

By Jeff Worley

More than four years ago, in the heart of tobacco country, a smoke-free law went into effect for all buildings open to the public, including bars and restaurants, in Lexington, Kentucky. What effects has this law had on community health in Lexington and in other cities that have adopted these laws? On smoking rates? On local businesses' bottom line?

Ellen Hahn, a professor in the UK College of Nursing, wanted to know the answers to these questions, so in 2005 launched six research projects to see if this law was working and, if so, how well. Hahn, the driving force behind the smoke-free initiative, assembled a team of faculty, staff and students from the UK colleges of Nursing, Public Health and Business who spent three years researching the early effects of this law.

When Hahn talks about the smoke-free initiative, and contingent concerns such as smoking rates in the state, she is direct and adamant. She clearly gets fired-up by the smoke-free issue.

“One of the several important results of the smoke-free law is that in the 32 months after Lexington’s

ordinance, there was a 22 percent decline in emergency department visits for asthma,” she says. In Hahn’s project that determined this decline, the first study of its kind, several members of her team gathered data on emergency department visits for asthma in all Lexington hospitals before and after the smoke-free law. Hahn reasons that the decline may have been greater for adults than children (24 percent compared to 18 percent) because many adults are in workplace settings, restaurants and bars affected by this law, while children are more likely exposed to secondhand smoke at home, where the law doesn’t apply.

Smoke-Free Laws Decrease Smoking Rates

Hahn was also interested in any general decline in smoking rates in Fayette County. The Behavioral Risk Factor Surveillance System, the world’s largest ongoing telephone health survey system, collected responses from 10,413 current or former smokers—7,139 before the law went into effect and 3,274 after it was enacted. The research team examined the number of people in Fayette County who were smokers

before and after the smoke-free law took effect

The results surprised Hahn. The smoking rate in Fayette County declined nearly 32 percent (from 25.7 percent before the smoke-free law to 17.5 percent after), while smoking rates remained stable in Kentucky counties without smoke-free ordinances. Doug Steinke, an economist and researcher in UK’s Department of Pharmacy Practice & Science, then used a well-established extrapolation formula to estimate the healthcare cost savings from this reduction in smoking.

“Lexington’s law resulted in 16,500 fewer smokers for an estimated annual healthcare cost savings of \$21 million. That’s huge,” Hahn says, smiling. “When communities pass smoke-free laws, they don’t do it to get people to quit smoking, but this is an unintended benefit.”

Why do smokers in smoke-free places decide to kick the habit?

The inconvenience of having to stand outside in the winter keeping company with ice and snow in order to smoke might play a role in this decision, Hahn says, but a more likely reason is that most smokers want to

Smoke-Free Successes

Research Shows New Laws Working Well



“This cigarette ad in the January 1937 issue of *Home Arts*, a needlecraft magazine, was typical of the regular, insidious messaging that the tobacco industry used to promote an ingrained, pro-tobaccocultural norm that continues even today. While there are more advertising restrictions today, the tobacco industry continues to target young people, women and minorities through point-of-purchase, Internet and special-promotions advertising.”—Ellen Hahn

quit anyway, and that being forced into a sequestered smoking area becomes one more motivator for smokers who have already been trying to stop.

Breathing Easier in Louisville


In discussing the importance of smoke-free laws, Hahn is adamant about one point. “The *strength* of the law is absolutely critical,” she says. Louisville’s smoke-free ordinance is a case in point.

A partial smoke-free ordinance, which exempted 400 to 500 bars and businesses, and allowed separately enclosed smoking rooms, was initiated in Louisville in 2005. A year later, Hahn led a study that found the partial ordinance

had little effect on lowering the amount of fine-particle, indoor air pollution—the levels of air toxins were basically the same as before.

A comprehensive smoke-free workplace ordinance was passed by Louisville and took effect in July 2007. This measure required all indoor public places and places of employment to be 100 percent smoke-free, making Louisville one of 14 Kentucky communities to implement this strong type of smoke-free law or regulation.

Did the comprehensive ordinance make a difference in the quality of Louisville’s indoor air? UK and University of Louisville researchers, in a project funded in part by The Robert Wood Johnson Foundation and the Americans



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for Non-Smokers Rights Foundation, teamed up to sample the air quality in 10 Louisville restaurants, bars and entertainment spots six months after the comprehensive law took effect. Researchers used small, inconspicuous aerosol monitors to sample and record the levels of particles in the air. This sampling showed the level of indoor air pollution fell well below the National Ambient Air Quality Standard for the first time since testing began. According to a report released by the UK College of Nursing and College of Public Health in February 2008, there was a 97 percent decline in air pollution linked to secondhand smoke in Louisville businesses after implementation of the comprehensive law.

Smoke-Free Laws Haven't Hurt Business

From the beginning of her fight to protect people in the workplace, Hahn says the primary argument she's heard against going smoke-free was that businesses would take a big revenue hit. It's a common argument, she says, but findings from as far back as 1993 don't support the contention. New York City's 1995 Smoke-free Air Act had no adverse effects on restaurant employment, and restaurant employment growth was three times higher than in the rest of the state from 1993 to 1997. Gross restaurant sales in Flagstaff, Arizona, increased

16 percent one year after a smoke-free ordinance.

And here at home, two economists—one of them was Donald Mullineaux, a professor in UK's Gatton College of Business and Economics—found that restaurant employment increased after the Lexington law took effect, while the average number of bar workers remained stable.

More recently, area bingo parlors have clouded the smoking issue. Some people imagine bingo parlors shrouded under great clouds of cigarette smoke, equating bingo players with smoking.

"There's this idea out there that everybody who plays bingo smokes, and that's simply not true," Hahn says.

To find out if a smoke-free ordinance would affect revenue of charitable gaming establishments in Kentucky, Hahn headed up a study with Mark Pyles, assistant professor of finance at the College of Charleston's School of Business and Economics in South Carolina. The study analyzed the influence of 13 municipal smoke-free ordinances on charitable gambling, including bingo parlors, and found no significant differences in gross or net revenues before and after the implementation of smoke-free ordinances.

"Our study shows that there is not a sound economic reason to exempt charitable gaming venues from smoke-free laws or regulations," Hahn says. "Gamblers are no more or less likely to smoke than non-gamblers. Most people who want to avoid smoky environments stay away from bingo parlors that allow smoking. A smoke-free environment may actually benefit charitable gaming in the long term."

How about a Smoke-Free State Law?

With all this persuasive data, is Hahn planning to move her smoke-free crusade onto a state platform soon?

"It would seem to follow, wouldn't it, that with the consistent data we've gathered in Kentucky's largest cities and in smaller communities, we'd be knocking at the door of the legislature soon, advocating for a state smoke-free law," says Hahn. "The problem is, too many Kentuckians aren't ready for that yet."

In getting such a state law passed, timing is everything, she adds. "Ohio, Georgia and Tennessee passed statewide smoke-free laws, but because they didn't first enact these laws in enough smaller communities, implementation and enforcement have been difficult." She says it's crucial to "prepare the way" through education about health benefits and local debate about local solutions, especially in heavy tobacco-growing regions. "So we are not in support of doing this right now. But someday, when more Kentuckians are accustomed to smoke-free at the local level, we will be ready for the General Assembly to consider a statewide law. Just think of the immense health benefits. Think about how the \$21 million that's been saved in Lexington would translate to the entire commonwealth."

So Hahn's smoke-free research has moved from the city to rural Kentucky communities. "We're currently building data that will tell us what local communities are thinking and doing as far as smoking policies go. We're talking to elected officials and key citizens to understand the attitudes out there." A five-year NIH grant is supporting this project. ■