Creating Centers of Excellence in Birthing

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Premises

- There is a Gap between knowledge and practice
- Bits and pieces of best practice exist all over the world
- Practices share common barriers to improvement and are interested in strategies to overcome them
- We learn more and accelerate improvement by working together and sharing our learning.

From Lloyd Provost from Break Through Series Objectives

Outline

- Overview of NNEPQIN
- What are Communities of Practice
- Why Change: The Imperative
- Tools for Change
- Are These Tools Effective?
- Specific Criteria for C of E

NNEPQIN

- Consortium of 33 hospitals and birth organizations
- Bound by a Memorandum of Understanding
- Started April 2002 through the NH/VT VBAC project
  - Series of 6 meetings addressing clinical/legal/regional issues of VBAC, with substantial training in QI techniques
  - Open and free to all providers across of variety of practice types
  - October 2004 - decided to form an organization

The Mission

To improve perinatal health throughout Northern New England

NNEPQIN

- Organizations join for $400/year
- Thrice yearly meetings
  - 2 free to all members, potluck
  - 1 catered, minimal cost
- Review problematic areas of care
- Create protocols
- Post on our website
- Opportunity for networking and collaboration
- Team STEPPS training
- Ongoing training in EFM interpretation

Achievements to Date

- Two ACOG Wyeth Ayerst Awards
  - VBAC: patient education, consent, guideline
    - Downloaded by 100's of hospitals
    - Becoming a standard for rural institutions
  - Emergency Cesarean Delivery Simulation
- Web site with materials
- HIV Screening
  - Variation identified through OBNET
  - Series of meetings providing education
  - Letter to NH senate supporting changes, law passed
  - Improved screening in VT

Who are we?

NNEPQIN is a voluntary consortium of hospitals that provide a ***community of practice*** for perinatal care providers.

- Groups of individuals with *expertise* in a common area
- Loosely organized but well *supported* by larger organization
- Strongly committed to *best practice*
- Examples in industry and health care

Ettiene Wenger

Communities of practice are groups of people who share a concern or a *passion for something they do* and learn how to do it better as they interact regularly

Three Components

Share <u>domain of interest</u> members are committed to

- Implies a shared competence

They are a **<u>community</u>**

- Meet regularly, share ideas, help each other, joint activities
- Do not need to work together on a daily basis

They are **<u>practitioners</u>**

- They aren't merely interested in the ideas
- Share repertoire of resources

What Could a Community of Practice Dedicated to Perinatal Care Accomplish?

ACTION

NOT JUST Education
Discussion
Naming the problems
Camaraderie

- We can operationalize what we know will helps mothers, babies, families uniformly.
- We can become a *consistent* mechanism for change.
- We can *ACT, not react* to the many forces and pressures which may minimize improvement efforts.

The Imperative

For Creating Centers of Excellence in Birthing

we know….

Birth is a pivotal life event

The Imperative

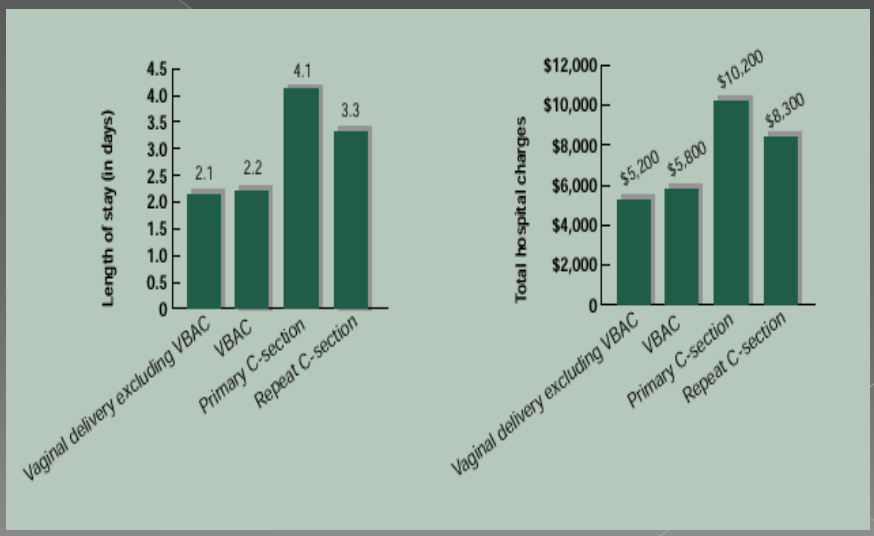
- The most common reason for hospitalization among women is pregnancy and childbirth.
  - Hospitalization for childbirth accounts for 11 percent of all hospital stays in US community hospitals.
- About 4 million babies are born annually in the US.
- About 4.4 million hospital stays are due to obstetric conditions.
- 98-99% of US births occur in hospitals.
- Maternity and newborn care account for $44 billion in hospital charges
  - are two of the top five conditions responsible for the national inpatient hospital bill,
  - second only to coronary artery disease.

NNEPQIN's Imperative

- While Northern New England ranks among the best states for maternal and neonatal outcomes
- Regional trends mirror National trends.
- Current trends include:
  - Increase in preterm births
  - Increase in low birth weight
  - Increase in maternal deaths
  - Rising cesarean delivery rate
    - 50% increase over the last decade
    - *No concomitant improvement in neonatal outcomes*.
    - 2006: 31.1% of all births NNE births were Cesarean deliveries, a record high.

Resource Use by Women Having Cesarean Sections or Vaginal Deliveries

DHHS/ARHQ/ HCUP Data 2000



Pay for Performance

- Data to support Performance Based Payment in obstetrics is deficient…. but…….
  - Unprecedented attention to *Patient Safety* and *Quality Measures.*
  - Increasingly rigorous evaluation of individual and collective clinical competence.
  - These efforts will continue to gain momentum
    - Predominant theme in the nation's health care over the next decade.
- NNE: front edge of a predicted workforce shortage for pregnancy, labor and birth care.
- Consumer scrutiny and activism regarding maternity care is reaching levels not seen since the 1970's.

Why Should we All Care

- Pay for performance will reach us all
- Adverse outcomes are devastating
- Litigation is awful
- Our mothers and their families want and deserve better
- Government regulation provides new barriers and mandates for care
  - Often not related to getting better outcomes
  - Distract us from the task at hand

The Imperative

- Good evidence based guidelines exist
  - Based on population studies and trials
  - Mostly from tertiary care medical centers with different application of resources
- Little work on implementation
  - In hospitals
  - In birth centers
  - In the home
  - We typically practice in silos
- A community of practice will permit co-development and cross fertilization of care processes
  - Your opportunity for change

The Idea

Centers of Excellence in Birthing

What is a *Center of Excellence?*

Center of Excellence
is a perinatal facility or provider committed to continuously improving the quality, safety, effectiveness and value of care.

Continuously Improving

- Quality
- Safety
- Effectiveness
- Value: a measure of specified stakeholder's preference-weighted assessment of a particular combination of quality and cost of care performance
  - Accounts for the varying values, lifestyles and cultures of our clients

Addressing Quality

Quality

- Collaborative Guideline Development
  - Appropriate for the population
  - Rigorous and simple
  - Many minds make better work
- Supported local implementation
  - Learn from mistakes of others
  - Learn from successes of others
- Involve stakeholders who control resources
  - Hospital based practices: senior administrators
  - Home birth providers: Referral hospital
- Collect data systematically
  - Benchmarking: who is doing it best and why
  - Quality Surveillance:
  - Improve protocols and decision making
- Investigate barriers
  - Supported QA meetings
    - For regional home birth providers
    - Within howpitals

Safety

- Local OB Quality and Safety nurse.
  - For hospital or group of home birth providers
  - 50% clinical
  - Facilitate Local QA/QI sessions
  - TEAM STEPPS trainer and run local drills
  - Participate regional practice community
- Regular drills for common obstetric and newborn emergencies
  - Attended by all care participants; minimum 1/year
  - Senior leadership/local hospital participate at least 1 per year
- Independent review of adverse outcomes
  - By a broad panel of all types of providers
- Common training FHR interpretation
  - IA and CEFM
- Culture change to prioritize teamwork and patient safety
  - TEAM STEPPS: NNEPQIN will train 2 trainers each member for $75.00

Evaluate Effectiveness

- National Quality Form Outcomes for perinatal care systematically collected.
- Full data transparency
  - Internal transparency during beta year
  - External transparency year 2

High Value Perinatal Care

- Regional and local family councils
- Patient and family surveys for feedback
- C of E Advisory Board: patients, families, providers (RN, MD, CNM), insurers, safety experts etc.
- Redesign care to improve perinatal outcomes while promoting maternal health and welfare

In The End, C of E can

- Accelerate Improvement
- Provide National Leadership in Guideline Development and Implementation
- Have the best perinatal outcomes in the nation
- Demonstrate consistency across a variety of different facilities and providers

How do We Demonstrate Success?

- Mortality rates and survival rates
  - Typical measure from other areas of medicine
  - Assume birth is a pathology
  - Too down stream
- Cerebral Palsy rates
  - Only 10% is related to birth
- What do we want at the end of the day?

Demonstrating Success

Increasing the joint discharge of mom and baby home together

Decreasing need for hospital care of babies born at term

Group: Non-anomalous babies born at term to non-diabetic or opiate dependent women

The Tools

"Many hands make light the work"

-Shaker proverb

The Tools in Brief

- **OBNET Lite**
  - No patient identifiers
  - ~40 variables
- **Regional QA/QI Nurse**
  - Present for each drill for first year
    - Video tape
    - Structured debriefing
  - Coordinate and attend quarterly QA/QI meetings
  - Facilitate development of practice guidelines
  - Implement TEAM STEPPS Training
- Collaborative Meetings for Guideline Development and Implementation
- Independent review of poor outcomes
- Drills and training in fetal monitoring
- OBNET Lite Brief.pptx

The Evidence

Supporting Criteria for Birthing Centers of Excellence

High Reliability Perinatal Teams

- Culture where patient safety is promoted, supported and understood
  - Anyone can stop the action
- Strong interdisciplinary leadership
  - What does that mean in your setting?
- Professional team interactions
  - Promote communication
  - Expedite care in emergencies
- Multidisciplinary Drills
  - Cesarean Section
  - Obstetrical hemorrhage
  - Hospital transport
- FHR Interpretation: Common language
- Guidelines evidence based
  - Clear and simple focus (not protective)
  - Standardization and simplification of clinical protocols and unit operations

*Selected concepts based on research from:
[1] G. Eric Knox, MD, Kathleen Rice Simpson, Ph.D., RNC, FAAN and Kathryn Eblen Townsend, JD, RN, ARM, High Reliability Perinatal Units: Further Observations and A Suggested Plan for Action, ASHRM Journal, Fall 2003, pg. 17-21.
[2] Barbara J. Youngber, BSN, MSW, JD, FASHRM, Assessing Your Organization's Potential to Become a High Reliability Organization, ASHRM Journal 2004, Vol. 24,No.3, pg. 13-19.

Principles put to the test by HCA

Clark AJOG 2008

- **Goal: Incorporate concepts of high-reliability organizations into OB services**
- **Largest private health care system in US**
  - Delivery volume 220,000
  - 120 facilities, 21 states
  - 5% US births

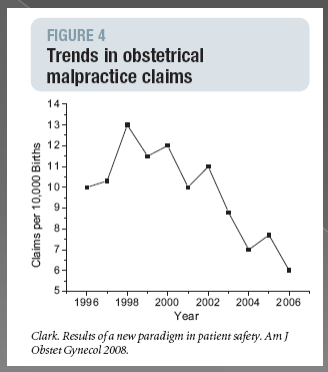
HCA Redesign Tools

- Uniform processes and procedures
  - Single method across sites
- Unambiguous vs defensible practice guidelines
- Every member of OB team required to halt process deemed dangerous
- C/S viewed as a process alternative not an outcome or quality measure
- Increased training and accountability of peer EFM Education
- Recognition that effective peer review may be impossible to achieve at local level
  - Robust external review process
  - Feedback to policies and procedures

HCA Results

- Reduced primary c/s rate
- Lower maternal and fetal injury
- Reduced ligation
  - ½ number of claims
  - 5 fold decrease in cost of claims

The HCA Experience



Training in OB Emergencies Improves Outcome

Draycott BJOG 2006

- Retrospective cohort observational study in a tertiary teaching hospital
- Term cephalic singleton deliveries 1998-2003 in UK
- Introduced training course 2000, required annually
  - 1 day training, entire unit including mangers
  - EFM interpretation, case discussion, documentation
  - Drills: SD, PH, eclampsia, twins, breech, CPR, neonatal resuscitation
  - Free
- Results:
  - 50% decrease 5' Apgar ≤ 6
  - 50% decrease HIE
  - No change antepartum and intrapartum SB

Severe Maternal Morbidity

Callaghan AJOG 2008

- National Hospital Discharge Survey 1991-2003
- Potentially life threatening morbidity + LOS > 2 days
- Severe maternal morbidity occurs with 5/1000 deliveries
  - 50X death
  - Most common: transfusion, hysterectomy, eclampsia
  - Increased over time except for transfusion
  - More common extremes of age, black, c/s, North, East and South (vs. Midwest)
  - No difference : hospital size

Understanding the experience can modify delivery of care and influence health policy to improve outcomes.

TABLE 1
Severe morbidity during delivery hospitalization, according to severe morbidity category, United States, 1991-2003

Severe morbidity category	Delivery discharges with indicated diagnosis (n)[a]	Severe morbidity with indicated diagnosis (%)[b]	Standard error of the %
Acute renal failure	6,000	2.5	0.43
Liver failure	c	c	c
Respiratory failure	17,000	6.7	0.58
Obstetric shock	4,000	1.5	0.36
Cerebrovascular accident	6,000	2.5	0.57
Pulmonary embolism	2,000	0.8	0.17
Amniotic fluid embolism	c	c	c
Eclampsia	36,000	14.0	1.56
Septicemia	11,000	4.1	0.68
Complications of anesthesia	12,000	4.6	0.69
Cardiac events/procedures	20,000	7.6	1.00
Mechanical ventilation	11,000	4.2	0.71
Transfusion	125,000	48.4	1.98
Hysterectomy	31,000	11.9	0.92
Invasive hemodynamic monitoring	5,000	1.8	0.35
TOTAL	291,000		

[a] Counts of discharges are weighted to account for NHDS sampling and represent national estimates rounded to the nearest 1000. Sum of delivery discharges with an indicated diagnosis (291,000) exceeds the number of women with ≥1 severe morbidity diagnoses (257,000).

[b] Percentage of severe morbidity sums to >100, because some women had diagnoses that placed them in >1 severe morbidity category.

[c] The number of sampled discharges was <30, which was considered to be unreliable. These discharges are included in the aggregate measure of severe morbidity.

Callaghan. Severe maternal morbidity during delivery hospitalization. Am J Obstet Gynecol 2008.

Additional Evidence

- Rates of operative delivery are highly variable and suggest random decision making Clark AJOG 196:5265
  - Only minor variation with delivery volume and region
  - Within regions rates varied by 200-300%
- Institution factors impact cesarean section rates Coonrod AJOG 2008;198:694
  - Lowest if level three NICU
  - Higher if residency training program
  - Higher if older, black, high birth weight, HTN, DM
- SD training reduced injury from 9.3% to 2.3%, Majority retain skills for 6-12 months Draycott 2008 & 2007

The Criteria

For being a
Birthing Center for Excellence

Birthing Center of Excellence: Collaboratively and Locally

- **The principles of Family-Centered Care serve as foundation for all activities.**
- **A standing multi-disciplinary committee establishes evidence-based clinical practice guidelines.**
- **A robust Quality Assurance process supported by efficient data collection provides an early warning system to identify individual and collective problem areas and to actively address variations and deviations from standards.**
- **Core Outcome Measures are reported and benchmarking data is utilized to identify Quality Improvement Projects.**

Shall we call these Criteria ?

In each Birthing Center of Excellence:

- Cases are submitted for review when an unexpected Neonatal Intensive Care Unit (NICU) admission or a full-term fetal or neonatal death occurs and when there is an unexpected maternal Intensive Care Unit (ICU) admission or maternal death.
- Multi-disciplinary drills for obstetrical emergencies are planned and executed on a regular schedule.
- Verifiable, uniform FHRM education is completed by all nurses, midwives, and physicians every two years.

Shall we call these Criteria ?

In each Birthing Center of Excellence:

- An OB Safety Coordinator serves as an integrating force between regional activities, other patient safety and quality improvement efforts in her facility, and other state initiatives.
- A member of the organization's senior leadership/management team is designated NNEPQIN Liaison.
- Staff schedules allow for representation at regional monthly webinars and educational and planning meetings twice yearly.

Shall we call these Criteria ?

Examples of *Family Centered Care criteria*

- Non-separation of mother and baby unless special care is required
- 24/7 maternity unit visiting hours
- Ability of patient's partner to be continuously present during the antepartum, intra-partum and postpartum periods with appropriate sleeping arrangements. The
- Breast feeding friendly policies
- Family council to help make policies
  - Open to families who have delivered in the past 2-3 years
  - Serve for year term

What is meant by "Regular Performance of Drills"?

- All OB staff members will participate in at least 1 cesarean section drill per year.
  - Team includes RN, Anesthesia, Pediatrics, respiratory therapy and any other department who participates in cesarean deliveries.
  - OB staff members include, MD, CNM, RN and other labor floor staff.
  - Evaluation will include: environment, process and team performance
- All OB staff members will participate in minimum of 1 other OB emergency drill/year
  - Shoulder Dystocia
  - Hemorrhage
  - Seizure
  - Unanticipated Imminent Breech Delivery
- Organizational leadership will be present for simulations
- Structured debriefing will be facilitated by NNEPQIN moderator

Verifiable, uniform EFM education is completed by all nurses, midwives, and physicians every two years…

- ideally becomes tied to continued employment or reappointment
- creates a common language (NICHD) and structure for discussion of clinical cases
- removes the authority gradient in the clinical arena when assessing/discussing fetal status
- is currently being done by 1000 participants in NNE using APS course

Outcomes Collection and Transparent Reporting

- Web based data sheet for each delivery OBNET Lite
  - Does not contain patient identifiers
  - Require providers to keep a separate linking key
  - Available for free to C of E
- Potential pay for completion: Providers receives a med mal insurance discount
- Open and transparent reporting of outcomes
  - IOL rate
  - CS rate: raw and ACOG adjusted
  - % term non-anomalous babies discharge home with mom
  - Complete GBS prophylaxis
  - Screening for HIV rate

Helping to meet the QA/QI Challenge in community hospitals

- **QA Meetings**:
  - Quarterly (minimum)
  - Regional facilitator will attend and support each the first year
  - Utilize ACOG indicators
- **QI Projects**:
  - At least 2 per year
  - Transparent reporting of changes
  - Potential projects
    - HIV Testing
    - GBS Testing and Prophylaxis
    - Induction of Labor bundles

Case Review

- Non-anomalous term neonates admitted to NICU or transferred
  - Exclude hypoglycemia and NAS
- Neonatal and fetal deaths
- External review of Maternal
  - Unanticipated ICU admission
  - Deaths

A standing multi-disciplinary committee establishes evidence-based clinical practice guidelines.

- **Create and update care guidelines**
- **OB, anesthesia, pediatrics, others**
- **First year guidelines:**
  - Intermittent Auscultation
  - Electronic Fetal Monitoring
  - Pitocin: single method of administration
- **Additional guidelines to consider**
  - PPROM management
  - Cervical Ripening
  - PROM Management.

The Funding

making Birthing Centers of Excellence a reality

Funding Barriers
Birthing Centers of Excellence

- Charitable giving to OB services is rare
  - Young fertile women tend to be on the margins
  - Pregnancy-related losses, of mom or baby, typically don't generate charitable feelings
- Reimbursement for maternity services has not kept pace other technical and procedure-related specialties.
  - OB is typically a loss leader
  - Little money to cycle back into improvement
  - Huge savings to avoid adverse outcomes

Funding Possibilities

A variety of stakeholders join together to support work that will…

Reduce adverse events
and the
physical, psychological, and financial toll
these take on infants, women, families,
health care providers,
organizations, and communities.

We already know the cost of doing nothing

.

VBAC Crisis

- Women's bodies are being violated
- Birth decision are in the hands of
  - Hospital administrators
  - Insurers
- National legislation is needed

The Future

help to shape it