THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

convenes the

TOWN HALL MEETING

NORA

NATIONAL OCCUPATIONAL

RESEARCH AGENDA

The verbatim transcript of the Town Hall Meeting of the National Occupational Research Agenda held in Chicago, Illinois, on December 19, 2005.

C O N T E N T S

December 19, 2005

TRANSCRIPT LEGEND

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-- (sic) denotes an incorrect usage or pronunciation of a word which is transcribed in its original form as reported.

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-- "uh-huh" represents an affirmative response, and "uh-uh" represents a negative response.

-- "*" denotes a spelling based on phonetics, without reference available.

-- (inaudible)/ (unintelligible) signifies speaker failure, usually failure to use a microphone.

TOWN HALL ORGANIZERS

JIM ALBERS, Ph.D.
NIOSH

TOM BRODERICK
Construction Safety Council

LISA BROSSEAU, ScD, CIH
University of Minnesota

LORRAINE M. CONROY, ScD, CIH
University of Illinois at Chicago

MATT GILLEN, MS, CIH
NIOSH Office of the Director

JEFFERY KOHLER, PhD
NIOSH Office of the Director

MAX LUM, EdD, MPA
Office of Health Communications and Global Collaboration

THOMAS ROBINS, MD, MPH
University of Michigan School of Public Health

SIDNEY SODERHOLM, PhD
NIOSH Office of the Director

P R O C E E D I N G S

(9:00 a.m.)

OPENING REMARKS

DR. MAX LUM, NIOSH

DR. LUM: A warm welcome on a very chilly morning here in Chicago. Thank you for coming out today, giving up your day to work with the National Institute of Occupational Safety and Health and our second town hall meeting related to the NORA program.

Dr. Howard, the Director of the Institute, couldn't be with us today. He's traveling in Australia. And Diane Porter, our Deputy, is ill and not available to come today. The Congress, as you probably are aware -- we won't have a congressperson joining us. They're still voting. Actually they voted at 6:00 in the morning today. They had a rare Saturday session. I think they were actually in session, if I understand, last night a bit preparing for this morning's meeting. But we have a full agenda, both the morning and the afternoon, and we do welcome you here at the town hall meeting.

As most of you know, I think, NIOSH is predominantly a research institute. A

significant amount of its work is research. It does have a strong service function, but about 80 percent of the Institute's resources and employees really focus on research. And NIOSH is, again, part of the Center for Disease Control and Prevention, and we've been around since the early '70's. And about ten years ago the current director and leadership of NIOSH really tried to get a grip on what is the really the way to handle research, how can we set the agenda? How do we reach out to partnerships -- those are individuals and organizations, labor, employee, employers, advocacy groups, the federal sector -- to really understand what the national agenda should be. Not just the agenda for NIOSH, but really looking across the board for a way to get a grip on setting a national agenda for occupational safety and health. And the NORA project, the NORA system, really came out of that thinking almost ten years ago. It'll be ten years in April.

And NORA, as it's developed I think in these early years, has had a pretty good childhood. It's ten years old. It'll need special care as

it moves into its teen years in the next ten years. If NORA's teens are anything like my teens, it's going to need a lot of care, and my kids' teens even more care I think. But that's why we're here and we're really looking out for the next ten years, what -- we want to hear from our partners in a series of town hall meetings that we'll be conducting across the country.

They're -- we're conducting 12 of these over the next four months. This is the second one. Our first one was in College Park two weeks ago and was sponsored by the Hopkins folks and Harvard University. We had a full agenda there, too, and learned a great deal.

But the town hall process is extremely important. It's more than just a style issue. You know, what you'll hear today will go into the NIOSH docket. It'll be used in developing our new sector approach to occupational safety and health. We'll be responding I think to what we hear. I know we'll be hearing things we don't expect today, as we did in our earlier meetings, and we look forward to that. This is an open process.

I think the three -- it seems to me, over the ten years the three strengths of NORA -- and there may be more, but the three that seem to jump out at me, is the governance, the way that it's governed with steering committees driving the research implementation. Not just the initial setting of the agenda but the implementation, the securing of funds, reaching out through our partnerships to capture additional resources. NORA has been I think very good in its ten years in capturing additional monies from the Congress -- really one of the premier ways of us interesting the Congress in our work.

The second I think benefit of NORA is really its partnership structure. The initial NORA was sponsored by I think 500 or 600 folks, again across the sector of our stakeholders, both individuals and organizations. And we expect to at least double that this year as we do a lot more town hall meetings in getting ready for our symposium, the research symposium where we try to bring it all together in April -- April 18th and 19th in Washington, D.C.

But I -- just a personal note. I had just

started ten years ago when Linda Rosenstock said your first job is to work on these town hall meetings and help us set them up and -- and that's pretty much what I did for my first real job at NIOSH about ten years ago. But I remember going to the Washington, D.C. meeting. We had four town hall meetings. They were in Seattle and Boston, Chicago and Washington. And at the Washington meeting I can recall three nurses coming from Philadelphia, from a large hospital, and approaching the podium and talking to us for five or six minutes about the importance of the Institute paying attention to latex allergy. And at that point I can honestly say I don't think latex allergy had a very high ranking in our research priorities. And it was a very moving and very telling presentation that they talked to us about. And one of the nurses actually had an allergy and gave a very moving talk I think about the importance of research and the importance of NIOSH alerting the health care community to the latex issue. And that particularly stuck in my mind because we really didn't at that point even wait for the agenda to be set up. We put

a group into place that started looking at that issue.

So the town hall meetings are not only a system -- NORA is not only a system. We really look upon it as a way to think about research and the way to involve partnerships.

I think the last focus -- again, besides partnerships and the governance issue -- the last strength of NORA over these ten years has been in our strong efforts to move the science into practice. And this has taken on a kind of a brand for the next ten years, for the new NORA. We're calling this "Research to Practice", but we have set up a governance group within NIOSH to handle this important issue of moving our science into practice as quickly as we can. And again, for that to happen we have to really expand our partnerships and work closely with our stakeholders at the local level, at the -- almost at the plant level I think at this point.

This meeting would not have been possible I think, and the town hall meetings that are coming up, without the help of people here in

Chicago, but people on the ground. And special thanks goes to not only the NIOSH staff back in Washington, my staff who is here today -- a couple of folks from our staff are here and be glad to talk with you about any issues related to NORA and give you all the sad details that goes behind the scenes of putting one of these things together -- but we also really appreciate the support of the ERC here. Lorraine and her staff have been fantastic, Rosie Sokas and Leslie Nickels and the cast of characters that we always ask to do things and that always come through. Also our sponsorship from Minnesota, Lisa's help is most appreciated. And Tom Robins from Michigan, who is not here but who will be here shortly, again has really put this together with the NIOSH people.

So we look forward to hearing from you, and I'm going to end here 'cause we really want to move the program along. I think we're here to hear from you. We'll tell you a little bit more about NORA. Sid Soderholm, who's our new NORA manager, will discuss a little bit more details about NORA -- but not a lot, just enough to

maybe whet your appetite. But also we want to move quickly to hear your concerns and your issues.

Again, a warm welcome. Thank you for being with us. Hopefully you can stay the entire day and hear our presenta-- hear the presentations. And I'd like to at this point introduce our sponsor -- our primary sponsor here in Chicago, Lorraine Conroy.

LORRAINE CONROY, UNIVERSITY OF ILLINOIS AT CHICAGO

DR. CONROY: Good morning, and welcome to the University of Illinois at Chicago. I'm just going to start with a couple of logistics which most of you have probably figured out, but the restrooms are on this corridor here outside the main entrance, and there are emergency exits through the same door that you came in, but also at the back of the room. So if needed, you can exit through the back. And then just to remind people to please sign in, if they haven't already done so.

I want to thank NIOSH for providing this opportunity to comment on the future direction of research, research that I think affects so many people in the U.S. and around the world.

There are an estimated 130 million people in the U.S., and more than 3 billion people worldwide, who work. And so research to improve health and safety for these groups is really important. At some point in everybody's life people work, and so this is really an issue that affects everybody in our society.

I want to talk a little bit about our ERC. The University of Illinois at Chicago is one of 16 ERCs funded by NIOSH. We have graduate programs in occupational medicine, occupational health nursing, industrial hygiene and agricultural safety and health. And we have a large continuing education and outreach program that many of you have interacted with I think. The funding that we get through the ERC also allows us to provide research training to our graduate students in many of the NORA priority areas.

I think that the occupational safety and health field now is facing many challenges. Rapid technology changes and globalization have resulted in dramatic shifts in how work is performed. In some cases these advances have led to safer and healthier work conditions.

But in many ways it's allowed for a much different workplace than was the case even a few years ago.

Workers are more likely now to work more than one job, to work as -- get hired as temporary or contract employees and therefore be somewhat self-employed, and more likely to work at multi-employer work sites. These changes have really changed the way we manage health and safety, and it's blurred some of the responsibilities of who's responsible for health and safety that we've come to expect since the passage of the Occupational Safety and Health Act.

And I think it's led to additional research challenges in conducting research in these populations. Getting access to employers and employees to determine research needs and then carrying out research that's relevant to these new working situations I think is very difficult. That's why this meeting and others planned around the country is valuable. We're trying to access these people to see what are the research needs in a workforce that's very different than what we traditionally think of.

I'm going to close with just a couple of thoughts about things that we need to keep in mind as we develop the National Occupational Research Agenda. I think it's important to keep at least two things in mind. One, as I stated above, many workers no longer work in traditional workplaces. So I think it's important for the NORA to remain flexible enough to accommodate research needs in hard-to-reach working populations and in non-traditional workplaces. And it also has to remain flexible enough to accommodate future research needs that we can't really even imagine today, but may become apparent tomorrow or in six months from now or five years from now.

The second, and Max talked about the research to practice initiative, I think it's important that that be an expansion of the research mission and activities to include more applied research, but that it not be used as a shift from -- in research activities away from basic research. It's easy to lose sight of this and it's in many cases difficult to understand or translate the results of basic research in a

way that you can see how it applies to workers directly. But I think we can only make sustainable progress in applied research if it's based on and developed from strong foundations, and these strong foundations can only result from carefully planned and executed basic research.

So I'm looking forward to an interesting and productive meeting today, and again want to welcome everybody to UIC, and I think Lisa is also going to say a few remarks on behalf of the University of Minnesota.

LISA BROSSEAU, UNIVERSITY OF MINNESOTA

DR. BROSSEAU: I, too, would like to welcome you to cold Chicago -- although, coming from Minnesota, this is really not that cold. And I'd like to thank as well NIOSH for partnering with the Education and Research Centers, the three upper -- three of the upper midwest ERCs in Illinois and Michigan and Minnesota. And I thought we had some very productive discussions, and we took advantage of each other's knowledge and connections in ways that really paid off to -- quite a lot of people showing up here early in the morning, and I'm

pleased to see that. And I believe there'll be two -- at least two of our centers, key stakeholders, will be here and two of the faculty are here from Minnesota.

I'll say a few words about the past NORA agenda, the past NIOSH NORA. I think that in the past ten years this agenda has helped academic researchers focus on many of the important occupational hazards and employee groups who are most affected by those hazards. Our center has certainly been involved in NORA-related research in a variety of areas, including injury epidemiology, exposure assessment and modeling, small business interventions, biological aerosols, respirator performance, health services policies, and I'm sure I'm missing a number of important areas of our research.

It's also been an important piece of our center's research training activities in guiding the things that our students do in terms of research, as well as pilot projects and grants and symposia speakers and other areas that we've used the NORA agenda to guide, you know, where we do our research and who we

listen to about research.

I also have a few points I'd like to make as we go forward into the future, and they're not too dissimilar from those that Lorraine made. As we listen to people today I hope that we'll keep in mind there are many important stakeholders who won't be in the room at any of these meetings, and many of them are the ones that Lorraine mentioned. They are -- of course there are many, many employees and employers who won't be able to attend, and hopefully we will keep these people in mind as we are thinking about making an agenda that serves the full workforce.

We also -- I think I'd like to reiterate as well what Lorraine had to say. Flexibility is really important. We have a workforce and a workplace, both of which are changing very rapidly. And so hopefully what we create out of these meetings meets today's needs, but is also flexible enough to meet the future's needs before we come to make a new agenda.

Thank you, and welcome.

INTRODUCTION TO RESEARCH AGENDA PROCESS

SID SODERHOLM, NIOSH

DR. SODERHOLM: I'm Sid Soderholm. It's very

nice to see everyone here today. Let me talk a little bit more about NORA in general, but get to how we're going to do things today and deal with some of those details.

So as others have said, NORA is really based on some basic principles. It's a national partnership effort to define and conduct priority research, and some of those basic principles, as I see them, are that the NORA vision has always been to seek stakeholder input -- which is clearly why we're here today -- to identify research priorities. For many of us in occupational safety and health research we may not recall that 20 years ago there wasn't a clear set of priorities. And in the way the world works today, having priorities is very important.

The partnerships, working together to address the priorities, is key to NORA. And we're not just talking about the NIOSH budget as the way to accomplish this research. There are a lot of resources -- whether it's access to workplaces, foundation research money, expertise that can come from non-traditional places -- that are absolutely key to

accomplishing a lot of this research.
So those same principles carry from the first decade to the second decade of NORA. And what -- one of the big pieces that's being emphasized a lot more, and again, in today's world is absolutely essential, is moving research to practice.
And as the review took place over the last year or so -- actually before I joined the NORA effort at the national level -- the conclusion was that it was through sector-based partnerships that we could really move NORA into where occupational research -- occupational health and safety research needed to be in this century. So the sector-based is a structural change in NORA in a very I think exciting way of trying to bring more people into defining the research that's needed and getting it done.
So what is the sector-based approach? Well, we still have basically the same problems, many of the problems that were most important ten years ago are still very important. So it isn't that the issues have changed. It's really how we're structuring our approach to dealing with those

issues. So the sector-based approach is to address the most important problems in each sector. And I'll talk about this list a little bit in a minute.

There are many different ways to define what the issues are, what the problems are, many ways of looking at it. The sector-based approach will result in one -- or maybe more than one, because sectors have sub-sectors -- at least one research strategy for each of the eight major sector groupings that has been put to -- has been defined for the purposes of NORA, and we'll look at those groupings in a moment.

So we're moving to a research strategy, and those cross-sector needs that have always been there are still there, and they're not going to be lost in the sector approach to NORA. There are many issues that cut across many sectors, both in the way we look at the NORA priorities and the way we sort of advertise them and the way they're put out in grants, the way we index them on the website. You will find the cross-sector priority areas are still there.

So why sector-based? I talked about it a

little bit. People tend to think of themselves in terms of sectors. Many of the research needs differ across sectors. And the -- a sector approach allows us to really focus on getting the players together who can not only define the goals but do the research and handle the results, get the results out to workplaces where they can make a difference.

The sector approach facilitates partners, especially bringing in new partners from industry, from trade associations, from professional groups who just couldn't see themselves in the way the first decade of NORA was organized. The first decade was extremely successful, but we think by moving to the sector approach we can build on that success. And we think it's going to be an effective approach and an efficient approach for solving the worst problems.

So how is this going to happen? Just a little bit about process. In shorthand here you see the eight sectors. This afternoon we're focusing on the construction sector. If you visit the NIOSH website, the NORA website, and I'll give you that link here, you'll see that

we have taken the 20 or 21 census bureau definitions of sectors through the NAICS, the North American Industry Classification System, and we have grouped them into eight sectors. We learned last time that following 20 or 21 different teams is just more than we can really do efficiently. So these eight sectors I think makes a lot of sense.

And yet there's going to be a lot of issues across sectors, and the cross-sector research council will be partly the sort of the board of directors, the executive committee for these eight sector research councils as they do their work, and partly will be the group that will be looking to draw out those cross-sector priorities and highlight them so they don't get lost.

So let me talk a little bit about the NORA sector research councils. They will have inputs from a number of places, and their main output is going to be a dynamic, ongoing research strategy that they champion and that they see is carried out.

So the initial work is going to be involved taking input. We certainly have good

surveillance data, although there are a lot of gaps in the surveillance data that tell us where some of the issues are, where the problems are, where there are high rates, where there are numbers of workers being injured and suffering from illnesses.

The members of the research councils will have their expertise that they bring to the table, but also there's going to be this very strong group of comments, the stakeholder input. And if you've visited the NORA website, you see there's an opportunity to type in or cut and paste in input there in text form. We're having these 12 town hall meetings and the information from here will be put into the docket. And people can mail material in, they can e-mail material in to the docket office, and I'll show you where to find the details about that. So the stakeholder input is going to be delivered more or less raw. It'll be categorized so we know what needs to go to each research council, but the words that are given to us will be given to the research councils for them to consider and for them to use as they set the research agenda.

So they'll go through a priority-setting process and come up with a draft research strategy for the sector that will be put on the web and will be available for comment and will be updated, and then an implementation plan worked on.

So there are a couple of ways in which you can participate. You're here to give your input today. You can volunteer for a research council. So your input today will be entered into the docket and displayed on the website, so we will parse it into the sectors, either because you've told us or what it appears to go into, and will be added to the website. If you've noticed, when you give input in the website, you can click "view comments by others" and see all the input that we've received that can be put up in text form on the website. All the input in the docket will be available in Cincinnati, if you happen to be there or can visit there. It's kind of the old -- old concept of public access these days.

And the information will be provided to the sector research council, as I said, in -- as individual comments are grouped in broad

categories, but the words are going to be yours.

And the -- your input will be somewhat summarized and outlined and made available at the -- and discussed in a set of workshops in the NORA Symposium 2006. As Max mentioned, these happen -- this happens April 18 through 20 in D.C. The workshops will actually be on the 20th.

And there is the website for the symposium itself. The abstract deadline has just passed on that, although with an e-mail to me or to Roger Rosa you might be able to get an abstract in yet. The number of abstracts has exceeded our expectations. We expect to have a very busy and productive symposium.

So focusing a little more on what we're doing here today, what -- when we ask for your input on top problems or top issues, what are we talking about? We might -- you might go at it from the point of diseases or injuries, or what are the excessive exposures we need to be dealing with, what populations are at risk. What are the failures of the occupational safety and health systems from, you know,

national down to workplace level? And there are probably other types of things. My point is that there's a broad -- a number of ways in which you can look at what the top issues are and approach this.

If you have ideas on who the key partners are to define, conduct and have this -- the results of this workplace be put into practice, please talk about that. Maybe you have ideas about what types of research will make a difference. We're asking for very brief presentations today. Now -- and we've got a full schedule, so we're going to have to be a little bit rude perhaps if -- if people have more to say than the time allows. But please, if you have a copy of your comments, leave it at the front table with, you know, any identifying information you want to put on it. We will enter the whole thing into the docket and then tie that to the part of your comments you were able to -- the highlights you were able to give us verbally, so that can all go in the docket. If you have a couple of copies, if you -- you can give one directly to our transcriptionist, Ray Green. He always appreciates getting the

right spellings of names and those kinds of things and not having to chase us down later and find those. But -- so today is just giving us a flavor of the input that you have. You came here to give input. It's worth coming out on a cool day. A lot of people -- I came from New York State so it's only a cool day, Max. A lot of people are -- have a lot more that they can provide, so please, please do provide that to us. You can provide it on the website. If you have pictures and tables that don't type into those little boxes well, then you can e-mail those to the docket. That information is on the website of how to do that. Or you can, you know, go back to the old way of doing things. The Post Office still is very reliable.

So today is just a flavor. This is not everything you -- this is not your only chance to have your input.

If we do have time at the end of the sessions, we will call for people who were, you know, maybe moved by something that was said, that would like to come up and say something more. If we do that, then please -- you know, we're

here to listen and to hear other people's opinion, so avoid criticism of other presenters, but please do, you know, offer a different opinion if yours is different, or a supporting opinion. So that is one of our ground rules for today. If we get to the -- hopefully we'll have time for a little discussion, feedback, and I've-got-an-idea-I-didn't-have-before sort of things.

So I keep talking about the website. I finally got there. I do have -- I'm running out of cards. I've never done this before. A box of 500 always lasts me for years, but in this job I actually use cards, so the ones I have left are on the table. I'm getting more, so don't be bashful, take all you want. And on the back is the important part. My name's on the front. The important part is the website for NIOSH e-news. If you want to follow what's going on in NORA, there's a couple of hundred words we put in every month into the NIOSH newsletter that comes to your mailbox. You can ignore it if you want; it's easy to get rid of, doesn't clutter up your wastepaper basket. And -- but if you read it, you'll learn what's going on in

NORA and in NIOSH as a whole. So all you have to do is go to that website, type in your e-mail address and you can receive this monthly newsletter.

Please do provide additional input. There's the main NORA web page in the middle so it's www.cdc.gov/niosh/nora. And you can provide input, you can learn about the symposium, you can read comments by others, you can read a description of NORA and what's happening, so please -- please visit that website. And if you have any questions you can either use my direct e-mail address that's on my card or maybe it's easier to remember noracoordinator@cdc.gov and please -- please contact us. And I think that's the end of what I wanted to say. We won't go into the extras. So -- so I -- with no further delays, let me introduce a couple of people. I mentioned Ray Green, our transcriptionist. He's working very hard and will give us a verbatim transcript, so what you say will be in the docket for public view and on the website.

And Ann Berry is our timer. She's really a very nice person, but she'll be rather mean

today, so we're -- we're asking her to do that for the good of all of us, and so we'll appreciate her efforts.

And we have a guest here today -- I'll mention it again later -- Jamilla Rashid from CDC is here. Jamilla is actually on the team of the CDC research guide, and I'll talk a little bit more about that later, but you'll see it out on the table and there's opportunities for input there, too.

So let's take about 30 seconds here and we'll get -- the way we're going to set this up, maybe our panel can come up. We have our cosponsors and I'll be sitting up at this table, and our presenters will be presenting to us and to you. We will ask our -- I believe Lorraine will be our moderator and she'll set the ground rules, but be prepared for a few people to come up at a time and take your turn talking into the mike, please, to give your -- to give your input, and we will get underway, so...

REGIONAL AND LOCAL STAKEHOLDER PRESENTATIONS

MODERATOR: LORRAINE CONROY

DR. CONROY: Okay, we're going to try to put the screen up. We're going to get situated,

but the first group I'm going to call up is for a group of four people, so Rochelle Davis, Tim Leahy, Michael Perry and Jim Buskus, if you could come up and sit at this table and you'll each make your presentations from here, and then we'll bring up the next group of four after that, so -- and in the meantime I'm going to try and figure out how to get the screen up.

DR. SODERHOLM: Let's see, Neil, are you available to put the screen up, please?

(Pause)

DR. CONROY: Good morning, and thank you all for being here. As Sid pointed out, each of you will have about five minutes to present. We're hoping that people will keep their comments to five minutes. We have a number of people that are waiting to give input. Again, Ann will the timekeeper, so as you're speaking if you could just keep an eye out for her, she'll give you a hand signal when you have one minute left. And we're going to try and keep everybody on schedule. Again, you have opportunities to submit more detailed testimony in writing.

So we're going to start with Rochelle Davis

from the Healthy Schools Campaign.

MS. DAVIS: Thank you for allowing me to discuss the National Occupational Research Agenda. My name is Rochelle Davis and I'm the founding Executive Director of the Healthy Schools Campaign, the primary advocate for school environmental health issues in Illinois. Our mission is to advocate for policies and model programs that allow students and staff to learn and work in a healthy school environment. We have two program areas, environmental health and school food. My testimony today will address what we see as the important role that NORA can play in promoting healthier staff and students.

An estimated 20 percent of the population spends their days in elementary and secondary school buildings, yet this critical component of our national infrastructure is crumbling. School buildings in every state, county and city in the country have environmental problems that adversely affect the health, well-being and productivity of staff and students.

One important component of school environment affecting health and productivity is indoor air

quality. Studies reveal an alarming percentage of schools with facility problems that relate to indoor air quality. Sources of indoor air quality problems include VOCs emissions from furnishings and materials, mold infestations, chemical emissions from improper use or storage of maintenance products or educational supplies, insufficient fresh air due to poorly designed or maintained ventilation systems or to overcrowding, the entry of pollutants from outside due to improper siting or design of ventilation systems, and high radon levels. Indoor air quality problems can also result when asbestos or lead in building materials is distributed during repair or renovation activities.

In 1995 the U.S. General Accounting Office survey of 10,000 schools found that approximately 27 (sic) reported unsatisfactory ventilation, and almost 22 percent reported unsatisfactory indoor air quality generally. With about 20 percent of the U.S. population spending their days in elementary and secondary schools, the potential health, comfort and productivity impacts of poor indoor air quality

are considerable.

The effect of poor indoor air quality on health, learning and general well-being are wide ranging and include allergies, asthma, increased rates of infectious disease, chronic headaches and a variety of respiratory diseases. Asthma, a condition that can be triggered by mold, cockroach dander and a number of environmental conditions in schools, has become the leading cause of school absenteeism due to chronic illness.

There are existing best practices to address poor indoor air quality. Green Cleaning can reduce the use of toxic chemicals in cleaning programs. Integrated Pest Management protocol reduces the use of pesticides in schools' environment. Anti-idling procedures reduce the toxic exhaust caused by the idling of diesel buses. Safe chemical management protocol can reduce the use of toxic chemicals used in curriculum. The USPA (sic) has taken the best practices and developed *Tools for Schools*. The EPA will soon launch a new tool called "Healthy Seat", which provides a more sophisticated management tool.

However, few schools employ these best practices. Research dollars should be spent addressing the research to practice gap. While much is known about why schools do not embrace best practices, little has been done to explore effective strategies for bridging the research to practice gap. A couple of examples of particular interest to us is to examine the role that school nurses can play in promoting indoor air quality-related best practices. Also of interest to us are projects which examine the effectiveness of school/community partnerships in improving the school environment. Currently Healthy Schools Campaign is engaged in an NIEHS-funded project which explores the role that community organizations can make in improving the school environment. The research aims of the project include the development of a common language between "professionals" and "community members and parents" that will be used to motivate school administrators to take action to improve the school environment.

Thank you very much for the opportunity to share our perspective with you. If you want

more information, we're available to share our research ideas with you in greater detail.

DR. CONROY: Thank you. Tim?

MR. LEAHY: Good morning. My name's Tim Leahy. I'm the Secretary-Treasurer of the Chicago Federation of Labor, AFL-CIO. On behalf of our President Dennis Gannon, our executive board, the 321 affiliated unions and more than 500,000 union members of the Chicago Federation of Labor, it is a pleasure to be here before you today and offer some public comment on NIOSH -- NIOSH's role and mission.

I would like to thank our Chicago and NIOSH partners -- Lorraine Conroy, Dr. Rose Sokas, Leslie Nickels, Joe Zanoni -- they do a great job here in Chicago and we're very proud to work with them.

In the Chicago Federation of Labor we're not just a casual stand-by observer. The Chicago Federation of Labor, through our affiliates, raised -- we raised a significant amount of money to create an endowment on behalf of our former president, Michael Bruton*, that yearly -- every year hands out grant money to do research in occupational health and safety.

I come here today simply to comment on the scope and breadth of NIOSH. Simply put, I believe NIOSH is not looking far enough, deep enough, and in many cases is missing entire segments of the working population. The world we work in has changed dramatically. The look, the complexion of our workforce is also changing. While there remain many, many good ethical, successful employers who choose the high road, there remain far too many employers who, through their sheer greed, simply choose the low road to conduct their business.

The benchmarks of a high road employer would include the following characteristics. He's aware of the community in and around where he does -- he or she does business and invests in that community; provides health care for employees and their families. Of course I know -- the labor -- we know how difficult this is. It's how we end up striking over every contract negotiation, it's health care. But as long as an employer is constantly attempting to provide some type of realistic health care coverage, then they're trying. Stays out of decisions that are solely made by employees when it comes

to a decision to form a union, and provides some type of pension/retirement benefits. Benchmarks of a low road employer would be provides no health and welfare benefits for employees. At the expense of his employees he is constantly contracting out, continuing to hire temp workers, workers from day labor agencies; interferes unlawfully with union organizing drives.

Why is this important? Because unfortunately in this current economy we are seeing a disturbing growth of low road employers. Between perma-temping, day labor, privatization, growth of illegal and unethical use of immigrant labor, the workforce that we see today works in a much more dangerous environment. And if our government statistics on safety in workplace do not corroborate this, then I strongly suggest they're looking in the wrong places.

Organized labor has long been an advocate for a safer work environment, not just for union members, but for every worker. The Chamber of Commerce is not going to sit up and stand up for a safe workplace, but the labor movement

will. Every single law ordinance that pertains to protecting workers on the job was pushed by -- advocated for the labor community. The inertia, (sic) momentum and pressure put forth to pass safety laws in our country did not come from the business community; rather from organized labor and the communities where work takes place.

While scientific research on how chemicals, toxins, air qualities are important to protecting our environment, I believe NIOSH must be much more diligent in reaching out to labor community groups to study what exactly is happening in the immigrant worker population. Whether the sector is manufacturing, construction, transportation, hospitality or retail, I believe the injuries and industrial disease affecting our workforce are dramatic and unreported. Between the pressures on employers from insurance companies not to report, aligned with the fear of a worker, especially an undocumented immigrant, to report an extremely dangerous -- to report a disease or an injury makes for an extremely dangerous environment, an environment that promotes not

reporting making a work-- an environment that makes not reporting commonplace in our workplaces. This makes our workplaces more dangerous.

This is a complex and dangerous situation and will require time and resources to set it straight. But more importantly, it will require the will to do what's right. It will require a will to begin asking more questions and questioning basic assumptions. It will require the will to begin reaching out to the labor community, immigrant community, the religious community, the civil rights community. This problem will not be solved by one entity alone, but rather from a true partnership of the above organizations.

The business community must once again take ownership of how it operates in our communities. Why is it when we have an excrupulous (sic) day labor agency that provides no health care insurance that it provides -- that it sets up a dangerous work shop, that it's only the labor and religious community that stands up and protests. Where is the business community?

Once again, to fully attempt to make our workplaces safer, NIOSH must step up and more fully reach out to the labor and communities. Through NIOSH's efforts, if more low road employers become high road employers, then you will see a dramatic turnaround ensuring the safety of our workplaces.

Thank you for the -- the opportunity to comment publicly.

DR. CONROY: Thank you. The next speaker is Michael Perry.

MR. PERRY: Thank you. I'm Mike Perry, Director of Education and Employee Involvement for AFSCME Council 31. Occupational safety and health for the public sector, particularly state and local government workers, continues to be a major area that does not receive the attention it needs and deserves. Nearly 20 million workers are employed by state and local governments, roughly 15 percent of the non-farm, civilian workforce in the country. According to the Bureau of Labor Statistics, there were 5,703 fatal workplace injuries in 2004, of which 525, or nine percent, involved state or local government workers. Thousands

more die each year from occupational disease, and hundreds of thousands suffer injuries that result in time away from work -- in all too many cases, permanently.

Despite doing some of the most hazardous work in this society, public employees were excluded from the Occupational Safety and Health Act when it was passed 35 years ago. Today only 24 states have federally-approved state OSHA programs that cover state and local workers. Today I want to bring just a few of the serious hazards facing our members of public service workers generally to your attention. There's an epidemic of workplace violence in this country. The public is aware of the risks to law enforcement personnel and late-night retail establishments, but there's an unseen war going on in workplaces where our members work, as well. In correctional and mental health facilities assaults are a daily occurrence. As government budgets get squeezed ever tighter, staffing shortages increase the danger to the workers. In addition to the staffing issues, the reasons for violence are already well-known.

What's missing is a solid body of research that documents the efficacy of various solutions. There are many strategies and workplace violence prevention guidelines that have already been developed by federal and state OSHA programs, such as in California and Washington. However there has been a lack of research to evaluate what works best. Intervention research to assess the impact of workplace prevention guidelines is a glaring topic in need of further study.

Ergonomic problems continue to top the list of workplace risks. Patient lifting and moving puts direct care workers in nursing homes and other direct care settings in the unenviable position of having the highest rates of musculoskeletal disorders year after year. Adequate staffing, lifting equipment, no-lift policies are all known to dramatically reduce and even eliminate these preventable injuries. Yet despite the evidence of cost effective injury prevention measures, employers too often fail to take appropriate measures.

Back and other injuries are an important cause of the high turnover. If there are tried and

true methods to control ergonomic risk factors that also save large sums of money, the question that remains to be answered is why are these recognized injury prevention strategies not being implemented? It would be instructive to know why there is such resistance to adopting ergonomic programs. Besides the lack of strong federal or state mandates, what other factors are at work?

A long-neglected occupational group in terms of research is sanitation workers. They face a wide spectrum of biological and chemical exposures in the refuse they collect. They're exposed to extremes of heat and cold, UV radiation and other physical hazards. They are maimed and killed by faulty equipment. Some are killed when falling off the truck, by passing traffic or crushed by their vehicles. I'd like to point out that there's an ever-growing number of workers in non-traditional jobs who all too often never appear on the research radar screen. These are home health care workers who work in the homes of the elderly; personal assistants who provide vital support to individuals with disabilities in

their homes, at school, in their jobs; and family child care providers who care for the children of others in their homes. These workers are too often injured due to the physical strains of their job. They are at particular high risk for back injuries, as well as repetitive motion injuries and falls. There's a critical need for research into the causes of the health and safety hazards such workers confront and what can be done to reduce their risks.

Finally I want to mention another pressing area of research. The nation is facing the possibility of an avian influenza pandemic, yet our health care workers and emergency responders have still not been provided with the equipment and resources they need to protect themselves to avoid -- and to avoid infecting their families at home. For example, the Health and Human Services Pandemic Influenza Plan recommends a surgical mask for respiratory protection. Its recommendation is based on the assumption that transmission is primarily via large droplet nuclei. However, the plan admits it does not have definitive

scientific evidence to support this claim. It does not address the issue of the evaporation and breakdown of droplets into respirable-sized particles within matters of seconds, or even fractions of seconds, after they are expelled through sneezing, coughing or even in talking. Surgical masks are not respirators. They cannot filter out droplet nuclei, and they cannot achieve the tight seal against the wearer's face. More research is needed on the airborne risk of transmission of influenza and other potentially lethal pathogens.

In conclusion, I mentioned just a few of the many serious hazards that are taking a huge and unnecessary toll on state and local government workers. Research is important not only to quantify the nature and magnitude of the problem. Documenting hazards and solutions provides workers and this union with the evidence we need to obtain stronger health and safety rights through laws, government policies, collective bargaining, labor management committees, in arbitration and other forums.

Thank you for this opportunity to express our

concerns.

DR. CONROY: Thank you. Our final speaker of this panel is Jim Buskus.

MR. BUSKUS: My name is Jim Buskus, a retired member of UAW, Local 719, and previously a UAW health and safety rep for General Motors, electromotor division, outside of Chicago. I have 19-plus years of safety experience in the manufacturing environment and have held a CSP for the past ten years.

First let me say the UAW supports NIOSH in its efforts to protect workers against hazards.

I'm here to speak about priorities for the occupational health and safety research in the manufacturing sector. First let me say the UAW -- oh, I'm sorry. I'm here to speak about the priorities for the occupational health and safety based on the experiences of the UAW at the national and local levels.

The UAW has put our money where our mouth is in the support of research. We have negotiated and jointly administered research funds in the U -- in General Motors, Ford and Chrysler starting in 1984. Millions of dollars were spent and around 100 publications produced. We

also launched small efforts at International Truck, NUMI* and other locations.

The most important goal of research is to identify gaps in protection, situations where workers are getting sick or getting injured under current conditions. This can be done -- this can be because an exposure permitted by standards is making people sick. As a health and safety representative out on the plant floor, I can tell you how often my own eyes burned, heads ached, skin became irritated, and then the industrial hygienist came and said that the exposure's within the OSHA limits.

Health effect research, including injuries, is the most important thing NIOSH can do, and it is something only NIOSH can do. Industry only pays for health effect research after some other investigators have found a problem and the industry is convinced it will make costs go away. Sometimes there's a gap in protection because the methods of controlling exposure is unknown or a more efficient method of controlling is needed. But this is much less a priority than showing an exposure is causing people to get sick or injured.

Here are four issues we need NIOSH and other agencies, academics and management to address: First, we know the workers in machining plants, foundries, even vehicle assembly plants are still dying early from cancer and respiratory diseases. We need to know more about whether these chemicals that they're still -- that they are still -- risks exist.

Second, ergonomics still causes half the injuries in our workplace. We need to know how much exposure is too much exposure.

Third, we learn that severe and fatal injuries are concentrated among skilled workers doing maintenance and repair work. We need to understand better how to measure the exposures and job characteristics that cause these fatalities.

Finally, we need to measure the work-related stresses, including the stress of working in pain from ergonomic injuries, which causes high blood pressure and mental illness.

Thank you very much.

DR. CONROY: Thank you. What we're -- we're going to continue on with the next four panelists at this point, so I'm going to thank

this group for their input and invite Myra Glassman, Linda Forst, Jose Oliva and Brian Devlin to the platform.

(Pause)

We'll start with Myra.

MS. GLASSMAN: Hi, I'm Myra Glassman. I'm the Field Director with Service Employees International Union, Local 880. We're a union of home health care and home child care providers in Illinois, roughly about 30,000 members in home health care and about 50,000 in home child care in Illinois.

Most of our members that work in home care work through two state agencies, Department on Aging and the Office of Rehabilitation Services, Department of -- Department of Human Services. Roughly -- between the two, probably 40,000 to 50,000 workers that care for elderly and people with disabilities that get those services by being Medicaid-eligible.

Our members -- Helen will explain in more detail, but our members do a variety of home tasks and personal care tasks -- you know, anything from cooking, cleaning, shopping, to giving baths, changing diapers, coming in a lot

of contact with bodily fluids -- and Helen can detail. We see as probably some of the top problems is that there's really nobody taking bottom line for training and providing equipment for these thousands of workers, so there is some training provided through in-services at private companies that contract with the Department on Aging, some companies that are taking on more responsibility for doing that and providing equipment, but we've had to organize to get those things. So when we started there was really no such thing as giving out gloves or maybe even talking about universal precautions and, through organizing, we were able to get that going. It always seems to be a problem of funding mainly, like who's going to pay for those kind of trainings. And a lot of the in-services, if the speaker doesn't provide that service for free, they're usually not invited. So sometimes the quality of that training is a problem.

And a lack of equipment is also a funding issue. I mean our members a lot of times provide their own out of their average wages, which before we started organizing was minimum

wage -- some were making as little as a dollar an hour because they were considered independent contractors -- to an average wage now of $7 to $9 an hour. So to have to provide your own gloves and other equipment is a real issue.

There's no health insurance for a majority of the workers, so that is something we're organizing to win, and have won it for some small amount of workers. But for the majority of workers, there's no access to health insurance. So to get hepatitis shots or other kind of things that can keep them healthy, that's a real struggle. And a lot of times workers go to work ill because they'd lose a day's pay if they don't.

And probably, you know, the biggest issue is just that this workforce just has not been studied. And we're very fortunate to be involved with Dr. Rosie Sokas and Joe Zanoni and Leslie Nickels in the home care bloodborne pathogen study which is now underway to really study this workforce and see what the exposures are because there's really -- literally, if you put home care workers and the people they

assist together, there's hundreds of thousands of people that are at risk every day. So we appreciate being part of that and we're looking forward to the results of that study.

I'd now like to turn it over to Helen Miller, who is president of Local 880 and has been a home care worker since 1979, to tell you a little bit about her story.

MS. MILLER: Well, Myra almost told you who my name was. I'll just say it again. My name is Helen Miller and I've been a home care worker for 25 years, and I want to tell you a little bit about what I did as a home care worker. And when I say what I did, 'cause I just lost my last client in October.

So the first thing you do when you go in in the morning, you have to get them up out of bed and get them to the bathroom and get them dressed. And I'm kind of -- I'm going to kind of talk like two different clients. Okay.

The first clients, when I was there with her, she was a diabetic so she had needles. So you was always conscious of where the needle are and she was partially blind so you have to watch out for where she put her needles or how

you dispose of her needles. And I had to give her a bath. And as the time went on, her disease got worse, so she had a major stroke. So when she came home she had no control. So you understand what I'm saying, no control? So I -- she couldn't furnish the gloves, so I had to furnish my own gloves.

And I don't know what kind of mask would -- I didn't know exactly what the safety of masks was, but I used to use the one that I used to clean my house with. I used those masks to kind of protect myself and I bought my own gloves.

So that was one patient. Then I had another patient that I just lost. She was a patient that -- she wasn't completely bed rest, but I had to go in and first thing I had to do was to wash her up. I also had to clean her mouth, you know, because she couldn't -- she had no incentative (sic) of doing anything for herself. Also -- and she also wore Depends so I had to do that. But I -- and I had gloves for -- I -- you know, the family did support gloves for that. And she was a patient that I had to take her to the bathroom. I had to get

her up off of the bed. She could walk, so I had to walk her to the bathroom, but then you got to help them get on the stool, off the stool, on the bed, so you have a chance of hurting your back. And at that time they didn't have Hoyers, so you know, it's difficult to lifting a patient up and down from one place to the other one.

Let me see what else I could think of. And I think that's about -- I think that's about it as the work I did.

DR. CONROY: Thank you. I think we'll move on to Linda.

DR. FORST: Good morning. My name is Linda Forst. I'm currently a practicing physician and associate professor here at UIC School of Public Health. I'm a long-time fan of NIOSH, having done my occupational medicine training at an ERC in the 1980s consulting on projects while practicing in my first job in Cincinnati. And becoming a faculty member within the Illinois ERC in 1991, I directed the occupational medicine core training program here at UIC for seven years. And I've been a beneficiary of NIOSH research funding through

its extramural programs.

I have been a program evaluator and grant reviewer for NIOSH, and I've been on the receiving end of those activities, as well. I greatly appreciate your giving me and my midwestern colleagues the opportunity for input into the National Occupational Research Agenda for the next decade.

My research interests lie in the areas of occupational injury, injury and illness surveillance, and vulnerable populations.

First, occupational injury.

I was recently at the APHA, American Public Health Association, conference in Philadelphia where I heard Dr. Hunt and others from the CDC injury prevention group talk about their response to Katrina. They talked about the impact that they had on citizens, and specifically relief workers. On asking what role NIOSH had in their work, Dr. Hunt responded that after they wrote injury prevention documents for New Orleans, they gave them to NIOSH to review.

Clearly NIOSH has a long history of expertise in workplaces, and in addressing worker efforts

in the aftermath of unexpected disasters. I heard an anecdote about the Exxon Valdez oil spill near Alaska. NIOSH's evaluation of the rock cleaning activity after that disaster led to the recommended use of techniques from roofing operations where it was deemed best to clean from the top downward, collecting oil and debris at the bottom of the rocks. This adaptation prevented slipping on the part of the cleanup workers.

Dr. Hunt's response at APHA made me concerned about turf being more important than prevention. I'd like to see NIOSH better recognized within the CDC, and nationally, for its expertise. Better publicized research in the area of injury control during disasters, or maybe simply getting in their face, is important.

Next I'd like to talk about occupational surveillance. Clearly NIOSH should be on the cutting edge, promoting higher quality data collection, analysis and dissemination in the states, and facilitating efforts on the part of state health departments and workers compensation commissions. NIOSH could explore

and assist in data linkage techniques, and in addressing confidentiality concerns in a global way that can be helpful to getting data from state databases into the public domain.

At present NIOSH requires a competitive application for funding of surveillance projects, looking for creativity and grantsmanship to decide which of these programs is worthy. If the goal of NIOSH is to summarize surveillance results from the 50 states, NIOSH should provide a template and support to the states on a non-competitive basis, in much the same way that infectious disease divisions prioritize data collection on infectious sentinels.

A third area that I believe requires intense focus is that of vulnerable populations. Immigrant workers in agriculture, construction, manufacturing and service appear to be at tremendous risk, with numbers and rates of illness growing dramatically, demonstrating a clear occupational health disparity as rates appear to be declining the U.S. workforce overall. The informal sector which overlaps immigrant workers is also an employment setting

that requires intense scrutiny for ways to make inroads into injury and illness prevention. The proposed NORA agenda to focus on single economic sectors, like construction, may obscure the global issues for vulnerable populations since their problems cut across economic sectors. In general, I'm concerned that listing single sectors as NORA agenda items will create inefficiencies and barriers to studying these cross-country occupational health sentinels in worker categories.

To end, I want to note two outcomes of the prior NORA that have affected me very positively. I want to commend NIOSH's work on the research to practice and intervention effectiveness. Your clear guide -- this clear guide sits on my top shelf, ready for use when I'm planning a project, teaching a student or writing a manuscript. I support continued refinement of techniques to research, publicize and disseminate interventions that work, and I look forward to more of this from NIOSH in the new NORA initiative.

I also want to thank NIOSH for the NORA pilot projects program which has launched research

careers for many trainees and junior faculties at our institution. I encourage continuation of this form of extramural funding.

Thank you for allowing me to testify today.

DR. CONROY: Thank you. Okay, Brian Devlin will be the last speaker in this group.

MR. DEVLIN: My name is Brian Devlin and I'm a registered physical therapist that consults to the long-term care industry. I've consulted the long-term care industry for the past ten years, and my wife is a PT in long-term care industry, so we -- we've lived and breathed this industry for the past ten years.

And the long-term care industry is in a crisis mode right now in the area of employee safety. I've been formally trained in ergonomics. I've been formally trained in the science of patient and resident handling. And I can tell you that I can't go onto a long-term care facility floor at any given point and use proper body mechanics 100 percent of the time. It is a impossibility, physiologically and anatomically.

And there's many reasons why, but the most important reason to realize is that residents

and patients are dynamic weights. It requires the caregiver or the direct care person to constantly assess or change the process by which they handle and lift residents. And coupled with the fact that there are resident diagnosis issues, there's hygiene issues, there are many issues that prevent a person from using proper body mechanics or ergonomics all the time.

That aside, my son asked me a very poignant question. He's six years old and he had to prepare what his mother and father did for -- for their jobs. Well, my wife being a physical therapist, it was a very easy conversation. But for myself, I had to explain to him why I go into businesses and health care facilities to try to prevent workers from being injured. And he asked a very good question: Why do these people have the opportunity to be injured? And if a six-year-old can ask that question, it begs -- it begs us to ask the same question and come up with a rational answer. And I couldn't -- I started listing out all the answers, but him being six, he of course couldn't understand that. This will all make

sense why I have no hair, I'm sure, now. But he -- aside from that, we -- we ended the conversation -- he said I think I'll just be a farmer and wear a hard hat.

And I wish it was that simple for the long-term care workers that are exposed to an increase in the acuity levels of the residents dramatically over the course of the past ten, 15 and 20 years, but the education and training that the CNAs and direct care workers have had to go through during those same changes have not kept pace with the acuity changes for residents and patients in long-term care. So we have a very unrealistic expectation for these workers to use proper body mechanics at all times.

I'm an advocate of a limited lift program. I don't believe that we can create a no-lift environment in health care because we are in the business of providing care for individuals, and that comes with the element of touching and caring for people. But we do have to engineer out the heavy lifting that these individuals do because it's not like we are lifting a widget or a product all the time. We are lifting patients, and they're humans. And with that

comes an area of misunderstanding -- not only from the employees, but from the residents -- of what the expectations are.

I wanted to also talk to you a little bit about what is contributing to this environment, which is the long-term care industry as a whole. The market conditions right now are such that the operators have to worry about reimbursement issues, staffing issues -- because the turnover rate is so high within the industry that this strips away the opportunity for the operators to put a lot of resources into training and prevention programs because they allocate those resources and then two weeks later 20 percent of the staff may be gone already. So it really creates a difficult atmosphere for the operators to provide these safe work environments, and the only way we can do this is to engineer out the risk and the opportunity for heavy lifting to occur in health care.

Thank you for the opportunity to address the panel, and we look forward to working with you in the future.

DR. CONROY: Thank you. We're a little bit ahead of schedule actually, so we'll thank this

panel.
We're scheduled to take a short break now and then we'll reconvene with two more panels -- or three more panels, actually -- before lunch. So we should take -- no, I think we should come back a little bit early, actually, so we'll take a break now and ask people to be back at 10:40 instead of 10:45. And again, there's coffee and tea I think out in the hall.
(Whereupon, a recess was taken from 10:25 a.m. to 10:40 a.m.)
DR. CONROY: We'll change what's on the schedule just a little bit and make a few substitutions, just to stay on track. But our first speaker is Dan Zarletti from the National Safety Council.
MR. ZARLETTI: Good morning, and thank you. I am here today in the presence -- or to take -- in the place of Alan McMillan, the president and CEO of the Council. I sit on his executive board as finance chairman. I was told this morning on my way down Alan has recently had a death in his family which he just finished dealing with, and now the flu. So maybe there's something to personal stress and

lowering your immune system and all of that, so I guess it's -- it is making sense.

What Alan's cause was today was to explain the theme of what the Council is all about. But also in our recent world congress in Orlando we saw that there are -- 111 nations were represented in Orlando, Florida to see what the world had to say about safety. And there was a very common theme in that saying, and that was that it's not just workplace safety, it's not just driver safety, it's off-the-job safety.

So as I go through this brief presentation, allow me to give you just a little bit of that information.

As we saw the hurricanes come through this last fall, the congress in Orlando started just after Hurricane Katrina. The year before we were chased out of New Orleans with Hurricane Ivan. While we were there, Hurricane Rita was coming up the Gulf. So the world leaders that represented this -- this congress that was represented in the United States for the first time in 50 years were very attuned to what we're doing in emergency preparedness and in workplace safety.

It should be noted that when we expand the profession of safety, we need to extend it beyond the roles of the workplace. And in that I mean that when we find workplace numbers are dropping, as we know injuries and illness and death is dropping, I would say that that's an obvious result of the extensive work of NIOSH and OSHA, and all of their activities over the last 30 years have made safer places for us to work. But as we get into the mobility of the next generation, the Generation X, as we get into the older workforce that is causing the Baby Boomers to get toward retirement, we're finding whole new elements of safety needed by the professionals out there today.

I wanted to explain just briefly that the reduction in this -- in these incidents has shown that not only have they gone down and injuries have been minimized, but the workforce has quadrupled during this same period of last two decades. As well as we are now producing nine times the goods and services during a period prior to two decades ago. We still have sustained 4,500 to 5,200 workplace deaths each year since 1992. And of those, nearly half

result in motor vehicle collisions. While deaths of motor vehicle are down 15 percent, motor vehicle crashes remain the leading cause of work-related deaths, with over 2,000 each year.

A primary concern in this country's changing workforce again is the demographics that we talked about. A huge segment of our workforce, Baby Boomers, are now moving toward retirement. This is going to cause safety professionals to take a hard look at the way we train and educate our employees, but also that we should be taking on a mentoring role that we look forward to research and data from NIOSH in order to grab ahold of that mentoring process and make this next generation safer than the one that preceded it.

I would say that in -- the National Safety Council statistics say that death from accidental injury is the fifth leading cause of death in the United States, following heart disease, cancer, stroke and lower chronic respiratory diseases. However, among Hispanics in our U.S. workforce currently, the accidental injury rate ranks third, only after heart

disease and cancer. And the highest rate of deaths from occupational injuries between '95 and 2000 was among Hispanic workers, with the greatest number of occupational injury and deaths occurring among Hispanics employed in the construction industry.

Now although I represent the Council on their board, it is -- I am also the vice president of safety and health for Kenny Construction Company based here in Chicago. And we are seeing, within our own ranks of employment and our subcontractors, that the need to educate -- not just train, but to educate -- and to communicate with the Hispanic workers in our industry is increasing exponentially every year.

Today's safety professionals have a challenge, and they're not limited to the workplace. We are taking -- we are recording, I'm sorry, a striking increase in the level of injuries occurring among workers who are off the job. This was I think the one theme that came from the congress this past year, and it's not just to workers, it's to their dependents. When a worker is home working on something in the

garage, putting up Christmas ornaments outside, working from a ladder, operating a saw, it's all off-the-job injuries that are now rising to huge numbers. And when these people are injured, they do miss work but they're not compensated as they would with injuries that they occur while on the job. So last year 61 percent of injury-related deaths occurring in and around the home involved either workers who are off the job or their family dependents. Annual costs related to accidental injuries, including wage loss, medical expenses, property loss and direct employer costs exceeds $600 billion. The cost of doing business alone is more than $200 billion a year.

DR. CONROY: Okay. If you could finish up briefly --

MR. ZARLETTI: Okay.

DR. CONROY: -- you can submit -- I'll remind everyone again that --

MR. ZARLETTI: Okay, this will all be available if you need it afterwards, and I guess I would just conclude by saying that we cannot train and educate our people on the job to be safe and leave it at a 9:00 to 5:00 opportunity. We

need to take that opportunity beyond and show them, with management support, how to be safe at home, how to teach their families to do the same so that they can return to work and become in the environment that we've already made safe for them. Thank you.

DR. CONROY: Thank you. Okay, Peter Orris is going to talk from Stroger Hospital and UIC.

DR. ORRIS: Thank you. I'm -- appreciate the opportunity to appear before you today and before NIOSH to give our input with respect to the new NORA priorities. I'm filling in for several people here today. The first is Dr. Rachel Rubin, who is the head of the division of occupational medicine at Cook County Hospital, Stroger Hospital of Cook County; second of all for Dr. Daniel Rahorchik*, who is the head of our Great Lakes Centers for Occupational Environmental Safety and Health, which the educational resource center -- research center, rather, that Dr. Conroy is the head of, and our other activities are under the umbrella at the School of Public Health. I myself am a physician practicing here. I'm professor at the School of Public Health and I

direct the Occupational Health Services Institute within the School of Public Health, and I would like to underline one last thing and that is that our center here is a World Health Organization collaborating center, along with NIOSH and the University of Texas and a few others in this country.

I want to welcome you all here and welcome NIOSH here, utilizing all of those hats. We -- again, we appreciate your coming and we appreciate the NORA process of listening to those of us in the field of -- as to the creation of priorities for research and education within NIOSH.

I would only content-wise raise one general area for your consideration. I want to raise the issue of safer substitution within our general increasing concerns about chemical security, both for -- both to avoid acute catastrophic events, either intentional or due to natural -- natural events, as well as to avoid the chronic long-term effect of toxins. And I would urge NIOSH to consider the enlarging of the research agenda with respect to safer substitution, for safer, less toxic

chemicals, both with respect to their toxicities and the economics of the transfer of these technologies to assure both a just transition as well as reduction in toxic exposures.

I would only underline that this is one of the topics that makes the link between the workplace and the community that's so important to us in the Great Lakes Center, and we think makes so much sense for the occupational agenda. It also is a topic that has international ramifications and is immediately of use internationally within the WHO's sphere, as well as others.

And with that I would like to underline as well NIOSH's continuing support for WHO and its activities with respect to occupational health on a global level. We applaud this and we urge a continued emphasis in this area.

One particular example that I would link to bring to NIOSH's thinking in the matter with respect to the safer substitution is the problem related to ethylene oxide in its use in the health care industry as a sterilant when steam and Autoclaving is not effective or not

usable. This is an area that cries out to us for safer substitution. It is an area that probably cannot be made safe, or actually I feel cannot be made safe within its current methods of usefulness with this known human carcinogen and neurotoxin.

So with that, I thank you again for hearing me and I beg your indulgence that the others are not here. Dr. Rahorchik is out on the highway somewhere trying to get his car operating, so there's an excuse for you for today. Thank you again.

DR. CONROY: Okay. Our next speaker is John Mulhausen from 3M.

MR. MULHAUSEN: Good morning. Thanks for having me. It's my pleasure to be here. I've not been to one of these before. I am impressed with the eloquence with which people preceding me have spoken, and have some scribbled notes here to try to match those presentations.

I'd like to make three points today. Number one, I'd like to reinforce the direction that NIOSH has taken with research to practice. I think that's exactly the route to take and I

think it's deserving of increased emphasis. Those of us practitioners working out in industry benefit, researchers benefit, and of course ultimately workers on the shop floor benefit from that emphasis on practical, implementable solutions for workplaces. So I commend NIOSH and encourage that continued direction.

Secondly, I want to make sure that we don't lose track of the importance of NIOSH's educational resource centers, not only in general the importance of those centers to increasing protection of workers through the product that they put out -- basically well-trained occupational health and safety professionals -- but also to recognize the importance that those educational resource centers play in research to practice. We are one of those employers that I hope achieves the high road, as was described by a previous speaker, in approach. And as an employer striving for the high road, we often bump into the edges of the envelope of understanding in the occupational health and safety area. And we rely very heavily on our colleagues in the

educational resource center that -- that is -- is we're very lucky to have one located in the Twin Cities with us, and we rely very heavily on our colleagues there as we work to really break through those barriers and understand the practical approaches that we can use moving forward.

The ERCs are the place where we grow our professionals. We grow and encourage dialogues that are really going to be the seeds from which future ideas and practical research efforts emerge, and we must not lose track of them. And in fact should increase the funding that goes to those ERCs as very practical hotbeds for increasing the practice, the practice and science of occupational health and safety.

And third, I want to make an appeal for a pretty focused area of research, and that is the area of exposure assessment and management. We have continuing opportunities to improve the -- both the effectiveness and the efficiency of those exposure assessment strategies, really in two ways.

One -- one at a high level in terms of the

overall strategies, working to develop techniques to understand how effective those strategies are. And by effective I mean how well do those strategies identified at-risk employer -- employees so that we can introduce management techniques in order to reduce their risk. And secondly, we need to do it in an efficient mechanism as we can.

So we need research into better understanding the efficiency and effectiveness of overall exposure assessment strategies so that they can be improved and we can better protect our workers.

The bottom line is that prevention starts with a good understanding of exposure. And if we don't understand exposure, we can't do a good job of prevention and management. And secondly, the connections between exposures and disease, teasing out some of those finer relationships, and in particular teasing out synergistic relationships between multiple agents, is going to depend on better understanding of exposures. And today every time we misunderstand exposures, we misclassify an exposure, we dilute our ability to tease out

those finer relationships.
So at a program level I think we need some research, and then down at a very specific kind of individual exposure characterization level we need research around techniques to improve individual practitioners' ability to make good exposure decisions. And this can be in the area of qualitative or semi-quantitative exposure assessments. Particularly, exposure modeling needs better research to understand and validate deterministic models that will aid practitioners in making good exposure assessments. And in the area of quantitative exposure assessment, better tools to aid the practitioner in making better decisions, given limited monitoring data. And I believe Bayesian statistics offer some exciting possibilities, not only in terms of those monitoring data interpretations, but also in terms of systematically integrating, in a transparent way, qualitative judgment, modeling, and quantitative exposure assessment. Thank you.

DR. CONROY: Thank you. Our last speaker in this group is Lisa Brosseau.

DR. BROSSEAU: Thank you. I'd like to talk just a little bit about a sector of the economy that is unlikely to receive much attention here at these hearings. Small and medium-sized businesses are a very important part of the U.S. economy, and a growing import-- they continue to grow in importance in terms of both the numbers and the number of people employed. Right now there are about six-and-a-half million businesses -- business establishments that have fewer than 100 employees in the United States, and they employ approximately 17 -- I'm sorry -- 97 million workers. This is in a range of economic sectors, not just in manufacturing, of course, where there are import-- very important hazards in both the service sector and the manufacturing sectors. Many of these small business establishments in all of -- in all sectors have significant health and safety hazards. And if you look at the data, while the -- you do see the decreasing trend in injury rates in businesses overall, what you -- when you start to look more carefully at the injury rates by size of establishment, you don't see the decreases

occurring as rapidly in the -- in the smaller and medium-sized businesses as you do in the larger ones. And in fact, injury rates are always highest in companies that are -- that employ between 50 and 250 employees. So it's an area in -- and in manufacturing in particular, so it's an area where we still really need to pay some important attention. Of course there are some important barriers that get in the way of accessing and helping small and medium-sized businesses. They have limited resources, and generally their staff have very minimal background in occupational health and safety.

I've met and worked with a lot of small business owners in the last decade. I've been doing intervention research in small businesses. And I've yet to hear any of them say that they don't care about health and safety. They all care a lot about it. But most of them -- and many of them admit that they don't really know what they should be doing, and they're skeptical many times when we make recommendations to them about what underlies those recommendations and why do we

think something -- a policy, a program, an approach, a control -- why do those things matter and why will they make a difference. And so the biggest issues have come -- I think really have to do with communication, as well as understanding the effectiveness of the things that we are recommending. They're not convinced, necessarily, and for good reason. So I'd like to make a few recommendations to NIOSH in terms of putting -- first putting more emphasis on small businesses and helping them make the connection between health and safety and business productivity. That's the language they talk, especially in a small business where many of them go out of business within the first two or three years. And year to year it still can be hand-to-mouth in a -- in an economic sector where things are constantly changing. The sizes of businesses -- it amazes me from year to year -- can change dramatically from 50 to 100 to 200 and then back to 50. So they're always having to adjust.

What we need in order to be able to help them with health and safety are these things:

First, we need simple, easy to use, valid

measures of health and safety. For example, from the perspective of a small business, trying to do exposure sampling is almost impossible. They cannot afford it, and it isn't necessarily going to help them because it's so focused on one single exposure. They have a lot of issues. They don't -- and most of the hazards they have are not measurable as exposures.

We need easily understandable methods for us to be able to connect improvements to business outcomes and health and safety outcomes. So we need to be able to show them it matters to your business. Your productivity will improve and your costs will go down if you work on health and safety.

And we need to be able to help them figure out what we mean when we talk that very technical language that we all use in this field. What does that really mean when you're trying to solve problems? So we -- and I think there's much to be learned by health -- by communication from other public health arenas. And finally, I think we should -- we need to identify a few key activities that really are

associated with health and safety. We have a lot of things we expect, but we don't really know what exactly it is that means health and safety in a small business. I think the issues of management commitment and employee participation are all -- are both -- they need more focus and more research.

So I appreciate the opportunity to speak for a group of people that I think cares a lot about their employees, but doesn't really have a forum for sharing their interest and their needs. Thank you.

DR. CONROY: Thank you. Okay, I want to thank this group of panelists, and invite up the next four people. And we've made, again, some changes, so please listen for your name. But the next group will be Shannon Lizer, Lezah Brown, Tom Robins and Pat McGovern.

DR. SODERHOLM: While that group is coming up, maybe I'll make a plug. You'll notice out on the table there's a CDC Health Protection Research Guide. This is the CDC document that -- for which we're seeking comments, and you can see Jamilla, who we introduced earlier, or visit the CDC website to see how to do that.

So pick up a guide or contact Jamilla and she can send one to you if they're too heavy to carry.

(Pause)

DR. CONROY: Okay, we're going to start with Shannon Lizer, who's from the UIC College of Nursing.

MS. LIZER: Hi. Let me see if I can get this for a short person here. I want to thank you for the opportunity to talk with you today --

DR. CONROY: People can't hear you, you're going to have to get closer.

MS. LIZER: Can you hear now? Okay. I feel like a commercial.

Thank you for letting me talk today. As Lorraine mentioned, I'm the director of the occupational health nursing program at UIC. My name is Shannon Lizer. I'm a family nurse-practitioner and also assistant professor in the College of Nursing. My dissertation work was about older farmers' health status and injuries, so I will direct the focus of my comments to sector 11, which is agriculture, specifically older farmers who are 55 and above.

As you all probably know, the number of older farmers is increasing. In 2002 the mean age of farmers were 55.3 years of age, and that does reflect a trend -- an older group of people. In Illinois currently the average age is 55.1, and over half of working farmers are over 55, which is unlike other areas of our workforce. So while we know that farming is a very dangerous occupation to all age groups, it is very dangerous, it turns out, for older farmers, who suffer more injuries and fatal accidents in farming than other age groups. And there are many reasons for that. One of -- one reason might be physiologic changes of aging. We know these occur, but typically these may not affect workers over 65, 70, 80 years of age because they are typically retired. And as we know, farmers do not retire like other occupational groups.

Chronic diseases are also a problem. We know that chronic diseases increase as we age, in the general public. Many of these I believe are undiagnosed in older farmers, who do not seek health care and preventative health care as do other groups. They're typically self-

employed and are not willing to leave their work setting to go seek preventative care. They go for treatment of things they see as needed.

So for example, in my dissertation I found -- which was a study in Illinois -- farmers reported hyperlipidemia, hypertension and diabetes at greater rates than the general public of the same age group, but much less heart disease, which may indicate that these diseases are not diagnosed but a factor in their illness -- or in their injuries.

We also know that medications play a role. There have been some studies that have looked at this, but not specifically in the older group. We also know that stress is a factor in injury, and we do not particularly have data to show why or how that happens. And also the effect of mental health disorders, such as depression, and the role of depression as related to occupational injury.

So finally, I would say that I recommend that we look at research aimed at older farmers 55 and older, looking at the relationship of physiologic status, their current health

status, chronic disease status, mental health outlook, the role of stress and medications to injury and accidental death. I also think that we need to look at better tracking mechanisms for these injuries, which are grossly under-reported.

In doing this research I would recommend that we involve multi-disciplinary approach, including nursing, medicine, agricultural safety and health professionals, also agribusiness and the farmers themselves, who really need to be part of the process. So I would recommend that we use community-based participatory models to look at changes in health care delivery and assessment of injury and factors that are related to that.

And I would thank you very much for letting me have the opportunity to talk with you.

DR. CONROY: Thank you. Our next speaker is Lezah Brown.

MS. BROWN: Good morning. My name is Lezah Brown and I'm a doctoral candidate here in environmental and occupational health sciences department at the School of Public Health at UIC. And prior to returning to graduate school

I practiced industrial hygiene in the governmental and private industries. Based on my exposure to the diverse occupational settings and populations during my 12 years of practice, I have chosen to concentrate my research on the impact of occupational exposures as they relate to the health outcomes in the family.

My current research is looking at psychosocial issues as predictors and antecedents of occupational injury, illness and assaults. The data for this project was collected by Dr. Kathleen M. Rospenda, who is an industrial psychologist here in the College of Medicine's department of psychiatry. The data was collected during a two-wave national random-digit telephone survey administered to over 2,000 working men and women in the 48 contiguous states, including Washington, D.C. Rospenda and colleagues collected information on many aspects of workers' psychological and social environments, both at work and away from work. The areas of interest that I feel are pertinent to this forum involve those variables possibly associated with occupational injuries,

illnesses and assaults. The data collection tool captured information concerning the usual demographics of the workers, such as race, gender, age, highest educational level attained and type of job or profession, along with their income. Other personal information collected established marital status and whether or not there were children under 18 living with them. The work environment topics that we're looking at, the workers were asked to document issues such as the number of hours they usually worked per week and whether or not they had experienced an occupational injury, illness or assault on the job within the last 12 months prior to their interview. Additionally they were asked about their perception of the presence of job pressure, job threat, generalized workplace harassment, and the status of their social support network at work. As far as the personal life aspects, the workers were asked to answer yes or no to questions about stressful life events such as did they lose a significant other through divorce or death, did they experience any financial difficulties such as bankruptcy, or

did they have any other legal problems. As with the work environment questions, the study participants were asked about the status of their social support networks in away from work, but they could talk about work problems. The questions were designed to establish whether or not -- there were also questions designed to ask whether or not there were problem alcohol use issues, and whether they had sought services from any type of professional or clergy member to deal with the psychosocial needs.

The preliminary results show that in the cross-sectional data analysis for both waves that race was not significantly associated with reducing the risk of pre-- of -- of a occupational injury or illness; that older workers were not as likely to experience an occupational injury, illness or assault as were their younger counterparts; that gender was not a good predictor of -- in this population for occupational injury, illness or assault; and that stressful life events and generalized work harassment composites were significantly associated with an increased likelihood of

having an occupational injury, illness or assault controlling for rage, age and gender in both waves.

When we put the data into logistic regression analysis it showed that the older group was significantly associated with reduced odds of having a occupational injury, illness or assault. Along with that, the generalized workplace harassment composite showed a significant association with an increased likelihood of occupational injury, illness or assault in wave two controlling for rage, age, gender in both waves, and that the stressful life events and problem drinking composites from wave one were not significantly associated with an increased likelihood of an occupational injury, illness or assault.

When we're looking at wave one and wave two, we're looking at the longitudinal information which shows that -- did these things exist before or after, we're looking for causation.

These preliminary results I suspect are the tip of the iceberg when considering important issues of the work environment and workplace.

Lastly, the types of partners that are needed

to address the issues of psychosocial predictors and antecedents of occupational injury, illness and assaults should include academia in conjunction with all classifications of employers unions and employee groups.

Thank you for allowing me to testify today.

DR. CONROY: Okay, our next speaker is Tom Robins.

MR. ROBINS: Good morning. I want to thank NIOSH for the opportunity to speak this morning. My name is Tom Robins. I am the director of the education and research center, the ERC, at the University of Michigan in Ann Arbor. I guess I'm one of your hosts, as well. I also a member of the scribbled notes club, so bear with me and we'll see how I do.

What I want to talk with you specifically about today is the role of NIOSH and NORA with respect to international global research in occupational health, over and above or beyond what we do directly here in the U.S. And what I'm going to do is first of all say a little bit about the key role NIOSH already plays in this area 'cause I'm going to strongly advocate

that they continue to do so. I'm going to tell you a little bit about my view of the kinds of problems that exist, especially in the developing world, in developing countries, that may be somewhat different than the problems here. I'm going to talk about what some of the specific research needs are in those countries. And I'm going to talk about why I think it's important for all of us as Americans to support research in these areas.

So first of all, besides being the ERC director, I'm also the director of a grant from the Fogarty* International Center, which is in the U.S. National Institutes of Health. And the purpose of that grant is to support training and research in occupational and environmental health in southern Africa. Actually a 14-state area called the Southern African Development Community. We've been doing that for about ten years. And actually NIOSH plays a very important role in this. They're one of the big indirect supporters. FIC doesn't have its own money. They get money from places like NIOSH for this to happen.

In addition, NIOSH has played a leading role

among the WHO, World Health Organization, collaborating centers in occupational health around the world. NIOSH is one of them, and a number of academic institutions in the U.S., as well as in many, many other countries, are members, and NIOSH has played an absolutely key function in making this group able to address global health problems through funding and expertise, and essentially lending at some points some of their finest personnel for periods of a year or two to work mostly on WHO issues. So there's been tremendous support by NIOSH of that.

And a prime example of what WHO and the International Labor Organization are doing now that NIOSH is playing a major role in is a campaign around the elimination of silicosis, which is a lung disease that's caused by exposure to silica. Silica is present in many industries across the world. In many countries it's epidemic. Here in the U.S. we -- we've for the most part dealt with the major problems there.

So what sort of health and safety problems are maybe faced by developing countries like the

ones I deal with in southern Africa that we may not see so much of here in the U.S.? Well, let me give you some examples that I've been directly involved with.

I went and toured a plant that was making paints and pigments, including lead-based paints and pigments, in what will be an unnamed country in Africa. And the management was very forthcoming about some of the issues they had, and there were many problems with exposure controls, and they had some people working there with blood lead levels that were twice the standard in the U.S. for immediate removal from work -- a symptomatic worker. So this is probably not an unusual situation. At least this company had actually measured blood leads. So that sort of gives you a sense of how things tend to look in the rest of the world.

Another example, I'm currently involved with a study of copper miners in Zambia who have silica exposure, in fact, as part of the ore. Now silica, besides causing silicosis, also weakens the immune system of the lungs. And tuberculosis -- TB is epidemic, or at least endemic. I'm going to have to be -- this is my

last example. We professors can go on. Is epidemic in Zambia, and of course there's also HIV/AIDS is epidemic. And so the combination of high levels of HIV/AIDS with the silica exposure has put miners in Zambia at tremendous risk for developing active tuberculosis, by the ten-fold increase in the last decade.

So that just gives you a couple of examples. I'll skip the rest of them.

What needs to be researched? There are certain problems that have not been well characterized. A huge percent of the labor in these countries is in what we call the informal sector. And there's some of that here in the U.S., but in general the informal sector's been very poorly studied with respect to what are the major risks and what are the types of interventions that are effective when you have sort of a family level kind of employer situation.

And then finally -- I'll have to close in about two sentences. The other thing I want to point out is there's a lot of need for intervention studies, which are also applicable to the U.S. What kind of interventions are effective in these situations, and a lot of times that

information can also be applied to the U.S. Finally, besides the fact that I think it's important, ethically the right thing to do, there's also other reasons we as Americans should be interested in this kind of work, because in fact when health and safety situations are poor in the developing world and is not being supported, it actually ends up being unfair competition for American business and it ends up moving jobs away from the U.S. So for all those reasons, I strongly support NIOSH's continued emphasis on research in global health. Thank you.

DR. CONROY: Thank you. Our last speaker in this group is Pat McGovern.

DR. MCGOVERN: Hi. I'm from the University of Minnesota and the Midwest Center for Occupational Health and Safety. Thank you for this opportunity.

I'd like to recommend that NIOSH continue to include work organization as one of its NORA priorities. In the first decade of NORA, work organization was identified as a priority, and the term covered issues such as hours, schedules, job design factors associated with

health. Continued research is needed with particular attention to the dual role many employees have tending to work and family commitments, and the implications for role conflict, stress and health.

Well, how many people are affected by these issues? Data from the Department of Labor for 2003 revealed the following: Among married couple families with children six to 17, two-thirds have both partners in the labor force. And among those with children under six years, half have both partners in the work force. But what about single moms? From -- women with children ages six to 17, three-quarters are in the labor force. And among those with children under six, 64 percent are in the workforce.

The potential work family stress and health effects is particularly acute for women, who traditionally shoulder more of the daily child care and home responsibilities. But why emphasize these issues for women; don't men also have work family commitments?

Yes. However, findings from time use studies show that women and men's paid labor time has become remarkably similar over the last decade,

whereas the uptake of home chores has not been as similar. Moreover, the nature of home responsibilities differ by gender with implications for paid work. Time studies reveal men spend more time than women on activities that are discretionary in terms of scheduling, such as home and lawn maintenance and financial management, while women spend more time on non-discretionary activities like preparing meals and caring for children. It probably doesn't matter too much if you wait a few days to mow the lawn, but your kids are going to notice if you don't make the meal. Thus women's responsibilities have a greater potential for conflicting with paid work, as such tasks are not easily rescheduled. And these trends are only likely to be exacerbated by the data showing increasing annual work hours in the U.S.

Americans work 200 to 400 more hours per year than workers in western Europe. This translates into five to ten more work weeks per year, with implications for role conflict and stress.

But how do work hours and role conflict affect

health? Studies from Sweden have documented that role conflicts and work overload are reflected in elevated stress at work and at home, which can induce symptoms of cardiovascular, musculoskeletal and immune system disorders, with implications for long-term health. Lundberg and colleagues from the University of Sweden report that female workers employed full time, in comparison to men in the same jobs of the same age, have a greater total workload and experience more stress and role conflicts than men. And this gender difference increases with the number of children. The difference between men and women's total workload increased to 20 hours per week in families with three or more children, with women approaching 90 hours per week.

What does this mean in real world terms? One examples comes from one of my former research staff, who called me last week. She now works two part-time jobs and recently had a two-week spell where either one or both of her children were sick. Her one-year-old had diarrhea for ten days and her three-year-old simultaneously ran a temperature, had a respiratory infection

and pinkeye, and her day care did not accept the children because of very appropriate policies on infection control.

What did this mean for her? She ended up putting together a patchwork of child care services so she could show up at work, and during this period rarely slept more than four hours a night due to her children's frequent nighttime awakenings. She too developed a respiratory infection, and by the end of ten days spoke of possibly quitting one of her jobs, if things didn't get better soon, due to fatigue and stress.

But what does work have to do with it? Aren't these problems the result of personal choices? The point of the story is that one of her part-time jobs is more flexible. It allows her occasionally to work at home to balance work and family. There's social support from other coworkers who are young mothers. And one of the jobs provides her autonomy to help work with her supervisor and set work priorities and work flow. These are all work factors that help her address the inevitable conflicts of paid work and family.

Now this story focuses on a woman who's well-educated, married and middle income. Now imagine a single mother with limited financial resources, an inflexible job or two -- how much; 30 seconds -- and a non-supportive supervisor. What is the potential for role strain and health effects for her?

So let's see, I'm going to skip to the punch line and just say that there's -- research is needed to identify the effects of work family conflict on the health of employees with children, and in particular to identify those work factors that can be modified to enhance health and positively affect productivity.

One last comment. Moreover, in a study underway right now, we're studying a cohort of about 800 women as they return to work after having their babies, and doing a longitudinal study of the first 18 months postpartum. What we've found is that total workload, perceived job stress, job flexibility and workplace support has significant effects on general mental health and postpartum depression scores. And so I think there's a continued need for work in this area and a focus on women from

different racial and ethnic backgrounds and income groups. Thank you very much.

DR. CONROY: Thank you. I want to thank all of this group of panelists for their testimony today.

We have our final panelist group here, and there are two people that are listed, Adam Scheffler and Michael Connors, and I'm also going to ask -- if Jose Oliva or Jerry Field have arrived we can include them in this panel. And if not, I'm actually -- there will be time in this schedule if there are people who hadn't signed up but are interested in providing testimony between now and lunch. So if those people would come up, they'll have to introduce themselves, but if there are any others that would like to testify...

Okay. But we'll start with Mike Connors.

MR. CONNORS: Once again I see OSHA's loved -- I'm up here all by my (unintelligible). I'm used to it; it's okay.

Thank you for inviting us here today or giving us the opportunity. My name is Mike Connors. I'm the regional administrator for OSHA for the Great Lakes Region. And I have two issues that

I would like to talk about, and they're local issues because I know that Washington is working with your national operation to talk about input on NORA, but these are local issues that we are working on.

The first one deals with isocyanate operations. We're seeing an increase in the number and uses of isocyanates in a variety of operations. We're particularly concerned about control technology and a number of other areas. Let me explain.

One of the areas that we did an emphasis program on was truck bed liners because we heard about the use of isocyanates in there and we were concerned about it that they tend to be very small operations. We've done about 80 inspections in the past year or so, and at least 50 percent of them have had overexposures, some of them up to 39 times the permissible exposure limit. We've had a death case in Michigan, and we've had people on the fringes of the so-called containment areas that were also exposed to pretty high levels, levels that we'd be concerned about.

Now we're also not comfortable that in walking

away and doing the evaluations as to whether they're over the PEL or not that we've got a safe operation when they're under, because we're seeing more and more uses of mixtures with isocyanates, and mixtures for which we don't have clear-cut guidelines on the health effects, how to analyze it and things like this. We're seeing more and more uses of it in auto body shops, two-part paint operations using polyisocyanates.

NIOSH put out an excellent publication, a summary of the HHEs* involving isocyanates from '98 to '02, and there's a lot of good information in there. What I'm asking for hopefully that you could look at in NORA is continue to work on the sampling and analytical methods. There are two or three competing techniques on how to analyze it, what needs to be done in the field, working on training materials for employers, employees, and safety and health professionals. There's still a lot of confusion out there on how to do a good evaluation in this area.

While the medical surveillance issues that are there related to the respiratory problems, we

think more information on skin exposures and its importance needs to be done.

And of course something on a standard for mixtures. We are kind of jealous at the U.K. model that looks at total reactive isocyanate groups, that that might be a model that we could use, but we need more information to make sure that the health effects are there for the mixtures. We are working with the polyurethane industries to get more information out there, but we could sure use help in some of these areas.

The other area I'd like to ask for some help on is in making the business case for safety and health. Years ago we had a Project Minerva study that went on, and it kind of died through neglect over the years. What that program did was try and get the word out on the need for safety and health programs in the business community. Well, we think we need a similar program for not only the business community, but for the business schools, for owners and operators of medium and small-sized establishments, and in fact for safety and health professionals because the schools do not

seem to really be teaching safety and health as it relates to and the need to integrate it into the business process to make it an asset rather than always being thought of as a cost center. We have developed, working with groups -- one of which talked earlier, Brian Devlin from Life Services Network. We've worked for a couple of years in Illinois, probably three years, with the home -- with the health care industry, focusing on nursing homes; working with UIC, Abbot Labs, the life services network, long-term health care, OSHA, consultation, nurses and therapists, we've developed examples of practical studies where people did invest in equipment for assisted lift programs, developed an assisted lift program, and then we looked at the business case. How much money did it cost and what was the impact? And we saw very positive results that we've seen over and over again in the nursing home area, that a small outlier in investment can bring back big returns. Usually the return on investment is within a year or two. We also see improved morale, less turnover of nurses and nurses aides, and better resident care and that there

are less skin tears and bruising as the equipment is used.

We think there's a story there, to go out and talk to owners and operators and show them that you can and do need to invest the money and you'll get the money back.

We've put a module on OSHA's website and it contains some case studies addressing the need for safety and health programs, the value for safety and health programs, essentially the need to control risk and build your safety and health program around that. We have examples for foundries, construction, nursing home, pharmaceutical and auto industries. We need more.

What I'd like to see is that in the future when we talk about control technologies we always put it in some sort of context. What were the before and after conditions in terms of exposures, were there ergonomic problems, airborne exposures, safety issues; what was the investment, what kind of return on the investment was there and what were the improvements noted, so that when we go out to small and medium-sized employers that we can

make this case and show there are practical examples out there and have this library there available to help people in the workplaces. And that, in a nutshell, was what I had to ask for today, so I appreciate the opportunity. Thank you.

DR. CONROY: Thank you. Okay, I'm going to ask one more time if there's anyone in the audience that would like to make comments or provide testimony. You have to use the microphone, though, so you will have to come up on stage.

(Pause)

UNIDENTIFIED: Well, first of all I'd like to thank NIOSH for the opportunity to be educated here today, and also to develop some empathy for others who have concerns that they are addressing to NIOSH. I think that many of us think that our organization or our causes are the ones to put forth primarily, which is what we do. There is -- I have at least developed an awareness here and an empathy with -- with you all.

Our organization is the Central Brain Tumor Registry of the United States, and we are a surveillance organization. And I'm actually

coming with a question and an offer to work with NIOSH. We receive requests from the patient community and from researchers who are investigating cancer clusters, and wondered what the surveillance policy for these is at NIOSH and how we can partner with NIOSH to help them or work with them to identify these clusters, especially with childhood brain tumors and childhood cancers. Is there --

DR. SODERHOLM: I won't try to give you an answer right now. I'll do two things, though. I'll ask if you'd give us your name and when we end I'll introduce you to someone in the audience who's closer in NIOSH to that and you might have a good conversation about that.

UNIDENTIFIED: Okay. Thank you very much.

DR. CONROY: But before you leave, could you tell us who you are? I'm sorry.

MS. KRUCHKO: Carol Kruchko, and I'm president and administrator of the Central Brain Tumor Registry, and we're located here in Illinois.

DR. CONROY: Thank you.

MS. KRUCHKO: Thank you.

DR. AMUWO: Good afternoon. I'm actually here on two different role, to welcome you to UIC on

behalf of Dean Scrimshaw*. My name is Shaffdeen Amuwo. I'm associate dean for the School of Public Health in urban health and diversity programs.

My second role here is to present a testimony, although I don't have a written one, in terms of some of the direction that I think NIOSH should go. As many of you may know, the face of this country is changing very rapidly (unintelligible) of immigrants, and they have to work. Well, you notice that immigrants generally take on some of the first jobs available to them that they are allowed to work, and some of those works are where you have very high risk exposures. For instance, when you look at cab drivers in any part of the major cities in this country, most of the ones you will see driving will be immigrants. When you look at the building industry, most of the builders, most of the carpenters, most of the brick layers, are immigrants. Then but what we don't attempt to do is to look at the contribution of this immigrants to the health disparity in the nation. Therefore I would strongly recommend that more and more research

dollars should be devoted to looking at the contributions of immigrants to our health care disparity, given the fact that many of them get sick, many of them don't have insurance, many of them that does have insurance are not adequately covered. As a result, their morbidity increases the gap between -- between African-Americans, immigrants, as well as the general population. So it just makes a lot of sense to put more research dollars on the issue of exposure of immigrants in the workplace. Thank you.

DR. CONROY: Thank you.

DR. SODERHOLM: Okay. In just a moment here we're going to ask Tom to give us some closing kind of reflections on what we've heard this morning. I'm sure we all have our own responses -- emotional, intellectual and the empathy that was just being discussed is certainly something that comes to the fore as we hear this type of testimony. So I'd like to thank everyone for their testimony. As I said, Tom will talk here in just a minute.

I again remind you of the CDC research guide, the opportunity to comment on that. Part of it

does relate to occupational safety and health certainly, and you may choose to comment on whether there's too much, too little of that, whether it should be refocused or whether all the other aspects are on base in terms of infectious disease and all the other public health issues that CDC deals with.

Is there anyone else who has felt a little bashful but is now ready to say that they'd like to offer some comments?

DR. CONROY: All right, I think that -- we've asked Tom, in a difficult position, to try and summarize in just a few minutes what we've heard from the group this morning before we actually go off to lunch. This afternoon we'll be much more focused on -- specifically on construction, but -- so Tom has generously agreed to try to summarize what we've heard this morning.

DR. SODERHOLM: And we will convene at 1:15, as on the schedule, for the afternoon session.

CLOSING: TOM ROBINS, UNIVERSITY OF MICHIGAN

MR. ROBINS: Okay. I think we -- we've all, NIOSH included, received a lot of wonderful information today from very impassioned and

very knowledgeable speakers about a lot of different areas.

A couple of things that struck me, without trying to summarize, you know, what was said by every individual speaker, is that there's a great deal of interest on research to practice, and practical interventions and evaluation res-- evaluation of interventions as research. That was mentioned time and again in a number of different settings, and I know that, you know, NIOSH is already pursuing this as a major direction. And I would say that the feeling of the speakers here today certainly was in support of that. You know, come up with practical solutions to the kind of problems that are faced.

Beyond that, I think we've heard some examples of serious problems with exposures to chemicals and in the more traditional industrial kinds of settings, although some of those were in small businesses like the example of the exposure to isocyanates in bed liners and body shops is -- but what was also stressed I think time and again were the workers and the work situations that maybe have not received as much attention

traditionally.
Many -- many of the speakers, or at least several of the speakers, talked about workers involved with home health care industry, home child care industry, as well as workers that are in correctional or mental health facilities. And a host of problems were brought up with respect to workers there, and I think it was pointed out very eloquently that we're only in the early stages of really evaluating what are the issues faced by such workers and what are some of the solutions that are appropriate or best practices.
For those solutions we do have, I think a couple of people also spoke to the fact of how do you in fact make the employers aware of the solutions that exist and convince employers that these are actually cost-effective approaches, that better health and safety actually leads to better business and better productivity.
Another area which was emphasized, in part by the person on my left, which dovetails with that is the fact that looking at small to middle-sized employers is an area that needs

greater attention because, again, it has not received as much attention up to this time. There was also a lot of discussion about governmental and school-based employees, which overlaps in some cases with the home health care workers and so on, but pointing out that there are a number of non-traditional hazards that are faced by such employees, ranging from workplace violence to ergonomic challenges to poor indoor air, and that these are challenges that are faced by a large sector of our workforce. And in fact, in the case of schools, also are faced by all of our children, as well, in -- especially in public school systems.

I've left out a number of things, but very quickly, you know, those were some of the major things that I think came forward, and I believe that these speakers have given a great deal for the people at NIOSH to think about, very eloquently have spoken to areas that need -- need additional focus over time and in the new version of NORA.

DR. CONROY: Okay. We also want to thank everyone for their participation and their

attention today. We're going to break for lunch, and again, we'll reconvene at 1:15 in this room.

For those of you that are not from this area, there is a map and a list of restaurants or places to have lunch within easy walking distance of this building you can pick up on the table right outside. So I'm looking forward to seeing everybody back at 1:15.

DR. SODERHOLM: I'd like to thank our cosponsors, the three ERCs, and also Ray Green for his heroic efforts in capturing every word. And if he approaches you and wants some clarification, please help him out. See you at 1:15. Thank you.

(Whereupon, a recess was taken from 11:45 a.m. to 1:15 p.m.)

CONSTRUCTION SESSION: INTRODUCTION TO THE SECTOR APPROACH

MATT GILLEN, NIOSH

MR. GILLEN: Welcome to the afternoon session. Greetings to everybody. Let's get started.

So the way the town hall meetings are working, each meeting has a general morning session and the afternoon session is dedicated to discussing sector issues for a particular

sector. So at today's meeting we're going to be focusing on the construction sector, and my name is Matt Gillen and I'm the NIOSH coordinator for the construction program. And I have a few things to say, a little -- few -- welcome from the folks here, and I had a brief presentation, then I was going to go over the ground rules, and then we're going to start right up.

So again, I'm the coordinator for the NIOSH construction program. And with me in -- Jim Albers is the assistant coordinator for the construction program. Jim's going to help moderate the afternoon session. And also with us is Tom Broderick, who's the executive director for the construction safety council here in Chicago, I guess.

Tom and his organization really helped us -- served as local partners to really help us here in Chicago get the word out on the meeting among the construction community. So I'd like to thank Tom for his help and actually offer him a chance to say hello, as well, so come on over.

TOM BRODERICK, CONSTRUCTION SAFETY COUNCIL

MR. BRODERICK: Right pocket for reading glasses, left pocket for long range glasses. Welcome to Chicago.

Although I'm not a native of Chicago, I have been here since 1989. And parenthetically, this is the home of the world champion Chicago White Sox, and quite possibly the prospective Super Bowl winners in 2006. And we won't talk about the Cubs.

Chicago also has a rich history in terms of worker issues, labor issues. Just throw out a couple of names that probably will have meaning to you, one way or the other, the Pullman Company, Haymarket Square, and the social reforms brought about by Jane Addams and the Hull House. And I would be remiss if I didn't mention the work of the late Alice Hamilton. Dr. Hamilton is one of my -- one of my favorite people, and when I sometimes seek solace in the frustration of being a safety and health professional I read some of her works and I realize things could be worse.

But then I also set the clock forward and I realize that in many ways we're still fighting some of the same fights that she wrote so

eloquently about 70 or 80 years ago. Such as the inexcusable persistence of some occupational diseases in our construction industry.

And we'll be hearing more about that later, so I wanted to once again thank you for coming. Welcome to Chicago and -- normally I see a group of people from the safety and health and research community in February in Chicago when the Construction Safety Council does our annual conference, and I take a hit for inviting people to Chicago in February every year. So I thought now that we've moved it to April of 2006, I'll be just find. Then my friend Matt said how would you like to be cohost of this town meeting where we'll be inviting people from all over the country to come to Chicago in January. So here you are, here we are, and let's get on with the show.

MR. GILLEN: All right. If we could have the PowerPoint slide projected there, I -- to help us get us off to a good start, I had a brief presentation. Is Neil back there? Is anything -- there we go, okay.

So first of all I really want to thank people

for being here today and send a special thanks to the construction stakeholders who came to provide testimony. What I wanted to do is to give a brief -- brief overview of NORA issues, the original NORA and the second NORA -- next decade of NORA, taking a sector approach -- emphasis we're taking; talk a little bit about your participation and input, and then finish up with a brief look at the construction sector.

You know, the original NORA -- over 500 stakeholders, as you've heard, provided input and identified 21 research priorities for the nation. These included many that were relevant for construction -- hearing loss, traumatic injuries, organization of work and such. And the first NORA's really been quite successful in helping to leverage resources nationwide to support the research, really getting us to work together to address these priorities.

And we want to build upon this foundation for the second decade of NORA. And really industry stakeholders really are the key to knowing what the biggest problems are and then to really getting the word out on the solutions. And

secondly, moving the research into practice is really -- through partnerships is really key to making a difference with research. And third, industry and employee group partners themselves are really organized by sector, so it makes a lot of sense to us to use the sector approach for the second decade of NORA.

So each sector will have its own NORA sector research council, and stakeholder input can be used to identify its most important problems and opportunities. And each sector can develop its own research -- separate research agenda and goals, so construction will have its own separate research agenda and can make plans to assure the funding, develop the partnerships needed, conduct the research and so forth.

So the NORA sector research council will draw from all the different multi-stakeholder groups and will be able to sit down and work together on common goals and priorities.

The NIOSH role is we'll really promote the process. We're going to provide research and surveillance information to help the different NORA sector councils grapple with the issues. We're going to support the needs of the sector

research councils and provide for some of the extramural research funding and training.

How can you participate? This is a key to us. Really we want to -- we really want your ideas and your input really will help shape the national agenda, starting really with today's meeting. And we'll capture what happens today and we'll be passing this along to the NORA sector research council. And we're looking for people to participate on the sector research council, so let me know or let Sid know if you're interested in participating on that sector research council. We're looking for volunteers to help get together and talk, or to encourage your organization to be involved.

And we plan to get the construction sector research council sort of up and running with some meetings beginning in March of 2006, and we'll be letting people know more about the details of that.

Just a brief look at the construction sector, about what groups are included, what are some of the major injury and illness problems and what is NIOSH doing, just very briefly. The construction sector, a/k/a -- in NAICS code 23

is, you know, how the construction sector 23 is referred to officially and includes the three major employer divisions: construction of buildings, heavy and civil engineering, and the special trade contractors.

In the construction of buildings, about 1.7 million workers, about 23 percent of all the construction workers fall into this group which includes residential building constructions and non-residential building such as commercial construction.

The heavy and civil engineering construction has about 16 percent of the construction workers. These are the folks who build the highways, streets and bridges and do much of the heavy and civil engineering work.

The largest group is really the special trade contractors. This is about 61 percent of the workers. This is where many of the roofing, electrical, plumbing, painting, carpentry trades fall into these groups here.

Most construction establishment are small operations, and the statistic that you see a lot is that 80 percent of the construction establishments with paid employees have fewer

than ten employees. In addition to this, there's an additional 2.1 (sic) self-employed businesses. These are one-person shops -- 2.1 million of those in construction, as well, and represent a lot of challenges in how to get information to that group.

As far as construction sector OSHA issues, you know, there's a variety of issues that we could talk about, from fatal injuries to non-fatal, musculoskeletal disorders, occupational illnesses. Work-related fatalities are a big problem in construction. Construction has about six percent of the U.S. workers, but about 20 percent of the U.S. fatalities, so it's really over-represented there. It's even pushing 21 percent. And construction has the most fatal injuries of any of the sectors, as far as the numbers, and so that's 1,200 a year. And it's pretty much been that much -- when you think of NORA being a ten-year effort, when you think of how many fatalities that could mean, it's really quite an astonishing number.

And the number of fatalities actually rose last year by eight percent. In some sectors -- for example, falls from roofs were up 39 percent

from 2003 to 2004.

Interestingly, the leading cause of work-related deaths in the construction sector haven't changed that much. It continues to be falls, transportation issues, contact with objects, harmful substances in environment such as electric current are really the big four.

As far as non-fatal injuries, construction has about six percent of the U.S. workers and about ten percent of reported U.S. injuries. And it has the second highest incident rate for those injuries and illnesses involving days away from work, the more serious ones. There were 153,000 cases in 2004.

There has been some improvement in reported injuries. The incident rate for the total recordable injuries has been declining, so it declined last year, as well, for example.

Musculoskeletal disorders are another area of concern for construction. You can see in 2004 there were about 38,000 MSDs, and these tend to be more severe. You can see that the number of lost work days was higher. The median was ten days. So these types of injuries -- lifting and back injuries, arm and shoulder disorders,

things caused by awkward postures and repetitive motions are a concern.
Occupational illnesses -- the temporary nature of much of construction really makes it challenging to track occupational illnesses with the multi-employer setting, but they do affect large quantities of workers and they're very important. Hearing loss is a good example of something that's -- cuts across most of the construction trades in important concern. Respiratory disease, skin disorders.
So as to what NIOSH is doing, there's a growing national network of researchers with interest in construction and safety and health. NIOSH supports work by internal scientists that work -- it supports external scientists and academic researchers. We have partners, for example, from the Center to Protect Workers Rights and they have a academic consortium as well that does a lot of good research for us. And we support a wide variety of projects cutting across OSH issues.
And we have a new emphasis on research to practice, and collaboration -- more collaboration with construction workers,

contractors, trade associations and unions. I mean a good example of the kind of approach that we're interested in taking more often is this kind of partnership here, so in this case here, really the partners helped identify what the problems were and they identified the promising interventions -- proximity alarms and internal traffic control plans -- and NIOSH is helping -- Dave (unintelligible) here -- is helping to evaluate do these interventions work and how to improve them so that they can be disseminated out to -- to practice. But the partnership is there to help deliver results once the research is done. So it's this type of partnership approach that we see as most promising.

We have quite a few research products, and we support quite a few and we're really looking forward to using the sector research council to as well talk about these kind of issues, what are the kind of products that really provide the input, help target the priorities of construction folks and improve our products. NIOSH itself is working to develop strategic goals for our NIOSH construction program.

Really the goals represent our NIOSH researcher ideas for what are important issues. And from meetings like this is where we're going to get your input as stakeholders, what are the most relevant issues for you that we can add to this mix. And we expect our internal goals to contribute to the NORA sector research council discussions and we're very much interested in any feedback that you might have. The goals are available at the construction topic page at NIOSH, which I put briefly on there. So you can go to the NIOSH web page and there's a construction topic page and we'll be using that topic page to communicate different things such as draft goals, things of that sort.

So again, to reiterate, you can track the progress for the NORA sector through the NIOSH e-news if you're interested in subscribing to that. We're very much interested in people who might want to volunteer to be part of the NORA cross-sector councils that it would be -- excuse me, the NORA sector research councils that will be forming. If you have comments that you want to provide after today, you can do that by e-mail, as well. And of course

here's my contact information, if you're interested, and other folks in our NIOSH construction program, as well.

So anyway, we're really looking forward to -- to today and really interested in hearing from you on which topics are the most critical to you for improving construction OSH performance.

So what we want to do now is -- I think we can get the lights. And we can take to get the screen up and all.

The last thing I wanted to do before we get started is talk about some of the ground rules. And again, same way it was done this morning, in case any folks weren't here this morning, we had speakers come up in groups of four. Speakers have five minutes to make their comments. And we do have a time-keeper in the front row, Ann Berry, and she will raise her hand to signal that there's one minute left, and she can also signal when your time is up. And again, if you do run out of time, you can always submit comments -- greater comments or longer comments in -- in a later time. And we may have some time at the end and we'll have that opportunity for other presenters who might

want to come up. And do ask people to remember that we're really interested in getting your own views to be presented, and we ask that you avoid any criticism of other presenters if you disagree with something that might have been said. You're welcome to offer your views, but we'd like to avoid any criticism.

And now we're going to start out -- we have one speaker from this morning on health care that we want to provide that person an opportunity, and then we're going to launch into the construction portion. So come on up and identify yourself.

Thank you. So we get the -- can we have more lights on in the front?

DR. SODERHOLM: Neil, are you available to give us lights, please?

MR. GILLEN: Is that better? Great.

(Pause)

MR. ADEFUYE: Good afternoon. Thank you for giving me the opportunity to be able to do...

DR. SODERHOLM: I think you need to come closer to your mike, probably. These mikes have to be in your face.

MR. ADEFUYE: Okay. Thank you for giving me

this opportunity to be able to give a short testimony, one that wasn't planned. My name is Adedeji Adefuye. I'm the assistant dean for Urban Health and Diversity Programs here at the UIC School of Public Health. I've listened to all the presentations in the morning and one thing we probably all will agree on is the fact that the -- there is disparities in the number of injuries when you look at the different parts of the U.S. populations. There are some groups that are affected more than others, and mostly minorities when you look at personnel injuries. And when we're trying to make sure that workplaces are much safer than they are, we cannot shy away from looking at the disparities actually in the training of health -- health care professionals, particularly those who are involved with occupational safety and health. Here at the UIC School of Public Health we are in the business of training these professionals, occupational health and safety professionals, among other public health professionals. And what I really think that both NIOSH and NORA should be considering as part of their research agenda is looking to how

the disparities in the training of occupational health and safety professionals affects efforts to make the workplace safer.

Everyone here probably will agree with me that in designing interventions to reduce workplace injuries and diseases that actually occur as a result of exposures at places of work, people tend to a lot of times want to have interventions done by those who actually can associate with the kind of upbringing that they have, with the kind of environments in which they grow -- they grew up, and as such probably will be more willing to take part in intervention projects that are designed and also implemented by people of their -- of their kind, probably maybe people who look like them, who talk like them, who understand their sensibilities and everything.

And you just mentioned the question of research to service. I actually want to interject something between research and practice. Most policies are driven by research, and I really think that if we do not train enough minority professionals who will be part of the research enterprise because we know that research

actually drives policy and it's actually policy that leads to (unintelligible) design and practices that are actually effective. So my -- we -- also we need to look definitely into the training of minorities in occupational health and safety so they become part of the research agenda and actually have an impact on both policy and practice. Thank you.

CONSTRUCTION SESSION: STAKEHOLDER PRESENTATIONS
MODERATOR: JIM ALBERS, NIOSH

DR. ALBERS: Thank you. Could the first four -- you know, the next four panelists -- yeah, come up to the -- oh, Tom Shanahan, Jim Platner, Donald Garvey and John Shine. Is everybody here?

DR. SODERHOLM: During the transportation moment, I'll make a couple of comments. Within NIOSH there's an alignment of the research program leaders with the NORA sector areas and cross-sector areas, and Matt Gillen is the coordinator of the NIOSH construction -- internal construction research program. Jeff Kohler, who isn't here today, is the manager. And Jim Albers, who'll be the moderator of this afternoon session, is the assistant coordinator of the internal program. So there is some

tight coordination between the leadership of the internal program and the NORA activities. And with that, transportation moment is over and I'll be quiet.

DR. ALBERS: Mr. Shanahan is first.

MR. SHANAHAN: Thank you very much. Can you hear me okay? All right.

So good afternoon. My name is Tom Shanahan and I represent the National Roofing Contractors Association. NRCA is one of the oldest construction trade associations, celebrating its 100th year this year. Roofing businesses are typically small family-owned businesses, as Matt had alluded to earlier. We were right in there with that. And from a personal perspective, you know, working with roofing contractors has been a fantastic experience. Not only are they incredibly intelligent, but incredibly warm people who care about what's going on with their workers because there's a very family feel to it.

But roofing work is very dangerous work and OSHA recognized this in its formation back in 1970 when it -- it was -- roofing was one of its five targeted areas. And with good reason.

Like I said, the nature of the work is very hazardous.

So then it only seems natural that everybody involved would do everything he or she could to see that those hazards are controlled in some way. Interestingly, for one reason or another, that just isn't the case. And that's not to say that OSHA or insurance companies or roofing contractors or roofing workers aren't effective -- aren't affected by this or they don't care, because I can tell you first-hand that they really do care and they try to do a lot about it.

But safety solutions aren't easy in the roofing industry, and -- as it might seem at first blush. If you took the -- talked to some, they'll say well, if a roofing contractor will just do this, or if the workers would just do this, or if OSHA would do that -- and it goes on and on. I think we all know that. But that doesn't get anywhere.

So what's the difference? You know, what really gets through and what -- what is it that we need to do? In essence, it sets the stage for my comments here.

For the last 17 years I've had the opportunity to work in the roofing industry as its national risk manager, and in my experience it's become apparent that what needs to occur is effective training. And you might be thinking well, no kidding, Tom; of course. But I challenge you to really consider the numbers and the efficacy of training in the construction industry. They're not very good. And they're not very good in particular for small businesses, and if you look at the small business numbers in general, they're not very good. So something is missing, even though it's something that we all would consider very obvious.

So from an effective standpoint, I think what I'd like -- what we'd like to suggest is -- I'm concerned about my time here -- is that -- recently I've seen roofing contractors who, on an exception basis, have been doing some really cool things. And so I've asked them, from a safety perspective -- they've just made safety a part of who they are as a company, and that is a difference I see from typical. I've asked them why they've done that, and some of them say well, you know, we really could not take

another serious accidents and look at our employees square in the face. Or they just say, you know, we finally figured out that it makes good sense from a business perspective. And of course, you know, I'm thinking well, aha, finally, you know, you're hearing something you really think makes a lot of sense.

The reality is, as obvious as it might seem, safety isn't as obvious as you think it is. So the questions that we believe need to get studied are to what extent is safe behavior affected by training; understanding in the construction workplace what type of training works and for what kind of behavior changes; what kind of training and education affects the long-term behavior needed to impact safe decisions on the job by employees every day. And I really believe that if you can get at the behaviors, change someone's behavior to tie off a ladder, you know, what training impacts that decision so somebody does it. And then finally, and I think importantly, you know, what changes small businesses owners' minds to see that business models that embrace

education and training are successful ones. In other words, what's the business case for safety and education? And after talking to some people at NIOSH, I understand -- I think it's through the University of West Virginia -- they're working on some of that, and I think that's fantastic and we would love to be a part of that.

And so in the end, you know, the idea of affecting safe behavior and understanding how that works in the training scenario I think is very key. And although obvious, we spend millions of dollars every year training, and to what end? And getting at that and understanding it I think would be great. And if I was younger and wanted to go after a Ph.D., that's where I'd be -- I would be heading my degree on. Thanks so much.

DR. ALBERS: Thank you. Our next speaker is Jim Platner.

MR. PLATNER: My name is Jim Platner. I'm with the Center to Protect Workers' Rights. Now for those of you that aren't familiar with our organization, we're a non-profit that's affiliated with the building and construction

trades department of the AFL/CIO. And since about 1990 CPWR has been working closely with NIOSH on research related to construction safety and health. Now -- and you know, we're really committed to working with NIOSH and we appreciate the opportunity to comment.

First I wanted to suggest that there's a lot of different initiatives, it seems like, going forward at once that are complicated to understand. And it might be useful at the front of this NORA II effort to describe, in a paragraph or two in the -- what the difference is between the ongoing part performance criteria and this NORA II effort.

You know, in my mind there's really three things going on at once that are mixed between these efforts. One is NIOSH is developing performance metrics under the part requirements that are really going to be used as a proxy for research performance by the Office of Management and Budget. And I think that's very different than the research priorities, which should be driven by surveillance, by gaps in the research literature, by evidence-based science. And then the third, in my mind, which

is sort of going on at the same time in this NORA II process, is the -- almost the development of new management structures as to how NIOSH will deal with each -- like sector councils, deal with each sector, and hopefully use those to continuously update its research objectives.

I think, given the -- how long it takes to get a group like a sector council functioning, I think NIOSH should consider whether it's worth abandoning this sort of ten-year time frame. It seems to me that it could take ten years to really get a new organizational structure functioning, and it doesn't seem to me that it's necessary to have a defined time frame on a management structure like that.

Just some of the other issues that I wanted to raise is that, you know, we certainly agree that our research priorities should be based on evidence and surveillance data that we have. But I think there's a concern that when -- when we have a cross-sector council that is seen as defining priorities across industry sectors, it's important that that council understand that they're not going to divvy up and share

the money or research projects equally. I think there has to be probably a specific process for targeting money at high-risk industries. And construction, in my mind, is certainly one of those.

I'd also like to see the research priorities consider the hierarchy of controls. You know, we're in a difficult position in construction where we really want to see engineering controls for most of the exposures. But because it's dominated by small businesses and the decisions are often very scattered across the country where you've got thousands of small businesses that have to make decisions, we have to think about both the engineering controls and PPE and the efforts of groups like the National -- the NPPTL* research. We encourage and support the effort to go to research to practice, and I think those kind of applied projects are important to link to the engineering controls. And I think there's some real personnel and qualification issues that have to be dealt with from a management perspective to say we have the connections and the staff to deal with the engineering controls

and the personal protective equipment in some sort of integrated manner rather than dealing with them separately, when hopefully the PPE is only going to be used until the engineering controls can be implemented.

So we've got a -- I've got a whole list of other comments, but they'll be submitted in writing. Thank you for the opportunity to speak.

DR. ALBERS: Thanks, Jim. Our next speaker is Donald Garvey.

MR. GARVEY: This is great. Now I can bore you with two microphones.

I'm Don Garvey. I'm the construction industrial hygienist with St. Paul Travelers. I'm also a past chair of the American Industrial Hygiene Association. Today, though, I just come as a grunt industrial hygienist who works down in the trenches, so I don't have the big global picture that a lot of other speakers have been coming with.

But what I would like to suggest with NIOSH is a stronger emphasis on researching noise in construction, and particularly impulse and impact noise in construction. Mark Stefanson*

with NIOSH did I think a fascinating little study several years ago which indicated that, on average, the typical 25-year-old carpenter has the hearing of a 50-year-old person, which -- which would indicate an exposure or a repeated, consistent, constant exposure of upwards of 100 decibels on a daily basis. Which -- which just isn't happening out in construction. Certainly we have high noise levels, but certainly not 8-hour time-weighted averages on the order of 100 decibels. So it indicates that something else is going on there.

One of the things that construction is rife with is impulse and impact noise, whether we define it as the official kind of impulse or impact noise or the short, very high-intensity noise of brick -- cutting a brick with a chop saw. In the 2004 American Industrial Hygiene Association conference, during their noise symposium, one of the symposium sessions was on impulse and impact noise. And the one sentence synopsis of that presentation was we really don't know a lot about impulse and impact noise, what -- what parameters are important in

deciding if impulse or impact noise is going to be detrimental to hearing. And even if we did know which parameters to look at, we don't really have either good methods or we don't know how to monitor and evaluate those exposures.

So I would like -- I would like to see NIOSH focus more on noise in construction in general, and particularly on impulse and impact noise.

The last thing that I would like to mention, I would like to emphasize what Tom had said. He brought up an interesting point on the efficacy of training. Again, another NIOSH study, and again I believe by Mark Stefanson. Something on the order of 90 percent of construction carpenters knew that noise was dangerous to their hearing. And something like 70 percent of those carpenters believed that noise was impacting their hearing. But only about 20 percent were actually wearing hearing protection on a continuing basis, which would tend to indicate that while we're getting the point across and while we're doing the training and while we're getting the knowledge to them, it's not taking hold, it's not taking root.

So what Tom said, I'd like to back that up on research on the efficacy of noise training. So thank you very much.

DR. ALBERS: Thank you. Our next speaker is John Shine, Sr.

MR. SHINE: Good day to everybody. I'm pleased to have been asked or been given the opportunity to speak today on this topic of fatalities from falls. I have personally seen and heard from many friends, coworkers and other craft's families to have been devastated from this problem.

My name is John Shine. I have been in my trade, the insulators, since 1973. I have worked for the Local 17's apprentice program since 1987, and I've been involved with the safety training, program development, and research since then.

I've worked in the field as a helper, an apprentice, journeyman, foreman. I worked around, saw and heard about many falls and the resulting injuries. I at first thought this was the chance that you took to be paid. As I went along from job to job, I noticed that the foremen in the companies that were interested

to keep this to a minimum. These were and are motivated people. People would, could and did get hurt. These people said that there was a better way to do our job.

I have since then been teaching fall protection and prevention at our apprentice school. One day at work when I was in the field, I used the example of a painter I saw fall from a height. He had no fall protection on at all. It was not used then. I will not go into the details here, but his family should have never gotten that phone call that day. There were better ways to do his job that day.

I also know that there are better ways to protect all workers that I deal with. I've had two young apprentices fall at work from a scaffold, and another young man came -- was about to come into the apprentice program, fell from a pipe rack at work. These men were a terrible waste of excellent minds, who would have been a credit to our union and our craft. These are a few stories I hear about at work. I listen to workers in the classes that I give. I give their stories back to the membership who attend our SMARTMARK program on construction

safety, and the apprentice classes, also. These incidences I speak of come from them, as well as their own experiences.

When we reduce this injury and fatality rate we can keep smart, productive and interested people on the job sites. There are many directions that this study can go, and should each be addressed from all these instances.

My first one is training is for everyone, workers, safety directors, supervisors, superintendents, estimators and the owners. Each one of these people in the process needs to know what the other is doing and if they are doing it correctly. I think as I go through the other issues, this will become evident as to why it's important.

One of the big problems with fall protection from height is the anchorage point. You'd be surprised to hear and see what is done on the job sites, what workers are told to do. Some of it doesn't make sense. Electrical conduit, electrical light fixtures to be used as anchorages. How does a worker anchor to a 500-pound (sic) anchorage point when no one knows, nor will tell him, what constitutes a 5,000-

pound anchorage point? Try to get an answer. This might be your fun for the day. Is it a 4-inch steel pipe sitting on a concrete beam? Could it be a 3-inch electrical conduit? Do not even think of the light conduit, which people have been told to anchor to. What do I do as a worker when there is nothing of substance to attach to? Do I put on a show, wrap the lanyard around the ceiling joist to make the safety guy happy? If I don't, I might get laid off for not following the safety rules. It might not make sense, but you do it anyway. If I do -- if I do say something, I'll be complaining. I might lose my job as a troublemaker; he asks too many questions.

The next issue could be preplanning for engineering stages. Anchorage points, as an example, have been put in place during the erection of floors and ceilings, and left in place for future use. This has been successful on many jobs lately. This will be -- put the anchorage points above the workers' heads, where they should be. This also minimizes the pendulum effect if the people fall, and minimizes swinging into stationary objects.

Next part is inconsistency of regulations, such as OSHA standard, which has two different heights that we can work from: six foot for fall, ten foot for scaffolds. I don't understand the differences, but that should be addressed. How about the inconsistency of one facility to another? One site goes to the extreme of have you in a harness on a six-foot ladder, while the other site lets you walk around 40 feet in the air on a beam.

The next one is lack of knowledge of what equipment is proper for the job at hand. There are many different types of harnesses that can be used. One type doesn't do it all. The various trades have harness types that they use consistently. This does not mean that every job is the same.

Let me continue on here. I think I'm running out of time.

DR. ALBERS: Yeah, you are out of time, I'm sorry.

MR. SHINE: Excuse me, I was almost there.

DR. ALBERS: All of your comments will be entered into the record. You know, we'll get a copy of his comments.

MR. SHINE: I'm a teacher; I guess I get too wordy.

DR. ALBERS: Well, thanks very much to the panel.

Our next four speakers are Tom Kavicky, Alex -- or Alec Rexroat, Philip Colleran and Michael Watson.

(Pause)

Our first panelist is Tom Kavicky.

MR. KAVICKY: Yes, thank you. I'd like to thank NIOSH for the opportunity to come here this afternoon and address some of our issues that I feel are important for the research of the study that's coming up over the next ten years.

My name is Tom Kavicky. I'm safety director with the carpenter's union here in Chicago and the outlying 81 counties. I've been doing this now for about eight years. Previous to that I was like Jack Shine of the insulators where I was an instructor at the training center for almost 17 years. I've worked out in the field for quite a while before that, since 1970. So I've got a background in construction and dealing with a lot of the issues that we

address every day on the job with workers. Number one, we would like to see -- over the years the issue of fiberglass has been on the list, been taken off the list. We have a tremendous amount of carpenters that are involved in insulating homes, insulating commercial buildings with different type of insulating products such as fiberglass. And we'd like to see a study done and once and for all coming up with some kind of idea -- is it safe, is it not safe; what best practices to use when installing fiberglass.

Second issue, and I'm in agreement with Jack Shine from the insulators on this one regarding falls. I would like to see more data, more specific data. When we talk about falls in construction from elevated and same-level surfaces, but we don't get into specifics as far as what was the worker doing when he fell. What caused the fall? And causes aren't that important as to what was he doing or she doing when the fall occurred? Was it through a floor opening? Was it while they were installing a ladder or working from a ladder? What were they doing? Were they over-reaching? More

specific information so we can utilize the information at our training centers across the country and specifically zone in as to where we're seeing these issues out in the field to help better our relationship with our members and contractors and reduce those injuries. Another issue is the -- we provide a tremendous amount of training here in Chicago, both through the apprenticeship program and through the skill enhancement program where the journeyman has an opportunity to come back for training. In that training, specifically the skill enhancement training, we've got about 8,000 right now members that come in for training on an annual basis. Now that 8,000 equates to a membership of approximately 43,000 members here in Chicago. I would like to know why 8,000 members make it a point to come out just about every year, taking classes, and the other 32,000 you just can't reach. And we do all sorts of promotional -- things like that. But what makes the one person -- one individual want to take the training to better himself -- and it's not only safety, but as far as skills -- and the other, majority, not take the

training?
We would like to see research done along with Mr. Garvey's comments. What is it that makes one worker at a job site stand up and say I'm not going to do this because it's an unsafe act, and the majority not take that stand? I know if we could all figure that out, we'd be rich or whatever, but I would -- just wonder if that would come into being in research and study.
And I would like to concur with Mr. Garvey's comments regarding noise in construction, the impact and impulse issues, as well. Thank you.
DR. ALBERS: Thank you very much. Next speaker is Alec Rexroat.
MR. REXROAT: Thank you. Thank you for the opportunity to speak. I really appreciate it. Frankly, I'm humbled by the intellect and the credentials of the people that I've been listening to for the last four to six hours. It's incredible.
My name is Al Rexroat. I represent the Illinois Regional Insulation Contractors Association. I represent the National Union Insulation Contractors Alliance, which is a

national organization that I wish I could say is 115 years old like the roofers, but it is only three years old. We just started it. And I represent Interstate Mechanical Insulation Contractors. So I wear three hats. I'm a businessman and I'm an association executive. And I am not an expert on musculoskeletal disorders by any stretch of the imagination. From a businessman's perspective, though, over the years -- I started in the business in 1964 -- I know that I have had -- the largest single case I've had against my company was a musculoskeletal disorder. It was a back injury, and the man was doing nothing wrong except doing his job. And he got injured, and it was the largest single expense we had that year.

From a businessman's perspective, this is costly because we have men that can't -- or people, men and women, who can't work. Excuse me. I have three daughters; I should remember that. But we also -- when our people aren't working, our mods go up in our workmen's comp. So from a business perspective, this is very costly for us, as business people.

So we would like to see something on -- along these lines, with especially these insidious musculoskeletal disorder things. We have men working in our industry that are young, most of them, that are installing duct wrap around duct work in buildings. And they're -- the process is that they cut the material, they smoosh it with this hand and close the gap, and then they use a plier-type device with their other hand and they make -- every inch they make a staple to hold the stuff together. Well, they do it all day long, and then they do it the next day. And then they do it the next day.

The point is that these disorders -- they don't even know it's happening to them. It's kind of like the asbestos was in our business back when I started; we didn't know it was happening and all of a sudden we were whacked with it and we were sick. Well, that's what's happening to these kids, and we need to pay attention to it. I would say -- I would agree with a couple of other issues. Mr. Connors from OSHA was up here earlier this morning. He talked about education -- educating contractors to understand that safety is a good policy for

businessmen because it puts money in our pockets and keeps our men working and our women working. It's just good business. So we need that -- that's paramount importance, I think. I also agreed with Jack Shine when he talks about education of the employees, of the foremen, of his contractors -- people like me -- that we need to know that these things are happening. We need to know what the best practices are to help our people, because we are there to do that. I don't want to see guys get hurt. I don't want to see people fall. I don't want to see people get hurt.

So with that, I'll -- again, I'll thank you very much for the opportunity to speak. I do present a little different perspective 'cause I am a businessman, and thank you again.

DR. ALBERS: Thank you. Our next speaker is Philip Colleran.

MR. COLLERAN: Good afternoon. I'll keep my personal opinions to myself. I'm representing the American Society of Safety Engineers today. I'm in construction safety for 30-plus years, 17 of them as a compliance officer for OSHA. But I'm also a member now of the construction

practice specialty, which has approximately 3,500 members of the 30,000 members from ASSE. We commend NORA and NIOSH for this effort. ASSE's construction practice specialty is one of the largest and most active specialties. We have, within ASSE and the construction practice specialty, the NCA10* series for construction and demolition, which equates to 44 specific standards, that is to say, for construction and demolition subjects ranging from dredging to scaffolding. And similarly, we are a secretariat, as well, for an organization, NCZ15*, which are the safety requirements for the operation of motor vehicles, another key issue to construction.

There are two suggestions or I should say recommendations that NC-- or that ASSE would have, that being that within the construction sector research council that we would hope that NIOSH would have the chair or the A-10 committee closely involved, if not also chairing, the construction research sector. Similarly with respect to the Z-15 standards chairperson. Not that they necessarily have to be the chair for the transportation sector

research council, but that we would urge you to actively involve them in any of your proceedings.

We also have -- given our members' expertise and experience in construction -- the desire and hope for the following three areas of research.

Cultural ambiguity. OSHA, IMSHA*, state safety and health agencies, unions, employers and safety and health professionals are all working diligently to communicate better with and to educate Spanish-speaking workers to help keep them safe and healthy on the job. Even when we develop appropriate language documents and we use effective visuals and further build our supervisors' language proficiencies, there is still the hurdle in the cultural differences we experience in working with Spanish speakers.

It is now time to go, we believe, one step further in our efforts and to support research that examines cultural ambiguities that exist within the framework of what the construction industry currently uses as its methods for communicating and reinforcing hazard information. Translated, we believe that right

now of course there are some moribund, age-old traditions within the construction industry, vis-a-vis the safety toolbox -- the weekly safety toolbox talk, et cetera, et cetera. And we're wondering, in essence, whether or not these are effective. But beyond that, we're wondering as well about the methods for communicating and reinforcing information about hazards.

For example, Spanish-speaking workers have an approach to authority that is different than the typical U.S. approach, and may lead them to saying yes when they mean no. We should know as much as we can to understand that orientation. I got to thinking about this when someone from ASSE was going to be putting on one of these conference calls and he himself is of Spanish descent, or of Mexican descent, and he indicated that it's often the case that the messages that these hardworking individuals take when we give them a particular order or direction in terms of their work is something different apparently. And that when we similarly do this with respect to communicating hazard information that they as well take

different messages along with that. So we're close to the -- the point being that we need a better understanding of both the workers' and the employers' cultural assumptions and that they should be the next frontier of research.

I think -- I commend Tom Kavicky for his remarks on the injury and illness source database. That said, I second that, and that was one of our recommendations, the full record of which will be for your review. So I think we can skip over that one, except to say, if you don't mind, that we do know anecdotally that the majority, for instance, of disabling falls in your framework, Tom -- that is, framing carpenters -- from sheathing, roof on -- work on top plates and from (unintelligible). But we don't have that substantive database that gives us anything more than the very broad brush of fall from height, or fall from scaffold at the very least, in terms of really parsing it out. That specific information would be most helpful.

Beyond that, a greater focus on silica. We know that there is myriad literature out there on the subject of silica. That said, we don't

ask that any further research be performed as to what the safe levels are. We have everything from the fables -- or not the fables, but the -- the tragedy of Hawk's Nest down to everything that you folks have most admirably done in the last ten years.

What we do need, however, we believe, are activity-specific pieces of information -- as one of the young presenters earlier this morning was suggesting -- for the small to medium-sized firm that's going to be able to use that information in the context of simple reading. We understand of course that there are variables, vis-a-vis, again, weather, environmental factors that go into that. But we urge you to consider at least a silica message in terms of silica information to the small to medium-sized firm with an eye toward giving them some things as to what's the most effective controls for the short duration exposures.

Thank you very much.

DR. ALBERS: Thank you. Our next speaker is Michael Watson.

MR. WATSON: Good afternoon. Thank you for the

opportunity to address the committee regarding the National Occupational Research Agenda construction sector issues. My name is Michael Watson and I am a certified industrial hygienist and representative of the safety and health department, International Brotherhood of Teamsters. Our building material and construction trade division is comprised of approximately 102,000 building material supply and construction members who may be impacted by decisions regarding the agenda.

According to data published by BLS for 2003, construction, sector transportation and material moving drivers experience 5,800 non-fatal occupational injuries and illnesses involving days away from work. These drivers perform work in highway and steel construction, water and sewer and utility line construction and repair, heavy construction and excavation work, ready-mix concrete, refuse, and construction material and pipeline transportation.

With regard to fatal occupational injuries, according to the census of fatal occupational injuries data for 2004, the construction

industry sector recorded 1,224 fatal work injuries, the most of any industry sector. CPWR published a study in 2001 titled "Trends in Work-Related Death and Injury Rates Among U.S. Construction Workers, 1992 to 1998". According to the study, the fatality rate among truck drivers was consistently higher than the fatality rate for all of construction.

The Teamsters Union urges NIOSH to continue research into diesel and combustion particulate exposure; general wellness issues such as hypertension, weight-induced diabetes and heart disease, and the use of tobacco products and caffeine. The adverse health effects of extended work cycles and chronic fatigue should be examined, as well.

Teamsters Union is particularly concerned with injuries and fatalities resulting from highway accidents and struck-bys in the heavy and highway construction and excavation subsectors, musculoskeletal injuries and disorders among construction drivers, noise-induced hearing loss among construction drivers, and crystalline silica exposure among ready-mix concrete drivers. It is the Teamsters Union

position that these issues should be included in the agenda.

The Teamsters Union is also very concerned about whole-body vibration among our drivers. Whole-body vibration is primarily responsible for intervertebral disc degeneration, lower back pain and muscle fatigue. The importance of addressing these issues cannot be overstated.

Drivers should receive better and more thorough driver education which is specifically tailored to the driving tasks that they perform. This driver education could also include components which specifically address the importance of seat belt use, proper lifting and lowering practices, hearing conservation training, or other hazards present at the work site. NIOSH should perform research on the most effective training techniques for educating this particular group of workers.

Of course funding for research and education is the backbone of any initiative which seeks to implement change in an industry as dangerous and diverse as construction. Employers and unions alike cannot and should not bear the

entire cost of making sweeping changes to make our industry safer. New technologies in vehicle safety -- for example, sonar, radar and video technologies -- need to be investigated. New truck and heavy equipment design should be investigated in order to make trucks and heavy equipment more driver-friendly and ergonomically safe. NIOSH and other government agencies, including NIEHS, need to continue to fund this research and education if we're truly to get to the very core of these issues.

Thank you.

DR. ALBERS: Thank you. We're going to take a 15-minute break, then come back after that, at 2:35.

(Whereupon, a recess was taken from 2:20 p.m. to 2:35 p.m.)

DR. ALBERS: Our next four panelists are Russell Hutchison, Scott Schneider, Bradley Sant, Charlie Shields.

DR. SODERHOLM: Have we got everybody in from outside, Max?

DR. ALBERS: Max, is every-- are people still there in the hallway?

We'll just wait a couple more seconds.

(Pause)

Our next panelist is Russell Hutchison.

MR. HUTCHISON: Thank you. And I thank you for the opportunity to speak on behalf of the construction equipment manufacturers. My name is Russ Hutchison. I'm the director of technical and safety services for the Association of Equipment Manufacturers. We are a non-profit trade association based in Milwaukee, Wisconsin. We have offices in Washington, D.C.; Ottawa, Canada; and Beijing. We have over 700 members, and we serve the construction, agricultural, forestry, mining and utility industries.

I'd like to highlight construction occupational safety areas that our members are telling us are of concern to them. Many of these NIOSH is already active in and aware of, and we are going to encourage them to stay in those -- stay working in those areas and do more -- do more, maybe expand.

The first I think one of the high priority items is silica -- silica dust control. On the top of the list are the cutting, grinding, drilling. Methods of dust control and

mitigation that have practical application in the industry should be looked at. You've looked at some of them. You've begun that process. I urge you to stay active in that area.

In addition, I think it's important that you look at methods of effective communication to the construction worker. And I think this goes -- this is sort of the training area, and I'll highlight that a little bit more, as others -- and Mr. Shanahan started right off the bat with it. But we need to impact the worker with regard to the hazard and the means of controlling the hazard. It's got to make sense to them. They shouldn't be out there in the middle of that cloud of dust not worried about anything.

Silica dust is generated by a variety of the equipment that our manufacturers produce. Not only is it the concrete cutting, grinding and drilling, but it's also the milling of concrete -- the cold planers*, as they call them -- and work is going on in that area right now. NIOSH is doing some work with the contractors and with the manufacturers. But again, this is an

area that needs to be continued to address. In addition, there -- we have manufacturers of equipment used in quarries, used in mines. Their issues with regard to how you control silica dust are different, but they are another area where silica exposure is an issue and needs to be attended to.

And finally in that regard, I would urge NIOSH to put more effort or dedicate more resources to the control banding concept. I think that was alluded to briefly before, but the idea that you identify a process and then you identify the controls or the PPE that's appropriate for that process. And it allows the contractor to probably conservatively protect the employee without having to go through and do air sampling, but it will require air sampling and that's where NIOSH comes in, and I think we need extensive testing, air sampling, and it needs to be very comprehensive so we've got good numbers.

Secondly, training. We started it off and on -- I would again, and our members would, urge that training be a focus. We need insights into the most effective methods of training,

how to best accomplish the communication process, and are there different methods that are more effective in different industries or different crafts, that kind of thing. Let's look at classroom training. Let's compare it with internet-based training or web-based training. Let's look at the interactive CD, DVDs -- and these are just ideas. There are many more methods of training. But let's compare them and see which are the most effective and share those results with the people that need to do that.

Let's move on to crane power line contacts. We have crane manufacturers and they're looking at upcoming new regulations or highly revised regulations in the crane industry. During the course of writing those -- their draft regulations, proximity warning devices and insulated links became an item of discussion. We would strongly urge that NIOSH dedicate resources to evaluating those devices. There -- there's questions and there are human factors issues related to them, and we really think it's important that those be addressed prior to the regulations -- finally adopting them.

Other areas of focus, operator visibility. We urge you to continue your work in that area, and to try to move it into the real world, find those kinds of processes which are not cost-prohibitive. Trenching accidents, there are many of those, as you know. And finally, I would also urge that you continue your work in the noise area as we try and communicate to people that they need to pay attention to it and avoid the tragedy of hearing loss.

Thank you.

DR. ALBERS: Thank you. Our next panelist is Scott Schneider.

MR. SCHNEIDER: Thank you, and thank you for the opportunity to come here. My name is Scott Schneider. I'm the director of occupational safety and health for the Laborers' Health and Safety Fund of North America. We are part of the laborers' union. We're a joint labor/management group. And laborers' union represents primarily construction workers, about 800,000 members in the U.S. and Canada. I've been honored to be a member of two different NORA teams over the past ten years, the noise team and the intervention

effectiveness team, and it was a great experience. I thought it was very useful and important work, and we did accomplish quite a bit. And now NORA is being reorganized by sector and there's a lot more work to be done, but it's a different kind of work.

Since its inception, NIOSH has focused primarily on identification of hazards and solutions. And the philosophy was pretty much -- until recently, I think -- if we identify the hazards and show people the solutions, they'll sort of naturally adopt them.

In some cases this worked. In other cases, though, NIOSH testimony helped spur the development of new OSHA standards. And while there's still some new hazards to identify, new solutions to develop, there's already a lot that's known that's not being put into practice. So the issue now I think is more how do we get people to adopt the solutions that we do know work.

So I would like NIOSH to focus in this next decade on dissemination research and intervention effectiveness research, and to fuse the NORA process with the R2P initiative.

They need to do more research on the barriers to adoption than how to address and overcome those barriers.

When I visit job sites I see many obvious hazards that are going uncorrected. The 50 or so construction workers that die in trench collapses each year don't die because they don't know how to -- we don't know how to protect them. They die primarily because trench boxes were not used, even though in many cases they were sitting next to the trench at the time of the accident. So I can't -- here's a couple of things --

I mean obviously I endorse a lot of the stuff people have said before -- do more research on training effectiveness and on noise and on ergonomics and many of these other issues, which I think still need -- research should be done on them. But I'd like to see NIOSH focus -- and the NORA process focus on six areas.

One of them is how do we communicate more effectively about risk with both workers and employers so they understand the true dangers and the consequences.

Two, how can we encourage more intervention

effectiveness research to show what really works.

Three, how can we better convince employers of the cost-effectiveness of interventions, calculating both the direct and indirect costs on an employer level, and making those costs tangible to employers in a simple way.

Four, how do we widely disseminate throughout the industry existing interventions and encourage their use.

Five, where is more research needed to fill the gaps to develop interventions where existing ones are too cumbersome or costly and there are significant barriers to adoption.

And six, to accomplish all this NIOSH I think needs to do intervention surveillance in each industry to see how widely interventions are being used, and for future reference as a measure of success. In the past NIOSH looked at hazard surveillance but didn't do intervention surveillance.

As a footnote, I also would like to see -- I'd like to see NIOSH fund -- we have education and research centers around the country, but I would like to see basically translational

research centers where -- R2P centers where people would take what exists and figure out how to get it into practice in their areas. So the second decade of NIOSH (sic) needs to focus on intervention evaluation, increasing adoption of interventions and overcoming the barriers to their adoption, development of new interventions as a secondary goal, but there already exists many interventions that are being under-utilized. So thank you very much.

DR. ALBERS: Thank you. Our next panelist is Brad Sant.

MR. SANT: Thank you. Again, it's a pleasure to be here with you and to be on this panel with people I consider friends and also great work colleagues, and many of you out in the audience. I don't think there's been a person that's spoken yet on this construction panel with whom I've had a disagreement. But I found myself particularly nodding my head as Scott was talking about really there's been tremendous work done by OSHA, by NIOSH, by a number of organizations in the research area. And I think in this next decade we really need to figure out how to move this research, this

education, these processes that we know work into the practice, and how we can really communicate.

But I kind of sidestepped my beginning comments, so let me give a little background industry (sic) on the roadway construction industry and why I think it's so important that NORA look at this industry in particular.

Just several months ago President Bush signed a law, (unintelligible), that will provide $236 billion through 2009 for roadway construction. The federal budget makes up about 45 percent of the total amount of money spent on roadways, so between 2004 and 2009 we're looking at about a $500 billion expenditure on transportation, and roadway construction in particular. This type of spending makes this industry one of the most stable and also one of the most robust in the country.

It's also one of the most challenging environments, because like construction, it's ever-changing. It's never the same place when you go back twice. But it's also an environment that's moving constantly. You're not going to a construction site the same place

month after month. You're going to a new location.

It's also challenging because we have vehicles coming in and out of the job site constantly, delivering asphalt, taking away dirt. And when you have the workers on foot adjacent to this big equipment, it creates a very dangerous environment.

Now we add a new segment that's unlike the rest of construction, and that's the motoring public are part of our construction sites. Most of our work is done in rehabilitation and maintenance. We're not building new roads in areas that are cordoned off. So you mix all these elements together and you find that we are in very hazardous conditions, in very small work areas because we want to keep those lanes open and keep motorists moving, and it's a very dangerous environment.

We began to address some of these issues that are coming up as a result of these environments. NIOSH has done some great work. A lot more needs to be done in that area.

The next thing we want to talk about a little bit is the worker demographics, 'cause they're

also challenging. Right now about 30 percent of our workers are Hispanic, and most of those are immigrant workers. And as we've heard, and I think we'll continue to hear, while these are very important workers to our industry and very valued workers, unlike many who come to the Americas and enter into the melting pot, this segment of Hispanic workers tends to cling very tightly to many native customs and even native languages. And there's this large percentage of this immigrant population that does not even learn English like they do for many other parts of the world, so we have to deal with all those challenges. And again, with 30 percent of our workforce, some statisticians are saying that as much as 50 percent of the roadway construction workforce could be Hispanic within the next 20 to 30 years, so another huge challenge for us.

As a result of these conditions, we're looking at, in roadway construction, a fatality rate of about 30 people per 100,000, as compared to 12 per 100,000 for the remainder of construction, and four per 100,000 for general industry.

Also there's a great public health concern

that's combined with this, as about 1,000 motorists are killed each year in accidents that take place in work zones, while another 40,000 are injured. So there's a lot of work, both from the public health point of view and from the occupational health point of view.

In addition, the one injury cause that stands out above all are injuries dealing with manual materials handling -- that word, ergonomics. And while perhaps many of my members would not like to see OSHA come up with an ergonomic standard, I'm sure they would more than welcome information coming from NIOSH on how we can deal with this injury. It's a huge cause of insurance claims. It's a huge cause for the industry, and we need help in this area in particular on how to do that better and to do that more quickly.

We are -- as we're looking to enter this new phase with NORA we're certainly hoping to work closely with NIOSH to address many of these injuries. We really want to look and work closely with you on how we can take information that we now have, information that we will have, and put that into best practices so that

every employer, as he's sitting down and trying to balance his sheet and put together a bid for a job, he understands that safety is part of that whole equation and it becomes a normal course of business and not an add-on, which it is now. And that's where we're hoping to go. Thank you very much.

DR. ALBERS: Thank you. Our last speaker in this panel is Charlie Shields.

MR. SHIELDS: Yes, I'm not Mike Connors. The B team got sent in in the afternoon, so -- I work for Mike. I'm Charlie Shields and I'm the assistant regional administrator, enforcement programs, in the Chicago OSHA office. And it's great to see a lot of you guys out there today 'cause I've known many of you for a long time, so -- and perhaps may-- that's the first thing NIOSH should consider, and I hadn't -- I wasn't here this morning, but a lot of expertise here. Use them. Use them, you know, after you decide your agenda. Get them involved. That's the first thing.

I'm going to talk of a couple of topics today and then we'll be able to split up even in that. And I tried to organize it, so I thought

okay, research need, why do we need it, maybe some examples or evidence, and what is our desired state. And the two things I wanted to talk about, first one is tower construction and tower reinforcement, and the second one -- and that's kind of a newer one, and the second one is an old -- well, not a favorite, but construction fall fatalities.

Okay, so first of all, the tower construction and tower reinforcement, and the need is safety technology for tower erection and tower reinforcement. Why? There's a couple of things going on here now. One is wind farms coming up, and the second one is adding equipment onto existing communication towers, such as high definition television. So you know, we're putting things on top of towers that were never intended to have these additional loads. And the safety and health programs are -- you know, have had some development, but not fully developed within these areas. And in fact, you know, some of these groups are asking for our help. OSHA has partnered with the -- with NATE, the National Association of Tower Erectors, and also

recently our tower coordinator got called by a guy who's -- I think there's an association for wind farm people, also. So you know, we're working on that.

And the deal on the wind farms is you've got a 5,000 to 7,000-pound load on top of a monopole and it's got a 25-foot blade, and the blade's spinning and, you know, it goes around, too, and you've got a lot of forces there. And you know, I don't think there's a lot engineered yet as far as fall protection, and the OSHA standards cover part of it but not all of it so, you know, that's not the greatest, either, formula for success, as far as us being able to push them. And secondly, there's lockout issues there. And in fact, there's been at least one lockout fatality in this country already during -- on a wind farm. So -- so that's one issue.

The second one was putting more stuff on top of existing towers -- you know, antenna platforms, you know, and the example was HDTV. You know, you're putting a lot of weight where it wasn't engineered to be put. The towers are not always being re-engineered, and they're not

considering the sequence -- the construction sequence; i.e., you put in a new brace before you take the old one out. I think there's been a collapse where they took the old one out first before putting the new one in. It couldn't support it and down it came. So you know, we have to have properly designed towers, properly reinforced towers so they don't fall down and injure employees and so, you know, what's the desired state? To integrate safety and health into the wind and communication tower design and construction, and we need to develop equipment and methods to safely re-engineer existing communication towers, so that's the first one.

And I put my watch here, I was going to watch it and I didn't at all when I started. So let's go into the second issue was fall fatalities in construction. So the need is new methods and equipment to promote construction fall protection safety. And I'm going to say some things some other people have already said. Why -- just in general, construction falls increased last year.

One minute, is that it? Okay.

We thought we were doing okay. We had a couple of years of decline, and all of a sudden we're right back up where we were several years ago. You know, we need to do more. And as a subset of that, the workplace fall fatalities among immigrant construction workers are increasing more rapidly even than for the overall population.

And I'll just reiterate briefly. You know, we'll go with immigrant, and particularly Latino in this area. We're not meeting it -- we're not -- we're not able to reach them through our conventional methods. We've tried some in this area. We've worked with church groups and with community action groups locally, and there is still a problem. You know, we need to do more there. And last year the Illinois fall fatality for Hispanics doubled, went from four to eight. So you know, we're trying and we don't seem to have, you know, mastered it yet, so there's a need.

So development of new construction methods and equipment, meaningful training materials, particularly for immigrant workers, and methods to reach these workers. Thank you.

DR. ALBERS: Thank you very much. The next four panelists are Chuck Stribling, Caesar Santoy, Janie Gittleman and Tonya Smith-Jackson.

DR. SODERHOLM: And I'll take the transportation moment, in case you haven't heard my spiel, you'll find out on the table the CDC research agenda effort called the Research Guide. There's an opportunity to comment on that. Please pick it up and comment about the amount of which occupational safety and health is in there, and all the other issues that CDC deals with.

DR. ALBERS: Is Caesar Santoy here? If not, could George Middleton also join the panel?

(Pause)

Janie Gittleman is our first panelist.

MS. GITTLEMAN: Hi, good afternoon. Thank you for giving me the opportunity to comment. My name is Janie Gittleman. I'm associate director of research from the Center to Protect Workers Rights in Silver Spring, Maryland. Today I'd like to address my comments to two areas, or two and a half areas, surveillance, training and education.

CPWR resources are used in collaboration with a wide array of agencies and organizations, including NIOSH, to conduct research on safety and health in the construction trades; NIEHS, National Institute of Environmental Health Studies, to do hazardous waste and disaster response training; DOE to do former worker medical screening; DOL for energy compensation programs claims assistance; and DoD with the Helmets to Hard Hats program to transition folks from the military into the construction trades. And at this time I'd like to make a plug or suggest the need for NIOSH to move efforts forward in NORA II towards these cross-cutting efforts to coordinate safety and health surveillance across agencies for the next decade.

Well, the goals of safety and health research are to prevent injuries and illnesses. Surveillance data are used to characterize the construction industry workforce, examine how changes affect construction safety and health, and also to use the data to lead to efforts to development and implementation of risk reduction interventions, and evaluation of the

impact of interventions to reduce injury and illness on the job. Ultimately this leads to efforts to promote strategies to diffuse information throughout the industry to employers/employees that can influence policy and economics, impacting changes in safety and health.

NIOSH historically has done a great deal of injury and ill-- has a great deal -- developed a great deal of injury and illness data which can be used to understand health and safety issues in the construction sector, including environmental and radiation remediation workers at DOE sites. Surveillance data are used to identify patterns and trends, and they're critical to monitoring safety and health in this critic-- in this sector. So for example, there are many data sources that we now use to conduct surveillance. There's the fatal assessment and control evaluation data, the national traumatic occupational fatality surveillance system data, the national electronic injuries surveillance system data in emergency rooms, the national occupational exposure survey data. There's BLS data on the

census of fatal occupational injuries, CFOI; the survey of occupational injuries and illnesses, and OSHA data; the integrated information management system, IIMS. There's also additional CDC data. You'll get the point after I go through all these surveillance systems what I'm getting at -- the national interview survey data, the national ambulatory care survey data. There's also household surveys, the current population survey, the national longitudinal survey, the panel study of income dynamics, the current employment statistic surveys, national health interview surveys. Then the Census Bureau has surveys of the economic census, construction statistics series, the survey of business owners, and the IRS, who also reports in their Statistics of Income Bulletin. Then there's also private data such as the Dodge Reports and Dun & Bradstreet reports.

Well, all of this surveillance data that are collected from a wide array of governmental agencies are used to tell us about patterns and trends in the construction sector. And on a positive note, all these surveillance data are

now released on a much more timely basis than had previously been done. One could conveniently query databases on the internet for information on CFOI, SOI*, FACE*, NICE*, and many of the surveillance data are standardized.

However, there are many limitations in the current surveillance data that impact our ability to identify high-risk occupation and activities in construction. Let me start with incomplete data. SOI excludes self-employed and government workers. Day laborers, new immigrants, and undocumented workers may be under-reported in government data collections, and efforts to understand and improve this reporting problem should be expanded.

Many of the surveillance systems lack denominators. There's no linkage between injury and illness data and workforce data. They lack information on industry and occupation in the NICE data and in ambulatory care surveys. There's missing data, lots of missing data, in FACE. There's non-standardized data in FACE. There's out-dated data in the occupational health supplement of

the national occupational exposure survey, which was last done in 1988. And there's no information on effects of safety training for the sector in national surveys. There's also no productivity measures and cost measures, and it's difficult to get access to state-specific data.

In addition, these issues with surveillance data -- in addition to these issues with surveillance data, we'd very much like to see NIOSH address the inclusion of race as an identifier in national surveys during NORA II. NIOSH has worked closely with state health departments over the past several years to develop occupational indicators for injuries and illnesses, and we would like to see sector-specific information collected to help target necessary interventions in construction. NIOSH is already supporting some of the construction sector surveillance and extramural programs, and to consider the overlap when considering new intramural surveillance programs.

I'd like to shift focus for a minute now onto the area of immigrant worker health and safety, which other people have also mentioned today.

Recent study published in *The American Journal of Industrial Medicine* shows that immigrant workers in construction, primarily Hispanic workers of Mexican origin, are much more likely to die or to become seriously injured in construction in the U.S. than non-Hispanics. We are deeply concerned about the national trends that detail what is happening to our members and to all construction workers. It's troubling that construction deaths are not decreasing as they should, and particularly worrisome that Hispanic immigrants construction -- in construction are much more -- for them it is much more deadly than for construction workers at large.

What we do know about Hispanic immigrants entering -- or what do we know about Hispanic immigrants entering our unions and our industry? Do we know what assumption expectations they have for the industry? What do they think about unions, or about unions in general? What do they expect regarding safety and health on the job? What's the best way to improve health and safety training for this population of construction workers? To date

there's little research addressing this -- these pressing questions and NORA II ought to focus on that.

There's little work that has been done to evaluate the impact of training on hundreds of thousands of construction workers, and we encourage and support development of a national survey looking at both union and non-union training to evaluate the impact on the sector.

And finally, to support efforts to educate and train the next generation of safety and health professionals, we encourage the use of resources directed toward the NIOSH ERCs to interact more with schools of engineering and architecture to promote interest in occupational safety and health. Thank you.

DR. ALBERS: Thank you. I inadvertently changed the order before. Chuck Stribling is the next panelist. Sorry about that.

MR. STRIBLING: That's okay.

DR. ALBERS: You can have an extra 30 seconds.

MR. STRIBLING: Good afternoon. My name is Chuck Stribling. I am the safety standards specialist for the Kentucky Department of Labor's occupational safety and health program.

We operate an OSHA-approved state-planned program, exercising jurisdiction over private and public sector employment. On behalf of the Department I'd like to express my appreciation to NIOSH for providing this opportunity to speak to you about and participate in the development of the second NORA.

Having been bred, born and raised in Kentucky, I cannot talk that fast, so my comments -- it's genetically impossible, so my comments will be much shorter.

The Kentucky Department of Labor believes, and statistics confirm, that within the construction sector group fall protection unfortunately remains a very significant issue. We believe this is especially so in the residential construction subsector.

For the second NORA, we request your consideration of research specifically into residential construction fall protection issues. Fall protection in residential construction affects nearly all trades, if not every single trade on a residential site. With today's construction techniques and commonplace multi-level residential structures, many

individuals may be exposed to significant fall hazards during residential construction. Comprehensive research and findings from NIOSH could benefit a tremendous amount of people, both within the industry and public sector. There are many, many, many issues that could be researched, many more than my time here today will allow for discussion. However, our experience indicates that many employers and employees are opposed or reluctant to utilize fall protection during residential construction based upon one or more of four general misconceptions.

They are, number one, fall protection is too expensive; number two, fall protection is inconvenient and time-consuming; number three, fall protection is counterproductive to production; and number four, fall protection is infeasible. These four misconceptions, either taken as a group or taken independent of each other, present a wealth of research possibilities.

Additionally there are three specific fall protection issues in residential construction that we would like to submit for your

consideration. Issue number one, research into the use of slide guard systems as a form of, quote, fall protection, unquote, during residential construction. Our experience reveals that data is woefully lacking related to slide guard systems when used for fall protection. Do slide guard systems indeed provide adequate fall protection? Why or why not? If so, in what applications? For what type of roofs? For what pitches or slopes? What are the minimum dimensions and installation techniques for a slide guard system to be effective?

Issue number two, research into alternative construction techniques that eliminate exposure to fall hazards during residential construction. Obviously building a residence in a manner that eliminates the hazard is the best solution.

And finally, issue number three, research into alternative construction techniques that reduce to the greatest extent possible exposure to fall hazards when elimination of the hazard is not feasible. Is there a different way to build the residence that may be safer?

Again, on behalf of the Kentucky Department of Labor, I thank you for your time today.

DR. ALBERS: Thank you. Our next panelist is Tonya Smith-Jackson.

MS. SMITH-JACKSON: Good afternoon. My name is Tonya Smith-Jackson. I'm the associate director of the Center for Innovation in Construction Safety and Health. I'm also associate professor in industrial and systems engineering at Virginia Polytechnic Institute and State University. Our director is Brian Kleiner*, and currently in our Center for Innovation in Construction Safety and Health, which is NIOSH-funded, we are implementing a total of seven research projects to address a variety of issues, using an integrated sociotechnical systems perspective.

But based on our existing knowledge, the existing knowledge in the domain of construction safety and health, and also from our own experiences and background, we've identified four important strategic areas that should be included in the next NORA, as it relates to construction safety and health, and these are as follows.

The first is new emphasis on mixed-methods approaches in construction safety and health research. We suggest that more emphasis be placed on the use of mixed-methods approaches that include the elicitation, collection, analysis and translation of both quantitative and qualitative data. Research that uses a more comprehensive mixed-methods approach will yield results that are more descriptive, predictive or explanatory. Construction environments are complex systems, as we know, that consist of a number of complex interdependencies. Translation, intervention, surveillance and even exploratory research are not valid unless the methods used to extract the data are appropriate for the specific environments under study.

Unfortunately past initiatives have placed higher value on traditional controlled experimentation, including field experiments that support reductionist and positivist research philosophies, and these have been used to study construction environments. These approaches have not been successful in clinical health research, as we know from several well-

known examples -- and tragedies, even -- in the clinical research literature. Yet we continue to place very high value on these approaches in construction safety and health.

To enhance external validity we would like to see more value placed on methods that are beyond the traditional, and perhaps more conducive to the study of the populations we target in construction. In addition, approaches that are multi-method and that examine the convergence of data from different research approaches should be included as a required consideration in research involving construction safety and health.

The second -- we want -- we suggest a more of a focus on valid research methods and approaches using socially-valid tools and yielding socially-valid outcomes for special populations at risk, such as ethnic and class minorities, older workers, female workers, workers with disabilities, workers with low literacy, day laborers, et cetera.

The NORA agenda has for a decade placed emphasis on special populations at risk in occupational research. Construction is an

environment that attracts populations that have been traditionally marginized (sic) by workforce formalisms and policy constraints, and by scientific research that was designed and predicated on Western centric perspectives. Some of the existing research seems to have relied on simply including representatives from these groups, without consideration of how to design studies that will support equitable benefits. Simply including these groups in research samples did not -- does not necessarily yield outcomes that are beneficial to the groups.

To ensure equitable benefits in safety and health research outcomes, the research that is conducted must use methods and data collection instruments that are meaningful to these groups. For example, the use of certain quantitative metrics to assess problems or predictors or factors among marginalized workers may not be a valid method across the board. Face-to-face interviews held in local communities that allow workers to tell their stories may in fact be a more valid method compared to a controlled administration.

For some construction problems, socially valid methods for marginalized groups may not be produced by collecting quantitative data, but may be more validly studied by eliciting purely qualitative data, such as verbal reports, and by methods that do not place value on aggregated numbers or on frequencies of occurrence, but may place more value on one person's report. Yet the existing agenda does not seem to give voice to the use of non-traditional research methods, nor has the review process and subsequent scoring of applications.

There is a need to place more value on the use of socially-centered research methods such as participatory or action research, as well. A more inclusive approach is needed in research projects involving marginalized groups, and the research domain needs to scrutinize the social validity of both the methods used, the empowerment and involvement of and the outcomes of research related to special populations at risk to ensure that the safety and health benefits resulting from research for these groups are on par with the benefits experienced

by majority group workers in construction context.

The third one, emphasis on research related to group process and constraints on group process. A number of events in the past decade have led to a predominance of construction environments that are informal work systems consisting of workers who are transient and unfamiliar with any given work site or setting. Research is needed that will address how to study group process, the implications of group process for construction safety and health, and the design and evaluation of interventions to improve group process, safety and efficiency.

Finally, we need inclusive review panels with multi-disciplinary backgrounds. As the diversity of construction environments increases, and given the demographic shifts expected to be obvious in the year 2030 where minorities and women will outnumber majority group members in the workplace, we need to ensure that our methods and research philosophies are multi-disciplinary and valid in the context of the increasing complexity of problems in construction safety and health.

In addition to methods and research philosophies, our research teams need to be consistent with the sociotechnical system principle of compatibility. The research teams that are funded should exhibit a comparable level of diversity as their target populations. We need to be ensured that review panels for such research proposals are themselves diverse, multi-disciplinary and knowledgeable of how to conduct inclusive, multi-layered, systems-centered research. Inclusiveness in the NIOSH implementation and administration of NORA will have a critical impact on our success moving from research to practice in the next decade. On behalf of the Center for Innovation in Construction Safety and Health, I'd like to thank you for the opportunity.

DR. ALBERS: Thank you. Our next panelist is George Middleton.

MR. MIDDLETON: Good afternoon. There's disadvantages and advantages of going at the end of the day. The disadvantages are that most people's already spoke on topics that I'm about to bring up. I guess the advantages is I don't have to speak as much and I can emphasize

the points that I want to make.
My name is George Middleton. I'm the senior manager for labor safety and health services for the National Association of Homebuilders. We are a trade-based association based out of Washington, D.C. with well over 220,000 members. And within that, there's well over 800 local associations throughout the United States. In 2005, of the 1.7 to 1.9 million homes being built, we -- our members will represent about 80 percent of that. So some of the issues that I bring to you today will impact a lot of workers in construction.
One of the first things that I'd like to emphasize and bring up again is -- obviously falls still are the leading cau-- is the leading cause of fatalities in construction. Is that the same for residential? Well, we commissioned a study -- it's old data now, but '93 to 1995, and that follows in suit with commercial construction. So falls is still the number one fatality and it's a big issue for us.
Within the last five years there's been a lot of fall protection products put out on the

marketplace. Unfortunately there's a lot of lack of or no engineering data to support some of the claims that some of the manufacturers are making. Their claims are correct, in essence, that their system basically will hold 5,000 pounds per however many workers that they claim that they -- that you can attach to it. One of the things we found, though, is what system do you attach it to? They will not stand by or they don't have -- actually I shouldn't say they won't stand by. They don't have the engineering data available to actually hook that structure onto the types of structures that our membership is currently building.

I personally have spoken to a few -- some of our larger member corporate safety directors, and they are very interested in the product, but they will not use it because of the fact of just plain liability issues. Did -- you know, they ask for the engineering data and it's not available. So I think there's an essential need here for NIOSH to look into some of the systems, and especially with this -- you know, the agenda looking into the future of ten

years, on systems that can be used in residential construction specifically. Another subpart of this is looking at the whole roofing structure in its entirety. I have seen on some websites photographs of systems where they're showing it being attached on roofing -- roof -- roof structures that is only partially sheathed. Now if you asked the Truss Manufacturers Association will you and can you give us data and will you put your blessings on the fact that you -- we can tie a system to an un- or partially-sheathed roof system, the answer is going to be no. So obviously there's some critical data that needs to be collected looking at partially-sheathed roof systems out there. So in other words, there's just a lot of inconsistencies out there when -- when people who want to utilize these systems, you know, are going to purchase them and then actually use them asking for the data and it's not available.

Somebody earlier, I believe Tom Kavicky, mentioned the fact about data and talked about that. We would like to see a better breakdown of data for falls in general. If you look at

the BLS data, and I've looked at that many hours, sitting there trying to go through it and decide what useful information can I use out of this. If you look at it close enough, it doesn't really give you enough detail to be able to attack the problems of risk reduction. For example, did the worker fall from a top plate? Did he fall to the outside? Did he fall to the inside? That data is not available and that's crucial. One pie chart in particularly (sic) that I looked at on the data stats showed, in residential construction, falls that resulted in fatalities -- I believe it was HVAC. If you looked at HVAC and the mason contractors, they had a higher percentage of fatalities than roofers. Now that's -- they're -- to me, that's very shocking. Is that data absolutely correct? I don't know. I mean there needs to be a source of somewhere to where somebody can further define that and look in detail. Unfortunately the only people I know that has that is the insurance companies, and they're not at liberty I believe to give that data out. And I believe NIOSH would have that capability, to be able to look further

into the causes, and systematically maybe we can come up with some interventions. And also, lastly, be able to train toward that.

I believe some-- you know, a few people have mentioned silica already. I just wanted to say that NHB's conducted a pretty in-depth literature search, and we have found very little to no data with silica exposures in residential construction. We feel that, you know, that the exposures are somewhat different than commercial construction, and we want to know where we need to protect our workers because obviously the exposures do exist out there, and at this time we don't know where to get -- gather that data.

And lastly, I just wanted to speak about training, and particularly -- it was mentioned earlier the mom and pop shops out there, you know, I've asked the question to many of them, well, what about silica exposure? And they're like well, isn't that the stuff that's in computer chips? They really don't have a grasp on what any -- you know, a lot of these hazards are, especially with silica. And that is -- you know, I'm giving you some actual answers

here of what people come back to me. They don't really know what it is. I don't know if it's a mass mailing or what have you, but there's got to be a route and a mechanism in which to put information out there so they can at least become aware of the hazard before they can follow a regulation.

And lastly, looking at Hispanic training, some of the hurdles. On-site training I believe is critical. If -- you know, if you go out onto a site and look and you try to put all of this stuff on the internet, most of these workers do not have internet access. We can talk about internet, internet, internet, but the actuality of it is is you -- on-site training to date is the most effective way to reach the immigrant worker population. Number one, they're doing piece work. They want to be working. They won't take time out to do training. I've worked with OSHA and NIOSH trying to get institute -- free training under the Harwood grant and we could not get participation in a classroom. It's the culture, they're -- and a communication barrier.

Thank you.

DR. ALBERS: Thank you. Is Caesar Santoy in the audience?

Well, we do have some time for additional presentations.

(Pause)

Oh, okay. Actually Tom Broderick is going to be the next speaker, and then if there is anybody -- any -- if anybody would like to speak after -- following Tom, that's -- that's possible.

MR. BRODERICK: So what it comes down to is I stand between Miller time and the rest of the day here. Well, one of the neat things about being at the caboose of the program is I get to listen to all of my colleagues addressing a plethora of issues.

And I guess I should start off by saying a couple of weeks ago I was briefed at an ACOSH meeting about the strategic research council and the draft of the strategic goals for NIOSH in construction. And I took notes on each and every speaker today, and I'll quickly run down through the strategic goals for NIOSH in construction, if that's all right with you, Matt.

And parenthetically, I feel that the program is well thought out and it reflects the most ubiquitous hazards in our industry.

It includes falls. Falls have been discussed today by a number of speakers. A number of speakers have focused on falls in the housing sector. But as we all know, the fall fatality is kind of an equal opportunity killer in that gravity doesn't really discriminate as to whether the person is on a structural steel member, on a roof of a house, on the roof of a building or at the edge of an excavation.

And again parenthetically, I'm going to come back to talking about the Gulf, but I think that one of the things that we all in the safety and health profession need to keep our eye on is the progression of the cleanup, the demolition and the repair in the Gulf states, because that ultimately could be one of the largest catastrophes, beyond that which has already happened, in terms of worker safety and health. For instance, one day within the last month there were three fatal falls from roofs just in Kenner, Louisiana. And that kind of a cluster is very disturbing.

But falls, on the happy side, is one of the strategic goals for the construction research council.

Electrocution, there are plenty of opportunities for research regarding electrocution at construction sites, everything from -- as our friend from the equipment manufacturers group spoke -- the new subpart, the OSHA subpart on cranes and derricks, which we should be seeing out sometime in the next, oh, four or five years, I would say. So I wouldn't panic at this point or sell all your stock in crane companies.

Struck-by -- as a matter of fact, in Chicago last week we had two people who perished when they were struck by a large piece of concrete. And caught-in and caught-between, including trenching accidents, we're still burying people in trenches. Now it's interesting to talk about research gaps and all of the various and sundry things that we kanoodle about what we could look into. And yet the people who are getting killed on our construction sites are getting killed the old traditional ways. People are still getting buried in trenches.

We had one this summer that was very tragic where we had -- and I guess they all are -- where we had a 72-year-old man who was buried in a trench and his son was buried next to him and was recovered alive. The father was not so fortunate. So I'm very encouraged that we will be looking more into effective interventions in the caught-in and the struck-by area, especially with regard to trenching. Musculoskeletal disorders, I was pleasantly surprised today to hear people from both the worker perspective and from the employer perspective verbalize what we have known for a long time, that financially these sorts of injuries are putting some employers out of business. Back injuries, shoulder injuries, a number of different types of repetitive trauma and musculoskeletal injuries really plague the construction site. When we look to other countries, especially those countries where there's cradle-to-grave insurance and where the government is responsible for workers and their families, and we take a look at how they manage musculoskeletal disorders, we find a great deal of creativity. And I think that one of the

things we're up against here in our country -- and I'm not sure that NIOSH is necessarily the forum to try to overcome it; I don't know where it exists -- but is to change the culture in the construction industry to accept that sometimes it takes two people to lift an object where common practice has been using one. That's as simple as it gets.

But things like the dimensions of materials, the weights of bags of materials, the dimensions of pieces of plywood, the dimensions of drywall, other countries have been successful in changing these and making them more worker-friendly, and have reduced the incidence of work-related musculoskeletal disease and trauma.

So, moving on, noise; we heard a lot about noise today. I actually was a driller in my former life. I worked in tunneling. I worked as a laborer. And I lost a fair amount of my ability to hear. Occasionally I wear hearing aids. The other day I was in the grocery store and I had my hearing aids in, and the lady in front of me kept looking at me and I finally said could I help you? And she said are you

going to answer your cell phone? So apparently I need to go back to my audiologist and get that corrected.

But noise is a huge problem, and it's something that we have just grown to expect as a part of the construction culture. If you're in the building trades for X number of years, you're going to have lost some of your hearing. As I look out in the audience, I have a few friends here that are in the same predicament that I am. And that's another cultural issue that I think we need to tackle.

Occupational illnesses from lead, welding fume and silica. We spoke about silica. It's something that I know that we have people in here that feel strongly on both sides of the issue, of reducing the PEL, of increasing the PEL. But it's just interesting to me that the -- next to September 11th, 2001, the largest calamity in terms of worker safety and health, happened in West Virginia many years ago when a company was working on a tunnel and the tunnel was a part of a hydro project and they were under some constraints to quickly get the tunnel built. And so they chose a path for the

tunnel that yielded two results -- well, more than that, actually. One was to get the tunnel built. The second one was to use the veins of silica that were in the route that was selected. And it was later discovered that the route that was selected was selected because of the high silica content, and it was later found out that the company was actually using the silica as a product to sell as an enterprise. But in that single project, if we -- there are a number of books that have been written about it. It's been discussed today. But *The Hawk's Nest Incident* by Cherniak I find to be a very interesting book -- over 1,000 workers died as a result of silica exposure. In some cases it was acute, where the workers died at their drills. And in some cases it was shortly thereafter.

I agree with the people who spoke today that said we need better data to protect our people. But I think, as a safety and health professional, I believe that if we assume that the tasks that have already been identified by OSHA and NIOSH are creating this dust -- dust which, by the way, is invisible; the dust that

really does the harm -- that we overprotect our people until we get to the point where we have the data that allow us to back off on the personal protective equipment.

Improving surveillance, I believe that this was brought up by a number of people. One of the things that I would like to see improved or expanded upon is the FACE program. As a training organization, we have used the FACE studies a number of times to create case studies for worker training. These are real people that were killed in real accidents. I would like to see that program expanded. I know the State of Illinois Department of Public Health has tried to become a state-based FACE program, without success. I think that's intolerable, because we have a large worker population and plenty of opportunity for study. And of course, I would like to see a focus on construction.

In conclusion, I would like to thank NIOSH for coming here to Chicago. It's the heartland. We have people that have come here from a lot of different places. My ability to be here was made possible by a couple of opportunities from

the National Institute for Occupational Safety and Health. The first one happened back in the early '80s when I was a much younger safety person. I was able to go back and get a graduate degree at the University of Minnesota with a full scholarship from NIOSH. For that I am deeply appreciative.

And then secondly, the Construction Safety Council was created in the early '90s by a cooperative agreement that was to create a model statewide safety and health program. The person that spearheaded that, the principal investigator, Ron Stanovich*, was a civil engineer who felt very strongly that each state should have, could have, an organization like the Construction Safety Council to reach out to the construction population to have local trainers work and local intervenors working with local contractors, local worker groups. And so that organization, once the funding ran out, was able to survive and is with us today. And under that aegis I am able to be here with you.

So again I thank you for being here. And as Bono said as he accepted the Person of the Year

award the other night -- I guess it was last night -- this is the fun stuff. But what we really need to do is get the job done. Thank you.

DR. ALBERS: Could Caesar Santoy come up to the panel? And I think, yeah, we'll have time for, you know, for a couple of other speakers. If there are people who are interested, come on up.

MR. SANTOY: Good afternoon. Good afternoon to everyone. As I was so introduced, my name is Caesar Santoy. I'm the executive director of HACIA, the Hispanic American Construction Industry Association. We're a not-for-profit trade organization whose mission is to promote the growth, professionalism and equitable participation of its members in the construction industry.

Our membership includes over 240 companies, including architects, engineers, contractors, suppliers and related industry firms representing thousands of employees including construction workers, both Hispanic and non-Hispanic. Our membership represents, as I mentioned before, Hispanic and non-Hispanic

owners, union and non-union companies, and firms with business interests in both the public sector and private sector projects. HACIA has recently formed an alliance with OSHA to develop outreach, training and communication to promote a safe working environment for Hispanic workers. HACIA also serves on the State of Illinois Governor's Panel for Worker Safety, as well as the board of the Construction Safety Council. How are you, Tom?

MR. BRODERICK: Good.

MR. SANTOY: In short, the safety and welfare of all construction workers is of paramount importance to us. Through our work we have found research in the area of construction industry accidents, illnesses and deaths, and their impact upon the Hispanic worker and the Hispanic community. This information is a valuable tool which not only brings awareness of the issues to the industry, but also provides a system by which to judge the effectiveness of our collective efforts. HACIA supports the accuracy and soundness of these statistics as provided by various experts and agencies. But their research efforts might

be improved by additional tracking of injuries, deaths and illnesses; another layer of investigation, if you will. For example, just to cite some of the more readily-known statistics, in 2002 Latinos accounted for 13 percent of the construction industry population, yet they accounted for 50* percent of occupational fatalities. And again, this is a statistic that is fairly well known among the construction community.

Which leads to the following questions. What was the immigration status of these workers? What was the literacy level of these workers? What was the language proficiency level of these workers, either in English or Spanish? Awareness of these questions and issues is increasing, but these items, when combined with other factors, can lend itself to new areas of research. And again, I just want to repeat that of the three questions that I posed, there has been some work that has been started. There are some studies that we have seen. And again, referencing back to the statistics which allows organizations like HACIA and other organizations to set policies, strategies,

programs and services.
And then awareness of these questions can lend itself to new areas of research. How do unreported accidents impact the overall statistics? Is there a difference -- is there a difference in incident rates between labor union members versus non-labor union members? Are incidents under-reported or not reported in cases where the employer or employee is working on small-scale projects or for small companies? These are questions -- these questions are presented to address cases which might be, quote/unquote, off the radar, or that exist independent of traditional reporting regulation and compliance requirements. How different would our statistics be if we accounted for these factors? Is this even possible?
We believe that statistics can influence policy and strategy, and provide a benchmark by which to measure progress. Because of our belief in this regard, HACIA applauds the efforts of NIOSH and NORA for their significant work, and we offer our outreach capacity and advocacy voice to NORA and NIOSH for the purpose of addressing workplace-related injuries,

fatalities and illnesses.

I'd like to thank everybody for the opportunity to speak today. I'd be more than happy to answer any questions, and have a great day.

DR. ALBERS: Thank you. Rashad* Johnson.

MR. JOHNSON: Good afternoon. My name is Rashad Johnson. I'm with the Mason Contractors Association of America. I'd first like to start off by thanking both NORA and NIOSH for the opportunity to speak. I apologize, I do not have anything written and ready, as some of my counterparts. However, I felt passionate enough to sit up here and talk to you all, so bear with me.

Again, as I stated before, I'm with the Mason Contractors Association of America, and we are a non-profit trade association representing masonry company owners, so we are the management portion. We're concerned with all of the aforementioned topics that were mentioned earlier, such as training, fall protection, hearing loss and protection, silica, musculoskeletal work disorders, and I've actually -- we've actually worked with NIOSH on a lot of these different areas.

The two areas that stick out the most and are of most importance to our organization at this point in time would be silica and musculoskeletal work disorders. As it pertains to silica, as already and previously noted, there's been quite a bit of research done that represents and talks about the actual exposure limits and what they should be. What I'd like to see is practical research done. What I mean by practical research is giving someone a limit to reach, but actually telling them how to get there. And we've -- some of the other people have talked about the control banding ideas, some of the ideas of a best practices, something that says what works in order to make these exposure limits feasible.

For example, when I say feasible and practical, those are the big words there. It's one thing to say hey, you should wet cut. It's another thing to understand that you can't wet cut today in Chicago on a scaffold. It's not going to happen. You need to be able to give some practical -- practical research when it comes to some of these things.

Some of the controls, there's tons of research

that says that these particular action items are higher than the permissible exposure limit, but very little on the controls. We'd like to know, from a management point of view, what works. Which of these controls are going to give us the maximum amount of protection for our workers such that when we are out doing things and trying to protect out workers we know to stay away from certain things or -- or certain controls are much better than others as it pertains to safety.

A lot of the research that I've seen, and I've been working with some of the NIOSH people on the silica issue, and there are a lot of research done on -- on five or six major topics. But as I found out the hard way, and I'm sure all you all might know, too, the world is beyond masonry and concrete. There's a whole lot of silica in construction that's not necessarily related to masonry and concrete materials. And what we're finding is that a lot of those areas don't have research and don't have the same exposure, so to speak, as the high -- the high profile ones, the concrete and masonry. So I'd like to see some research

done on some of those other -- some of those other things than mason-- in construction in general. What I mean by that are different alternate materials that might have silica content, some -- some of the actual things that they do on construction sites, such as mixing mortars that might have something to do with silica and respirable silica that really don't have very much research done.

And then, again, we talked about the control banding idea, the idea of actually putting something in writing, giving guidance to the person reading it, letting them know that if I do this, I do this, I do this, then I will be below the exposure limits. And make it real plain, real easy to read. I don't have to do any monitoring. I don't have to do any testing. We know from monitoring and testing that these are the controls, whether it's respiratory protection or engineered controls, et cetera. These are the controls that if you do with these particular tasks will make sure that we're providing the level of safety that you need for your workers. That idea is not -- nothing -- is not anything foreign, and it

should be something that should be investigated a lot more by NORA and NIOSH.

The second big topic that I'd like to discuss from the mason industry is musculoskeletal work disorders. When everyone talks about musculoskeletal work disorders or ergonomics -- that's the fancy word for ergonomics is what I call it -- and construction, realistically they're talking about masonry industry. Why do I say that? We are the industry that has the heavy materials that are manually lifted. We are the industry that has a lot of the back problems, the musculoskeletal orders (sic), et cetera. So when I hear about things such as all of these musculoskeletal disorders as it pertains to construction, we take it very personally because they're talking about the masonry industry. I would imagine that the majority of these injuries happen in our industry, and we're looking for ways to help our workers, as earlier stated, because we don't want to have to incur the cost of people hurt. And everyone knows those are not inexpensive things. But -- but again, I'd like to see some practical research.

And what I mean by practical research is the effects of smaller cement bags. If it's not a 90-pound bag, what is 45-pound bag going to do? From a productivity point of view, it might not change. But if it'll help us in terms of keeping our workers safe, then I'd like to see some research on that, focused on ways to work smarter. I don't know that there's going to be very many mechanical solutions to musculoskeletal disorders. And if there are, chances are a lot of people in the construction industry will fight it. I've seen some of the things in Europe that talk about machines laying brick and machines laying block. That's not a practical solution as far as I'm concerned, so I'd like to see money spent on practical solutions to help us protect our workers.

Thank you for all of your time. Thank you all for listening, and again, appreciate the opportunity to speak.

DR. ALBERS: Thank you. And we have one more panelists. Could you introduce yourself?

MR. O'CONNOR: I wouldn't consider myself a panelist. I'm Jim O'Connor with the mason

contractors here locally. I have no formal training and no letters after my name, but on a labor -- I used to be a laborer, and for a laborer's standpoint, I'll kind of address this on some common sense issues I sat and listened to. And I hear a lot of folks that know a lot more about this than me talking about training, training, training. And one of the training might be to teach people how to speak English. I know a lot of labor's -- labor's union has already gone and done that. That might be a quick way to address some of the problems is let's have an English class for some folks. Then we won't have to go through the problem of translation and all those other things. And that's -- again, it's a -- laymen's terms looking at what you guys have talked about and ladies have spoke of.

Another issue that's drawing my heart is personal responsibility. And some of the responsibility, I believe, needs to go to the actual worker who has been able and paid to go to training, gone and taken the training, and then refused to wear the glasses or refused to wear the safety helmet. And if it is proven

that this person has gone through X amount of classes and goes ahead and does not follow the rules, that maybe that person could receive a 20th of the fine that the contractor does. And if we're truly trying to affect a safe workplace, why not make the person who's causing the problem address it in his head that hey, this is going to cost me? And I don't see anything wrong with it. Again, I'm a layman and I'm asking. I'm not telling you what to do, but I certainly think that if it was a $25 fine and the laborer or the brick layer or the steel worker said, you know, last time I got hit for this; I'm not going to do it again, that essentially affects a safer workplace. And it doesn't have to be a terribly huge monetary cost to the worker 'cause obviously he's not making as much as the contractor. But if it does what we're trying to get done, why don't we do it?

For silica, I know it's a problem, I know it's been proven to be a problem. And Tom has talked about it in a confined space where people are drilling and there's no air. Most of our contracts, and there are a lot that

they're in, but a lot of them are out on walls where there is wind blowing and there's less likelihood of getting -- getting the PEL as high as you would in a tunnel. What I would like to see, and I'm sure the unions have the information, I would like to see a polling of all the unions to see -- if someone breaks a leg, I assume when they write the check to the insurance company or they write the check to the hospital, it'll say why that check is being written, broken limb, broken back, back injury, silica -- how many people have truly been affected by silica or are we really on a witch hunt? And I don't know, and I'd like to know and I think our people would like to know. And again, I'm a layman and I see a lot of people shaking their heads, so you can beat me up outside.

But another thing that I was interested in was substance abuse is something that nobody talked about and sometimes we have difficulty getting that in our contracts. And I would like to know any of these accidents -- how many of them have been involved with substance abuse, 'cause there's post-accident testing on a whole lot of

folks, and I don't think that data -- I don't know if it can be released, but I don't think that data's ever been released. So if we've got 25 falls, was one of them, was two of them, were three of them where someone had traces of substances that he shouldn't have had on the job? And are we blaming the wrong person all the time? And that -- I don't know. Again, I apologize, 'cause you guys are all professionals and I'm -- but this just seems like common sense stuff to me, so...

DR. ALBERS: Thank you. This is the last call for people who would like to add some comments. Going once, going twice...

SUMMARY: MATT GILLEN

MR. GILLEN: All right. I'd just like to wrap up by thanking all of our speakers today. I think we really had some terrific input and heard a lot of interesting ideas that we'll bring back. And just some of the general themes that I heard, I heard quite a few folks mention about training, how important that is to construction and how we need to learn more about the efficacy of training so that we're doing it the best way possible.

I also heard a lot about surveillance and availability of data, how this is really important for us to have more detailed statistics to really know what's going on so we can generate the interventions and things we need to know to do our work.

There was a lot of support for research to practice as something that's needed, for organizing information for contractors to use in best practice forms. Well. General issues related to immigrant workers, addressing technical gaps, human factors types issues were mentioned by folks. Some of the specific hazards that stand out were noise, silica, falls, MSDs, work zone issues, there were several others. So I think we really took -- got some terrific input today and I'd really like to thank everybody for coming. I think it was quite -- quite a successful session, so thanks.

ADJOURN
SID SODERHOLM, NIOSH

DR. SODERHOLM: I'd like to add my thanks to that. Maybe if you'll indulge me again -- we're between here and Miller time so I'll try to be short, but there was reference to the

NIOSH construction research agenda, and that it is in an advanced formative stage. Logically we would have a NORA sector -- construction sector research council agenda, which would be the agenda for the nation, and then NIOSH -- the part of NIOSH that deals with construction would take those parts that they felt they could do best or they could do well and make a real contribution, and that would become the basis for their strategic plan. And each ERC and each other organization that was able to do research would take parts of this research and would get the research done. There are -- within NIOSH we have a fairly well-established sector program already in a couple of areas. One is mining and one is construction. Even though they're quite different, they're still both quite advanced. And so there's been some pressure within NIOSH to get our strategic plans in good shape. And so the NIOSH construction research area has gone ahead and has a strategic plan that you'll -- you can see -- if it isn't on the internet, it will be soon -- and that you can comment on.

Then this, because it's kind of out of order,

this will become one of the inputs to the NORA sector research council on construction, one of the sets of documentation that they can consider as they set a research agenda for the nation. So it is confusing. Not everything happens in a nice, logical sequence. But NIOSH doesn't already have a research agenda in each sector. We do have one within NIOSH for mining and one is quite well -- quite far along in construction. But in the other sectors we certainly don't.

And we are not, you know, putting the cart before the horse. The NORA sector research councils will take all the information available to them and generate a research agenda for the nation within their sector. So I know there's been some question about that, and we can certainly -- you know, contact me with more questions and discussion, if you'd like.

I appreciate everyone's being here. I appreciate what our cosponsors have done to make the facility and this opportunity available and to call many people up and get the word out that this opportunity exists.

I'd like to thank Ray Green for working on our transcript. I was -- at our first meeting I said we would have this on the -- have your comments on the web within two to three weeks. That's probably a bit ambitious, especially with the end of December, informal national holiday coming up here. I'm sure it'll be longer than that. But before long we'll have the -- we will have the -- your comments on the website for viewing by others, and they'll be in the docket.

And I'd especially like to thank Max Lum in NIOSH and his crew of people who have worked very, very hard to make sure that these meetings can come off.

And Lorraine, let's give you the final word.

DR. CONROY: Thank you. I just, again, as the local host wanted to thank everyone that came, thank all the NIOSH folks for coming and listening to what we had to say, and especially the people that traveled here -- some from fairly long distances -- to present their testimony. I think it was a useful and productive day. I heard a lot of things that I think actually -- given the diversity of the

group, there were a number of common themes from most of the speakers about where the research needs are, and I think that might make the job of setting priorities somewhat easier than I expected.

So again, thank you all for coming to Chicago, and I hope you have a safe trip back. Thanks.

(Whereupon, the meeting was adjourned at 4:05 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF FULTON

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of December 19, 2005; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 14th day of January, 2006.

_____

STEVEN RAY GREEN, CCR

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