

their practice communities. Primary care physicians were most likely to periodically screen asymptomatic individuals age 50 or over using the Fecal Occult Blood Test or FOBT (75%) or colonoscopy (71%). Forty six percent of these urban physicians used the flexible sigmoidoscopy periodically to detect colorectal cancer; 11% conducted the procedure themselves. Less common was periodic screening using the flexible sigmoidoscopy and FOBT (37%), or the double contrast barium enema or DCBE (4%). Eighty-six percent of the sample obtained a stool sample with a digital rectal exam for screening, contrary to recommended practices. Over two-thirds (68%) of the physicians were men, 40% were foreign medical graduates; 44% were salaried employees. One-half of the PCP's had been in practice 14 years or more, working in busy offices (average 86 contacts per week, SD, 48). Only 2% correctly identified five major risk factors for CRC. Physicians identified the most supports for screening with FOBT, and the least for the DCBE. The results of separate logistic regression analyses of the periodic use of FOBT, and colonoscopy, the two most common screening practices in this sample, revealed that PCP's who identified more supports to colonoscopy screening ($p=.00001$), and FOBT screening ($p=.0007$), and who were more accurate in their identification of risk factors for CRC ($p=.06$, colonoscopy, $p=.002$, FOBT) were more likely to periodically screen older individuals in their practices than other physicians seeing similar patients. Colonoscopy was significantly more common in the more affluent and white communities than was FOBT ($p=.006$). Salaried physicians were less likely to use the FOBT for CRC screening than were other PCP's. These results suggest the importance of targeted training on screening recommendations, particularly within underserved communities, thus influencing CRC-related morbidity and mortality.

#B133 A model for incorporating the social context in health behavior interventions: Applications for cancer prevention for working class, multi-ethnic populations. Glorian Sorensen. *Dana-Farber Cancer Institute, Boston, MA.*

This presentation proposes a conceptual framework for addressing social contextual factors in cancer prevention interventions, and describes two studies that operationalize this model in interventions for working class, diverse populations. The studies presented include: (1) an intervention study in 24 small businesses, involving 1,800 workers; and (2) an intervention study in ten health centers, involving 2,200 patients living in low income/diverse neighborhoods. The conceptual model guiding this work articulates pathways by which social context may influence health behaviors. The studies utilize organization as the unit of randomization and intervention; target health behaviors are increasing fruit and vegetable consumption, decreasing red meat consumption, increasing multi-vitamin use, and increasing physical activity. Social contextual factors include individual factors (e.g. material circumstances, psychosocial factors), interpersonal factors, (e.g. social ties, roles/responsibilities, social norms), organizational factors (e.g. work organization, access to healthcare), and neighborhood/community factors (e.g. safety, access to grocery stores). Social context is shaped by demographic characteristics (e.g. social class, race/ethnicity, gender) that impact daily life. The social context of health behavior change is addressed through interventions that: (1) target social networks, (2) are designed with sensitivity toward limitations in material resources and toward cultural differences, (3) develop linkages to relevant activities in participants' workplaces or communities, and (4) include integration into the health care delivery system and workplace. The small business sample is predominantly male, about half has up to a high school education, 31% of participants are minorities, and 44% are first or second generation immigrants. The health centers sample is predominantly female, about a third has up to a high school education, 43% are minorities, and 40% are immigrants. Baseline data reflecting participants' status on the social contextual factors included in the conceptual model, and the relationship of these factors to the target cancer risk factors will be presented. By illuminating the pathways by which social contextual factors influence health behaviors, it will be possible to enhance the effectiveness of interventions aimed at reducing social inequalities in risk behaviors.

#B134 Exploration on the associated genes with APP and their functions. Lanying Liu and Rong Wang. *Mount Sinai School of Medicine, New York, NY.*

Alzheimer disease (AD) is characterized by the formation of plaques in the brain that are composed of a collection of insoluble amyloid peptide. The bulk of the peptide material comes from a single parent protein sequence - the A-beta peptide which results from dysfunction and degeneration of neurons in limbic and cortical regions of the brain. The peptides are ragged at their C-terminus and the presence of key amino acids at the C-terminus is known to strongly change the tendency of the peptides to form plaques. Although the key gene - amyloid precursor protein (APP) gene in Alzheimer disease have been identified, it is not clear that the gene is controlled or affected or related by which genes. As a step toward the complete characterization of APP associate protein complex, we generated stable cell lines that express full-length human APP fused at its 3'-end to the sequence encoding the c-myc tag under the control of a cytomegalovirus-inducible promoter. Native APP complexes of identical protein composition to those

isolated by immunoprecipitation with anti-APP antibodies were purified by affinity chromatography from extracts of both cell lines. Mass spectrometry is the best method currently available to determine the extent and type of C-terminal raggedness of these peptides. Here we report the identification by mass spectrometry of a novel protein component of the APP associate protein complex.

#B135 Obstacles to fat and fiber intakes in African-American women. Margaret K. Hargreaves, David Schlundt and Maciej Buchowski. *Meharry Medical College, Nashville, TN; Vanderbilt University, Nashville, TN.*

Dietary fat and fiber have been implicated in cancers of the breast, colon, and prostate. The National Cancer Institute, in its support of guidelines to decrease fat and increase fiber intakes in the American diet, has indicated that several lives might be saved if Americans would modify their dietary habits. African Americans have a high burden for these cancers, and preferentially select high fat, low fiber diets. They would therefore benefit from reducing dietary fat intake and increasing consumption of fruits and vegetables. Our goal was to examine the barriers faced by African American women to either initiating or maintaining these kinds of dietary changes. A structured interview was developed to elicit descriptions of obstacles to behavior change and was given to 155 African American women. Stage of change (precontemplation, contemplation, preparation, action, or maintenance) was assessed for reducing dietary fat and increasing intake of fruits and vegetables. Answers to the questions were coded using a reliable coding system that described 156 different psychological and environmental barriers to behavior change. The most frequently mentioned psychological barriers to both eating behaviors were not liking the taste of healthy foods, feeling unsure about the benefits of changing, not liking to make changes, lack of knowledge, feeling that changing diet is too difficult, food cravings, negative emotions, and experiencing pain and discomfort. The most prominent environmental barriers were lack of time, the high cost of healthy foods, eating in restaurants and fast food establishments, poverty, family support and family traditions, and constraints of the work place. There were some differences in barriers as a function of stage of change with women in the precontemplation, contemplation, and preparation stages putting greater emphasis on psychological barriers and women in the action and maintenance stages reporting more environmental barriers. Knowledge of these barriers should facilitate the development of effective behavior change programs to decrease dietary cancer risk. Funded in part by the DOD Breast Cancer Research Program.

#B136 Criteria for utilizing high output technologies for occupational cancer research and prevention. Paul A. Schulte, E. Ward, M. Torason, A. Blair, P. Brandt-Rauf, R. Melnick, N. Rothman, R. Tennant, A. Weston, F. Mirer and S. Bonassi. *National Institute for Occupational Safety and Health, Cincinnati, OH; National Cancer Institute, Rockville, MD; Columbia University, New York, NY; National Institute of Environmental Health Science, Research Triangle Park, NC; National Institute of Health, Rockville, MD; National Institute for Occupational Safety and Health, Morgantown, WV; United Auto Workers, Detroit, MI; National Institute for Research on Cancer, Genoa, Italy.*

As new high output technologies in genomics, transcriptomics, and proteomics become more available, questions arise about their use in understanding and control of potential occupational carcinogens. To address these questions, we recently held a workshop where 80 specialists, in a single forum, discussed these technologies under categories of markers of early biologic effects, inherited modifiers of risk, applications, and case studies. The utilization of these technologies was assessed with regard to the contribution they can make to carcinogen identification, epidemiologic research, risk assessment, and prevention. The ability to group chemical with similar global gene expression profiles has the potential to provide an early warning system for suspect carcinogenic chemicals before they are introduced into commerce. The challenge will be to identify the degree of similarity that is predictive of carcinogenicity and distinguish pathognomic patterns from homeostatic ones. In epidemiologic studies, high output patterns may serve as surrogate endpoints for cancer if they can be shown to have a high attributable proportion. Attention to basic epidemiologic principles of design and analysis are still important to guard against biases and irrepeatable results. To enhance risk assessments, expression patterns need to have demonstrated comparability across species for extrapolation purposes and be robust at different doses for dose-response predictions. In addition to scientific issues, ethical, legal, and social issues need to be addressed prior to use of these technologies in human populations. The ultimate challenge to the occupational safety and health community is how to exploit new technologies appropriately without disregarding potential benefits from relatively low-tech research approaches. This will require integration of historically tested technologies with newer ones.

#B137 Risk index for reinforcement of disease prevention messages on the Web. Cynthia Joy Stein and Graham Colditz. *Harvard Center for Cancer Prevention, Boston, MA.*

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