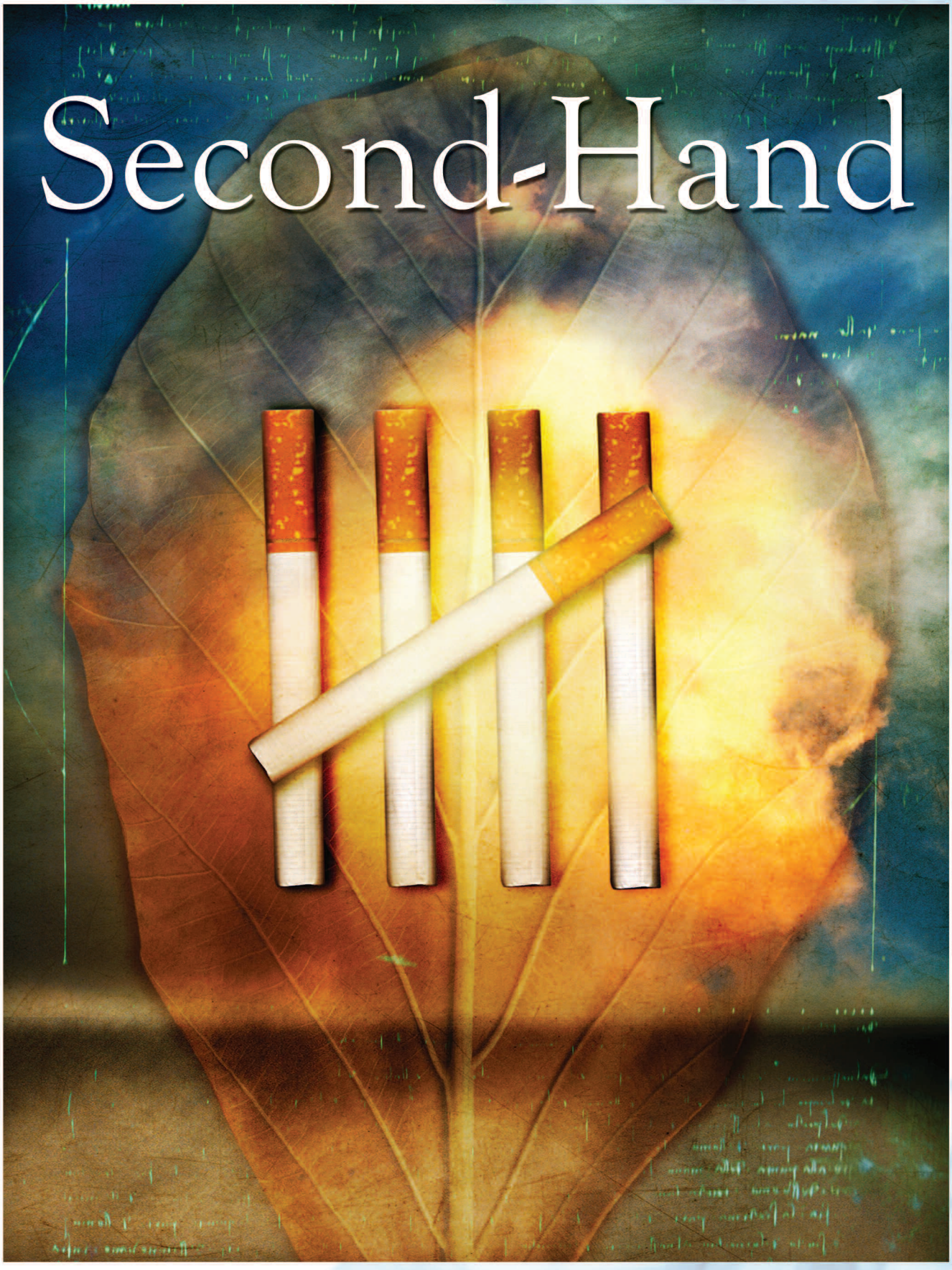
Second-Hand



Smoke Exposure

Responses from Home Care, Hospice, and Therapeutic Group Home Nurses

A CALL TO ACTION

Home care visiting nurses and those working in a therapeutic group home expressed concerns about their inadvertent exposure to secondhand smoke when caring for patients who live where cigarettes or tobacco products are used. The American Lung Association Fact Sheet on Secondhand Smoke Exposure cites the Environmental Protection Agency (EPA) classification of secondhand smoke as a cause of human cancer. Secondhand smoke causes approximately 3,400 lung cancer deaths and 22,700 to 69,600 heart disease deaths among adult nonsmokers in the United States each year (American Lung Association, 2009). For this study, home care nurses and those working in a therapeutic group home for the mentally ill in Augusta, Maine, were interviewed. This report describes their exposure and how secondhand smoke can be eliminated with minimal disruption to patient care. The interviewed nurses discussed the repeated exposures they experienced while caring for multiple smoking patients in residences that included apartment buildings and group homes and while transporting patients with private automobiles in which the use of cigarettes, cigarillos, cigars, pipes, and tobacco products can be common. Concerns about secondhand smoke exposures frequently focused on the unpleasant smoke odor retained on clothes and nursing equipment when people smoke during a patient visit. Protective actions also were reported. Strategies for action are discussed.

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Exposures of home care nurses and the public to secondhand smoke (SHS) are described by the Centers for Disease Control (CDC, 2006) and the Environmental Protection Agency (EPA, 2008) as occurring in either of 2 ways. First, nurses can be exposed to the air in homes of smokers that carries complex mixtures of gases from the burning tobacco products used. Second, exposures can occur whenever a person is with a smoker whose burning tobacco is streamed into the environment, an effect known as side-stream smoke (Brinkman, 2005).

Secondhand smoke creates environmental tobacco smoke (ETS), known to cause reactive respiratory responses, which are as harmful as smoking. The CDC points out that there is no safe level of SHS exposure (CDC, 2006).

A fact sheet published by the EPA (2008) in the Smoke-Free Homes and Cars program also emphasizes the health risk. Based on the available scientific evidence, the EPA concluded that the widespread exposure to ETS in the United States presents a serious and substantial public health risk.

This report aims to describe how nurses can take action to protect themselves from SHS while at the same time supporting the autonomy of their patients and clients in home care and group home settings.

Nurses were interviewed individually and in a focus group to discuss

SHS exposure. They were, surprisingly, reluctant to set essential boundaries with their patients and healthcare consumers to eliminate the SHS occupational exposures. They gave 3 reasons for this reticence: (1) as advocates for patients' autonomy, they are more comfortable accepting the passive position of being nonjudgmental about the living habits of their patients; (2) they claim they are advocates for their consumers' or patients' rights, including their particular preferences for smoking; and (3) when caring for a hospice client, they maintain support for lifestyle choice, especially when their patients are facing the end of life. The group home nurses reported that even nonsmoking clients with mental illness living in therapeutic group homes are reluctant to voice their concerns about SHS.

Although nonsmoking consumers claim a preference for living in an apartment that has no ETS, this does not deter them from accepting a residence where previous tenants have smoked when it is offered. This experience is described by Hewett, who studied the impact that SHS had on people who rented apartments and houses in Minnesota. Although the study describes renters objecting to the smell of smoke when shown an apartment whose prior resident smoked, the finding had a neutral effect on their willingness to accept an apartment (Hewett, Sandell, Anderson, & Neibuhr, 2007).

Background

Smoke exposure is a startling health and safety risk to nurses and patients. Besides the inherent danger of combustion when smoke and oxygen are put together at the same place in residential settings, including the home or therapeutic group homes, the collateral exposure from inhaling side-stream smoke increases the risk of smoking-related diseases for others who share the environment. Smoke from tobacco products contains more than 4,000 harmful chemicals, of which at least 250 are known to be harmful and 50 are carcinogens. Some of these toxins listed by the National Cancer Institute (2007) are

- Arsenic (a heavy metal toxin)
- Benzene (a chemical found in gasoline)
- Beryllium (a toxic metal)
- Cadmium (a metal used in batteries)
- Ethylene oxide (a chemical used to sterilize medical devices)
- Nickel (a metallic element)
- Polonium-210 (a chemical element that gives off radiation)
- Vinyl chloride (a toxic substance used in plastics manufacture).

Additionally, tobacco smoke can contain heavy concentrations of carbon monoxide (Carbon Monoxide Kills Campaign, 1999).

More than 40 years ago, the link between smoking and lung cancer was first documented in a U.S. Surgeon General report. Since then, multiple reports based on thousands of studies have documented the causal evidence for a wide range of serious health effects attributed to tobacco use affecting almost every organ in the body.

Exposure to SHS is found to be just as harmful as smoking because these chemicals are released into the environment when people are smoking (American Lung Association of California, 2008), thereby exposing others. It is determined that an individual's total exposure to ETS includes the time spent in various settings, especially indoors, and the concentration of the smoke in these settings.

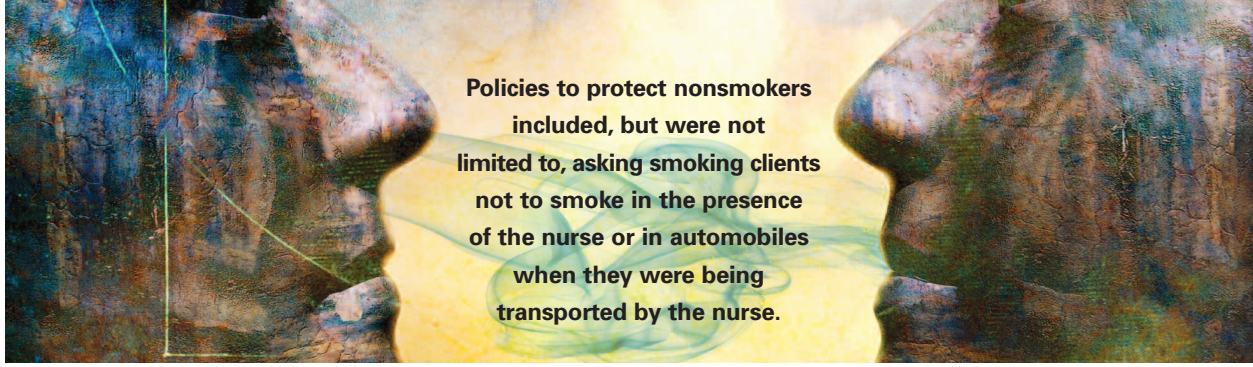
Secondhand smoke cannot be vented easily. Rather, the exhaled smoke expands into all available spaces in a building. Consequently, ETS in the home becomes a significant contributor to total exposure.

Secondhand smoke exposure causes acute and chronic respiratory diseases as well as premature death for nonsmoking adults and children. It has immediate harmful effects on an individual's heart and blood vessels. It also may increase the risk of heart disease by an estimated 25% to 30%.

Additionally, SHS is associated with low birth weights and perinatal mortality in experiments with rats in utero, as reported by Zhu et al. (1997). Passive maternal exposure to tobacco smoke (involuntary maternal smoking) during pregnancy in lab rats also is associated with an increased incidence of asthma and the risk for negative developmental outcomes. Indeed, passive smoking and tobacco exposure through breast milk even increases the risk of sudden infant death syndrome in infants (Zhu et al., 1997).

Secondhand smoke causes approximately 3,000 lung cancer deaths and 22,700-69,600 heart disease deaths among adult nonsmokers in the United States each year (National Cancer Institute, 2007). Even low SHS exposures are harmful, as reported by the National Cancer Institute in (2007).

Obviously, total smoking cessation is the only absolute way to ensure full protection of non-



smokers against SHS exposure. If tobacco product usage cannot be completely eliminated from the environment, the next best prevention for protecting the nurse is elimination of smoking in all indoor spaces. Essentially, actions of nurses to protect their health and safety from the harmful effects of tobacco use are urgently needed to facilitate the elimination of SHS (Sarna & Bialous, 2005).

Smoking cessation is a world health issue central to reducing death and disability and improving the quality of life everywhere. Nurses should consider being involved in solving this problem. All the same, Sarna explains the lack of knowledge and skills, lack of expectation for clinical intervention, limited research, absence of professional policies, and minimal nursing leadership that diminishes the critical role nurses play in confronting the epidemic of SHS and ETS (Sarna & Bialous, 2005). Furthermore, Sarna calls for nurses to take action. It is time to engage in worldwide prevention of tobacco use by providing nurses with opportunities to learn smoking cessation programs, thereby decreasing exposure to SHS and supporting policies to limit the death and morbidity caused by tobacco.

Empowering nurses to reduce their exposure to SHS is absolutely essential to eliminating the risk of exposure. Tobacco cessation can lead to important health benefits, especially a reduction in the risk of cancer recurrence or the development of a second tobacco-induced malignancy; enhanced recovery after surgery; and decreased risk of cardiovascular and respiratory diseases (Sarna & Bialous, 2005). Smoking cessation is effective when based on strategies to support a combination of skills, training, social support, and use of medications to decrease withdrawal symptoms (Sarna & Bialous, 2005). Nevertheless, reflective of Sarna's report, nurses interviewed say they are reluctant to set boundaries with people who smoke while receiving care at home.

Methods

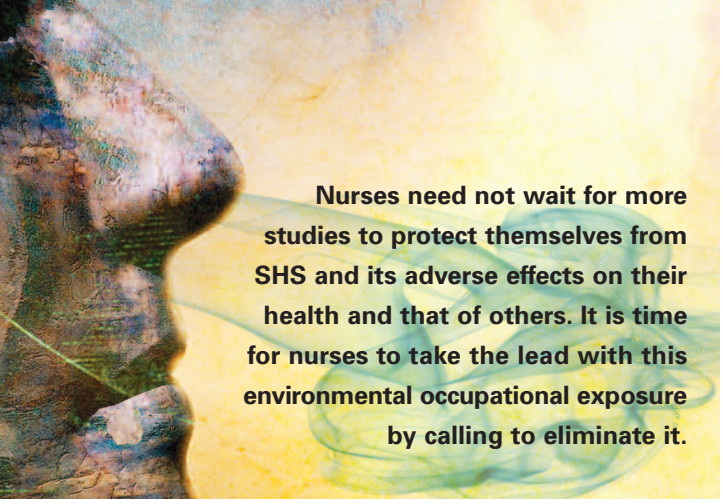
A focus group of 4 registered nurses who work in a therapeutic group home for the mentally ill in Augusta, Maine, agreed to discuss their concern about SHS exposure. The average age of the nurses was 42 years. The average time they had been registered nurses was 18 years. None had ever smoked cigarettes, but all say they are exposed to SHS and ETS during their work with group home clients. All described adverse effects related to their SHS work exposure, reporting that about 80% of their patients smoke cigarettes. They said some of their clients chain smoke as many as 4 packs of cigarettes a day. The nurses reported their SHS exposure effects as coughing, burning eyes, a smoke smell on their clothes and hair, and upper respiratory symptoms during and after meetings in the homes of clients who smoke. One nurse described having a bad taste in the mouth, sneezing, and stinging eyes.

Other nurses interviewed also reported the adverse effects that smoking has on the overall health assessments conducted on patients and consumer clients. They reported the effect of smoking on vital signs, pulse rate, and blood pressure. To minimize the risk of exposure, one home health nurse reportedly asked her patients, who happened to live with smokers, to move into another room and away from the SHS for the duration of the visit.

Regardless of the issues identified in the nurse interviews and the focus group, all nurses who participated in the discussion agreed that their individual working rights are a secondary point compared with their patients' right to smoke. Although they promoted education about the harmful effects of tobacco, often, asking their patients not to smoke, they were reluctant to enforce their opinions with their patients. When asked whether administration supported their concerns about SHS exposures, they all admitted to being aware of policies in place to protect them. These policies included, but were not limited to, asking smoking clients not to smoke in the presence of the nurse or in automobiles when they were being transported by the nurse.

Nevertheless, nurses reported they did not routinely enforce these policies with their patients or consumer clients. However, they went on to say that they often asked family members not to smoke when they were in the home.

One nurse suggested an educational program



Nurses need not wait for more studies to protect themselves from SHS and its adverse effects on their health and that of others. It is time for nurses to take the lead with this environmental occupational exposure by calling to eliminate it.

targeted to help nurses educate themselves. It included, for example, development of a poster campaign to heighten awareness of the health dangers posed by SHS and ETS exposures. The posters, it was suggested, need to include a list of the chemicals in tobacco smoke and should be placed near medication rooms to receive maximum attention from the nurses.

In summary, the nurses interviewed were highly concerned about their exposure to SHS in home care and group home settings. However, they went on to say they were reluctant to take action to minimize their exposure. They said their role as advocates for their patients and clients rights presented a perceived ethical barrier between themselves as both professional caregivers and advocates for their patients and their clients' rights. The nurses said they were reticent about setting boundaries for their own personal safety with regard to SHS exposure.

Nurses' Call to Action

Maine is 1 of 45 states that have laws in place to protect the public from SHS and its harmful effects (Partnership for a Tobacco Free Maine [PTM] ,2008). As a public health program, PTM was put in place to reduce death and disability caused by tobacco. The PTM initiative provides educational aids to help people learn about the serious SHS health hazards. Unfortunately, the determined efforts by the Maine Center for Disease Control and Prevention to support PTM and the associated state law banning smoking in the state's public places do not extend to the environmental work sites of nurses caring for smokers who happen to be home care patients or residents living in therapeutic group homes.

Nurses need not wait for more studies to protect themselves from SHS and its adverse effects on their health and that of others. It is time for nurses to take the lead with this environmental occupational exposure by calling to eliminate it. Action can begin immediately by the development of public policy conversations with government regulatory agencies for the purpose of protecting nurses, their patients, and communities while solving this environmental problem. One home health nurse interviewed suggested the use of telehealth technology as one way to reduce nurses' exposure to SHS while maintaining responsible quality care.

This author recommends a site-specific evaluation of the nurses' occupational health risk by the Occupational Safety and Health Administration (OSHA). An evaluation with recommendations on how to limit exposure while educating the patients about the health risks of SHS exposures will help to prevent unnecessary illnesses associated with ETS. Other ideas include

- Stricter accreditation standards, such as the Joint Commission (JCAHO) and Community Health Accreditation Program (CHAP), for evaluating health education by nurses caring for patients who smoke or working in homes where smokers live.
- Signed contracts with smoking consumer patients requiring that smoking be banned during the time the nurse is visiting for care of the patient or consumers in their residences.
- Specially assigned nursing bags for use exclusively in the homes of patients and consumers who smoke to reduce the impact of carrying smoke smells from house to house.
- An enforced policy for the nurse to wear protective masks while caring for patients and consumers living where tobacco is used, especially if there is an ethical issue about allowing the patients to smoke.
- A sample communications matrix to be included in orientation manuals for nurses to use when providing home care or care for group home clients who smoke.

For example, with such a communication matrix, nurses could

- Request clients not to smoke before or during the nurse visit.
- Leave smoking cessation information at the patients' and clients' residences after each visit.
- Remove clients from a room in which other family members or visitors are smoking during an assessment visit.
- Have clients sign a nurse/client/patient contract to explain the urgency of protecting the

nurse from SHS. This would strengthen compliance with boundaries to protect the nurse from harmful SHS exposure.

- Wear protective clothing when caring for patients and clients who smoke in their residences. ☗

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