American Academy of Pediatrics
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POLICY STATEMENT

Electronic Prescribing Systems in Pediatrics: The Rationale and Functionality Requirements

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

Council on Clinical Information Technology

ABSTRACT

The use of electronic prescribing applications in pediatric practice, as recommended by the federal government and other national health care improvement organizations, should be encouraged. Legislation and policies that foster adoption of electronic prescribing systems by pediatricians should recognize both specific pediatric requirements and general economic incentives required to speed the adoption of these systems. Continued research into improving the effectiveness of these systems, recognizing the unique challenges of providing care to the pediatric population, should be promoted.

BACKGROUND

The American Academy of Pediatrics (AAP) is committed to providing the best and safest health care system possible for children.

Statement of Problem

The AAP recognizes that the "increasing complexity in patient care in addition to the public's increased scrutiny of the health care system underscores the need to make patient safety an issue of high priority."[1] The AAP supports national efforts to improve patient safety and the recommendations of the Institute of Medicine, the Institute for Safe Medical Practices, the Leapfrog Group, and others who encourage the implementation and use of electronic prescribing (e-prescribing) by physicians as a method to improve patient safety.[2,3]

New Information

E-prescribing systems reduce transcription errors by eliminating illegible prescriptions. Computerized decision support can ensure that prescriptions are checked for drug-drug and drug-allergy interactions before the prescription is written. Dosage calculators can ensure that the correct dose of medication is given on the basis of patient age and weight, and dose-range checking can alert prescribers when doses outside the predetermined ranges are prescribed. Many e-prescribing systems can also check formulary information to determine if a selected medication is covered by a patient's insurance, thereby decreasing patient drug cost and increasing both patient and physician compliance with insurers' preferred-drug prescription programs.[5–9] Additional information is available in the accompanying technical report on e-prescribing.[4] Research examining the impact of e-prescribing on reducing malpractice claims might result in a commensurate reduction in malpractice

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Key Words
electronic prescribing, clinical decision support, pediatrics, adverse drug event, computer-assisted therapy

Abbreviations
AAP—American Academy of Pediatrics
e-prescribing—electronic prescribing

liability insurance. Ongoing research will be needed to study the types of errors that may continue to occur after implementation of these systems, including potential new types of errors introduced by the use of e-prescribing systems. This research will guide refinements and improvements to the effectiveness of these systems.[8,10,11]

SUMMARY/CONCLUSIONS

The AAP believes there is sufficient evidence supporting the ability of e-prescribing systems to prevent medical errors and enhance patient care.[5–9] However, as with any new technology, the use of these systems may have unintended consequences or novel risks that will need to be monitored and studied over time.

RECOMMENDATIONS

1. Federally sponsored research should be conducted to document, in both inpatient and ambulatory (office) settings, specific characteristics of e-prescribing systems that are most beneficial in preventing errors and enhancing patient care. Office processes and methods of implementation that facilitate the effective and efficient use of e-prescribing systems require study.[10,12–14]

   Accurate data on the incidence and scope of prescribing errors, adverse drug events, and near-miss errors must be available. Regulations should be promoted to facilitate no-fault, anonymous adverse drug event reporting systems as an enabling step toward understanding and intervening to prevent medical errors.[1]

2. Because safety for children is paramount, e-prescribing systems used for the care of children should include, at a minimum, pediatric-specific decision support such as weight-based dose calculations and alerts and pediatric drug information and formulation options.[3,7,15–17]

   When possible, e-prescribing systems should be implemented as part of a robust electronic health record. Such implementations offer advantages well beyond those of freestanding e-prescribing systems. When implementing a stand-alone e-prescribing system, thought should be given to the potential future need to transfer data to, or interface the e-prescribing system with, an electronic health record.

3. Federal legislation that would unify state regulations and allow for e-prescribing and digital transmission of all prescriptions directly to pharmacies, including those for controlled drugs, should be encouraged.[18] The AAP furthermore supports legislation that would require all pharmacies, either directly or through a clearinghouse, to accept digitally transmitted and signed prescriptions. The AAP supports a process for the development of standards for the transmission of digital prescriptions, analogous to the standards-development process under the Health Insurance Portability and Accountability Act for electronic data interchange.

4. Despite significant benefits to medical and liability insurers, patients, and pharmacy benefit managers,[19] e-prescribing applications are an office-practice expense that generates a disproportionately small or no pediatric practice revenue; therefore, the AAP believes adoption of e-prescribing technology would be hastened by the offering of incentives such as pay-for-performance bonuses to practices that routinely use e-prescribing systems that incorporate clinical decision-support alerts.

5. Because practitioners in rural or low-income areas may face financial and system barriers and, in many cases, do not have access to the network infrastructure to support e-prescribing systems, federal grant and loan programs should be available to support system enhancements such as Internet access and start-up costs.

IMPLEMENTATION

Recommendations 1 and 5 (federally funded research and federal grants and loans for e-prescribing systems) may be implemented by providing research grants through the National Library of Medicine, the Agency for Healthcare Research and Quality, the Health Resources and Services Administration, and other federal and local agencies.

Recommendation 2 (minimum standards for e-prescribing systems) may be implemented by educating providers before purchase of such systems on the required elements through published reports such as the accompanying technical report.[4] Such reports should also be shared with standards-development organizations to encourage the inclusion of minimum requirements into the development of these standards.

Recommendation 3 (federal legislation on e-prescribing) requires action by the collaborative action of the Drug Enforcement Administration to develop standards for the secure digital transmission of category II controlled substances and enable federal legislation that takes precedence over the restrictions placed by state regulations.

Recommendation 4 (incentives for purchase) should be part of federal and state initiatives to reduce medical errors. Efforts to encourage larger insurers to underwrite such systems should continue—with demonstration projects to document the cost savings to them by the adoption of e-prescribing systems.

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Mark M. Simonian, MD, Chairperson
Joseph H. Schneider, MD, MBA, Vice Chairperson

*Lead author

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