

QI, PDSA, NAS and Potentially Better Practices

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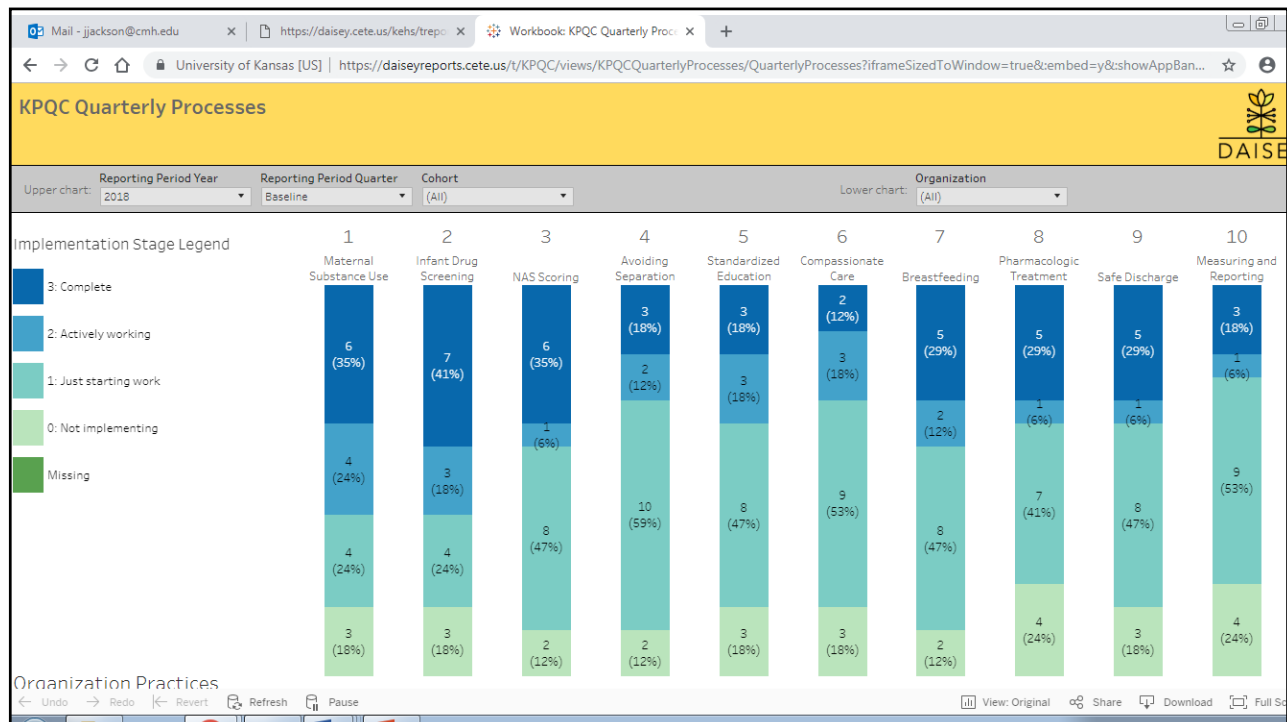


Vermont Oxford Network (VON) “Potentially Better” Practices in NAS Care

- Develop and implement a standard process for identification, evaluation, treatment and discharge of infants with NAS
- Care sites that promote parental engagement in care/avoid separation of mothers
- Engage mothers and family members in providing non-pharmacologic interventions “first-line” therapy at risk infants
- Create a culture of compassion and healing for mother/infant dyad
- Develop breastfeeding criteria/support
- Standardized process for safe discharge
- Universal education and training
- Develop/Implement a standard process for measuring and reporting rates of NAS and drug exposure

Vermont Oxford Network, Universal NAS Training and Education. Retrieved from: <http://von.mycrowdwisdom.com/diweb/community/ct/42808>



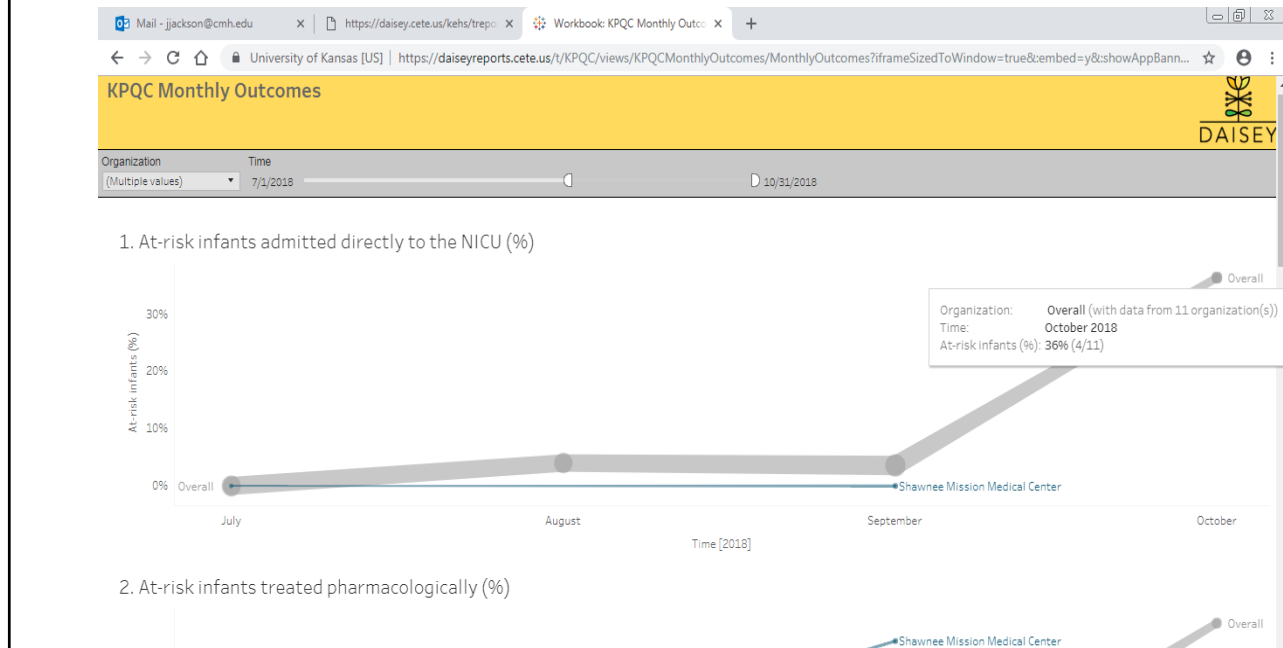


Project SMART Aims

- By October 2020, 85% of all Kansas birth hospitals enrolled in VON NAS Universal Training Program will have achieved "Center of Excellence" designation
- By October 2020, less than 50% of infants at risk for NAS will be directly admitted to the NICU.
- By October 2020, the number of infants at risk for NAS that require pharmacological treatment will decrease by 25%.
- By October 2020, the LOS of Kansas infants with NAS treated pharmacologically will decrease by 2 days



Data Results So Far



NAS PDSAs Projects

- Nursing education
 - Protocol
 - Emphasizing "Comfort Measures"
 - Keeping Baby with mom in Mom/Baby unit
 - Targeting Breast feeding
 - Scoring Education
 - Mother/Baby nurses (if no meds needed)
 - NICU nurses if meds needed
- Parent Education
 - Educational booklet
 - Educational check list
 - Identifying at risk infant/mom prior to birth
 - Giving education prior to birth (neonatal/prenatal consult)
- Pharmacological Interventions



PDSA Change Model Components

- Overall goal
- Components of problem
 - Barriers
 - Players
 - Etc
- Aim overall statement
- Goals for this cycle
- Measurement
- Four Components of PDSA Model
 - Plan: identify a plan
 - Do: initiate the plan
 - Study: study results
 - Act: decide if and how to continue



Problem Statement

- Define the problem
 - Medical—too many nosocomial infections in the NICU
 - Personal—too many people to feed, all sick of turkey
- Why was this project selected?
 - Medical—benchmarking showed problem area
 - Personal—wanted to try something new to eat



Nursing Education Cycle 1**Plan Do Study Act (PDSA)****Project Worksheet**Project Leader(s) Vance/Knappen Project Facilitator Jackson Multidisciplinary Team Members Education Team

PREPARATION	<p>Overall goal of project: <i>Statement of your vision to make things better :</i> Provide consistent, competent care to babies at risk for NAS</p>
	<p>Problem statement: <i>Define the problem</i> No formal education for NICU/well baby/mother baby nurses No ongoing competencies for any nurses No formal education of new hires to woman's and children's service line</p>
	<p><i>Why was this project selected</i> We identified: Inconsistency in scoring A lack a feeling of competency in nurses, lack of experience. Increasing population of patients requiring this service Lack of ownership of the pt population</p>

Problem Statement continued

- Constraints and barriers
 - Medical—lots of people involved in care, status quo not good enough.....lots
 - Personal—loss of comfort on new dish for lots of people
- Players and roles
 - Medical—nurses, NNPs, doctors, residents, fellow, other support staff
 - Personal—my family (get out of the way), guests, store
- Fill in worksheet



Identify Aim for Improvement

- **Clear, specific, measurable terms**
- **Consider stretch goals, but be prepared**
- **Constancy of purpose matters**
- **Focus, not everything at once**
- **Example:**
 - **Medical**—decrease blood stream infections by 25% in 6 months
 - **Personal**—Successfully cooked Turducken, pleasing 100% of the guests, preparation completed by 5pm
- Fill in worksheet



Nursing Education Cycle 1

Constraints and assumptions (barriers)

Education hours (paid)
 Some individuals think competency evolves from experience rather than training
 Competing priorities in education
 Availability of staff to come in for training

Players and roles

Nurses (mother baby, NICU, well baby)
 Educators
 NNPs and physicians
 Babies/Parents
 PCPs
 SW
 LC/PT/OT/SLP
 Pharmacy
 Managers
 Administrators
 DC planning

Aim Statement:

Targeting mother baby, NICU, well baby nurses; We will provide initial education (for established nurses and orientation of new hires), and ongoing yearly competencies for 100% of these nurses by June 2015.

- 1) Educate everyone not educated currently
- 2) Create orientation process for new hires
- 3) Create yearly ongoing inter-reliability competencies; involving real patient scoring for all nurses in service line

Nursing Education Cycle 1

Specific goals for this cycle
Educate all mother baby nurses

Cycle # 1 10/13-present

Measurement

Identify project measures (how will you measure results?)

1. **Process measures:** keep track of which nurses attend lecture; competency in scoring for all Mother baby nurses; % of nurses comfortable with the scoring process
2. **Outcome measures:** % of babies at risk for NAS, kept in well baby status in room with mom; not requiring medication
3. **Balancing measures:** nurses comfort with patient load/acuity level, time for other education, meeting budget for education

PDSA = Rapid Cycle Improvement

- **Break down project into small cycles**
- **Cycle 1, 2, 3, etc.**
- **Team feels they are making progress**
- **Easier to track results**
- **Test change: If a problem occurs – not too far down the road**



Pre-/Postmeasurement

- You need to know where you are when you start, in order to know whether your project has resulted in improvement
- Can be the most neglected part of a project; probably the most important
- Teams want to move directly to intervention, not take the time for pre-measurements



Project Measurement

- Collect pre- and post-measures
 - Should be the same in order to compare
- Process measures
 - Is the new process being done correctly?
- Outcome measures
 - Reflect outcome of overall aim
 - What you are trying to change?
- Balancing measures
 - What can go wrong?



Measurement

- Process Measure
 - Measure to determine if the process is occurring as expected or directed
 - Medical—number of observations that displayed adequate hand hygiene (right amount of product for right amount of time)
 - Personal—assess if correct equipment was used, and steps (cooking instructions) where followed



Measurement continued

- Outcomes
 - Identify desired outcome and identify if that outcome was achieved
 - Medical—decrease in infection rate
 - Personal—Guests enjoy meal



Measurement continued

- Balancing measure
 - Attempt to identify what could possibly go wrong as a result of the intervention
 - Medical—skin breakdown from frequency
 - Personal—food poisoning
 - May be unable to predict (unintended consequences)
 - Medical—skin irritation from new product
 - Personal—importance of temp prop placement/prolonged cooking

- Fill in work sheet



Examples of Measurement

- Process measures
 - Hand washing
- Outcome measures
 - Sepsis rate
- Balancing measures
 - Care providers skin breakdown



To Formulate a Plan

- Need to include:
 - Identify multidisciplinary team: identify who will be affected – representative on team
 - Literature search
 - Identify Pre and post-measurement
 - Baseline measures (process/outcomes)
 - Develop plan for change: identify intervention and develop plan to implement
 - Post intervention measurement
 - Develop communication plan



Nursing Education Cycle 1	PLAN		Person Responsible
	Literature search Knappen reviewed 40 papers, shared 4 with group		Knappen 4/13-9/13 Jackson 8/13
Identify Pre/Post measurement (Baseline measures: process/outcomes) 1) Nurse comfort score 2) % at risk admitted to NICU 3) Education budget 4) Other education needs		Jackson/Knappen Jackson/Potter Fraiya, Vance Vance, Fraiya	
Who is responsible for actually collecting the data?		Potter, Jackson, Vance, Fraiya, King, Delphia	
How often will the data be collected? (hrly, daily, weekly, monthly?) Outcome 1) Monthly admit to NICU rates -- automated by Jackson/Potter Process 2) Nursing comfort scores before training, after training and quarterly for one year-- educator 3) Attendance at training—at training time-- trainer 4) Competencies-yearly-- educator Balancing 5) Nursing questionnaire regarding comfort with caring for this population in the context of their other pts-- educator 6) % of total goal education accomplished –quarterly— manager/educator 7) % within budget—yearly-- manager/educator			

Do

- Initiate the plan--Document all activities (diary)
 - Test change: Trial on a small number
 - Multidisciplinary team members role
 - Data
 - Obtain pre-data
 - Analyze pre-data
 - Conduct intervention
 - Obtain post-data
 - Communicate and allow for feedback
 - Be creative
 - Document results



Study/Check

- What happened after you initiated the plan?
- Analyze the post-data (measurement)
 - Run chart
 - Control charts
 - Pareto charts
 - Bar graphs
- Compare data to theory and prediction (compare pre/post data)
- What were the lessons learned?
- The concept of "Study" ties directly to measurement



Act

- What happens now??
- Continue, modify, or redirect efforts
- New theories and ideas?
- Next cycle is implemented



Components of a Successful Project

- All affected by proposed change are represented on the multidisciplinary team
- Team agrees with overall aim
- Search the literature (level of evidence)
- Expert opinion/benchmark/collaborate
- Don't forget to measure before the intervention (need pre- and postmeasures)
- Test change (small numbers first)
- Communicate/communicate/communicate



Other Tools that can be used as part of the PDSA Change Model

- Flow graphs: picture of the process
- Mental model survey: what is really being done
- Delphi Technique: gain consensus
- Run charts (plot the dots): data over time
- Control charts: data with identified parameters
- Bar Graphs: comparing data
- Pareto Charts: 80/20 concept



Use of the PDSA Worksheet

- Helps to guide new groups
- Helps to stay focused
- Documents: aim, objectives, and measurement,
- Forcing function to evaluate trial before unit-wide implementation





Thank You: Questions?

NAS Team

- Betsy Knappen, MSN, APRN (NAS Program Coordinator)
- Dr. Betsy Wickstrom (Perinatologist)
- Danielle Renyer, LMSW (NICU Social Worker)
- Kim Mason, RN, BSN (Discharge Planner)
- Dr. Julie Weiner (Neonatologist)
- Carrie Miner, MSN, RN, CCRN (Nursing Program Coordinator/Clinical Specialist)