

PROFESSION

Rise in ED crowding tied to sicker patients needing more tests

Patients increasingly are visiting emergency departments and staying longer once they're there. Severe crowding can overtax emergency physicians and is linked to poorer outcomes.

By KEVIN B. O'REILLY, amednews staff. Posted July 9, 2012.

Every year, more patients go to emergency departments. The growing severity of the medical problems that bring them there means that it takes longer for emergency physicians to diagnose and treat them using interventions such as advanced medical imaging and intravenous fluids.

All of this has added up to increased crowding that delays care and can harm patients entering an ED's doors.

The number of emergency department visits rose from 107.5 million in 2001 to 123.8 million in 2008, a 15% jump that outpaced the country's population growth by 60%, said an *Annals of Emergency Medicine* study published online June 20. The total time patients spent in the ED — a measure of crowding — jumped nearly 30% in the same period, increasing from 330 million to 417 million hours.

At the same time, the number of high-acuity patients grew by 23%, and they spent 41% more time in the ED. The number of low-acuity patients remained relatively flat, rising only 6%, and was linked with a modest 10% growth in ED crowding.

The biggest factor in the rise of crowding is the treatment patients get when they arrive, researchers said. For example, visits involving a computed tomography scan, magnetic resonance imaging or ultrasound more than doubled, to 21.6 million. Imaging, blood tests, procedures, multiple medications and use of intravenous fluids in the ED all grew and were linked to crowding, the study said. Researchers drew on data from the Centers for Disease Control and Prevention's annual National Hospital Ambulatory Medical Care Survey.

The "boarding" of patients — the wait time between when a physician orders admission to the hospital and the time the patient is actually moved to a room — is a factor in crowding but did not rise substantially during the 2000s, researchers found.

"The growth of crowding since 2001 has been mostly due to increased practice intensity," said Stephen R. Pitts, MD, MPH, the study's lead author and an associate professor of emergency medicine at Emory University School of Medicine in Atlanta. "If you walked around from room to room at your neighborhood ER and asked people what they were waiting for, almost without fail they're there just waiting for test results."

The study did not examine how much of the care delivered to ED patients was appropriate, but physicians noted that today's medical technology is superior to that available even a decade ago in accurately diagnosing and treating emergent conditions such as chest and abdominal pain. Emergency physicians cited evolving standards of practice, medical liability concerns and more demanding patients as contributing to the many tests and procedures that are crowding EDs.

"In emergency medicine, it's a high-stress situation, and sometimes for liability or other concerns, patients end up getting tests even though guidelines say there is a low chance of their being positive," said David C. Seaberg, MD, president of the American College of Emergency Physicians. "We should have liability safe harbors for using well-developed practice guidelines. That's the way to change behaviors."

Will health reform help?

The Affordable Care Act includes \$50 million in incentives to encourage states to test medical liability reforms that differ from traditional caps on noneconomic damages. But Dr. Seaberg predicted that ED crowding will continue unabated, despite the reform law's efforts to encourage patient-centered medical homes, train more primary care physicians and promote better care coordination.

"It's not an easy fix to bring in more primary care doctors," said Dr. Seaberg, dean of the University of Tennessee College of Medicine in Memphis. "It's not like you can just create primary care doctors tomorrow. They have to go through medical school and residencies."

The Affordable Care Act's health insurance coverage expansion could combine with the aging of the baby boomer generation to exacerbate the crowding problem, experts said. That is because the uninsured make up just 15% of ED patients nationwide, while the growth in visits has risen fastest among patients covered by Medicare and Medicaid. Eligibility for Medicaid is set to expand to 133% of the federal poverty level and is expected to account for half of the newly insured by 2019.

Most patients who visit EDs consider their condition urgent. Among adults who visited EDs in the previous year and were released without being hospitalized, 66% said they went due to the seriousness of their problem. Eight in 10 also said they had a lack of access to other care, though 20% reported that their "health provider said to go" to the ED, said the CDC's National Center for Health Statistics in May. CDC data also show that only 7.7% of ED visitors are triaged as nonurgent, meaning they could go 24 hours without treatment and be OK.

About 30% of ED visitors spend more than four hours there. The rest are either hospitalized or treated within four hours and released, according to CDC data from 2009, the most recent year available. Starting in January 2012, hospitals became eligible for a 2% Medicare pay bonus for publicly reporting performance on three ED waiting-time quality metrics.

Skeptics of health reform's impact on ED crowding also point to the Massachusetts experience. ED visits rose more than 4% there in the two years after state health reforms, widely viewed as the model for the ACA, were enacted, according to a September 2011 *Annals of Emergency Medicine* study.

"The volume's gone up, as well as the acuity — the patients are sicker," said Gregory A. Volturo, MD, president of the Massachusetts College of Emergency Physicians. "Here we are in the mecca of health care, with more physicians than any other state in the country, and we still don't have enough primary care physicians to take care of all the patients."

It is true that the number of primary care doctors cannot be substantially increased overnight, said Roland A. Goertz, MD, board chair of the American Academy of Family Physicians. But evidence from North Carolina and elsewhere shows that well-implemented medical homes featuring open-access scheduling, remote access to electronic health records and after-hours help can slash the number of visits to the ED.

"We want to give the right care at the right place, with the least cost and highest quality," Dr. Goertz said. "We can't ignore the fact that the hospital has a lot of overhead that other sites of care don't have."

Care quality harmed

ED crowding is not just an inconvenience to patients, said Jesse M. Pines, MD, co-author of the *Annals* study.

"The more crowded the ED is, the worse patient safety is going to be within emergency departments and hospitals," said Dr. Pines, director of the Center for Health Care Quality at George Washington University in Washington.

Dr. Pines and other researchers have linked crowding to worse mortality outcomes and slower delivery of time-sensitive treatments for conditions such as pneumonia and asthma. Patients with chest pain visiting a highly crowded ED are three times likelier to have adverse cardiovascular outcomes such as heart failure and cardiac arrest, according to a July 2009 study in *Academic Emergency Medicine*.

ED crowds can take a toll on doctors, said Dr. Pines, associate professor of emergency medicine and health policy at GWU.

"This has to do with cognitive load," he said. "Compared with other specialties, emergency medicine is a specialty that expects providers to have the highest number of active new patients at any point that are actively changing. They might be expected to be managing 30 patients at once, and during crowded times that's certainly higher.

"At a certain point, you can't remember everything," Dr. Pines said. "It's tough to keep everything straight. When you have all this going on, it's easier to make a mistake."

ADDITIONAL INFORMATION:

How tests and procedures crowd the emergency department

The number of diagnostic tests and other medical interventions delivered in emergency departments rose substantially from 2001 to 2008, making the average visit 21% longer and the crowding problem worse.

ED care provided	Patients in 2001 (in millions)	Patients in 2008 (in millions)	Increase
CT scan, MRI or ultrasonography	9.0	21.6	140%
Intravenous fluids	19.5	32.9	69%
Any blood test	34.2	49.4	44%
2 or more medications	49.3	64.6	31%
Any procedure	43.9	57.3	30%
Radiography	37.2	44.0	18%
3 or more diagnostic tests	40.6	46.4	14%

Source: "National Trends in Emergency Department Occupancy, 2001 to 2008: Effect of Inpatient Admissions Versus Emergency Department Practice Intensity," *Annals of Emergency Medicine*, published online June 20 (ncbi.nlm.nih.gov/pubmed/22727201/)

WEBLINK

"Emergency Room Use Among Adults Aged 18–64: Early Release of Estimates From the National Health Interview Survey, January–June 2011," National Center for Health Statistics, May (www.cdc.gov/nchs/data/nhis/earlyrelease/emergency_room_use_january-june_2011.pdf)

"National Hospital Ambulatory Medical Care Survey: 2009 Emergency Department Summary Tables," National Center for Health Statistics (www.cdc.gov/nchs/data/ahcd/nhamcs_emergency2009_ed_web_tables.pdf)

"Emergency Department Utilization After the Implementation of Massachusetts Health Reform," *Annals of Emergency*

Medicine, September 2011 (www.ncbi.nlm.nih.gov/pubmed/21570157/)

“Outcomes of Implementing Patient Centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States,” Patient-Centered Primary Care Collaborative, Nov. 16, 2010 (www.pcpcc.net/files/evidence_outcomes_in_pcmh.pdf)

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