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Details in operational definitions of length of visit and boarding variables in the National Hospital Ambulatory Medical Care Survey

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Keywords

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To the Editor

We read with great interest the insightful editorials addressing the National Hospital Ambulatory Medical Care Survey (NHAMCS) in the December 2012 edition of this journal, as well as the accompanying original research articles.^{1–3} As part of our recent exploration of the publicly available NAHMCS-ED data and data dictionaries, we noted ambiguity in the LOV (length of visit) variable definition. In the 2008 publicly available data dictionary, the LOV variable is defined as “LENGTH OF VISIT (minutes) Calculated from PRF Q1.d, date and time of ED arrival and Discharge” (http://www.cdc.gov/nchs/ahcd/ahcd_questionnaires.htm, doc08, pg. 31; accessed November 26th, 2012). We queried the CDC regarding the operational definition of ED “discharge” and whether this included boarding time and received the following response:

“...boarding applies to about 10% of the sample...for 75% of visits with boarding, LOV includes the entire boarding time. For the remaining 917 visits, the BOARDED time does increase the LOV, but by how much depends on what time the bed was actually requested, and that variable is not on the public use file.” Further, they noted “you should not add LOV and BOARDED together, because the bed can be requested while the patient is still in the ED... If you are interested in conducting an in-depth analysis on these variables, you may want to consider coming to the RDC and using the restricted files.”

Thus, in the case of the publicly available NHAMCS-ED data, the time spent under the care of an ED provider is unclear. For hospitalized patients, “discharge” from the ED apparently indicates a time close to bed request, but in other cases it indicates the time the patient physically left the ED. However, this variability was not immediately apparent in the

publicly available data dictionary, and it was not until we personally contacted the CDC that this was revealed.

Analyses based partially or entirely on the LOV variable may not accurately represent the true ED length of stay, independent of boarding time. For example, in the case of the well done and intriguing paper by Pitts et al.,³ ambiguity in coding of the LOV variable may have resulted in erroneous attribution of testing, procedures, and treatment to ED providers. Patients boarding in the ED who underwent additional testing or therapy after transition of care to the hospital-based team while remaining physically in the ED may have erroneously been counted among active ED patients.

We believe that NHAMCS, given its wealth of important data, will continue to be a valuable database for emergency medicine research. However, we agree with Dr. Cooper's accompanying editorial² that investigators, reviewers and readers must be more critical in evaluation of the data and what the variables truly represent. The complexities of ED boarding, observation unit admissions, and clearly defining when transfer of care occurs are topics of great interest to emergency medicine research but are also topics that are challenging to clearly delineate in these large federal databases.

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