

8-30-2013

## The use of interpreters to improve the quality and safety of healthcare through better communication in obstetrical patients: Effect on primary cesarean delivery rate

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### Recommended Citation

Pearlman, MD, Stephen A., "The use of interpreters to improve the quality and safety of healthcare through better communication in obstetrical patients: Effect on primary cesarean delivery rate" (2013). *Master of Science in Healthcare Quality and Safety Capstone Presentations*. Presentation 7.

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# The Use of Interpreters to Improve the Quality and Safety of Healthcare Through Better Communication in Obstetric Patients: Effect on Primary Cesarean Delivery Rate



**CAPSTONE PROJECT – MSHQS  
JEFFERSON SCHOOL OF POPULATION  
HEALTH**

**STEPHEN A. PEARLMAN M.D.**

**AUGUST 30, 2012**

# ACKNOWLEDGEMENTS



- JSPH Faculty and Dean Nash
- Drs. Pelegano, Colon-Kolacko and Berghella
- CCHS Staff – Olabisi Adededeji, Donna Mahoney, Deborah Caputo-Rosen, Jacqueline Ortiz, Claudia Acero
- My Family

# Personal Experience



**Twas the night before Christmas.....**



# PURPOSE



- Our hospital believes that language barriers contribute to poor healthcare outcomes and increase medical costs. This quality improvement effort sought to address these issues by introducing interpreter services and staff training in cultural competency. Labor and Delivery and the ED were targeted due to the high volume of patients with Limited English Proficiency (LEP). Our focus is on healthcare outcomes of patients presenting to Labor and Delivery

# Background



- Betancourt (2003) showed that minority patients suffer from increased rates of:
  - Cardiovascular disease
  - Diabetes
  - Asthma
  - Cancer
- Social Determinants of Health
  - Evans and Stoddart Model
  - SUSA Health Indicators Framework
  - McGinnis (2002) only 10% from deficiencies in medical care access and delivery

# PRINCIPAL CAUSES OF DISPARITIES



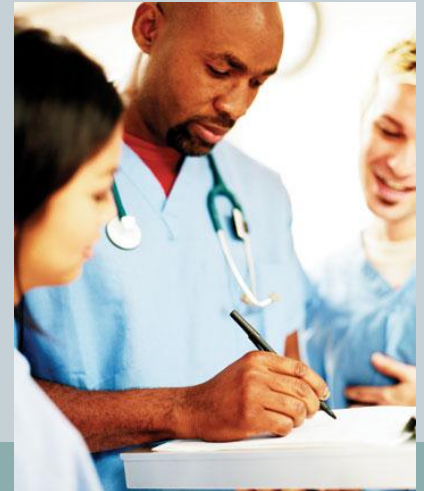
- Values, behaviors and preferences impact thresholds of care
- Inability to communicate
  - Unable to explain symptoms
  - Cannot comprehend plan of care
  - Poor compliance



# CULTURAL COMPETENCY



- “A set of congruent behaviors, attitudes and policies that come together in a system, agency or among professionals that enables effective work in cross-cultural situations.” (Minority Health.hhs.gov, 2011)
- United States – A nation of immigrants
- Cultural competency is essential in healthcare





# MAGNITUDE OF THE PROBLEM



- 47 million Americans speak a language other than English in the home (US census 2006-8)
- 24 million Americans are considered LEP
- Divi (2005) LEP patients have more frequent and more serious adverse healthcare events

# REGULATORY ISSUES



- Culturally and Linguistically Appropriate Services (CLAS) 14 standards for HC organizations
  - Provision of free language assistance services
  - Verbal and written notification that language services are available
  - Assuring the competence of translators
  - Provision of easily understood patient related materials and signage in the languages commonly used in the community
- ACGME – rubric for professionalism “demonstrate sensitivity and responsiveness to patient’s culture
- Joint Commission 2010 Standards of Patient Centered Communication

# CHRISTIANA CARE HEALTH SYSTEMS



- Largest tertiary care teaching hospital in Delaware and a clinical campus for JMC
- Serving a community with increasing diversity
- Hired CulturaLink to perform a needs assessment
- Also used AMA Communication Climate Assessment Tool
- Census findings
  - 12% of Delawareans speak language other than English
  - 52% of which speak Spanish
  - 38% of those who speak another language are LEP

# NEEDS IDENTIFIED



- Improvement of language services delivery
- Comprehensive training on interacting with a diverse patient population
- Collection of data on race, ethnicity and primary language



# PROJECT DESIGN



- Team – VP for Systems Learning and Chief Diversity Officer, VP Patient Care Services, Chief Nursing Officer, Chairs of Pediatrics and Obstetrics
- Target – Labor and Delivery because increasing Hispanic patients and data suggesting lower quality of care
- Speculated that suboptimal communication leads to unnecessary cesarean deliveries and negatively impacts other medical outcomes
- Intervention
  - Full time Spanish and multilingual telephonic interpreters
  - TeamSTEPPS – AHRQ program to build highly effective HC teams

# STUDY DESIGN – Timeline



March-August  
2011

- Pre-intervention data collection

September-  
October 2011

- TeamSTEPPS training 115 L&D staff
- Live Spanish and augmented multilingual interpreters

October 2011  
– March 2012

- Post-intervention data collection

# BARRIER ANALYSIS



- Availability of competent interpreters
- Proper identification of patients who need services
- Cost
- Lack of understanding of providers

# STAKEHOLDER ANALYSIS



- LEP patients
- Obstetric providers
- Hospital administration
- Community at large





# RESULTS – Overall Population



	Pre- Intervention	Post-Intervention
<b>Total Deliveries</b>	<b>3510</b>	<b>3176</b>
<b>Total C-Sections</b>	<b>1145</b>	<b>1015</b>
<b>Primary C-Section Rate</b>	<b>21.94%</b>	<b>21.54%</b>

# RESULTS – Maternal Outcomes



	<b>Pre-Intervention</b>	<b>Post-Intervention</b>	<b>P-value</b>
<b>Elopements</b>	<b>67</b>	<b>68</b>	<b>.56</b>
<b>Left Against Medical Advice</b>	<b>21</b>	<b>35</b>	<b>.03</b>
<b>Antepartum Steroids</b>	<b>100%</b>	<b>100%</b>	<b>1.0</b>
<b>Postpartum Hemorrhage</b>	<b>96</b>	<b>114</b>	<b>.05</b>
<b>Readmissions</b>	<b>65</b>	<b>65</b>	<b>.62</b>
<b>Length of Stay(d)</b>	<b>2.95±2.99</b>	<b>2.97±3.18</b>	<b>.73</b>

# RESULTS – Neonatal Outcomes



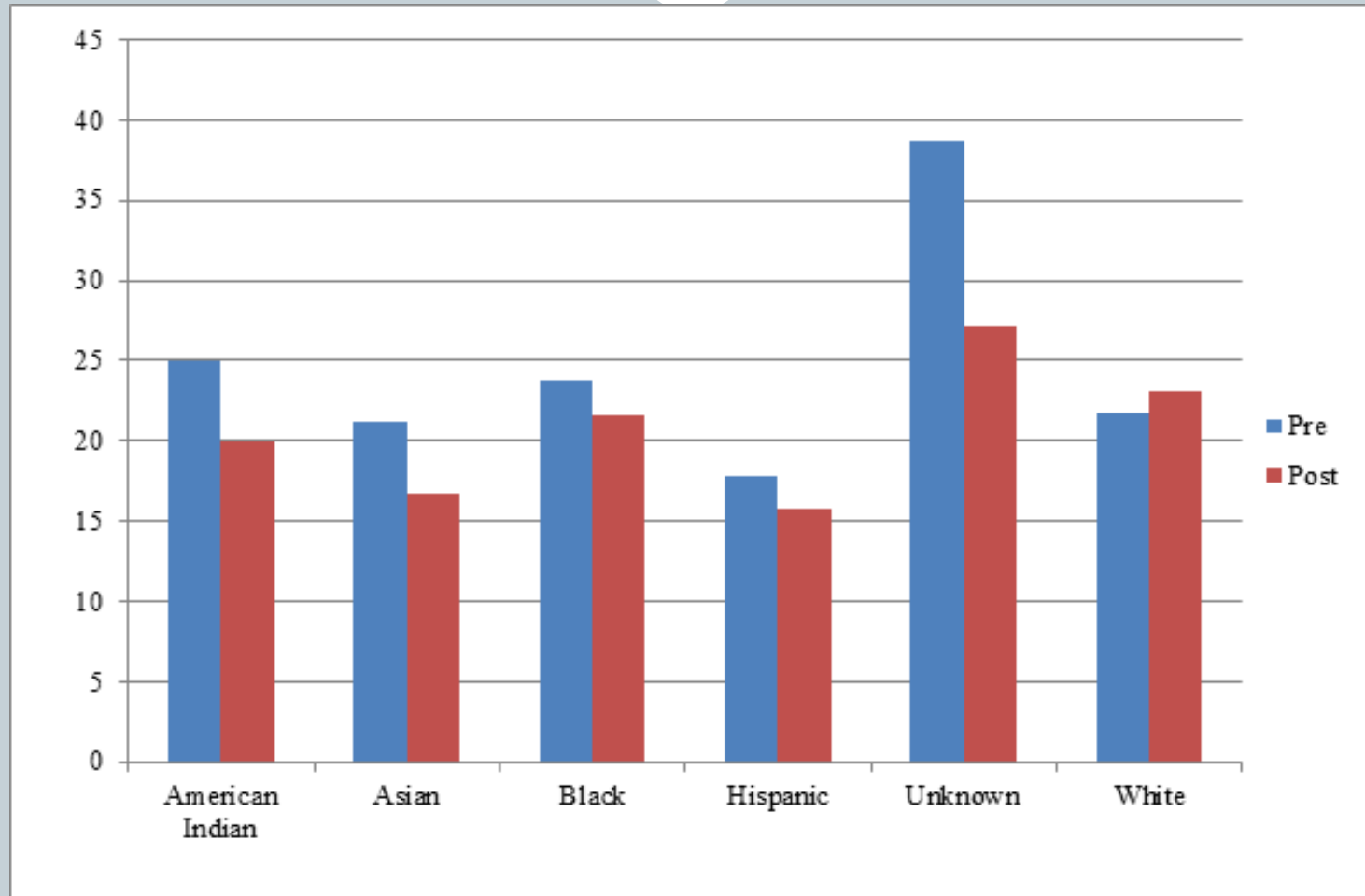
	<b>Pre- Intervention</b>	<b>Post- Intervention</b>	<b>P-value</b>
<b>Stillborn</b>	<b>28</b>	<b>27</b>	<b>.92</b>
<b>Inborn Mortality</b>	<b>28</b>	<b>28</b>	<b>.81</b>
<b>Admission to NICU</b>	<b>555</b>	<b>469</b>	<b>.25</b>
<b>Immunizations</b>	<b>90.64%</b>	<b>90.81%</b>	<b>.86</b>
<b>BF at discharge</b>	<b>29.3%</b>	<b>30.1%</b>	<b>.54</b>
<b>&lt; 2500g</b>	<b>330</b>	<b>236</b>	<b>.004</b>
<b>Hospital charges</b>	<b>\$8960±6054</b>	<b>\$9299±6151</b>	<b>.03</b>
<b>Lab charges</b>	<b>\$434±844</b>	<b>\$471±817</b>	<b>.07</b>

# RESULTS – Cesarean Delivery by Ethnicity



	Pre- Intervention		Post- Intervention		P-value
	Total Deliveries	Primary Cesarean Rate	Total Deliveries	Primary Cesarean Rate	
American Indian	24	25.0%	21	20.0%	1.0
Asian	188	21.2%	185	16.7%	0.39
Black	857	23.7%	833	21.6%	0.48
Hispanic	428	17.8%	382	15.7%	0.53
Unknown	42	38.7%	28	27.3%	0.57
White	1897	21.7%	1664	23.1%	0.41
TOTAL	3436	21.94%	3113	21.54%	0.69

# Primary Cesarean Delivery by Ethnicity



# Use of Interpreters



- **Live Spanish interpreter**
  - Averaged 100 encounters per month
  - Average encounter lasted 50 minutes
- **Telephonic interpreters**
  - All languages 15,010 minutes pre-intervention and 12,456 minutes post-intervention
  - Spanish only 12,414 minutes pre-intervention and 10,030 post-intervention

# FINANCIAL ANALYSIS



- **Annual Costs**

- \$60,000 interpreter and manager
- \$60,000 telephonic interpreters
- \$30,000 implementation of TeamSTEPPS

- **Annual Savings**

- 50 fewer cesarean deliveries \$175,000
- 100 fewer babies < 2500g \$200,000
- 20 fewer NICU admissions \$300,000
- Decreased Malpractice risk average settlement \$6million

# Summary of Findings



- Decreased primary cesarean deliveries
  - Hispanic population – 12.4% from baseline
  - Asian population – 20.9% from baseline
- Decreased number of babies < 2500 grams
- Increased postpartum hemorrhage, mothers who signed out AMA and hospital charges
- Limitations –
  - Focused on language
  - Don't know exact number of LEP patients
  - Small numbers when patients stratified by ethnicity



# Discussion



- Previous studies show that use of interpreters improves patient satisfaction amongst LEP patients (Flores 2005)
- Language services alone do not address cultural differences
- Systematic review showed that educational programs do improve cultural competence of providers (Beach 2005)

# Proposed Mechanism – Betancourt 2003



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graph TD; A[Better Communication] --> B[Increased Patient Satisfaction]; B --> C[Improved Adherence to Medical Plans]; C --> D[Better Healthcare Outcomes];
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Better  
Communication

Increased  
Patient  
Satisfaction

Better  
Healthcare  
Outcomes

Improved  
Adherence to  
Medical Plans

# Future Directions



- Recording patients' race, ethnicity and preferred language
- Expansion of language services to other areas of the hospital
- Expanded use of TeamSTEPPS to promote cultural competency of staff
- Improved compliance with other CLAS directives
- Increased needs to cope with diversity as minority population continues to increase in the US from 28% currently to 40% by 2030

# Future Directions



- *“Cultural Competence is not a panacea that will single handedly improve health outcomes and eliminate disparities, but a necessary set of skills for physicians who wish to deliver high-quality care to all patients. If we accept this premise, we will see cultural competence as a movement that is not marginal but mainstream.”*

*J. G. Betancourt, 2004*

