Using Health Information Technology
to Drive Health Care Quality, Safety and Healthier Patient Outcomes

Nemours®

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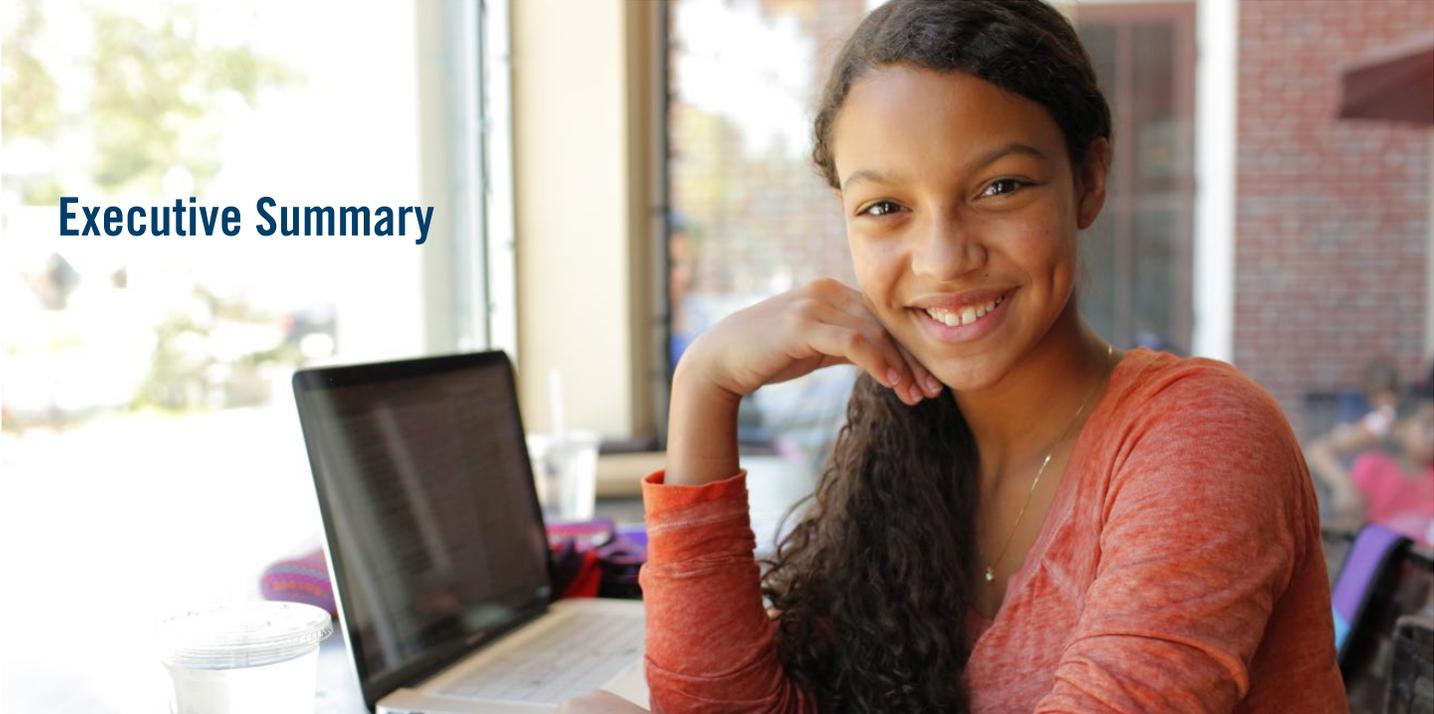
Executive Summary

Overview

Nemours is an internationally recognized children's health system that offers pediatric clinical care, research, education, advocacy and prevention programs to families in the communities we serve. Nemours owns and operates Nemours/Alfred I. duPont Hospital for Children (N/AIDHC) in Wilmington, Delaware, and Nemours Children's Hospital (NCH) in Orlando, Florida, along with major pediatric specialty clinics and primary care locations in Delaware, Florida, Pennsylvania and New Jersey. The Nemours promise is to do whatever it takes to treat every child as we would our own. We are committed to making family-centered care the cornerstone of our health system.

At Nemours, over 25 years of investments in Health Information Technology (health IT) are driving health care quality, patient safety and healthier patient outcomes. Through the adoption of electronic health records (EHR), Nemours is making great strides to improve access to health care, prevent and manage disease, and engage patients and families in decision-making. The result is improved quality of care for children and lower health care costs through a reduction in unnecessary and potentially avoidable procedures, testing and visits.

This brief highlights a few vital examples of how Nemours' health IT investment has created a greater and more seamless flow of information between providers and families, and has improved the quality, safety and convenience of patient care.[1]

Despite these advancements, Nemours and other health systems are presented with a host of significant barriers including privacy concerns, liability, interoperability of health IT systems, and sharing data across state lines. These barriers and other challenges are intensified as the transformation of health care delivery shifts to accountability rather than volume, while at the same time federal incentives and programs for adopting electronic health records begin to wind down. In response, at the end of this brief, Nemours presents a set of policy recommendations to help federal policy makers remove barriers and create opportunities that drive widespread health IT adoption and innovation.

Nemours is recognized as a leader in health IT innovation.

- Healthcare Information and Management Information Systems Society (HIMSS Analytics) Stage 7 Award for Nemours/Alfred I. duPont Hospital for Children and Nemours Children's Hospital in 2013, signifying the highest level of attainment on the EHR Adoption Model; this achievement places both hospitals among two percent of U.S. hospitals reaching the top stage.

- *Hospitals and Health Networks* magazine named N/AIDHC among the "Most Wired" hospitals and health systems in the U.S. from 2011 to 2013, and NCH in 2013.

The Value of NemoursOne

NemoursOne is a fully integrated, system-wide EHR system, which provides a secure online environment and captures, monitors and uses all patient data to help providers make decisions for the best interests of the child. NemoursOne allows us to foster a team-based model of care. It was created to integrate our primary care as well as specialty medical care and advanced hospitalization services with health information and prevention efforts. This integration benefits clinicians, children and families in measurable ways by:

- Connecting and coordinating all phases of care for our patients — whether in our hospitals, clinics, at home or at the referring physician's office;

- Achieving national patient safety goals,[2] including reduced infection rates and improved medication reconciliation;

- Supporting providers in adhering to best practices and optimizing care to patients and families;

- Improving clinical decision support through integrated medication safety alerts to prevent adverse drug reactions[3] and reminders to screen for co-morbidities of obesity and overweight as necessary;

- Facilitating exceptional results with respect to increased use of obesity prevention recommendations, increased immunization rates, reduced asthma rates; and

- Providing access to a library of family-friendly discharge instructions and other materials related to a typical office visit.

Connecting the Child's Care Team and Family

From the design of our facilities, to the hiring of physicians, and through continually improving the patient and family experience, Nemours has demonstrated the importance of family-centered care, which empowers families as decision makers in the health care of their children.
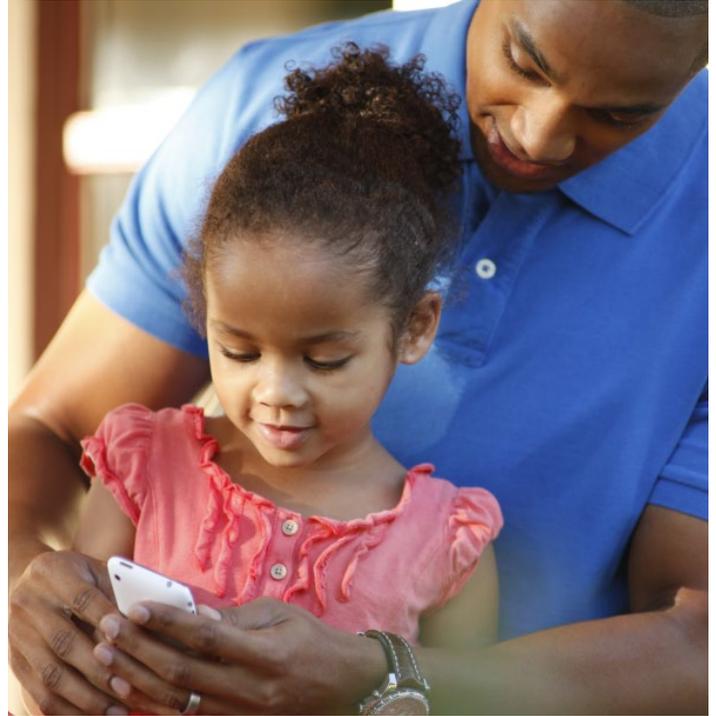
Families utilize MyNemours, our online patient portal, to engage with their child's medical team. MyNemours enables parents/guardians to play an active role in the care of their child. MyNemours facilitates parent/guardian engagement by providing access 24/7 (via computer or mobile device) to the most current information in the child's health record, including test results. With MyNemours, parents/guardians can conveniently request appointments, renew prescriptions, send photos of their child, and have direct, confidential electronic communication with the child's care team. To date, 90,000 MyNemours accounts have been created and 20 percent of all returning patients have active MyNemours accounts.

Nemours also uses technology to facilitate interaction with and among families, through our virtual family council. An online private social network enables council members to provide input through surveys and questionnaires (from the comfort of their home) to help improve the patient and family experience. Based on their input, families have benefitted from improvements to NemoursOne around complex scheduling issues and preferred methods of communication with regard to appointment reminders.

Improving Chronic Disease Management and Prevention

Combating Childhood Obesity: Nationally, nearly one third of children and adolescents are considered clinically overweight or obese.[4] Nemours is building capacity to care for this population of children by leveraging health IT capabilities to better identify risk and improve care and outcomes. We have created a seamless connection between our electronic health record and research data system which allows primary care providers, specialists, health coaches, patients and families to coordinate treatment and track progress in managing risk at both the individual and population level. We are able to fully engage the patient and family in lifestyle change with real-time data displays, dashboards and the creation of a health coaching connection.

Connecting with School Nurses: Children with chronic health problems may need to visit the school nurse every day, making coordination between the school setting and medical system crucial to ensuring high quality care and better health outcomes. In Delaware, Nemours is making it easier for school nurses in public schools to be a part of the child's health care team. With prior permission from a parent or guardian via a Nemours-developed form that is both HIPAA- and FERPA-compliant, the school nurse can use his or her computer to view the electronic health record, a child's plan of care and information about almost every visit to duPont Hospital for Children or a Nemours duPont Pediatrics office.[5] For the 2013-14 school year, the program will be extended to private and parochial schools in Delaware.

Policy Recommendations

The federal government provides technical and financial assistance to encourage hospitals and providers to adopt electronic health records. Federal health IT policymaking primarily is carried out through the Office of the National Coordinator for Health Information Technology (ONC), which promotes the development of a national health IT infrastructure that will implement the most advanced health IT and facilitate the electronic exchange of health information. In order to carry out its responsibilities, the ONC created standards, implementation specifications and certification criteria for EHR systems and formed Regional Extension Centers to help hospitals and community clinics transition from paper-based to electronic records.

The Centers for Medicare and Medicaid Services (CMS), carries out the Meaningful Use program.[6] Organized into three stages, Meaningful Use is the set of standards by which eligible health care providers are able to earn financial incentive payments for adopting and meaningfully using certified EHR technology. Nemours has met the requirements for Stage 1 of Meaningful Use (Adoption) and is rapidly progressing toward meeting Stage 2 requirements (Information exchange). Stage 3 will focus on improving health quality and safety.

By design, each consecutive stage of Meaningful Use will be increasingly difficult to achieve and builds on earlier progress. Thus, in order to continue on a path of driving health care quality, safety and improved patient outcomes through health IT, there must be a sustained commitment of federal policymakers to drive health IT adoption and innovation. Despite advancements, significant challenges remain for innovative health systems such as Nemours – requiring targeted technical and financial support from the federal government and collaboration with vendors, states and other health systems. As such, federal policymakers should continue to play a critical role in advancing the field by implementing the following recommendations:
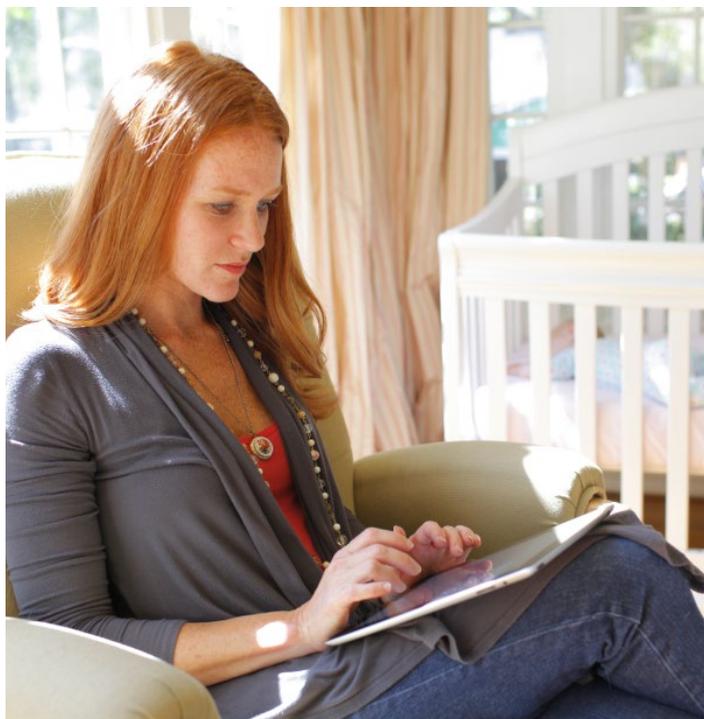
- **Federal, state and stakeholder health IT programs should be aligned across structures, processes and outcome measures.** A lack of harmony among federal, state and private entities with respect to health IT and targeted outcomes has led to confusion in the development of EHRs overall, duplicative reporting and gaps in health IT infrastructure and adoption. Federal agencies, including CMS, ONC and the Agency for Healthcare Quality and Research (AHRQ) should work towards aligning quality and Meaningful Use measures being employed across the health care system.

- **Federal health IT programs and initiatives should consider the unique quality and health outcome needs of children.** The needs of children appear to be an afterthought in many federal initiatives. It is imperative that federal health IT programs include identification and inclusion of measures that capture aspects of health-related quality of life, resource utilization, school and home life care-coordination and cost-effectiveness that are unique to children's health care.

- **The federal government should provide targeted funding to support adoption and continued innovation in health IT.** Health IT adoption and innovation should be priorities for federal investment, as they are integral to driving health care quality, safety and cost reduction. With Meaningful Use payments drawing to a close, CMS should build on the Beacon Communities and Regional Extension Centers and incentivize early adopters to mentor health systems that are not as far along in EHR implementation and achievement of Meaningful Use. Although Meaningful Use reporting and compliance requires significant resources even for early adopters such as Nemours, the Federal government should encourage innovation through targeted funding vehicles, such as seed or catalyst grants, to support the continuous improvement of health IT tools and applications.

- **The ONC and AHRQ should facilitate coordination and encourage partnerships among health IT users, including public health and community-based providers, to share best practices and identify barriers and challenges to collaboration.** Health IT best practices and improvements should be harnessed and widely disseminated. A central learning network is needed to spur dialogue among and beyond health systems to public health and community-based providers, and to support partnerships connecting to different sectors/settings where individuals spend their time with the goal of connecting many types of providers to EHR. For example, federal policymakers should consider a central learning network focused on children, where they learn, live and play. On a typical day, children can be found in many different settings, whether it is at school, in child care or at home. As these partnerships emerge, ONC and AHRQ should highlight and disseminate innovations that have emerged and barriers that have been overcome.

- **CMS should continue to focus on family-centered care and support efforts to improve patient and family access to understandable and usable information.** Patient and family engagement is a cornerstone of achieving Meaningful Use Stage 2. As integrated partners/co-decisionmakers for their care plans, patients and families must be part of the system design, evaluation and choosing of evidence-based outcomes among alternatives. Any national dialogue should include the voices of patients and families to understand barriers of access to the shared EHR. In addition, there is more work to be done to better understand the value added for patients and families to engage in higher utilization of patient portals.

- CMS should direct further attention and investment toward utilizing the EHR and Meaningful Use in monitoring and improving population health and clinical care, as well as the role health IT can play across the entire continuum of care. There is a need and opportunity for health IT to faciliate collection and analysis of population-based outcomes data, from clinical and preventive care to community health promotion and support services. Incorporation of individual and population-based, and public health and medical care measures within the context of health IT implementation can ensure its expanded adoption is maximized in a comprehensive and meaningful way.

- The federal government should support research to identify the characteristics of providers and enterprises that meet Meaningful Use. EHR development and the subsequent achievement of Meaningful Use have occurred at an uneven pace in the health care community. Research is needed to help determine specific tasks and common approaches and practices necessary to achieve Meaningful Use consistently across providers and health systems. Studies could evaluate the impact of Meaningful Use and other health IT initiatives on clinical practice efficiencies, including the actual and opportunity costs of implementation.

Conclusion

For over 25 years, Nemours has applied health IT to improve health care quality, safety and patient outcomes. Leveraging the power of health IT, Nemours has made significant progress on several fronts, including tackling the childhood obesity epidemic, reducing infection rates, increasing immunization rates, reducing asthma admission rates, improving medication reconciliation, supporting provider learning and maintenance of certification and research. Nemours will continue investing in EHR, achieving Meaningful Use and developing new capabilities. Proposed future capabilities include providing direct access to information for all caregivers, including patients and families with a goal of providing new patients with appointments within five days and facilitating online scheduling. However, as the challenge of achieving Meaningful Use grows with each successive stage, continued innovation will require targeted technical and financial support from federal policymakers. Nemours stands ready to collaborate with the federal government to help with this transition. As important, relevant stakeholders in health care – government, vendors, providers, and especially patients and families – need a platform to discuss and disseminate lessons learned and identify and address current/future barriers. In doing so, we can join together to help all health systems and providers embrace, adopt, advance, and sustain Meaningful Use and investment in health IT.

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