Institute for Healthcare Improvement

Middle East Forum

May 15, 2016
1030-1215 pm

Harm and Safety: Improvement in Women's Health

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Quality Improvement Consultant / Health Foundation IHI Fellow 2006-2007

Introductions

- Sue Gullo

- Annette Bartley

Session overview

- Pregnancy and childbirth are a critical time in not only the woman's health, but that of her family and new-born. It is, however, only a snapshot in the lifespan of a woman.

- This session will explore the impact the social determinants of health have on health, and will provide an overview of key safety interventions to address key clinical obstetric and neonatal events that impact health and outcomes.

Session objectives

- Describe the social determinants of health and the impact on the health of women and newborns.
- Discuss key safety interventions to address adverse pregnancy and neonatal outcomes in the United States and other countries.
- Discuss how these interventions can be introduced.

Public Health

- Public health is a broad subject that arguably embraces all aspects of our lives from the air we breathe, the food we eat, the place we live in, work and leisure as well as our genetic, ethnic and cultural heritage.
- All these factors contribute to overall health.
- In order to create the best possible outcomes for women and babies we need to take the wider social determinants of health into consideration as we design our healthcare service.
- Health promotion plays a key factor.

World Heath Organisation

What are social determinants of health?

- The social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries.

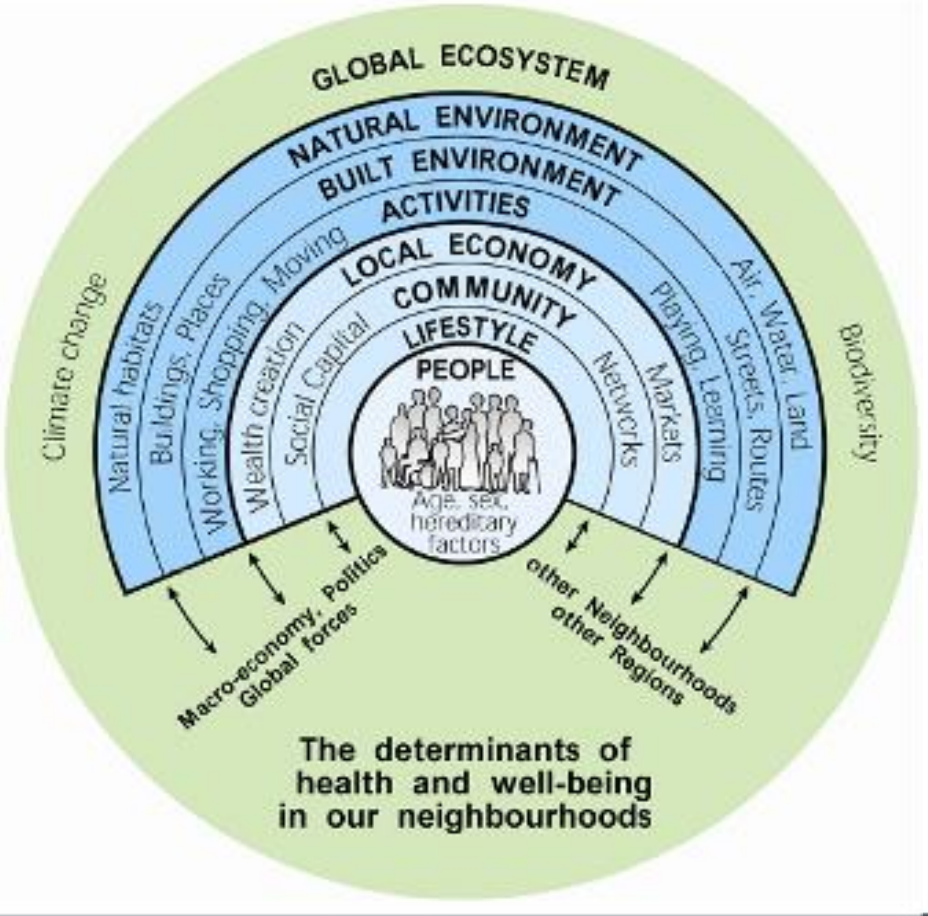
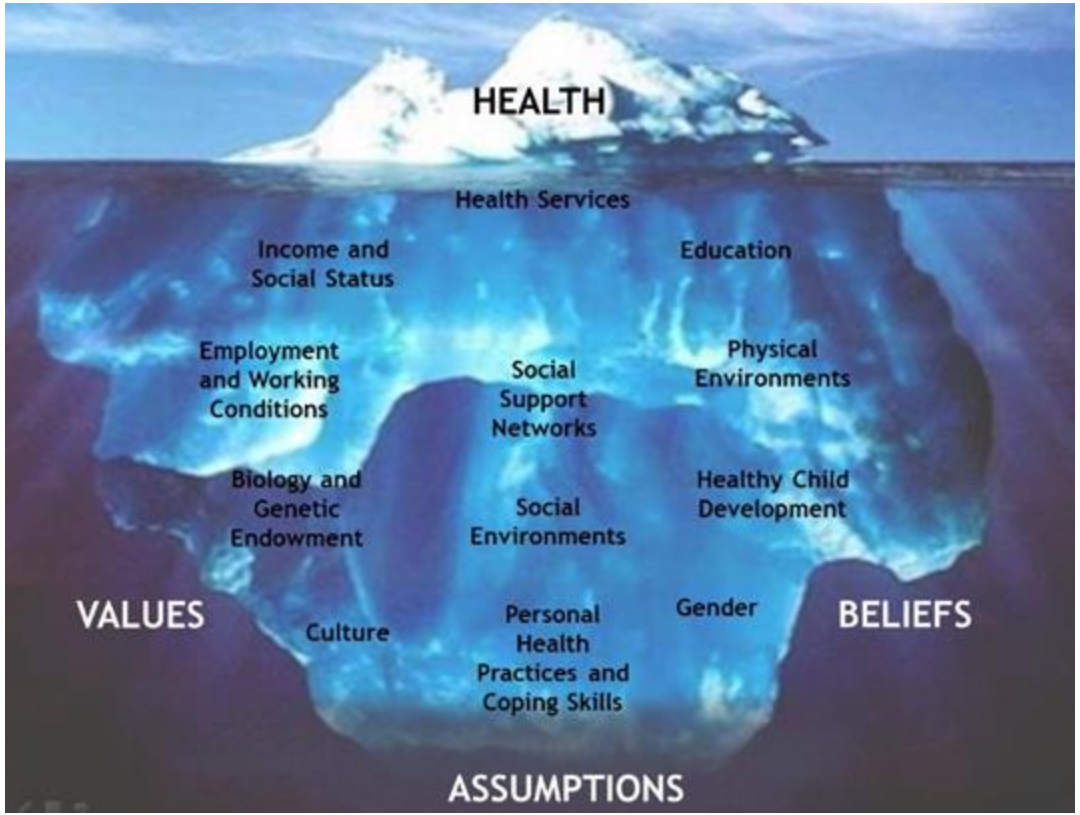


Figure 1. The Health Map: determinants of health and well-being
From Barton, H. and Grant, M. (2006). A health map for the local human habitat. The Journal for the Royal Society for the Promotion of health, 126(6), pp 252-253. ISSN 1466-4240

Lets begin with the bigger picture



Public health message- Dubai

< The Public Health & Safety Department has initiated a public service campaign to warn children & pregnant women from entering cafes with creative messages hung on all the cafes' doors in Dubai. The messages will be addressed by the fetus or children & aimed towards the parents... smoking is your choice... not mine

< Door-sized posters publicising the campaign have been plastered on cafe entrances across the emirates where people go to smoke the hookah pipes

IHI's Innovation Work

AIM:

To develop a population approach to ***reduce preterm births*** among Medicaid (women receiving insurance through the government supported plan) recipient women

Methods

- Evidence scan
- 50+ expert interviews/site visits across 20 states to identify best practices
- Expert design meeting
- Validate theory of change and bundle of interventions
- Prototype test bundle of interventions with one community

Risk factors for preterm birth

Clinical risk factors:

- *A previous history of pre-term birth*
- Multiple gestation
- Short interval between pregnancies
- Cervical length measured during pregnancy
- Age (<16 or >35)
- Positive fetal fibronectin
- Hypertension
- BMI (underweight or overweight)
- Renal disease
- Anti-phospholipid syndrome
- Antenatal depression
- Genital tract infections
- Preterm rupture of membranes
- Antepartum haemorrhage
- Other

Social/structural risk factors:

- Late care enrollment/inadequate prenatal care
- Tobacco use
- Maternal income
- Maternal education
- Maternal stress
- Marital status
- Unstable housing
- Other

Clinical and social interventions to reduce preterm birth

Clinical interventions:

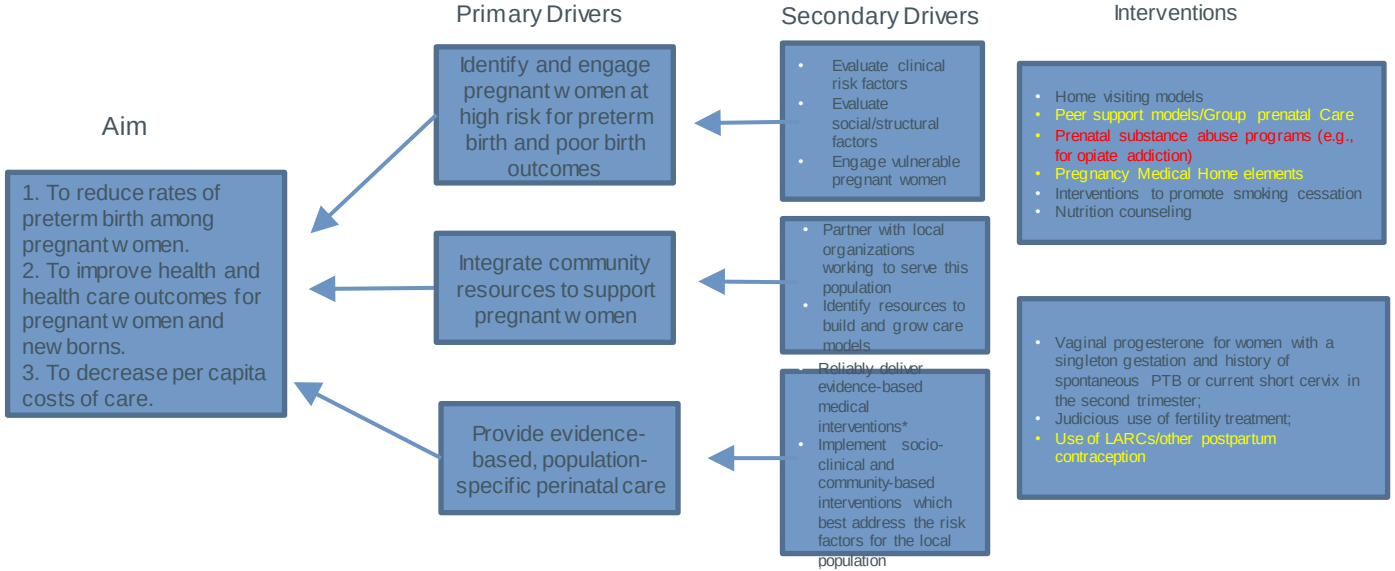
- Progesterone for women with a singleton gestation and a history of spontaneous PTB;
- Vaginal progesterone for women with a singleton gestation and current short cervix in the second trimester;
- Consideration of cerclage for women with a singleton gestation and a history of a prior spontaneous PTB and a current short cervix, particularly if the length is <15 mm;
- Elimination of elective inductions before 39 weeks;
- Evidence-based management of other major risk factors (e.g., preeclampsia management, pharmacotherapy to address heavy smoking)
- Judicious use of fertility treatment
- Other

Socio-clinical interventions:

More evidence:

- Group antenatal care
- Some home visiting models
- Psychosocial interventions to promote smoking cessation
- Midwife-led continuity models
- Nutrition counseling
- Maternity medical home model
- Other

Theory: A Population Approach



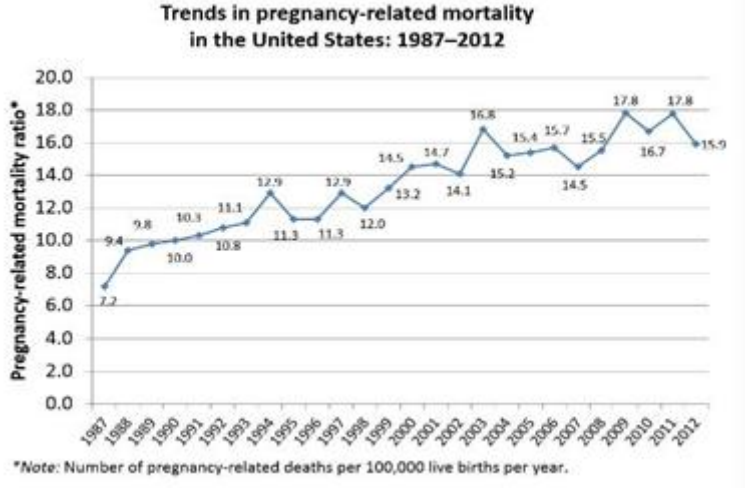
- Providing support to women and their family members through the postpartum and discharge period.

Bundle of Interventions

- Maternity medical home model
- Peer support (including group prenatal care)
- Integration of substance use treatment and perinatal care
- Shared decision making around pregnancy intention

Testing our theory: lessons learned

- Spectrum of pregnancy intention
- Closing the disparity gap
- Maternal outcomes



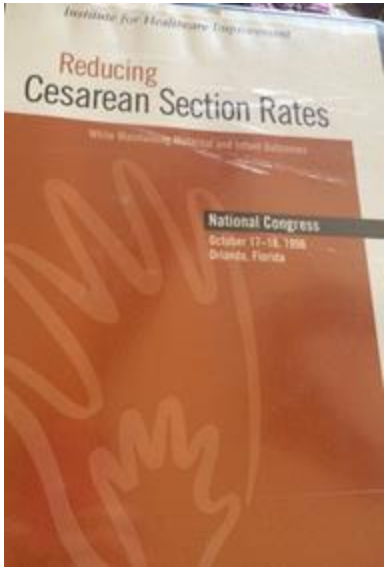
Next steps: Prototype testing

- Partnership with Detroit WIN Network and HFHS
- Co-design community intervention based on interventions
- 9-month prototype test

A Historical Reflection 1995-2016

1995 BTS Improving Maternal and Neonatal Outcomes:

- Reducing Cesarean Section Rates National Congress



IHI Perinatal Focused Work Timeline

Innovation (2003-2006) IMPACT (2006 – 2009) Perinatal Improvement Community (2009 – 2014)

AIM: ***Reduce birth trauma and risk by innovative design and testing by February 2006.***

Expert Meeting (2003)

Developed idealized Design Concept Diagram (2004)

Oxytocin Bundles Meeting (2004)

Phase I: Ascension Healthcare/Premier Perinatal Effort (2004)

Phase II: Ascension Healthcare/Premier Perinatal Effort (2005)

Initial Change Package for OB (2006)

100,000 Lives Campaign – mentor network (OB) (2006)

AIM: ***Reduction of Harm Outcome Measure- Perinatal Adverse Events***

White Paper (2006)

Launch Perinatal IMPACT Community (2006)

IHI Perinatal Web and Action (2006)

Catholic Healthcare West (2006)

Mayo System (2006)

Developed Building Blocks (2007)

Developed Initial Driver Diagram (2007)

Oxytocin High Alert Medication Deep Dive (2007)

Vacuum Bundle Developed (2008)

International Perinatal Collaborative Guidance:

- Wales 1000 Lives Campaign (2007)
- Northern Ireland (2009)

IMPACT Ended (8/2009)

PIC initiated (9/2009)

AIM: ***Reducing Harm, Improving Care, Supporting Health***

International Teams joined Community (2009-2014)

Expedition: Improving Perinatal Safety -- The Oxytocin Bundle (2010)

Faculty Team expanded: PIC Hospital Members (2010)

Innovation Workgroup Second Stage Safety (2010)

Labor Deep Dive Tool (2010)

Revised Driver Diagram -Leadership (2010)

Advanced Bundles developed (2010)

Birth Outcomes Initiative - Louisiana (2010 -2012)

International Perinatal Collaborative Guidance: (Scotland & Denmark) (2011)

Faculty Team expanded: Patient Representative (2011)

ACOG Toolkit (IHI oxytocin bundles) (2012)

IHI How to Guide: Obstetrical Adverse Events (2012)

Obstetrical Sepsis Summit (2012)

NCC Uses Oxytocin Bundles for Certification (2012)

Deep Dive Structure Tool (2012)

IHI HEN HRET (Perinatal Content) (2012)

Louisiana Cohort (2013/2014)

Louisiana HEN merged w / LA Cohort (2013)

Maternity Action Team (2013)

Retired Original Oxytocin Bundles ((2013)

Expedition: Treating Maternal Sepsis (2013)

Neonatal Advantage Bundle (2013)

Late Preterm Infant (2013)

Innovation Neonatal Workgroup (2013)

Innovation Nulliparous Workgroup (2013)

CMS Louisiana Performance Improvement Grant (2013)

Maternity Action Playbook: Leadership Driver & Change Package (2014)

Critical Incident Coaching (2014)

IHI Perinatal Community Care Bundle Sequencing

Elective Induction Bundle (Initial-Oxytocin)

- GA>39 weeks
- Pelvic Assessment
- Recognition and management of tachysystole
- Recognition and management of FHR Status (Category I-normal)

Augmentation Bundle (Initial-Oxytocin)

- EFW documented
- Pelvic Assessment
- Recognition and management of tachysystole
- Recognition and management of FHR Status (Exclusion of Category III)

IHI Oxytocin Bundles (2004)

Basic Oxytocin Bundles Defined as patient who receives Oxytocin for elective induction or augmentation. **Focus on eliminating elective delivery prior to 39 weeks, adoption of team definition and reliable execution of component indicators.**

IHI Advanced Bundles (2010): Accept 39 weeks as minimal GA for elective delivery. ***Bishop score of more than 8 in the nulliparous patient, the probability of vaginal delivery after labor induction is similar to spontaneous labor.** Focus moves to pharmacologic or mechanical initiation of labor- **no longer focused on (just) Oxytocin.** Evidence Based Gestational dating is core**

Additional Bundles developed and or supported by faculty and Innovation Workgroups

Advanced Non-Medically Indicated Bundle

Defined: Patient without a medical indication for delivery.

- Confirmation of term gestation.
- Pelvic Assessment Favorable Bishop Score *(locally defined)
- Recognition and management of complications of induction method (including tachysystole)
- Recognition and management of FHR Status (Category I-normal)

Advanced Indicated Induction Bundle

Defined: Patient with a medical indication for induction

- Acceptable medical indication for labor induction documented (locally defined)
- Pelvic Assessment
- Recognition and management of complications of induction method (including tachysystole)
- Recognition and management of FHR Status

Exclusion of Category III FHR

Advanced Augmentation Bundle

Defined:

- EFW documented
- Pelvic Assessment
- Recognition and management of tachysystole
- Recognition and management of FHR Status (Category I-normal)
- (Exclusion of Category III)

(May include amniotomy, nipple stimulation, acupuncture, and Oxytocin)

Vacuum Bundle (2008)

- Alternative labor strategies
- Prepared patient
- High probability of success
- Maximum application time and number of pop-offs predetermined
- Exit strategy available

Neonatal Advantage Bundle (2013)

- NRP appropriate (vigorous infant 37-41+ weeks gestation
- Identification of risk of infection/sepsis
- Delayed cord clamping
- Breastfeeding Initiation
- Delayed bath- (for first hour of life

Perinatal Community:
Reducing Harm,
Improving Care,
Supporting Healing

Reduce harm to 5 or less per 100 live births

Zero incidence of elective deliveries prior to confirmation of fetal maturity

Augmentation Bundle(s) Composite or Compliance greater than 90%

Improve organizational culture of safety survey scores in Perinatal units by 25%

100% of participating teams will have documentation of Patient & Family Centered Care

Perinatal Leadership

- Align Unit Measures Strategies Projects with Org Strategy and Goals (Clinical , Patient, Exp. Financial and Workforce)
- Channel Senior Leadership Attention and Develop Unit Leadership
- Engage Physicians
- Build Improvement Capacity and Provide Resources for Improvement
- Establish a Just Culture
- Develop a Competent Trained and Available Workforce
- Establish Credentialing of Core Competency and Training for all Providers
- Use ACOG/AWHONN Guidelines for Documentation and Staffing
- Develop a Consumer Advisory Board

Reliable Design / Reduce Variation

- Execute care that meets national standards (Implement Bundles, Perinatal Core Processes)
- Develop standard processes and protocols for response to obstetrical emergency
- Design care process improvement based on trigger tool analysis, event detection, sentinel event
- Standardize administration of high alert medications – oxytocin, magnesium sulfate, epidurals
- Create an environment that Supports Care and Healing
- Consider segments of population and design reliable and appropriate processes for specific needs and characteristics of this segment of the population

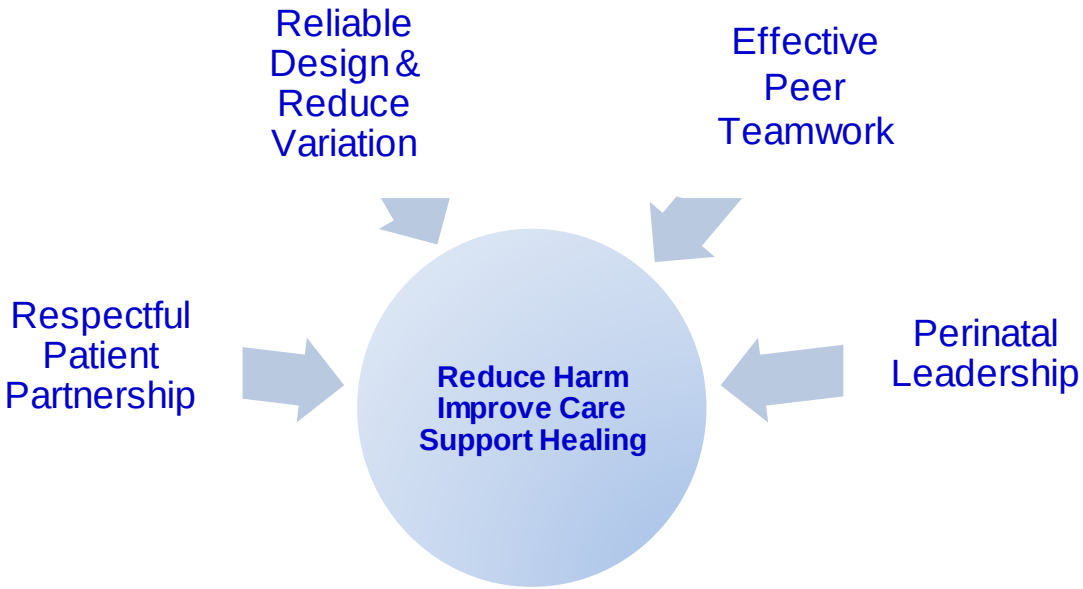
Effective Peer Teamwork

- Adopt common language and interpretation of EFM with multi-disciplinary training i.e NICHD criteria
- Implement techniques for effective communication i.e. SBAR
- Establish reliable techniques for handoffs
- Establish Team Response Protocols
- Implement Huddles
- Design Simulations

Respectful Patient Partnership

- Design processes to support partnership in care betw een provider and patient and family
- Develop with patient a customized interdisciplinary shared care plan
- Design care process improvement based on information obtained about patient experience (interviews, assessments, focus groups, surveys)
- Include patients and families on design and improvement teams
- Communicate openly and honestly with family and patients at regular intervals
- Do what you say, mean what you do

Perinatal Improvement Community Measurement Strategy



Collaborative Perinatal Goals

Reduce harm to 5 or less per 100 live births
Zero incidence of elective deliveries prior to confirmation of fetal maturity (39 weeks)
Augmentation Bundle(s) Composite or Compliance great than 90%
Improve organizational culture of safety survey scores in Perinatal units by 25%
100% of the participating teams will have documentation of Patient & Family Centered Care

Perinatal Care Measurement Strategy

Required Measures				Optional Measures
Annual / Bi-annual Structure Assessments	**Monthly Outcome & Structure Measures**	**Initial Weekly or Monthly Process Measures**	**Advanced Weekly or Monthly Outcome and Process Measures**	**Outcome, Balance or Process Measures**
Oxytocin Deep Dive*	Perinatal Harm*	Augmentation Bundle Composite and Compliance* (Oxytocin)	Vacuum Bundle Composite/Compliance*	Transfer to Higher Level of Care (A) (B)
	Time Between Elective Deliveries 39 wks	Elective Induction Bundle Composite and Compliance* (Oxytocin)	Advanced Augmentation Bundle Composite /Compliance*	Patient and Family Satisfaction
Culture of Safety Survey				Documentation Reliability (Infant/Mother)*
	Elective Delivery Rate prior to 39 completed weeks gestation (TJC PC.01)	Augmentation Induction Monthly Bundle Compliance (Oxytocin)	Advanced Elective Induction Bundle Composite /Compliance*	Time Between (Decision - Incision)
				Prophylactic Antibiotic in C-section
Labor Deep Dive*	Cesarean rate for low-risk first birth women (TJC PC.02)	Elective Induction Monthly Bundle Compliance (Oxytocin)	Advanced Indicated Induction Bundle Composite /Compliance*	Birth trauma rate measures (NQF)
				Incidence of episiotomy (NQF)
	Patient and Family Centered Care			Gestational Age Reliability (Test Measure)

IHI to National Movements

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Society for Maternal-Fetal Medicine (SMFM)

CDC

Division of Reproductive Health

HRSA

Maternal Child Health Branch (MCH-B)

National Maternal Health Initiative: Strategies to Improve Maternal Health And Safety

May 5th 2013

New Orleans, LA

USA, Council on Patient Safety

http://www.safehealthcareforeverywoman.org/secure/home#

Maternity Safety **Bundles**:
"What every birthing facility should have…"

- Obstetric Hemorrhage Safety Bundle
- VTE Prevention Safety Bundle
- Severe Hypertension Safety Bundle
- Maternal Early Warning Criteria (triggers)
- Safe Reduction of Primary Cesarean Births Bundle
- Patient, Family and Staff Support Bundle

Use of Current Bundles in the Field

Welcome! Cuban Hospital celebrates its 1,000th baby

Tribune News Network

Doha

THE Cuban Hospital (TCH) a member of Hamad Medical Corporation (HMC) has

Qatar Study

- **Conclusion:** The study findings revealed that maternal complications such as gestational diabetes, gestational hypertension, ante-partum hemorrhage, and maternal anemia were significantly higher in older pregnant women. Similarly, neonatal complications were higher in the newborns of older women.
- **Gestational hypertension was the leading maternal complication observed in Arab women.**

Focus on Severe Hypertension Bundle

http://www.jfcmonline.com/temp/JFamCommunityMed20127-7551969_205839.pdf

Hypertensive Disorders in Pregnancy
What Was Learned

The Good

- Excellent prenatal care with close observation for worsening disease and timely intervention can decrease poor outcomes

Hypertensive Disorders in Pregnancy
What Was Learned

The Bad

- Preventable severe morbidity or mortality related to poor clinical application of new knowledge regarding:
  - Dynamic nature of preeclampsia
  - Multi-systemic nature of preeclampsia
  - Possibility of post partum worsening or initial presentation of preeclampsia often outside of obstetric care

- The overcommitment to previously taught rigid diagnostic “triad” criteria for preeclampsia

Hypertensive Disorders in Pregnancy
What Was Learned

Recommended changes:

- Classification
- Diagnostic criteria
- Management

Hypertensive Disorders in Pregnancy
Changes in Classification

- PIH GONE
- Severity of proteinuria GONE
- Presence of fetal IUGR GONE
- The term “mild” preeclampsia GONE

Hypertensive Emergencies- Management

Quickly identify and manage

≥160 systolic OR ≥110 diastolic is considered an hypertensive emergency in pregnancy

- This should be confirmed within 15 minutes and therapy initiated in order to decrease blood pressure
- Standardized protocols should be used for treatment, provider notification, fetal and maternal surveillance

Timing of delivery- management

- Patients with Chronic hypertension without maternal or fetal complications should not be delivered before 38 completed weeks
- Patients with uncomplicated preeclampsia should be delivered at 37 completed weeks

Report of the American College of Obstetricians and Gynecologists' Task Force on Hypertension in Pregnancy: Executive Summary. Obstetrics & Gynecology. 122(5):1122-1131, November 2013.

Hypertensive Disorders in Pregnancy
Conclusions

- Preeclampsia is a dynamic disease
- Preeclampsia is a Multi-Systemic disease
- Preeclampsia can initially present or worsen post partum, *often outside of obstetric care*

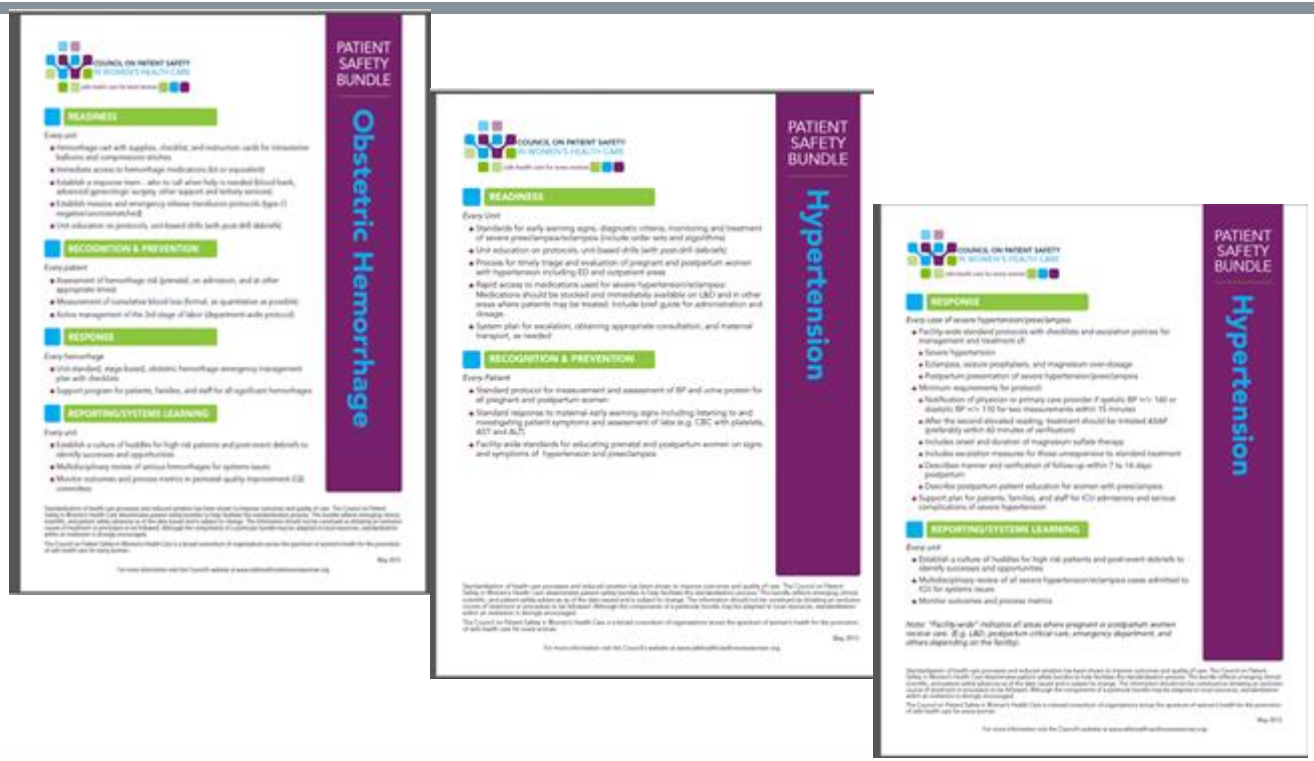
- Changes in classification, diagnosis and management are needed to more closely reflect current knowledge of HDP

Learning in Louisiana - Our AIM together

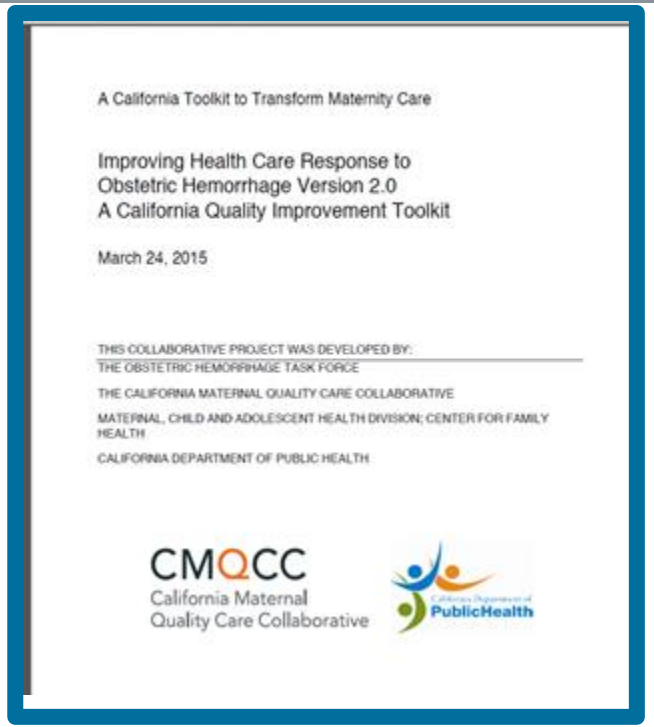
By September 23, 2016, we will reduce obstetric adverse events by 40% in the following categories:

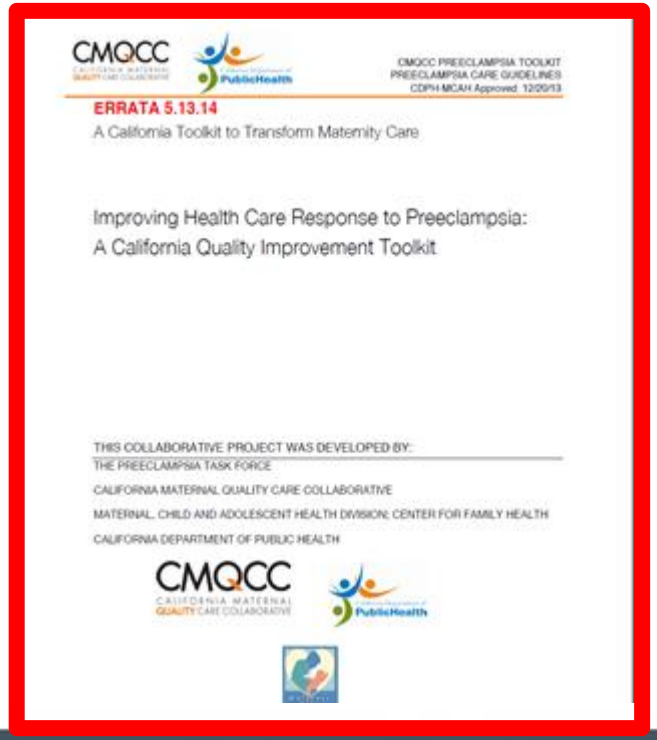
1. Obstetric Hemorrhage Events
2. Preeclampsia and Severe Hypertension
3. Maintain or further decrease non-medically indicated inductions prior to 39 weeks

Pre-work


PATIENT SAFETY BUNDLE
Obstetric Hemorrhage
READINESS
RECOGNITION & PREVENTION
RESPONSE
REPORTING/SYSTEMS LEARNING
PATIENT SAFETY BUNDLE
Hypertension
READINESS
RECOGNITION & PREVENTION
PATIENT SAFETY BUNDLE
Hypertension
RESPONSE
REPORTING/SYSTEMS LEARNING

Major Resources

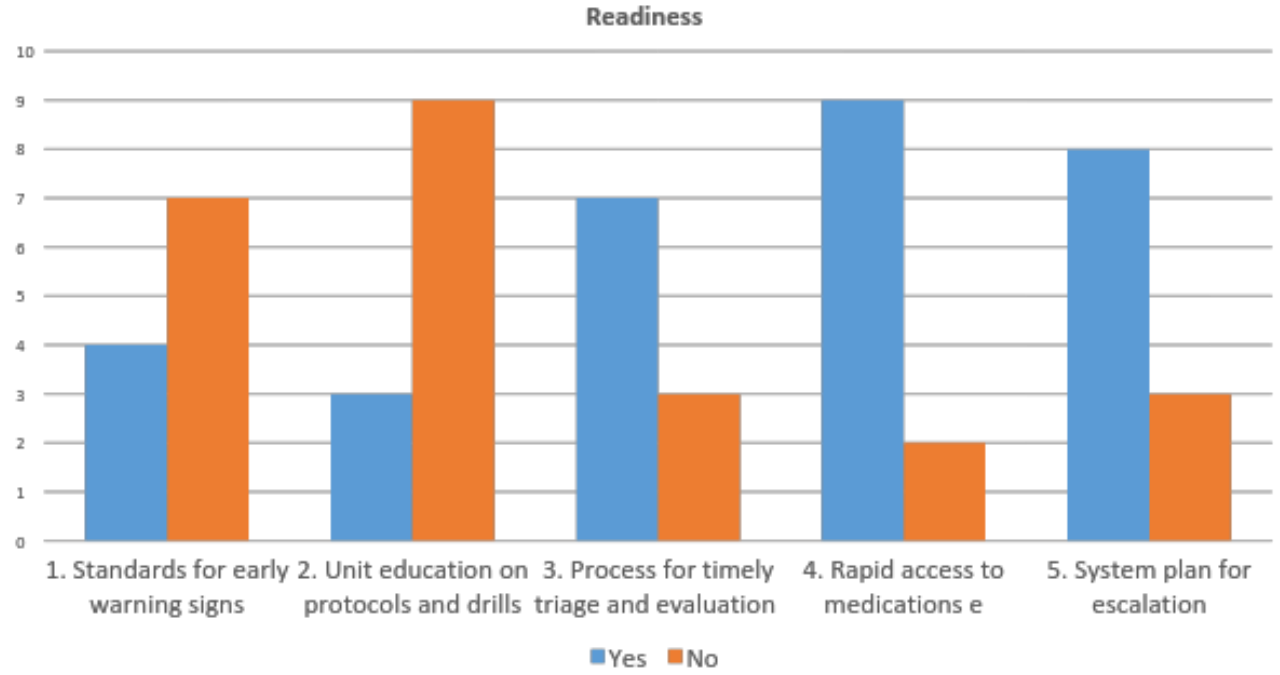




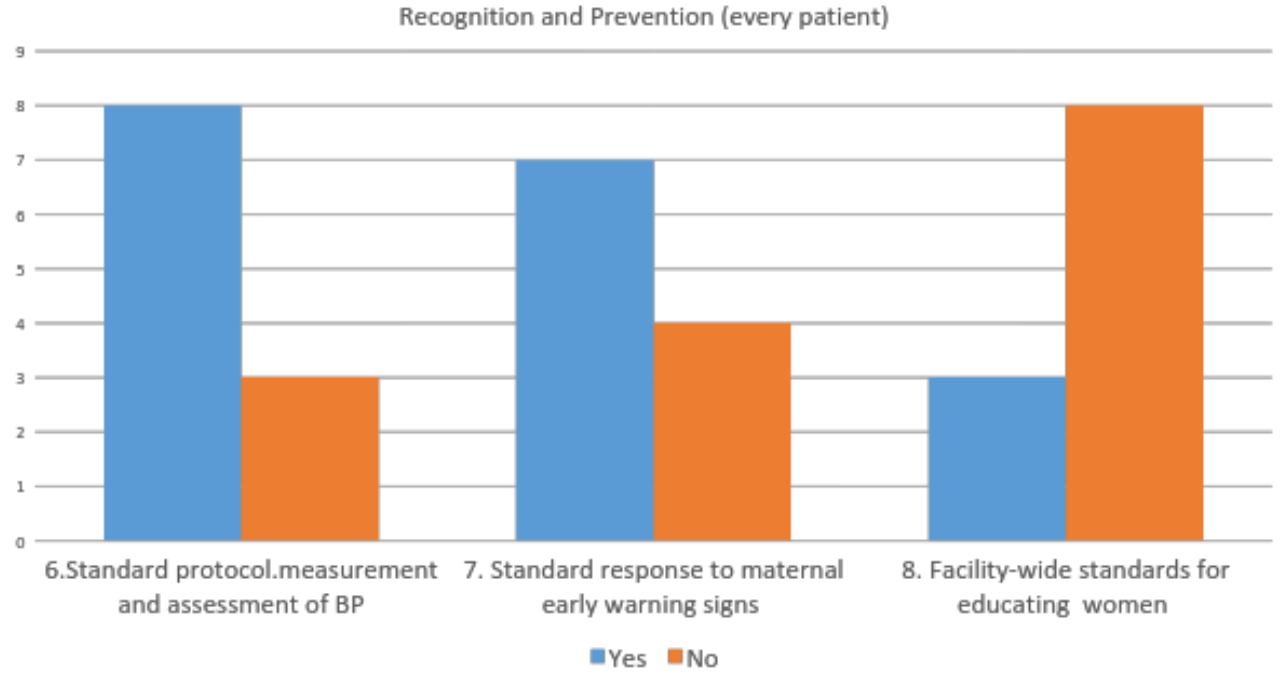
Results So Far

Designing the work for the Louisiana Sites

Preeclampsia/Severe Hypertension 1.26.16



Preeclampsia/Severe Hypertension 1.26.16



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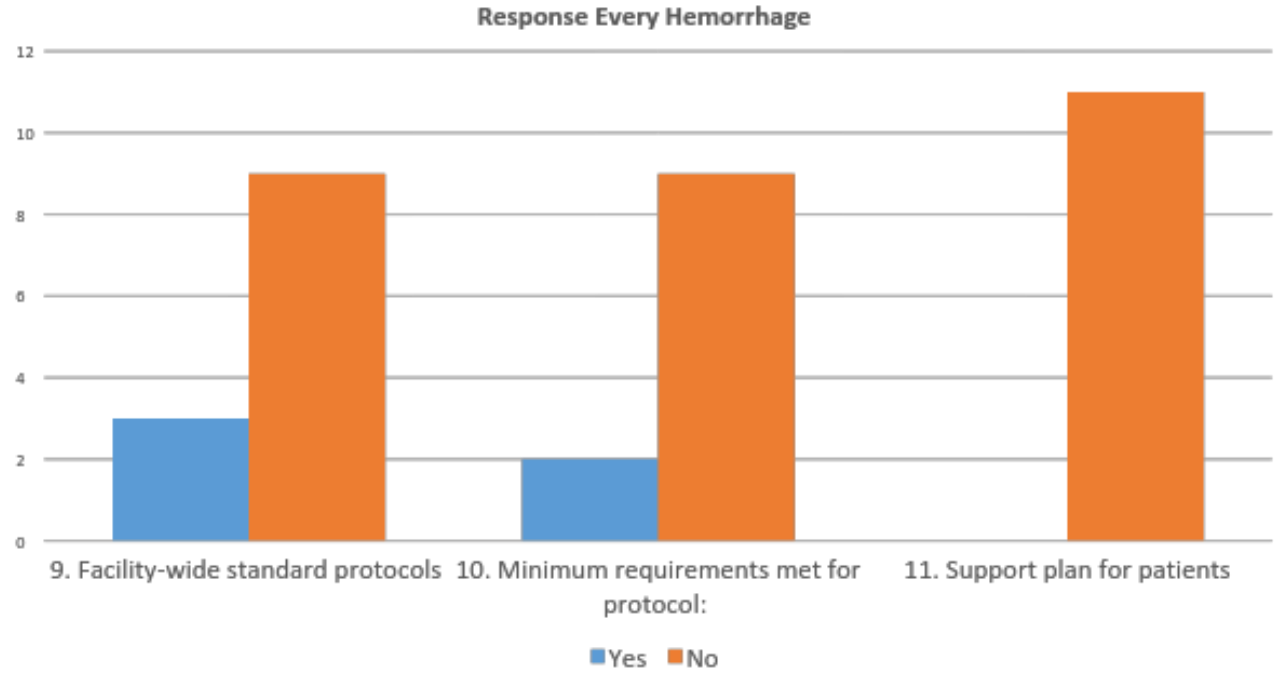


Preeclampsia/Severe Hypertension 1.26.16

Structure

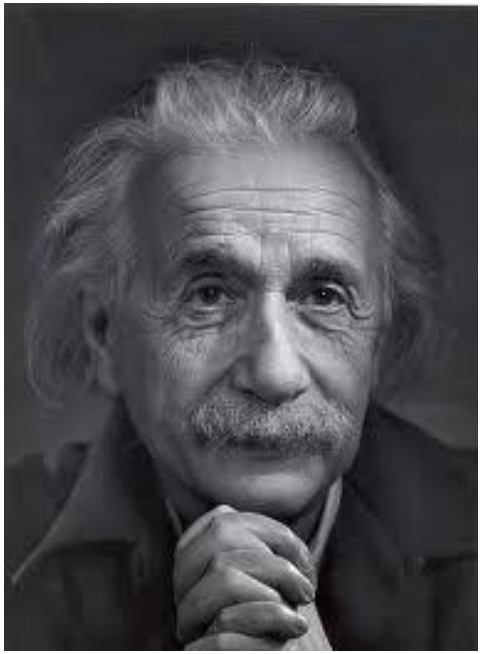
Reporting/Systems Learning (every unit)	YES	NO
S1. Establish a culture of huddles for high risk patients and post-event debriefs to identify successes and opportunities	5	6
S2. Multidisciplinary review or all severe hypertensive/eclampsia cases admitted to ICU for systems issues	5	6
S3. Monitor outcomes and process metrics	7	4

Designing for reliability

- Every system is perfectly designed to get the results it gets *Batalden*
- Is your system designed to achieve best possible outcomes for women and children?
- How do we begin to transform and improve our systems and processes in order to achieve best outcomes?

Insanity as defined by Einstein

Doing the same over and over again and expecting different results



Keep it simple!

'That's been one of my mantras" focus and simplify. Simple can be harder than complexity: you have to work hard to get your thinking clean to make it simple. But it's worth it in the end because once you get there you can move mountains'

Steve Jobs

We need a framework for improvement

Structure

+ Process

+Culture

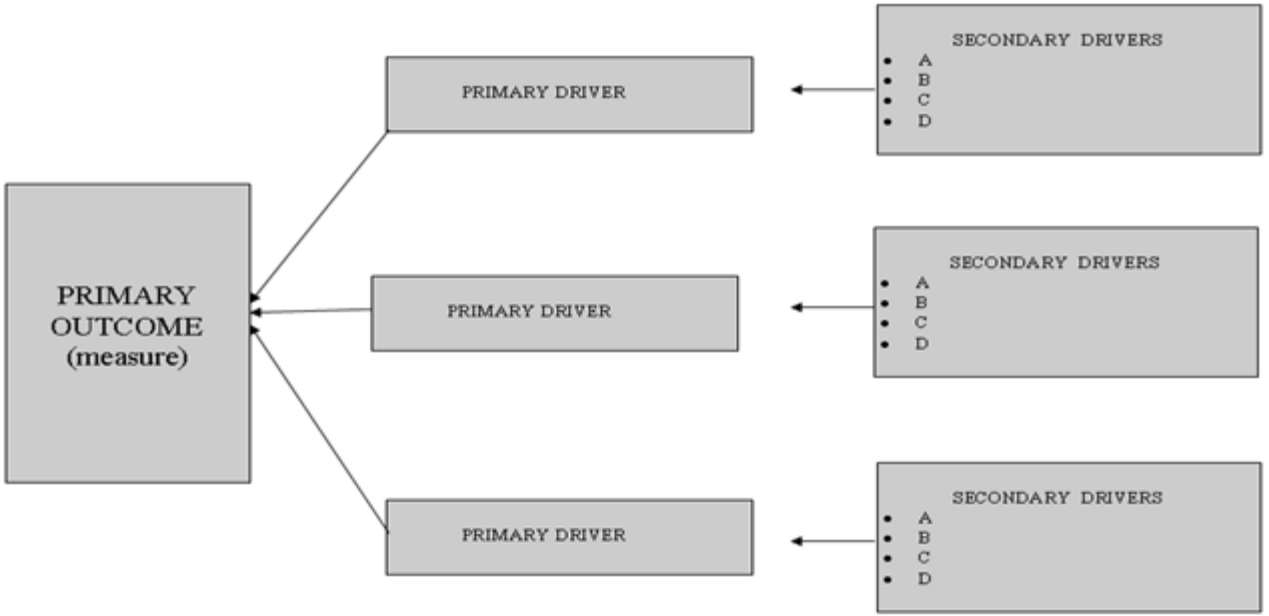
=Outcome

*Added to Donabedian's original formulation by R. Lloyd and R. Scoville.

Institute *for* Healthcare Improvement

Driver diagram template

Definition: A driver diagram is used to conceptualize an issue and determine its system components which will then create a pathway to get to the goal



Primary drivers are system components which will contribute to moving the primary outcome

Secondary drivers are elements of the associated primary driver. They can be used to create projects or change packages that will affect the primary driver.

Improvement requires…

A Clear Aim

Measurement

Change

Scotland- Social and lifestyle factors

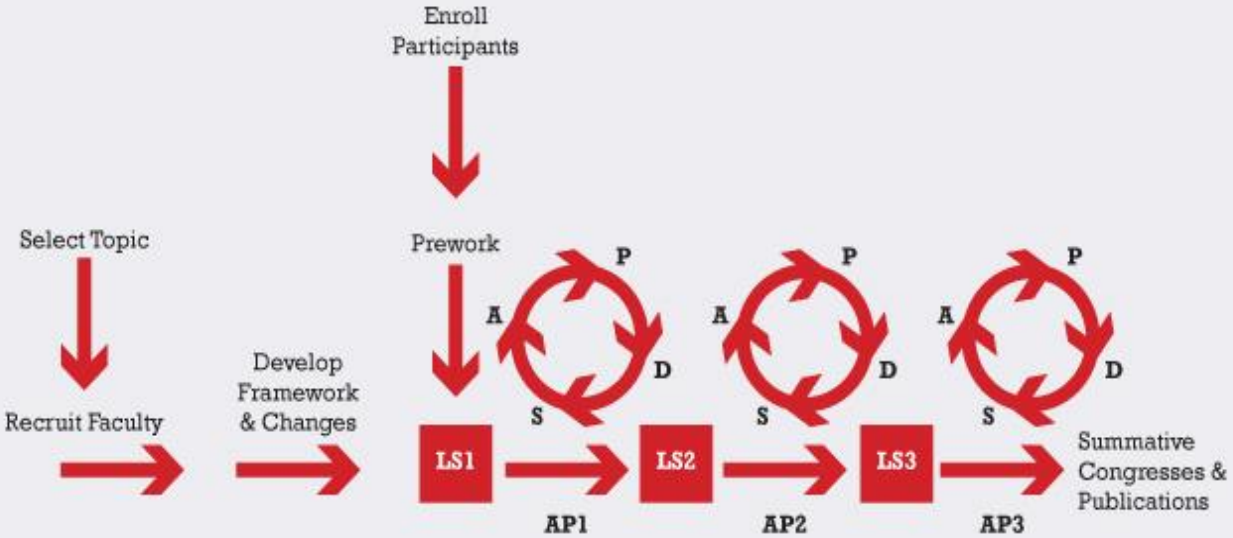
2009 ISD data

- 14741- **25%** babies born into areas of highest deprivation in Scotland
- **18.1%** of pregnant women reported smoking at booking

The Scottish Patient Safety Maternity Programme

Dr Patricia O’Connor
Dr Pauline Lynch

Breakthrough Series Collaborative Model



Key

LS1	Learning Session
AP	Action Period
P-D-S-A	Plan-Do-Study-Act

Supports

Email
Visits
Phone Conferences
Monthly Team Reports
Assessments

Reference: Institute for Healthcare Improvement, Boston, MA, USA (www.ihi.org)

Scotland- Using the data to improve

Mortality in child birth

- 20% of women who died were either first booked for antenatal care after 20 weeks gestation.

- Had missed over four routine antenatal appointments,
- Or
- Did not seek care at all

- CMACE Saving Mothers Lives 2007

Maternity care collaborative

The overall aims of the Maternity Care strand are to:

- Increase the percentage of women satisfied with their experience of maternity care to > 95% by 2015, and reduce the incidence of avoidable harm in women and babies by 30% by 2015.

Avoidable harm is defined by the further sub aims to:

- reduce stillbirths and neonatal mortality by 15%
- reduce severe post-partum haemorrhage (PPH) by 30%
- reduce the incidence of non-medically indicated elective deliveries prior to 39 weeks gestation by 30%
- offer all women carbon monoxide (CO) monitoring at the booking for antenatal care appointment
- refer 90% of women who have raised CO levels or who are smokers to smoking cessation services, and
- provide a tailored package of antenatal care to all women who continue to smoke during pregnancy.

Avoidable harm is defined

- reduce stillbirths and neonatal mortality by 15%
- reduce severe post-partum haemorrhage (PPH) by 30%
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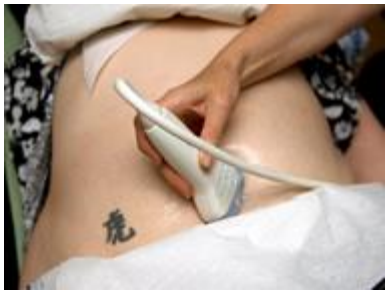
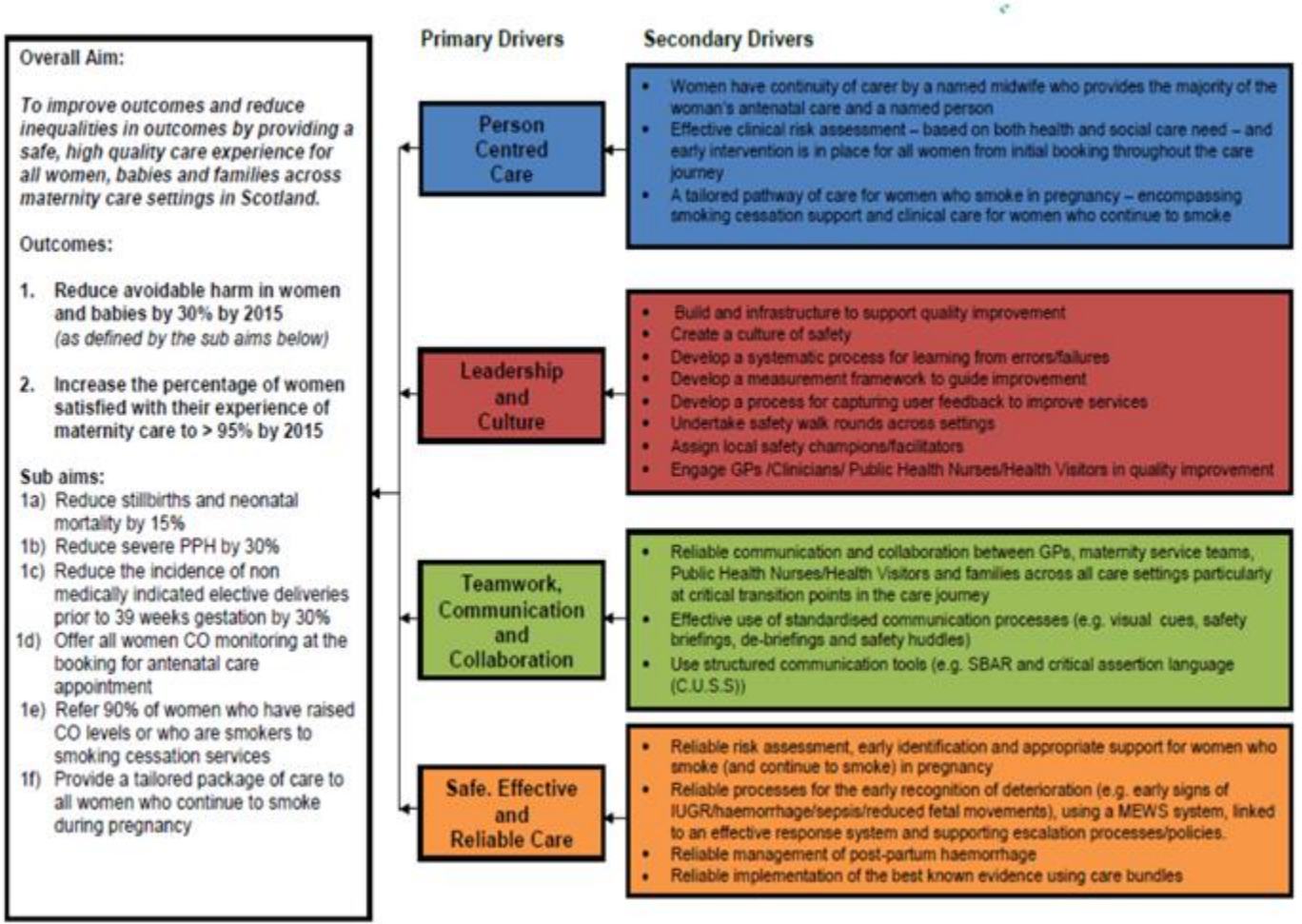


Appendix 1: Maternity Workstream Driver Diagram



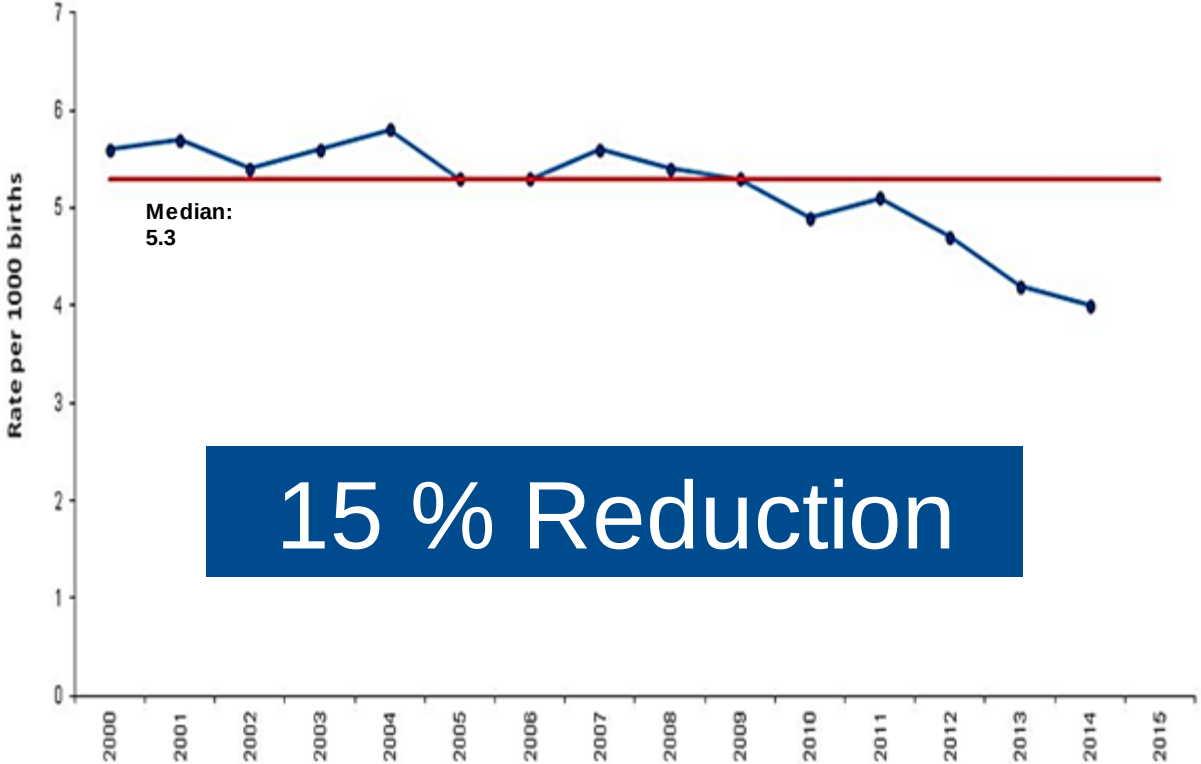
Scottish Patient Safety Programme

Overarching Driver Diagram

Safe and Effective Care

file:///C:/Users/Annette/Desktop/MEF%202016/Maternity%20Care%20-%20Safe%20Effective%20Reliable%20Care%20Driver%20Diagram.pdf

Run chart showing annual Scottish stillbirth rate (per 1000 births) 2000 to 2014 , NRS



15 % Reduction

It’s a fact

Reliability does not happen by accident, it happens by design.

Definition of *Reliability* for Health Care:

Failure free operation over time

David Garvin
Harvard Business School

The probability that a system, structure, component, process or person will successfully provide the intended functions

A process is the action point for reliability. When an effective process become highly reliable, the outcomes will follow as long as they are connected to science.

Framework for Reliable Design

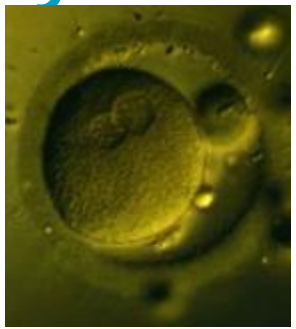
- Process reliability is linked to outcomes by science
- Initial focus needs to be on reliability of process not outcomes
  - What are the key steps in your process?
  - Identify potential defects
  - Articulate this process clearly to all
  - Assign roles and responsibilities
  - Measure process compliance and feedback progress
  - All or none

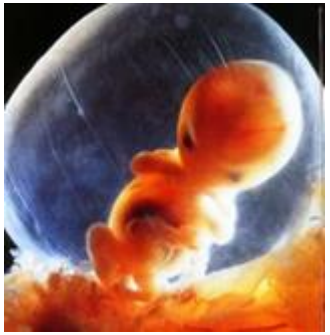
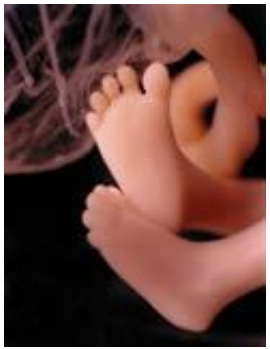
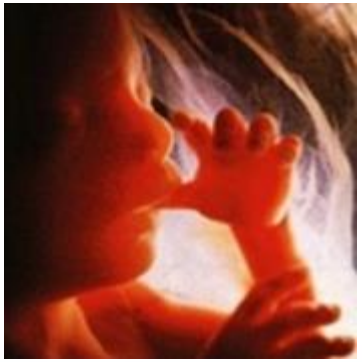
ALL or none

- “When applied to clinical processes consider the viewpoint of the patient by invoking the all or none measure.”

IHI Innovation Team

Segmentation of the journey




Building a reliable process
A systems-based approach

Risk identification

Risk assessment

Communication of risk status

Partnership

Person and family engagement

Ongoing measurement of process and outcome

Appropriate preventative intervention

Real Time Data for Improvement –

RISK ASSESSMENT AND SSKIN CARE BUNDLE COMPLIANCE

Compliance		Non-compliance	

WARD: 1 DATE: 01.1.11 TIME: 14.00

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Total %
Risk Assessment	√	√	√	√	x	80%

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Total %
Surface	√	√	√	√	x	80%
Skin Inspection	√	√	√	√	x	80%
Keep Moving	√	√	√	√	x	80%
Incontinence	√	√	√	√	x	80%
Nutrition	√	x	x	√	x	40%
Compliance / Non- Compliance						
Total %	100%	0%	0%	100%	0%	40%

Reliable risk assessment of mother

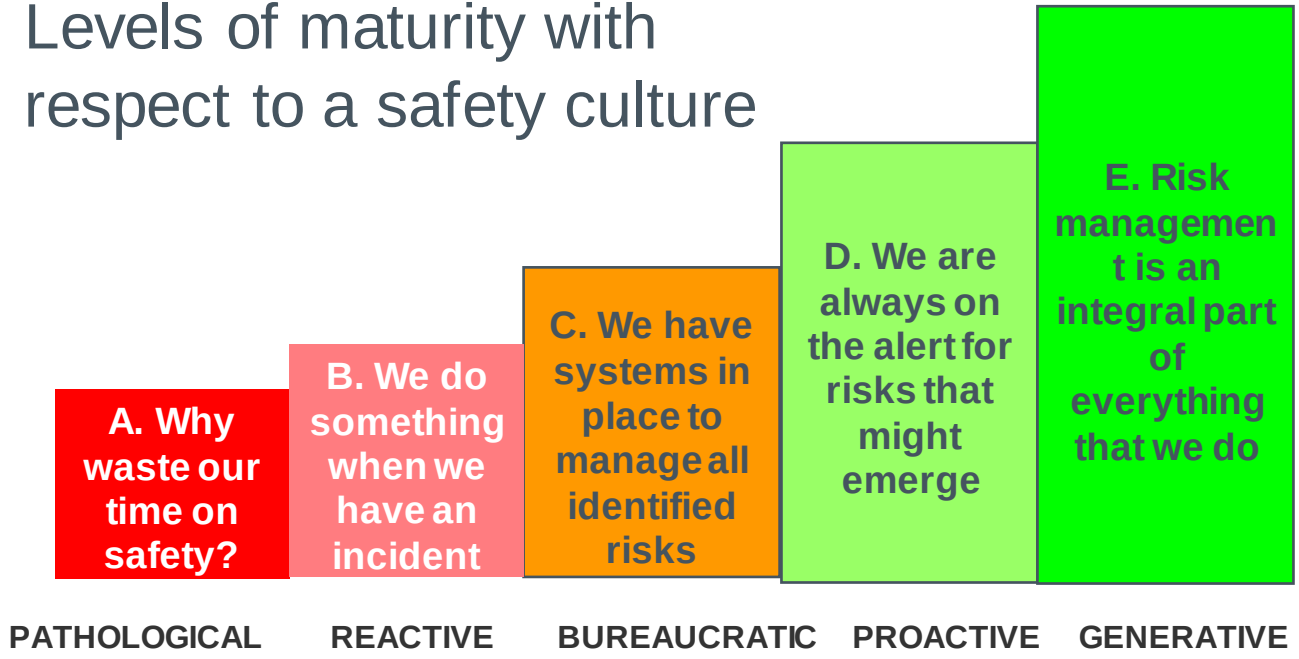
Components	1	2	3	4	5	Total compliance
1. First antenatal appointment no later than…. weeks						
2. Risk assessment for high risk (smoking, obesity, pre-existing conditions, asthma, bleeding/ diabetes)						
3. Effective communication of risk status						
4. Preventative strategies in place to minimise risk						
5. Alert /escalation process						
Individual component compliance						

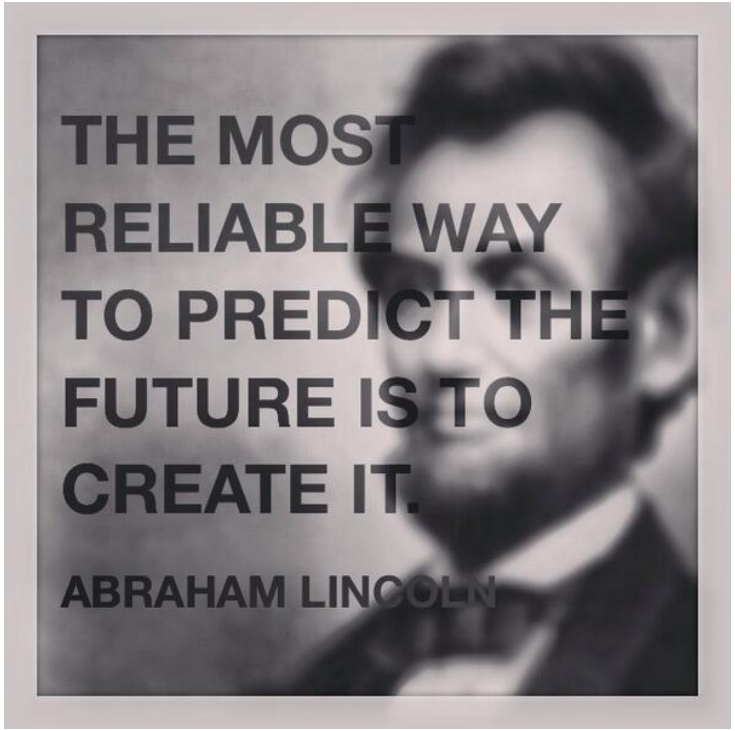
Vive la Difference!

- No matter how well designed you think your care processes are the fact is that ‘to err is human’
- Human factors will always prevail
- Hence you need to design into the process a safety net/ back up system that will ensure that should there be a human error, the system will be able identify the issue and intervene to avoid harm/error

Manchester Patient Safety Framework

Levels of maturity with respect to a safety culture




THE MOST RELIABLE WAY TO PREDICT THE FUTURE IS TO CREATE IT.
ABRAHAM LINCOLN

In summary, we discussed

- The social determinants of health and the impact on the health of women and newborns.
- Key safety interventions to address adverse pregnancy and neonatal outcomes in the United States and other countries.
- How these interventions can be introduced.

Questions?

Thank You!

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