The Office of the National Coordinator (ONC) included in stage 2 meaningful use (MU) the requirement for eligible providers to transmit a summary of care record electronically for at least 10% of patients referred or transferred to another setting of care or provider of care. The transmission of summary of care records, particularly from ambulatory pediatricians to specialists in tertiary care centers or in hospitals caring for children, would be extremely helpful to children and pediatricians and would improve safety and quality of care. Such transmissions would also reduce costs through avoidance of unnecessary testing, duplicate procedures, and allergic reactions, as well as radiation exposure from unnecessary duplicate radiology tests. Regrettably, means to exchange health information among health care entities remain complex, inefficient, and grossly underutilized.

Outpatient pediatricians have 3 ways to exchange records: (1) participate in the Nationwide Health Information Network; (2) use exchange capabilities available through regional delivery networks through electronic health record (EHR) systems with some health information exchange (HIE) capabilities; or (3) direct messaging (DM), a secure and relatively inexpensive method designed for exchange of patient health information across different networks theoretically available to every provider or facility using a certified EHR. None of these options is widely pursued. Neither referring organizations nor outpatient pediatricians have made participating in the Nationwide Health Information Network a priority. Pediatricians frequently find participation in an integrated delivery network HIE difficult because of network affiliations or EHR connectivity fees. For many ambulatory pediatricians, DM is thus the preferred method because certified EHRs must support it.

In 2016, the Child Health Informatics Center at the American Academy of Pediatrics received multiple complaints that pediatricians are unable to communicate electronically with their referral centers using DM because many referral center EHRs are not prepared to send or receive communications through standardized DM. Even when ambulatory pediatricians are capable of sending health information via DM, many referral hospitals have yet to identify the resources and infrastructures necessary to comply with receiving the information.
The American Academy of Pediatrics was able to collect a variety of anecdotal reasons for DM failure:

1. Hospitals had not yet implemented DM. Children’s hospitals expressed a desire to implement DM, but were unable to execute. The reasons included EHRs that were technically not capable of receiving DM. In other instances, hospitals had not obtained funding for DM, had not prioritized DM, or had the DM functionality turned off. In one instance, DM was disabled selectively for communications with community physicians.

2. Hospitals expressed no intention to implement DM. Several hospitals communicated to community pediatricians that they have no intent to implement DM.

3. Hospitals implemented DM, but did not provide sufficient maintenance or support. One children’s hospital implemented DM but community pediatricians were unable to take advantage of this method, because the hospital did not allocate the personnel necessary for end-to-end testing and did not maintain DM addresses for physicians. This referring hospital still relied on fax messaging to communicate with referring pediatricians.

4. Hospitals were not able to acknowledge DM receipts. One children’s hospital was unable to acknowledge receipt of information to sending pediatricians, leaving pediatricians unsure if their message was received.

5. Hospitals were committed to previously implemented “workarounds.” One children’s hospital instructed community pediatricians to maintain accounts in several hospital EHR systems and log into each daily to check for reports. The stated intent was to avoid having to send any reports, including paper/fax, or exchange data digitally. This practice may be more widespread than reported.

In summary, effective communication among ambulatory pediatricians and their referral hospitals often is not realized because hospitals have not taken the necessary steps to support DM. This systemic gap in federal MU practices must be addressed.

The promise of EHRs to improve the quality of care, increase safety, and reduce costs will only come to fruition when important clinical data are made available through exchange. The ONC added a requirement to MU mandating providers to exchange patient data through care transitions, but often pediatricians anxious and willing to comply cannot do so because of reasons beyond their control.

In the past, vendors supporting ambulatory pediatricians have been reluctant to make affordable data sharing among multiple competing EHRs effective. The concerns raised here by pediatricians suggest that some referral hospitals caring for children present a second and equally formidable barrier. Some hospitals have not yet developed capabilities that support affordable transmission and receipt of medical information through DM or other standardized means. Even when hospitals offer DM, pediatricians may be unable to meet DM criteria in MU because of inadequate support for the services and technologies necessary to ensure reliable DM operation.

These issues affect pediatricians disproportionately. MU disadvantaged pediatricians by requiring high eligibility thresholds, exposing them to administration by 56 Medicaid agencies with individual reporting requirements and auditing standards, and holding them subject to political forces shutting off incentives, which resulted in lower EHR adoption rates for pediatricians than other specialties. The resulting smaller numbers of pediatricians interested in sending information and the increased complexity for EHRs used for children made implementation of DM a low priority in hospitals that care for children.

Communicating health information is vital, but it is both costly and difficult to sustain. Unless providers and hospitals are in highly organized risk-sharing relationships, neither party has sufficient incentives to send information. The lack of a sustainable HIE infrastructure, despite enormous public expenditures, is a challenge that requires creativity, targeted funding, or both. Although vendors must support DM to achieve certification for their products, many referral hospitals are emphasizing the development of exchange capabilities within relatively limited delivery networks. The expense of establishing, testing, and maintaining DM connections to community pediatricians is often not a priority. Although new Centers for Medicare & Medicaid Services (CMS) incentive programs may lead to a policy environment that supports sustainable business models for collective exchange involving adult patients, we fear that pediatric patients and pediatricians, in great need of information exchange, will be among the last to realize its promised benefits.

Pediatricians and pediatric specialists practicing in large systems sharing a common EHR vendor with their local children’s hospital generally do not face these difficulties. It is possible that hospitals realizing the majority of benefit through this single vendor approach have little incentive to connect with members of their communities practicing with other EHRs. In addition, children’s hospitals face significant pressing, competing demands that may place higher priority on technology initiatives other than exchanging
health information with private pediatricians. Unless additional mandates are imposed on or incentives are provided to pediatric tertiary organizations to implement and maintain DM, these willing and able pediatricians will be stranded on the health information highway.

For the intent of the HIE requirements of MU to be realized, incentives must be created both on the sending as well as on the receiving end of information. ONC and CMS have been successful in motivating the sending of health information but, for many health delivery organizations and vendors, they have failed to foster incentives necessary to make effective receipt and integration a priority.

To quote the movie, Field of Dreams, “If you build it, they will come.” Many pediatricians have indeed risen to the occasion only to find that the “it” of HIE is not yet finished. We challenge the ONC and CMS to explore ways to increase the incentives for receivers of health information to expand the means by which they can receive information that pediatricians wish to send and to advance the care of their patients.

**ABBREVIATIONS**

CMS: Centers for Medicare & Medicaid Services  
DM: direct messaging  
EHR: electronic health record  
HIE: health information exchange  
MU: meaningful use  
ONC: Office of the National Coordinator

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*Pediatrics*; originally published online April 20, 2017;
DOI: 10.1542/peds.2016-2653

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