

## Data Snapshot: Pediatric Laboratory Events

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Specimen collection problems are costly in terms of the time required to secure a new specimen, trauma inflicted on the patient, potential delay in diagnosis and treatment, and financial costs of additional resources used.<sup>1,3</sup> The pediatric population has a heightened vulnerability to and fear of specimen collection, especially with venipunctures.<sup>4,5</sup> For example, two events reported through the Pennsylvania Patient Safety Reporting System identified infants who needed additional services (i.e., blood transfusion and oxygen therapy, respectively) after repeat specimens were required.

Typically, data and discussions related to laboratory-related errors combine pediatric and adult populations or tend to be adult-centric; however, this analysis focuses solely on the pediatric population and includes all types of specimen collection (e.g., blood, urine, biopsies). For the purposes of this study, "pediatrics" encompasses newborns through age 21, based on a 1988 American Academy of Pediatrics official statement.<sup>6</sup>

Between January 2010 and December 2012, the laboratory-related events that occurred accounted for 57.6% (n = 11,477 of 19,923) of the pediatric-related, procedural-error-related events reported and 14.0% (n = 11,477 of 81,701) of the total pediatric events reported by Pennsylvania children's hospitals, acute care hospitals, community hospitals, rehabilitation hospitals, ambulatory surgical facilities, and birthing centers that provided care for pediatric populations.

The Table shows a breakdown of the pediatric laboratory-related events. The categories (e.g., specimen mislabeled, specimen label incomplete or missing, specimen quality

Table. Pediatric Laboratory Events Reported to the Pennsylvania Patient Safety Authority, January 1, 2010, through December 31, 2012

LABORATORY EVENT TYPE	NO. OF EVENTS	% OF EVENTS
Specimen quality problems (e.g., wrong color tubes used, blood hemolyzed)	2,512	21.9
Specimen label incomplete or missing (e.g., requisition missing hospital-specific information or label, requisition does not match specimen information)	2,357	20.5
Specimen mislabeled (e.g., label missing patient data)	1,889	16.5
Results missing or delayed	1,093	9.5
Other (e.g., tourniquet left on, missing patient identification bands, lab equipment failed)	907	7.9
Tests ordered but not performed	858	7.5
Wrong patient (e.g., ordered on wrong patient, performed test on wrong patient)	503	4.4
Specimen delivery problem	408	3.6
Wrong result	342	3.0
Tests not ordered	299	2.6
Wrong test ordered	194	1.7
Wrong test performed	115	1.0
<b>Total</b>	<b>11,477</b>	<b>100.1</b>

Note: Total percentage does not equal 100 due to rounding.

problems) are defined according to descriptions provided in the literature<sup>3,7,8</sup> and those used in the Pennsylvania Patient Safety Authority's collaborative improvement project to reduce errors in blood specimen mislabeling.<sup>9-11</sup> For example, the events found in the category of mislabeled specimens include events

involving specimens lacking the five minimal data requirements and mismatches between the specimen label information and the requisition form (e.g., mismatched or missing patient identifiers).

As previously noted by the Authority and in the literature, ensuring proper patient identification; proper collection,

handling, and labeling of specimens; and safe delivery of the specimens to the laboratory can reduce patient stress, financial costs, the use of additional resources, and the occurrence of delayed results, delayed patient care, additional needlesticks, and additional treatments (e.g., transfusions).<sup>9,10,12,13</sup>

## NOTES

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