

# Pediatric Health Information Technology—What We Need for Optimal Care of Children

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Over the years, clinicians have experienced a significant change in the documentation requirements to see a patient and to complete an encounter successfully. Decades ago, the focus of our clinical documentation served as a reminder to one oneself and one's colleagues. Then as concerns about malpractice litigation became more prominent, the chart note became the proof of care provided.<sup>1</sup> As lists of bulleted points became the premise for payment, the chart note bloated to include the points required by billing rules to be paid appropriately from insurance companies.<sup>2</sup> To receive meaningful use incentives and other quality incentives, documentation then incorporated more checkboxes and templated items so that metrics documentation was present in the note. Now we must yet again adapt our chart notes once more so that the content now can make sense to the patients.<sup>3</sup> This ever-changing evolution of our documentation requires that our electronic health records (EHRs) and information to morph accordingly.

Throughout the evolution of the chart note, however, there has not yet been enough attention to the unique circumstances related to pediatric health data. EHRs are the primary tool used by pediatricians, family medicine physicians, and clinicians who care for children and adolescents.<sup>4</sup> However, with few exceptions, most EHRs were not designed specifically for pediatric data.<sup>5</sup> To provide optimal child health, pediatric clinicians must have tools that support their data needs.<sup>6,7</sup>

The Office of the National Coordinator for Health Information Technology was required by 21st Century Cures Act to establish voluntary certification criteria unique to EHRs used in the care of children, thus recognizing the importance of ensuring that systems are designed for the unique needs of pediatric patients.<sup>8</sup> These criteria address many issues including datasets for pediatrics including growth charts, weight-based dosing, data segmentation, immunization tracking, and flags for special health care needs.<sup>9</sup> With the criteria created, the next step will be putting in the necessary incentives for vendors to become voluntarily certified. With

the ever-changing landscape of health information technology (IT), vendors have competing priorities and the need to become pediatric-certified must come from market and governmental pressures.

When we consider open charts and patient access to pediatric notes, there are multiple potential recipients of the notes since pediatric patients are treated as minors in health care in most situations. Families are often complex with multiple adults who legally have access to a child's chart. Additionally, in many states there are laws protecting health information for adolescents and for specific diagnoses. In these cases, legally the adolescent is emancipated and has the right to control disclosure of health data. We must avoid potential harmful consequences for children and adolescents from unintended disclosure of data that compromises privacy and/or safety.<sup>10</sup> Increasingly we are establishing mechanisms to exchange data,<sup>11</sup> and it is paramount that pediatricians and family medicine clinicians have the tools necessary to meet the patient electronic health information access requirements and be able to exchange pertinent data for clinical care, while simultaneously complying with federal and state privacy laws and protecting confidentiality of pediatric information.

Preserving the pediatric medical home is also an area that needs additional attention in informatics. Third-party apps, telemedicine services, and mobile health are continuous areas of technological growth. However, we must understand how to incorporate these into a pediatric medical home and how to integrate that data in a useful, age-appropriate manner that considers the uniqueness of pediatric privacy issues. Usability of EHRs and patient safety are areas where pediatric patients are uniquely vulnerable because of different physiologic characteristics at various ages, developmental issues, and dependence on parents and other care providers to prevent medical errors.<sup>12</sup> To take optimal care of children, the pediatric medical home should maintain an accessible, comprehensive, central record that contains all pertinent information about the child, preserving confidentiality.<sup>13</sup>

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Now that we have generated vast amounts of health data in our EHRs and other data sources, we need to have solutions and tools to help pediatric clinicians make evidence-based, informed decisions. We require the training and knowledge of clinicians to make shared care decisions with the patient and families. However, we can use our computers to do things that the human brain is challenged with. Making sense of large datasets, finding patterns, identify symptoms earlier, recognizing small patterns that are too hard for the human eye or ear to discern are examples of places where our computers can excel. Additionally, with data from multiple sources, we can apply technology to population health or public health data to flag warning signs and patterns across a demographic, geography, or some other defining characteristic. To support the medical home, it will require significant investment in payments, changes in infrastructure to allow for this level of data integration, and analytics. As informaticians, we have a responsibility to help our colleagues to understand the information and create ingestible information that can be consumed easily in a busy patient care workday. The future of health IT is one that is more mobile, more patient generated, and more decentralized. Pediatric-appropriate informatics tools and supports are foundational so that clinicians can provide infants, children, and adolescents optimal health care so that they can become the healthy adults of our future.

#### Conflict of Interest

None declared.

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