Despite Implementation of the Affordable Care Act, the Rate of ED Visits Hasn't Changed

BY JEFF BAUER

FROM *THE NATIONAL CENTER FOR HEALTH STATISTICS*

A recent report from the National Center for Health Statistics (NCHS) found that approximately one of every five US adults visited an ED at least once in 2014—the first year core elements of the Affordable Care Act (ACA) were implemented. This is virtually the same rate as in 2013.

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The NCHS report used data from the National Health Interview Survey, which is a multipurpose health survey of US adults who are not in the military and are not institutionalized. The Centers for Disease Control and Prevention (CDC) conducts this survey continuously and uses the same questions year after year. The current report included data on 26,825 adults ages 18 to 64 years in 2013 and 28,053 in 2014. The overall response rate was 62.1% in 2013 and 58.9% in 2014.

Overall, 18% of adults visited an ED one or more times in 2014, compared to 18.2% in 2013. In both years, 11.4% reported just one visit. The report also asked respondents the reason for their ED visit. In 2014, 77% of respondents said the seriousness of the medical problem was the reason for their visit, 12% because their doctor's office was not open, 7% because of a lack of access to other clinicians, and 4% gave no reason. These percentages were similar in 2013.

This report also compared the rate of ED visits based on type of insurance coverage (see "Medicaid Recipients Are Much More Likely to Visit the ED" below).

This new report comes on the heels of a March 2015 American College of Emergency Physicians poll of almost 2,100 emergency physicians regarding the volume of ED visits. In that poll, 75% of respondents said that since January 2014, when the ACA required individuals to have health insurance, the volume of ED visits increased slightly (reported by 47%) or increased greatly (reported by 28%).

1. Gindi RM, Black LI, Cohe RA. Reasons for emergency room use among U.S. adults aged 18-64: National Health Interview Survey, 2013 and 2014. http://www.cdc.gov/nchs/data/nhsr/nhsr090.pdf. Accessed April 22, 2016.

Medicaid Recipients Are Much More Likely to Visit the ED

BY RICHARD FRANKI

FRONTLINE MEDICAL NEWS

Adults ages 18 to 64 years with Medicaid coverage were almost twice as likely as all adults to visit the ED in 2014, according to a report from the NCHS.

In 2014, an estimated 35.2% of Medicaid recipients ages 18 to 64 visited the ED at least once, and more than half of those (18.5%) made two or more visits. Among all adults ages 18 to 64 years, 18.0% made at least one ED visit, while 6.6% made two or more visits. In 2014, 14.3% of adults ages 18 to 64 years with private insurance made one or more ED visits, as did 16.6% of those who were uninsured, the NCHS reported.

Compared with 2013, adults with ED visits were down slightly for all adults (18.2% to 18.0%), up slightly for those with private insurance (14.0% to 14.3%), and down for those with Medicaid (37.7% to 35.2%) and the uninsured (18.5% to 16.6%), the report showed.

There was a significant decrease for uninsured adults with two or more visits from 8.0% in 2013 to 5.9% in 2014 ($P < .05$), and the drop among Medicaid recipients with one ED visit from 19% in 2013 to 16.7% in 2014 was significant at $P < .1$, the NCHS noted.

The highest rates of ED use among adults have consistently been associated "with public health coverage such as Medicaid, relative to adults who were uninsured or had private health insurance. This higher rate of use may be related to more serious medical needs in the Medicaid population," the NCHS investigators said.

Younger individuals (ages 18-29 years) were more likely to visit the ED, with 20.2% having at least one visit in 2014, compared with 16.8% of those ages 30 to 44 years and 17.5% of those ages 45 to 64 years. There also were differences by race and ethnicity, as 26.5% of non-Hispanic blacks made one or more ED visits in 2014, compared with 17.5% of non-Hispanic whites and 15.7% of Hispanics, according to the report, which was based on data from the National Health Interview Survey.

1. Gindi RM, Black LI, Cohen RA. Reasons for emergency room use among U.S. adults aged 18–64: National Health Interview Survey, 2013 and 2014. http://www.cdc.gov/nchs/data/nhsr/nhsr090.pdf. Accessed April 22, 2016.

Many ED Patients Triaged as "Nonurgent" Require Care Similar to That Provided to Urgent Cases

BY JEFF BAUER

FROM JAMA INTERN MED

A large study that compared ED visits of patients triaged as "nonurgent" to those triaged as urgent found that a considerable percentage of nonurgent patients receive diagnostic services, undergo procedures, and/or are admitted, including to critical care units.

Researchers evaluated data from the National Hospital Ambulatory Medical Care Survey on 240 million ED visits from 2009 through 2011 by adults ages 18 to 64 years. Triage scores were determined by a nurse's assessment of a patient on arrival and were based on a 5-level score, with 1 = immediate, 2 = emergent, 3 = urgent, 4 = semi-urgent, and 5 = nonurgent. For the purpose of this study, visits with a score of 5 were categorized as nonurgent and visits with any other score were considered urgent.

Of the 240 million visits, 92.5% were triaged as urgent and 7.5% were triaged as nonurgent. In almost half of nonurgent visits (47.6%), patients received diagnostic services such as blood tests, electrocardiograms (ECG), and imaging tests. These diagnostic services were provided in 74.8% of urgent visits. Procedures such as administration of intravenous (IV) fluids, splinting, or casting were performed in 32.4% of nonurgent visits and 49.4% of urgent visits.

The symptoms reported by patients during urgent versus nonurgent visits were similar. Six of the top 10 symptoms reported during nonurgent visits (back symptoms, abdominal pain, sore throat, headache, chest pain, and low back pain) were also among the top 10 symptoms reported during urgent visits.

Approximately 4.4% of nonurgent visits resulted in admission, and of these, 16.2% were admissions to a critical care unit. By comparison, 12.8% of urgent visits resulted in admission, and 10.5% of these were to a critical care unit.

The study's authors pointed out that "the original intention of triage—to predict the amount of time a patient could safely wait to be seen in the ED—was never intended to completely rule out the possibility of severe illness in a patient considered nonurgent."

1. Hsia RY, Friedman AB, Niedzwiecki M. Urgent care needs among nonurgent visits to the emergency department. *JAMA Intern Med.* 2016 Apr 18. doi: 10.1001/jamainternmed.2016.0878. [Epub ahead of print]

Rapid Diagnostic Test Used to Detect Ebola

BY LORI LAUBACH

FROM *MMWR*

A new rapid diagnostic test for Ebola (RDT-Ebola) that can provide results in 30 minutes or less has been used to diagnose patients in Forécariah, Guinea. The National Ebola Coordination Cell implemented the test to enhance efforts to detect new Ebola cases and to ensure that such cases are not clinically misdiagnosed as malaria.

Huang et al found that among 13 sentinel sites during October 1 through November 23, 2015, 1,544 (73%) of 2,115 consultations were for evaluation of febrile illness. Of those 1,544 consultations, 1,553 RDT-Malaria tests were reported to have been conducted and 1,000 RDT-Ebola tests were conducted. A total of 1,112 patients tested positive for malaria by RDT (the range of percentage of positive malaria tests among 13 sentinel sites was 52.3%-85.7%); none tested positive for Ebola by RDT-Ebola.

The ratio of RDT-Ebola to RDT-Malaria tests used was 0.64 overall and ranged from 0.27 to 1.00, according to the researchers.

Reported barriers to RDT-Ebola use—inadequate stock of RDT-Ebola kits, lack of understanding of the CDC RDT-Ebola testing protocol, and patient refusal of RDT-Ebola testing—may have contributed to the differences in the numbers of malaria and Ebola tests conducted, the researchers wrote.

"Ongoing data collection from the sentinel sites can help to monitor the success of RDT-Ebola implementation, inform supply chain management, and identify and address barriers to RDT-Ebola use. RDT-Ebola implementation at the sentinel sites can also aid in screening for undetected Ebola cases to prevent establishment of new transmission chains," the researchers concluded.

1. Huang JY, Louis FJ, Dixon MG, et al. Notes from the field: Baseline assessment of the use of Ebola rapid diagnostic tests - Forécariah, Guinea, October-November 2015. *MMWR Morb Mortal Wkly Rep.* 2016;65(12):328-329.

ED Bedside Flu Test Accurate Across Flu Seasons

BY MARY ANN MOON

FROM *DIAG MICROBIOL INFECT DIS*

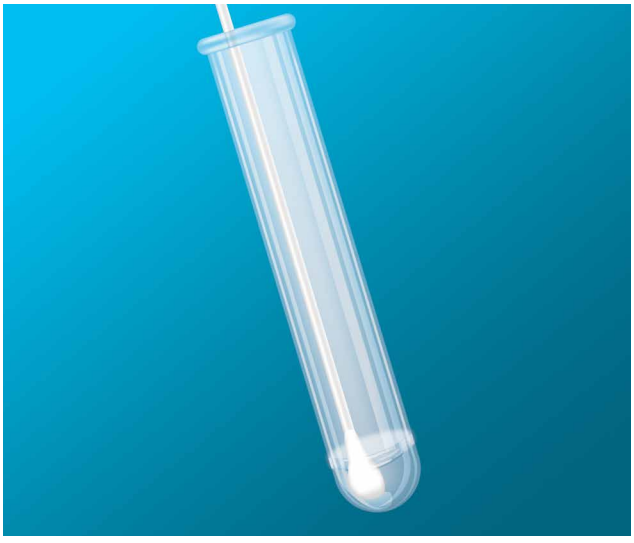
A rapid bedside diagnostic test for influenza showed consistent sensitivity and specificity across four consecutive flu seasons in a single pediatric ED in France, according to a report in *Diagnostic Microbiology and Infectious Disease*.

During flu seasons, it is difficult to distinguish young children who have the flu from those who have serious bacterial infections because clinical symptoms alone cannot differentiate the two conditions, and fever may be the only symptom during the onset of a bacterial infection. Rapid influenza diagnostic tests purport to help ED clinicians estimate the probability of influenza at the bedside, which in turn can reduce the need for further diagnostic testing, length of ED stay, inappropriate use of antibiotics, and the costs of care, said Dr Estelle Avril and colleagues in the pediatric ED at University Hospital in Nantes, France.

To assess the diagnostic value of one rapid influenza diagnostic test used in this setting every winter, the investigators studied 764 patients younger than age 5 years who were admitted to the ED during four consecutive flu seasons with fever of unknown origin. The prevalence of influenza varied widely during the study period, from a low of 30% to a high of 62%.

The rapid diagnostic test performed comparably well across the four flu seasons, with only a modest decrease in sensitivity and specificity during the 2010 H1N1 flu pandemic. The bedside test had an overall sensitivity of 0.82, a specificity of 0.98, a positive likelihood ratio of 37.8, and a negative likelihood ratio of 0.19. These results are similar to those of two previous small-scale studies that found sensitivities of 69% to 85% and specificities of 83% to 98%, Dr Avril and associates said.

These findings "support the rational use of rapid influenza diagnostic tests in clinical practice for young children presenting with fever without a source during flu season," the investigators said.



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Dr Avril and associates added that they assessed only one rapid diagnostic test for influenza (QuickVue)—the only one available in their ED because of cost—but that there are 22 such tests commercially available. The QuickVue test is available in the United States.

1. Avril E, Lacroix S, Vrignaud B, et al. Variability in the diagnostic performance of a bedside rapid diagnostic influenza test over four epidemic seasons in a pediatric emergency department. *Diag Microbiol Infect Dis.* 2016. doi:10.1016/j.diagmicrobio.2016.03.015.

Zika Caused Rash, Pruritus More than High Fever

BY AMY KARON

FROM *PLOS NEGL TROP DIS* AND *EMERG INFECT DIS*

Zika virus infection in adults often causes pruritic maculopapular rash, but rarely leads to clinically significant fever, according to two cohort studies in Rio de Janeiro. The findings raise questions about case definitions of Zika virus disease (ZVD). Currently, the interim case definition from the World Health Organization defines a suspected ZVD case as rash, fever, or both, plus at least one of three other symptoms—arthralgia, arthritis, or conjunctivitis.

"In our opinion, pruritus, the second most common

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Zika Caused Rash, Pruritus More than High Fever

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clinical sign presented by the confirmed cases, should be added to the Pan American Health Organization case definition [for ZVD], while fever could be given less emphasis," Dr Patricia Brasil of the Oswaldo Cruz Foundation in Rio de Janeiro and her associates wrote online in *PLoS Neglected Tropical Diseases*.[1]

Watching for a combination of itching and rash also could help distinguish ZVD from infections of Chikungunya and Dengue, co-circulating arboviruses in Brazil that tend to cause nonpruritic rash, the investigators noted. Distinguishing these infections is crucial because Dengue, in particular, can be devastating without appropriate treatment.

Brazil confirmed ZVD in the northeastern state of Bahia in May 2015. Cases in Rio de Janeiro soon followed, triggering worries because of its dense population and status as host of the 2016 Olympic and Paralympic Games. To better characterize ZVD in Rio de Janeiro, Dr Brasil and associates studied 364 cases of acute rash, with or without fever, among adults with clinical onset during the first half of 2015. Quantitative reverse transcription–polymerase chain reaction detected Zika viral RNA in blood samples from 119 (45%) of 262 patients tested.

The first 4 days of confirmed ZVD were marked by rash (97%), itching (79%), prostration (73%), headache (66%), arthralgias (63%), and myalgia (61%). Just 36% of patients were febrile, and fevers usually were short-lived and low-grade, in contrast to other arboviral infections. Partial sequencing of the Zika virus gene from 10 randomly selected positive samples showed that it resembled Asian strains of Zika virus, supporting the hypothesis that Pacific Islanders brought Zika to Rio de Janeiro during a canoe championship in 2014, the researchers added.

The researchers also determined that Zika virus was circulating in Rio de Janeiro as early as January 2015—"at least 5 months before its detection was announced by the health authorities, which must be taken into consideration for future design and implementation of effective syndromic surveillance systems," they wrote. Surprisingly, an assay for Dengue was negative in all 250 patients tested, which might indicate "explosive transmission dynamics of ZVD," the investigators added.

A retrospective cohort study of confirmed Zika virus cases in Rio de Janeiro also reported a much higher prevalence of rash compared with fever.[2] This was a retrospective convenience sample of 57 patients, including 98% with rash, 56% with pruritus, and 67% with measured or self-reported fever. Most fevers were low-grade, and the median recorded temperature was 30.0°C (within normal limits). Other common presentations included headache (67%), arthralgias (58%), myalgias (49%), and joint swelling (23%), according to Dr Jose Cerbino-Neto of the Oswaldo Cruz Foundation in Rio de Janeiro and associates. Their findings support emphasizing rash, fever, or both as "primary characteristics" of ZVD, they added.

1. Brasil P, Calvet GA, Siqueira AM, et al. Zika virus outbreak in Rio de Janeiro, Brazil: Clinical characterization, epidemiological and virological aspects. *PLoS Negl Trop Dis*. 2016;10(4):e0004636. doi: 10.1371/journal.pntd.0004636.
2. Cerbino-Neto J, Mesquita EC, Souza TM, et al. Clinical manifestations of Zika virus infection, Rio de Janeiro, Brazil, 2015. *Emerg Infect Dis*. 2016;22(6). doi: 10.3201/eid2207.160375. [Epub ahead of print]

Antithrombotics Appear Safe in BCVI with Concomitant Injuries

BY M. ALEXANDER OTTO
FRONTLINE MEDICAL NEWS

Researchers from the University of Tennessee Health Science Center, Memphis advised that antiplatelet or heparin therapy should not be withheld in patients with blunt cerebrovascular injury, even if they have concomitant traumatic brain or solid organ injuries.

With close monitoring, "initiation of early antithrombotic therapy for patients with BCVI [blunt cerebrovascular injury] and concomitant TBI [traumatic brain injury] or SOI [solid organ injury] does not increase the risk of worsening TBI or SOI above baseline." It is safe, effective, and "should not be withheld," the researchers concluded after a review of 119 BCVI patients with concomitant injuries.

Seventy-four (62%) had TBIs, 26 (22%) had SOIs, and 19 (16%) had both. At some institutions, antithrombotic therapy—the mainstay for BCVI to prevent secondary ischemic stroke—would have been delayed or withheld for fear of triggering hemorrhagic complications.

But at the Health Science Center in Memphis, "we have an extremely cooperative group of neurosurgeons who take BCVI as seriously as we do, and actually allow us, more often than not, to start antithrombotic therapy pretty much immediately after the injury is identified," investigator and surgery resident Dr Charles Shahan said at the annual scientific assembly of the Eastern Association for the Surgery of Trauma.

As a result, 85 patients (71%) received heparin infusions with goal-activated partial thromboplastin times

of 45 to 60 seconds, and the rest antiplatelet therapy, typically 81 mg of aspirin. The center generally uses heparin for TBI patients because of its short half-life, and aspirin for others.

Antithrombosed BCVI patients did as well as did historical controls. TBIs deteriorated—meaning worsening on clinical or computed tomography exam, or delayed operative intervention—in 7% of TBI patients with BCVI, versus 10% of TBI patients without BCVI (P = .34). Three percent of SOI patients had delayed laparotomies versus 5% of SOI patients without BCVI (P = .54). None of the BCVI patients stopped antithrombotics because of complications. The results held regardless of the type of TBI, SOI, or antithrombotic used.

Overall, 11 patients (9%) had BCVI-related strokes. Without antithrombotic therapy, stroke rates in BCVI can approach 40%. "Our extremely early use of antithrombotic therapy does not appear to increase our rate of worsening of our hemorrhagic injures and also gets our stroke rate within acceptable limits," Dr Shahan said.

Lower the CT to Check the Heart for Embolic Sources in Acute Stroke

BY M. ALEXANDER OTTO
FRONTLINE MEDICAL NEWS

When evaluating a patient with an acute ischemic stroke, enlarging the field of computed tomography angiography (CTA) to include the heart might quickly identify sources of cardiogenic emboli and other problems that could otherwise be missed, according to a small study conducted by investigators from the National University Hospital, Singapore.

Dr Leonard Yeo and colleagues recruited 20 consecutive acute ischemic stroke patients who presented within 4.5 hours of symptom onset. The mean patient age in the study was 64 years, and about 60% of the subjects were men. Patients were excluded if they had contraindications to intravenous contrast, or were unable to provide informed consent.

In addition to their usual brain CTA protocol that spanned from the arch of aorta to the circle of Willis, investigators enlarged the field of scanning to include the heart. All CTA images were read by the treating neurologist and radiologist. They found that one patient had a localized dissection in the ascending aorta, another with a ventricular thrombus, and a third with an atrial appendage blood clot. Both thrombus cases were confirmed by transesophageal echocardiography (TEE), and the patients were started on anticoagulation the next day. At 3 months, none of the patients had died, and eight (40%) had modified Rankin Scale scores of 0 to 1.

The two-phase, 64-slice nongated cardiac CTAs were done in the same sitting as the brain CTA. Doing so added only a few seconds to the scan, with no extra contrast or meaningful increase in radiation.

"Scans with 1-mm thick slices are best for screening for thrombus and structural abnormalities that cause embolism. Remarkably, [even without gating], the detail is excellent. There's very little downside [to this, and] it maximizes your return on scans that are already a part of most acute stroke protocols," said Dr Yeo, a neurologist at the hospital.

"Since most of our patients get a CTA during acute stroke, it made sense to check the heart for embolic sources." There isn't any time to give a beta-blocker, so "these were nongated" scans, Dr Yeo said during a presentation at the International Stroke Conference in Los Angeles in February.

If studies confirm that nongated heart CTAs provide useful information, "we will probably all be doing this in the future. Everybody does CTs for the head in acute stroke, so all you do is go down a little lower" without any more contrast. "Within an hour of somebody presenting, you know what they have," said Dr Robert Hart, a neurology professor at McMaster University in Hamilton, Ontario, and co-moderator of Dr Yeo's presentation.

In most places, acute ischemic stroke patients only receive an ECG. Transesophageal echocardiography is also good for assessing the heart, but is often performed later. It "excels at detecting abnormalities with medium embolic risk," such as patent foramen ovale and septal aneurysm. "However, for these medium-risk cardiac sources of embolism, the optimal choice of therapy is not clear. Unlike high-risk sources which require anticoagulation, TEE does not provide therapeutic gains in terms of clinical decision making," Dr Yeo said.

Nongated cardiac CTAs during acute stroke, he added, also check chamber, valve, pericardial, and great vessel morphology, as well as abnormal chambers-vessel communications and "left ventricular aneurysms that can rupture with [tissue plasminogen activator], with catastrophic consequences."

1. Yeo L, Ting E, Eide SE, et al. Non-gated cardiac CT angiograms for detection of embolic sources in acute ischemic stroke. Abstract presented at: International Stroke Conference; February 19, 2016; Los Angeles, CA. Abstract 208.