

Pediatric PERSPECTIVES

ADVANCING PATIENT CARE SERVICES AT ST. LOUIS CHILDREN'S HOSPITAL



Women & Infants program delivers needed services

See page 4



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ON THE Cover

► Newborn ICU patient **Kayden Richmann** with his mother and grandmother.

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From Peggy

A Year of Surveys, Growth and Challenges

Starting in the winter with the Trauma Program American College of Surgery (ACS) survey and the Foundation for Accreditation of Cellular Therapy (FACT) survey of our stem cell transplant and pheresis programs, St. Louis Children's Hospital is experiencing a year of almost continuous external quality reviews.

As I write this note, we just completed our Magnet re-designation survey visit in mid- June. After months of document writing (and re-writing!), weeks of preparation, and much anticipation, our three Magnet appraisers spent three very intense days with us hearing about all the wonderful things we do for our patients and families. It was so gratifying to hear from our appraisers that they could see we truly "walk the talk" of family-centered care, and live our professional practice model! I couldn't be more proud of the intelligence, professionalism, and commitment of our staff to our mission – and the way that you shared that with the appraisers.

While the Magnet appraisers were keeping us busy on the main campus, our brand new St. Louis Children's Specialty Care Center was having its first ambulatory surgery center licensing survey from the Missouri Department of Health and Senior Services. The center performed its first surgical procedures after receiving its license, on Thursday June 18th. The opening of this full-service community-based specialty care center is an important milestone for SLCH and a key part of ensuring that we are developing new ways to meet the needs of children in our community and grow our reach.

Later in the fall we are expecting important regulatory visits from CMS to survey of our Transplant and Dialysis programs, as well as our triennial Joint Commission accreditation survey. The Transport Team will also have its voluntary CAMTS (Commission on Accreditation of Medical Transport Systems) survey which evaluates compliance with patient care and

safety standards for air or ground inter-facility medical transport services. This will be our team's second accreditation by the organization, and we are proud of their attainment of these high standards of practice.

The best thing about a year like this is that it pushes us to be continuously ready for a regulatory review at any time. Accomplishing that relies greatly on our commitment to being the best we can be for our patients and families at all times. With our high volumes and tight staffing over the past many months, I know that has been a challenge to sustain. However, in the coming year we will begin to implement a more a systematic approach to our work that will integrate many of the improvement approaches we use at SLCH into a complete operating system, which should make it much easier for us to maintain our continuous state of readiness and become a true high reliability organization. We expect that it will bring more of a sense of rhythm and control to our daily work, so that we do not find ourselves running a sprint before a deadline, only to collapse after crossing the finish line!

In the meantime, thank you all for your continuous work to improve our care and service. SLCH Patient Care Services is the A-Team in my book and I know you will represent us well when any of our visitors show up!

Peggy

Peggy Gordin, MS, RN, NEA-BC, FAAN, is SLCH's Vice President of Patient Care Services. She can be reached at pgordin@bjc.org.

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► TRANSFORMATIONAL LEADERSHIP

Women & Infants program delivers needed services

Over 20 years ago the notion of a combined women and infants program began to take shape. In the mid-1990s, representatives from the departments of obstetrics and gynecology, and pediatrics: James Schreiber, MD; D. Michael Nelson, PhD, MD; and F. Sessions Cole, MD, from the Washington University Medical Center; and from Barnes-Jewish Hospital (BJH), Kathy Hanold, RN; began to collaborate on what would become the Women & Infants program. According to Dr. Cole, “The initial concept resulted in consolidation of the former Jewish Hospital and Barnes Hospital delivery services into a single delivery service at BJH. The development of a BJC HealthCare system-wide strategy for women and infants’ services was also discussed in detail, but efforts to deploy these plans were incremental.” Several needs were identified to expand the Newborn ICU and increase unit beds within St. Louis Children’s Hospital (SLCH). In addition, both oncology and surgical services at BJH needed to expand. Plans

began to take shape for integration into the BJC Campus Renewal Project. “This planning resulted in the current building project for a 132-bed neonatal intensive care unit at SLCH, for a new delivery service and normal nursery in the adult bed tower with direct access to the Newborn ICU, and the development of a maternal transport service, Fetal Care Center, and more robust neonatal and obstetrical outreach and telemedicine programs,” states Dr. Cole. With the recruitment of George Macones, MD, MSCI, as chair of the department of obstetrics and gynecology, new interest was generated in developing the Women & Infants program; Rick Majzun was then given the task of bringing the notion to reality. Majzun developed the needed partnerships between BJH, Washington University School of Medicine (WUSM) and SLCH. Majzun says, “Given the current clinical outcomes in the St. Louis market—lack of prenatal care, late pre-term births, prevalence of low birth weight infants, births to teenage mothers, and infant mortality—

Critical to the success of the Women & Infants program planning process has been the leadership:

- **George Macones, MD, MSCI**
Chairman of the department of Obstetrics & Gynecology
- **Alan Schwartz, PhD, MD**
Chairman of the department of Pediatrics
- **Alison Cahill, MD, MSCI**
Director of the division of Maternal-Fetal Medicine
- **F. Sessions Cole, MD**
Director of the division of Newborn Medicine, and Chief Medical Officer
- **Rick Majzun**
Vice President for Women & Infants services

there was a great opportunity for SLCH/BJH/WUSM to transform the delivery of obstetrical practice in the region." Majzun believes that we are in a unique position, with our campus and the partnerships, to provide St. Louis with the highest level of care that will impact the lives of mothers and their newborn babies in a significant way.

Built on the idea of redefining and advancing clinical care in the area of obstetrics for the St. Louis region, it was apparent the collaboration would have to plan and develop a new delivery model that would transform and improve outcomes. Majzun's list of the necessary actions to make this happen were:

- Improving prenatal care in our region
- Creating a pregnancy management process that leads to an improved outcomes coverage model
- Leveraging the partnership among obstetrics, neonatology and pediatrics
- Demonstrating improved obstetrical outcomes and educating others on how we have improved our clinical performance

Service and technology will not be the only drivers for success; focus will be on the outcomes of clinical care. Three areas have been outlined to facilitate this success:

- Improving quality and access for mothers and infants throughout Missouri, Illinois, and the surrounding states
- Providing improved pregnancy and delivery management
- Advancing the field through strategic investments in program growth, research and technology

While much of the focus is on a regional scale, the Women & Infants program and the BJH/WUSM/SLCH collaboration will be positioned to be a national leader in obstetrics by:

- Expanding the newborn medicine and Newborn ICU capabilities to strengthen SLCH's long-term competitive medical/surgical and financial positions.
- Advancing the care delivery model at SLCH/BJH/WUSM to provide the most innovative, state-of-the-art care,

improving the health of mothers and infants throughout the region.

- Accelerating the integrated discovery and application of therapeutic advances in perinatal and newborn medicine by leveraging the collective resources of SLCH and WUSM, e.g., Children's Discovery Institute.

All of these efforts will lead to a better and healthier life for mothers and infants both locally and nationally. The Women & Infants program will be housed in some



"The new delivery service, normal nursery, and Newborn ICU should be ready for occupancy in the fall of 2017."

– Dr. Sessions Cole



existing space, some new space and some renovated space and will change the landscape of the campus dramatically. Countless hours and many, many people have contributed to how it will all look.

The design and development phase of the project incorporated a vast cross section of input from working groups that included:

- OB physicians (private and WU), pediatric physicians (private and WU) and anesthesia physicians

- Nursing leadership, nursing staff, APNs, and residents
- Fetal Care Center staff
- Housekeeping, facilities
- Spiritual care, bereavement advisory members
- Patient/family members

The design and development phase lasted well over seven months. Groups were broken down into specific areas such as the Newborn ICU, and Labor and Delivery. An example of the Newborn ICU groups included:

- Patient Care Room Design
- Communication
- Staff Support Functions

Each of those groups had special areas of concentration. The Staff Support Functions group addressed meeting the growing needs of the Newborn ICU staff in non-patient care areas. Locations were created that foster positive work life balance and the reduction of caregiver stress, including:

- Offices and touch down spaces within the unit for managers, assistant managers, and ancillary staff.
- Locker room to accommodate increasing number of staff
- Lounge with zoning areas from eating area to relaxation area
- Call room suites
- Conference/consult rooms
- Provider work rooms

Many people spent countless hours in each of these groups over that time dotting every "I" and crossing every "T", so that the functionality and design of these new areas would not only meet current needs, but future needs as well. According to Dr. Cole, "The Women & Infants program has also provided the opportunity for new strategies for collaboration among WUSM, SLCH, and BJH. The new delivery service, normal nursery, and Newborn ICU should be ready for occupancy in the fall of 2017."

For more information contact Rich Manley, RN, at rjm1670@bjc.org.

► NEW KNOWLEDGE

Testing to improve the clinical information system user experience

Have you ever pushed on a door only to discover you should have pulled? Do you have buttons on your car that you have no idea what they do? Or have you accidentally ordered the wrong medication or procedure because the ordering system was not clear? If so, you have experienced usability issues! The consequences of usability issues range from embarrassment as you crash into the door, to a catastrophic impact directly resulting in patient harm. Poor usability of electronic health records (EHR) can negatively impact patient safety, clinical productivity and efficiencies.

What can be done to reduce or eliminate usability issues? One possible solution is usability testing – a technique employed in user-centered interaction design to evaluate and improve a product or system by testing it on users. Informally, usability can be thought of as “ease of use,” but its formal definition is the extent to which a system can be used by a specified

group of users in a specified context to accomplish specified goals of efficiency, effectiveness and satisfaction.

Usability tests can range from summative—formal, classical experiments with large sample sizes, to formative—informal, qualitative studies with few participants, and may include anything from a paper prototype—hand drawings on paper, to fully functioning systems in production.

As part of an Evidence Based Practice Project at St. Louis Children’s Hospital, the usability of KIDDOS, our nursing documentation system, was tested.

The goal was to determine if registered nurses from the general floors could use KIDDOS to document the care of their patients with effectiveness—did the system support their work, efficiency—could they complete their work in a timely manner with an appropriate level of effort, and satisfaction—did they generally feel satisfied or frustrated.

A usability testing technique called the “Think Aloud



Protocol” was used. Nurses used KIDDOS to perform typical tasks while thinking aloud (verbalizing their thoughts as they interact with the system). The “think aloud” protocol is commonly used to identify specific electronic health record issues and, in this project, informed the redesign of the KIDDOS documentation system.

Two rounds of usability testing were performed. Specific usability issues were identified as well as task-specific and system-specific metrics. Following the two



Usability testing is vital to creating useful and usable systems for users that will ultimately influence the safety and outcomes of our patients.



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rounds of usability testing, changes and updates were made in KIDDOS. Results from these two rounds of usability testing helped to improve the effectiveness, efficiency and nurse satisfaction of patient documentation despite limitations within the existing system.

Application of usability testing has also been used for research and practice within the newborn intensive care unit (Newborn ICU) to test the impact of a newly designed clinical decision support (CDS) tool on appropriate use of therapeutic hypothermia for infants with hypoxic ischemic encephalopathy (HIE). In order to test the usability of the new CDS tool, we incorporated simulated HIE scenarios and the “think aloud” approach for iterative evaluation with eight provider stakeholders: five physicians (neonatologists/neurologists) and three neonatal nurse practitioners. This method was used to discover flaws and enable the CDS refinement to optimize learnability,

efficiency, memorability, errors and satisfaction. Based on the outcomes of the two rounds, changes to the CDS were made and tested until no new usability testing issues were identified. Usability has a strong relationship with clinical productivity, error rate, user fatigue and satisfaction; critical factors for successful adoption and implementation of an electronic CDS tool. Ultimately, our goal is to integrate a usable evidence-based CDS tool into the EHR at the point of care that will result in standardized processes, timely diagnosis of HIE, decreased variation in practice, and more appropriate and safe treatment.

As we move forward with updating existing systems, designing new systems, and transitioning to EPIC, usability testing is vital to creating useful and usable systems for users that will ultimately influence the safety and outcomes of our patients.

For more information contact
Janette Coble, RN at jcc6154@bjc.org



► NEW KNOWLEDGE

Fitbit Fun: Does Camp Independence increase activity of children with cerebral palsy?

Like most children, those with cerebral palsy want to be “where the action is.” Just like their more typically developing peers, they want to play sports, attend camps, and socialize with friends. The physical and medical needs of a child with cerebral palsy may limit the ability to participate in community activities, particularly organized sports or sports camps that cannot accommodate the additional needs of the child. Typically developing children who attend sports camps benefit from the increased physical activity they experience in the fun, social environment. The inability of a child with cerebral palsy to participate in such activities does not allow them to experience these same benefits.

In 2003, the Carol and Paul Hatfield Cerebral Palsy Sports and Rehabilitation Center was developed to provide children with cerebral palsy and related childhood disabilities the opportunity to experience sport activities in fun, social environments. The biggest program organized by the center is Camp Independence; an intensive physical therapy day treatment program designed in a sports camp format. Camp Independence is based on the idea that children with cerebral palsy want to be independent. At camp, participants are encouraged to do as much as they can on their own, yet are assisted as necessary to participate in and



Camp Independence camper Natalie Fiorelli gives tennis a try.

be successful at many different sporting activities. The physical therapists, nurses, aides and volunteers who make Camp Independence successful are committed to helping campers be as independent as possible.

Camp Independence is held in a community recreation facility that has a gym, outdoor swimming pools and tennis courts. Campers spend seven hours a day for up to four weeks participating in sport activities such as tennis, swimming, yoga, martial arts, basketball, soccer, cycling, baseball and dance. Each sport is adapted as necessary to meet the needs of the child. The goal is to provide the right amount of assistance to help children be motivated to participate and proud of their achievements.

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Similar to traditional physical therapy, the goals of this intensive day treatment program are to improve strength, balance, range of motion, coordination and endurance.

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Marcos Rendon works two hula hoops at once.

Similar to traditional physical therapy, the goals of this intensive day treatment program are to improve strength, balance, range of motion, coordination and endurance. Additionally, the campers have fun and realize they too can be athletes. Anecdotally, Camp Independence staff observe improvements in the campers by the end of their camp experience. They often can walk farther, swim longer, shoot baskets higher and are more willing to try new things. To more objectively assess the program, a collaborative study between St. Louis Children's Hospital and Saint Louis University, funded by the St. Louis Children's Hospital Foundation, was designed to assess the benefits of camp. Because increased physical activity is beneficial to overall health, the primary goal of the study was to measure how active campers were at home and at camp.

During the summer of 2014, 34 campers were recruited to wear a Fitbit Flex activity tracking device for two weeks before camp, while they were attending camp, and a minimum of two weeks after camp. All activity data were collected using the Fitbit app and the fitbit.com

During the summer of 2014, 34 campers were recruited to wear a Fitbit Flex activity tracking device for two weeks before camp, while they were attending camp, and a minimum of two weeks after camp.

website. Campers also completed a number of standardized physical outcome measures at the beginning and end of camp to evaluate the functional benefits of camp. Participants were between the ages of 7 and 18 and ranged in physical ability from independently being able to run to requiring a power wheelchair for community mobility.

The results of this study are consistent with the anecdotal observations of Camp Independence staff in previous years. There was no improvement in standardized physical outcome measures across all campers, but some individuals demonstrated significant improvement. The participants averaged 8693 steps on days they attended camp but only averaged 5730 steps on days they did not attend camp.

The Fitbit Flex was chosen because it is a commercially available and popular activity tracker amongst peers. Because campers liked the device and were motivated by their step count while at camp, the research team was hopeful the increased activity demonstrated at camp would continue outside of the camp setting. Some campers continued to be motivated by the device, even encouraging family to purchase and wear a device, but unfortunately, activity levels decreased after camp. One potential reason for this is the lack of community physical

activity opportunities that accommodate children with cerebral palsy. The Carol and Paul Hatfield Cerebral Palsy Sports and Rehabilitation Center offers different physical activities throughout the year, but not all campers live in the St. Louis area. Development of additional adapted sports programs in more communities may provide more physical activity opportunities for children with cerebral palsy.

For additional information about the study, contact Sarah Hickey at skh9037@bjc.org or Sara Scholtes at sscholte@slu.edu

Learn more about Camp Independence at <http://www.stlouischildrens.org/our-services/cerebral-palsy-center/sports-rehabilitation/camp-independence> or contact Jennifer Miros at jem0061@bjc.org

Jansen Weathermon concentrates while playing tennis at Camp Independence.





"IT CAN W8"

The dangers of texting and driving

The St. Louis Children's Hospital (SLCH) trauma services team was busy this past May with activities for Trauma Awareness Month. "IT CAN W8" was the theme adopted by the team with the goal of preventing distracted driving. Educational booths were staffed in the cafeteria and a distracted driving cart made rounds throughout the hospital. More than 2,500 "IT CAN W8" thumb bands were distributed to staff and families from the booths and the distracted driving cart. The purpose of the bands is to serve as a visual reminder to drivers that anything they might do with a hand-held device can wait until they are finished driving.

The distracted driving campaign and thumb band initiative was inspired by a former SLCH teen trauma patient, Ashlei Blair, who was hospitalized in 2014 after a rollover accident that occurred when she was driving and looking at the map app on her phone. Ashlei's story

sparked an idea that evolved into the "IT CAN W8" campaign and Ashlei, along with Michele Herndon, RN, BSN, appeared on both KTVI and KSDK to share Ashlei's story and the importance of the campaign. Public response to the media reports was extremely positive and 6,000 more thumb bands were ordered to meet the public's request for the bands.

To coordinate with this campaign, trauma services applied for and received an Employees Funding Superior Patient Experience grant from The SLCH Foundation and used these funds to create 1,000 packets to be distributed to families at discharge. These packets contain two of the thumb bands along with an insert with facts on distracted driving and a letter from Martin Keller, MD, trauma medical director. Muffie Clark, BSN, RN, clinical educator on the 12th floor reported that the staff "... was eager to provide such useful education to our patients and

families." The thumb bands were a huge hit! The message definitely was sent that we genuinely care about the health and safety of our patients AND their families."

The trauma services department is also very active in the hospital, community, and region. Under the leadership of Steven Woods, BSN, MBA, RN, trauma program manager; and Martin Keller, MD, trauma medical director; SLCH was recently re-verified by the American College of Surgeons as a Level 1 Pediatric Trauma Center, continuing to ensure that SLCH is the only American College of Surgeons Verified Level 1 Pediatric Center in both Missouri and Illinois.

Central to the trauma program are the trauma patients and data that is collected by the trauma data analysts Carol Weiss and Chad Christer. This data is submitted to the states of Missouri and Illinois as well as to the National Trauma Data Bank and is used for research and quality

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improvement. Performance Improvement Specialist Moe Schmid, MSN, MA, RN uses this data to track benchmark standards of care for our pediatric trauma patients and determine where improvement is needed to provide the best possible outcomes.

The trauma nurse coordinators Lori Beck, BSN, RN; and Michele Herndon, BSN, RN; provide internal trauma education as well as education throughout the region. These nurse coordinators provide

feedback and pediatric specific education to hospitals in Missouri and Illinois that transfer patients to SLCH. Rich Dandridge, EMT-P, provides education to local EMS agencies and serves as a liaison to EMS crews who transport patients. The team also has a full-time social worker dedicated to trauma patients, Bobbi Williams, MSW, LCSW, and a dedicated nurse practitioner who partners with the pediatric general surgeons to provide care for the patients.

The entire trauma services team is committed to "Doing What's Right for Kids" by helping to prevent injuries while also ensuring that the children in our region have access to the highest possible level of pediatric trauma care.

For questions regarding trauma services or to receive distracted driving packets to distribute in your area, please contact Michele Herndon, RN, BSN at michele.herndon@bjc.org.



SLCH team members give a big thumbs up to the "IT CAN W8" initiative. More than 8,500 thumb bands have been distributed due to public response.

▶ NURSING EXCELLENCE



MAGNET
RECOGNIZED



AMERICAN NURSES
CREDENTIALING CENTER

St. Louis Children's Hospital achieves third consecutive Magnet designation

Only about 100 hospitals worldwide — **less than 1 percent of 6,000 health care facilities** — have achieved the Magnet designation three consecutive times. This honor reflects the caliber of the entire hospital. **Congratulations!**