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The HVRN assembles home visiting stakeholders to set a national research agenda, advance that agenda through innovation research methods, and translate research findings into policy and practice.³ The HVRN identified the top 10 priorities for home visiting research with input from nearly 1800 individuals.⁴ Now, the HVRN is building the Home Visiting Applied Research Collaborative, a national practice-based research network of local home visiting programs to conduct field-initiated studies to address the research agenda's priorities.

We need to learn what works best for which families and under what circumstances and to translate this efficiently to policy and practice. The MIECHV Program's state-level evaluative research, the Mother and Infant Home Visiting Program Evaluation, and the HVRN will substantially "clarify the evidence base"¹ related to home visiting investments to maximize outcomes for children, families, and communities. Stakeholders are key participants in these efforts; they are eager to use results to ensure success in the adoption, adaptation, implementation, and sustainability of home visiting as part of the early childhood system of care and as part of efforts to promote the foundations of health by enhancing the capacity of caregivers and communities.⁵

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1. Shonkoff JP. Changing the narrative for early childhood investment. *JAMA Pediatr.* 2014;168(2):105-106.
2. Michalopoulos C, Duggan A, Knox V, et al. *ACF-OPRE Reports 2011-16: Design Options for the Home Visiting Evaluation: Draft Final Report.* Washington, DC: US Dept of Health & Human Services; 2011.
3. Duggan A, Minkovitz CS, Chaffin M, et al. Creating a national home visiting research network. *Pediatrics.* 2013;132(suppl 2):S82-S89.
4. Home Visiting Research Network. Home visiting research agenda. <http://www.hvrn.org/research-agenda.html>. Accessed December 30, 2013.
5. Mistry KB, Minkovitz CS, Riley AW, et al. A new framework for childhood health promotion: the role of policies and programs in building capacity and foundations of early childhood health. *Am J Public Health.* 2012;102(9):1688-1696.

Incorrect Classification in Articles About Traumatic Brain Injuries in Children With Minor Blunt Head Trauma

To the Editor We are writing to make readers aware of an analytic error that affected the data reported in 2 of our articles.^{1,2} During recent preparation of another manuscript based on the same data, we discovered an error in construction of the final

analytic database for the entire cohort (an erroneous SQL [Structured Query Language] join statement) that led to the incorrect classification of the mechanism of injury as moderate, rather than severe, for 394 children in our cohort of 42 412 patients. Most of the erroneous classifications were among children aged 2 years or older.

The first article affected by this erroneous classification was titled "Prevalence of Clinically Important Traumatic Brain Injuries in Children With Minor Blunt Head Trauma and Isolated Severe Injury Mechanisms."¹ We have carefully examined the effects of this error on the entire published analysis. As previously noted, the number of children with severe injury mechanism increased by 394, and the number of children with isolated severe injury mechanism increased from 3302 to 3630 as a result. These increased numbers led to numerous modifications to data points in the article. However, the most important data points in the report are only slightly affected. The overall incidence of severe injury mechanism increases by only a single percentage point in this population (from 14% to 15%) and the rates of clinically important traumatic brain injuries associated with isolated severe injury mechanism remain low, decreasing by one-tenth of 1% among older children (from 0.6% to 0.5% for isolated severe mechanism and no other Pediatric Emergency Care Applied Research Network predictors and from 0.3% to 0.2% for isolated severe mechanism and no other predictors in the expanded definition), with no change among younger children from the published report.

The second article affected by the erroneous classification was titled "Cranial Computed Tomography Use Among Children With Minor Blunt Head Trauma: Association With Race/Ethnicity."² Again, an erroneous SQL join statement led to the incorrect classification of the mechanism of injury as moderate, rather than severe, for 394 children in our cohort of 42 412 patients. This led to minor effects on the reported tabular data (Tables 1, 2, and 3), as well as minor differences in reported odds ratios/confidence intervals for association of black non-Hispanic or Hispanic race/ethnicity with cranial computed tomography in the emergency department (these data are reported in the abstract and the Results section of the text).

We regret these errors but also believe unequivocally that the key findings and conclusions of the published papers firmly stand. The articles have been corrected and correction notices published.

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1. Nigrovic LE, Lee LK, Hoyle J, et al; Traumatic Brain Injury (TBI) Working Group of Pediatric Emergency Care Applied Research Network (PECARN). Prevalence of clinically important traumatic brain injuries in children with minor blunt head trauma and isolated severe injury mechanisms. *Arch Pediatr Adolesc Med*. 2012;166(4):356-361.
2. Natale JE, Joseph JG, Rogers AJ, et al; PECARN (Pediatric Emergency Care Applied Research Network). Cranial computed tomography use among children with minor blunt head trauma: association with race/ethnicity. *Arch Pediatr Adolesc Med*. 2012;166(8):732-737.

CORRECTION

Incorrect Information in Text and Tables: In the Article entitled "Cranial Computed Tomography Use Among Children With Minor Blunt Head Trauma: Association With Race/Ethnicity" published in the August 2012 issue of *Arch Pediatr Adolesc Med* (2012;166[8]:732-737. doi:10.1001/archpediatrics.2012.307), incorrect information appeared. Owing to an error in the construction of the final analytic database, there are minor errors in the reported tabular data for Tables 1, 2, and 3, as well as minor differences in the reported odds ratios/confidence intervals for association of black non-Hispanic or Hispanic race/ethnicity with cranial

computed tomography in the emergency department. The Abstract, Results section, and Tables 1, 2, and 3 have been updated to reflect the correct information. This article was corrected online.

In the Article titled "Prevalence of Clinically Important Traumatic Brain Injuries in Children With Minor Blunt Head Trauma and Isolated Severe Injury Mechanisms" published in the April 2012 issue of *Arch Pediatr Adolesc Med* (2012;166[4]:356-361. doi:10.1001/archpediatrics.2011.1156), incorrect information appeared. Owing to an error in the construction of the final analytic database, the number of children with severe injury mechanism increased by 394, and the number of children with isolated severe injury mechanism increased from 3302 to 3630 as a result. These increased numbers led to numerous modifications to data points in the article. However, the most important data points in the report are only slightly affected. The overall incidence of isolated severe injury mechanism increases by only a single percentage point in this population, and the rates of clinically important traumatic brain injuries associated with isolated severe injury mechanism remain low, decreasing by one-tenth of 1% among older children, with no change among younger children from the published report. The Abstract, Results and Comment section, and Tables 1, 2, and 3 have been updated to reflect the correct information. This article was corrected online.

Announcement

The SafetyLit Foundation and the Society for the Advancement of Violence and Injury Research (SAVIR) announce the creation of a new database and library to assist injury and violence scientists and practitioners. The SAVIR Instrument Library (<http://www.safetylit.org/instruments.htm>) on SafetyLit provides information about the development and background of the instruments, about how the instruments were used to support research published in peer-reviewed articles and reports, about the use of the instruments, and about any problems encountered (and how often). Citations and links to the published articles based on the instrument are also included. Samples of what is in the SAVIR Instrument Library may be seen at [http://www.safetylit.org/citations/index.php?fuseaction=citations.viewdetails&citationIds\[\]=citinstrument_9_24&sha=1](http://www.safetylit.org/citations/index.php?fuseaction=citations.viewdetails&citationIds[]=citinstrument_9_24&sha=1).