




Total Worker Health in Action!

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Managers' Buzz

BY: ANITA L. SCHILL, PhD, MPH, MA AND L. CASEY CHOSEWOOD, MD

The New Year is a time for both reflection on the past and looking forward to the future. The past year was filled with many highlights including the Third Annual NIOSH National Expert Colloquium on TOTAL WORKER HEALTH® (TWH®), the publication of the Proceedings of the 2012 Total Worker Health Symposium coordinated by the University of Iowa Healthier Workforce Center for Excellence, and reaching nearly 60,000 subscribers to *TWH in Action!*

This coming year holds much promise for an unsurpassed level of activity related to Total Worker Health. Perhaps the most exciting event on the horizon is the first-ever International Symposium to Advance TOTAL WORKER HEALTH to be convened on October 6–8, 2014 at the Natcher Conference Center, National Institutes of Health in Bethesda, MD. This 3-day event will showcase the latest TWH-related research, programs, practices, and policy. The call for abstracts has already been published, and is available at <http://www.eagleson.org/conferences/total-worker-health/call-for-abstracts> .

NIOSH's Total Worker Health Webinar Series will also launch in 2014. On February 25 from 3:30pm to 5pm EST, we will co-host our first webinar "Making the Case for Total Worker Health: An Overview of Opportunities and Approaches" with the Center for Promotion of Health in the New England Workforce, and feature presentations by thought leaders Dr. Laura Punnett and Dr. Ron Goetzel. Find more information, including webinar registration, in [Updates from the NIOSH TOTAL WORKER HEALTH Program](#), or visit [/niosh/TWH/webinar.html](http://niosh/TWH/webinar.html).

TOTAL WORKER HEALTH™

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This spring we anticipate the Institute of Medicine (IOM) will conduct a public workshop in Washington, DC, to identify prevalent and best practices that integrate occupational health and safety with health promotion in small, medium, and large workplaces. The workshop will feature invited presentations and discussions on identifying the value of integrating programs, measuring success, barriers to full integration, and innovative approaches. IOM will publish a summary highlighting the presentations and discussions. Stay connected for more information!

Once again, this issue of *TWH in Action!* is chock-full of feature articles and news about upcoming events you won't want to miss. In response to your request for information on tools that can be used for measuring the economic effectiveness and making the case for integrated health protection and health promotion programs, Dr. Tapas Ray from the NIOSH Economics Program explains how health-related quality of life measures can be used to shape the outcome evaluation of integrated interventions in this issue's [TOTAL WORKER HEALTH Exclusive](#).



In our newest feature, [Healthier Feds](#), Ms. Catherine Angotti, RD, NASA Senior Advisor on Occupational Health, presents an exemplary total worker health success story. Read this story and learn how NASA has been living the concept of *total worker health* for over a decade and how they use national health initiatives to advance the health of the NASA workforce. Be sure to check our [Conferences, Webinars and Trainings](#) section to stay up-to-date on the many upcoming TWH events and learning opportunities this quarter. With events happening across the country, there may be something close to home that captures your attention.

As always, we hope this newsletter inspires you to become a *Total Worker Health* advocate. Share your comments and stories about *TWH in Action!* with us on Twitter ([@NIOSH_TWH](#)), on the [NIOSH Total Worker Health LinkedIn Group](#), or send us an email at TWH@cdc.gov. We'd love to hear from *you!*

TOTAL WORKER HEALTH[®] Exclusive

Measuring Cost Effectiveness of Total Worker Health Programs: Making the Case for Health-Related Quality of Life

BY:TAPAS K RAY, PHD, ECONOMIST, NIOSH

Background

Recently, health research has experienced a paradigm shift in how the concept of “health” has been measured. While traditionally concepts such as morbidity, mortality, and injuries have shaped measurement efforts, now researchers are seeking to redefine health by its positive aspects—for example, satisfaction, well-being, productivity, health utility, and quality of life.

A similar development in the public health arena, especially occupational health, has been the push to define worker health in a holistic framework, resulting in a more integrated interpretation of worker health as consequence of both work and outside work-related factors. This is in contrast to the traditional separation of occupational health from its non-occupational counterpart in the past. In this new field of research and practice, one of the questions gaining importance is how best to understand the economic effectiveness or cost effectiveness of such integrated programs. While the benefits of *total worker health* programs are backed by strong theoretical justifications, measuring the cost effectiveness of such integrated programs in real terms is an issue that merits consideration.

Limitations of current cost-effectiveness measures

To discuss “cost effectiveness” of programs, one implicitly assumes the presence of an outcome variable, pecuniary or non-pecuniary, which suitably captures program benefits, and to which intervention costs are compared. Though health promotion programs generally target individual health habits, while safety programs target injuries and illnesses, the outcome measure is ultimately the same: personal health and well-being of workers. Measuring effectiveness in terms of existing metrics—reduced injuries, illnesses, compensation claims—would at best give us a partial picture of potential gains since the majority of these programs theoretically reduce the *probability* of such incidents and not actual incidents.

Focusing on individual behavioral health outcomes like smoking cessation has its own set of challenges. Finding a single definition for a behavioral health outcome can be challenging, given the multidimensionality of health. Tracking population health through the use of biomechanical indicators has high *transaction* and *information costs*. In addition, considerable time is needed before behavioral changes and the resulting reductions in risks visibly alter population health. Most cost-effectiveness studies span over five to ten years of analytical time period.

Driving towards a solution: Health-Related Quality of Life

What is needed is an “impact outcome measure” for integrated health protection and health promotion programs that captures outcomes in terms of increased health, productivity, safety, and well-being of workers. Economists and health scientists more recently made strides to measure the perceived health-related well-being of economic agents. The increasing importance of such measures is evident from international pursuits towards finding well-being related economic growth measure as an alternative to gross domestic product (GDP). Health-related quality of life (HRQL) instruments, like the US-based Medical Outcomes Study 36 (SF-36), Europe-based EuroQoL (EQ-5D), and Canada-based Health Utility Index (HUI), evaluate a range of perceived mental and physical health dimensions to construct a health utility score or a health related well-being score. Changes in these scores in pre- and post-intervention scenarios reflect intervention benefits. Often, these utility scores are used to construct quality adjusted life years (QALYs). QALYs are predominantly used in measuring intervention benefits in medical decision making and public health literature in the US. Similarly, the World Health Organization (WHO) uses disability adjusted life years (DALYs) to estimate health hazard burden. One such measurement tool, developed by the Centers for Disease Control and Prevention (CDC), the Health Related Quality of Life (HRQOL), is used to track public health status.

Although no HRQL instruments exist specifically designed to measure quality of life related to workplace health and safety, generic HRQL instruments can be modified to fit such needs. Keeping an eye on the applicability of quality of life measures, the [NIOSH Economics Program](#) organized a seminar last year inviting practitioners from other government and non-government agencies. Though not specifically geared towards TWH, participants discussed the importance of combining morbidity and mortality as intervention outcome measures and identified research priorities.

Like TWH research, application of HRQL as outcome measures of health interventions is also in its early years of development. Harnessing the power of both fields in understanding the economic effectiveness of integrated programs in the workplace seems useful, if not inevitable. HRQLs are mostly subjective measures but the recent changes in healthcare laws may provide future opportunities to connect electronic health records of workers to their HRQL scores, providing a complete picture of workplace-factored biological health and human satisfaction or well-being from that health. More information on HRQL can be found at <http://www.healthypeople.gov/2020/about/QoLWBabout.aspx> or [/hrqol/](#).

For questions or for full list references all pertaining to this article, please contact Dr. Tapas Ray via email at TKRay@cdc.gov.

Promising Practices for TOTAL WORKER HEALTH[®]

In *Promising Practices for TOTAL WORKER HEALTH[®]* we share with you examples of how employers from across the country and from a wide range of industries are taking steps to integrate both health promotion and health protection in their workplaces.

If your organization is proactively integrating health protection and health promotion to prevent injury and illness and advance the well-being of your workers, please email us at TWH@cdc.gov.

We need your help to improve *Promising Practices for Total Worker Health!*

[Share your thoughts!](#) We invite you to join us on LinkedIn and tell us how we can enhance our communications about ongoing *promising practices* across the country.

Healthier Feds

A growing body of scientific evidence indicates that the quality of one's work environment is a predictor of health behaviors. In support of this notion, the federal government is providing opportunities for advanced health and well-being in its own workforce. The purpose of this section is to spotlight ways in which the federal community is improving the health and safety of federal employees.

How NASA is Living *Total Worker Health*

BY: CATHERINE M. ANGOTTI, RD, SENIOR ADVISOR ON OCCUPATIONAL HEALTH, OFFICE OF THE CHIEF HEALTH AND MEDICAL OFFICER, NASA

National Aeronautical Space Agency (NASA), an executive Federal Agency dedicated to Space flight, highly values exploration. The Agency's exploration success depends on employees' detailed attention to the safety and health of the astronauts and their fellow Earth-bound employees. For decades NASA's occupational health programs have maximized

the opportunities of national health initiatives as well as internal resources. And, they have led the way to improve internal programs for the maintenance of a workforce that operates at its highest level of physical and mental well-being.

A Frontrunner in Integrating Employee Health

Through the years, NASA has maintained a vigorous health and safety program by utilizing annual Center self-assessments and triennial week-long on-site assessments. Remarkably, each year, the Agency has held one of the lowest Federal Workers' Compensation charge back bills and has excelled in various Federal-wide initiatives targeting accidents and injuries, such as Safety, Health and Return to Employment ([SHARE](#)) and Protecting Our Workers and Ensuring Reemployment ([POWER](#)). Confident of its programmatic quality, NASA asked the Institutes of Medicine to conduct an independent evaluation of the occupational health programs at five randomly selected operational sites. That 2-year effort culminated in the 2005 Institutes of Medicine's (IOM) publication, [Integrating Employee Health](#).

NASA was optimistic that the results of the IOM study would confirm the presence of the key aspects that support a business case for *total worker health*. These eight major aspects of an ideal workplace include: 1) Health Status; 2) Life Expectancy; 3) Disease Care Costs; 4) Health Care Costs; 5) Productivity (including absenteeism and presenteeism); 6) Recruitment and Retention; 7) Company Visibility; and, 8) Social Responsibility.

While overall a good report, two of their fifteen findings found room for improvement. Those findings included having a single standardized HRA, which we were able to do almost immediately by selecting the Mayo Clinic HRA. The other finding was to establish an electronic health record system (EHRS) for total health integration. Fortunately, NASA had already performed a feasibility study a few years earlier, which recommended the use of an EHR commercial off the shelf product and commence at a given point in time rather than try to capture legacy data. NASA has now had an EHRS for about 2 years, which collects and stores data from the employee's annual health maintenance exam as well as all required surveillance exams.

Data gleaned from NASA's EHRS baseline data will help drive continuous program improvement by identifying areas of weakness as well as areas of progress. This data will help ensure that NASA has the means for continued maintenance of a healthy worksite in the future.

Matching Up with Healthy People Physical Activity Goals

NASA's first highly successful organized initiative started in 1990 as a 10-year effort to motivate our employees to be more physically active by meeting the exercise goals set forth in Healthy People 2000. The program "Exercise for the Health of It" was a competition between all our Centers. It was initiated with the program's poster being flown aboard the Shuttle while the crew filmed themselves exercising in space. The entire crew subsequently signed the poster in a ceremony at the Headquarters with the NASA Administrator and a President's Council on Physical Fitness and Sports' (PCPFS) spokesperson.

Motivation for this multi-year effort capitalized on employee competitive spirit and collaboration with the PCPFS. At the Annual Occupational Health Meeting, PCPFS's celebrity athlete spokesperson presented an engraved plaque to the new winning Center. The Center would retain and display the plaque until the next Annual Occupational Health Meeting, when competition results would determine the next winner and the plaque would rotate to another Center. This program was very well received and had better than expected employee participation, likely due to the competitive nature between Centers.



Circa 1990, the-NASA Administrator Dan Goldin, PCPFS spokesperson and basketball player Tom McMillen, and Catherine Angotti pose with the signed poster of the "Exercise for the Health of it!" program.

Supporting Employee Mental Well-being and Behavioral Health

NASA also has long had active Employee Assistance Programs (EAP) addressing major employee challenges such as the retirement of the Shuttle program, hurricanes Katrina and Ike, and workplace violence. NASA EAP has also been present to help address a myriad of individual personal challenges. NASA EAP also supports a range of occupational health programs, by supplementing the physical health information provided with behavioral health techniques to facilitate change, and also through consulting on programs and program designs. In addition, NASA EAP provides analysis and insight on employee behavioral health and mental well-being for Agency Management from data analysis of trends and potentially sentinel events to holding quarterly video teleconferences with EAP counselors to discuss pertinent events, ensuring that direct lines of communication to senior leadership are open.

One major initiative is the Critical Incident Stress Management (CISM) program at NASA, which provides training at all Centers with EAP counselors and designated CISM teams. In times of crisis, such as the devastation in the wake of Hurricane Katrina, Center EAPs had specialized training that gave them the programmatic and personal skills and relationships necessary to volunteer and help out at the others Centers that were in need, pulling together for the common good.

Every day, whether on earth or in outer space, NASA works to bring to life the principles of *total worker health*, showing their ongoing commitment to improve the health and well-being of their workforce.


Updates from NIOSH the TOTAL WORKER HEALTH® Program

Call for Abstracts Now Open: 1st International Symposium to Advance Total Worker Health

We are excited to announce that abstracts are now being accepted for the **International Symposium to Advance TOTAL WORKER HEALTH**, which will take place **October 6-8, 2014** at the Natcher Conference Center on the National Institutes of Health campus in Bethesda, MD. This conference is being organized by the NIOSH Total Worker Health Program.

This symposium will explore research, practices, programs and policies that advance the overall health, safety, and well-being of workers through the integration of health protection and health promotion. This effort seeks to advance the tenets of Total Worker Health. The symposium builds upon successful past meetings of the 2004 NIOSH Steps to a Healthier US Workforce Conference and the 2007 NIOSH WorkLife National Symposium.


We are soliciting proposals for posters, pre- and post-symposium workshops, plenary sessions and two types of concurrent sessions: scientific paper or practice/intervention sessions and symposia sessions. The deadline for abstract submission is **March 24, 2014**. We anticipate providing notification to all persons selected for a presentation no later than June 1, 2014 to allow adequate time for presentation finalization and travel planning.

To learn more about the forthcoming Symposium and to download the **Call for Abstracts**, please visit the conference website at: www.eagleson.org/totalworkerhealth .

New for 2014! The NIOSH Total Worker Health Webinar Series

Recognizing the complex, often interlinked hazards affecting the healthy, safety, and well-being of today's workforce, NIOSH's Total Worker Health Program is excited to present a free webinar series offering continuing education credits all aimed at providing the latest research and case studies for protecting the health—in all its many facets—of workers everywhere.


In each webinar, experts from NIOSH and other leaders in the field of integrated health protection and health promotion will share the latest findings and opportunities for better health, safety, and company outcomes related to a particular area of concern.




Mark your calendar to join us and renowned researchers, Dr. Laura Punnett and Dr. Ron Goetzel, for our inaugural webinar on **February 25, 2014 from 3:30-5:00pm EST** as we present "Making the Case for Total Worker Health: An Overview of Opportunities and Approaches." This webinar will be presented in partnership with the [Center for Promotion of Health in New England Workplace \(CPH-NEW\)](#) .

For more information, including information on continuing education opportunities, please visit: [/niosh/TWH/webinar.html](http://niosh/TWH/webinar.html).


Updates from NIOSH Centers of Excellence to Promote a Healthier Workforce

[The Center for the Promotion of Health in the New England Workplace \(CPH-NEW\)](#)


In addition to releasing their new [Healthy Workplace Participatory Program](#)  online toolkit (In this issue's *New Initiatives and Resources*), CPH-NEW recently published three *CPH-News and Views* emerging issue briefs, each discussing initiatives, findings, and recommendations specific to a given Total Worker Health topic.

- Issue #34: [Very small businesses: Increasing wellness program resources](#) 
- Issue #33: [The Proof Is in the Process: Participation as the Cornerstone of a Healthy Workplace](#) 
- Issue #32: [Differences among Nursing Homes in the Outcomes of a Safe Resident Handling Program](#) 




[Harvard Center for Work, Health, & Well-being \(CWHW\)](#)


The Harvard School of Public Health Center for Work, Health, & Well-being recently launched its new website. Please visit it at <http://centerforworkhealth.sph.harvard.edu/> 

[University of Iowa Healthier Workforce Center for Excellence \(HWCE\)](#)

The University of Iowa Healthier Workforce Center for Excellence has published research, reviews, and practice recommendations on Total Worker Health in a special online supplement in the December 2013 issue of the *Journal of Occupational and Environmental Medicine* (JOEM). The supplement is a collection of presentations from the 2012 Total Worker Health Symposium, coordinated by the Iowa Center, with support from the NIOSH TWH Program. Highlights include an overview of the NIOSH Total Worker Health Program, opening comments from Dr. John Howard as well as his perspectives on *total worker health*, and a commentary with 17 national leaders. The Supplement is available at <http://journals.lww.com/joem/toc/2013/12001> .

[Oregon Healthy Workforce Center \(ORhwc\)](#)

The Oregon Healthy Workforce Center (OHWC) invites partners and stakeholders in Oregon and the Pacific Northwest to attend the 2nd Annual Partner's Luncheon scheduled for Thursday, March 20, 2014 from 11:00 a.m. to 2:30 p.m. at the Jantzen Beach Red Lion Hotel in Portland. This year's speaker will be Lee Newman, MD, Professor of the Colorado School of Public Health and School of Medicine, and Director of the Center for Worker Health and Environment and NIOSH Mountain and Plains ERC. Download the [flier](#)   and visit the [OHWC Luncheon webpage](#)  to learn more and register. There is no cost for this event.

Now Available: Free Webinar: [The Changing Employment Relationship and Worker Well-Being](#) , a symposium co-sponsored by The Oregon Healthy Workforce Center, the Oregon Institute of Occupational Health Sciences (formerly CROET) and Portland State University Occupational Health Psychology Program.

News from our Partners

Work@Health® Training Program through CDC

The Centers for Disease Control and Prevention (CDC) has just announced a new free workplace wellness training program for businesses and other organizations called [Work@Health®](#).

The initiative features both employer training and train-the-trainer workshops:

1. The Work@Health® Employer curriculum is designed to train employers how to establish, expand and improve science- and practice-based health promotion strategies that will lead to specific, measurable means to reduce chronic disease rates in the workplace.
2. The Work@Health® Train-the-Trainer curriculum is designed to prepare qualified individuals to acquire the knowledge and skills needed to train other employers and organizations using the Work@Health® Curriculum. This is a good option for health departments, business coalitions, non-profits, or trade associations who support workplace health.

Training will begin in early 2014 and continue with program technical support and consultation forums throughout the remainder of next year. Sign up now for online training or a seat during one of four regional trainings in Atlanta, GA; Baltimore, MD; Chicago, IL; and, Oakland, CA. To register, click the "[Get Involved](#)" link on the Work@Health® program website at www.cdc.gov/workathealth or contact Hugh Bailey (workathealth@ashlininc.com).

New Initiatives and Resources

New Online Toolkit Helps Organizations Improve Health, Safety, and Well-Being

The Center for Promotion in the New England Workplace (CPH-NEW) released a new online toolkit, called the [Healthy Workplace Participatory Program](#). This online toolkit encourages organizations to integrate their health, safety, and wellness programs and engage employees at all levels of the process.

Researchers at the Center for Promotion in the New England Workplace (CPH-NEW), a joint research initiative of the University of Massachusetts Lowell and the University of Connecticut, designed and field tested all of the materials. The Centers also have been using this toolkit successfully with organizations for several years.

To learn more, visit the web site at: <http://www.uml.edu/Research/Centers/CPH-NEW/Healthy-Work-Participatory-Program/default.aspx> or contact CPH-NEW via email cphnew@uml.edu.

Best-Practice Webinar for Improving Bus Operator Health and Retention


The NIOSH Transportation Warehousing and Utilities NORA sector will host a webinar presenting *Best-Practice Guidelines for Improving Bus Operator Health and Retention February 25th, 2014 at 2 p.m. EST*. Robin Gillespie from the Transportation Learning Center will be presenting. To participate in the webinar please follow this link to [join the meeting](#).

NIOSH Stress Experts Participate in Twitter Chat on Stress


On December 9, 2013, NIOSH workplace stress experts, Federal Occupational Health's FedStrive program, and NIOSH's Total Worker Health program hosted a Twitter chat on stress that resulted in #stresslesschat becoming a trending hashtag for the day. Topics addressed included definition and causes of stress; biological, psychological and sociological consequences of stress; and stress management/prevention strategies. To read the archived chat, visit <https://twitter.com/search?q=%23StressLessChat&src=hash&f=realtime> or log on to Twitter and search #stresslesschat.

Conferences, Webinars and Trainings in Support of NIOSH TOTAL WORKER HEALTH® (February – April 2014)

LCDR Heidi Hudson will be presenting an overview of Total Worker Health at the University of Cincinnati's Department of Environmental Health on February 12.


Dr. L. Casey Chosewood will deliver the keynote address at the Atlanta Business Chronicle's Atlanta's Healthiest Employers ceremony on February 14, 2014 in Atlanta, GA. For more information, visit: <http://www.bizjournals.com/atlanta/event/98621> 

On February 25, 2014 from 3:30 p.m. – 5:00 p.m. EST, NIOSH and CPH-NEW will cohost a Total Worker Health Webinar, "Making the Case for Total Worker Health: An overview of opportunities and approaches." For more information, including continuing education opportunities, please visit: </niosh/TWH/webinar.html>.

Dr. L. Casey Chosewood will deliver the keynote presentation at the annual meeting of the Alabama Local Section of the American Industrial Hygiene Association in Birmingham, AL on February 28, 2014. For more information, visit: <https://www.aiha.org/localsections/html/alabama/event.htm> 

Dr. Anita Schill and Dr. L. Casey Chosewood will speak at a webinar hosted by CNA Insurance Companies on March 19 from 2:00 p.m. – 4:00 p.m. EST on the subject of "Healthier, Safer, and More Engaged: Your Guide to TOTAL WORKER HEALTH®."

LCDR Heidi Hudson and Michelle Lee will lead a workshop titled "Total Worker Health: Let's Get Started!" and present on the topics of "Maximizing the Health of an Aging Workforce" and "Integrating Safety with Workplace Wellness" at the Spring Conference of the Florida Local Section of the American Industrial Hygiene Association in Jacksonville, FL on March 26-28, 2014.

Dr. Jennifer Hall, Associate Director for Outreach for the University of Iowa Healthier Workforce Center for Excellence, will present on Creating a Culture of Total Worker Health at the 2014 Iowa Governor's Conference on Public Health on April 1-2, 2014, in Ames, IA. For more details, visit: <http://www.iowapha.org/IGCPH> 

We would love to hear from you! Please send your comments and suggestions to us at twh@cdc.gov

This newsletter is published quarterly via email by the National Institute for Occupational Safety and Health TOTAL WORKER HEALTH® Program to inform members of the public health community as well as interested members of the general public of program-related news, new publications, and updates on existing activities and initiatives.

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