Misclassification of Emergency Department Visits Distracts from the Real Issue

To the Editor:

In their article on ED utilization, Jiang *et al* classify 20.4% of ED visits "non-emergent."[1] The calculation is based on the NYU ED classification algorithm, a flawed measure of visit urgency that overestimates non-emergent visits and correlates poorly with patients' treatment needs. The algorithm is applied to discharge diagnoses, ignoring ex-ante measures of urgency such as chief complaint or triage acuity. For example, a patient with crushing chest pain who requires an emergent cardiac workup but is ultimately diagnosed with esophageal reflux would be classified "non-emergent" or "primary-care-treatable."

Indeed, ED visits classified by the NYU algorithm as "primary care treatable" have the same chief complaint as 88.7% of "non-primary-care-treatable" patients (many of whom require immediate care or hospital admission).[2] When triage acuity is used to measure urgency, only 10% of Medicaid patients' ED visits are "non-urgent."[3] Billings, the NYU algorithm's developer, acknowledges these limitations, cautioning that it is "not intended…to assess appropriateness of ED utilization."[4]

A recent report on ED utilization by the Medicaid and CHIP Payment and Access Commission (MACPAC) came to a similar conclusion. They found little evidence that Medicaid enrollees used the ED for non-emergent conditions and commented that algorithms such as NYU's "do not capture the experience of care in real time…problems classified as avoidable may in fact be urgent in nature and require prompt medical attention."[5]

We agree that our state needs to expand primary care access for low-income residents. But this must be based on accurate data.

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References

1. Jiang Y, Novais AP, Viner-Brown S, Fine M. Non-emergent hospital emergency department use and neighborhood poverty in Rhode Island 2008-2012. *R I Med J*. 2014 Jul;97(7):47-51.
2. Raven MC, Lowe RA, Maselli J, Hsia RY. Comparison of presenting complaint vs discharge diagnosis for identifying " nonemergency" emergency department visits. *JAMA*. 2013 Mar 20;309(11):1145-53.
3. Sommers A, Boukus ER, Carrier E. Dispelling myths about emergency department use: majority of Medicaid visits are for urgent or more serious symptoms. HSC Research Brief No 23, July 2012. Available at: http://www.hschange.com/CONTENT/1302/ [accessed July 18, 2014].
4. Billings J, Parikh N, Mijanovich T. Emergency department use: the New York Story. Issue Brief (Commonwealth Fund). 2000;(434):1-12.
5. Medicaid and CHIP Payments and Access Commission. July 2014. "Revisiting Emergency Department Use in Medicaid." Available at: http://www.macpac.gov/publications [accessed August 6, 2014]

Disclosures

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'Profiling algorithm flawed'

To the Editor:

This letter was approved by all ED medical directors in the state and is based on the consensus opinion of our group. We would like to make a few points regarding the article, "Non-emergent Hospital Emergency Department Use and Neighborhood Poverty in Rhode Island, 2008-2012," which appeared in the July 2014 edition of the *Rhode Island Medical Journal*.

Our main concern is that the New York University (NYU) profiling algorithm used by the authors relies on the discharge diagnosis to retrospectively determine the urgency of the ED visit. This is fundamentally flawed. In accordance with the "prudent layperson" standard, patients present to the ED with complaints and symptoms they believe might represent an emergent condition. Only after the ED evaluation is complete, does the patient receive a discharge diagnosis.

A recent article from *JAMA* (Comparison of the Presenting Complaint vs. Discharge Diagnosis for Identifying "Nonemergency" Emergency Department Visits. 2013; 309(11)1145-1153) illustrates this point. The authors applied the NYU algorithm to 34,492 ED records data from the 2009 National Hospital Ambulatory Medical Care Survey (NHAMCS). Next, the authors identified the presenting complaints and symptoms that corresponded to each of the non-emergent visits and generated a list of "non-emergent complaints." They found that the presenting complaints associated with visits that where determined to be non-emergent, according to discharge diagnosis, were also the presenting complaints for 88.7% of all ED visits. Their conclusion was that "the limited concordance between presenting complaints and ED discharge diagnoses suggests that these discharge diagnoses are unable to accurately identify nonemergency ED visits."

While we support efforts to reduce ED overcrowding statewide and improve access to primary care, especially in economically depressed areas, we do not agree with the conclusion that 20.3% of ED visits are non-emergent. The premise that discharge diagnosis predicts the urgency, and therefore appropriateness of an ED visit, is a mistake.

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Disclosures

None

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