



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

Children's Hospitals' Solutions for Patient Safety Network (SPS Network)

Issue Background

When a child is hospitalized with a serious illness or injury, the last thing parents and loved ones want to think about is whether his or her medical care will cause harm. Unfortunately, harm does sometimes occur in the delivery of care. Harm can occur in multiple settings, and in different ways, such as in the form of preventable hospital errors, adverse drug events (ADEs), and hospital-acquired conditions (HACs). Preventable hospital errors are the third leading cause of death in the United States. Pediatric inpatients are three times more likely than adult inpatients to experience an ADE during their hospital stay. A study published in *Pediatrics* found high rates of preventable adverse events among pediatric patients, with approximately 70,000 children hospitalized in the United States experiencing an adverse event each year and 60 percent of these events being preventable.^{iv} Another study found that patient safety events incurred more than \$1 billion in excess charges for children alone in 2000.^v While significant progress has been made—with the Agency for Healthcare Research and Quality reporting improvements in patient safety, led by a 17 percent reduction in HACs between 2010 and 2014^{vi}—progress in the pediatric area has been slow. While the high prevalence of pediatric safety events remains a concern, pediatric hospitals across the United States are implementing innovative knowledge-sharing programs to help children and adolescents receive safer care.

About SPS Network

The Children's Hospitals' Solutions for Patient Safety Network (SPS Network) works to improve pediatric patient safety and represents the first and one of the most significant efforts by children's hospitals to eliminate harm to hospitalized children. Initially started by the Ohio Children's Hospital Association in 2009, Ohio State officials, the Ohio Department of Health, and eight Ohio children's hospitals joined together to establish the Ohio Children's Hospitals Solutions for Patient Safety Network to focus on specific pediatric quality improvement projects. In 2011, following success in Ohio, 25 additional hospitals outside Ohio joined this initial group to launch the SPS Network and implement quality improvement and patient safety strategies across the country. In 2015, the Network grew to encompass more than 100 children's hospitals in total and has since expanded into Canada.

Leaders from these hospitals have committed to clear, shared Network goals of harm reduction by December 31, 2020: a 50 percent reduction in Hospital-Acquired Conditions (HACs), 20 percent reduction in 7-Day Readmissions, 50 percent reduction in Serious Safety Events (SSEs), and 25 percent reduction in DART—Days Away Restricted or Transferred (by June 2020). The Network focuses on 11 specific HACs: ADEs, catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs), injuries from falls and immobility, pressure injuries, surgical site infections, ventilator-associated events (VAE), venous thromboembolism, peripheral intravenous infiltration and extravasations (PIVIEs), unplanned extubations, and *C. difficile* and antimicrobial stewardship.

SPS Network is also one of the 16 members of the Hospital Improvement Innovation Networks (HIINs),^{vii} part of the 'Partnership for Patients', an initiative that engages in public-private partnerships to improve the quality, safety, and affordability of health care for all Americans.^{viii} HIINs help identify proven solutions for harm reduction, and disseminate them to other hospitals and providers.

Overview of Activities

SPS Network implements proven strategies and approaches to improve pediatric quality care and patient safety, including adapting each hospital's organizational culture into one that prioritizes patient safety and quality, employing High Reliability Organization practices, involving key leaders across children's hospitals to increase administrative and clinical staff participation and engagement in patient safety improvement, establishing Patient Safety Committees, educating all staff and providers, developing and adopting safe protocols and procedures, and using technology to share best practices that aid hospitals and health care facilities in reducing medical errors and improving patient safety.

SPS Network encourages knowledge sharing and facilitates relationship building within the Network to broaden and accelerate learning, thus providing guidance and support for hospital teams through regular collaboration. Its "no competition" rule ensures that the head of each hospital agrees that, although they may compete on market share, they will not compete on safe practices, and allows the free flow and open sharing of knowledge and best practices. Evidence-based pediatric HAC bundles are disseminated throughout the Network and on the Network's public Web site to ensure that each hospital delivers the best quality care to its patients. Bundles outline standard definitions, approaches, and techniques for addressing HACs.

SPS Network teams, focused on each HAC, regularly exchange information via national and regional conferences, webinars, calls, and monthly Webinars. Regular collaboration among teams allows them to implement and execute learned best practices, strategies, and methodologies in their respective hospitals. The Network also features hospitals excelling in a particular HAC reduction area in a "SHINE" report, distributed throughout the Network. Each featured hospital has the opportunity to showcase its results and best practices and share contact information so others can consult the hospital for advice.

SPS Network uses a secure cloud-based internal Web site to allow easy access and distribution of knowledge among Network participants. Every tool that is recommended by any participant is catalogued on the site to measure and improve patient safety culture. In addition to children's hospitals across the country, SPS Network also collaborates with other networks. SPS Network is built upon the already established Child Health Patient Safety Organization (PSO), certified by AHRQ, which has been certified to increase its teachings regarding serious safety events through a partnership beyond its membership.

As an advocate for greater transparency, the SPS Network is also a strong advocate of public reporting. Pediatric HAC readmissions results are regularly updated on the Network's public-facing Web site. The Network established a parent leadership group that works to improve patient and family engagement, which most recently created bedside toolkits for Network-wide distribution, including signage that helps to ensure critical patient information is legible, accurately, and consistently communicated to the next doctor, nurse, or clinician. The Network also includes family members as part of the HAC groups, which has developed toolkits for setting up a patient and family advisory group within hospitals.

Results

SPS Network's efforts have resulted in significant improvement in pediatric care in its Network hospitals, including in quality and patient safety across targeted HACs. Since 2012, this national effort has led to an estimated savings of more than \$130 million.^{ix} These reductions have saved an estimated 6,944 children from serious medical harm.^x Overall, there has been a significant reduction in serious safety events. Between 2012 and November 2015, the SPS Network's work reduced rates of HACs ventilator-associated pneumonia, catheter-associated urinary tract infections, and falls by roughly 40 percent.

Engaging in knowledge sharing by distributing the Network's bundles has also proven to be effective. For instance, the Network recommended proper preoperative bathing, intraoperative skin antisepsis, and antibiotic delivery helped achieve a reported 21 percent reduction in surgical site infection rate across network hospitals.^{xii} From 2011 to 2013, SPS Network's distribution of bundles that focused on preventing pressure injuries among the 33 hospitals participating in the Network at that time saw a significant reduction in stage 3 and 4 pressure injuries over a 2-year period. Of the 78 hospitals in the

and 2, the hospitals that adopted each bundle element, measured compliance, and achieved 80 percent prevention compliance had significantly lower pressure injury rates compared with all hospitals that participated in the study.^{xii}

Alignment to the National Quality Strategy (NQS)



SPS Network promotes:

Making care safer.

Person- and family-centered care through the levers of learning and technical assistance; certification, accreditation; and innovation and diffusion.

Contact

For more information about SPS Network, contact Missy Shepherd, the Executive Director of SPS Network, at Missy.Shepherd@cchmc.org

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- i. [Makary Martin A, Daniel Michael. Medical error—the third leading cause of death in the US *BMJ* 2016;353:i2139](#)
 - ii. [Benavides, S., Huynh, D., Morgan, J., & Briars, L. \(2011\). Approach to the pediatric prescription in a community pharmacy. *The Journal of Pediatric Pharmacology and Therapeutics*, 16\(4\):298-307.](#)
 - iii. [Kaushal, R., Goldmann, D. A., Keohane, C. A., Christino, M., Honour, M., Hale, A. S., ... & Bates, D. W. \(2007\). Adverse events in pediatric outpatients. *Ambulatory P*](#)
 - iv. [Woods, D., Thomas, E., Holl, J., Altman, S., & Brennan, T. \(2005\). Adverse events and preventable adverse events children. *Pediatrics*, 115\(1\):155-160.](#)
 - v. [Miller, M. R., & Zhan, C. \(2004\). Pediatric patient safety in hospitals: a national picture in 2000. *Pediatrics*, 113\(6\):](#)
 - vi. <https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqdr/nhqdr15/2015nhqdr.pdf>.
 - vii. <https://partnershipforpatients.cms.gov/about-the-partnership/hospital-engagement-networks/thehospitalengagementnetworks.html>.
 - viii. <https://partnershipforpatients.cms.gov/about-the-partnership/aboutthepartnershipforpatients.html>.
 - ix. <http://www.solutionsforpatientsafety.org/our-results/>.
 - x. <http://www.solutionsforpatientsafety.org/our-results/>.
 - xi. <http://www.solutionsforpatientsafety.org/wp-content/uploads/2015-Year-in-Review-1.pdf>.
 - xii. [Schaffzin, J. K., Harte, L., Marquette, S., Zieker, K., Wooton, S., Walsh, K., & Newland, J. G. \(2015\). Surgical site infection reduction by the solutions for patient safety hospital engagement network. *Pediatrics*, 136\(5\):e1353-e1360](#).
 - xiii. http://journals.lww.com/pqs/Abstract/latest/Impact_of_a_Pressure_Injury_Prevention_Bundle_in.99991.aspx

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