

# Breastfeeding Disparities and Social Marketing

Melissa Bartick, MD, MSc, FABM

Becoming Baby-Friendly:

Oklahoma Breastfeeding Summit

# Two Talks in One

## ① Our research on Disparities

- Methods, Results, Implications

## ② Social Marketing

- Introduction, Identifying goals

- A social marketing campaign aimed at reducing disparities

# Disparities in Breastfeeding: Impact on Maternal and Child Health Outcomes

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J Pediatr. 2016 Nov 10

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The authors have no financial conflicts to declare.

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## ORIGINAL ARTICLE

# Suboptimal breastfeeding in the United States: Maternal and pediatric health outcomes and costs

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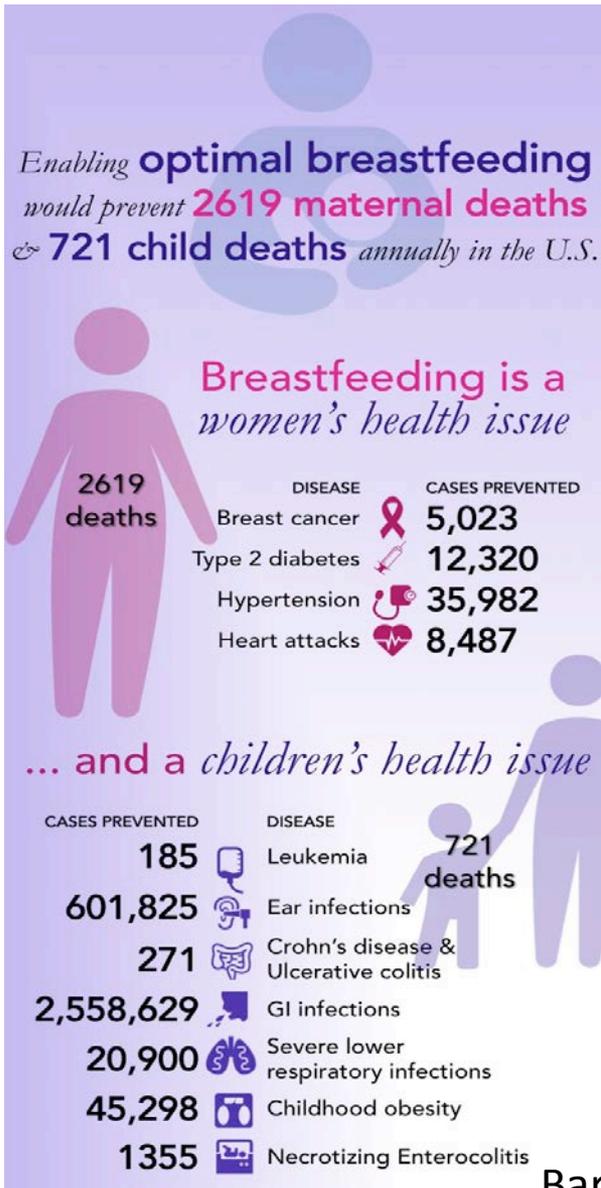
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## Abstract

The aim of this study was to quantify the excess cases of pediatric and maternal disease, death, and costs attributable to suboptimal breastfeeding rates in the United States. Using the current literature on the associations between breastfeeding and health outcomes for nine pediatric and five maternal diseases, we created Monte Carlo simulations modeling a hypothetical cohort

# Original Study



- Modeled 10,000 replications of cohorts of 100,000 women from age 15-70 and all of the children they birthed from birth to age 19.
- Compared cases, deaths, and costs for 14 maternal and pediatric health conditions under suboptimal and optimal breastfeeding states.
- Cost savings in billions for medical, non-medical, and premature death were \$3.0, \$1.2, and \$14.2.

# Disparity study, Nov. 2017/Jan 2017

ARTICLE IN PRESS

THE JOURNAL OF PEDIATRICS • www.jpeds.com

ORIGINAL  
ARTICLES

## Disparities in Breastfeeding: Impact on Maternal and Child Health Outcomes and Costs

Melissa C. Bartick, MD, MSc<sup>1</sup>, Briana J. Jegier, PhD<sup>2</sup>, Brittany D. Green, MS<sup>3</sup>, Eleanor Bimla Schwarz, MD, MS<sup>4</sup>, Arnold G. Reinhold, MBA<sup>5</sup>, and Alison M. Stuebe, MD, MSc<sup>6,7</sup>

**Objective** To estimate the disease burden and associated costs attributable to suboptimal breastfeeding rates among non-Hispanic blacks (NHBs), Hispanics, and non-Hispanic whites (NHWs).

**Study design** Using current literature on associations between breastfeeding and health outcomes for 8 pediatric and 5 maternal diseases, we used Monte Carlo simulations to evaluate 2 hypothetical cohorts of US women followed from age 15 to 70 years and their infants followed from birth to age 20 years. Accounting for differences

# Methods

- We repeated the approach from our original analysis but adjusted with key model parameters to reflect race/ethnicity-specific estimates for:
  - 1) population size
  - 2) infant birth weight
  - 3) breastfeeding rates
  - 4) fertility patterns

Bartick et al, Disparities in Breastfeeding: Impact in Maternal and Child Health Outcomes and Costs. J Pediatrics 10.028.

# Methods

- We assumed that there were no racial/ethnic differences in mortality once a woman or child developed a disease.

# Important differences

- Black and Hispanic women have more children than whites
  - Magnifies risk of child diseases
  - Dampens risk of breast cancer
- Black & Hisp women have more VLBW infants
  - 2.9% black, 1.4% Hisp, 1.1% white in 2013
  - Magnifies risk of NEC

# Breastfeeding Differences

- Hispanic rates @ initiation similar to whites but duration drops off
- Black rate much lower at all time points

# Results

## Relative and Absolute Differences of Excess Disease Attributable to Suboptimal Breastfeeding per 100,000 Women, Compared with Non-Hispanic Whites (95% CI)

	Relative Differences		Absolute Differences	
	Ratio of NHB Blacks to NHW	Ratio of Hispanics to NHW	Difference of NHB minus NHW	Difference of Hispanic minus NHW
<b>CHILD DISEASE</b>				
<b>Acute otitis media</b>	1.68 (1.66 to 1.71)	1.43 (1.41 to 1.45)	17,312 (16,890 to 17,769)	10,879 (10,445 to 11,291)
<b>Gastrointestinal infection</b>	1.32 (1.31 to 1.33)	1.38 (1.37 to 1.38)	37,142 (36,283 to 38,039)	43,398 (42,534 to 44,298)
<b>LRTI requiring hospitalization</b>	1.32 (1.25 to 1.39)	1.38 (1.31 to 1.45)	303 (245 to 362)	355 (291 to 418)
<b>NEC</b>	3.30 (2.92 to 3.69)	2.01 (1.84 to 2.19)	121 (110 to 132)	53 (45 to 63)
<b>SIDS</b>	1.95 (1.42 to 2.61)	1.40 (0.97 to 1.89)	19 (13 to 27)	8 (1 to 16)
<b>Child deaths total</b>	2.23 (1.63 to 2.84)	1.53 (1.17 to 1.90)	36 (23 to 50)	16 (7 to 25)



Angry



Angry



Angry



Angry

## Relative and Absolute Differences of Excess Disease Attributable to Suboptimal Breastfeeding per 100,000 Women, Compared with Non-Hispanic Whites (95% Confidence Interval)

	Relative Differences		Absolute Differences	
	Ratio of NHB Blacks to NHW	Ratio of Hispanics to NHW	Difference of NHB minus NHW	Difference of Hispanic minus NHW
<b>MATERNAL DISEASE</b>				
<b>Breast cancer</b>	1.29 (0.93 to 1.62)	1.17 (0.88 to 1.45)	66 (-4 to 129)	37 (-29 to 105)
<b>Type 2 diabetes mellitus</b>	1.36 (1.04 to 1.64)	<del>1.09</del> (0.86 to 1.32)	184 (46 to 304)	<del>48</del> (-78 to 169)
<b>Hypertension</b>	1.41 (1.31 to 1.51)	1.19 (1.12 to 1.27)	664 (530 to 800)	310 (181 to 442)
<b>MI</b>	1.27 (1.04 to 1.50)	<del>1.08</del> (0.90 to 1.25)	102 (25 to 176)	<del>29</del> (-48 to 101)
<b>Maternal death total</b>	1.31 (0.86 to 1.77)	1.11 (0.76 to 1.47)	36 (-9 to 81)	13 (-32 to 57)
<b>MATERNAL AND CHILD DISEASE COMBINED</b>				
<b>Maternal and child death total</b>	1.50 (0.59 to 2.41)	1.20 (0.55 to 1.84)	73 (-31 to 177)	29 (-75 to 131)



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# BREASTFEEDING

*matters for* **ALL FAMILIES**

**Black** and **Hispanic** children who experience sub-optimal breastfeeding are at **greater risk** for childhood disease and death than children who were breastfed for **six months or more**.



**1.7 (B) | 1.4 (H)**  
*times more likely*  
**EAR INFECTION**



**3.3 (B) | 2.0 (H)**  
*times more likely*  
**NECROTIZING  
ENTEROCOLITIS**



**1.3 (B) | 1.4 (H)**  
*times more likely*  
**GI INFECTION**



**1.9 (B) | 1.4 (H)**  
*times more likely*  
**SIDS**

**DISPARITIES IMPACT MOMS**  
Black mothers who breastfeed sub-optimally are **1.4 times** more likely to develop Type 2 diabetes.



**2.2 (B) | 1.5 (H)**  
*times more likely*  
**CHILD DEATH**

*Learn more about the study:*  
<http://bit.ly/BartickJPeds>

# Black and Hispanic moms

- More likely Heads of Household
- More likely lower income jobs
- Less likely paid sick time

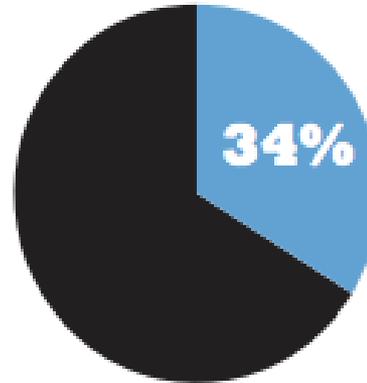


# Why it matters:

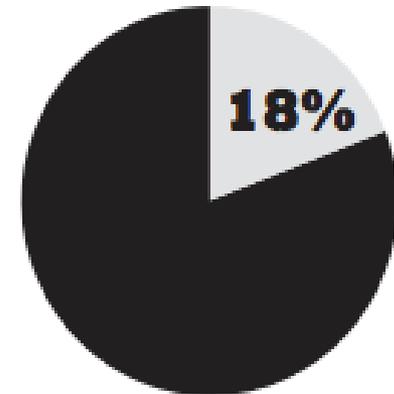
## Black moms more likely to be the sole breadwinner

### **BREADWINNER MOTHERS\***

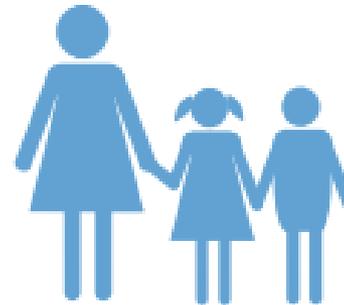
Black working mothers are more likely to be the sole breadwinners for their families\*\*



Black families with mother as the sole breadwinner



All families with mother as the sole breadwinner

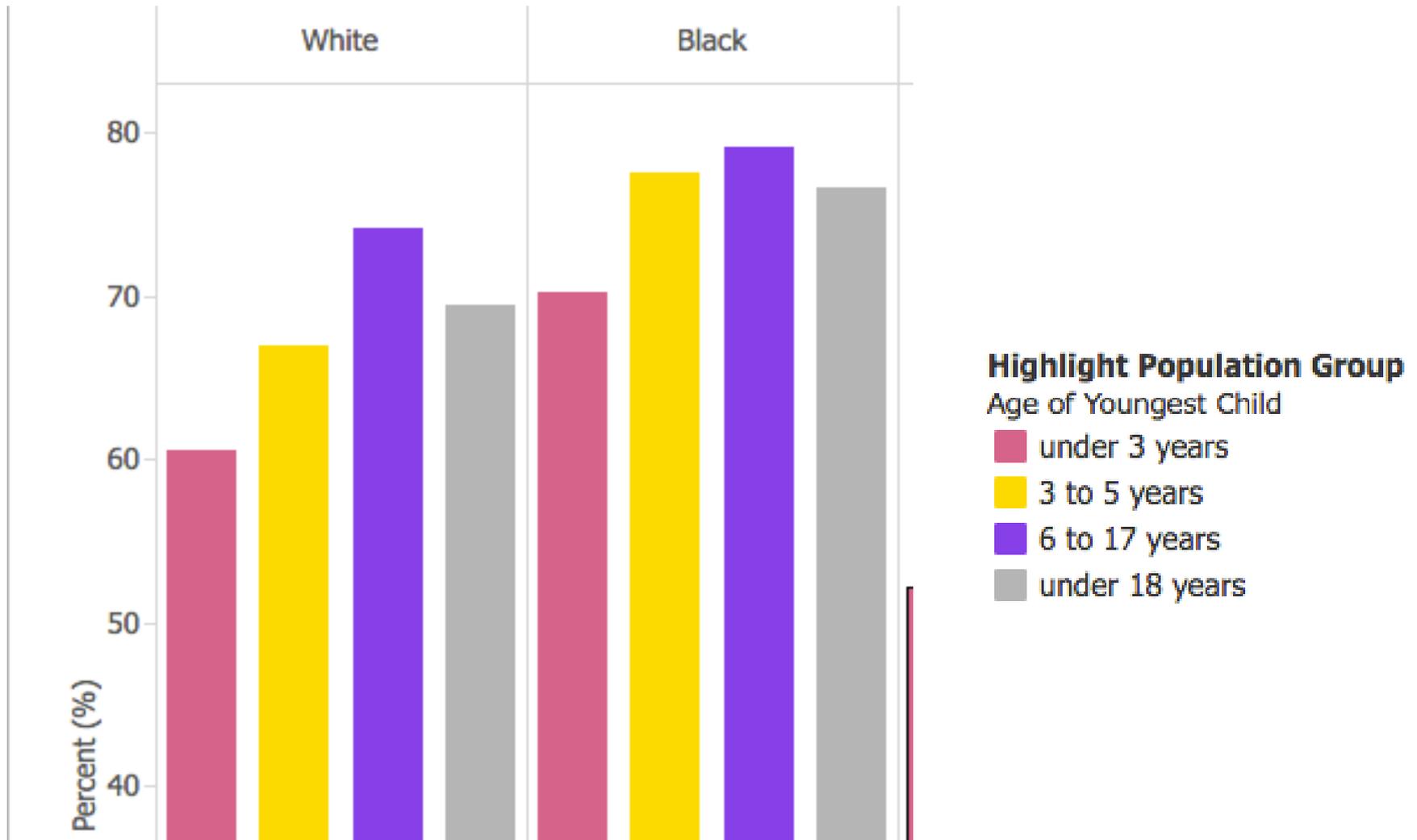


\* Includes all families with only one woman employed.

\*\* Based on families with children under 18.



# More black working moms have kids <5





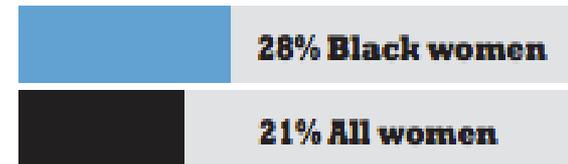
## OCCUPATIONS



Employed Black women are more likely than All women to work in the lowest paying occupational category\*...

### SERVICE OCCUPATIONS

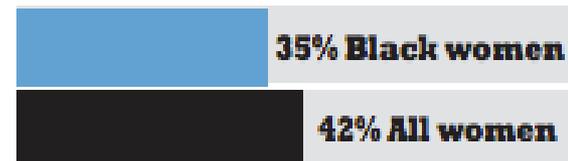
\*\$461/week



...and less likely to work in the highest paying occupational category.\*\*

### MANAGEMENT, PROFESSIONAL AND RELATED OCCUPATIONS

\*\*\$981/week



\*Based on women's median weekly earnings of full-time wage and salary workers, excludes the self-employed.  
Source: U.S. Bureau of Labor Statistics

# Why it matters:

# Black moms more likely to be in low-paying jobs, no paid sick leave

2015



WOMEN'S BUREAU  
United States Department of Labor

dol.gov/wb

Health Alliance



Harvard  
Medical School

# Why this matters

Missed work = no pay  
→ **Poverty**

Nearly 1 in 4 working women  
are back at work within *2 weeks*  
of having a baby



Only 1 in 20 of bottom quartile of workers get paid leave

Source: *In These Times: The Real War on Families*, 8/18/2015,  
From Dept of Labor statistics, 2012

**Formula feeding**



**Illness**



**Poverty**



**Absenteeism**

**Vicious cycle of racial inequity**

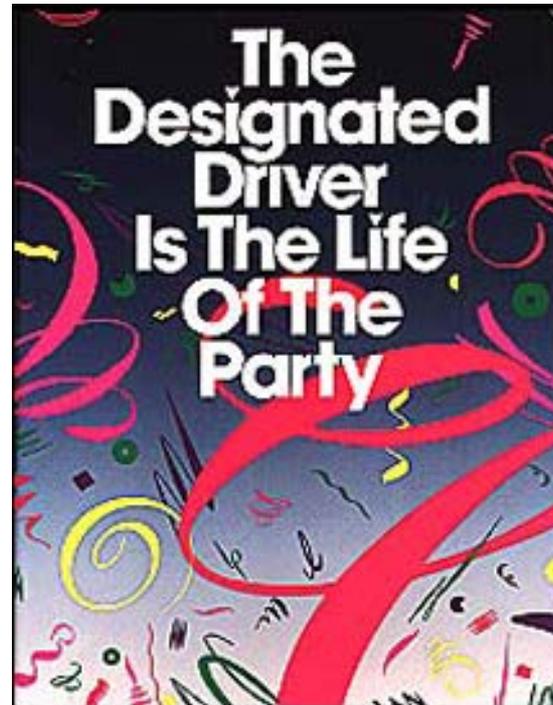
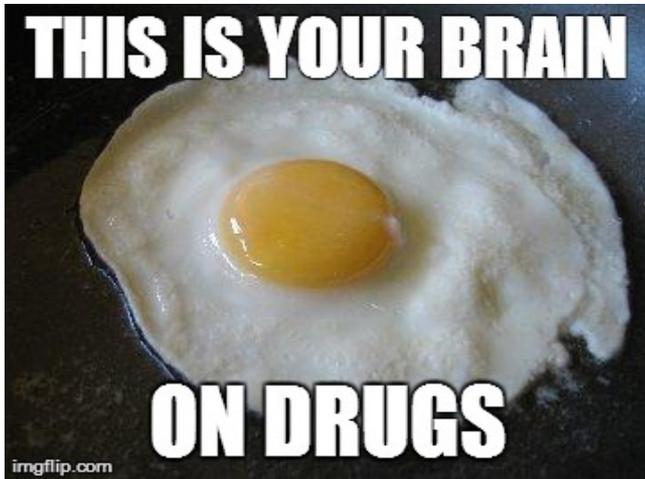
# Get Your Message Across: Effective Social Marketing For Breastfeeding

Melissa Bartick, MD, MSc, FABM

# Overview

- The basic principles of social marketing
- Examples and the lessons they illustrate
- Take home points

# Social marketing: Ad campaigns for good



# Most clever? Most effective?



#1



#2



#3  
CHA  
Cambridge  
Health Alliance



#4



#5

# Target audience



Adolescent boys and men



Parents, grandparents



Girls and young women

# Social Marketing: the basics

- Identify your goal:
  - changing behavior versus providing information
- Identify your target audience
- Leverage emotion
- Make it memorable or clever
- Test your message with your target audience

# Goal: Change Behavior

Campaign to increase bf in the AA community

- Comfort with nursing in public
- Partners must support nursing in public
- Raise awareness of maternal health issues



# Identify our target audience



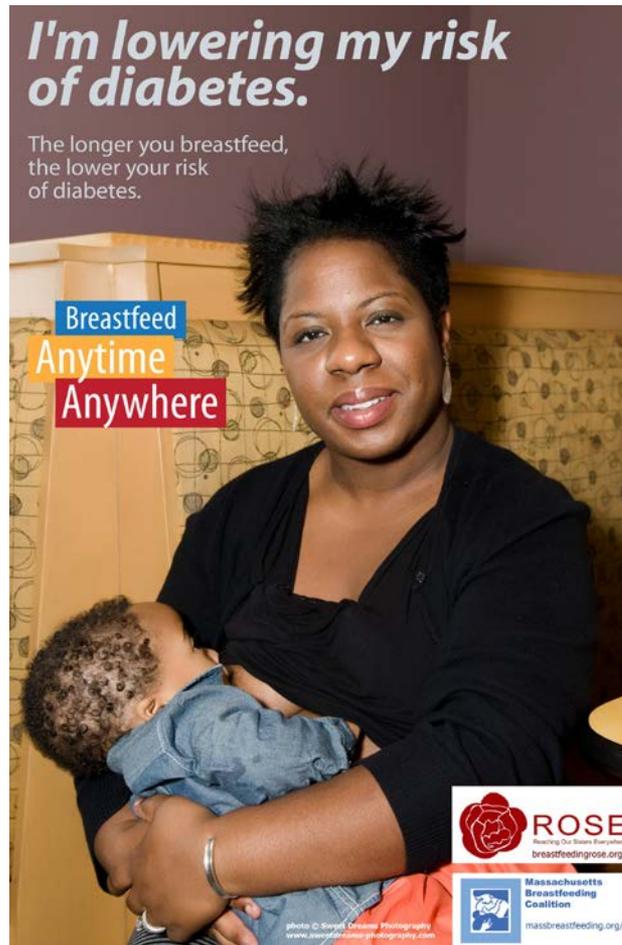
- Audience: US born AA families (most AA people in Boston are immigrants)
- Message *must* come from AA community
- Our team was predominantly AA, spread out across the US
- ROSE as co-sponsor/lead

# AA women nursing in public



- Bf in church impt
- Photo shoots in 5 locations
- Caption contest
- Survey monkeys for market testing

# Information may not change behavior



- This was the least effective of our posters
- We had to eliminate the other health message posters (breast cancer, heart attack)

# Lessons

- Do your homework: Research the literature
  - Market testing was key!
  - Emotions drive change over health information
- ← Our most popular poster, but you wouldn't know it from the comments

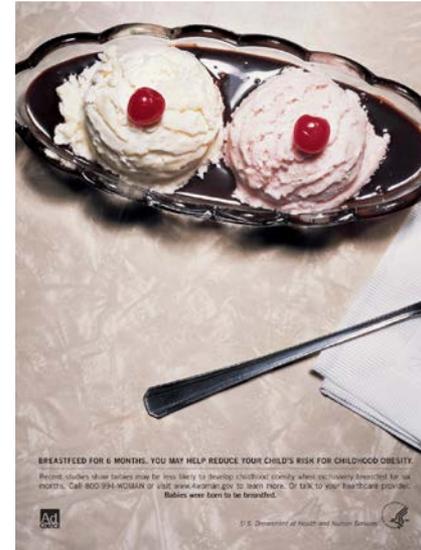


*This was a long & tedious process!!!*

# Less effective: dry health information



- Knowledge alone will not drive behavior change.

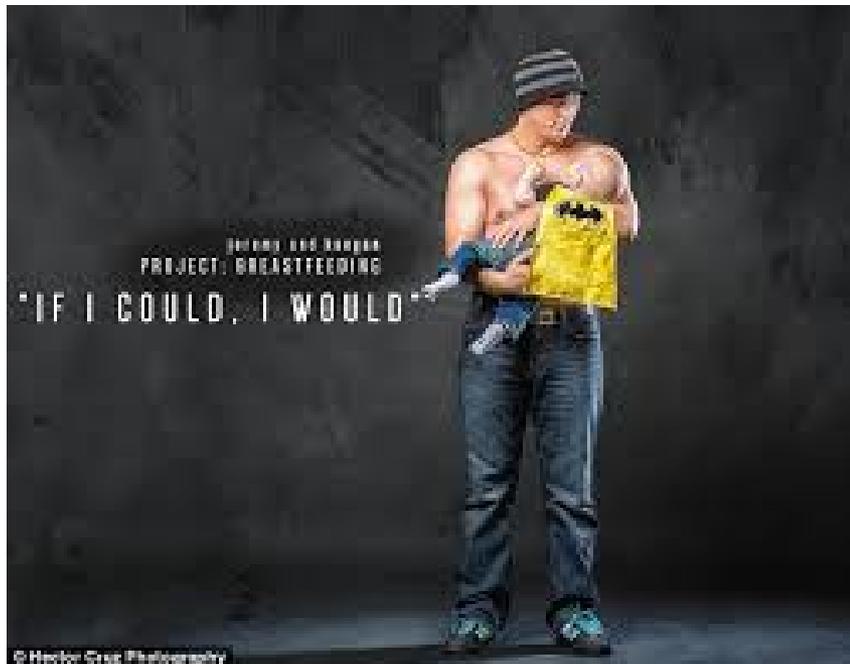


- Clever ads alone will not drive behavior change.

# Clever, emotional, informative



# Clever, memorable, behavior change (men support)



# Nestlé boycott- emotional, informative



# Emotion drives behavior change.

<https://www.youtube.com/watch?v=zHaCVNo9kN4>



Sadness, remorse



Fear, anger

# Take home points

- *Clever* alone won't change behavior.
- *Information* alone won't change behavior.
- *Emotions* are most likely to change behavior.

*What you like doesn't matter.*

**What your target audience likes is all that matters.**

# Thank you!



*Boston skyline as seen from Cambridge side of Charles River*