Scourge of asthma acute in New England

Indoor dampness in schools = new cases of asthma

This Boston Globe article. below, describes findings from a brand new study showing how New England leads the nation in asthma, which is poorly controlled. We think that New England leads the nation in asthma cases (1 in 10 children) due to the age of its buildings, particularly its old, leaky schools. The World Health Organization, in its WHO Guidelines to Indoor Air Quality: Dampness and Mold (July, 2009), found an association between indoor dampness and development of NEW cases of asthma (WHO Guidelines, p. 72).

The formula is: INDOOR DAMPNESS AND MOLD IN SCHOOLS = EPIDEMIC OF ASTHMA IN GENERAL POPULATION (20% of the nation's citizens occupy schools on weekdays, ultimately, all citizens cycle through our schools). (SMH)

Scourge of asthma is acute in N.E.

Treatment lags, study contends

By Stephen Smith, Globe Staff | April 26, 2010

Boston Globe

Not only does
New England have the nation’s highest rate of asthma, but the disease remains poorly controlled in most patients — routinely causing trips to the hospital and lost days at school and work, according to a study being released today.

The Asthma Regional Council of New England, an independent agency underwritten by the federal government and foundations, finds that roughly two-thirds of
New England’s 1.3 million people who have asthma regularly forfeit sleep, wind up in the emergency room, and frequently puff on inhalers intended as drugs of last resort.

The report is the third since 2003 to show that New England adults have the highest rate of asthma in the nation. But this year's study is the first to portray with such precision the breath-robbing consequences of asthma in the region, where nearly 1 in 10 residents have the disease.

"These findings are a call to action,'' said Dr. Jewel Mullen, director of community health access at the Massachusetts Department of Public Health.

Asthma is in many ways a metaphor for the nation's health system, a chronic illness that should be relatively easy to tame in most patients. Instead, economic, social, and environmental forces combine to make it a persistent hardship for many.

Patients, for example, often suffer because they can't afford drug copayments or because no doctor or nurse has taken the time to warn them about the microscopic culprits that can inflame the disease.

"We are brilliant at handling acute infectious diseases and illnesses that require intense hospitalization,'' said the report's author, Laurie Stillman of the Asthma Council's parent organization, Health Resources in Action. "But when it comes to preventing and managing chronic diseases, we haven't designed a system for doing that piece very well.''

An annual telephone survey that asks thousands of people about their overall health has chronicled asthma's march, yielding alarming results. In 2001, about 1.2 million New Englanders had asthma. By 2006, the year covered in the report released today, the ranks of those with asthma had grown by 100,000.

In Massachusetts, 9.9 percent of adults and 10 percent of children had the disease. That compared with 8.2 percent of adults nationwide.

It has remained a medical mystery why New England has a higher incidence of asthma than the rest of the country. Some specialists theorize cold weather keeps families inside drafty old houses vulnerable to asthma triggers including dust mites, cockroach droppings, and mold. Others suggest there's something in the air that's especially nettlesome for asthmatics.

Researchers used sophisticated statistical models to see if differences in education, income, or other factors — perhaps patients were more knowledgeable and, thus, sought care more aggressively — explained higher rates in New England, but no single cause emerged.

Asthma specialists had long suspected that many patients struggle to keep the condition in check. The study released today indicates they were right.

Following the initial health survey, 1,439 asthmatic adults and the parents of 340 asthmatic children were called a second time and asked if the condition was well-controlled. The result: 70 percent of adults said it wasn't. The figure for children: 65 percent.

“There are people who don’t have the proper medications. There are people who have the proper medications but aren’t using them properly. There are people who are properly medicated but have not controlled environmental exposures,’’ said Doug Brugge, a Tufts University School of Medicine professor who studies asthma in

Boston’s neighborhoods.

The report found that among asthmatics who suffered the most from repeated attacks, 28 percent couldn’t afford medication and, thus, went without critical drugs, which often have high copayments. And in some cases, families don’t have the money to rip out carpets that harbor the mites or mold that can trigger asthma’s onset.

“A lot of families are struggling economically,’’ said Dr. Matthew Sadof, a pediatrician at Baystate Children’s Hospital in

Springfield. “There are a lot of competing priorities that get in the way of being able to manage asthma in an ideal way.’’

Since 2005, nurses and community health workers from Children’s Hospital Boston have trekked to hundreds of homes in
Roxbury,
Jamaica Plain, and
Dorchester, schooling families on correct use of asthma medications, stressing which drugs should be used daily and which should be reserved for severe attacks. The health workers also hunt for lurking causes of asthma, providing families with vacuum filters, bedding, and even extermination services.

Those efforts seem to be paying off. Among families who received the services, emergency room visits plummeted 65 percent, in-patient hospital stays fell 81 percent, and students missed fewer days of school and parents fewer days at work, said Dr. Elizabeth R. Woods, director of the hospital’s Community Asthma Initiative, supported by federal grants and donations.

The campaign also appears to be saving money: Research at Children’s shows that every dollar spent on the asthma initiative saves $1.50 in medical costs.

State Representative Jeffrey Sanchez, a Mission Hill Democrat, wants to replicate that experience statewide and has introduced a measure that would give doctors incentives to keep asthmatic children whose care is covered by the state out of hospitals.

“Asthma was part of our lives growing up in Mission Main,’’ Sanchez recalled. “It seemed like all my friends had it. I used to think, ‘Why don’t I have it?’ ’’

Bridget Hickson’s daughter had it, starting as a 2-year-old. There were frantic trips to the ER, her daughter gasping. Hickson wondered: Why does Britney keep getting so sick?

“When I moved and she stopped having attacks, I realized — it was the carpeting in the old place,’’ said Hickson, whose daughter is now 12 and has well-controlled asthma. “It was as simple as that.’’

When her daughter was ill, no one ever asked if she had carpeting or other asthma triggers at home. Now she works with other parents, helping them understand why their children become so sick.

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From WHO Guidelines to Indoor Air Quality: Dampness and Mold (July, 2009), p. 72:

We found that there was sufficient evidence for associations between indoor

dampness and four health outcomes that were not so classified or were not evaluated

by the

Institute of
Medicine (2004): asthma development, dyspnoea, current

asthma and respiratory infections. Asthma development is a health outcome of

particular public health importance. Five case–control studies included in the

Institute of
Medicine review (of the eight on asthma development in Table A1.1)

explicitly addressed associations between dampness or mould and asthma development

(Nafstad et al., 1998; Øie et al., 1999; Yang et al., 1998; Thorn, Brisman,

Toren, 2001; Jaakkola et al., 2002). Four new studies were identified for the

current review (Jaakkola, Hwang, Jaakkola, 2005; Matheson et al., 2005; Gunnbjornsdottir

et al., 2006; Pekkanen et al., 2007), all of which were prospective or

retrospective and reported effect measures exceeding 1.0 for most evaluations

of dampness-related factors (see Table A1.2). Of the retrospective case–control

studies of adults, 60% had ORs exceeding 1.0 (range, 0.8–2.2), and 74% of prospective

or retrospective case-control studies in children had ORs exceeding 1.0 (range, 0.63–4.12). In both studies of infants, all the ORs exceeded 1.0 (range, 2.4–3.8); however, as asthma cannot be reliably assessed in infants, these findings should be interpreted with caution (Nafstad et al., 1998; Øie et al., 1999). These studies were not included in the meta-analysis of Fisk, Lei-Gomez and Mendell (2007), which found a summary OR of 1.3 (95% CI, 0.9–2.1) for asthma development and dampness factors.

The one study in which quantitative microbial measurements were used, a prospective study in adults, did not find consistent increases in risk (only 25% of ORs exceeded 1.0, ranging from 0.9 to 1.5). One of the strongest reported studies (Pekkanen et al., 2007), a retrospective case–control study of incident asthma cases, which was not included in the meta-analysis of Fisk, Lei-Gomez and Mendell (2007), showed that dampness or mould in the main living area of a house was related in a dose–response fashion to asthma development in infants and children. The multivariate-adjusted ORs for asthma incidence associated with three levels of maximum severity of moisture damage (assessed by civil engineers) were 1.0, 2.8 (95% CI, 1.4–5.4) and 4.0 (95% CI, 1.6–10.2). This welldesigned study is the strongest available piece of evidence within a body of generally consistent findings that dampness-related exposure is not only associated with, but may cause, asthma in infants and children.