LEADING THE QUEST FOR HEALTH™

Cedars-Sinai

Ob Gyn Quality Indicators…
What are they and who cares?

Kimberly D. Gregory MD, MPH
Vice Chair Women’s Healthcare Quality & Performance improvement
Department Obstetrics & Gynecology
Cedars Sinai Medical Center
Professor, David Geffen School of Medicine &
UCLA School of Public Health
Disclosures

- I have no financial disclosures
- No off label use of medications
Objectives

At the completion of this lecture, participant will be able to

1. Define quality of care
2. Identify quality indicators used in women’s health
3. Be familiar with external entities charged with developing indicators, monitoring and reporting results
4. Be familiar with strengths and limitations of available indicators
What is quality?

“that kind of care which is expected to maximize an measure of patient welfare, after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts”

—Donabedian, 1980
What is Quality?

- High quality care “consistently contributes to the improvement or maintenance of quality and/or duration of life
- Delineated attributes of care that defined quality
  - Emphasis on health promotion and disease prevention
  - Timeliness
  - Informed participation of patients
  - Attention to scientific basis of medicine
  - Efficient use of resources
- American Medical Association, 1984
What is Quality?

“Degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”

—Institute of Medicine, 1990
Quality Health Care: IOM

- **health services**
  - all encompassing
  - (services: acute, long term, prevention, promotion; any provider; across all settings)
  - patient focused, provider focused, organization focused

- **individuals & populations**
  - applies to individuals, clinicians, institutions, health plans, and health systems
  - different perspectives, stakeholders
Quality Health Care: IOM

- **desired health outcomes**
  - link between care, outcome (effects on health), and patient expectations
  - implies patient education, participation

- **increase the likelihood**
  - good outcome is not guaranteed
    - poor outcomes occur, despite best possible care
    - patients do well despite poor quality
  - assessing quality requires attention to both process and outcome
consistent with current knowledge
— dynamic, evolving knowledge base
— willing to revise as new knowledge becomes available
Health Care Quality: IOM definition of poor quality

- **Underuse**: failure to provide a health service when it would have produced a favorable outcome
- **Overuse**: service provided and potential for harm exceeds the possible benefit
- **Misuse**: appropriate service but a preventable complication
  — “consistency in process” is a pillar of quality - Donabedian
Summary of the Essence of Quality

- Doing the right thing, the right way, at the right time!

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Donabedian: Important Concepts

structure: attributes of the patient or health care entity
process: events or procedures that happen to the patient
outcome: survival, complications, quality of life

Tend to think of these things linearly.
Realistically, there is some interaction.
Donabedian: Concepts Important

Structure: attributes of the patient or health care entity
Process: events or procedures that happen to the patient
Outcome: survival, complications, quality of life

Must be able to measure to improve

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Healthcare Quality—Who Cares?

Quality is a hot topic...

Logo and badges of various healthcare quality organizations.
Healthcare Quality—Who Cares?

- ACOG WEBTREATS: Performance Measures and Quality Improvement
  — as of 3/8/11
  — 20 different agency sponsored websites
Healthcare Quality—Why Care?

- Depends on perspective (stakeholder)
- Physician: to maintain professionalism, autonomy
- Patient
- Payer: ideal employee outcome; optimal employees outcome (efficiency/tradeoff/cost effectiveness)

Assume
- Measure to improve
- Individual standardization maximizes system efficiency
What do we measure?

- Women’s healthcare
  - Broad topic
- Ob/gyn
  - Disappointing dearth of indicators
  - 4 million births; #1 cause of hospital admission
    - Comparatively few indicators, relative to general adult population
  - Gyn is even more sparse
What do we measure?

- Healthy People 2020
- National Goals or “indicators” of the health of the nation
  - Family Planning (15)
  - Maternal, Infant, & Child health (19)
    - Morbidity & Mortality
    - Pregnancy health and behavior
    - Preconception health and behavior
    - Postpartum health and behavior
  - Sexually Transmitted Infections (9)
### HP 2020: Family Planning

<table>
<thead>
<tr>
<th>Number</th>
<th>Objective Short Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP–1</td>
<td>Intended pregnancy</td>
</tr>
<tr>
<td>FP–2</td>
<td>Contraceptive failure</td>
</tr>
<tr>
<td>FP–3</td>
<td>Emergency contraception available at family planning clinics</td>
</tr>
<tr>
<td>FP–4</td>
<td>Health insurance coverage for contraceptive supplies and services</td>
</tr>
<tr>
<td>FP–5</td>
<td>Birth spacing</td>
</tr>
<tr>
<td>FP–6</td>
<td>Contraceptive use at most recent sexual intercourse</td>
</tr>
<tr>
<td>FP–7</td>
<td>Receipt of reproductive health services</td>
</tr>
<tr>
<td>FP–8</td>
<td>Adolescent pregnancy</td>
</tr>
<tr>
<td>FP–9</td>
<td>Abstinence ages 17 and under</td>
</tr>
<tr>
<td>FP–10</td>
<td>Use of condoms for pregnancy prevention and protection against disease</td>
</tr>
<tr>
<td>FP–11</td>
<td>Dual method use for pregnancy and disease prevention</td>
</tr>
<tr>
<td>FP–12</td>
<td>Adolescent Reproductive health education</td>
</tr>
<tr>
<td>FP–13</td>
<td>Parent-adolescent communication about reproductive health topics</td>
</tr>
<tr>
<td>FP–14</td>
<td>Medicaid eligibility for pregnancy-related care</td>
</tr>
<tr>
<td>FP–15</td>
<td>Receipt of publicly supported contraceptive services and supplies</td>
</tr>
</tbody>
</table>
### HP 2020: Maternal & Infant Health

#### Morbidity & Mortality

<table>
<thead>
<tr>
<th>Number</th>
<th>Objective</th>
<th>Short Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICH–1</td>
<td></td>
<td>Fetal and infant deaths</td>
</tr>
<tr>
<td>MICH–2</td>
<td></td>
<td>Deaths among infants with Down syndrome</td>
</tr>
<tr>
<td>MICH–3</td>
<td></td>
<td>Child deaths</td>
</tr>
<tr>
<td>MICH–4</td>
<td></td>
<td>Adolescent and young adult deaths</td>
</tr>
<tr>
<td>MICH–5</td>
<td></td>
<td>Maternal deaths</td>
</tr>
<tr>
<td>MICH–6</td>
<td></td>
<td>Maternal illness and complications due to pregnancy</td>
</tr>
<tr>
<td>MICH–7</td>
<td></td>
<td>Cesarean births</td>
</tr>
<tr>
<td>MICH–8</td>
<td></td>
<td>Low birth weight and very low birth weight</td>
</tr>
<tr>
<td>MICH–9</td>
<td></td>
<td>Preterm births</td>
</tr>
</tbody>
</table>

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Pregnancy Health & Behaviors

- Number
- MICH–10: Prenatal care
- MICH–11: Prenatal substance exposure
- MICH–12: Childbirth classes
- MICH–13: Weight gain during pregnancy
Preconception Health and Behaviors

- Number
  - MICH–14: Optimum folic acid levels
  - MICH–15: Low red blood-cell folate concentrations
  - MICH–16: Preconception care services and behaviors
  - MICH–17: Impaired fecundity

Postpartum Health and Behavior

- MICH–18: Postpartum relapse of smoking
- MICH–19: Postpartum care visit with a health worker

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<table>
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<tr>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>STD–1</td>
<td>Chlamydia</td>
</tr>
<tr>
<td>STD–2</td>
<td>Chlamydia among females</td>
</tr>
<tr>
<td>STD–3</td>
<td>Annual screening for genital Chlamydia by Medicaid</td>
</tr>
<tr>
<td>STD–4</td>
<td>Annual screening for genital Chlamydia by insurance plans</td>
</tr>
<tr>
<td>STD–5</td>
<td>Pelvic inflammatory disease</td>
</tr>
<tr>
<td>STD–6</td>
<td>Gonorrhea</td>
</tr>
<tr>
<td>STD–7</td>
<td>Primary and secondary syphilis</td>
</tr>
<tr>
<td>STD–8</td>
<td>Congenital syphilis</td>
</tr>
<tr>
<td>STD–9</td>
<td>Human papillomavirus infection</td>
</tr>
<tr>
<td>STD–10</td>
<td>Congenital herpes</td>
</tr>
</tbody>
</table>

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AHRQ Quality Indicators

- Agency Healthcare Research & Quality (AHRQ)
- Prevention Quality Indicators
- Inpatient Quality Indicators
- Patient Safety Indicators
“Ambulatory care sensitive conditions”
—Hospital admissions that evidence suggests could have been avoided
  ▪ through high quality outpatient care
  ▪ or that reflect conditions that could be less severe, if treated early and appropriately
—Represent current state of the art in measuring the outcomes of preventive and outpatient care thru analysis of inpatient discharge data
AHRQ Prevention Quality Indicators
16 “ambulatory care sensitive conditions”

- Bacterial pneumonia
- Dehydration
- Pediatric gastroenteritis
- UTI
- Perforated appendix
- Low Birth weight
- Angina w/o procedure
- CHF

- Hypertension
- Adult asthma
- Pediatric asthma
- COPD
- Diabetes-short term
- Diabetes-long term
- Uncontrolled diabetes
- Lower extremity amp

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AHRQ Prevention Quality Indicators
16 “ambulatory care sensitive conditions”

- Low Birth weight
- Only 1/16 specific to OB
- Additional 8 have potential applicability

- Hypertension
- Adult asthma
- Bacterial pneumonia
- Perforated appendix
- UTI
- Diabetes-short term
- Diabetes-long term
- Uncontrolled diabetes
Indicators reflect quality of care inside hospitals and include:

- Mortality
  - (13 indicators)
- Utilization of procedures for which there are questions of overuse, underuse, or misuse
  - (9 indicators)
- Volume of procedures for which there is evidence that a higher volume of procedures is associated with lower mortality
  - (7 indicators)
AHRQ Inpatient Quality Indicators

- Indicators that reflect quality of care inside hospitals and specific to reproductive women’s health
- Hospital level procedure utilization rates
  — CS delivery
  — VBAC
- Area level procedure utilization rates
  — hysterectomy

Gyn, OMG!

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AHRQ Patient Safety Quality Indicators (26)

- Indicators reflect quality of care inside hospitals, by focusing on patient safety performance
  - Indicators aid in quickly detecting potential preventable medical errors in patients undergoing surgery or procedures
- 20 Hospital level PSI’s
- 6 Area level PSI’s
AHRQ Patient Safety Quality Indicators

- Accidental puncture, laceration
- Birth trauma, injury to neonate
- Complications of anesthesia
- Death in low mortality GRG
- Decubitus ulcer
- Failure to rescue
- Foreign body left during procedure
- Iatrogenic pneumothorax
- Ob trauma cesarean
- Ob trauma operative VD
- OB trauma VD
**AHRQ Patient Safety Quality Indicators**

- Post op hemorrhage or hematoma
- **Post op hip fracture**
- Post op physiologic or metabolic derangement
- Post op PE/DVT
- Post op resp’y failure
- Post op sepsis
- Post op wound dehiscence
- Selected infections due to medical care
- Transfusion reaction

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AHRQ Patient Safety Quality Indicators

- Birth trauma, injury to neonate
- Ob trauma cesarean
- Ob trauma operative VD
- OB trauma VD
- 4/26 specific to OB

- Decubitus ulcer
- Iatrogenic pneumotx
- Post op hip fracture
- All but 3 can be calculated for OB services

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Guideline NOT = quality measure
Many guidelines associated with goals, benchmarks
Query ACOG 92 guidelines
— Many more recent guidelines associated with specific performance measures developed at time of guideline release
— None have been validated

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Status of Current Indicators

- Limited primarily to OB/neonatal measures
- Standardized required reporting to Joint Commission
- Voluntary reporting to NQF, Leapfrog (17 perinatal measures)
  - California:
    - California Hospital Association (CHART)
    - Hospital Association California (HASC)
    - California Perinatal Quality Care Collaborative (CPQCC, CCS)
    - California Maternal Quality Care Collaborative (CMQCC)
National Quality Forum (NQF)

- Private, not-for-profit membership organization with the following mission:
- “to improve American healthcare thru endorsement of consensus-based national standards for measurement and public reporting of healthcare performance data...meaningful information that care is safe, timely, beneficial, patient-centered, equitable, and efficient”
National Quality Forum (NQF)

- Consensus standards for nursing home care
- Consensus standards for inpatient hospital care
- Safe practices for better healthcare
National Quality Forum (NQF)

- Consensus Standards for Hospital Care: Initial Performance Measure Set
- Unprecedented effort to establish national hospital care performance measures that will be publicly disclosed
- Enable patients to make performance-based decisions about hospital selection
National Quality Forum (NQF)

- Consensus Standards for Hospital Care: Initial Performance Measure Set
- Stimulate performance improvement by hospitals
- Facilitate benchmarking and sharing of best practices among providers
- Enhance value based purchasing
National Quality Forum (NQF): Inpatient Indicators

- 39 voluntary consensus standards
- 8 condition specific and cross cutting priority areas in high volume inpatient conditions
<table>
<thead>
<tr>
<th>Priority Area</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute coronary syndrome</td>
<td>13</td>
</tr>
<tr>
<td>Heart failure</td>
<td>3</td>
</tr>
<tr>
<td>Patient safety</td>
<td>4</td>
</tr>
<tr>
<td>Pediatric conditions</td>
<td>3</td>
</tr>
<tr>
<td>Priority Area</td>
<td>Measures</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>6</td>
</tr>
<tr>
<td>Pregnancy/Childbirth &amp; Neonatal Conditions</td>
<td>4</td>
</tr>
<tr>
<td>Smoking Cessation</td>
<td>3</td>
</tr>
<tr>
<td>Surgical Complications</td>
<td>3</td>
</tr>
</tbody>
</table>
National Quality Forum (NQF): Inpatient Indicators (OB)

- Pregnancy / Childbirth & Neonatal Conditions
  - VBAC
  - 3rd & 4th degree lacerations
  - Neonatal mortality
  - Cesarean Delivery
Safe practices for better healthcare

Derived from

—AHRQ Patient Safety Indicators
—Leapfrog Group’s three safety leaps
—NQF Project Steering Committee
National Quality Forum (NQF): Safe Practices

- 30 practices, 5 broad categories:
  - Create a culture of safety
  - Match healthcare needs with service delivery capability
  - Facilitate information transfer/clear communication
  - Adopt safe practices in specific clinical care settings for specific processes of care
  - Increase safe medication use
<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elective Delivery Prior to 39 Completed Weeks Gestation</td>
<td>All singletons electively delivered at ( \geq 37 ) completed weeks</td>
</tr>
<tr>
<td>Incidence of Episiotomy</td>
<td>Number of vaginal deliveries with episiotomy procedures performed.</td>
</tr>
<tr>
<td>Cesarean Rate for Low-Risk First Birth Women</td>
<td>Livebirths ( \geq 37.0 ) weeks to women having their first delivery, that are singleton, vertex presentation</td>
</tr>
<tr>
<td>Prophylactic Antibiotic in C-Section</td>
<td>All women received prophylactic antibiotics within one hour prior to surgical incision or at the time of delivery (exclude infection or antibx for other reasons)</td>
</tr>
<tr>
<td>Appropriate DVT Prophylaxis in Women Undergoing Cesarean Delivery</td>
<td>Women undergoing cesarean delivery who receive either fractionated or unfractionated heparin or pneumatic compression devices prior to surgery</td>
</tr>
<tr>
<td>Title</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Birth Trauma Rate measures (harmonized)</td>
<td>Number of infants with specific birth traumas.</td>
</tr>
<tr>
<td>Hepatitis B Vaccine Administration to All Newborns Prior to Discharge</td>
<td>Number of newborns discharged who were administered hepatitis B vaccine prior to discharge</td>
</tr>
<tr>
<td>Appropriate Use of Antenatal Steroids</td>
<td>Mothers who delivered preterm infants 24-34 who received antenatal steroids at any time prior to delivery</td>
</tr>
<tr>
<td>Infants Under 1500g Delivered at Appropriate Site</td>
<td>Number per 1,000 livebirths over 24 weeks' gestation weighing less than 1500g delivered at hospitals not appropriate for that size infant</td>
</tr>
<tr>
<td>Nosocomial Blood Stream Infections in Neonates</td>
<td>Selected bacterial blood stream infections per 1000 qualifying neonates.</td>
</tr>
<tr>
<td>Title</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Birth Dose of Hepatitis B Vaccine and Hepatitis Immune Globulin for Newborns of Mothers with Chronic Hepatitis B</td>
<td>Percentage of neonates born to hepatitis B surface antigen-positive mothers who receive a birth dose of hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth.</td>
</tr>
<tr>
<td>Exclusive Breastfeeding at Hospital Discharge</td>
<td>Livebirths not discharged from the NICU who were fed by &quot;breast only&quot; since birth.</td>
</tr>
<tr>
<td>First Temperature Within One Hour of Admission to NICU</td>
<td>Proportion of infants with weights between 501-1500g whose first temperature was measured within one hour of admission to the NICU</td>
</tr>
<tr>
<td>First NICU Temperature &lt; 360 C</td>
<td>Proportion of infants with weights between 501-1500g whose first temperature was taken within one hour of admission to NICU whose first temperature was &lt; 360 C</td>
</tr>
</tbody>
</table>
### National Quality Forum (NQF): Perinatal Indicators

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retinopathy of Prematurity Screening</td>
<td>Number of infants (22 to 29 weeks) hospitalized who received a retinal exam for retinopathy of prematurity at appropriate time</td>
</tr>
<tr>
<td>Timely Surfactant Administration to Premature Neonates</td>
<td>Number of infants born at 22 to 29 weeks gestation who were treated with surfactant at any time who received the surfactant within 2 hours of birth</td>
</tr>
<tr>
<td>Neonatal Immunization</td>
<td>Neonates with a length of stay greater than 60 days who receive DTaP, Hepatitis B, IPV, Hib, and PCV vaccines according to current AAP guidelines.</td>
</tr>
</tbody>
</table>
The Leapfrog Group

- Founded by small group of large employers
- Supported by
  - The Business Roundtable
  - Robert Wood Johnson Foundation
  - Leapfrog member organizations
The Leapfrog Group

- Developed Nov 2000 in response to IOM 1999 report on preventable errors
  - Large employers should provide more market reinforcement for quality & safety of healthcare and take “leaps” forward by rewarding hospitals that implement significant improvements in quality and safety
August 2004

Organizations from 50 states, representing approximately 50% of working Americans

Members have agreed to base their purchase of healthcare on principles that encourage provider quality improvement and consumer involvement
The Leapfrog Group

- Four Initiatives
- Computerized Physician Order Entry
- Evidence-based hospital referral
- ICU physician staffing
- National Quality Forum Safety Practices
The Leapfrog Group: Four Initiatives

- CPOE
  - Must include prescribing error prevention software
  - Must alert MD of at least 50% of common, serious, prescribing errors
  - MD must electronically document “overrides”
The Leapfrog Group: Four Initiatives

- Evidence-based hospital referral
  —“practice makes perfect”
- For certain procedures/treatments, patients should be guided to the hospitals and clinical teams that are more likely to produce better outcomes due to higher volume/experience with procedure
  —Minimum volume threshold
The Leapfrog Group: Four Initiatives

- ICU physician staffing ("intensivist")
  - "sick people need special care"

- Must be managed or co-managed by specialist
  - Specialist must be present during daytime hours; provide clinical care exclusively in ICU
  - Able to respond to pages 95% of time within 5 minutes AND
  - Able to have physician extender reach ICU patient within 5 minutes

- Risk of dying in ICU reduced by 10%
Ob Gyn Quality Measures: 2011
<table>
<thead>
<tr>
<th>Indicator</th>
<th>External Monitor</th>
<th>Status</th>
<th>Goal / Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd/4th degree lacerations</td>
<td>Joint Commission</td>
<td>2.8%; better than benchmark</td>
<td>4.2% (CA state rate)</td>
</tr>
<tr>
<td>Antenatal steroids</td>
<td>Joint Commission CHART</td>
<td>91%</td>
<td>&gt;=95% at risk;</td>
</tr>
<tr>
<td>Exclusive breastfeeding at discharge</td>
<td>CHART</td>
<td>60.4%; better than benchmark 55%</td>
<td>55% (CA state rate)</td>
</tr>
<tr>
<td>VBAC access</td>
<td>CHART</td>
<td>VBAC rate 2009=9.2%</td>
<td>We provide access US rate 8.5%</td>
</tr>
<tr>
<td>Term, low risk, nulliparous cesarean rate</td>
<td>NQF (pending Joint Commission)</td>
<td>CSMC rate 2008 17.4% (303/1708); no current benchmarks</td>
<td>15% (WHO)</td>
</tr>
</tbody>
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## Ob Gyn Quality Indicators

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</thead>
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<tr>
<td>VTE prophylaxis</td>
<td>Joint Commission (GYN)</td>
<td>GYN-included in hospital data; not reported by service line</td>
<td>100%</td>
</tr>
<tr>
<td>GYN Abx prophylaxis</td>
<td>NQF (cesarean)</td>
<td>Started intraoperative boots, Order sets opt out for chemoprophylaxis</td>
<td>New 100%</td>
</tr>
<tr>
<td>OB Cesarean prophylaxis</td>
<td>NQF proposed 2011</td>
<td>Started Jan 2011</td>
<td>New 100%</td>
</tr>
</tbody>
</table>
Elective Delivery < 39 weeks

Elective Deliveries 2009-2010

Benchmark

Ob Grand Rounds
PIC approval
Office Mgr mtg
Peds Grand Round
Hard stop

All 2009
January '10
February '10
March '10
April '10
May '10
June '10
July '10
August '10
September '10
October '10
November '10
December '10

N=157
N=9
N=9
N=8
N=13
N=11
N=9
N=15
N=20
N=20
N=5
N=5
N=5
N=6
Term, Nulliparous Low Risk Cesarean Rate

January 2009 - December 2010
C-Section Rate by Month
Future Indicators?

- Big Interest in PPH
  - What to measure
  - Absolute rates (incidence)
  - Process measures vs outcomes
    - Blood quantified
    - Team debriefings (risk identified, triggers responded to)
    - Transfusions
    - Hysterectomies

- Near miss, Failure to Rescue

- ART: singleton pregnancy rate
Quality Metrics

- Evolving
- Quality merging with safety…but is it?
- Get on Board or miss the train
Motherhood made a man out of me…