



SAVING LIVES: PREVENTING PREECLAMPSIA WITH LOW-DOSE ASPIRIN

March 28, 2018
11:30 am – 1:00 pm EST



**This *Continuing Professional
Education Program* is
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Lisa Waddell, MD, MPH (*Moderator*)

Sr. Vice President Maternal Child Health & NICU
Innovation, Interim Medical Director, March of Dimes
Foundation

What is your background?

- 1. Academia or research**
- 2. Clinical and public health**
- 3. Pharmacist**
- 4. Community based organization**
- 5. Affected family or other**

Today's Speakers



Charlie Lockwood, MD, MHCM

Dean of the Morsani College of Medicine and Senior Vice President, University of South Florida Health, Professor, Obstetrics and Gynecology



Jodi Abbott, MD, MS

Assistant Dean of Patient Safety & Quality Improvement Education, Associate Professor Boston University School of Medicine Department of Ob/Gyn Boston Medical Center

Disclosures

The content of my presentation in this activity will include discussion of use of generic low dose aspirin in pregnancy.

Learning Objectives

- To understand the prevalence of preeclampsia
- To appreciate risk factors for the disorder
- To know the optimal gestational age at initiation and dosage of low dose aspirin for the prevention of preeclampsia

Definitions

- Preeclampsia is defined as the new onset hypertension and proteinuria or hypertension and end-organ dysfunction \pm proteinuria after 20 weeks in a previously normotensive woman (ACOG 2013)
- Chronic hypertension (CHTN) antedates pregnancy or presents before 20 weeks or persists longer than 12 weeks postpartum.

Definitions

- Superimposed preeclampsia is the new onset of proteinuria, end-organ dysfunction, or worsening or resistant hypertension after 20 weeks in a woman with CHTN.
- Eclampsia is the development of seizures in a woman with preeclampsia, in the absence of other relevant neurologic conditions.
- Gestational hypertension is hypertension without proteinuria or other signs/symptoms of preeclampsia after 20 weeks, resolving by 12 weeks postpartum.

Epidemiology of Preeclampsia

- Complicates 3.4% of pregnancies with 2-fold higher prevalence in 1st pregnancy.
- Accounts for 9% of U.S. maternal deaths.
- Risk factor for future cardiovascular disease and metabolic disease in women
- Associated with stillbirth, IUGR and oligohydramnios in fetus.

(Anath et al BMJ. 2013;347:f6564)

Epidemiology of Preeclampsia

Risk Factors include:

- 1) Prior PE (RR 8.4; 95% CI: 7.1-9.9); if severe recurrence rate is 25 to 65%; if not severe, 5 to 7%.
- 2) Nulliparity (RR 2.1; 95% CI: 1.9-2.4)
- 3) Family Hx (RR 2.9; 95% CI: 1.7-4.9)
- 4) Multiple gestation (RR 2.9, RR 2.6-3.1)
- 5) Preexistent conditions:
 - a) Type 1 DM (RR 3.7, 95% CI 3.1-4.3)
 - b) CHTN (RR 5.1, 95% CI 4.0-6.5)*
 - c) BMI > 30 (RR 5.1, 95% CI 4.0-6.5)*
 - d) CRD (RR 1.8, 95% CI 1.5-2.1)

Etiology of Preeclampsia

- 1) Decidual inflammation and vasculopathy, increased activated macrophages, decreased uNK cells (e.g., SLE, CHTN, obesity, DM, nulliparity).
- 2) Shallow extravillous trophoblast invasion.
- 3) Failure of uterine spiral artery remodeling
- 4) Progressive relative placental hypoxia.
- 5) Release of placental anti-angiogenic substances (sFlt-1 and endoglin).

(Lockwood et al, Am J Pathol. 2014;184:2549-59; Lockwood et al, Semin Thromb Hemost. 2011; 37:158-64; Li H et al, Placenta. 2005; 26:210-7; Levine RJ et al., N Engl J Med. 2004;350:672-83)

Etiology of Preeclampsia

- 6) Systemic endothelial cell damage, decrease Pgl2/TXA2, vasospasm, increased platelet aggregation and turnover and:
- 7) Hypertension \pm
- 8) Renal glomeruloendotheliosis/proteinuria \pm
- 9) End-organ damage (liver function abnormalities, ARDS, seizures, ARF, cardiomyopathy) \pm
- 10) Fetal death, IUGR, oligohydramnios

(Lockwood et al, Am J Pathol. 2014;184:2549-59; Lockwood et al, Semin Thromb Hemost. 2011; 37:158-64; Li H et al, Placenta. 2005; 26:210-7; Levine RJ et al., N Engl J Med. 2004;350:672-83)

Prevention

Low dose aspirin (LDA) reduces frequency of PE, as well as preterm birth, and IUGR by 10-20% in moderate to high risk women.

Rationale:

- 1) PE associated with increased platelet turnover, decreased Pgl2/TXA2.
- 2) PE is associated with systemic and/or decidual inflammation which is attenuated by PE (anti-NFκB effects).

(Cadavid AP. Front Immunol. 017;8:261. PMID 28360907)

Prevention

Key Studies: large RCTs

Study	Type of Study	Rate of PE in LDA vs. placebo	Stat.
Lancet. 1993;341 (8842):396	RCT in moderate to high risk Italian women (age extremes, CHTN, CKD, prior PE/IUGR, twins); LDA 50 mg	15.2% vs 19.3% (no difference in other APA)	NS
N Engl J Med. 1993; 329: 1213-8	RCT by NICHD MFMU in nulliparas; LDA 60 mg	4.6% vs. 6.3% (best in pts with increased sBP 5.6% vs. 11.9%)	0.05 0.01
Lancet. 1994;343(889 8):619	RCT Prophylaxis for PE, IUGR (85%) or Tx PE or IUGR (15%); LDA 60 mg	6.7% vs. 7.6% (PTB 19.7 vs. 22.2%)	NS P <.003
N Engl J Med. 1998; 338: 701-5	RCT by NICHD MFMU in moderate to high risk women (IDDM, CHTN, twins, prior PE); LDA 81 mg	18% vs. 20% (no difference in other APA)	NS

Prevention

Key Studies: large RCTs and meta-analyses

Study	Type of Study	Rate of PE in LDA vs. placebo	Stat.
BJOB. 2003; 110(5):475-84	RCT nulliparas; LDA 100 mg	1.7% vs. 1.6% (higher IUGR < 3%ile in LDA group, no other difference in other APA)	NS
N Engl J Med. 2017;377(7): 613-22	RCT High risk based on: Uterine artery Dopplers, PAPP-A, PIGF, Ob/Med hx, BMI and MAP; LDA 150 mg	Preterm PE: 1.6% vs. 4.3% Any PE: 0.4 vs. 1.8% (no difference in other APA)	0.004 NS
Lancet. 2007; 369:1791-8	Meta-analysis of 32,217 pts; Antiplatelet agents	RR PE: 0.90 (0.84-0.97); RR sPE: 0.90 (0.83-0.98)	
Ann Intern Med. 2014; 160:695-703	USPSTF Systematic review of 23 “good quality” studies	RR PE: 0.76 (0.62 to 0.95) RR IUGR: 0.80(0.65-0.99) RR PTB: 0.86 (0.76-98) (no significant harms)	

Optimal Dose and EGA at Initiation

Roberge et al. systematic review and meta-analysis of RCTs comparing LDA to placebo or no Tx; 45 trials with 20,909 women randomized to 50 to 150 mg daily. Results stratified by GA at initiation ≤ 16 or > 16 weeks.

Findings:

1. LDA ≤ 16 weeks markedly reduced PE (RR 0.57; 0.43-0.75), sPE (RR of 0.47; 0.26-0.83) and IUGR (RR of 0.56; 0.44-0.70) with dose-response effect up to 150 mg.
2. LDA initiated after 16 weeks had less beneficial for PE (RR 0.81; 95%CI: 0.66-0.99) and no effects for sPE or IUGR and no dose response effect.

(Roberge S et al. Am J Ob Gyn. 2017;216(2):110-120 PMID: 27640943)

Optimal Dose and EGA at Initiation

Mehere et al, examined individual participant data on 32,217 women recruited in 31 RCTs comparing LDA or other antiplatelet agents vs. either placebo or no Tx. Results stratified by GA at initiation of therapy < 16 weeks versus \geq 16 weeks.

Findings: No significant difference among women randomized before vs. \geq 16 weeks for PE (RR 0.90; 0.79-1.03 vs. 0.90; 95%CI: 0.83-0.98, respectively).

(Meher S, et al. *Am J Obstet Gynecol.* 2017;216(2):121-8 PMID: 27810551)

U.S. Preventive Services Task Force.

Recommends LDA (81 mg) as a preventive medication after 12 weeks gestation in women who had ≥ 1 high risk factor(s) and consideration of such treatment in patients with “several” moderate-risk factors.

(<https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/low-dose-aspirin-use-for-the-prevention-of-morbidity-and-mortality-from-preeclampsia-preventive-medication> accessed May 16, 2017)

U.S. Preventive Services Task Force.

High Risk Group	Moderate Risk Group	Low Risk
History of prior PE, particularly if associated with adverse pregnancy outcome (e.g., IUGR, preterm birth, stillbirth)	Adverse Obstetrical history (IUGR, low birthweight infant, other prior adverse outcome or inter-pregnancy interval >10 yrs)	Prior uncomplicated pregnancy and term delivery
Type 1 or 2 diabetes	Obesity (BMI > 30 kg/m ²)	
CHTN	Nulliparity	
Autoimmune disease (SLE, APPA syndrome)	Sociodemographic factors (AA race, low SES)	
Multifetal pregnancy	Age ≥ 35 years	
Renal disease	Family history of PE in first degree relative)	

ACOG Practice Advisory (July 2016)

- Women are considered to be at high-risk for preeclampsia if one or more of the following risk factors are present:
 - History of preeclampsia, especially if accompanied by an adverse outcome
 - Multifetal gestation
 - Chronic hypertension
 - Diabetes (Type 1 or Type 2)
 - Renal disease
 - Autoimmune disease (such as systematic lupus erythematosus, antiphospholipid syndrome)
- Initiate aspirin (81mg) between 12-28 weeks

My Recommendations

Tx women with any of the USPSTF high risk factors or women with 2 or more of the USPSTF moderate risk factors with LDA either 81 mg or 122 mg (a tablet and a half) once a day starting at 12 to 14 weeks.

Saving Lives: Developing an Aspirin Intervention to Reduce Negative Maternal and Fetal Outcomes in at Risk Women

Jodi F. Abbott MD MHCM
jabbott@bu.edu

Asst. Dean for Patient Safety and Quality Improvement



Boston University School of Medicine

Learning Objectives

At the Completion of this talk attendees will:

- 1) Understand barriers to the implementation of medical knowledge into clinical practice, and those specific to implementing aspirin in pregnancy
- 2) Discuss prevention of medically indicated preterm birth nationally and locally as one opportunity to reduce racial disparities in preterm birth
- 3) Utilize the tools of quality improvement to develop strategies to implement aspirin broadly and locally

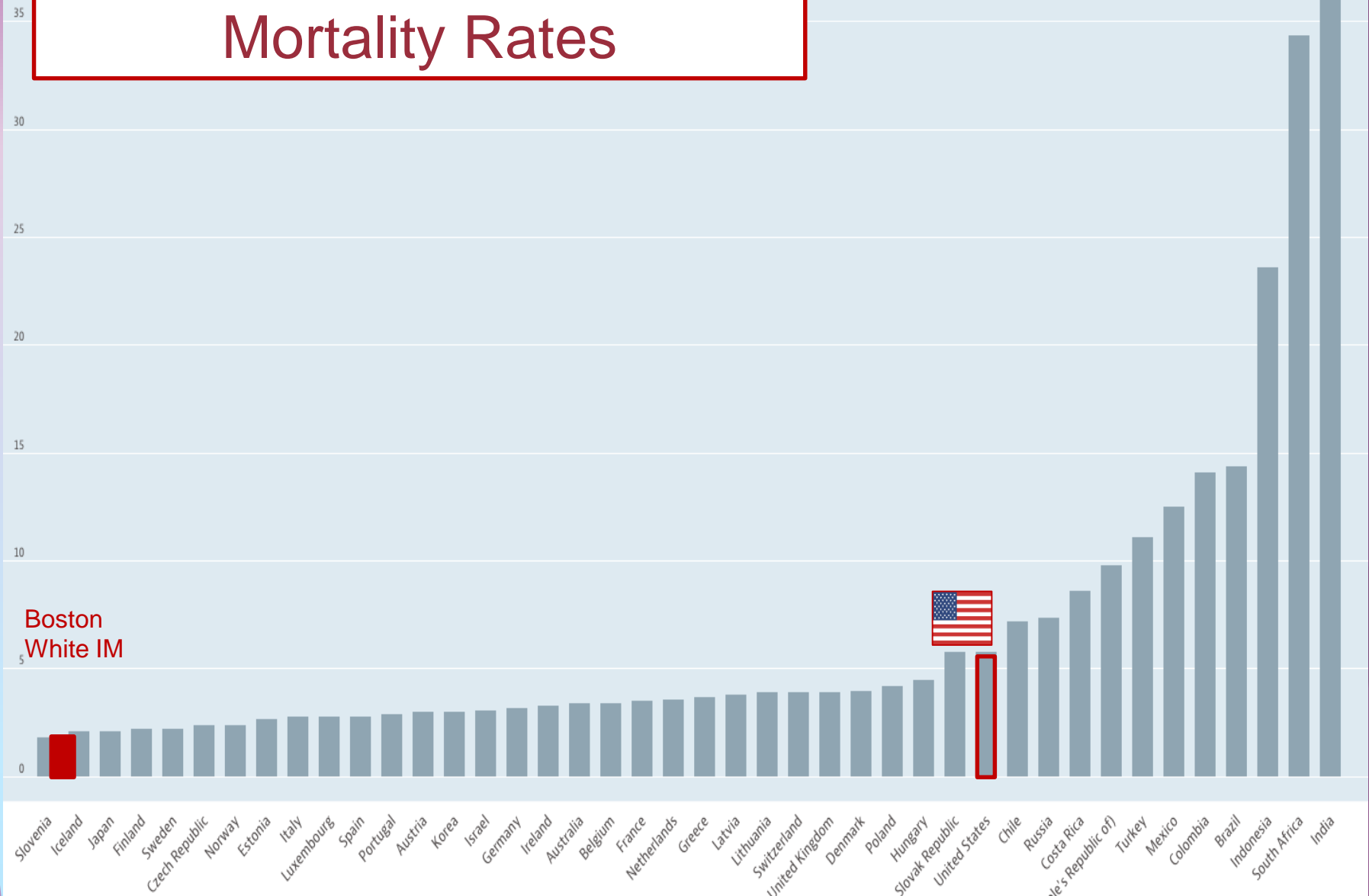
Financial disclosures



My Aspirin Project is supported by a grant

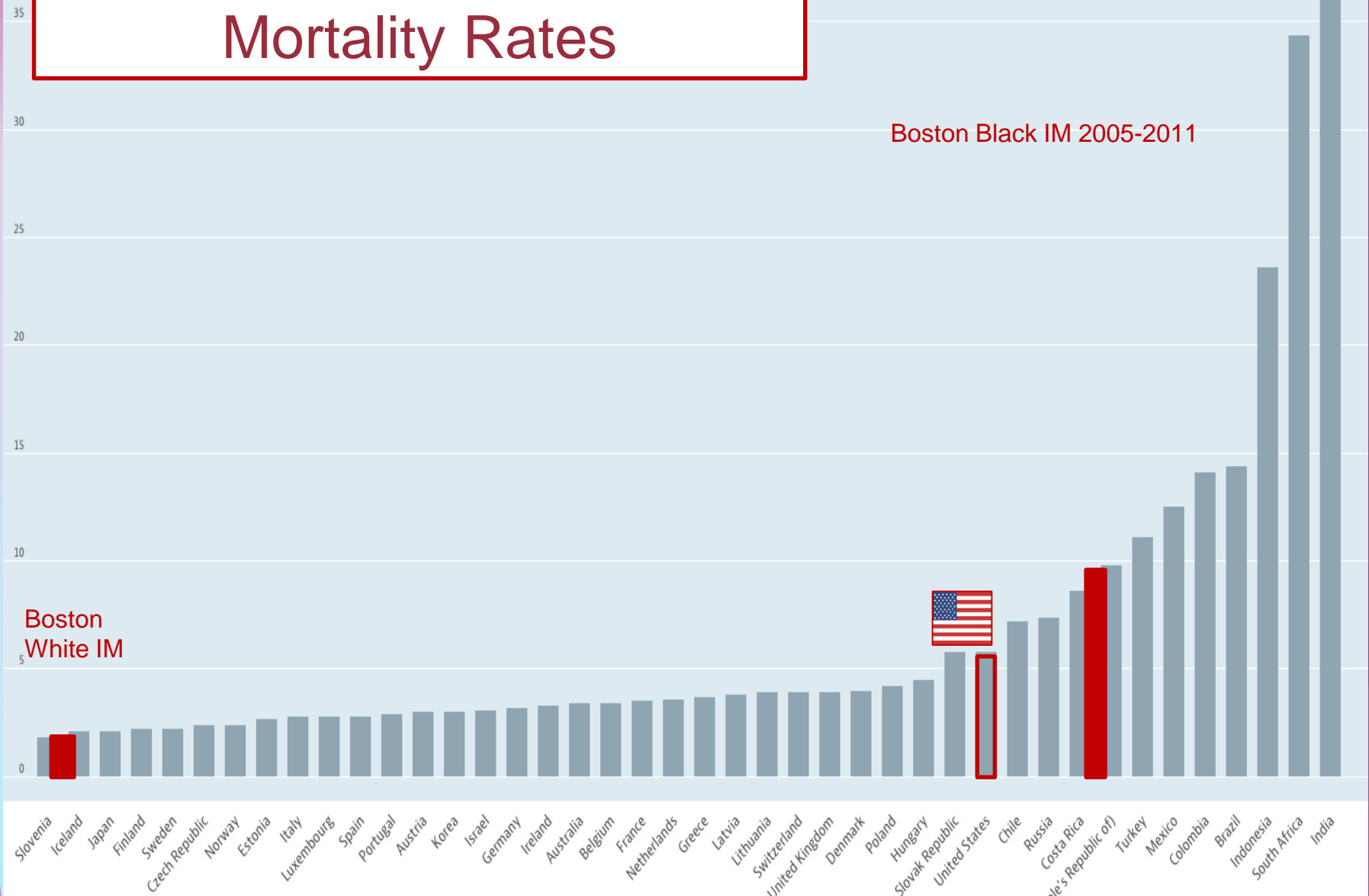
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OECD International Infant Mortality Rates



Boston White IM

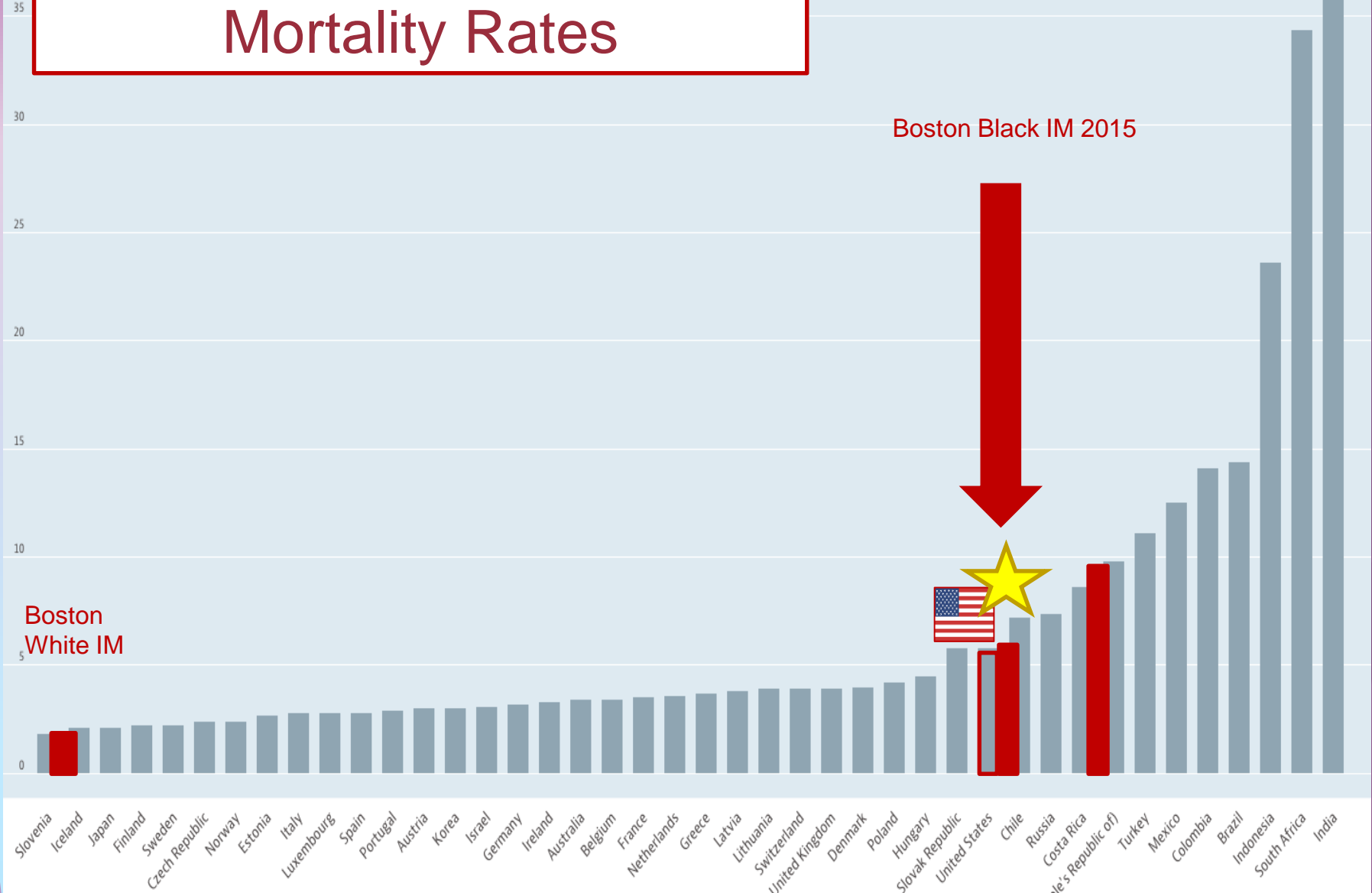
OECD International Infant Mortality Rates



Boston White IM

Boston Black IM 2005-2011

OECD International Infant Mortality Rates





A FIGHTING CHANCE FOR EVERY BABY™

OUR CAUSE

HEALTH TOPICS

STORIES & MEDIA

RESEARCH & PROFESSIONALS

GET INVOLVED



US Preterm Birth Rate Rises for the 2nd year in a row

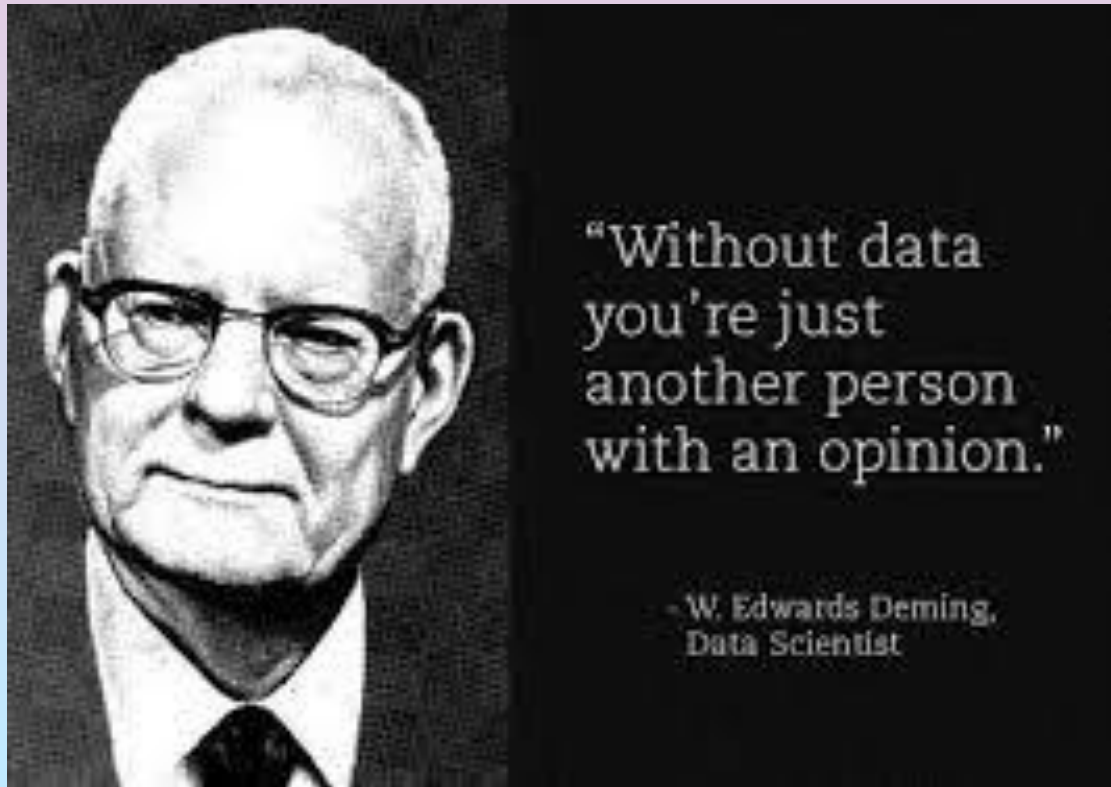
2017 March of Dimes Premature Birth Report Card shows moms and babies face higher risk of preterm birth based on race and zip code

White Plains, NY | Wednesday, November 1, 2017



W. Edwards Deming

Gandhi of Quality Improvement



Epidemiology

International

- 4.6% and 1.4% deliveries for preeclampsia and eclampsia
- 10 to 15% of maternal deaths are associated with preeclampsia and eclampsia

National

- Preeclampsia in 2-5% of all pregnancies in the U.S.
- Leading cause of maternal morbidity and up to 19% maternal mortality
- Rates of hypertension in pregnancy are increasing

BMC

- Approximately 30% of ...
33%
and/or IUGR
- Approximately 40% of ...
40%
Gestational HTN and/or IUGR



- ▶ New England's Largest Safety Net hospital
- ▶ 50% Families have an income <\$20,000 (Federal Poverty Level)
- ▶ 30% non English Speaking
- ▶ 68% Speak language other than English at home
- ▶ 68% of our patients identify as Hispanic/Black or Black
- ▶ We deliver 70% of Black and Latina women in the City of Boston

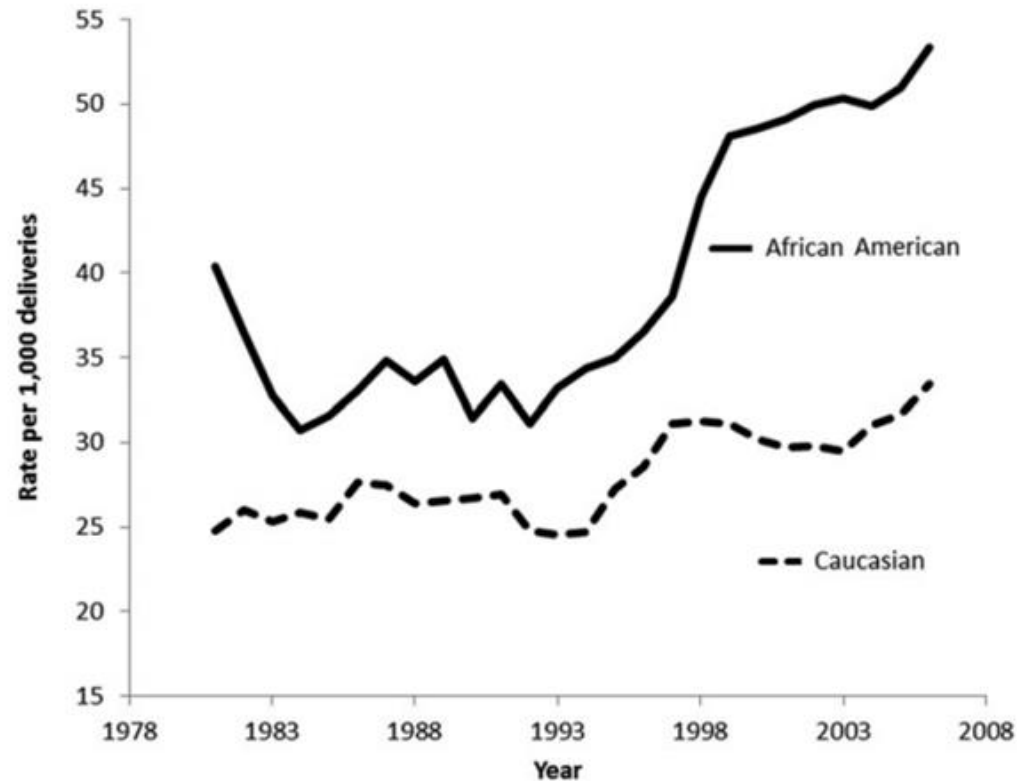
Racial Differences in Prevalence

African American women are more likely to have preeclampsia/hypertensive disease in pregnancy

890

BREATHETT ET AL.

FIG. 2. Three-year rolling averages of preeclampsia rates by race. The 3-year rolling averages of preeclampsia rates are shown for African Americans and Caucasians. African American rates are in bold. Caucasian rates are dashed.



Racial Disparities in Comorbidities, Complications, and Maternal and Fetal Outcomes in Women with Preeclampsia/Eclampsia

- ▶ A retrospective cohort analysis using data from the National Inpatient Sample (NIS) from 2004 to 2012
- ▶ They identified 1,175,046 weighted patient discharges with preeclampsia/ eclampsia. The incidence of preeclampsia was 6.04% in African American women, compared to 2.58% in Hispanic women and 3.75% among white women (p <0.0001)

	<i>Race</i>		
	White	Black	Hispanic
Unadjusted OR (95% CI)			
Maternal Mortality	1.0 [Reference]	3.70 [2.19, 6.24]	1.81 [0.98, 3.36]
Intrauterine Fetal Death	1.0 [Reference]	2.78 [2.49, 3.11]	1.22 [1.08, 1.39]
Adjusted OR* (95% CI)			
Maternal Mortality**	1.0 [Reference]	2.85 [1.38, 5.53]	1.44 [0.74, 2.79]
Intrauterine Fetal Death [‡]	1.0 [Reference]	2.45 [2.14, 2.82]	0.96 [0.82, 1.13]

** Adjusted for age group, median household income, hospital region, teaching status, mode of delivery, multiparity, diabetes (with and without complications), year, preexisting hypertension, obesity and payer type

[‡] Adjusted for age group, median household income, hospital region, teaching status, mode of delivery, multiparity, diabetes (with and without complications), year, obesity and payer type

Low-Dose Aspirin Use for the Prevention of Morbidity and Mortality From Preeclampsia: U.S. Preventive Services Task Force Recommendation Statement

Michael L. LeFevre, MD, MSPH, on behalf of the U.S. Preventive Services Task Force*

The USPSTF recommends the use of aspirin (81mg) as preventive medication after 12 weeks of gestation in women who are at high (>8%) risk for preeclampsia.



[J R Soc Med](#). 2011 Dec; 104(12): 510–520.

PMCID: PMC3241518

doi: [10.1258/jrsm.2011.110180](https://doi.org/10.1258/jrsm.2011.110180)

The answer is 17 years, what is the question: understanding time lags in translational research

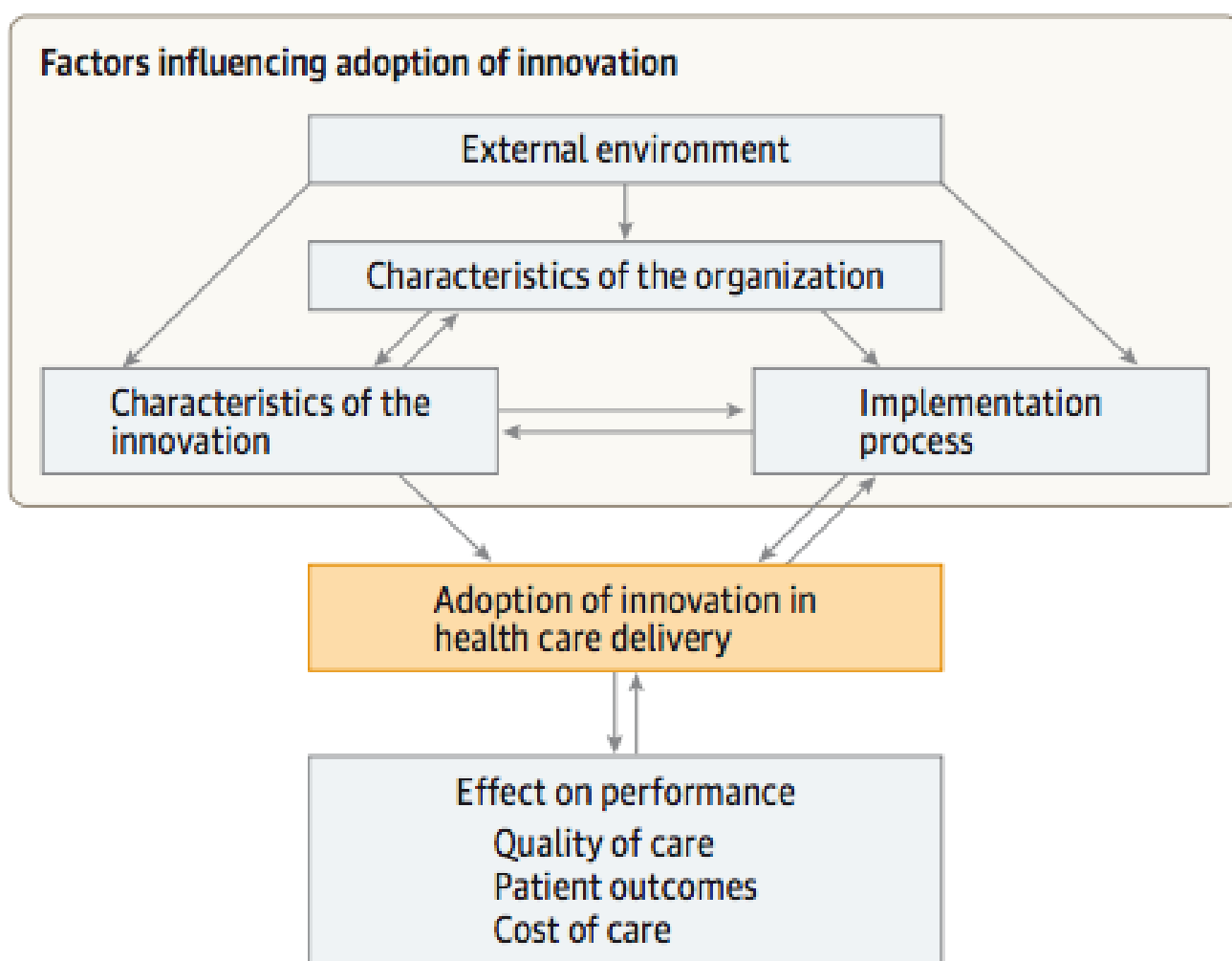
[Zoë Slote Morris](#),¹ [Steven Wooding](#),² and [Jonathan Grant](#)²

[Author information](#) ► [Copyright and License information](#) ►

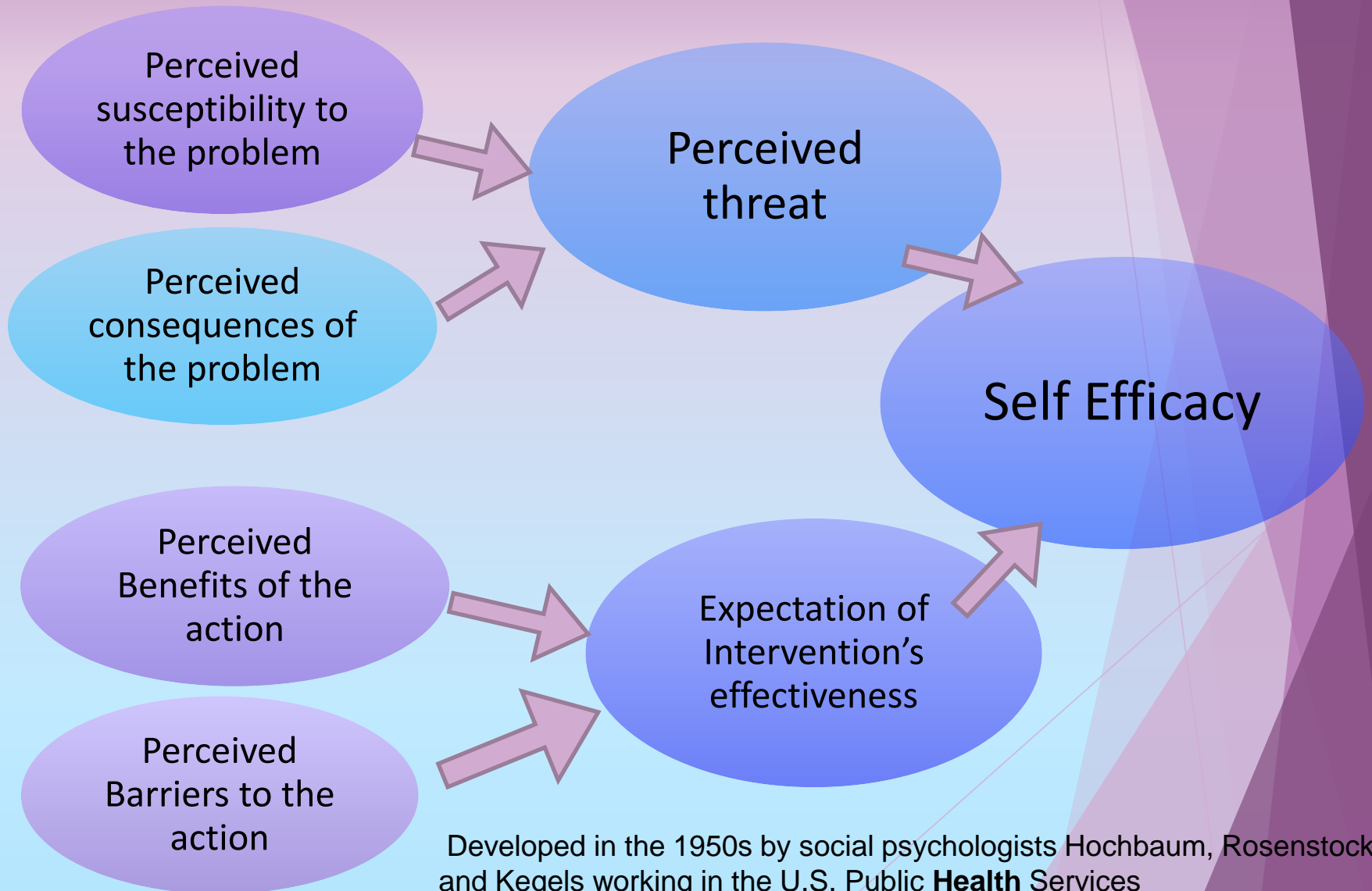
See editorial "[Knowledge, lost in translation](#)" in volume 104 on page 487.

This article has been [cited by](#) other articles in PMC.

Framework for Analyzing the Adoption of Innovations

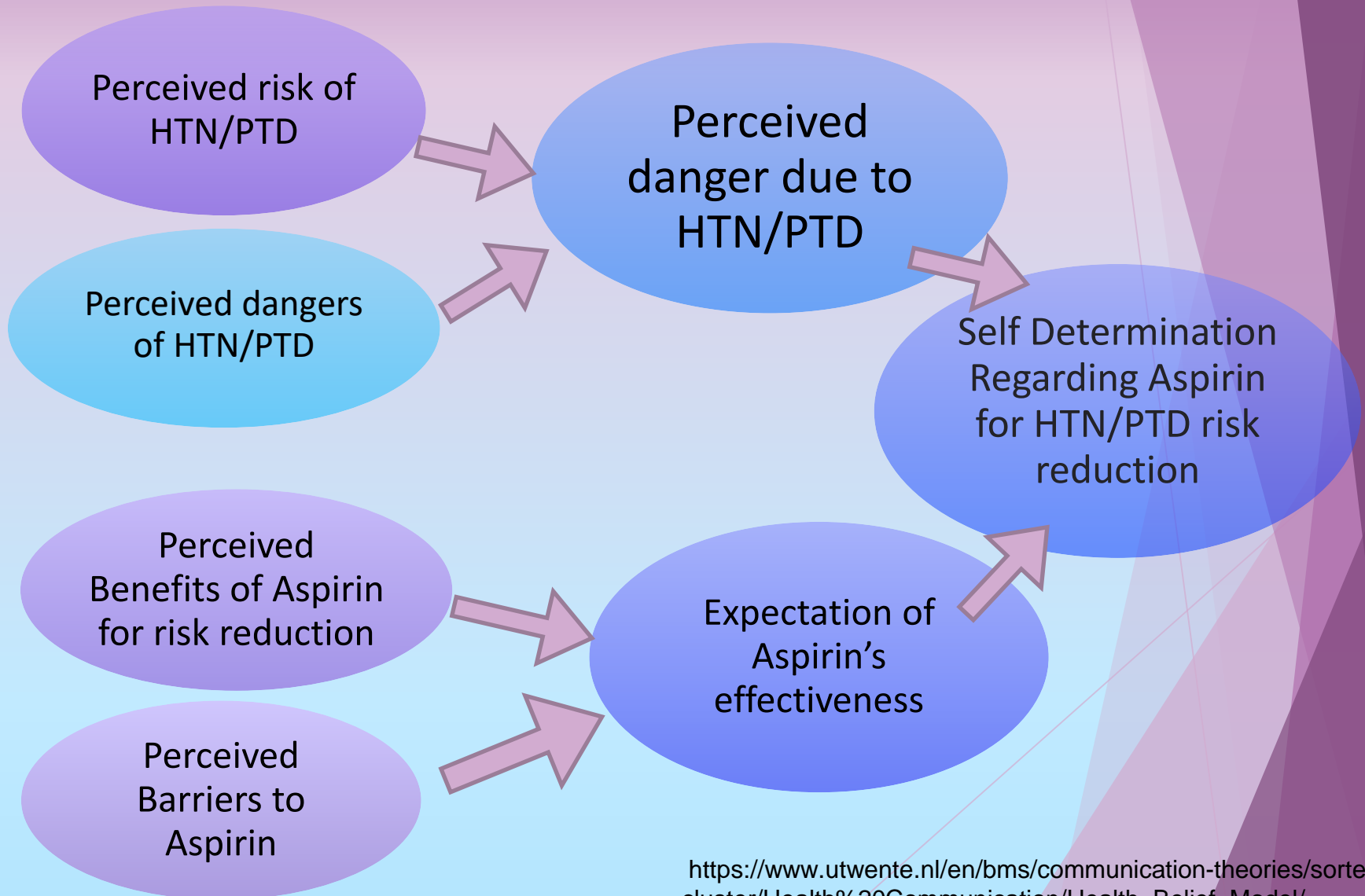


Health Belief Model of Self Efficacy



Developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels working in the U.S. Public **Health** Services

Health Belief Model Applied to Aspirin



GOAL

To reduce the rates of iatrogenic preterm birth and IUGR due to hypertensive disease in pregnancy

GOAL

To reduce the rates of iatrogenic preterm birth and IUGR due to hypertensive disease in pregnancy

AIM

To increase PNA prescription to 90% of high risk women by September 30, 2107

AIM

To increase PNA prescription to 90% and use to 70% for all at-risk women at BMC within 6 months of implementation to ultimately reduce IUGR and iatrogenic preterm births due to hypertensive disorders in pregnancy.

MEASURES:

1. % Screened Appropriately
2. % Providers prescribing
3. % ASA picked up
4. % ASA taken
5. Decreased Preterm, IUGR, Preeclampsia

Primary Drivers

Screen

Prescribe

Take

Maintenance

Secondary Drivers

Pt. presents in 1st trimester
Providers screen appropriately

Provider identifies risk factors
EPIC allows script to be written

Pt. goes to pharmacy
Pharmacy releases meds
Pt is aware of benefits
Family supports taking meds

Providers need to check in
Pt believes it will help
Other providers won't discontinue

Pt. presents in 1st trimester
Providers screen appropriately

- Pt knows she is pregnant and calls for prenatal care
- BMC needs available slots for appointment
- Pt has access to care to see provider in 1st trimester

- Educating providers 1:1 on importance of screening
- Students working with providers in Intake and Centering to screen patients
- Creating educational video and materials for providers
- Screening tool created for providers on EPIC
- Research team email reminder 1x/month regarding initiative to providers
- Provider documents results of screen on EPIC

Provider identifies risk factors
EPIC allows script to be written

- Provider is educated on USPSTF guideline of risk factors
- Provider remembers and asks patient about risk factors
- Provider lists patient RF's or # of RF's
- Provider prescribes script for patients who qualify for PNA
- Provider overrides EPIC message on Aspirin contraindication in pregnancy

- EPIC message about Aspirin C/I removed

- Provider tells pt to go to pharmacy to pick up med
- Pt believes PNA is important for her to take requires adequate pt education

Pt. goes to pharmacy
Pharmacy releases meds
Pt is aware of benefits
Family supports taking meds

- Pharmacy surveyed about preconceptions on Aspirin prescription in pregnancy
- Pharmacy educated on initiative of PNA for HTN in pregnancy
- Pharmacy believes in PNA safety in pregnancy
- Pharmacy filling prescription of Aspirin even though it is offered OTC

- Pharmacy and Provider educate pt on PNA benefits, when/how to take PNA
- Remove pharmacy stickers about Aspirin contraindication in pregnancy

- Gather family thoughts on Aspirin use in pregnancy
- Develop patient/family education material (flier and videos) to educate on PNA use and continuing in pregnancy

Providers need to check in
Pt believes it will help
Other providers won't discontinue

- Follow up phone call with patient within 48-72 hours of screening for PNA
- Confirm with pharmacy prescription filled
- Early and frequent education throughout pregnancy via education materials and from pharmacy, providers, research assistants
- Postpartum pt education in women with HTN about prevention in future pregnancies
- Check in at each clinic visit to confirm pt continuing PNA
- Educating providers not to continue PNA (through delivery?)



Cochrane
Effective Practice and
Organisation of Care

Trusted evidence.
Informed decisions.
Better health.

Classification of Professional interventions

- ▶ DISTRIBUTION OF EDUCATIONAL MATERIALS
- ▶ EDUCATIONAL MEETINGS
- ▶ LOCAL CONSENSUS PROSESSES
- ▶ LOCAL OPINION LEADERS
- ▶ PATIENT MEDIATED INTERVENTIONS; NEW INFORMATION FROM PATIENT COLLECTED INFORMATION
- ▶ AUDIT AND FEEDBACK
- ▶ REMINDERS (PROMPTS)
- ▶ MARKETING
- ▶ MASS MEDIA



Cochrane
Effective Practice and
Organisation of Care

Trusted evidence.
Informed decisions.
Better health.

Classification of Professional interventions

- ▶ DISTR
- ▶ EDUC
- ▶ LOC
- ▶ LOC
- ▶ PATI
- ▶ INFO
- ▶ AUD
- ▶ REM
- ▶ MAR
- ▶ MASS

Most Effective:

**HARD STOPS IN THE EHR
AUDIT AND FEEDBACK**

ECTED

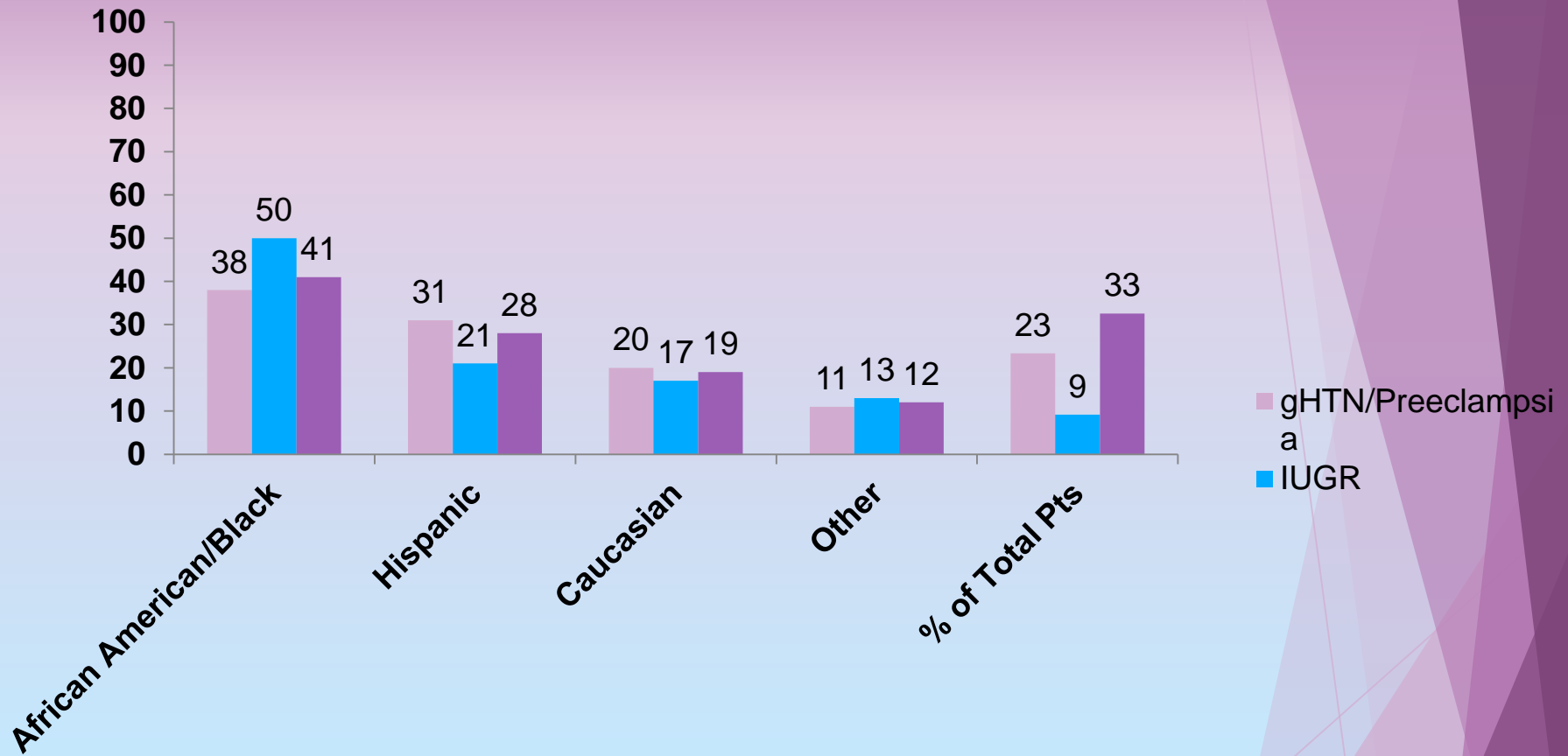
GOAL

To reduce the rates of iatrogenic preterm birth and IUGR due to hypertensive disease in pregnancy

AIM

To increase PNA prescription to 90% of high risk women by September 30, 2017

% pts by race with gHTN, preeclampsia, IUGR



RAW NUMBERS				PERCENTAGE			
N=261 charts reviewed	gHTN/Preeclampsia	IUGR	Total		gHTN/Preeclampsia	IUGR	Total
African American/Black	23	12	35	African American/Black	38	50	41
Hispanic	19	5	24	Hispanic	31	21	28
Caucasian	12	4	16	Caucasian	20	17	19
Other	7	3	10	Other	11	13	12
Total	61	24	85	% of Total Pts	23	9	33

Preeclampsia, gHTN, and/or IUGR in current pregnancy

- ▶ 83 cases of the following:
 - ▶ 24 cases of preeclampsia
 - ▶ 37 cases of gHTN
 - ▶ 24 cases of IUGR

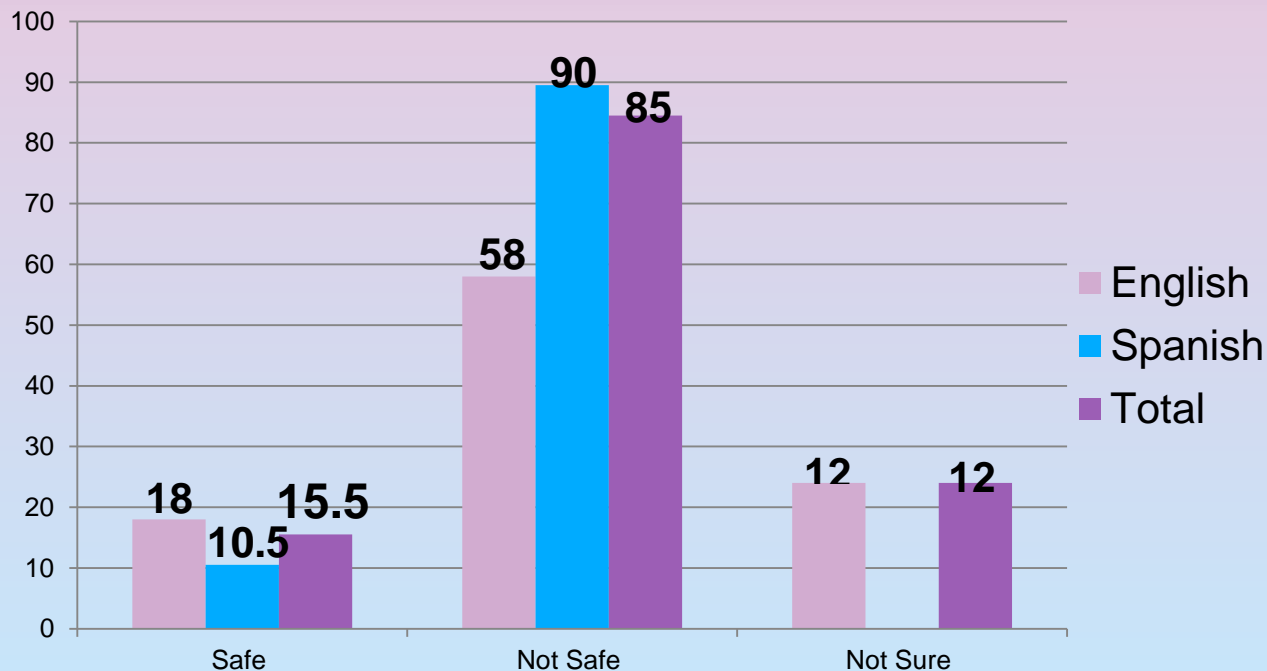
- ▶ 79 of these patients qualified for PNA

60% patients had
**potentially
preventable
complications if on
prenatal aspirin**

71% of qualified pts
with IUGR and/or
preeclampsia or
gHTN were **not** on
Prenatal Aspirin

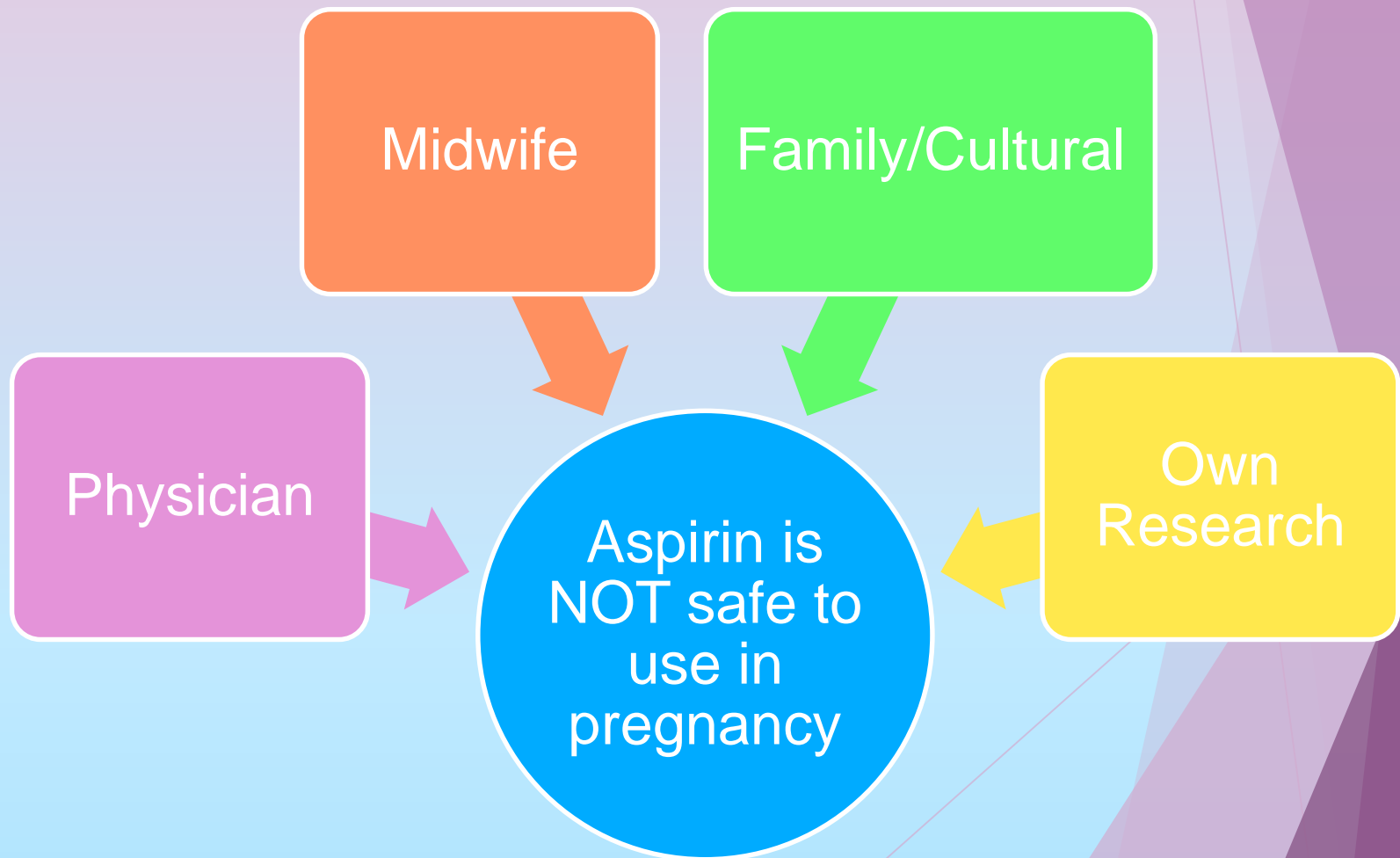
Patient Survey Data

% of surveyed about aspirin safety in pregnancy?



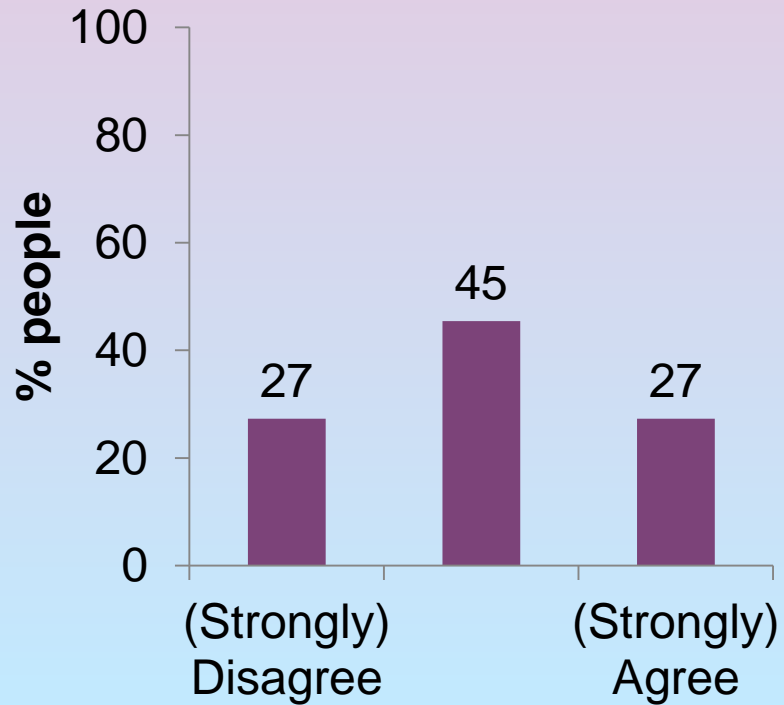
Language	Safe	Not Safe	Not Sure
English	9	29	12
Spanish	2	17	0
Grand Total	11	46	12

Causes of “aspirin in pregnancy-is-unsafe” preconceived notions

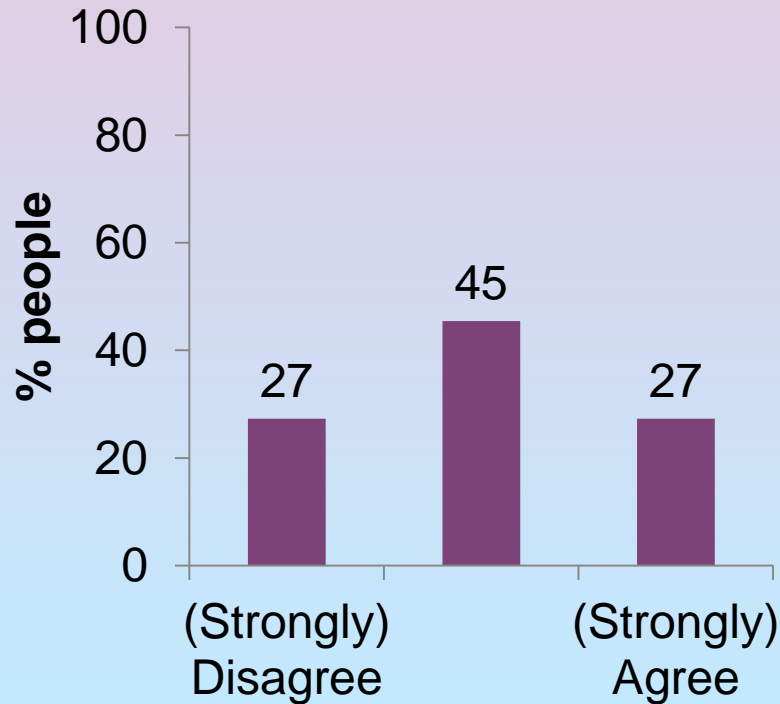


Pharmacist Survey Data

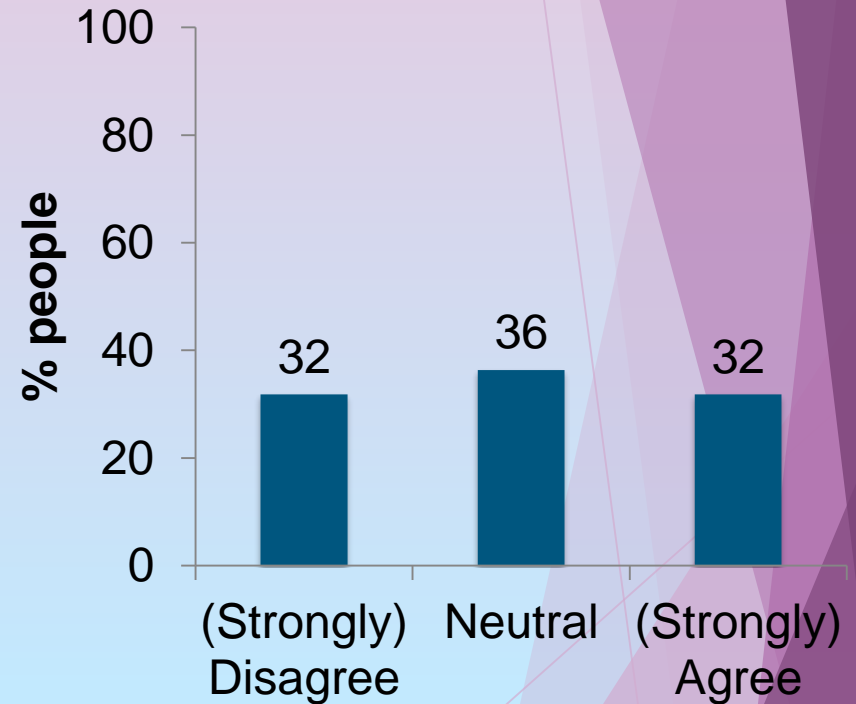
Low Dose Aspirin is safe in pregnancy...



Low Dose Aspirin is safe in pregnancy...



Low Dose Aspirin can prevent hypertensive disease in pregnancy...



Hesitations in filling prescription?

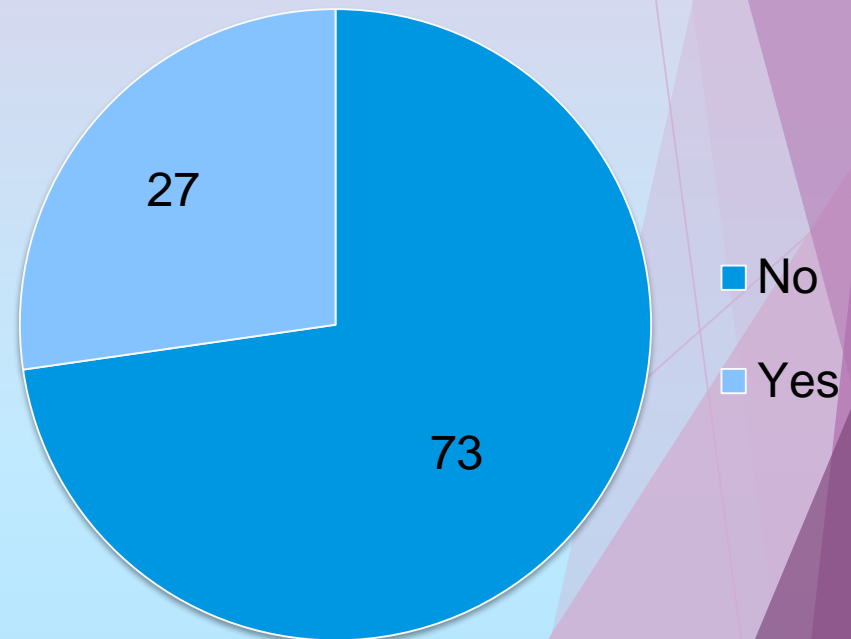
Hesitations in filling prescription?

- < 30% report feeling (very) comfortable filling a prescription of aspirin for a patient who is pregnant
- Self-reported hesitations
 - Bleeding, harm to fetus, risk vs. benefit, lack of knowledge

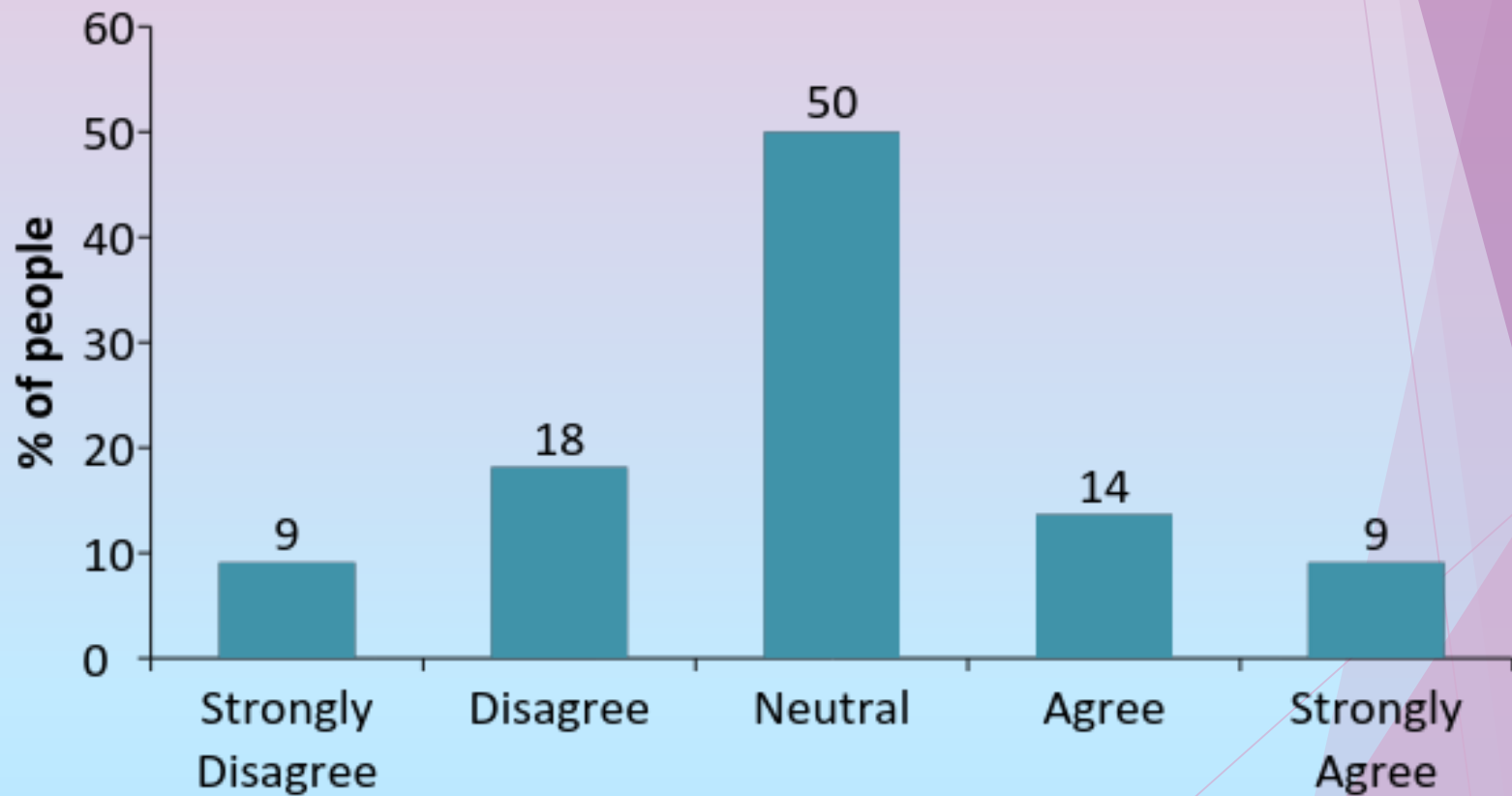
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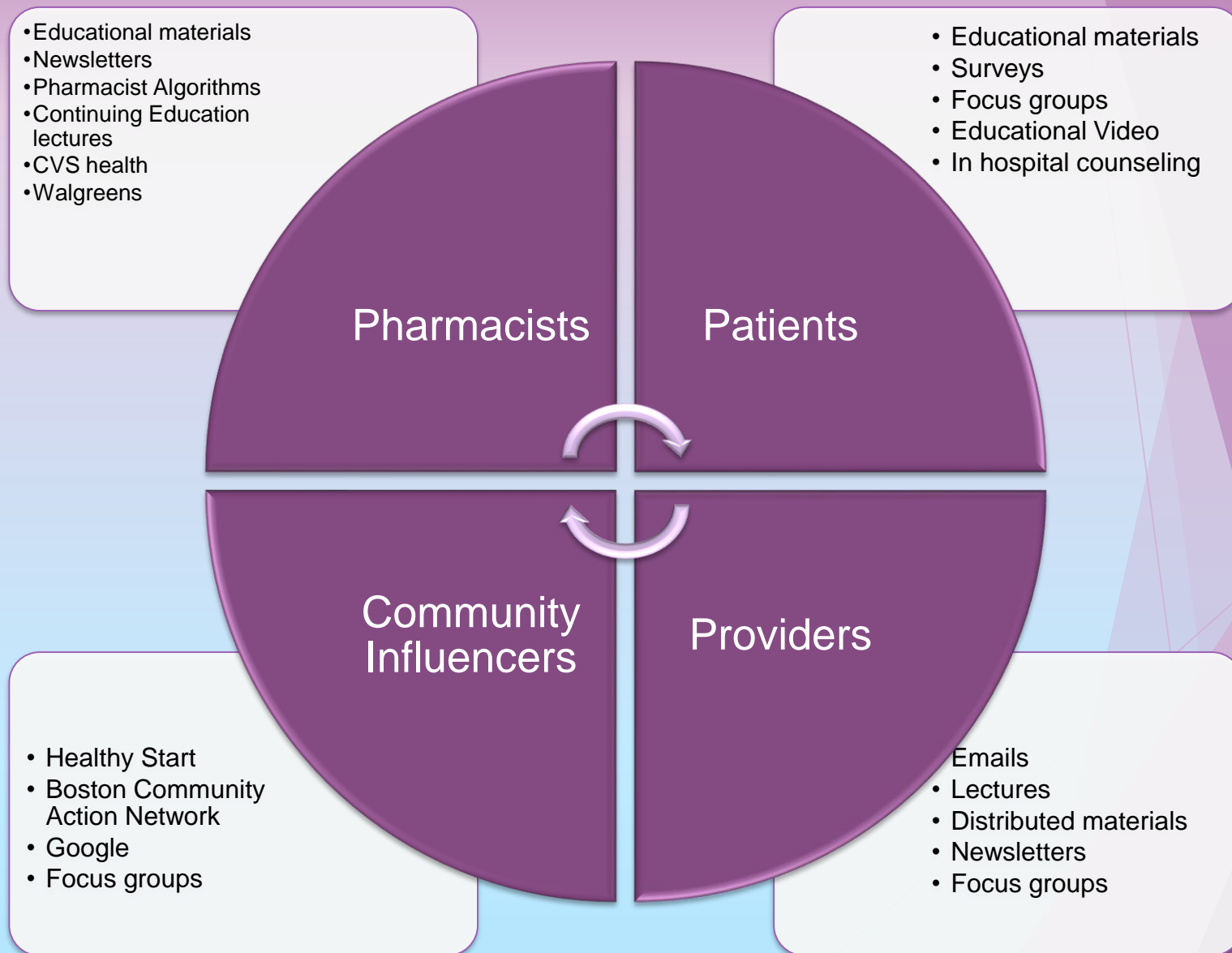
% aware of USPSTF guidelines for Aspirin in pregnancy to prevent hypertensive disorders of pregnancy?



If a pregnant patient came to my pharmacy with a prescription for aspirin (81mg), I would feel comfortable dispensing her prescription

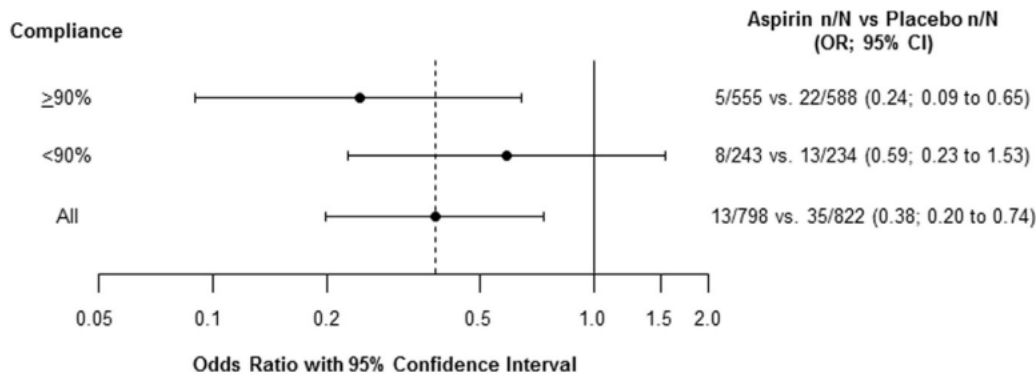


Stakeholder Directed Implementations



Aspirin for Evidence-Based Preeclampsia Prevention trial: influence of compliance on beneficial effect of aspirin in prevention of preterm preeclampsia

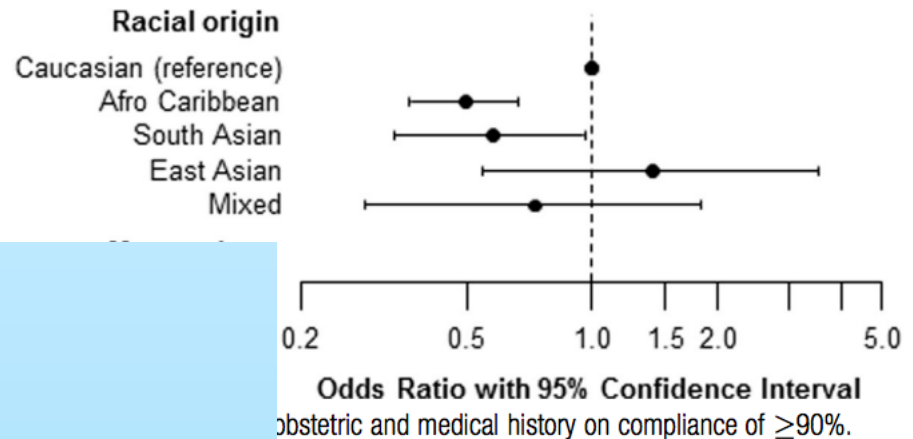
FIGURE 2
Aspirin effect on preterm preeclampsia in compliance subgroups



Odds ratio (OR) for preterm preeclampsia in aspirin group with 95% confidence intervals (CI) in total population and subgroups with compliance of <90% and ≥90%.

Wright et al. Aspirin treatment compliance determines efficacy in preeclampsia reduction

FIGURE 3
Effect of maternal factors on compliance of ≥90%



Patient-mediated knowledge translation (PKT) interventions for clinical encounters: a systematic review

Anna R. Gagliardi , France Légaré, Melissa C. Brouwers, Fiona Webster, Elizabeth Badley and Sharon Straus

Implementation Science 2016 11:26 | <https://doi.org/10.1186/s13012-016-0389-3> | © Gagliardi et al. 2016

Received: 28 November 2015 | Accepted: 23 February 2016 | Published: 29 February 2016

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[Abstract](#)

- ▶ 694 studies of which 16 were eligible
- ▶ Interventions
 - ▶ Print material
 - ▶ Electronic material
 - ▶ Counseling
- ▶ Offered in addition to physician consultation
 - ▶ Before During or After
- ▶ All studies were focused on knowledge activation
- ▶ All studies showed **positive benefit**
 - ▶ Knowledge
 - ▶ Decision Making
 - ▶ Communication
 - ▶ Behavior

Index Pregnancy Interventions at Boston Medical Center

- ▶ Standardized Patient Counseling of Hospitalized Patients at Delivery with Gestational or Chronic Hypertension or Fetal Growth Restriction
- ▶ Standardized Electronic Health Record documentation
- ▶ Focus on Normalizing Conversations about aspirin as pregnancy risk reduction

Sample of Education Materials

What You Need To Know: Aspirin in Pregnancy

- ▶ It's also known as *low-dose*, *baby*, *prenatal*, or *81mg* aspirin
- ▶ For 30 years research has shown that prenatal aspirin has many benefits.
 - ▶ It does not harm mom or baby.⁴

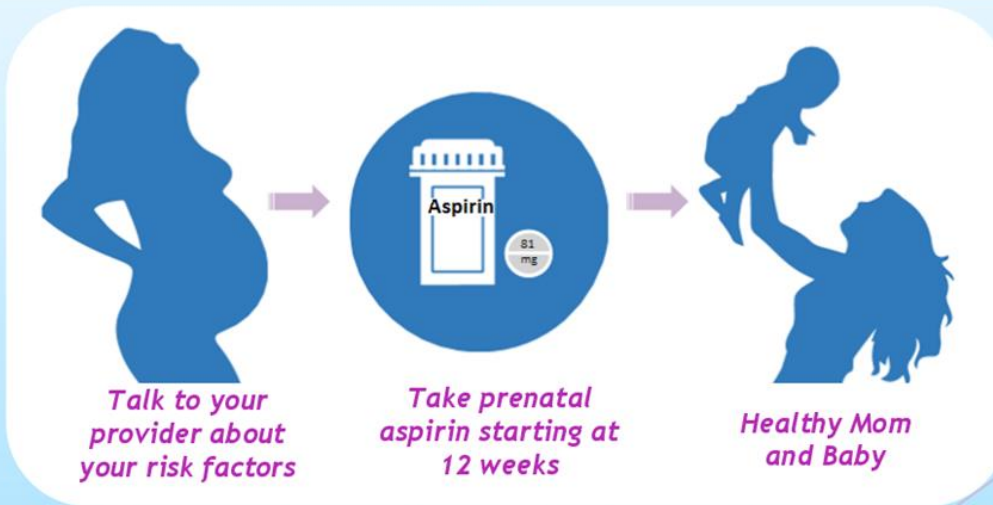


Benefits of prenatal aspirin:

- It is **safe** to use in pregnancy
- Works within the placenta
- Helpful for both you and your baby
- Lowers your chance of a premature baby
- Lowers your chance of a low birth-weight baby

Side effects or risks of prenatal aspirin:

- Will **not** cause you to have increased bleeding
- Does **not** reach the baby's blood, **has not** been shown to have negative effects on the baby's initial development
- Does **not** increase risk of miscarriage
- Does **not** need to be stopped before delivery



Talk to your provider about your risk factors

Take prenatal aspirin starting at 12 weeks

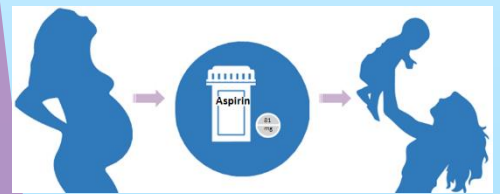
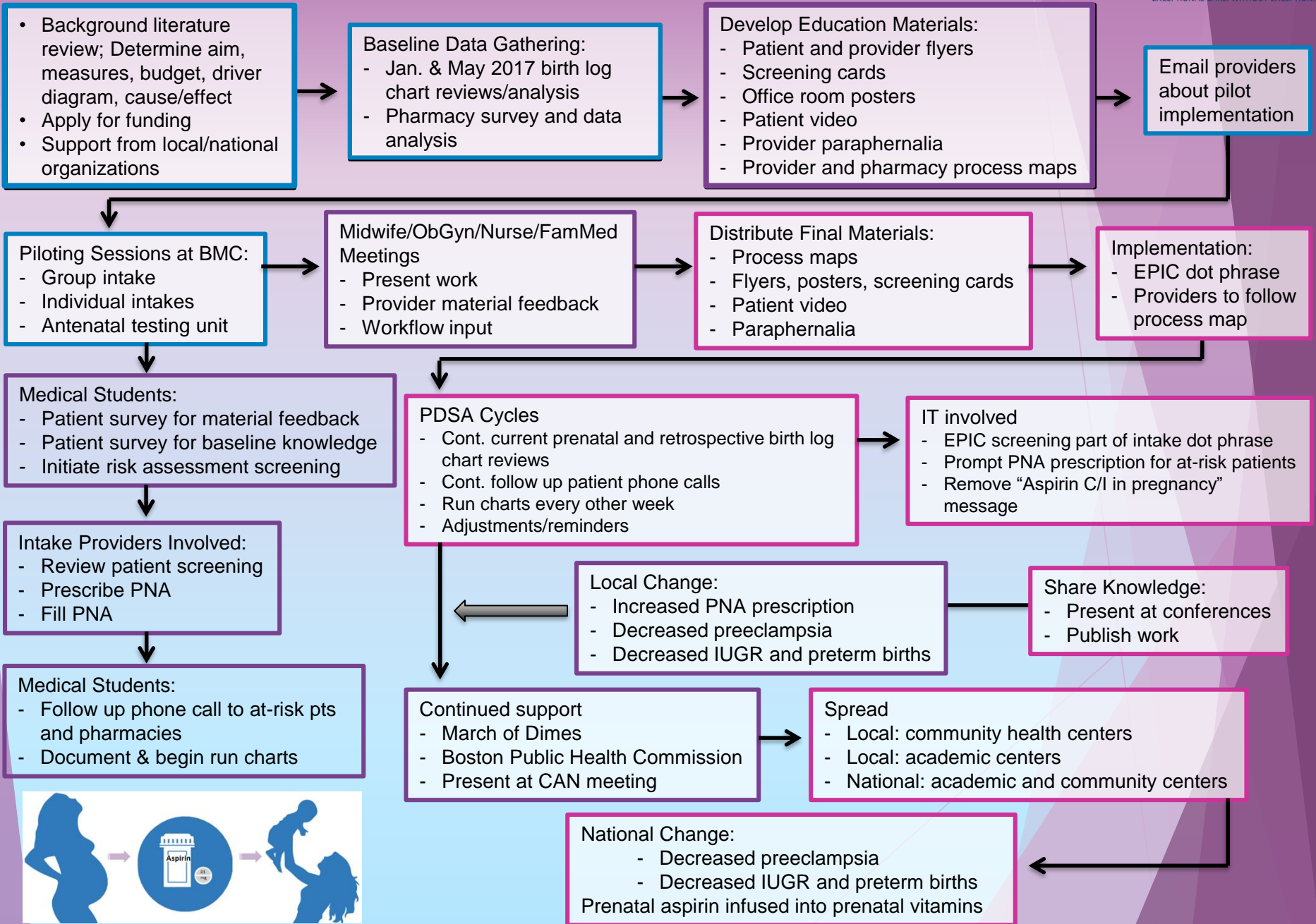
Healthy Mom and Baby

Show this Card to your Pharmacist

References: (4) Henderson JT, et al. Low-Dose Aspirin for the Prevention of Morbidity and Mortality From Preeclampsia: A Systematic Evidence Review for the U.S. Preventive Services Task Force. Evidence Synthesis No. 112. AHRQ Publication No. 14-05207-EF-1. Rockville, MD: Agency for Healthcare Research and Quality; 2014.

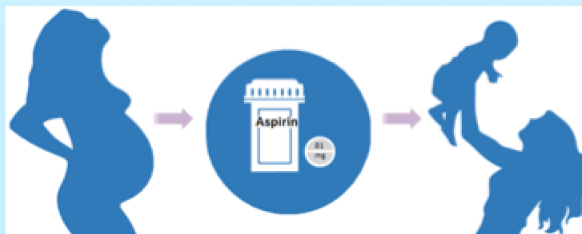
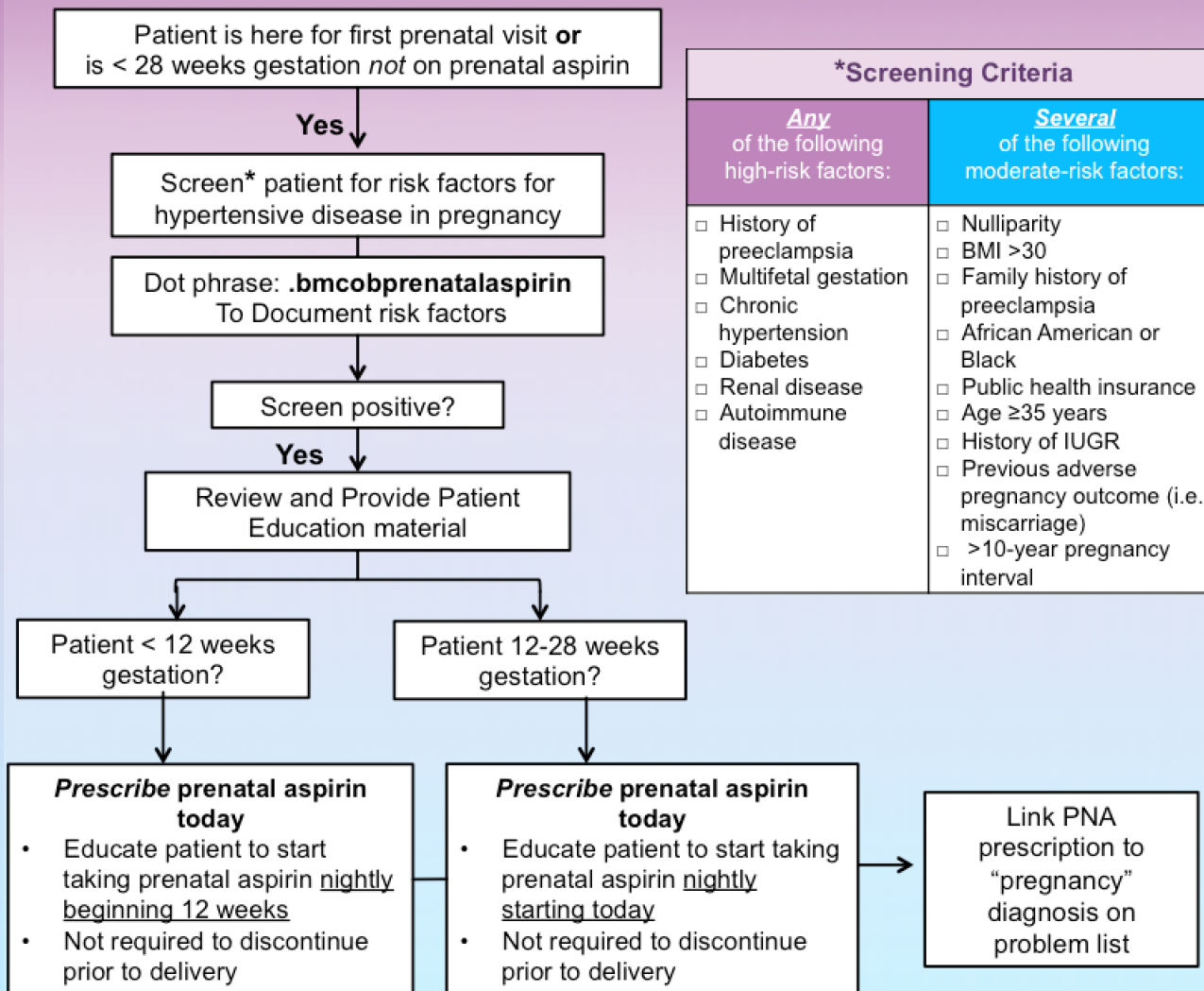
Prenatal Aspirin* in Pregnancy: Process Map

81mg, baby aspirin

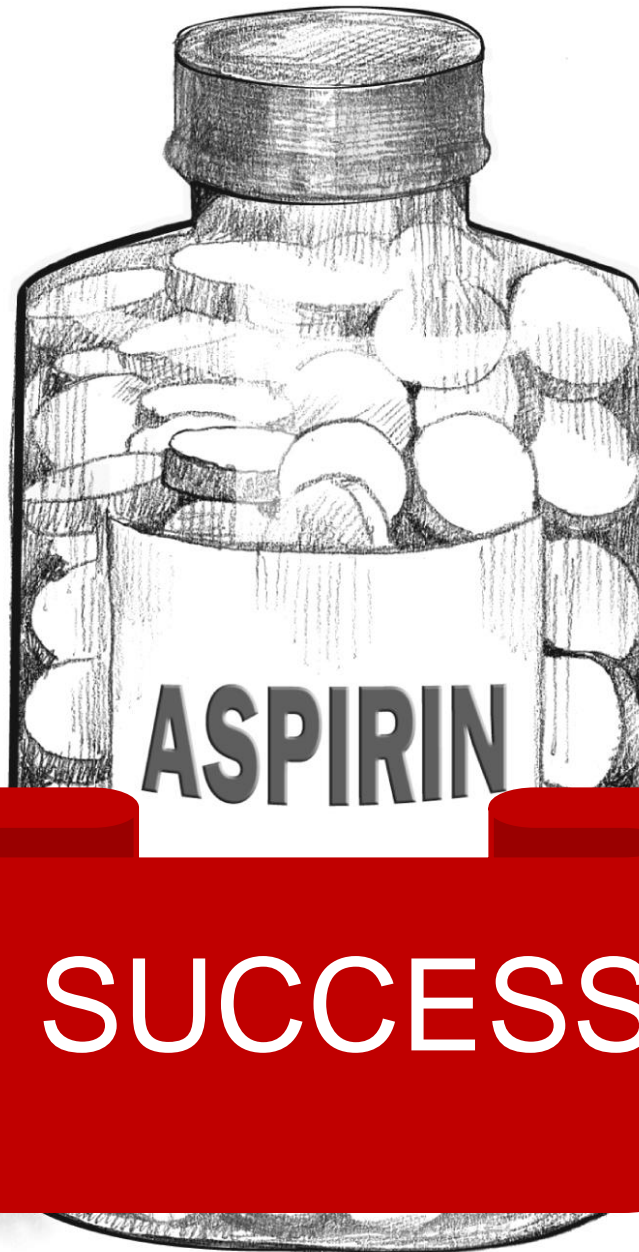


Prenatal Aspirin in Pregnancy: Providers

low-dose, 81mg, baby aspirin







SUCCESS!

Why “Prenatal Aspirin”?

- ▶ We want to associate the use of Aspirin with Prenatal Care
- ▶ We want Patients, Providers & Pharmacists on the same page that it is prescribed specifically for risk reduction in pregnant women
- ▶ We want to reinforce the use of aspirin for risk reduction in pregnancy for our patients and their families
- ▶ Initial research in European studies suggests that higher doses than 81mg may be ideal, especially for women with higher BMI's (recommended dosage may change over time)

Our Toolkit is available at: prenatalaspirin.com

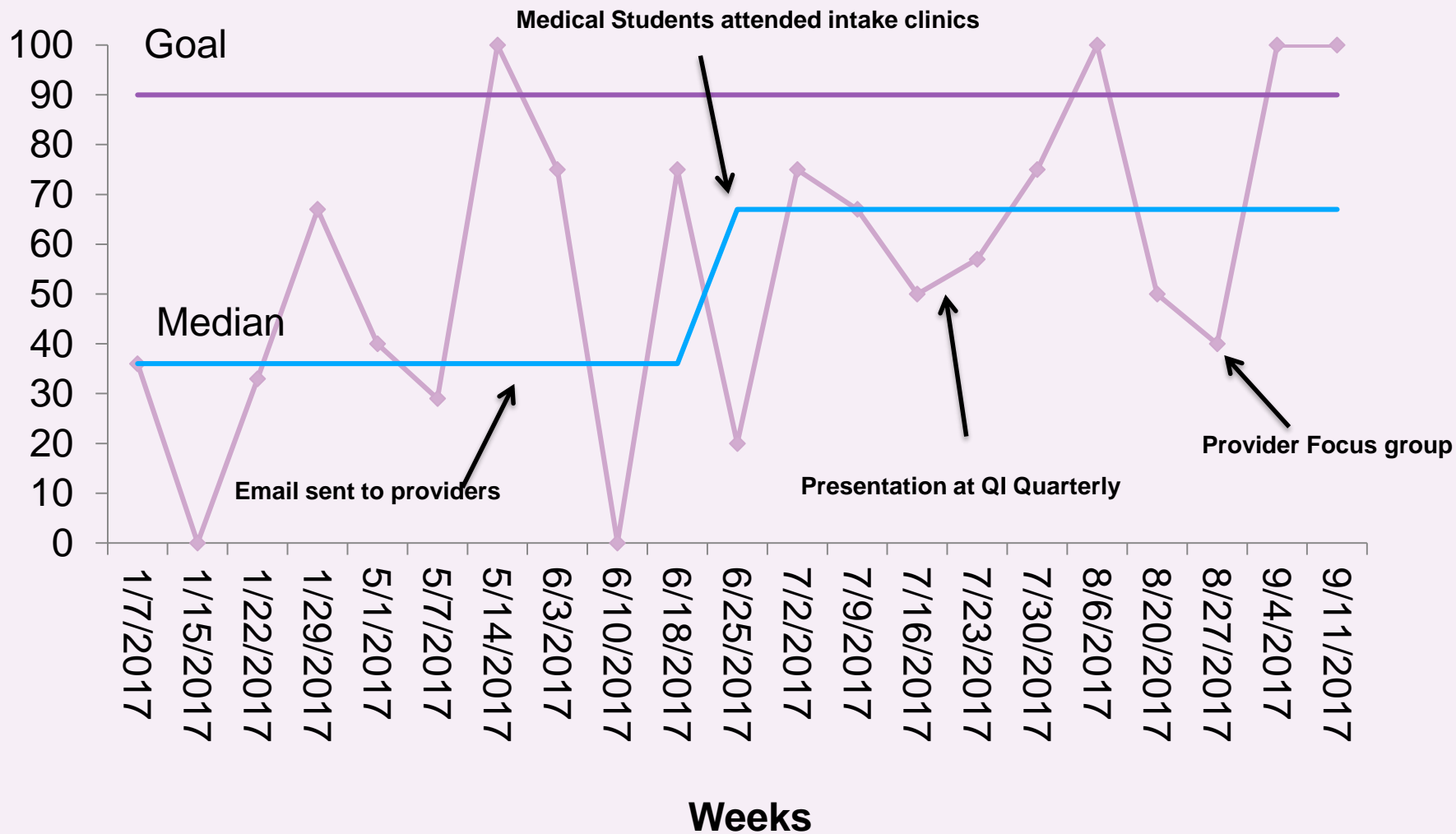
The screenshot displays the website's interface. At the top, there is a navigation menu with links for Home, About Prenatal Aspirin, Toolkit, About Us, Newsletter, Partners, and Contact Us. The main content area features a central banner with the heading "ASPIRINA PRENATAL (81 MG) PUEDE AYUDAR SI ESTÁS EN RIESGO DE TENER ALTA PRESIÓN SANGUÍNEA DURANTE EL EMBARAZO". Below this, there are two columns of text: the left column is in Spanish, titled "PREECLAMPSIA Y HIPERTENSIÓN GESTACIONAL", and the right column is in English, titled "PREVENCIÓN". The Spanish text discusses high blood pressure during pregnancy and its risks. The English text advises consulting a doctor about taking prenatal aspirin at night starting from 12 weeks. The bottom of the page includes logos for Boston Medical Center and Boston University School of Medicine, along with a row of small thumbnail images representing various educational materials.

Posters
Patient Education
Provider screening
tools

English
Spanish
Haitian Creole

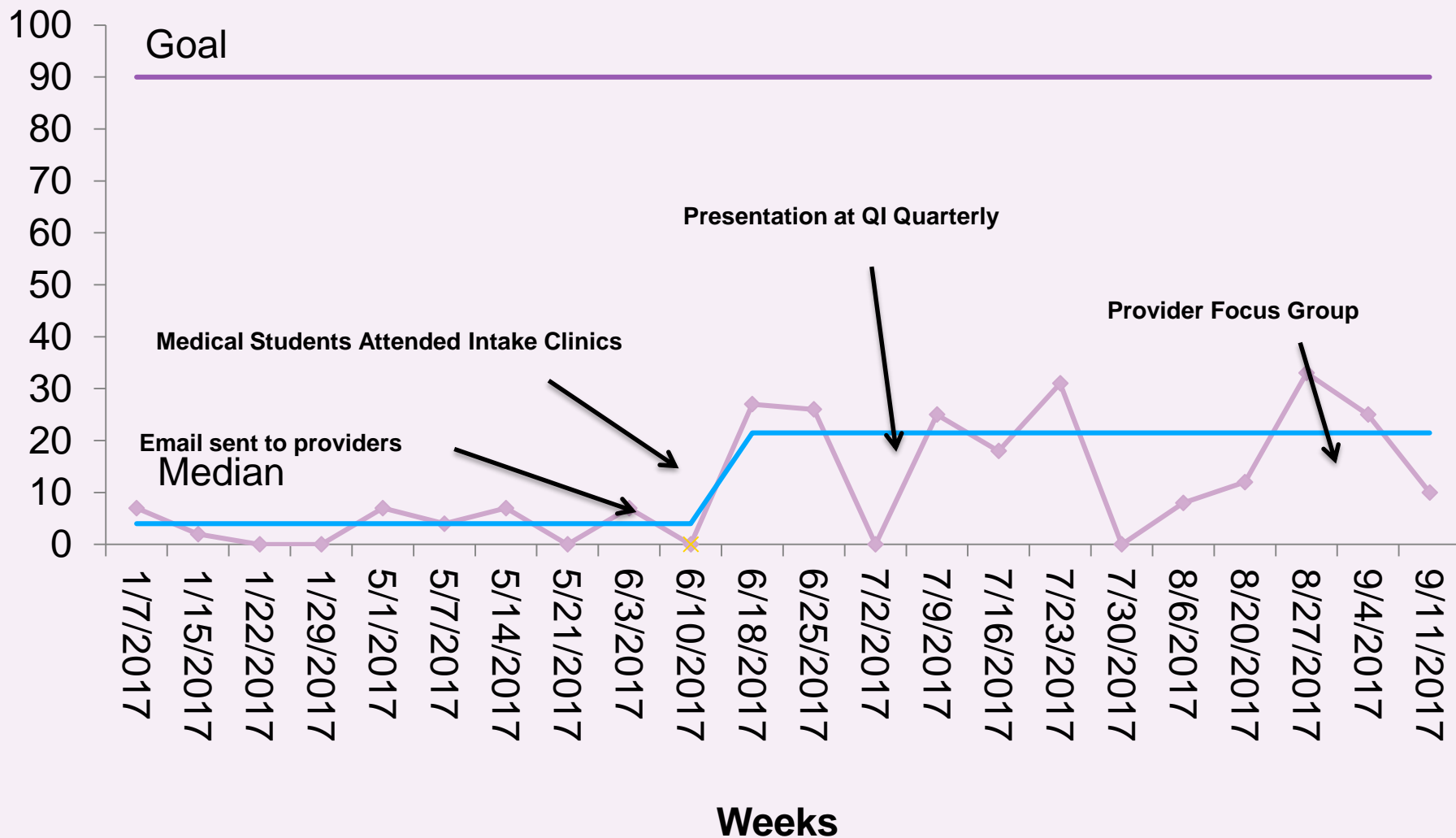
Percent Prescribed Aspirin

High Risk Factors

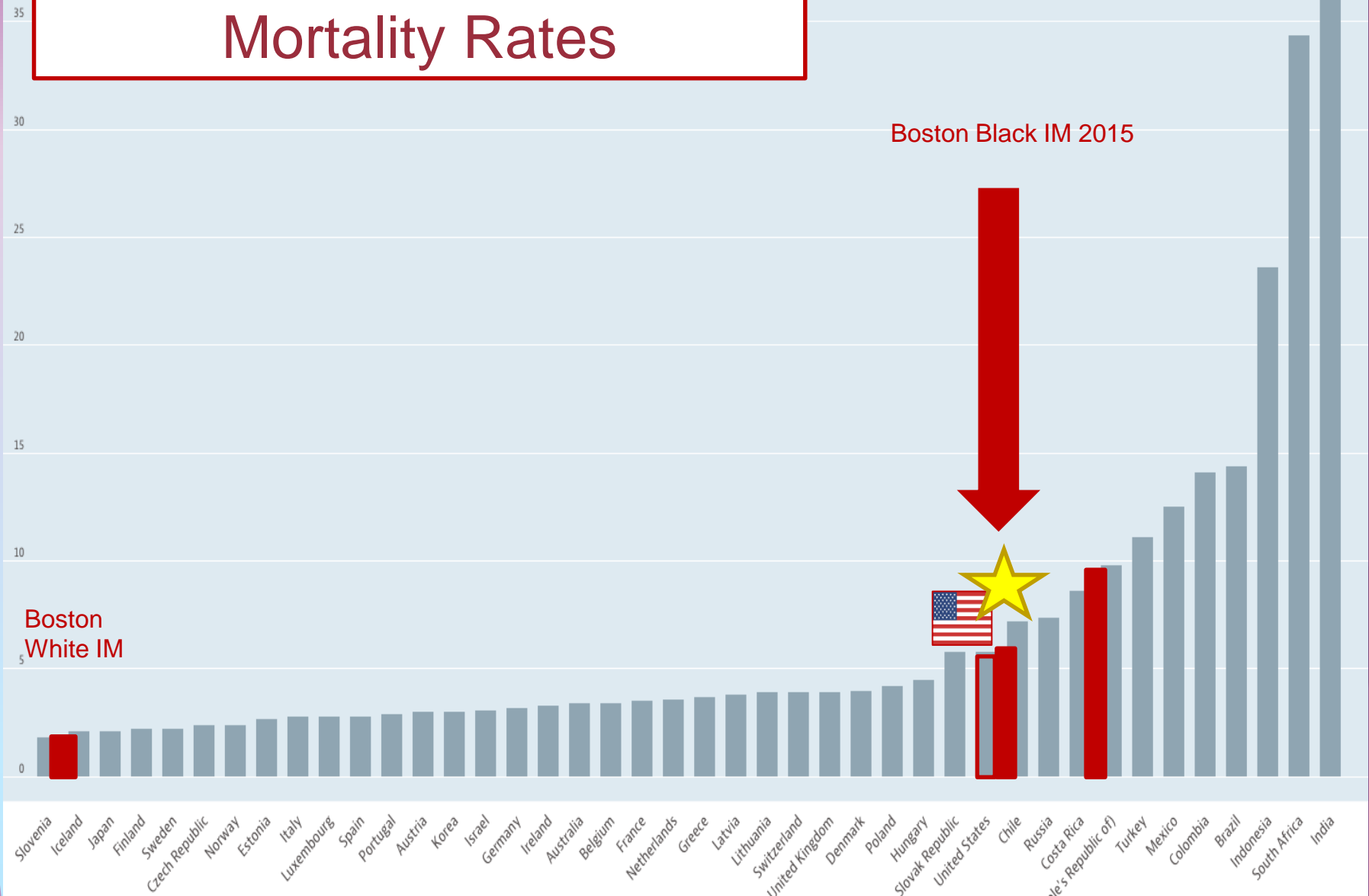


High Risk Based on 2 or more moderate risk factors

Percent Prescribed Aspirin



OECD International Infant Mortality Rates





“Better is possible.

It does not take
genius.

It takes diligence.

It takes moral clarity.

It takes ingenuity.

And above all, it
takes a willingness
to try.”

Atul Gawande



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- ▶ Yeung EH, Robledo C, Boghossian N, Zhang C, Mendola P. Developmental Origins of Cardiovascular Disease. *Curr Epidemiol Rep.*2014;1(1):9-16

INVITATION TO PARTICIPATE IN THE PREMATURITY CAMPAIGN COLLABORATIVE

Central Challenge: Achieve equity and demonstrated improvements in preterm birth

Purpose: To engage a wide array of organizations, drawing on their collective expertise to identify issues and new ideas, as well as opportunities for outreach, alignment, and implementation.

You are invited to do the following as a Collaborative participant:

- ✓ **Join quarterly virtual meetings of full Collaborative**
- ✓ **Sign up for a workgroup and participate in their virtual meetings.**

Use one of two ways to sign up for a workgroup:

- 1. Complete the [sign-up form](#) on marchofdimes.org/collaborative**
- 2. Email collaborative@marchofdimes.org**

Website: marchofdimes.org/collaborative

**Prematurity Prevention Summit:
Building a Birth Equity Movement
May 21-22, 2018**

Renaissance Arlington Capitol View Hotel, Arlington, VA

The summit will convene thought leaders to advance policy and practice, mobilize community leadership, share and spread emerging ideas and promising practices, and energize stakeholders to achieve equity and reduce preterm birth.

Please register to reserve your spot! Registration link also at marchofdimes.org/collaborative.

Low-dose aspirin to prevent preeclampsia and premature birth

For some pregnant women, taking low-dose aspirin may help reduce your risk for serious problems for you and your baby, like preeclampsia and premature birth.

Preeclampsia is when you have high blood pressure and signs that some of your organs, like your kidneys and liver, may not be working right. If not treated, it can cause serious problems for you and your baby. It also increases your risk for premature birth (before 37 weeks of pregnancy). Babies born early may have more health problems than babies born on time.

If you're at risk for preeclampsia, your provider may recommend you take low-dose aspirin.

What you can do:

- ✓ Talk to your provider about your risk for preeclampsia. Read the list of risk factors and check off any that you have.
- ✓ If your provider says it's OK, take low-dose aspirin each day. You can buy it over-the-counter, or your provider can give you a prescription for it. It's also called baby aspirin or 81 mg aspirin.
- ✓ Take the aspirin exactly as your provider tells you to. Don't take more or take it more often than your provider says.
- ✓ Go to all your prenatal care checkups, even if you're feeling fine. You can have preeclampsia and not know it.
- ✓ If you have signs or symptoms of preeclampsia (like severe headaches, blurred vision or swelling in the hands or face) during or after pregnancy, call your provider right way.



Are you at risk?

Check off any of the risks you have and share this sheet with your provider. If you have even one risk, ask your provider about low-dose aspirin:

You're at highest risk for preeclampsia if:

- You've had preeclampsia before.
- You're pregnant with multiples.
- You have high blood pressure, diabetes, kidney disease or an autoimmune disease like lupus.

Other risk factors for preeclampsia:

- You've never had a baby before, or it's been more than 10 years since you had a baby.
- You're obese.
- Your family members have had preeclampsia.
- You had complications in a previous pregnancy, like your baby had low birthweight.
- You had fertility treatment called in vitro fertilization.
- You're 35 or older.
- You're African-American. African-American women are more likely than others to have preeclampsia.
- You have little education or income.



Watch videos about preeclampsia at:
marchofdimes.org/preeclampsia

Dosis baja de aspirina para prevenir la preeclampsia y el nacimiento prematuro

Para algunas embarazadas, tomar aspirina en dosis baja podría ayudar a reducir el riesgo de tener graves problemas, como preeclampsia y nacimiento prematuro.

Preeclampsia es cuando tiene alta presión arterial y señales de que algunos de sus órganos, como sus riñones e hígado, no están funcionando bien. Si no es tratada, puede causar graves problemas para usted y su bebé. También aumenta su riesgo de nacimiento prematuro (antes de las 37 semanas). Los bebés nacidos antes de tiempo pueden tener más problemas de salud que los bebés que nacen a tiempo.

Si corre riesgo de preeclampsia, su profesional puede recomendarle que tome aspirina en dosis baja.

Qué puede hacer:

- ✓ Hable con su profesional sobre su riesgo de preeclampsia. Lea la lista de factores de riesgo y marque cualquiera que tenga.
- ✓ Con la aprobación de su profesional, tome a diario una aspirina en dosis baja. Usted puede comprarla sin receta, o su profesional le puede dar una receta. También se llama aspirina de 81 mg.
- ✓ Tome la aspirina exactamente como se lo indique su profesional. No tome más ni la tome con más frecuencia de lo que dice su profesional.
- ✓ Vaya a todas sus visitas prenatales aunque se sienta bien. Usted puede tener preeclampsia sin saberlo.
- ✓ Si tiene señales o síntomas de preeclampsia (como dolores de cabeza fuertes, visión borrosa o hinchazón en las manos o cara) durante o después del embarazo, llame a su profesional de inmediato.



¿Corre riesgo?

Marque cualquiera de los riesgos que tenga y comparta esta hoja con su profesional. Aunque solo tenga un riesgo, pregúntele a su profesional sobre la aspirina en dosis baja:

Usted corre un riesgo mayor de preeclampsia si:

- Tuvo preeclampsia antes.
- Está embarazada de más de un bebé.
- Tiene alta presión arterial, diabetes, enfermedad renal o un trastorno autoinmune, como el lupus.

Otros factores de riesgo de preeclampsia:

- No ha tenido un bebé antes, o han pasado 10 años desde que tuvo un bebé.
- Tiene obesidad.
- Miembros de su familia han tenido preeclampsia.
- Tuvo complicaciones en un embarazo anterior, como el bajo peso al nacer en su bebé.
- Tuvo el tratamiento para la fertilidad llamado fertilización in-vitro.
- Tiene 35 años de edad o más.
- Es afroamericana. Las mujeres afroamericanas tienen más probabilidades que otras mujeres de tener preeclampsia.
- Tiene nivel educativo bajo o bajos ingresos.



Mire un video sobre la preeclampsia en: nacersano.org/preeclampsia

Low-dose aspirin helps reduce a woman's risk for preeclampsia and premature birth.



Recommend low-dose aspirin if the woman has **≥1 of these high risk factors** for preeclampsia:

- History of preeclampsia, especially when accompanied by an adverse outcome
- Multifetal gestation
- Chronic hypertension
- Type 1 or 2 diabetes
- Renal disease
- Autoimmune disease (systemic lupus erythematosus, antiphospholipid syndrome)

Consider low-dose aspirin if the woman has **several of these moderate risk factors** for preeclampsia:

- Nulliparity
- Obesity (BMI >30 kg/m²)
- Family history of preeclampsia (mother or sister)
- Sociodemographic characteristics (African-American race, low socioeconomic status)
- Age ≥35 years
- Personal history factors (LBW or SGA, previous adverse pregnancy outcome, >10-year pregnancy interval)

USPSTF, 2014

Retractable Banner for Professionals

Dimension: 3' x 6'

For information or to order:

email: aspirinbanner@marchofdimes.org

THANK YOU

marchofdimes.org

nacersano.org

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