

# ELECTRONIC MEDICAL RECORD IMPLEMENTATION FOR PEDIATRIC SURGERY PATIENTS: PEDI TO THE RESCUE

Carmen Duque, MSN, ARNP, PPCNP-BC, Pediatric Surgical Nurse Practitioner • Michelle Burke, MSN, ARNP, CPN, CPON, Clinical Specialist Oncology

## INTRODUCTION

Health care documentation is transitioning to electronic medical records and computerized physician order entry (CPOE). Legislation recently passed - the American Recovery and Reinvestment Act (ARRA) - defines the concepts of "mandated electronic medical records" and what consists of "meaningful use". Pediatric hospitals and outpatient centers must comply with these mandates and promote "best practices" in providing surgical care. Monetary incentives for implementation of computerized medical records began in 2013. Health care organizations that do not comply with ARRA by 2015 will face reimbursement issues and cuts in federal funding.

The benefits of an electronic medical record (EMR) are numerous, some of the benefits include:

- Increase standardization
- Efficiency
- Improve coordination of care
- Improved workflow (i.e. -- sharing of documentation)
- Accuracy and legibility
- Automation
- Improve revenue

Our institution implemented an electronic medical record named PEDS in April 2012. PEDS stands for *Pediatric Electronic Data System*. The "Cerner" system was selected and the entire hospital "went live" on a predetermined date. Pediatric surgery was consulted for their specific needs for pre-operative and post-operative care.

## OBJECTIVES

To develop order sets for surgical orders including:

- Pre-operative care
- Progress Notes
- History and Physicals
- Post-operative care
- Consultation Notes

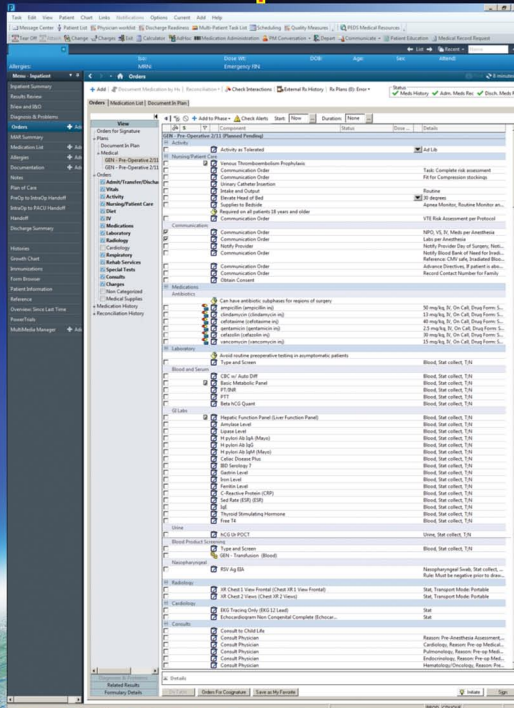
## METHODS

Specific Subject Matter Experts (SMEs) were identified 18 months prior to implementation to assist with specific specialty needs. A Surgical Nurse Practitioner was designated to be the lead for the pediatric surgical team. Paper order sets were reviewed and prioritized to be developed into an electronic format. The Pediatric Surgery Team treats a variety of surgical issues such as appendicitis, pyloric stenosis, thoracic malformations, trauma patients, burns, bowel obstructions and placement of central lines and gastrostomy tubes. The following power plans were developed for management of surgical patients.

## RESULTS

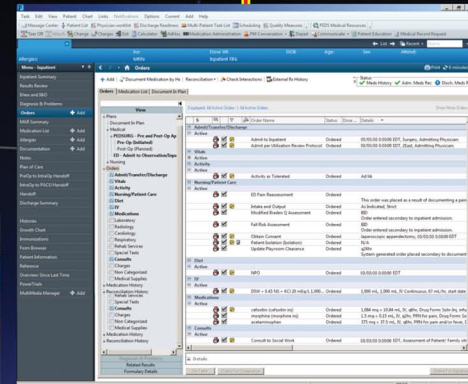
There were many challenges during the order set development and implementation. The Powerplan development included: testing and re-testing, revisions and modifications to meet specific order set needs. Numerous members of the surgical team tested the order sets during integration testing. All areas that integrate with these orders tested for accuracy and completeness of order to be carried out for the specific test patient.

### Pre-operative Order Sets



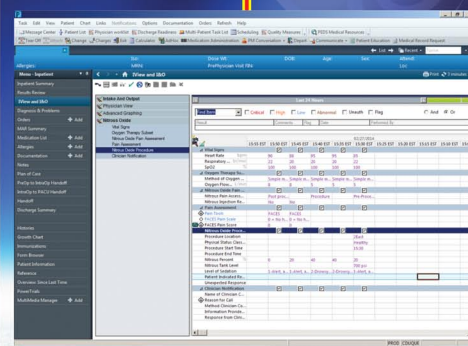
This screenshot displays a detailed view of a pre-operative order set in the EMR system. It includes sections for 'Orders by Specialty', 'Medications', 'Laboratory', 'Immunizations', and 'Allergies'. The 'Orders by Specialty' section is expanded to show 'Pre-Operative Orders' with a list of tasks such as 'NPO after midnight', 'Fasting', and 'Vital Signs'. The 'Medications' section lists various drugs like 'Morphine', 'Fentanyl', and 'Ketorolac'. The 'Laboratory' section shows a list of tests including 'CBC', 'CMP', and 'Coagulation Panel'. The 'Immunizations' section lists 'MMII' and 'MMII-PPV'. The 'Allergies' section lists 'Penicillin' and 'Sulfonamides'.

### Initiated Pre-Operative Appendicitis Order Set



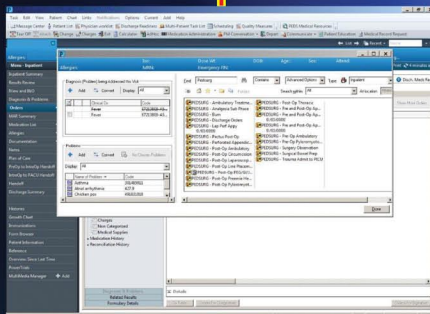
This screenshot shows an 'Initiated Pre-Operative Appendicitis Order Set' for a patient named 'John Doe'. It features a table of orders with columns for 'Order Type', 'Order Name', 'Status', and 'Date'. The table lists various orders such as 'NPO after midnight', 'Fasting', 'Vital Signs', 'CBC', 'CMP', 'Coagulation Panel', 'MMII', 'MMII-PPV', 'Morphine', 'Fentanyl', 'Ketorolac', and 'Penicillin'. The 'Status' column indicates whether the order is 'Initiated', 'Completed', or 'Cancelled'.

### Nitrous Oxide Documentation

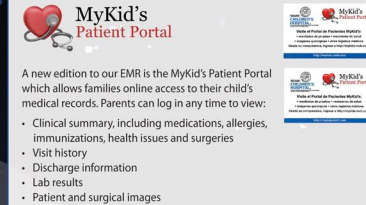


This screenshot displays 'Nitrous Oxide Documentation' for a patient named 'John Doe'. It shows a table with columns for 'Date', 'Time', 'Nitrous Oxide Concentration', and 'Status'. The table lists various entries for nitrous oxide administration, including '100% N2O', '50% N2O', and '20% N2O'. The 'Status' column indicates whether the documentation is 'Initiated', 'Completed', or 'Cancelled'.

### Pedsurg Order Sets



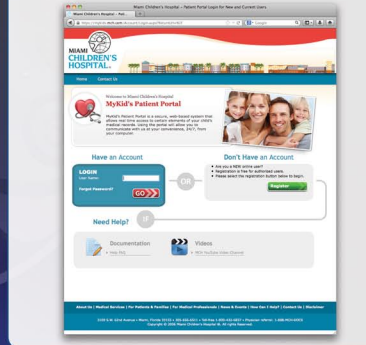
This screenshot shows 'Pedsurg Order Sets' for a patient named 'John Doe'. It features a table of orders with columns for 'Order Type', 'Order Name', 'Status', and 'Date'. The table lists various orders such as 'NPO after midnight', 'Fasting', 'Vital Signs', 'CBC', 'CMP', 'Coagulation Panel', 'MMII', 'MMII-PPV', 'Morphine', 'Fentanyl', 'Ketorolac', and 'Penicillin'. The 'Status' column indicates whether the order is 'Initiated', 'Completed', or 'Cancelled'.



**MyKid's Patient Portal**

A new edition to our EMR is the MyKid's Patient Portal which allows families online access to their child's medical records. Parents can log in any time to view:

- Clinical summary, including medications, allergies, immunizations, health issues and surgeries
- Visit history
- Discharge information
- Lab results
- Patient and surgical images



**MyKid's Patient Portal**

Have an Account? Don't Have an Account?

Need Help? Documentation Videos

## CONCLUSIONS

Prior to developing standard electronic surgical order sets, institutions must have a clear vision of their workflow and needs in order to have a functional end product. Additional challenges of EMR include continual technical support, ability to make modifications in a quick manner, training of the end user, down time procedures both scheduled and unscheduled, order clean up, system maintenance and adequate resources solely dedicated to the EMR. Our institution has one dedicated staff member to assist ARNPs and Physicians with CPOE. This person was extensively involved in the training, adoption and follow through with all the medical teams at the hospital. In addition, he meets monthly and as needed to provide technical support.

## REFERENCES

- Nakamura, M., Harper, M. & Jha. A. (2013). Change in adoption of electronic health records by US Children's Hospitals. *Pediatrics*, 131(6), e1563-e1575.
- Sweeney, P. (2010). The effects of information technology on perioperative nursing. *Association of Perioperative Registered Nurses Journal*, 92(5), 528 - 543
- Worzala, C. (2009). Policy update: Federal incentives for the adoption of electronic health records. *Journal of Oncology Practice*, 5(5), 262-263.

