

**The California Commission
on Health and Safety
and Workers' Compensation**



**Research Agenda for Improving Workplace
Health and Safety in California**

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February 2008

Improving Workplace Health and Safety in California
A Discussion of Key Areas for Further Research

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Improving Workplace Health and Safety in California: A Discussion of Key Areas for Further Research

Background

At the request of the Commission on Health and Safety and Workers' Compensation (CHSWC), its staff held a Health and Safety Research Advisory Committee meeting on November 19, 2007, in Oakland, to identify key health and safety areas where further research and study could help improve workplace health and safety in California.

The overall goal of the CHSWC Health and Safety Research Advisory Committee is to conduct research that results in both knowledge and policies that will lead to an elimination of workplace fatalities and a reduction in injuries and illnesses and make California workplaces and workers the safest, healthiest and most productive in the country.

The Advisory Committee includes stakeholders in the health, safety and workers' compensation communities representing insured and self-insured employers, labor, health and safety researchers and state agencies. (See *Attachment A* for the meeting agenda and *Attachment B* for a listing of the attendees.)

Discussion centered on identifying the current issues and challenges with respect to health and safety research:

- Identify research that would improve the occupational health and safety of workers in California.
- Identify health and safety programs that lead to the elimination of fatalities and reduction of injuries and illnesses.
- Identify ways to improve targeting of inspections, improve standards setting, improve reporting and monitoring, and determine the appropriate amount and method of collection of assessed penalties.
- Develop key indicators and measurements of system performance.
- Determine what injury and illness prevention should look like in the year 2015.
- Identify ways that the workers' compensation system can encourage occupational health and safety.
- Examine the integration of health and safety programs by combining occupational injury and illness reduction efforts with health-promotion "wellness" programs.

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Recommendations for Revised Objectives for a Workplace Health and Safety Research Agenda:

Overall Goal

Conduct research that results in both knowledge and policies that eliminate workplace fatalities and reduce injuries and illnesses, and make California workplaces and workers the safest, healthiest and most productive in the country.

Objectives

Learn what works

- Rigorously identify the consequences of different:
 - Current and emerging hazards and technologies;
 - Workplace safety and health activities
 - programs
 - training
 - incentives
 - safety culture
 - including multi-employer, union, etc. programs
 - Regulators' policies and practices
 - Standards and regulations
 - broadly defined to include
 - workers' compensation experience rating,
 - Enforcement
 - inspections
 - targeting
 - adjudication
 - appeals, etc.
 - Nonenforcement activities
 - consultation
 - voluntary partnerships,
 - public campaigns
 - education and training
 - new media: Internet, text messaging, 800 #s, etc.
 - Interactions among related safety and health programs such as:
 - Workers' compensation
 - Regulations
 - Insurers and their loss prevention rules and activities.
 - Health care

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- Employer wellness programs
- Disability insurance
- Healthcare (formally) unrelated to the workplace
- Employer-provided health insurance
- Retirement and Social Security
- In terms of
 - Fatalities, illnesses, and injuries
 - Employment and earnings;
 - Employer costs (including regulatory burden) and productivity; and
 - Cost to regulators,
- For different types of
 - Employers
 - size,
 - industry,
 - technologies and hazards,
 - Employees
 - occupation
 - experience
 - language and citizenship status
 - age, race, gender,

Create valid measures

- Design and validate measures of the constructs listed above, including:
 - Outcomes such as injury rate
 - adjusted for underlying risk and cost factors;
 - Effective safety practices and programs
 - e.g., “effective safety culture”
- Identify the subset of measures that are leading indicators of future safety and health problems that would be useful for various stakeholders (employers, unions, regulators, workers’ compensation insurers, etc.).

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Build learning into the safety and health system

- Collect and analyze appropriate data as part of regular operations
 - Integrate datasets from OSHA, BLS/DIR, workers' compensation, D&B, ERs, Doctor First Reports, etc.
 - Perhaps create a data depository with all data merged.
 - Then researchers can apply to a single source for limited access to what is relevant for their project.
 - Emphasize strong study designs.
 - Build learning into new interventions.
 - Teach S&H professionals how to build in rigorous evaluations and/or build partnerships
- Provide results to stakeholders and integrate responses into management systems.

Use that knowledge

- Promote adoption of evidence-based health and safety
 - Programs and workplace practices.
 - Workers' compensation insurance practices
 - Regulatory practices
 - Standards
 - Enforcement
 - Adjudication
- Design the healthful and safe workplace (and regulatory programs that will lead to them) of the next generation.

These are preliminary recommendations that emerged at the end of the meeting and may be updated as necessary.

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Attachment A

ADVISORY MEETING SUMMARY

Welcome and Introductions

Christine Baker, Executive Officer, CHSWC

Christine Baker, Executive Officer, CHSWC, welcomed the attendees. She announced that Sean McNally, Vice President of Human Resources and Legal Counsel, Grimmway Farms and CHSWC commissioner, and Len Welsh, Chief of DOSH, were on the agenda for this meeting but were unable to attend.

Ms. Baker noted that the two new CHSWC Commissioners appointed by the Governor, Catherine Aguilar and Sean McNally, have expressed an interest in health and safety and prevention. Representatives from labor were described as being very interested in this subject, as well as representatives from small business.

Participants introduced themselves to the group.

The agenda for the day included a discussion of perspectives and presentations on some current ideas for health and safety research. Participants, in turn, then offered one or more additional research ideas or needs, or, reinforcement of research ideas previously discussed.

Ms. Baker explained that CHSWC's goals were to develop a strategic plan, review objectives and put together a workplace health and safety research agenda for the Commission and perhaps other initiatives for the State of California.

Goals and Objectives

Christine Baker, Executive Office, CHSWC
Bob Reville, Director, Institute for Civil Justice, RAND

The initial version of the goal and objectives were presented by Christine Baker. She described the proposed goal and objectives as a starting point to discuss what might be discussed. (See *Attachment C*)

Mr. Reville commented that the overall goal to eliminate workplace fatalities was ambitious and explained that the inspiration for it derived from Paul O'Neill, CEO of Alcoa. Paul O'Neill came in as CEO when it was a troubled company, in particular with a degree of strife between labor and management. O'Neill announced that his first goal was to eliminate ALL workplace fatalities at Alcoa. During his tenure, he was apparently successful in driving the number of fatalities to zero. In the process, O'Neill

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forged cooperation between labor and management. (As an aside, Mr. Reville added that O'Neill also tried to gather workplace health information while he was serving at the U.S. Treasury under President Bush; however, despite the concern for Treasury law enforcement fatalities and other safety and health measures, he was unsuccessful.)

Mr. Reville stated that there are 450 workplace fatalities each year in California, so it is an extremely ambitious goal to eliminate fatalities. However, Mr. Reville stated that they thought that they should set their sights high for a research agenda. He further stated that they did not think they could eliminate injuries but a significant reduction.

A comment from the group suggested that illnesses be included along with the goal of reducing injuries, and that oversight was corrected.

Dr. Levine suggested an additional objective which is to build "learning" into the occupational safety and health system. This would involve building in feedback about what is working and what is not, both for employers and employees. He continued that the *operational* safety and health system and *research* safety and health system should be more connected. For example, at a modern manufacturing plant, data is collected as items are produced; this feedback results in making a better chip or a better car. Root-cause analysis is one example of the ways to improve health and safety; that is partly what Alcoa did. The reason O'Neill could say that improving safety was a business objective was that accidents mean that you do not understand what is going on. He changed the system to build in more learning. This can be done by employers, and by regulators, and in the safety and health system more generally. If there is not a plan for a business to do better in ten years, it is missing a large opportunity.

Ms. Boatman stated that she was interested in thinking beyond the employer and taking the occupational safety and health message to the public.

The group discussed the objectives, then revised them. *Attachment D* shows the "Revised Objectives for a Workplace Health and Safety Research Agenda."

Labor and Management Perspectives

Labor Perspective

Tom Rankin, Past President, California Labor Federation, AFL-CIO; Executive
Director, Worksafe

Mr. Rankin stated that Labor has been interested health and safety issues and preventing injuries and illnesses. He stated that it was an area where labor and management could work together; however, he stated that over the years of working on workers' compensation, there always seems to be a third party around with its own interests. He expressed the hope that in this area, they could foster more cooperation.

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He stated that it was a great opportunity. Workers' compensation has been a political issue mostly because of the costs. Obviously, the simplest way to reduce the costs is to prevent the injuries from happening in the first place. He stated that the timing was good to focus on prevention of injuries and illnesses because the new Insurance Commissioner wants to look at experience rating, the part of the workers' compensation system that gives employers an economic incentive to prevent injuries. He commented that he did not think the rating system worked very well, but since it was an issue in workers' compensation, something might be accomplished on the health and safety side.

Large Employer Perspective

Judith Freyman, Vice President, Western Occupational Safety and Health
Operations, ORC Worldwide

Ms. Freyman stated that she comes from a large employer perspective. She stated that her clients were grappling with issues on a global scale; she thought California's place in the global community should be reflected in what the committee does. Everyone is moving very quickly into a larger arena. There continue to be concerns about regulatory constraints, primarily from the resources perspective. She stated that the regulatory people have been, at some times, left behind due to lack of resources. She stated that they prefer a leading indicators approach rather than an enforcement and bad actor approach, or maybe a partnership with some of the good actors and some of the world-class organizations. She stated that she was pleased to see a focus on leading indicators and safety cultures. Large employers have struggled to identify safety leadership and development opportunities. She stated that she appreciated the reference to Paul O'Neill because she understands that not only did he work magic at Alcoa, but that he also was on the Board at GM. The GM folks report to her that he put a spotlight on health and safety at the highest level in the organization.

She stated that there are new and evolving issues that they are struggling with, such as "organization of work." They are working with NIOSH on that issue, surveying companies to see if anyone is doing it. She stated that there is interest in doing more statistical work in finding out why businesses seem so successful in reducing the illness and injury rates and other traditional measures which, unfortunately, are still used to determine performance. She stated that the reduction in those numbers is something that can cause a problem and seems to be causing a problem. When regulators and employers point to an injury or illness rate close to zero, they conclude that they do not have to do anything more, or pass any new laws or regulations. She said, "They say that they are doing a wonderful job, 'Now leave us alone.'" She stated that this was untrue and therefore, there is a need to understand where they were underperforming. One particular area of concern is transportation and the high number of fatalities on the roadway, whether they are work-related or not.

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Small Business Perspective

Scott Hague, President, Cal Insurance & Associates

Mr. Hauge, representing small business, stated that in a survey last year, workers' compensation was the fourth major issue for small businesses in California. The problem is that what works for large companies is not going to work for small companies because they do not have human resource departments and they do not have the infrastructure to do it. Most businesses are not going to have an experience rating, so from an incentive standpoint, that is not going to have much impact. He stated that what is important is a better understanding of the cost of a workers' compensation claim beyond the dollars that go to the claim, i.e., the lost time, the morale, and other issues that have an impact on small business. There is concern about regulations; the SBA Advocacy did a study of larger companies and smaller companies and the cost of regulation. It costs about \$7,700 for small companies and about \$4,400 for larger companies, again because of the lack of infrastructure and HR departments. The State of California is currently doing a study on the cost of regulation, based on a recent bill. Small business is hesitant about more regulations unless they are easy to comply with and have a returned benefit.

Ideas and Suggestions for Health and Safety Research

John Mendeloff, Director, RAND Center for Health and Safety in the Workplace

Dr. Mendeloff shared some handouts from a previous CHSWC presentation on research ideas and findings. It seemed to him that the first priority would be to ask, "What is it that DOSH wants to know that it does not know, which, if it knew it could do a better job." He added that this should be done not just retrospectively, but what they might try to learn in the future by, for example, trying one thing out in some areas of the state and something different in other areas of the state. He stated that a great deal of systematic learning can be done from the resources at hand, similar to the feedback learning mentioned by Dr. Levine. In fact, this may be the only way to learn, given the difficulties of figuring out after the fact what the effects were.

Mr. Reville asked whether this assumes that DOSH knows what they want to know. Dr. Mendeloff said that hopefully, as a professional agency, they would be trying to figure that out.

Dr. Mendeloff continued to describe some things that they have learned from previous studies. Productivity data at the plant level for manufacturing reveal that companies with lower injury rates have higher productivity. However, it does not follow that if they do something to improve their productivity that their injury rates will go down. This is simply consistent with the general view that good safety is part of good management and that the two go together.

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Another important finding is that, very likely, small establishments are the riskiest. BLS data on injuries do not reveal this; however, as one looks at more severe injuries, the smallest establishments get worse and worse. For fatalities, rates per worker are about five times the rate of large establishments. Looking at firm size versus establishment size, there was something protective about being a single establishment firm, maybe because the owner is on site. The worst performance was at somewhat bigger firms at small establishments; this might be something to look at further in terms of enforcement strategy, as a way to get at small establishments that are part of bigger firms, to address it at the firm level rather than the establishment level.

Other information from the handouts is less positive. A study from 1979-1985 found that inspections with penalties reduced injuries in manufacturing by almost 20%, but the effects decline in the subsequent years to 1998. Worse, without penalties, the effects were perverse – maybe because a “clean bill of health” made people relax efforts; the explanation is not clear. With complaint inspections, the results are not perverse, but do have declining impacts over the time period of the data. Days away from work injuries had more of an impact; however, with smaller firms, there were some impacts. Significant impacts were due to overexertion which has nothing to do with any specific standards. One of the impacts of a penalty inspection is to shake up the management a bit and to pay attention to safety overall. Looking at violations cited, there is a very big reduction between the first inspection and the second inspection. Further, the relationship between compliance and injury prevention is positive, though not all that strong. He stated that they looked at the effect of citing particular standards on injury rates in subsequent years, in particular machine guarding and personal protective equipment standards. Results found machine guarding had no statistically significant effect, but the personal protective equipment violations had a noticeable effect, reducing injuries, including toxic exposures and eye injuries, as well as exertion injuries, by 15%. One of the lessons from the studies is that “things change,” as the declining effects of inspections demonstrate for the period of 1992-98.

Dr. Mendeloff stated that this is a little background on the history of some research that has been done. He said that everyone knows that injury rates did go down after 1994; however, there is no agreement on why they went down and how much of the reduction was due to reporting, how much of it was real, etc. There has been little progress in explaining what happened.

He stated that his previous presentation to CHSWC presented several ideas about possible research topics. He emphasized the importance of asking whether it is feasible to do a study in a way that gets results that people will believe, in terms of both the data and research design. Secondly, he stressed the importance of understanding or questioning how the results or findings might affect decisions. He stated that if they cannot answer that question, then that should be a reason for not doing that particular study in terms of the value of the information. He stated that it is not a fatal defect because it still builds knowledge over time in order to do better in the future.

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Dr. Mendeloff suggested several ideas. One issue to explore is the explanation for the variation in injury rates within an industry. OSHA and the public cannot do this alone. Injuries happen in the private sector, and the private sector has to be involved in learning. They do to some degree; however, it does not necessarily get shared in an optimal way. Given that there are many industry associations, one strategy might be for them to request a study on this issue of the variation in injury rates. A model study could launch this strategy.

Another study is more controversial yet interesting and useful, that is, to ask the question whether some compliance officers are more effective than others. Intuitively, the answer is probably yes; for example, a previous study found that health inspections had a greater impact on injuries than safety inspections. The qualifications of the inspector and the length of time spent on-site probably explain this. This study would not have to be used as a performance measure to assess people; rather it could be blinded and use inspection data and subsequent injuries and the outcomes over the years.

One direction could be to look at California and the ways that it is unique. One of the unique ways is in terms of data; the State does an unusually large number of accident investigations. Out of around 8,000 inspections, 2500 are accident investigations; that is more than Federal OSHA does in the entire country. This is due to the fact that California has a reporting requirement that includes hospitalizations, whereas the Federal government refers to “catastrophes.” There are a lot of data that can be analyzed; however, there is the question of reporting and data validity. For example, one could combine the California Fatal Occupational Injury (CFOI) census data for California with the Cal/OSHA inspection data to identify the deaths that are not being reported or investigated. Further, hospitalizations and workers’ compensation billing data can identify those who are not paying their share.

California also has some unique programs. It has the Injury and Illness Prevention Program (IPPP) standard, and it has the most violations among all other violations. Thousands of employers get cited for not having a health and safety program. 98% are non-serious or other-than-serious, but it might be useful to look at people who did receive violations in terms of injury rates or compliance. A study sponsored by the State of Pennsylvania is looking at comprehensive safety standards.

The High Hazard program and the Economic and Employment Enforcement Coalition (EEEC) program also could be looked at, although he admitted that he was unfamiliar with the data surrounding those programs. He stated that, again, decisions should not be made just because it is an important problem unless that information can be used in a meaningful way.

Frank Neuhauser commented on one characteristic that varies across states: the fact that Federal OSHA rules do not apply to the State and municipalities and that injury rates for public agencies remain stubbornly high, while the private industry rates have dropped. It

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seems like the “low hanging” fruit in the safety area might be gotten from the 14% of employees who work for state and local government.

Steve Smith of DOSH commented that California and the 25 states that have state programs are obligated to cover public sector workers with that program; that is how Federal OSHA extends its regulations onto the public sector in those states. Mr. Neuhauser asked if penalties are levied against state and local employers, and Mr. Smith answered that penalties have been levied for about five years when a bill was passed to treat the public sector in the same fashion as the private sector. Mr. Neuhauser asked if that changed safety behavior or violations, and Mr. Smith replied that it increased appeal rates. He stated that they had not looked at the public sector rates to observe any changes. Mr. Mendeloff stated that from 1996 to 2004, the rates went up in the public sector while the private sector went down. He stated that they are looking at states that have state and local coverage to see if they have lower rates compared to others. However, one difficulty is that those states that do not have state and local coverage also do not collect injury data on state and local government.

CHSWC Commissioner Aguilar commented that lost work day rates might be higher for state and local government (in particular safety officers under Labor Code Section 4850 and schools under the Ed Code) due to the fact that employees get full pay for their time off, so it is almost natural to expect them to have more lost days.

Ideas and Suggestions for Health and Safety Research

David Levine, Professor, UC Berkeley

David Levine stated that he agreed with John Mendeloff about the importance of strong research designs. A strong research design is critical. There are ways to do strong research design where data are available. He said that you cannot always just look at rates of change. For example, in the 1980s, OSHA had inspections and large fines for large employers with poor rates of reporting, and as a result, injury reporting rates tripled. This did not mean that injuries rates tripled, only that reporting rates tripled.

John Mendeloff’s research deals with safety and health; however the research does not look at other factors, such as employment or earnings, which matter just as much. There are other trade-offs that need to be examined. OSHA does different types of inspections, randomized and programmed. Dr. Levine’s proposal is to take the workers’ compensation injury rate loss data. It will be possible to compare randomized inspection data with data on non-randomized inspection places of the same size and the same firms. That data will be matched with Dun & Bradstreet data on employment and earnings and the survival of the workplace. Also workers’ compensation data on payroll will be used.

Data will be available for employment and earnings and by several industries. Dr. Levine emphasized that he is not creating new data but analyzing data that people

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associated with the Commission have worked on since the beginning of the Commission, and looking at the data in familiar ways. OSHA does randomized inspections every year, so the data can be looked at on an ongoing basis. He will be able to look at important questions such as: How do the effects differ? How does this matter for different industry sectors, for large and small employers, for different types of violations, and for different workplace cultures?

He stated that there are other studies that can be done with the existing data. OSHA divides workplaces into those that it is suspicious of and those it is more comfortable with based on an arbitrary dividing line in past injury rates and workers' compensation costs. Employers that are just beyond the dividing line receive a letter which encourages a consultation with OSHA or the insurer. Employers just below the dividing line are simply ignored. Right at the boundary line itself, the workplaces are identical; therefore, looking at these workplaces is almost as good as randomization. Since California is a big state, there should be enough employers on the dividing line in order to see the effect of receiving such a letter. A letter is not the most significant enforcement activity done by OSHA, but it would be useful to know if it is a waste of time. If the letter helps improve health and safety, it would also be useful to know that. If there are enormous increases in costs to employers without improving health and safety, maybe fewer letters should be sent out. Also, if there are improvements to health and safety and no burden on employers, then maybe more letters should be sent out. This method does not require any additional data collection since the data are already available. CHSWC and OSHA can be taught how to do this type of research without outside researcher help.

Bob Reville noted that David Levine's suggestions could lead to an objective in the area of evaluation of the infrastructure for health and safety research. One productive and low-cost way to do that would be to implement the low-cost approach of natural experiments that David Levine suggested. They would help with the evaluation of health and safety data research. This would be an opportunity to learn from natural experiments rather than building randomized control trials which would be expensive.

Roundtable Discussion on Top Priorities for Health and Safety Research

Robert Reville, RAND

Bob Reville requested that each person state the top priorities for research on safety and health.

Barbara Materna asked if the research suggested would be funded by CHSWC, whether it is focused on the effectiveness of Cal/OSHA or more broadly, and what the relationship is between research done or funded by the National Institute of Occupational Safety and Health (NIOSH) at the federal level under the "National Occupational Research Agenda" (NORA) and what this research agenda would be. She described the NORA focus on eight industry sectors and research councils that are developing their own research goals.

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Christine Baker stated that this is a CHSWC initiative and that CHSWC would use its funds directly for the research it funds. She stated, however, that they do not want to be limited by the CHSWC budget and are looking for partnerships. If there are opportunities where other people are doing research that can dovetail and that have policy implications, they would be interested in partnership. All of this relates to the need to have a strategy and research plan.

Bob Reville stated that the research suggested by this Advisory Committee would have more of a policy application than NIOSH research studies which focus on basic research, such as the effectiveness of personal protective equipment.

Steve Smith stated that from Cal/OSHA's perspective, one issue is prioritizing and determining the effectiveness of the standard-setting process. Often, it is difficult to get the key parties to participate in standard setting. The goal of protecting workers can be improved by: better involvement; streamlined process; and feedback after the standard is set and implemented. There is a need to determine the best indicators of how effective the standards are.

Frank Neuhauser asked if states share their standards with other states. Does one state lead in the development of a standard, and other states typically follow? Steve Smith replied that most states follow the standards set by the federal government; California and only a few other states set their own standards. There is dialogue between State Plan states and between states and federal OSHA, because the standards must be at least as effective and protective as the federal standard.

Bob Nakamura, stated that based on his experience in targeting programs, it is difficult to identify all employers in a given sector. Therefore, it would be a key goal to target more effectively. They do get WCIRB data and data from other sources, but some of that data can be outdated; for example, they find that half of the employers have moved out of state or gone out of business. Frank Neuhauser asked if OSHA has access to WCIS data which would be more current, about 18 months sooner than WCIRB data. Mr. Nakamura responded that there has been some reluctance to share WCIS data in the past, and that he cannot address the current sharing of WCIS data.

Scott Hauge emphasized that the standards for a large company often do not necessarily always apply to a small company. A key goal would be to determine what reasonable standards are for small businesses by industry.

The Small Business Regulatory Enforcement and Fairness Act (SBREFA) requires that any new EPA and OSHA regulation go to a Small Business Association (SBA) panel for a review of what OSHA is proposing, even before the regulation is formally proposed. OSHA is required to respond to the panel. California does not have a counterpart panel, but has tried in the past to create one. California does have a program called the Governor's Advocate; however, it is different from a panel.

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Tom Rankin stated that labor's position is that whether you are a worker at a small or a large employer, you as a worker are entitled to the same health and safety protections. He stated that it would be difficult to change that position. He stated that a California SBREFA could work to slow down the ability to adopt any new regulations in California, which he described as already a difficult process. It is difficult to get any meaningful regulation adopted unless there is agreement by labor and management. He also stated that it is difficult even to apply the same standards set by the EPA for the general public to apply to the workplace. He asked why the public in general should be given a better safety and health standard than people at their workplace. As it stands now, Cal/OSHA won't adopt some of these standards.

Judith Freyman stated that she would not recommend looking to the federal government for any models to pass or to develop regulations. She stated that Cal/OSHA should be acknowledged for engaging stakeholders early in the process, something which she stated the federal government does not do and does even less so of late. She stated that there are small business employer organizations that have a very powerful voice in the development of regulations in California. She stated that for the small business community, there is more effective input, earlier in the process, at the state level in California than at the federal level.

Steve Smith stated that this may be true; however, that it can always be done better. It is difficult to get small business representatives in the advisory process before regulations are formally proposed. The process is not mandated, but they seek business representative advice, before they even go out to formally propose a regulation. They try to seek consensus when they can. There are small business representatives from the Chamber and various associations involved; however, it is important to get better participation by small businesses, as well as by those on the labor side. He stated that it is difficult to find people to speak from the labor perspective.

Bob Reville stated that research shows that small establishments and small firms where the owner is likely to be present are safer than small establishments of the same size that are part of larger firms. A key area of research looks at how business exemptions are made. A very important area is what the right way is to meet public policy goals and to help small businesses.

Scott Hauge added that many small business associations and the Chambers are often themselves not in agreement.

David Levine stated that Len Welsh mentioned during a recent Commission meeting that the field process and adjudication are broken. Therefore, research on how to create a process where people who did something wrong find out about it and fix it and where those who did nothing wrong are not harassed seems to be a basic requirement for a regulatory system and that is not true of the current regulatory system in California. The causes of the problems with the current system and how to fix them would be very important.

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Catherine Aguilar stated that Cal/OSHA has done an amazing job with the resources it has. Other non-tangible factors influence why injuries occur, for example, job dissatisfaction, fatigue, obesity and poor health. She stated that it is important to get the most current information which would be WCIS data. She also stated that it is important to change the culture about safety: to start young; to have employers show concern about employee health and safety; and to have Cal/OSHA be viewed more positively. She stated that the ergonomic standard has been very helpful in indicating that this is an important issue and that businesses can be held accountable. She stated that she believed that just keeping a log is a deterrent in itself. She also stated that she would like to see Cal/OSHA have access to current information that would help them do a better job and so that research could be targeted more effectively.

Lisa Barbatos stated that she has seen cases for health care workers where ergonomic assessments have been done but employers do not want to pay for ergonomic improvements. She stated that standards should not just exist on paper; there should be stronger standards with power (“teeth”) to it. Also, there should be more emphasis on safety committees, and more root-cause analysis of injuries should be done. Injury rates are way too high.

Juliann Sum stated that she was interested in John Mendeloff’s comments that safer employers are more productive and that there should be a public information campaign to inform employers about this, communicating that it improves the bottom line. She stated that she had worked on research with UCSF on good management practices in construction that could be used to build on greater dissemination of information. For employers who are not willing to do the right thing, Cal/OSHA field inspectors should look at which regulations are effective but not easy to enforce, as well as which are easy to enforce, and which are effective. She also stated that it would be important to do qualitative research as well as quantitative research.

Robin Baker stated that people are looking nationally and internationally at the injury and illness prevention program (IIPP) standard. It is a frequent area for citations; however, no one knows if it works. It would be important to evaluate that program. She stated that she is a co-chair of the NIOSH NORA process and she is co-chair of the cross-sector team. Accordingly, she hears from each of the sectors about priority concerns. A few key concerns are ergonomics especially musculoskeletal disorders (MSDS) which are affecting huge numbers of people. The issue became so politicized that people backed away from it; however, the costs to individuals and society are great, and it affects an enormous number of people. The standard in California should be more effective. Beyond that, it is important to look at what are the practices that work and what are incentives needed to put them in place.

Another issue to look at is what the alternatives to regulations are. Another major issue nationally is trying to look at ways to reach and protect the most vulnerable workers: immigrant workers; non-English-speaking workers; low-wage workers who have rising

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injury and fatality rates; and youth. California is on the leading edge in schools for reaching youth. However, California needs to invest in careful evaluation of the programs in place for youth to be able to improve them and build upon them as national models. Still another issue is effective ways to reach small businesses and find incentives that will be effective for small businesses. Her personal view is that they need outreach and education programs, with research on the effectiveness of interventions to help identify what works.

Laura Boatman stated that she felt the standard-setting process could be improved to be sure that it is in the best interest of workers. She would be interested in data on union vs. non-union. This is critical in the construction industry, because a lot of research is done on residential construction which is non-union, so it does not represent the entire industry. She stated that Cal/OSHA does not collect union data. She would be interested in statistics on worker involvement in health and safety programs, as well as evaluation data on the effectiveness of training programs. She also stated that an effective public awareness or education campaign is important, as the public does not engage in occupational safety and health. It would also be interesting to know if efforts for broader-scale cultural safety and health have happened and if they have been effective. Still another issue would be to be able to provide data on cost-savings for employers.

Lachlan Taylor stated that if the same research on a culture of safety can be applied to a culture of health/culture of wellness, it would have a broader impact than if the focus is only on occupational injury and illness. It would be best if there were public awareness of this issue.

Judith Freyman stated that the focus for employers is getting broader and broader to incorporate the health of the employee, both occupational and non-occupational ramifications, and their families, as well as the health of retirees. This broader focus has been spurred by increasing health care costs. She stated that the level of health care costs can influence how much an employer is willing to engage in an issue. Judith urged that the research perspective on health/wellness should be as broad as possible and tied to some of the new health care/health insurance legislation, and then there could be discussion about incentives.

Work has been done on assigning costs to health conditions such as obesity, diabetes and other conditions. Employers are talking about millions of dollars and that gets attention and resources. Research into prevention/holistic health ultimately will help the bottom line. Data, including productivity data, are now being accessed to measure presenteeism where some illness or injury is distracting the worker. Studies around this subject will bring value to the company and get attention. CEOs can relate to health issues through personal experience and through the cost issue. She also stated that a key challenge is reaching the vulnerable populations, to communicate and train diverse workforces. They are still struggle to do that outreach well and to measure effectiveness.

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Michael Alvarez referred to a report on a pilot health and safety construction project that was conducted on residential construction. The primary goal of the focus on residential construction was to create a change in behavior and culture in residential construction in two counties, where the use of hard hats, fall protection and other measures were not being followed. To effect any change, they felt they needed to go after those with power, those who controlled the money – the builders. The goal was to convince the builders to implement recognition programs. Since the program started, there was one contractor in the program, Party Homes; for this year alone, over 300 sites are involved. He explained that all this information is described on the Cal/OSHA website. Employee involvement has been a key focus, with particular targeting of non-English-speaking workers, as there is a problem with communication with this group of workers. The project also addressed the health component. They worked in partnership with Cal/OSHA Enforcement and the State Compensation Insurance Fund (SCIF) to get the word out. In addition, teams were created to provide the service right at the site. Workers' compensation data by Enforcement were used.

Mr. Alvarez stated that he is on the OSHA Consultation Board so that he has access to other states and the national office, and he is now on the OSHCAN Board with even more access to more information. The states that do have specific standards and work with Enforcement are getting a lot more done with cultural changes in a given industry. The small employers are being reached through the builders. The current incentives are the recognition program for small employers is Golden Gate, basically indicating that they have an effective injury and illness program, though no exemption is offered; for builders, they have a stellar program and are getting results with incentives, as builders can be offered an exemption. The CAL/OSHA Eight course, which is built around the eight elements of an injury and illness prevention program, is being given to builders; training for contractors is also being done, and direct “dos and don'ts” tailgate training is being given to employees. This approach has recently been employed in the new heat illness standard. Educational outreach has been conducted. Heat illness prevention classes have been given. Enforcement also had an all-out blitz in the construction sector. As a result, fatalities have decreased significantly.

This methodology will next be employed with the food processing industry where a high number of small employers have workers who are non-English-speaking; they are developing simple tools that the consultants can use at the site. Enforcement data on serious injuries will be used to track the results. The target is to reduce amputations and serious injuries by 50% in the next three years. A pilot project will be proposed to implement what has been done with the residential builders to the food processing employers to create culture change, as well as reduce serious injuries. The implementation will be progressive in order not to overwhelm employers and to allow employers to enlist employees in the effort to create a health and safety culture. This will allow employers to implement culture change and become involved in the recognition programs.

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Michael Alvarez also stated that the consultative approach, educational outreach, and education at the work-site need to be coordinated with the SHIP (enforcement) program. The combination of tools will be critical. It would help to have some research on the residential construction project to determine how effective that project is and what the likely success with other industries would be.

John Balmes stated that low-wage workers in the residential construction and the food processing industry need to be targeted for health and safety change. He applauded the program that Michael Alvarez described but stated that more needs to be done.

He also stated that the burden of chronic disease presents a greater health problem in society. As Judith Freyman said, as you can put dollar amounts on diabetes or obesity, you can put dollar amounts on the occupational contribution to chronic disease. He stated that his work was on asthma and chronic obstructive pulmonary disease. Paul Leigh at UC Davis was able to put some dollar figures nationally on the occupational contribution to the burden of asthma and chronic obstructive pulmonary disease, and it can be done with other diseases. He stated that better surveillance tools are needed to determine how great the occupational contribution is to the various important chronic diseases. There are occupational contributions to heart disease which is the largest, single disease category in terms of burden of disease in this category. He stated that it is shocking how poor California's surveillance tools are with regard to disease in general and specifically in occupational injuries and illnesses. You cannot do research on the impact of occupational factors on chronic disease without surveillance data. He said the reason most of the research is on injuries is that injury data are easier to get than disease data; however, that does not mean that there is no occupational contribution to chronic disease.

He stated that the public or society is more invested in environmental health than occupational health. However, because 8 hours of each day is part of our environmental exposure, he believes that there are ways to tie in occupational environmental health. The CDC is nationally pursuing an environmental health public health tracking system, in which California is participating. The notion of this tracking system is to do for environmental-related disease what the CDC has done for infectious disease – establish online reporting and temporal and spatial variability in environmentally mediated disease rates. Occupational environmental health was supposed to be part of that system; however, not much has been done with it. The State of Washington also has an occupational component. He stated that with respect to disease, they should link environmental health and occupational health to achieve greater societal investment in prevention and public awareness of occupational disease. Prevention has been mentioned with reference to OSHA; however, not much has been mentioned in reference to insurance carriers. He stated that the workers' compensation insurance system is broken at least partially because prevention is not rewarded, and that there is a need to figure out how to insert rewards.

Barbara Materna stated that a lot of research priorities are coming out of the NORA process, particularly industry-specific ones. Ultimately, all the research plans for the

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different sectors will be on the NIOSH website; some of them are already there. CHSWC may want to focus on what is unique to California, such as industries and workplaces in California and the programs, standards and systems currently in place. California has unique legislation such as the Doctor's First Reports of Occupational Injury or Illness (DFRs) system; however, that system is broken. It is a paper system, yet it is the only way to identify newly emerging diseases. The Occupational Health Branch (OHB) in the Health Department uses that system, even though it is a paper system that requires going through boxes of paper, to identify asthma (and its causes) at the workplace and pesticide illness. Occasionally, they will focus on other types of illnesses. There is no infrastructure to use Doctor's First Reports for prevention; they have to apply for grants to NIOSH for a particular end point. The Workers' Compensation Information System (WCIS) is electronic, but is it being used for prevention? The Health Department has access to that data and is now doing studies of what is described in workers' compensation vs. Doctor's First Reports vs. hospitalization, and now emergency room data. When you compare all four systems, they do not' overlap very much, for example people go to the E.R. when they have work-related asthma and it may not be counted as work related. Therefore, she concluded that they are not capturing the true burden of occupational injuries and illnesses. She stated that back in the 1970s, DIR had a task force on the state of occupational health in California and two needs were identified: the need for Centers for Occupational and Environmental Health in the university system, and so legislation was passed for that; and the need for a system to provide early warning of emerging hazards, and so the Hazard Evaluation System and Information Service or HESIS, which is a part of OHB, was formed and funded by DIR. In the late 1970s, the budget for HESIS was supposed to be sufficient for 30 staff; now there are 3 technical staff and that it is doubtful that this is because all of the occupational health concerns in California have gone away or have been solved. She suggested that it would be advantageous to identify what infrastructure is needed in California to deal with the health and safety problems that it faces. She added that Cal/OSHA should also be included, as they face budget cuts too. Finally, she wanted to emphasize the importance of capturing the true cost of work-related illness. She stated that there needs to be political will to address these problems.

Lastly, one research subject is how to appropriately identify and then promote the use of safe alternatives to toxic chemicals at the workplace.

John Balmes added that the Governor is beginning to identify this as a priority with his Green Chemistry proposal. There seems to be a political opportunity to go to safer, less toxic approaches, primarily for environmental health, but occupational health needs to be a component.

Christine Baker mentioned the janitors of SEIU Local #1877 are interested in a green approach to cleaning fluids. Lach Taylor mentioned a similar subject discussed at a recent Senator Migden hearing with regard to cosmetology and nail products.

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Glen Shor stated that he had a list of research ideas and commended the Commission for holding the meeting after a long focus on the workers' compensation system and now focusing on the prevention side.

He asked about the universe that is being "surveilled" now, and mentioned many undocumented, uninsured workers, independent contractors and others outside the traditional universe of employees. He suggested that perhaps when rates go down, it just means they are missing a large portion of the coverage. He stated that he thought a lot could be done with the rating system, in addition to experience modification which looks backwards, such as prospective rewards for building infrastructure that improves health and safety, such as rewards to employers and safety committees. He stated that insurers or an independent third party could be considered for loss control efforts, despite the view that loss control consultations of the past were an ineffective use of money, to supplement the resources of Cal/OSHA. The recognition for good safety in the form of a discount needs to be portable to different insurers, like an experience rating.

He suggested that there might be rebates to employers for taking action to make physical changes to the workplace, and he emphasized prevention through design; for example, a hospital is designed with an overhead lift so that teams of workers do not have to perform such lifts. NIOSH has an entire effort on prevention through design that could be aligned with research priorities here.

Lastly, he stated that the gap in the penalties assessed and penalties collected raises the question of how to improve the enforcement of the sanctions.

Frank Neuhauser stated that the ability to collect data on occupational health and general health was important and that there was a danger of underestimating the impact of an intervention on either side, if they do not have data on both sides. He stated that there was significant information about misreporting of occupational and non-occupational diseases, in particular, and injuries in both systems. To the extent that these diseases and conditions and their costs are misreported, the impact of any intervention will be underestimated. He stated that they needed to build databases for these evaluations that also include the group health side. This will be difficult to do because group health data is held in different systems from workers' compensation data, and there are restrictions due to HIPAA and other requirements that do not apply to workers' compensation.

He reiterated what others said about the underground economy, that there was substantial information that there is a significant number of employees who are uncovered for workers' compensation and therefore do not have the incentive of costs as a prevention tool. He stated that these employers can be identified with data matching, but that DLSE has not implemented such a program. He speculated that DLSE probably does not consider lack of coverage as an important workplace hazard. Ms. Baker suggested that DLSE is beginning to do this, primarily due to the Ridley-Thomas bill. Mr. Neuhauser acknowledged this; however, he suggested that it is being forced to do so, not that it understands the connection to safety.

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Tom Rankin stated that they should come up with a better system than experience rating to provide incentives for health and safety. Rebates or discounts for employers with illness and injury prevention programs that they can demonstrate work are good. Integration of data from group health and occupational health is a valid pursuit, in fact, he stated that the two systems should be integrated, since it is costly to maintain two separate systems. He stated that they do have to be careful, that they have seen for years a pattern of pushing the responsibility on to the individual; it was done with pensions and in healthcare with large deductibles and co-pays, and he does not want to see the focus move from the employer requirements to a conclusion that “it is just a general health problem,” or that people are getting hurt at work because they are fat, etc. This idea has been pushed for years, and he does not want to see shifting the cost to the employee in occupational safety and health.

Robert Reville stated that his interest is in emerging risk and leading indicators, safety culture, rigorous measurement, and effective public campaigns using new technologies and new media.

Laura Boatman expressed concerns about the risk of blame and burden shifting to the individual by describing the example of the State Building Trades’ efforts surrounding tobacco education, which are carefully crafted to look at the dual hazards of occupational exposure and tobacco. She stated that there are models that look at health and safety and preserve the responsibilities while making improvements and that California could lead the way with a new model.

Another comment expressed concern that no one is connecting the dots, such as with the example of asthma and looking at the work environment. She followed up with a question about the infrastructure needed for policy. Barbara Materna stated that she felt it was important to review past policies that were put in place, such as the Doctor’s First Reports. The system is broken for a number of reasons, including lack of training in occupational health for general physicians and that it is a paper system, etc.

Glen Shor described WCIS as lacking a field for the Doctor’s First Report, and that it would require legislation to get that report included. John Mendeloff also asked about WCIS and the Unemployment Insurance code vs. the FEIN number for identification purposes. The UI code goes to the establishment level rather than employer level.

Dr. Mendeloff added that while a little money is spent on tracking injuries, no money is spent on related to exposures in the workplace; e.g., what has happened to noise levels in the workplace over the last 25 years and how much is being mitigated with hearing protection vs. uncovered, etc. John Balmes explained that some data had been generated by John Freund’s group at UCLA on hazard surveillance using OSHA IMIS data. He stated that it seemed a good approach; if you can monitor a hazard before people get sick, you could theoretically intervene before they get sick. Dr. Mendeloff described several different exposure databases that are potentially useful which include data collected at

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inspections and at consultations, data on regulated exposures, and NIOSH health hazard data. None of these databases have been combined or used in a way to understand exposures.

John Balmes described CDC investment in an effort to link environmental data with disease data. He stated the occupational hazard and exposure data could be linked as well.

Next Steps

Christine Baker, CHSWC

Ms. Baker concluded the meeting and said that the information from the meeting would be circulated for comment for eventual submission to CHSWC.

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Attachment B

**CHSWC Health and Safety Advisory Committee Meeting Agenda
Monday, November 19, 2007
Elihu Harris State Building, Oakland**

- 9:00am - 9:15am **Welcome and Introductions**
Sean McNally, Vice President of Human Resources and
Legal Counsel, Grimmway Farms; CHSWC
Christine Baker, Executive Officer, CHSWC
Len Welsh, Chief, DOSH
- 9:15am - 9:30am **Objectives of the Meeting**
Christine Baker, Executive Office, CHSWC
Bob Reville, Director, Institute for Civil Justice, RAND
Labor and Management Perspectives
Tom Rankin, Past President, California Labor Federation,
AFL-CIO; Executive Director, Worksafe
Judith Freyman, Vice President, Western
Occupational Safety and Health Operations, ORC Worldwide
- 9:30am - 10:00am **Overview of Health and Safety Research**
Health and Safety Research Opportunities
Len Welsh, Chief, DOSH
Ideas and Suggestions for Health and Safety Research
John Mendeloff, Director, RAND Center for
Health and Safety in the Workplace
David Levine, Professor, UC Berkeley
- 10:00am - 10:10am **Break**
- 10:10am - 11:15am **Discussion: Potential Areas for Health and Safety Research**
Robert Reville, RAND
- 11:15am - 11:55am **Prioritizing Key Areas of Health and Safety Research**
Robert Reville, RAND
- 11:55am - 12:00pm **Next Steps**
Christine Baker, CHSWC

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Attachment C

CHSWC Health and Safety Advisory Committee Meeting Attendees

Catherine Aguilar, Commission Member, CHSWC

Michael Alvarez, Department of Industrial Relations (DIR), Division of Occupational Safety and Health (DOSH)

Christine Baker, Executive Officer, CHSWC

Robin Baker, Labor Occupational Health Program (LOHP), UC Berkeley

Lisa Barbato, SEIU-UHW

John Balmes, UC San Francisco

Laura Boatman, State Building Trades Council (SBTC)

Judith Freyman, ORC Worldwide

Scott Hauge, Cal-Insurance, Small Business California

Lori Kammerer, Kammerer & Company

David Levine, UC Berkeley

Barbara Materna, California Department of Public Health (CDPH)

John Mendeloff, RAND

Frank Neuhauser, UC Berkeley

Bob Nakamura, DOSH

Tom Rankin, AFL-CIO, WORKSAFE

Bob Reville, RAND

Glenn Shor, DIR Division of Workers' Compensation (DWC)

Steve Smith, DOSH

Juliann Sum, UC Berkeley

CHSWC Staff:

Lachlan Taylor

Irina Nemirovsky

Chris Bailey

Selma Meyerowitz

Initial Version: Objectives for a Workplace Health and Safety Research Agenda

Overall Goal:

Conduct research that results in both knowledge and policies that will lead to an elimination of workplace fatalities and reduction in injuries and make California workplaces and workers the safest, healthiest and most productive in the country.

Objectives:

- Rigorously identify health and safety programs that lead to the elimination of fatalities and reduction of injuries and illnesses.
- Conduct research that would improve the functioning of the regulatory system.
 - Identify ways to improve targeting of inspections.
- Promote adoption of evidence-based health and safety programs.
- Identify methods to facilitate the (early) identification of emerging hazards.
- Develop key indicators and measurements of system performance:
 - Evaluate infrastructure for health and safety research.
 - Are current measures valid, do they capture exactly what needs to be measured?
 - Answer whether reported injury rates are true measures of workplace risk?
 - Should rates take into consideration employer practices, firm size or other factors?
 - Develop measures of corporate culture that takes into account creating and maintaining an effective safety culture.
 - Develop leading indicators of safety performance to predict future performance and to assess impact of interventions.
- Determine how to identify, evaluate and prioritize the particular needs of types of industries and employers.
- Determine what prevention will look like in the year 2015.
- What can the workers' compensation system do to encourage occupational health and safety?
- Examine the integration of health and safety programs:
 - Examine the effectiveness of combining occupational injury-reduction efforts with health-promotion "wellness" programs.

Revised Objectives for a Workplace Health and Safety Research Agenda

Overall Goal

Conduct research that results in both knowledge and policies that eliminate workplace fatalities and reduce injuries and illnesses, and make California workplaces and workers the safest, healthiest and most productive in the country.

Objectives

Learn what works

- Rigorously identify the consequences of different:
 - Current and emerging hazards and technologies;
 - Workplace safety and health activities
 - programs
 - training
 - incentives
 - safety culture
 - including multi-employer, union, etc. programs
 - Regulators' policies and practices
 - Standards and regulations
 - broadly defined to include
 - workers' compensation experience rating,
 - Enforcement
 - inspections
 - targeting
 - adjudication
 - appeals, etc.
 - Non enforcement activities
 - consultation
 - voluntary partnerships,
 - public campaigns
 - education and training
 - new media: Internet, text messaging, 800 #s, etc.
 - Interactions among related safety and health programs such as:
 - Workers' compensation
 - Regulations

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- Insurers and their loss prevention rules and activities.
 - Health care
 - Employer wellness programs
 - Disability insurance
 - Healthcare (formally) unrelated to the workplace
 - Employer-provided health insurance
 - Retirement and Social Security
- In terms of
 - Fatalities, illnesses, and injuries
 - Employment and earnings;
 - Employer costs (including regulatory burden) and productivity; and
 - Cost to regulators,
- For different types of
 - Employers
 - size,
 - industry,
 - technologies and hazards,
 - Employees
 - occupation
 - experience
 - language and citizenship status
 - age, race, gender,

Create valid measures

- Design and validate measures of the constructs listed above, including:
 - Outcomes such as injury rate
 - adjusted for underlying risk and cost factors;
 - Effective safety practices and programs
 - e.g., “effective safety culture”
- Identify the subset of measures that are leading indicators of future safety and health problems that would be useful for various stakeholders (employers, unions, regulators, workers’ compensation insurers, etc.).

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Build learning into the safety and health system

- Collect and analyze appropriate data as part of regular operations
 - Integrate datasets from OSHA, BLS/DIR, workers' compensation, D&B, ERs, Doctor First Reports, etc.
 - Perhaps create a data depository with all data merged.
 - Then researchers can apply to a single source for limited access to what is relevant for their project.
 - Emphasize strong study designs.
 - Build learning into new interventions.
 - Teach S&H professionals how to build in rigorous evaluations and/or build partnerships
- Provide results to stakeholders and integrate responses into management systems.

Use that knowledge

- Promote adoption of evidence-based health and safety
 - Programs and workplace practices.
 - Workers' compensation insurance practices
 - Regulatory practices
 - Standards
 - Enforcement
 - Adjudication
- Design the healthful and safe workplace (and regulatory programs that will lead to them) of the next generation.