

Flu-related Hospitalizations by Industry

[Announcer] *This program is presented by the Centers for Disease Control and Prevention.*

[Mike Miller] Hi, I'm Mike Miller and today I'm talking with Sara Luckhaupt, a medical officer at CDC. Our conversation is based on her analysis of flu-related hospitalizations by industry, which appears in CDC's journal, *Emerging Infectious Diseases*. Welcome, Dr. Luckhaupt.

[Sara Luckhaupt] Thank you, and thank you for your interest in the study.

[Mike Miller] Well, Dr. Luckhaupt, what was the purpose of the study?

[Sara Luckhaupt] Well, this is an important study because it's one of the first to examine systematically collected flu surveillance data according to occupation. Although guidance already exists to assist workplaces in protecting workers from risk of infection from seasonal or pandemic flu, more information is needed about which specific groups of workers are at highest risk of getting the flu or of having complications of infection. This information could help improve the targeting of efforts to prevent flu to those occupational groups at greatest risk.

[Mike Miller] You know, I believe you used the Emerging Infections Program, to some degree, so can you please tell us about it?

[Sara Luckhaupt] Yes. So, the Emerging Infections Program, or the E-I-P, as it's abbreviated, consists of a network of 10 state health departments and their collaborators in local health departments, academic institutions, other federal agencies, and public health and clinical laboratories. And it's designed so that the population of the EIP network is roughly representative of the US population on the basis of demographic characteristics, such as age, gender, race, and urban residence, as well as population density and percent at or below the poverty level. So, during the 2009 through 2010 flu season, the 10 EIP sites performed active population-based surveillance for laboratory-confirmed flu-related hospitalizations.

[Mike Miller] Okay, so how was the study conducted?

[Sara Luckhaupt] So basically, we calculated ratios that compared the proportions of hospitalized workers that were employed in each industry sector to the proportions of the employed US population that are employed in each industry sector. For example, we compared the proportion of employed workers from the food services sector who were hospitalized to the proportion of employed workers from the food services sector within the entire US population.

[Mike Miller] I see. Did you find anything interesting that surprised you?

[Sara Luckhaupt] Well, we were not particularly surprised to find that people employed in the healthcare industry appear to be more likely to be hospitalized because of flu; but we also found that people in some other industries seem to have a greater chance of being hospitalized if they get the flu. So, planning for pandemic and seasonal flu is important in these other industries, too.

[Mike Miller] Well, who *is* most likely to be hospitalized because of the flu?

[Sara Luckhaupt] Well, interestingly, in general, first, we found that workers were less likely to be hospitalized for the flu than non-workers. And we believe that this reflects underlying protective characteristics of workers versus non-workers. That is, workers are generally healthy and may have better access to health care than non-workers. We found that workers from some industry sectors were more commonly hospitalized than others; however, it is impossible for us to conclude with certainty from this study which industry sector is at the highest risk. The highest ratio of workers who were hospitalized was for the transportation and warehousing industry sector, but the ratios for the health care industry, as well as a couple of other sectors, such as administrative, waste management, and related services; and accommodation and food services were similar to the ratio for transportation and warehousing.

[Mike Miller] So, what factors contributed to these people being hospitalized more than other people?

[Sara Luckhaupt] Well, we think there are at least two reasons that an industry sector may have appeared to be overrepresented or to have an increased risk of hospitalization for flu compared to other industry sectors in this study. First of all, overrepresentation of an industry sector may be due to occupational risk factors for flu, that is, risks that these workers are more likely to face than others because of the nature of their job, like exposure to sick members of the public, for example. Second, basic demographic and underlying health characteristics of the workers in some industry sectors may have led to an overrepresentation of those sectors. These underlying health characteristics could put workers at an increased risk, both for acquiring the flu and for being hospitalized with it, and include things, such as older age, chronic diseases, like diabetes or COPD, and poor access to healthcare. So the groups within the administrative, waste management, and related services may have low exposure to the public, but it may be that they may have underlying high-risk characteristics. For example, many people working in this sector have low salaries and may have problems with access to health care. On the other hand, workers in sectors such as health care and accommodation and food services may not have as many underlying high-risk characteristics, but they do have a high exposure to the public.

[Mike Miller] Well, it seems that smoking was a consistent factor in many of the hospitalizations. Is ‘not smoking’ something you would recommend to help people stay well?

[Sara Luckhaupt] Well, we didn’t actually have any information on the smoking status of the EIP cases in this study, but we presented population smoking data from the National Health Interview Survey as background, because previous studies have suggested that smokers may be more likely to be hospitalized for flu. So, it is possible that a higher incidence of smoking among workers in certain industries, for example accommodation and food services, may partially explain why we found evidence of an increased risk for hospitalization with flu among those groups.

[Mike Miller] Besides ‘not smoking,’ what other things can we do to protect ourselves against the flu and the complications that come along with it?

[Sara Luckhaupt] Well, the National Institute for Occupational Safety and Health webpage on seasonal flu in the workplace describes strategies for decreasing flu transmission. These strategies include getting flu vaccinations, proper handwashing and respiratory hygiene practices,

and recognizing flu signs and symptoms. So, these strategies can be found in more detail at www.cdc.gov/niosh/topics/flu/.

[Mike Miller] Thanks, Dr. Luckhaupt. I've been talking with Dr. Sara Luckhaupt about her paper, *Influenza-associated Hospitalizations by Industry, 2009–2010 Influenza Season, United States*, which appears in the April 2012 issue of CDC's journal, *Emerging Infectious Diseases*. You can see the entire article online at www.cdc.gov/eid.

Now, if you'd like to comment on this podcast, send an email to eeditor@cdc.gov. I'm Mike Miller, for *Emerging Infectious Diseases*.

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