected employers (or their surrogates) who employed workers the day they were contacted by interviewers agreed to cooperate in the survey and interviews were conducted on 58 percent of the eligible establishments. As there are no universe lists of workers, the sampling frame of workers is constructed after contact with the employer.

Once interviewers have a worker frame, a random sample of workers is chosen. The interviewers, who work in pairs, approach workers directly to set up interview appointments in their homes or other agreed-upon locations. Approximately ninety percent of the approached workers agree to be interviewed.

2. Statistical Methodology

a) Sample Design: The NAWS samples workers using a multi-stage sampling procedure.

Selection of Geographic Regions

The first stage of sampling entails defining 12 distinct agricultural regions. All 12 agricultural regions are included in the sample. The number of interviews per region is proportional to the size of the seasonal farm labor force in that region, as determined by the USDA's National Agricultural Statistics Service (NASS) using information obtained from the Farm Labor Survey

(FLS).

The next stage of sampling is a random selection of farm labor areas (FLAs) in each region using probabilities proportional to the size of agricultural payrolls. These data are obtained from the Census of Agriculture. A total of 80 farm labor areas are selected representing the 12 agricultural regions. At least three FLAs are selected in each region. These 80 FLAs contain 395 counties.

To account for the seasonality of the industry, the NAWS conducts interviews three times a year in cycles lasting ten to twelve weeks. The cycles start in February, June and October. The number of interviews conducted in each cycle is proportionate to the amount of crop activity at that time of the year. These data are obtained from the special quarterly calculation of farm labor supply done by the NASS.

For each cycle, approximately 30 FLAs are selected using probabilities proportional to the seasonal agricultural payroll. Interviews are allocated to each FLA proportional to the seasonal agricultural payroll. Within each FLA, counties are drawn in a random order using probabilities proportional to seasonal agricultural payroll. Interviews begin in the first selected county and, as a county's work force is depleted, interviewing moves to the next randomly selected county on the list, until all the allocated interviews in that FLA have been completed.

Selection of Employers

Within each selected county, employers are selected at random from a list of agricultural employers. The list of employers is generated from data that the BLS provides directly to the contractor per the terms of an interagency agreement between the ETA and the BLS. For each employer, the BLS data provides information on the primary business activity (by North American Industrial Classification System), number of workers, total and quarterly payroll, and number of weeks worked by employees. This information is used to help determine employer eligibility and to choose only crop employers. The Census of Agriculture provides county labor expenditure to the NAWS, which is used to approximate the size of the crop labor force in each county. These data are used to introduce weights in the counties where necessary.

Interviewing Process

Once the randomly selected employer is located, the interviewers determine if he/she is familiar with his/her work force. If not, the interviewer seeks the name of the packinghouse manager, personnel manager, farm labor contractor, or crew leader who can help construct a sampling frame of the workers in the operation. The interviewers follow specific sampling instructions that were designed by a sampling statistician.

b) Estimation Procedures

For each sampling stratum or substratum of the population, a probability design based estimator will be used to estimate totals for the various characteristics of interest. Estimates of totals at higher tabulation levels will be the sum of the appropriate stratum estimates; data will be aggregated for analysis at the region and national level. At each level of tabulation, proportions will be calculated as the ratio of the appropriate totals. Standard errors will be calculated for all the estimates of totals and proportions.

c) Accuracy

The standard error for proportions based on the total sample will be less than five percent. The standard error for major sub-domains of the population will be larger, but still acceptable for the purposes of this study.

d) Problems: There are no unusual problems requiring specialized sampling procedures.

e) Frequency: Each respondent will be interviewed once.

3. Statistical Reliability

a) Response

Because agricultural employers are already burdened with requests to participate in surveys and the farm worker population tends to be highly reticent, considerable effort will be made to maximize both employer and worker response rates. Organizations whose cooperation is needed for the survey (growers' and farm workers' associations), as well as individual employers and farm workers, will be informed of the importance of the survey and the need for their voluntary cooperation. Potential employer participants will receive a NAWS brochure (Appendix H). The brochure explains the purpose of the survey and provides examples of how the data are used for the benefit of the agricultural industry. The brochure contains a confidentiality pledge and the contact information of the ETA program manager.

b) Non-response Adjustment

The \$20 honoraria to farm workers have enabled the study to achieve an estimated worker response rate of 90 percent. This high level of response greatly aids in protecting the survey estimates from non-response bias. The data for the remaining 10 percent (the non-respondents) will be imputed from the respondent data using a weighting cell adjustment technique.

c) Reliability

Probability sampling methodology will be used in the design and implementation of the survey to control the sampling errors of the survey's estimates. Estimates of the sampling errors will be calculated from the survey data.

4. Tests

The questionnaire to be used in the survey was developed by the DOL with input from various federal agencies. Except for the new questions on occupational mental health, place of birth of parents, child care arrangements, and alcohol consumption, the questionnaire will be unchanged from the version that OMB approved in the last submission and which has authorization until April 30, 2008.

5. Statistical Consultation

The following individuals have been consulted on statistical aspects of the survey design: Stephen Reder, Statistician, Oregon State University, (503) 725-3999; Phillip Martin, Professor, University of California at Davis (916) 752-1530; Jeff Perloff, Professor, University of California at Berkeley (510) 642-9574; and Stephen Cohen, the Bureau of Labor Statistics (BLS) Office of Survey Methods (202) 691-7400.

The data will be collected under contract to the ETA by JBS International, Aguirre Division (650) 373-4900. Analysis of the data will be conducted by Daniel Carroll, ETA (202) 693-2795, and by JBS International, Aguirre Division.

REFERENCES

- Alderete E, Vega WA, Kolody B, Aguilar-Gaxiola S: Effects of time in the United States and Indian ethnicity on DSM-III-R psychiatric disorders among Mexican Americans in California *J Nerv Ment Dis* 2000; 188(2):90–10.
- Alderete E, Vega WA, Kolody B, Aguilar-Gaxiola S. Depressive symptomatology: Prevalence and psychosocial risk factors among Mexican migrant farmworkers in California. *J Community Psychol* 1999; 27(4):457–471.
- Alderete E, Vega WA, Kolody B, Aguilar-Gaxiola S. Lifetime prevalence of and risk factors for psychiatric disorders among Mexican migrant farmworkers in California. *Amer J Public Health* 2000; 90(4):608-614.
- Anda RF, Williamson D, Jones D, Macera C, Eaker E, et al., 1993. Depressed affect, hopelessness, and risk of ischemic heart disease in a cohort of U.S. adults. *Epidemiology* 1993; 4:284-294.
- Belkic KL, Landsbergis PA, Schnall PL, Baker D. Is job strain a major source of cardiovascular disease risk? *Scand J Work Environ Health* 2004; 30(2):85-128.
- CDC Office of Minority Health, Office of the Director, MMWR Health Disparities Experience by Hispanics ---United States (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5340a1.htm>) 10/17/2004.
- Chapman DP, Perry SG, Strine TW. The vital link between chronic disease and depressive disorders. *Prevent Chronic Dis* 2005; 2[serial pub online] Available at <http://www.cdc.gov/pcd/issues/2005>.
- Cuellar I, Bastida EA, Braccio SM. Residency in the United States, subjective well-being, and depression in an older Mexican-origin sample. *J Aging and Health* 2004; 16(4): 447-466.
- deJonge J, Dormann C, Nanssen PPM, Dollard MF, Landewerd JA, Nijhuis FJN. Testing reciprocal relationships between job characteristics and psychological well-being: A cross-lagged structural equation model. *J Occup Organizational Psychol* 2001;74:29-46.
- D'Souza RM, Strazdins L, Lim L L-Y, Broom DH, Rodgers B. Work and health in a contemporary society: demands, control, and insecurity. *J Epidemiol. Community Health*; 2003;57:849-854.
- Department of Health and Human Services (DHHS) Mental Health: Culture, Race, and Ethnicity, Supplement to, Mental Health: A Report of the Surgeon General (<http://www.mentalhealth.samhsa.gov/cre/default.asp>) accessed 10/01/05 Office of the Surgeon General, SAMSA

(DHHS) US Department of Health and Human Services. Mental health: a report of the Surgeon General. Rockville, MD: DHHS, 1999.

De Witte H. (1999). Job insecurity and psychological wellbeing: Review of the literature and exploration of some unresolved issues. *European J Work and Organizational Psychol* 1999; 8:155-157.

Druss BG, Marcus SC, Rosenheck RA, Olfson M, Tanielian T, Pincus HA. Understanding disability in mental and general medical conditions. *Am J Psychiatry* 2000; 157 (9):1485-1491.

Eaton WW, Muntaner C, Bovasso G, Smith C. Socioeconomic status and depressive syndrome: the role of inter- and intra-generational mobility, government assistance, and work environment. *J Health Soc Behav* 2001; 42(3):277-94.

Everson-Rose SA, Lewis TT; Psychosocial factors and cardiovascular diseases; *Ann. Rev. Public Health*; 2005; 26:469-500.

Ferrie, JE. Is job insecurity harmful to health? *J Royal Society Medicine*, 2001; 94:71–76.

Ferrie JE, Shipley MJ, Newman K, Stansfeld SA, Marmot M. Self-reported job insecurity and health in the Whitehall II study: potential explanations of the relationship. *Social Sci Med* 2005; 60:1593-1602.

Ferrie, J. E., Shipley, M. J., Stansfeld, S. A., & Marmot, M. G. Effects of chronic job insecurity and change in job security on self-reported health, minor psychiatric morbidity, physiological measures and health-related behaviors in British civil servants: the Whitehall II study. *J Epidemiol and Community Health*. 2002; 56: 450–454.

Gee GC, Payne-Sturges DC. Environmental health disparities: A framework integrating psychosocial and environmental concepts. *Environ Health Perspect* 2004; 112(17): 1645-1653.

Geller JM, Ludtke RL, Stratton T. Nonfatal farm injuries in North Dakota: A sociological analysis. *J Rural Health* 1990; 6(2):185-196.

Goetzel RZ, Hawkins K, Ozminkowski RJ et al. The health and productivity cost burden of the 'top ten' physical and mental health conditions affecting six large US employers in 1999. *J Occup Environ Med*. 2003;45:5-14.

Goetzel RZ, Long SR, Ozminkowski RJ, Hawkins K, Wang S, Lynch W. Health, absence, disability, and presenteeism cost estimates of certain physical and mental health conditions affecting U.S. employers. *J Occup Environ Med* 2004; 46: 398-412.

Grzywacz JG, Quandt SA, Early, Tapia J, Graham CN, Arcury TA. Leaving family for work: Ambivalence and mental health among Mexican farm worker men. *J Immigrant Minority Health* 2006; 8(1): 85-98.

Grzywacz JG, Quandt SA, Arcury TA, Marin A. The work-family challenge and mental health. *Community, Work and Family* 2005; 8(3):271-279.

Hurrell JJ, Nelson DL, Simmons DB. Measuring job stressors and strains: Where have we been, where we are, and where we need to go. *J Occup Health Psychol* 1998;3(4): 368-389.

Johnson JV, Hall EM. Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *Am J Public Health* 1988; 78:1336-1342.

Karasek R, Brisson C, Kawakami N, Houtman I, Bongers P, Amick B. The Job Content Questionnaire (JCQ): an instrument for internationally comparative assessments of psychosocial job characteristics. *J Occup Health Psychol*. 1998 Oct; 3(4):322-55.

Karasek RA, Theorell T. *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books 1990.

Karasek RA, Theorell T, Schwartz JE, Schnall PL, Pieper CF, Michela JL. Job characteristics in relation to the prevalence of myocardial infarction in the U.S. Health Examination Survey (HES) and the Health and Nutrition Examination Survey (HANES). *Am J Public Health* 1988; 78:910-918.

Kessler RC, Andrews G, Colpe LJ, et al. Short screening scales to monitor population prevalences and trends in nonspecific psychological distress. *Psychol Med*. 2002; 32:959–976.

Kessler RC, Demler O, Frank RG, Olfson M, Pincus HA, Walters EE, Wang P, Wells K, Zaslavsky AM. Prevalence and treatment of mental disorders, 1990 to 2003. *New England J Med* 2005; 352:2515-13.

Kessler RC, Costello E, Merikangas KR, Ustun TB. Chapter 5. Psychiatric epidemiology: Recent Advances, future directions (2000). National Mental Health Information Center; <http://www.mentalhealth.samhsa.gov/publications/allpubs/SMA01-3537/chapter5.asp>

Kessler RC, Usten BT. The World Health Organization Mental Health 2000 Initiative. *Hospital Management International* 2000:195-196.

Krieger N, Higgins DL. Housing and health: Time again for public health action. *Am J Public Health* 2002; 92:758-768.

Landsbergis PA, Schnall PL, Pickering TG, Schwartz JE. Validity and reliability of a work history questionnaire derived from the job content questionnaire. *J Occup Environ Med* 2002; 44(11):1037-1047.

Lansbergis PA, Schnall PL, Schwartz JE, Warren K, Pickering TG. Job strain, hypertension and cardiovascular disease: Empirical evidence, methodological issues, and recommendations for future research. In SL Sauter and LR Murphy (Eds.) 1995 *Organizational Risk Factors for Job Stress* (p 97-112). Washington, D.C.: American Psychological Association.

MacKay CJ, Cousins R, Kelly PJ, Lee S, McCaig RH. 'Management Standards' and work-related stress in the UK: Policy background and science. *Work & Stress* 2004; 18 (2):91-112.

Mangana CG, Hovey JD: Psychosocial stressors associated with Mexican migrant farmworkers in the Midwest United States. *J Immigr Health* 2003; 5(2):75–86.

Marchand Alain, Demers Andree, Durand Pierre. Does work really cause distress? The contribution of occupational structure and work organization to the experience of psychological distress. *Social Science & Medicine* 2005; 61:1-14.

Mausner-Dorsch H. Eaton WW. Psychosocial work environment and depression: Epidemiologic assessment of the demand-control model. *Amer J Public Health* 2000; 90(11): 1765-1770.

Muntaner C, Anthony JC, Crum R, Eaton WW. Psychosocial dimensions of work and the risk of drug dependence among adults. *Am J Epidemiol* 1995;142(2):183-190.

Muntaner C, Tien A, Eaton WW, Garrison R. Occupational characteristics and the occurrence of psychotic disorders. *Social Psychiatry and Psychiatric Epidemiol* 1991; 26:273-280.

Murray, CJL, Lopez AD, (Eds.) *The Global Burden of Disease*, Harvard Univ. Press, Cambridge, MA, 1996, vol. 1, pp. 325-396.

Neugebauer R. Mind matters: The importance of mental disorders in public health's 21st century mission. *Amer J Public Health* 1999;89(9) 1309-1311.

Office of Minority Health. Health disparities experienced by Hispanics – United States. *MMWR* 2004;53(40):935-937.

Pew Hispanic Center/Kaiser Family Foundation 2002 National Survey of Latinos.
<http://pewhispanic.org/reports/report.php?ReportID=15>

Passel JS, Van Hook J, and Bean FD. 2005. Demographic Profile of Unauthorized Migrants and Other Immigrants, Based on Census 2000: Characteristics and Methods. Report to the Census Bureau. Urban Institute: Washington, DC. (Reported in Pew Report 2005; (<http://pewhispanic.org/files/reports/46.pdf>).

Parkes KR, Mendham CA, von Rabenau C. Social support and the demand-discretion model of job stress: Tests of additive and interactive effects in two samples. *J Vocational Behavior* 1994; 44:91-113.

Quick JC, Tetrick LE. *Handbook of Occupational Health Psychology*. 2003 Washington, D.C.: American Psychological Association.

Quinn RP, Staines GL. *The 1977 quality of employment survey*. Ann Arbor, MI: Institute for Social Research 1978.

Roberts, R., Swanson, N., and Murphy, L. Discrimination and occupational mental health. *J Mental Health* 2004; 13(2):129 – 143.

Sapolsky R. Taming stress. *Scientific American* 2003; 289(3):86-95.

Shipp EM, Cooper SP, Burau KD, Bolin JN. Pesticide safety training and access to field sanitation among migrant farmworker mothers from Starr County, Texas. *J Agricult Safety and Health* 2005; 11(1):51-60.

Stallones L, Bessler C. Safety practices and depression among farm residents. *Annals Epidemiol* 2004; 14(8) 571-578.

Standfeld SA, Fuhrer R, Shipley MJ, Marmot MG. Work characteristics predict psychiatric disorder: prospective results from the Whitehall II study. *Occup Environ Med* 1999; 56:302-307.

[Steenland](#) K, Fine L, Belkic K, Landsbergis P, Schnall P, Baker D, Theorell T, Siegrist J, Peter R, Karasek R, Marmot M, Brisson C, Tuchsien F. Research findings linking workplace factors to CVD outcomes. *Occup Med*. 2000 Jan-Mar;15(1):7-68.

Tausig M, Fenwick R., Sauter SL, Murphy, LR, and Graif C. The changing nature of job stress: Risk and resources. In P.L. Perrewe and D. Ganster (eds). (2004) *Research in Occupational Stress and Well Being Volume 4*. New York: JAI Press, pp. 93-126.

Torp S, Groggaard JB, Moen BE, Brateveit M. The impact of social and organization factors on workers' use of personal protective equipment: A multilevel approach. *J Occup Envir Med* 2005; 47(8): 829-837.

US Census Bureau. *Annual Resident Population Estimates of the United States by Age, Race, and Hispanic or Latino Origin: April 1 2000 to July 1, 2003*. Hyattsville, MD: US Census 2003.

Vega WA, Kolody B, Aguilar-Gaxiola S, Alderete E, Catalano R, Caraveo-Anduaga J: Lifetime prevalence of DSM-III-R psychiatric disorders among urban and rural Mexican Americans in California. *Arch Gen Psychiatry* 1998; 55(9):771–778.

Vega WA, Sribney WM, Achara-Abrahams I: Co-occurring alcohol, drug, and other psychiatric disorders among Mexican-origin people in the United States. *Am J Public Health* 2003; 93(7):1057–1064.

World Health Organization. *The world health report 2001: Mental health: new understanding, new hope*. Geneva, Switzerland: World Health Organization, 2001.

WHO World Mental Survey Consortium. Prevalence, severity and unmet need for the treatment of mental disorders in the World health Organization World Mental Health Surveys. *JAMA* 2004;291(21):2581-2590.

Wulsin WR, Evans JC, Vasan RS, Murabito JM, Kelly-Hayes M, Benjamin EJ. *Psychosomatic Medicine* 2005; 67:697-702.