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Assessing and Controlling Occupational Health Risks to
Immigrant Populations in Somerville, Massachusetts
5 R25 OH008776-04

February 2, 2011
Final Progress Report

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Project period: 8/01/2005- 10/31/2010

Table of Contents

List of Terms and Abbreviations	3
Abstract	4
Section 1	
<i>Highlights/Significant Findings</i>	6
<i>Translation of Findings</i>	8
<i>Outcomes/Relevance/Impact</i>	8
Section 2	
<i>Scientific Report</i>	11
<i>Teen Educators</i>	12
<i>Vida Verde Co-Operative</i>	13
<i>Specific Aim 1</i>	15
<i>Specific Aim 2</i>	18
<i>Specific Aim 3</i>	20
<i>Future Directions for Research</i>	21
Publications	23
Conference Presentations	23
Media Coverage Summary	27

List of Terms and Abbreviations

Building Your Capacity (BYC)

Cambridge Health Alliance (CHA)

Clinical and Translational Science Institute (CTSI)

Collaboration for Better Work Environment for Brazilians (COBWEB)

Community Action Agency of Somerville (CAAS)

Community Based Participatory Research (CBPR)

Dorchester Occupational Health Initiative (DOHI)

ICA Group (ICA) Immigrant Service Providers Group/Health (ISPG/H)

Institutional Review Board (IRB)

Massachusetts Coalition for Occupational Safety and Health (MassCOSH)

National Institute for Environmental Health Sciences (NIEHS)

National Institute for Occupational Safety and Health (NIOSH)

National Research Centre for the Working Environment (NRCWE)

Program in Environmental Public Health (PEPH)

Request for Information (RFI)

Abstract

The Somerville Immigrant Worker Health Project was a collaborative effort lead by a community based organization, Immigrant Service Providers Group/Health (ISPG/H), a health care provider, Cambridge Health Alliance (CHA), and an academic partner, Tufts University, along with other partners representative of the community. These additional partners which included; the Haitian Coalition, Community Action Agency of Somerville (CAAS), Brazilian Women's Group and Massachusetts Coalition for Occupational Safety and Health (MassCOSH) worked together to address occupational health issues for the populations that they serve at the community level as well as to gather quantitative and qualitative information regarding immigrant occupational health. This work began in 2005 and ended in 2010.

Two perspectives shaped the consideration of immigrant occupational health in this project. First, the knowledge that the number of immigrant residents working and living in Somerville is undercounted due to issues of immigrant and legal documentation. Second, the work reported here follows the Environmental Justice model in that we hold to the premise that the environmental and occupational risks borne by immigrant workers are disproportionately distributed in society. Together, these perspectives led us to attempt to reach further into the immigrant community in Somerville while bringing significant resources to the immigrant service agencies with whom we partnered.

The grant partners were drawn almost entirely from Somerville's immigrant communities. Some members are employed as direct service providers at local not-for-profits, others either serve as head of or represent immigrant coalitions, and all have deep community ties. The stability of the participating agencies is an attribute we hope will contribute to the sustainability of the work we have begun together. This aspiration has been externally validated by successes achieved by individual partners in competing successfully for additional funding throughout the duration of our project and the participation of some partners in related external work such as a Workmen's Compensation Taskforce representing immigrant worker interests.

The overriding accomplishment of this project is its contribution to and enhancement of the knowledge and capacity of the community partners in occupational health and safety, particularly as it affects immigrant workers. As our project was primarily focused on the development of capacity through education and the direct support of the activities of the community partners this increase in capacity was felt in many ways.

Two of our most tangible successes are found in the conceptualization and implementation of the Teen Educator occupational health and safety program and the successful launch of the Vida Verde (“Green Life”), Co-Op.

The collection of information from immigrant workers living and working in Somerville by the bi-lingual Teen Educators provided a means of illustrating the need for occupational health and safety services in Somerville. It also provided an opportunity for educating the children of recent immigrants about occupational health and safety concepts and practices.

The launch of the Vida Verde Co-Operative (an environmentally conscious Co-Op of Brazilian immigrant housecleaners in Somerville) was also accomplished as a result of support from this grant. The Vida Verde Co-Op features the use of environmentally friendly (“green”) cleaning products and a structure which supports and empowers its members. We believe that these completed tasks serve as worthy examples of our collective work to date.

The participation of a subset of the Community Partners (ISPG/H, CAAS, Haitian Coalition and the Brazilian Women’s Group) in a subsequent R01 NIH grant related to obesity prevention in new immigrants was enhanced by their experience with occupational safety and health concerns and lessons learned from our work together. They were able to add the nuanced, but significant, concern that simple activity as a measure included in metabolic balance was inadequate for the description of physical activity that involved repetitive stress and other work related injuries that could result in chronic conditions that would, in fact, impair future physical activity. This observation would not have been made had the community participants already not gained considerable knowledge about occupational safety and health through participation in this NIOSH grant.

SECTION 1

Highlights/Significant Findings

The work reported on here was deliberately conceptualized in a multi-faceted manner. The significant findings of the project are thus somewhat distinct and yet bound together by the belief that enhancing the capability of organizations operating at the community scale is a powerful and important way to advance immigrant occupational health issues and increasing community knowledge of Environmental justice issues.

The use of Teen Educators (bi-lingual youth in either Haitian-Creole or Spanish) recruited and supervised by mentors from the Haitian Coalition and CAAS represent a significant accomplishment of our work. The Teen Educators performed data gathering through the administration of an occupational safety and health survey to a sample of people (N= 405) who identified themselves as immigrant workers either living or working in Somerville, Mass. from 2006-2009. The Teen Educators also performed advocacy on behalf of their communities with representatives of city, state, and Federal government, made appearances at conferences and interacted with other youth groups working on similar content. It is our judgment that the presence of the Teen Educators helped our project move past the chasms of distrust and fear which predominate the social context of recently arrived immigrants in the United States. The recruitment and retention of the Teen Educators was greatly aided by the extensive history of youth programming enjoyed by both CAAS and the Haitian Coalition.

Structural issues in terms of how work is organized were also addressed with the successful launch of the Vida Verde Co-Operative (Co-Op) in 2007. The Co-Op was initially conceptualized by its founders Monica Chianelli and Heloisa Galvão to lessen social justice deficits and power imbalances inherent within the housecleaning industry sector, particularly as encountered by “helpers” who are predominately relatively recently-arrived immigrants subject to exploitation by more established “owners” of house cleaning contracts. After its successful launch, the Co-Op addressed its sustainability through successfully raising funds to contract the ICA Group (ICA), a nationally recognized consulting group, to assist them in developing a business plan. The Co-Op continues to thrive, and met the targets for new members and number of houses under contract from 2008 to 2010, based on the business plan. These achievements, together with the health-driven and market-oriented adoption of green cleaning products, generated much media interest in the Co-Op in addition to an invitation from the Danish government to share experiences about the roles that non-

governmental organizations can play in fostering positive changes in immigrant occupational health.

The third highlight to underscore is found in the development of increased trust and the deepening of working relationships between the community and academic partners. This developed predominately as a result of a consensus style decision making, significant financial investment in the community partners (over 2/3rds of the grant's financial resources were allocated in direct dollar support of the community partners) and the holding of regular meetings created a context of familiarity and encouraged the free exchange of views and ideas. It also fostered an increased appetite and familiarity with research among the community partners. This culminated in the successful competition for an R01 principally involving the cohort of Community Partners of the present project. This grant, under the leadership of Dr. Christina Economos, of the Tufts Friedman School of Nutrition Science and Policy is designing culturally appropriate interventions to stem weight gain in newly arrived immigrant mothers and children. (Assessing and Preventing Obesity Among New Immigrants 1 R01 HD057841-01)

The project also identified areas of new research opportunity as well as defined process enhancements which require further work. As a result of the community outreach at the local scale the original target populations of Haitian-Creole, Spanish and Portuguese speakers while constituting a sizable portion of the immigrant population in Somerville did not fully encompass or represent emerging immigrant populations. New immigrants in Somerville are increasingly arriving from Tibet and Southeast Asia. In addition, women day laborers were identified as being present in Somerville and their "precarious employment" characteristics, uncertain safety, lack of knowledge of working conditions, feelings of isolation and possible exploitation, will be addressed in a segment of the doctoral thesis being prepared by a member of the Tufts research team. The existence of the female day laborers would not have been detected without the expertise of the Community Partners.

The project also identified areas for further work on the part of both the academic and community partners. Given the evident strengths in building trust throughout the project period it is only appropriate to articulate areas of tension. Broadly stated the primary content area requiring further work is in the area of data sharing and dissemination. The traditional requirements of data collected for research purposes: validity, accuracy, and representativeness can alternately be seen as positive attributes or obstacles which prevent dissemination depending upon one's point of view. The ability for peer review to take place as part of the traditional academic due diligence

often places the researcher and community partner at a point of struggle particularly with regards to the speed with which data are made available and in what form. We recognize this as an area for further growth and refinement.

Translation of Findings

This project synthesized a series of draft policy recommendations to lessen health burdens and address inadequate and unequal access to occupational safety and health information and services. The partners presented these recommendations to representatives of the broader Somerville community (including local and statewide appointed and regulatory officials, local and state elected officials, and union representatives) and to a group of immigrant workers at a Community Meeting on October 13, 2010. The policy recommendations were designed for introduction at different levels of governmental authority ranging from the local level to the state or Federal level. For example, one recommendation at the local level is to train Somerville building inspectors to identify and refer violations identified during building inspections to Federal Occupational Safety and Health Administration (OSHA) or the Massachusetts Division of Occupational Safety (MDOS). An example at the Federal level is to make OSHA training funding flexible enough to support alternative training models, such as tail-gate safety training for day laborers by community organizations in multiple languages. Selected findings from the occupational health and safety survey were presented at the Community Meeting to frame the policy recommendations. Among the findings was that over 50% of the survey respondents had no knowledge of the Massachusetts Workers' Compensation Law and that nearly one quarter (23%) of the immigrants surveyed said they had been injured at work. Recommendations and comments from the attendees were also solicited.

Outcomes/Relevance/Impact

1) Potential Outcomes – findings, results, or recommendations that could impact workplace risk if used

In framing comments in this section of potential outcomes we offer two jointly written (involving academic and community partners) expressions of high potential. The project demonstrated the importance of enhancing the capacity of community-based organizations to have commitment to and knowledge of occupational health issues which affect immigrant populations. We believe such enhanced capacity is transferable. In the course of our project we applied unsuccessfully for a Public Health Challenge Grant funding in which we planned to employ our experienced community partners as an effective means for the identification of, intervention in, and mitigation of health

disparities in a neighboring vulnerable Following similar uses of community partners in the in the United States, we coined the term “environmental health ambassadors” to describe the community partners on the present project who have fulfilled the Tufts University Institutional Review Board (IRB) requirements, participated in our successful programmatic activities , and who could serve as expert consultants in applying lessons learned in Somerville to a new community and new immigrant populations.

The project partners also came together in a joint writing endeavor to respond to the Request for Information (RFI) as posted by the National Institute of Environmental Health Sciences (NIEHS) with regard to its launch of the Program in Environmental Public Health (PEPH). We wrote: “NIEHS (and other scientific agencies) should endeavor to overcome cultural gaps which separate the community from researchers and develop greater cultural competence. This obstacle is endemic and reflects a growing lack of trust of government that is trans-cultural and directed at all levels of government. This is especially true for immigrant communities in the midst of coping with the stresses of a post-9/11 regulatory and legal climate. The work and orientation of the project partners attempts to bridge this gap. The development of trust and the provision of services are central to the ability of the project partners to work effectively. Gaining access to these populations at risk for research purposes is fostered through the development of these relationships. We believe this to be a critical need for the success of future research efforts which attempt to address occupational health issues in immigrant populations”. The learning which occurred in our project period benefitted both the community and the academic partners. Fuller assessments of the benefits to academic partners involved in the Community Based Participatory Research (CBPR) continuum would be of great interest.

2) Intermediate Outcomes

The Danish equivalent of NIOSH, National Research Centre for the Working Environment (NRCWE), asked members of our project team to report on the entire project and specifically on the formation of the Vida Verde Co-Operative. David Gute and Heloisa Galvão, President of the Brazilian Women’s Group presented and conferred with Danish and Norwegian colleagues at meetings in Copenhagen on April 2-3, 2008. The central question addressed in these discussions was how central government institutions such as NRCWE can improve identifying and forming cooperative arrangements with non-governmental organizations in advancing immigrant occupational health issues.

Another example of applying lessons learned came in the project serving as the Boston co-host for the 2007 Environmental Justice (EJ) grantees meeting as sponsored by NIOSH and NIEHS. Highlights included the providing of a Somerville tour to EJ conference attendees (N=42) on December 10, 2007. This involved a bus tour of Somerville, Mass. for a demonstration of green cleaning products by members of the Vida Verde Co-Op, and a “walk-through” of Advisory Board member Tony LaFuente’s Flagraphics, Inc. as an example of an immigrant-owned enterprise.

The experience of the community partners in what they perceive to have been a successful and fruitful relationship with the academic partners has had additional utility in unexpected areas. The work led the ISPG/H to conceptualize a community course for non-profit staff to support knowledge acquisition around health and medical research to support future partnerships. This concept was adopted by the Community Engagement component of the Tufts Clinical and Translational Science Institute (CTSI) which submitted a successful application for an Administrative Supplement to the CTSI parent grant for the creation of a non-profit medical research education course, Building Your Capacity (BYC). The CTSI received \$600,000 in funding and, since there were 35 groups applying for places in the first of two cohorts of trainees, this addressed a felt community need.

The work done in developing awareness of human risks and the Institutional Review Boards (IRB) led to a curriculum unit within the Building Your Capacity course and was featured in a workshop surrounding the showing of the documentary “The Deadliest Disease” at Northeastern University. The program has also has been part of an on-going discussion of ethics and community sub-committee of the Harvard Catalyst (CTSI).

SECTION 2

Scientific Report

Faculty of Tufts University, in concert with our partners, the Immigrant Service Providers Group/Health (ISPG/H) as the community-based organization and the Cambridge Health Alliance as the health care provider have implemented a five-year program to address occupational health risks to immigrant workers in Somerville, Mass. Somerville, a “gateway” community due to its variety of new immigrant populations and immigrant serving community organizations represents a unique laboratory for this activity. For example, this project leverages existing peer youth and adult educational training and advocacy programs for immigrants. These programs have been successfully implemented by certain members of the ISPG/H (Haitian Coalition, the Community Action Agency of Somerville, and the Brazilian Women’s Group) on issues ranging from tobacco use and ambient environmental hazards to employment advocacy and skills building. We extended the impact of these successes in designing a sustainable, community-based capability to assess, characterize, and reduce occupational health risks in immigrant populations.

Further, we believe that the very structure and organization of work influences such key issues such as immigrant empowerment and the sustainability of interventions aimed at lessening the impact of occupational injury, illness and mortality. As a result, the pilot Green Cleaning Cooperative “Vida Verde” addresses occupational risks encountered by Brazilian female immigrant workers engaged in cleaning services. This aspect of our project makes use of the significant findings and outcomes from the Collaboration for Better Work Environment for Brazilians (COBWEB) project based at the University of Massachusetts at Lowell and at the Brazilian Immigrant Center in Boston. This link was preserved and enhanced through joint programming undertaken with COBWEB as well as the Dorchester Occupational health Initiative (DOHI) another Boston Metro EJ project supported by NIEHS. The Massachusetts Coalition for Occupational Safety and Health (MassCOSH) filled a critical gap in our skill set by providing its innovative young worker safety peer leadership model and contributing occupational content, materials and training. Such expertise was also supplemented during the project period by Rose Goldman, M.D. of the Cambridge Health Alliance and Director of Occupational Health at the CHA dedicated facility in Assembly Square. As a means of providing additional detail on the diverse range of activities performed as a result of this grant we next present some additional information on the recruitment, training, and engagement of the Teen Educators and the launch and growth of the Vida

Verde Co-Op. Other aspects of grant –related activities will also be reported on arrayed by the three Specific Aims of our original grant application.

Teen Educators

A center piece of the programmatic activity during the project period was the work of the Teen Educators. This capability built upon the past successes of CAAS and the Haitian Coalition. This represents a take away from our collective work and that is to build out from strengths. Community organizations are hard pressed to meet present demands asking them to dramatically re-position skills sets and competencies can be fraught with difficulty. The normal complement of Teen Educators (N = 8- with four in each language area) predominated throughout the project period. It should be noted that the principal activity to be mounted by this project among Portuguese speakers involved the Co-Op and not working with youth. This decision respected the past strengths of the Brazilian Women's Group in being largely focused on the housecleaning industry sector and also honored work started in association with the COBWEB project. Recruitment was conducted at the high school level and facilitated by the strong community relationships enjoyed by the supervisors, Ismael Vasquez from CAAS and Franklin Dalembert of the Haitian Coalition. Departures from this normal cohort were noted most decidedly in the final year of the Haitian Coalition Teen Educators a shift was made to larger group of Middle School students. Some Teen Educators stayed active in the program for more than one year. The experience was stipended and encompassed an expectation of two meeting/work sessions after school during the school year. The Teen Educators sometimes were pooled to receive training and engage in interactive projects but also conducted activities separately. For the first three years of the project period the Teen Educators were surveyed with regards to their knowledge and interest in occupational health and safety.

One of the principal tasks of the Teen Educators was to serve as implementers of the community occupational health and safety survey. Notable in the launch of this effort was the involvement of the Teen Educators in the specification of the questions and consideration of the intent of the survey. In order to mount such a survey the Teen Educators performed walk-throughs of job sites, performed hazard analyses of such work settings as fast food restaurants, and received instruction and content regarding the conducting of human subjects' research. A memorable example of this was having both groups of the Teen Educators annually watch and discuss the movie, "Miss Evers' Boys", which chronicled the infamous Tuskegee syphilis "study". The level of sophistication imparted to the Teen Educators was notable in their familiarity with the

procedures of the Tufts Institutional Review Board (IRB) and on more than one occasion their spotting errors in the survey questionnaire which needed attention.

One of the original justifications for working with the Teen Educators (fluently bilingual non-native English speakers) was their role as a source of information for, and social interaction between, the English only community and their non- or limited English speaking families. Their trainings with MassCOSH and involvement with activities related to child and immigrant labor issues have significantly increased their body of knowledge. Survey work undertaken at community events, particularly resource rich immigrant events and health fairs, has greatly extended their own knowledge of health and safety resources and increased the likelihood that this knowledge will be more broadly disseminated in the non-English speaking communities. Informal review discussions with the Teen Educators have also revealed that they have begun to apply their knowledge of occupational health and safety to their own work lives as well as to that of their peers. Injuries that were seen as "just what happens at work" have been reconceived as avoidable through protective measures or by refusing certain tasks.

Examples of outreach activities of the Teen Educators included participation on a Child Labor Law Task Force convened by MassCOSH to promote community education about the new child safety regulations and participating in the City Youth Council of Somerville. In addition the Teen Educators have assisted at community partner events including the annual Health Fair of the ISPG/H. The Teen Educators collaborated with Dr. Rose Goldman of the Cambridge Health Alliance to amend the occupational health survey to gather information to aid in planning an immigrant worker health fair to be held on November 15, 2008 at the Assembly Square Facility of CHA. Specific questions were added as to the type of health services that might be of interest to Fair attendees.

Vida Verde Women's Co-Operative

The Vida Verde Women's Co-Operative was launched in December of 2006 with the main purpose of organizing Brazilian immigrant housecleaners to combat the occupational and environmental dangers posed by traditional toxic cleaning materials and to alleviate the exploitation of workers. The Vida Verde Co-Op, currently with 18 members, has become a community asset and a strong voice in raising awareness and training new members on the dangers of using toxic cleaning materials and the need to create alternatives that protect personal health and both the micro-environment of the client's home and the ambient environment. The cleaning products made and employed by the Co-Op members have been rigorously examined by the University of

Massachusetts-Lowell Toxic Use Reduction Institute for safety and effectiveness when compared against traditional cleaning agents. Vida Verde is a worker owned, democratically run enterprise, which will enable workers with limited English proficiency to earn a living wage. Vida Verde has expanded economic opportunities for low income Brazilian immigrants interested in working within the residential and commercial cleaning industry sector free from the usual power imbalances and exploitation that traditionally have occurred in this type of work. The viability of the business model is proven by the maturation of Co-Op both in terms of the number of members but also the number of houses cleaned by members. Given its growth the Co-Op is on the verge of transitioning from a successful start-up to an on-going business entity. A majority of the members derive significant income (greater than \$1,500 per month) from the houses within control of the Co-Operative.

The inauguration of the Co-Op has attracted both popular and media attention. This culminated in a front-page story published by the Boston Globe on Thursday, March 22, 2007. National Public Radio's (NPR) show "Living on Earth" also broadcast coverage of Vida Verde's development and use of environmentally friendly cleaning products.

Co-Op members fully participate in the decision-making process. Measures are passed by a majority of the votes. Meetings are held every other week and start with a reading of the previous meeting's minute. Depending on the need, Co-Op members form committees to work on different projects. For instance, the Event committee is very active in the summer leading to the Co-Op participation in the annual Brazilian Independence Day Festival, which takes place in September. On-going committees organize training sessions and ensure the making of the natural cleaning products that the women use for cleaning. Another committee recruits new members mostly among trainees. Low-income members made up almost 100% of the membership and have the same voting power as any other member. Job distribution rotates equally among all members so every member gets a house to clean. If one member has financial or health problems, the whole group pitches in, either by giving up her turn in favor of the needy one or by cleaning the house for the sick member. This decision prevents a huge earning gap between those who have been Co-Op members since the beginning and those who have joined more recently.

The creation of the Co-Op also catalyzed a grant submission in conjunction with Newell Lessell of the ICA which has successfully obtained a preliminary \$10,000 grant for the development of an extensive business plan from the Boston Catholic Charities and a subsequent \$30,000 development grant for extended work. A significant amount of

outreach materials have been produced regarding the Co-Op via multiple media including video, print materials and radio outreach.

The growth of the Co-Op both in terms of members and houses under contract has been nothing short of impressive. One of the most important ingredients to success was the adoption of green cleaning products. This contributed to a reduction of self-reported health effects in the first cohort of Co-Op members. This small sample and possibly self selected sample is being studied further in an examination of the larger group of Co-Op members and will be compared to a snow-ball sample of house cleaners using traditional cleaning products. This is an activity which was not supported by the core grant from NIOSH. In another dimension of benefit as distinctly found in the marketing. The Co-Op's green cleaning model continues to attract new clients in the geographical areas identified in the market analysis provided by the ICA. The Co-Op is also displaying market segmentation strategies by identifying specialty businesses like exercise, dance and yoga studios where the services provided conform to the healthy life styles sought by the clients of these outlets. A not fully realized or implemented aspiration of the Co-Op is to turn the production of the green cleaning products into a profit center through the encouragement of direct sale to other non-members of the Co-Op who are house cleaners. At present this happens on an ad hoc basis but there are plans to expand this enterprise.

The next section will provide further details on activities pursued under the core funding from NIOSH segmented by the Specific Aims of the original grant application. This original language is in bold in the following section.

Specific Aims

- 1. Create and implement an annual on-going needs assessment that will characterize and track changes in the understanding of occupational risks and job-related work practices among immigrant populations residing in Somerville.**

This was pursued through a variety of deliverables. Specifically, the Key Informant Interviews performed for this grant on an annual basis formed the basis for interaction with providers of services to the target populations of our grant. The number and variety of Key Informant Interviews is instructive of the growing connection and multi-layered relationship enjoyed by Tufts personnel and the community. The initial year of Key Informant Interviews was largely confined to representatives of the organizations

connected to the project as partners (N=7), this number steadily expanded to include other organizations of interest within the community, the second year of Key Informant Interviews (N=14), culminating in the third year of Key Informant Interviews (N=34) in which the major expansion was found in including care givers and union representatives.

The interviews were executed under Tufts IRB protocols and conducted in settings of the subjects choosing, generally at their work site. In general the length of these interviews were approximately 30 minutes in length and were, after the obtaining of Informed Consent and permission to audio tape, recorded and transcribed at a later point in time. The overwhelming majority of these interviews were conducted by the Ph.D. candidate associated with the project and in the first year some of these interviews were also assisted by the Principal Investigator.

Another means of understanding and integrating information with regards to immigrant workers living and working in Somerville was accomplished through the implementation of an ongoing survey of self-identified immigrant workers as conducted by the Teen Educators and towards the end of the grant assisted by the Doctoral student associated with the project. The survey was developed and implemented largely by the Teen Educators resulted in 405 respondents who identified themselves as immigrant workers living or working in Somerville.

Occupational Health and Safety Community Survey: Descriptive Data

The survey shows Somerville to be a very diverse community with respondents from 34 different countries including the United States. Three major immigrant groups represented in the survey based on their country of birth are from Brazil (n = 98), Haiti (n = 83), El Salvador (n = 72). These three groups dominated their respective global regions. 26% of the respondents were from South America of which, 92% were Brazilians. 22% were from the Caribbean of which 92% were from Haiti. 21% were from Central America of which 84% were Salvadorans. 19% were from North America, of which 78% were from the United States. 6% were from Asia and 3% were from Africa. Though 16% of the survey respondents were from the United States, over half of these respondents were second generation immigrants mostly from Haiti and El Salvador and only 7% were born in the United States. Consistent with a desire to be mindful of sensitive confidentiality issues it was decided that although the immigration status of respondents was of interest it would not be asked in any of the survey or outreach activities.

The occupational health survey data was collected between 2006 – 2009 in the following venues; 157 respondent were interviewed in community settings, 149 were interviewed at flu clinics sponsored by one of the project’s partners (the ISPG/H), 52 were interviewed at the occupational health fairs held under funding from the present grant, and 42 were interviewed at the conclusion of the Focus Group sessions held during the project period.

Survey Demographics

Each of the ethnic groups – Brazilian, Salvadoran and Haitians - is uniquely different and occupies a distinctive niche in the greater community based on their socio-demographic characteristics. Brazilians are the most recent immigrants and the Salvadorans have been in the United States the longest. In the survey, 86% of the Brazilians and 50% of the Haitians reported being in the United States for less than ten years whereas 58% of the Salvadoran population reported being in the United States for over ten years. However 51% of both Brazilians and Salvadorans were less proficient in English. Most of the Salvadoran population represented in the survey was women (67%) whereas Brazilian men (57%) were slightly over represented in the survey. The U.S.-born workers were much younger, about 46% were between the ages of 18 – 20, and about half are second generation immigrants.

The analytical exposition of these survey data will form an additional segment of the thesis by the Doctoral student associated with the project. It is projected that the Doctoral student will defend a thesis in the Spring of 2011. At a minimum three additional papers will be submitted for publication on various aspects of the project.

The project formed a 13 member Advisory Council which broadly represented areas of content knowledge spanning immigration, labor, occupational health, government at both the state and Federal levels, and the direct provision of services to immigrants. The Advisory Council was formally convened three times but provided *ad hoc* advice to our study project team throughout the duration of the award. The Council was particularly adept at “ground truthing” initiatives undertaken as well as offering cogent suggestions as to what might expand the impact of project activities. .

In addition the project conducted selected Focus Groups to add detail on specific populations regarding occupational exposures of interest either by type of employment or by the ethnicity of the respondents. These Focus Groups results will be included in future publications coming from the project team.

2. Establish a peer-based sustainable community capability for gathering and disseminating information on work and health among these immigrant populations.

The activities of the Teen Educators could be listed as being pursuant to this Specific Aim as well. We choose to write about the enhanced capability of the Community Partners in fulfilling the need to, “gather and disseminate information on work and health”. A first very valuable step in this trajectory was the training of Community Partners as Independent Investigators within the Tufts IRB framework. This allowed for example the mentors of the Teen Educators to assist their students in the fulfillment of IRB protocol mandates without the direct intervention of Tufts personnel. This accomplished a number of positive objectives including greater logistical flexibility, increased productivity but also culminated in an enhanced respect for and interest in the “chain of evidence” of data that results from the following of carefully scripted protocols and methods. This sophistication as to the process and intent of research has been noted by external actors in that Community members of this project have been recruited for positions of leadership by the Tufts and Harvard University’s CTSI which were eager to enlist community representatives who were knowledgeable about and had a passion for research. This sophistication has played out in other sequelae. This is most prominently illustrated by the inclusion of all of the project’s Community Partners (with the exception of MassCOSH because of inappropriate focus) within an R01 which has an ambitious intervention based hypothesis which is benefitting greatly from the Community Partner’s increasing familiarity with research methods and approaches. In a very real way the R25 experience helped prepare the way for a R01 level research activity for these Partners. An anecdotal contribution which confirms the worth of such an infusion of the community perspective is found in one of the first research papers being considered in the R01 was significantly changed in its interpretation of the importance of job-related physical activity in maintaining weight as a result of the community organization’s experience with occupational safety and health perspectives and research approaches as a result of their prior experience in the project reported on here..

Another major venue for obtaining interviewees for the occupational health and safety surveys but also for the dissemination of information regarding occupational health and safety information was found in two health fairs specifically sponsored under the core support of the NIOSH grant. These were held to highlight the attributes to two of our Community Partners. The first was held on November 15, 2008 at the CHA Assembly Square facility. This is a dedicated facility which features physical therapy, occupational therapy and other treatment and diagnostic modalities directed at working populations.

The health services offered were gathered from results gleaned from a revision of the occupational health survey. Health screenings were performed by professionals from the Cambridge Health Alliance. The primary focus of the fair was an attempt to bring in members of the male day laborer population. Outreach was performed by visiting the sites of labor transactions for these workers (parking lots and parks). The results of the screenings bear out the success of appealing to this very hard to reach population with fully 37 of the 42 (88%) individuals who were screened being male. In addition the great majority of the individuals lacked access to a primary care physician 29/39 or 74%. The professional health screeners employed by CHA commented anecdotally that the population seen that day was "truly hard to reach" and one that usually does not seek care.

Buoyed by this success a second health fair was planned in conjunction with the Haitian Coalition. The venue was an outdoor swatch of ground in the midst of the Clarendon North Public Housing complex and was held on July 25, 2009. As expected a very different population took part in the screenings; largely female (34/44 or 77%) and a population with better access to a Primary Physician (34/44 or 77%) than the population encountered at the first health fair. Featured at these health fairs were the health screenings but also tables staffed by many different community organizations so that interaction and information dissemination could occur. For instance at the Clarendon North event the following organizations were represented: MassCOSH, RESPOND, Somerville Lead Paint Prevention, SMILE, Nutrition, Vision Screenings and health insurance information.

The Teen Educators also worked with Tufts faculty to produce a second set of more specific questions as a survey supplement to enable our health partner to more accurately pinpoint specific health needs for a planned intervention. Beyond this, the Teen Educators participated in and presented at the December 2007 NIEHS-NIOSH Grantee Meeting conference in Boston ,sent a representative to the Somerville city-wide youth council, and have conducted a pilot presentation to 7th and 8th grade students in a public school on occupational health and safety. Both groups staffed an occupational health and safety table at a local Teen Peace Conference. Their curriculum was supplemented this year with a tour of a local factory (Ames Safety Envelope) with a mostly immigrant work force. They interviewed the CFO, VP for HR, and the staff safety officer. They received two study sessions on data collection and interpretation prepared by Tufts University students attached to the project and two members, along with the youth leaders, attended a training on data presentation conducted by the a regional office of the Massachusetts Department of Public Health. (All of the students went through a second training provided by MassCOSH and attended a review session

on the IRB process). All members attended a three day conference conducted in Boston by MassCOSH, Leadership Education and Action to Promote Safety for Young Workers and four of them were engaged in the planning process.

A Youth EJ Summit (which featured Teen Educators from our grant, COBWEB, and DOHI) all met for a one half day session in May of 2007 on the Tufts University campus to exchange information and discuss approaches to furthering improvements in immigrant occupational health .

3. Create a community-based organizational structure, a cooperative, to address work-related risks to immigrant workers in Somerville. The initial focus of the Cooperative will be to address the needs of women housecleaners.

The Vida Verde Women's Co-Operative was launched in December of 2006 with the main purpose of organizing Brazilian women immigrant housecleaners to combat the occupational and environmental dangers posed by traditional toxic cleaning materials and to alleviate the exploitation of workers. Vida Verde is a project of the Brazilian Women's Group (BWG), a volunteer-run community organizing organization, started in 1995 by a group of Brazilian immigrant women of various backgrounds and occupations. The BWG's Mission is to promote political and cultural awareness, and contribute to the development and self-sufficiency of the Brazilian community, especially women and children.

Currently, the Vida Verde Co-Op, with 16 members, is a worker owned, democratically run enterprise, which has enabled workers with limited English proficiency to earn a living wage. Vida Verde has also become a community asset and a strong voice in raising awareness and training new members on the dangers of using toxic cleaning materials and the need to create alternatives that protect personal health in both the micro-environment of the client's home and the larger ambient environment of the community. Another strength of the Co-Op is its commitment to ending the exploitation of "helpers" by the "owners of the cleaning schedules".

Personal story: In Brazil, 37 year old Mariae was a mother of two, a homemaker and a victim of domestic violence. In Boston, she became a helper to housecleaners, cleaning five houses per day and taking home \$70 per day or \$350 per week. Mariae's life started to change when she joined the Vida Verde Women's Co-Op. For months, she could not express herself during Co-Op meetings and she felt it impossible to break the chain of exploitation she was in. With the help of the other

women in the cooperative and a volunteer who taught Mariae English and computer literacy skills, she became empowered. Now she is no longer a helper, she cleans 2 houses a day, taking home 100% of her earnings, making \$2,000.00 per month. In the spring of 2008 she stepped up in front of over 100 people and shared her story during a women's conference.

In a relatively short history, Vida Verde has trained over 200 women and some men on the use of non-toxic natural cleaning products, has taught about the dangers of chemical cleaning products to people and to the environment, has presented in a variety of community venues which have ranged from churches to universities. Co-Op members participated in about 20 health fairs and produced an educational bilingual video to disseminate the Co-Op's services and mission. Moreover, the Vida Verde Co-Op has provided a welcoming structure for women housecleaners to become small business women and empowered its own members to become actively involved in community organizing and the promotion of civil rights.

Of note is the degree to which the leadership of the Co-Op has been sought out for advice and information about the approaches it has employed for the creation of and continued growth of the Co-Op. At the national level, Vida Verde is a member of the National Alliance of Domestic Workers and has helped to frame the domestic workers national agenda. For instance, in November 2009, two members represented the Co-Op at a domestic workers conference in San Francisco, CA, and participated in and contributed to the campaign for a Domestic Workers Bill of Rights. Vida Verde was also invited and presented at the 2010 Social Forum (Detroit, June). At the International level, Vida Verde along with the PI, David Gute, was invited by the Danish government to present its project in Copenhagen (April, 2008).

Future Directions for Research as Suggested by the Project Team:

1. Mechanisms to enhance improved information on the health of immigrant populations including the area of occupational health and safety but also moving beyond to other important health issues such as nutrition and controlling obesity.
2. Further descriptive study of the risks posed to day laborers, particularly female day laborers.
3. Assessing the feasibility of transferring the Co-Op structure of work organization to additional industry sectors.

4. Develop a research program to better characterize important differences in occupational safety and health characteristics among the various immigrant communities living or working in Somerville. Existing work conducted to date describes the dimensions of service needs, health disparities and programmatic needs for all immigrant workers. More detailed study is required to accurately characterize immigrant group specific needs.

Publications

Gute, DM, Siqueira, CE, Goldberg, JS, Galvão, HM, Chianelli, M, Pirie, A: [2009] The Launch of the Vida Verde Co-Op: The Role of Brazilian Immigrant Women in Community Organizing to Promote Environmental and Social Justice. *American Journal of Public Health*. 99: S495-S498.

This publication addressed Specific Aim 3.

Hyatt, RR, Gute, DM, Pirie, A, Page, H, Vasquez, I, Dalembert, F: [2009] Initiating the transfer of research capability in environmental justice within a community-based participatory research project – Bringing in the IRB. *American Journal of Public Health*. 99:S526-S531.

This publication's focus was evident in work throughout the entire project but particularly with regards to Specific Aims 1 and 2.

Comments submitted by the Project Partners to the Request for Information (RFI): As solicited by the National Institute of Environmental Health Sciences for the development of the “Partnerships for Environmental Public Health” (PEPH). January 18, 2008.

This publication drew on the collective experience of all partners and from all phases of the project.

Conference Presentations

Gute, D.M. and Galvão, Heloisa. Green job creation and social justice: The Vida Verde Brazilian women housecleaning co-op. Annual Meeting of the American Public Health Association. Denver, CO. November 9, 2010.

Gute, D.M., Pirie, Alex. Vasquez, I. and Dalembert, F. Employing teen educators in immigrant occupational health outreach: Logistical lessons learned and energizing aspirations uncovered. Annual Meeting of the American Public Health Association. Philadelphia, PA. November 10, 2009.

Gute, D.M., Pirie, A., Hyatt, R., Goldman, R., Goldstein-Gelb, M., Woodin, M. and Desmarais. Working towards social justice: Lessons learned in Somerville, Massachusetts. Annual Meeting of the American Public Health Association. San Diego, CA. October 27, 2008.

Gute, D.M., Galvão, Heloisa. The Vida Verde Co-Operative. Danish National Research Centre for the Working Environment (NRCWE) on April 2-3, 2008. Copenhagen, Denmark. (Invited Presentation).

Gute, D.M., Hyatt, R., Pirie, A., Goldman, R., Goldstein-Gelb, M., Woodin, M., and Panikkar, B. Methodological techniques for the assessment of immigrant occupational health problems: Somerville, Massachusetts. Annual Meeting of the American Public Health Association. Washington, D.C. November 5, 2007.

Hyatt R. R., Gute, D.M., Vasquez, I., Dalembert, F., Pirie, A. and Goldstein-Gelb, M., Implementing a teen educator developed survey for characterizing the populations at risk of immigrant occupational health problems. Annual Meeting of the American Public Health Association. Washington, D.C. November 5, 2007

Gute, D.M. Environmental Justice Seen Through a Different Lens: Assessing and Controlling Immigrant Occupational Health Risks in Somerville, Massachusetts. Environmental Justice Council. USEPA Region I. March 22, 2007.

Gute, D.M. The Environment and the Future: A Question of Sustainability. The Washington Tufts Alliance, a chapter of the Tufts University Alumni Association (TUAA), and Tufts School of Engineering Tufts. Alumni Talk. Louis Berger Group. Washington, D.C. March 15, 2007.

Monica Chianelli appeared on WUML on March 13, 2007 and lectured at the University of Massachusetts at Dartmouth on February 28, 2007 with regards to the Co-Op.

Monica Chianelli and Heloisa Galvão lectured at University of Massachusetts at Lowell on 4/30/07.

Hyatt, Raymond, Gute, D.M., Page, Helen, Goldman, Rose and Pirie, Alex. "Initiating the transfer of research capability in environmental justice within a community-based participatory research project – Bringing in the IRB". Annual Meeting of the American Public Health Association. Boston, MA. November 6, 2006.

Appointments and Service Resulting from the Grant

As a result of the involvement of the ISPG/H, Alex Pirie has been appointed to the Advisory Board of the Tufts Community Research Center where he serves on the Building Your Capacity planning and curriculum committees. He was invited to conduct a meeting on Community Based Participatory Research for Boston Mayor Thomas Menino's Health and Human Services leadership staff and was invited by the Boston-based Lenny Fund to run two workshops on "Building and Sustaining Coalitions". He is currently also a member of the steering committee for the community engagement component of the Harvard University CTSI, The Harvard Catalyst, where he serves on the sub-committee for ethics and community and served on the planning committee for the 2010 Association for Prevention Teaching and Research (APTR) Boston Conference, "Taking it to Curbside."

Media Coverage Summary

Prepared January 14, 2011

Tufts University Press Office

Boston Globe

College gets federal grant to study workplace risks

Jan. 25, 2006

(Business section-Lead item in Business Briefs section)

Mentioned the School of Engineering and Friedman School of Nutrition Science and Policy. The story also appeared on the Boston Globe's website. In addition, a brief item that mentioned only the Cambridge Health Alliance ran in the City Weekly edition of The Boston Globe on Jan. 29, 2006.

Full Text:

Tufts University said it has received \$899,644 to study and develop ways to lessen the health risks low-wage immigrants face at work. The grant, to fund a four-year research program, was awarded by the National Institute for Occupational Safety and Health. The federal funds will allow the Tufts School of Engineering and the Friedman School of Nutrition Science and Policy to develop a program to study the workplace health hazards that Latino and Haitian immigrants in Somerville encounter. It will also fund intervention and research by several organizations, including the Massachusetts Coalition for Occupational Safety and Health and the Community Action Agency of Somerville.

Somerville Journal (print and online)

Health officials to tackle immigrant work conditions

Jan. 26, 2006

(Page A4)

Mentions the School of Engineering and Friedman School of Nutrition Science and Policy.

Full text:

After a chemical fire killed two Vietnamese men in Somerville in 2004, local health officials have secured a \$900,000 grant to address occupational health risks for immigrants. The grant will be used to launch a four-year program to address immigrant worker conditions in Somerville and is funded by the National Institute for Occupational Safety and Health.

The flammable chemicals often used in floor finishing led to a horrific fire at 4 Foskett St. in September 2004 in which two men, Toan Bui and Ha Vu, died, and a third man, Nam Dao, suffered burns over 80 percent of his body. A fourth man was also burned.

Although immigrants provide an increasingly large portion of Somerville's workforce, health officials say the workers often aren't told of the health risks that come with their jobs.

"This program will address a critical public health issue and benefit all workers by working actively with community partners and will serve as a model for other communities," according to a press release from Tufts University last week.

Research and intervention efforts for the program will be spearheaded by Tufts University's School of Engineering and Friedman School of Nutrition Science and Policy. The Immigrant Service Providers Group, along with the Cambridge Health Alliance, the Community Action Agency of Somerville, the Haitian Coalition, the Brazilian Women's Group and the state Coalition for Occupational Safety and Health, will also participate in the program.

A Semana (print and online)

Jan. 28, 2006

This Portuguese language paper ran our press release verbatim.

Hispanic Outlook in Higher Education

Tufts Receives Grant to Study

Immigrant Health Risks

June 5, 2006

Full text:

The Tufts University School of Engineering (Mass.) has received a four-year grant from the National Institute for Occupational Safety and Health to advance understanding of occupational health risks among immigrant workers. The grant will fund intervention efforts in the city of Somerville, Mass., to be developed by researchers from Tufts' School of Engineering and Friedman School of Nutrition Science and Policy, in cooperation with the Immigrant Service Providers Group and the Cambridge Heath Alliance. "Somerville, which has seen the number of foreign-born residents grow by 34 percent in 10 years, is an important gateway for newcomers," explained principal investigator David M. Gute, associate professor of civil and environmental engineering at Tufts.

NECN-TV (New England Cable News)

Jan. 24, 2006 evening news; ran twice

Mentions the School of Engineering and includes interview with David Gute, Rose Goldman of Cambridge Health Alliance, and Monica Chianelli, immigrant worker who spoke at our event on behalf of the Brazilian Women's Group. Interview with David Gute

Boston Globe

March 22, 2007

Front-page story on the Vida Verde Co-Operative by Yvonne Abraham.

Public Radio International

Living on Earth

Vida Verde

June 15, 2007

This program on the Vida Verde cooperative appeared on the "Living on Earth" website on June 15 and aired on WBUR in Boston and approximately 300 other public radio stations across the country.

<http://www.loe.org/shows/segments.htm?programID=07-P13-00024&segmentID=4>

MetroWest Daily News (Framingham, Mass.)

Wiley: Going green across the globe

April 25, 2008

This feature story focuses on the NIOSH project's Vida Verde cooperative and like efforts.

<http://www.metrowestdailynews.com/news/x2124113261>

Boston Globe

Immigrant workers seen at increased risk

October 12, 2008

http://www.boston.com/news/local/massachusetts/articles/2008/10/12/immigrant_workers_seen_at_increased_risk/

Full text:

Romulo Santos of Somerville headed off to work Sept. 9 at a Wal-Mart in Walpole as usual. But that day he was electrocuted on the job.

Some might consider the 47-year-old Brazilian native's death a freak accident, but local advocates say that for many immigrant workers, the risk of injury is all too real.

Tufts University, Cambridge Health Alliance, and five Somerville community groups have come together to raise awareness of occupational health risks and to teach people their rights.

Statewide, immigrants are disproportionately more likely to be injured on the job, said Tufts professor David Gute. In 2005, immigrants made up 17 percent of the workforce and accounted for 28 percent of on-the-job deaths, said Gute, citing a study from the Massachusetts Coalition for Occupational Health and Safety, and the AFL-CIO. Gute is leading a survey with more than 300 responses so far, trying to piece out data for Somerville.

According to the city's website, nearly 30 percent of residents over the age of 18 were born in another country. Immigrants often work in the most dangerous jobs, said Marcy Goldstein-Gelb, executive director of MassCOSH. "The more desperate you are to keep your job, the more vulnerable you are."

There are plenty of examples. In 2004, two Vietnamese floor finishers in Somerville were killed when varnish fumes ignited, sending a fireball down a stairwell. Smaller varnish fires are extremely common, Goldstein-Gelb said.

"You see a lot of Brazilians doing construction, roof [work], without protection," said Ismael Vasquez of the Community Action Agency of Somerville. He coordinates a teen group that helped write and administer the survey with Haitian peers.

Chronic exposure also causes problems, Alex Pirie, coordinator at the Immigrant Service Providers Group, said - "people who are on ladders all day long . . . inhaling scraped-off lead."

Despite these risks, advocates said, immigrant workers were under informed and afraid to come forward when they do get injured. Gute cited language barriers and a reluctance since 9/11 to interact with public agencies.

Members of the Latino teen group saw this firsthand with their survey subjects.

"They don't know their rights," said Jessalyn Vasquez, 14, who said her mother once got a paper cut on her eye at Ames Envelope Co. in Somerville.

The students have made formal presentations to church groups and public health conferences. They also talk about what they've learned to family and friends.

The eye injury notwithstanding, Pirie and Ismael Vasquez pointed to Ames Envelope as an example of a company that does things right, taking appropriate safety precautions and keeping employees informed.

"One of the challenges we have is how to get the message across," said Joanne Sargent, an occupational health nurse who works with Ames.

Sargent said the company trains employees in ergonomics and other issues, and posts notices in English and Spanish. She walks around the factory floor weekly to correct safety lapses and bad habits. This year, eight of the location's 400 or so workers had OSHA-recordable injuries, she said.

As the OSHA investigation of Santos' electrocution continues, Somerville is mobilizing its resources. And the state Legislature recently advanced a bill to ban the varnishes responsible for the 2004 accident, Goldstein-Gelb said.

Coalition members hope free flu shots will attract people to their Oct. 24-25 Immigrant Community Health Fair at the Healey School, where they will do more surveys. They're also holding a "healthy worker" seminar at Cambridge Health Alliance in Assembly Square on Nov. 15.

And the teens keep talking, "to encourage people that no matter what, they have rights," Lainez said.

Somerville Journal

Tufts to study Obesity among new immigrants

January 18, 2009

This Tufts news release mentions the NIOSH grant. It also ran in MedicalNewsToday.com and ScienceCentric.com, and a shortened version appeared on Examiner.com.

<http://www.wickedlocal.com/somerville/news/x1621251354/Tufts-to-study-obesity-among-new-immigrants>

UNCONFIRMED COVERAGE:

Somerville News

We believe they covered the announcement event in 2006.

SCAT (Somerville Community Access Television) and WUNI-TV (Ch. 27-Hispanic station)

Both had camera crews at the 2006 announcement event.