The NIOSH Science Blog: Social Media Dissemination of Occupational Safety and Health Information

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Abstract
The National Institute for Occupational Safety and Health (NIOSH) created the NIOSH Science Blog to provide a new way to further the Institute’s long-standing commitment to optimizing two-way communication with partners, stakeholders, and the public. The blog provides an opportunity for NIOSH scientists and stakeholders to present ideas to each other while engaging in robust scientific discussion with the goal of protecting workers. The Blog is structured to serve as a portal for open and honest scientific communication. Since beginning the NIOSH Science Blog in November 2007, the Blog has addressed over 65 topics ranging from workplace fatalities, to body art (tattooing); to Vuvuzelas (noise induced hearing loss). The number of “hits” on the site has been growing steadily from over 18,000 in 2007; 95,000 in 2008; 167,000 in 2009; and over 68,000 hits in the first five months of 2010. Using the blog, NIOSH has been able to reach readers in a format they are increasingly using in a personal and professional capacity, tailor the messages to quickly address emerging issues, and to disseminate information relevant to workers and the public through an interactive medium that was not formerly available.

1. Introduction
The National Institute for Occupational Safety and Health (NIOSH) created the Science Blog to provide a new way to further the Institute’s long-standing commitment to optimizing two-way communication with partners, stakeholders and the public.

http://www.cdc.gov/niosh/blog/index.html

The Science Blog provides opportunity for NIOSH stakeholders to present ideas to NIOSH scientists and each other while engaging in robust scientific discussion with the goal of protecting workers. Each month, we select two or three topics for presentation. A unique aspect of the blog is that it is open to all NIOSH researchers. Many institutional blogs are written by a single person or a designated panel of authors. Subject matter experts are recruited from the Institute's staff to draft a “thought piece,” for each selected topic. These serve as the starter for the Science Blog’s exchange. We try to write a starter that is relatively short, but which provides enough detail and ends with thought-provoking issues or questions. The closing ques-
tions include an invitation to our readers to contribute their experiences, post additional questions, or reflect on the concerns presented in the blog.

2. **Moderated Posting**

The Blog is structured to serve as a portal for open and honest scientific communication. While we certainly post comments that conflict with or criticize our research, we expect participants to show respect and consideration to the authors and others using the blog. Because the Blog is associated with NIOSH which is a component of the U.S. Government, the blog is necessarily moderated to avoid its being used in ways that would violate Federal laws. All comments are reviewed before posting. As such, the blog does not allow for "real time" interaction. We do not post vulgar language; personal attacks of any kind; offensive terms that target specific groups; or unsupported accusations. We will not knowingly post comments that infringe on copyrights, are spam, are clearly off topic, promote services or products, or could be construed as lobbying, which would violate Federal law.

3. **Topic Selection**

To keep the blog relevant, we often select topics based on current events. For example, during the summer of 2010, the biggest story is the response to the Deepwater Horizon oil spill in the Gulf of Mexico. We posted a blog which highlights various worker protection issues faced by responders to the spill. Links to various guidance documents are provided so that this blog is a useful resource. Another big story for the summer of 2010 was the FIFA World Cup in South Africa, and the very noisy Vuvuzelas that were blown by the crowd. With the blog, "Vuvuzelas: What’s the Buzz?” we tapped into the growing concern by the media and players over the distraction and technical difficulties created by the use of the vuvuzelas to highlight the more pressing issues of tinnitus and noise-induced hearing loss. During the H1N1 Pandemic Flu outbreak in 2009, we posted two blogs, one "Protecting Health Care Workers" and the other “N95 Respirators and Surgical Masks.” These turned out to be the most accessed blogs to date.

On a more whimsical note, in March 2010 the movie "Alice in Wonderland" was released. We used that occasion to post a blog titled, "Mad as a Hatter," and wrote about workplace hazards in the movies. The "Mad Hatter" in the story was mad because in Lewis Carroll's time, hatters toiled in poorly ventilated rooms, using hot solutions of mercuric nitrate to shape and convert fur into felt hats. This blog generated a large number of comments because the text ended with an invitation to readers to submit a list of their favorite movies that describe or have an occupational safety and health component. A follow up blog will produce a top 10 list of occupational safety and health-related movies from the entries submitted through the blog.

Several of our blogs have been timed to coincide with the release of a NIOSH publication, or to highlight an upcoming workshop or conference. On May 1, 2009, just before the highest profile horse race in the U.S., the Kentucky Derby, and NIOSH released a document titled, “An Overview of Safety and Health for Workers in the Horse-Racing Industry.” Coincident with the release of the document we posted a blog titled, “Safety and Health in the Horse-Racing Industry” which highlighted the findings from the just-released document, and was able to incorporate some information about an injury that occurred in the warm-up rounds prior to that year’s Kentucky Derby.

Two blogs on Nanotechnology “Nanotechnology: Should carbon nanotubes be handled in the workplace like asbestos?” and “Occupational Disease and Nanoparticles” provided the NIOSH perspective on two
published articles that were receiving considerable attention at the time. The blog allowed NIOSH to address issues raised by the research as well as highlight the NIOSH nanotechnology efforts.

4. Growth and Impact

Overall, the NIOSH Science Blog has experienced steady growth since it was initiated in 2007. Our first blog was posted in November of 2007 and attracted 4,054 site views. During our first full year of operation, we attracted visitors at a rate of 7,930 visits per month. In 2009, the rate jumped to 13,917 visits per month, and during 2010 we are experiencing visits at a rate of 14,008 visits per month.

Among the topics we chose, the most popular topics to date were the two blogs related to the H1N1 Pandemic, with the most popular topic being the blog describing the difference between N95 Respirators and Surgical Masks. Following those topics, interest was highest in blogs on Health Reform, Younger Workers, Strains and Pains in Home Healthcare, Mad as a Hatter, Back Injuries in Health Care Settings, Workplace Hearing Loss, Effectiveness of Worker Training, and Workplace Stress.

Beyond tracking the growth in visits to the NIOSH Science Blog's pages, it is difficult to identify the ultimate uses and impacts the blog has had on worker health. We know from feedback we received from users several ways that the NIOSH Science Blog is being used and have some insights on its impact. We received feedback from two graduate school departments that they were using the NIOSH Science Blog as part of their course syllabus. In one case the professor used the Blog as an assignment counting as the midterm exam for a risk assessment and decision analysis course. Some of our blog readers have contacted NIOSH following a posting and offered their work sites for case studies in follow-up research, and others have invited the NIOSH Science Blog authors to speak at conferences on the blog topic or to participate in workshops furthering the dissemination. Some of the topics covered by the NIOSH Science Blog have been linked in other organization’s websites, and in some cases were reproduced on other sites verbatim.

The blog on a Multifaceted Approach to Assess Indoor Environmental Quality included an interesting problem-solving exchange between the NIOSH subject matter expert and the external blogger. After reading the blog, a practitioner presented a situation that he was dealing with which defied explanation. The NIOSH author consulted with other experts from the Institute and provided a response guiding the blogger to collect some additional data on the ventilation and humidification system. A few days later the blogger responded that the problem had in fact been identified and would be solved through this exchange.

Internally, many NIOSH researchers were initially slow to adopt the blog as a communication device. With the blog’s utility now demonstrated, researchers now regularly include the blog in their communication and distribution plans. One author said “The blog is a wonderful tool – it’s been the best thing I’ve experienced in my 25 years here at CDC.” Another author said, “For me, this experience was rewarding, refreshing really. Most of the stuff I write takes years, y-e-a-r-s to get outside these walls. To have something happen this fast and this timely felt great.”

5. Summary

The NIOSH Science Blog has proven to be an effective tool for NIOSH to engage in dialog with stakeholders, occupational safety and health practitioners, and the public. By selecting topics aligned with current events and newly released research, the Blog has maintained its relevance and is increasing in popu-
larity. While it requires the continual attention of a blog manager, public affairs director, policy review, occasionally legal review, and input from many scientists and researchers across the Institute, the benefit of being able to engage in timely communications rates the blog as an overall success for the Institute.

6. Acknowledgements
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