



Healthcare & Sociopolitical Experiences Affecting Birth Outcomes

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Roadmap

1. Background – the impact of nativity & perinatal health
2. Overview of relevant research methodologies
3. Quantitative work
4. Qualitative work
5. Lessons learned

1

Background

Exploring the Literature

10.23% of births in the U.S. are preterm

Table. Gestational age and birthweight characteristics by plurality: United States, 2019

Plurality	Number of births	Percent			
		Early preterm ¹	Preterm ²	Very low birthweight ³	Low birthweight ⁴
All births	3,747,540	2.77	10.23	1.38	8.31
Singleton	3,623,963	2.14	8.47	1.09	6.67
Twin	120,291	19.96	60.87	9.40	55.48
Triplet	3,136	62.90	98.50	34.10	95.29
Quadruplet	114	85.09	95.61	61.40	95.61
Quintuplet and higher-order multiples	36	100.00	100.00	100.00	100.00

¹Less than 34 completed weeks of gestation.

²Less than 37 completed weeks of gestation.

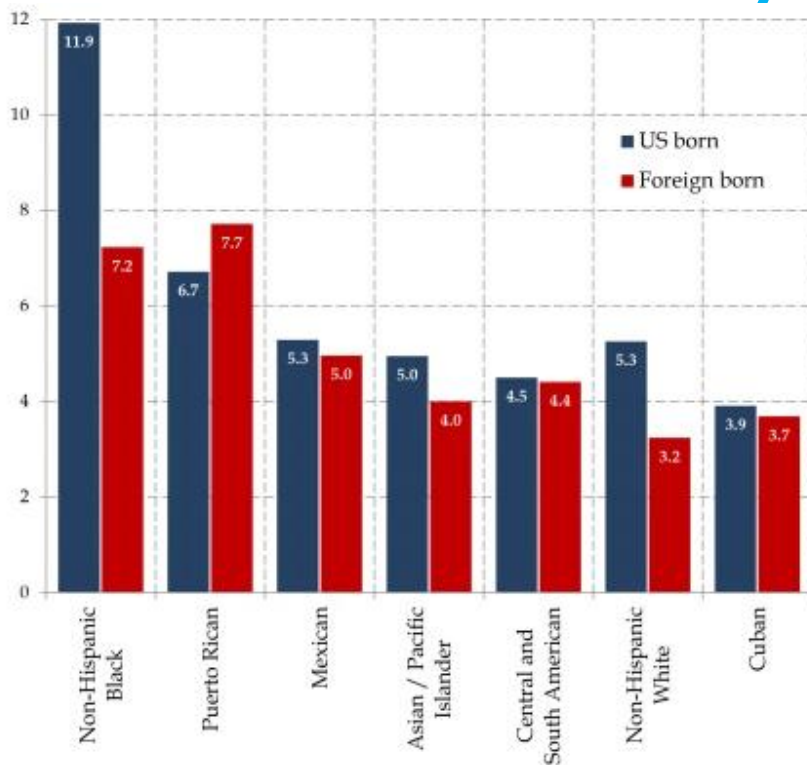
³Less than 1,500 grams.

⁴Less than 2,500 grams.

SOURCE: National Center for Health Statistics, National Vital Statistics System, Natality.

Preterm Birth: 37 weeks or less

Disparities exist within Latine infants by nativity & country of origin



Infant mortality rates
by maternal race, Latine
origin and place of
birth, 2010

Latine epidemiologic paradox makes this group overlooked

Table 2

Prevalence of Adverse Birth Outcomes and Mean Birth Weight in Utah among Live, Singleton Births, 2004–2007

	Whites (<i>n</i> = 164,690)	U.S.-Born Latinas (<i>n</i> = 10,122)	Foreign-Born Latinas (<i>n</i> = 21,805)
Low birth weight	5.0	7.2	5.8
Preterm birth	8.1	10.0	8.0
Small for gestational age	6.8	10.1	8.5
Mean birth weight (g)	3,311 ± 513	3,201 ± 528	3,275 ± 530

Note: Data are presented as a percent, or number of grams (mean ± standard deviation).

Latine Epidemiologic Paradox: Latine women have better birth outcomes than expected given risk profiles.

Restrictive immigration bill in Arizona exposure to the bill's passage had a negative effect on birth weight among Latine immigrant people

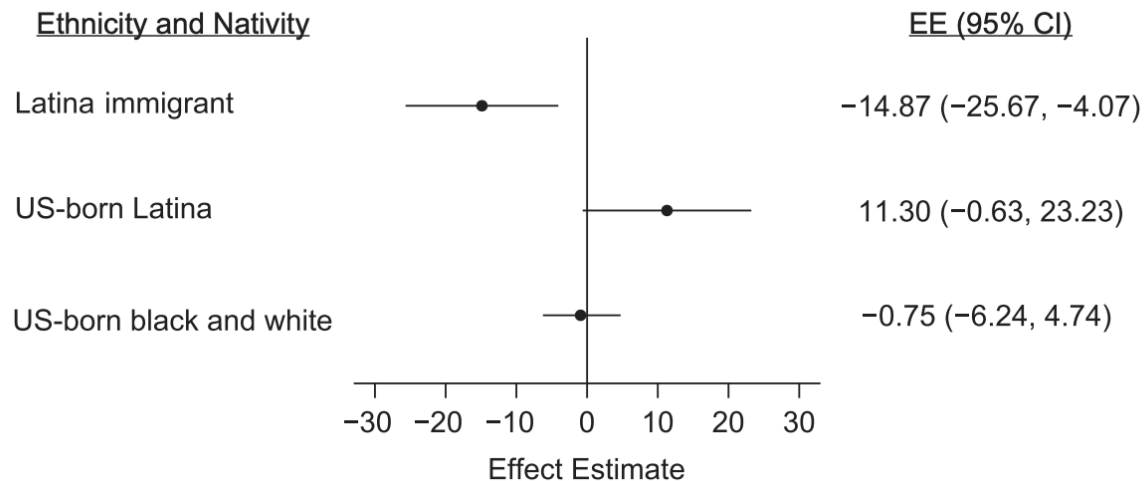
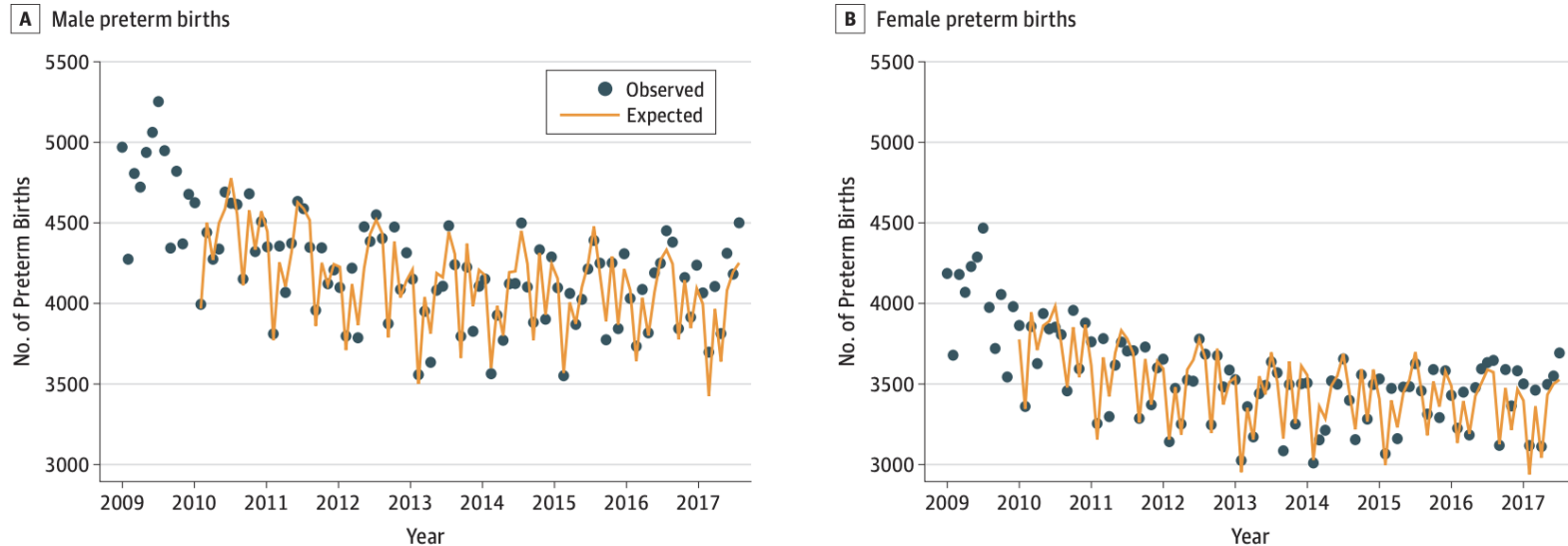


Figure 3. Comparison of effect estimates (EEs) associated with exposure to the signing of SB1070 into law in the first half of pregnancy for different groups of women defined by ethnicity and nativity, Arizona, December 2009 to March 2014. Confidence intervals (CIs) based on tests for the null hypothesis that the parameter estimate is different from zero at the 0.05 confidence level.

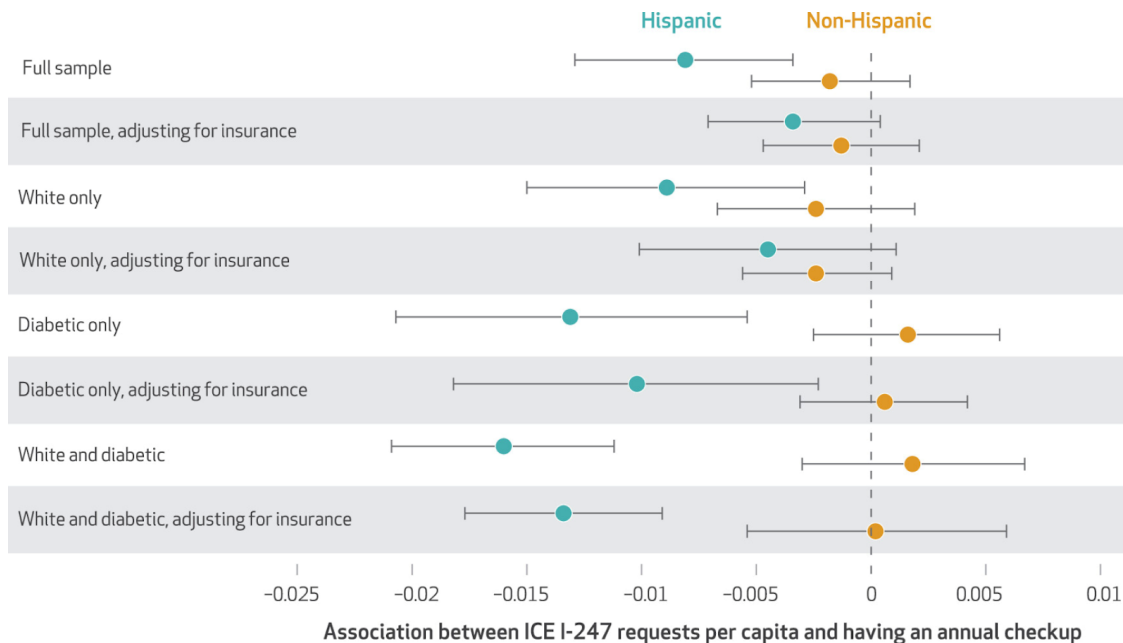
Number of preterm births among U.S. Latine people that coincided with the 2016 US presidential election.

Figure 1. Observed and Expected Monthly Trend of Male and Female Preterm Births to Latina Women



Includes 103 months ending July 2017. Expected values were generated from a time series model using data from 94 months of the presidency of Barack Obama (ie, January 2009 through October 2016). The first 13 months of the expected values for male births and first 12 months for female births were lost to modeling.

Chilling effect discourages immigrants from getting resources



Chilling Effect: Immigrants' voluntary withdrawal from health and social benefits for themselves or family members despite eligibility

**How does sociopolitical climate
of a state affect birth
outcomes of Latine people?**

2

Quantitative





Exploring political state climate

Political state climate & birth outcomes

- **Aim:** To learn how state political climate affects birth outcomes in Latine immigrant people.

DAGitty — draw and analyze causal diagrams

DAGitty is a browser-based environment for creating, editing, and analyzing causal diagrams (also known as directed acyclic graphs or causal Bayesian networks). The focus is on the use of causal diagrams for minimizing bias in empirical studies in epidemiology and other disciplines. For background information, see the "[learn](#)" page.

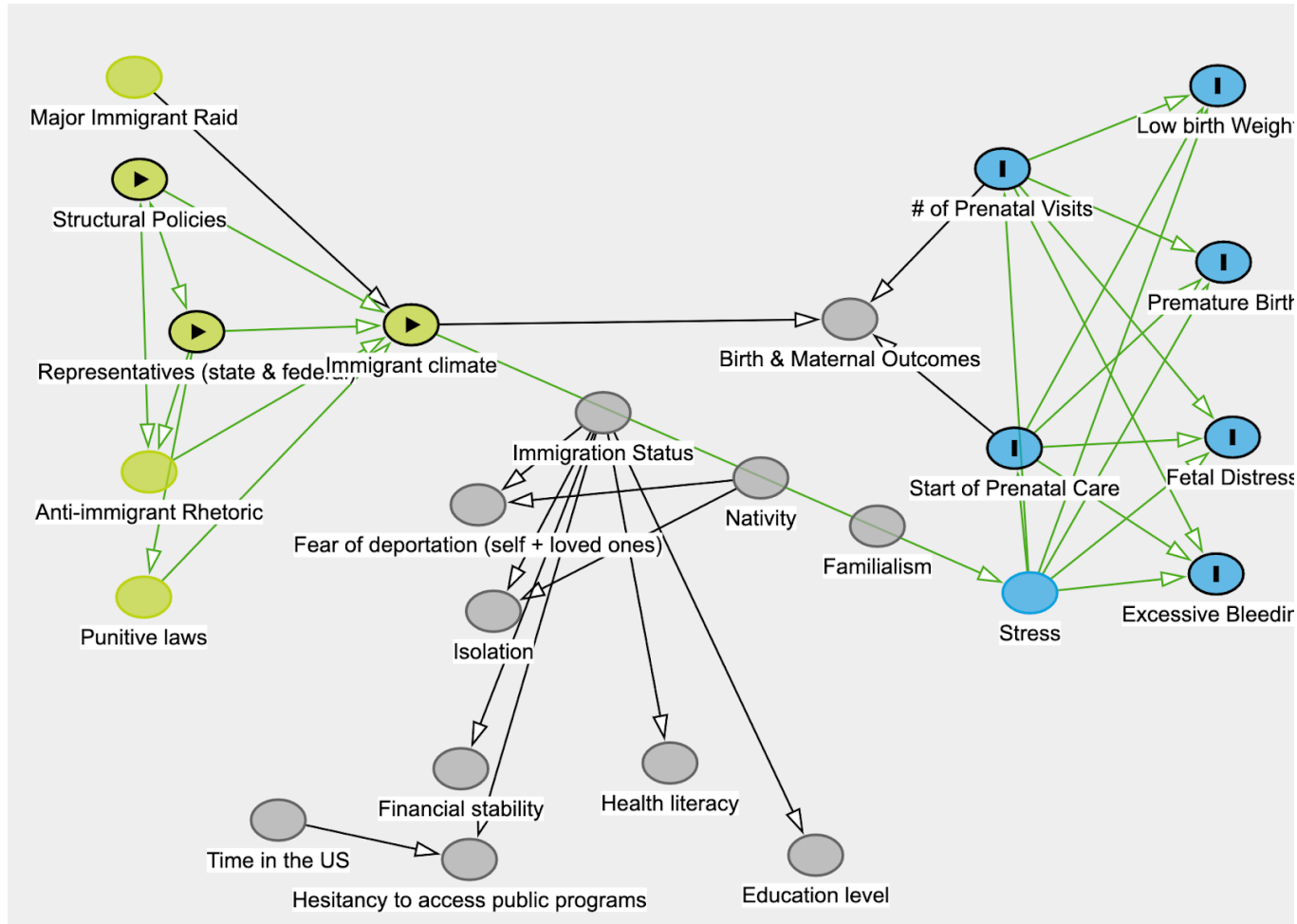
Launch	Download	Learn	Code
 Launch DAGitty online in your browser.	 Download DAGitty's source for offline use.	 Learn more about DAGs and DAGitty.	 The R package "dagitty" is available on CRAN or github .

DAGitty is developed and maintained by [Johannes Textor](#) ([Tumor Immunology Lab](#) and [Institute for Computing and Information Sciences](#), [Radboud University Nijmegen](#)).

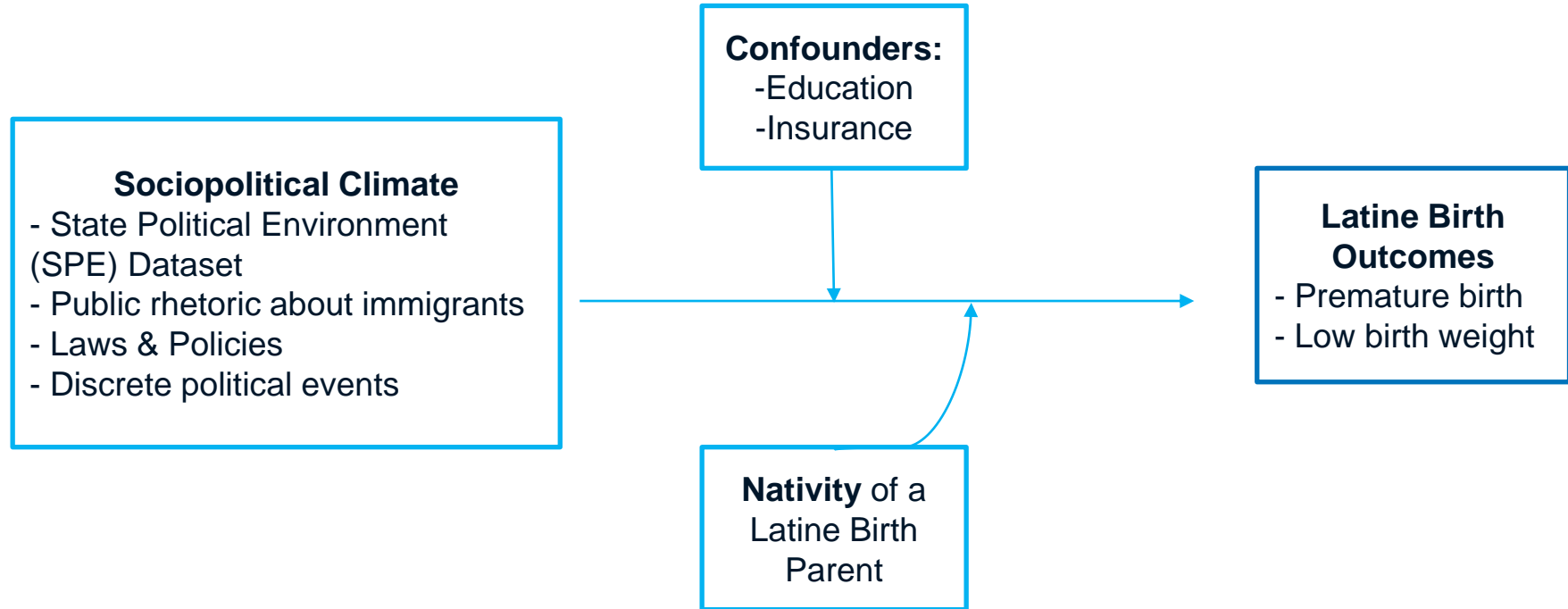
Versions

The following versions of DAGitty are available:

- [Development version](#)
Recent development snapshot. May contain new features, but could also contain new bugs.
- [Experimental version](#)
Most recent development snapshot. May not even work.
- [3.0: Released 2019-01-09](#)
- [2.3: Released 2015-08-19](#)
- [2.2: Released 2014-10-30](#)
- [2.1: Released 2014-02-06](#)
- [2.0: Released 2013-02-12](#)
- [1.1: Released 2011-11-29](#)
- [1.0: Released 2011-03-24](#)
- [0.9b: Released 2010-11-24](#)
- [0.9a: Released 2010-09-01](#)



Causal directed acyclic graph



State Political Environment (SPE) Database

- Novel dataset I created to capture the elected political leadership environment for all 50 states from 2011–2018

Variable:	Measures
Party of Elected State Governor	Republican Democrat Independent
State Senators	
State Senate Party Majority	Republican Democrat Split
% Republicans in the Congressional House of Reps.	Continuous (#)
% Democrats in the Congressional House of Reps.	

Creating Variables

Homogeneity

Party of Elected State Governor +
State Senate Party Majority

Party of Elected State Governor +
State Senate Party Majority

Heterogeneity

Party of Elected State Governor +
State Senate Party Majority

Party of Elected State Governor +
State Senate Party Majority

Party of Elected State Governor +
State Senate Party Majority

Party of Elected State Governor +
State Senate Party Majority

Methods

1 Create SPE Database

Capture the elected political leadership environment for all 50 states from 2011-2018

2 Test SPE & Immigration Index

Look for relationships between leadership and state policies that create immigration climate

3 Birth outcomes relationships

Identify how policy index, political punitive events, and political leadership affect birth outcomes

3

Qualitative

Learning about supporting the community

Supporting women with prior preterm birth

PI: Emily Gregory, MD

Aim: Develop and test a nurse intervention for women with a prior preterm birth



Goals:

- increase receipt of adult preventive health care
- address modifiable behavioral risk.

Methods

1

Interview women with preterm birth

These women should have birth experienced with pediatric care coordination

2

Interview clinicians and administrators

The clinicians and administrators experienced in pediatric care coordination.

3

Test intervention

Conduct a pilot randomized trial of care coordination plus MI for women with a prior preterm birth.



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- Relationships
- Relationship Types

Cases

Notes

Search Project

Nodes

Name	Files	Referen
Experience w birth	31	89
Experience with Care M	6	13
Future pregnancy	11	13
good quote	17	26
Health behaviors -- Barr	33	165
Health care access -- Ba	30	103
Health care navigation	33	88
Health education	24	65
Perspectives on MI appr	23	52
Preferred interventionis	21	62
Priorities	33	105
Privacy	19	46

MCM07 Perspectives on MI approach

Click to edit

I: Right [laughter]. Maybe it's helpful if Mom is healthy, too. And it's so – I mean you're – like I said, you're talking to a nonclinical person and you're talking to someone that – I'm two years postpartum. So, you get it. They come home and your – all needs go out the window.

R: Yeah. And I also – I felt so guilty while she was in the hospital, and so many emotions go through with not having your baby. And then you see other people with their babies people that's pregnant, and you just feel so bad that you didn't get that immediate bond. Because even when she was first born, I didn't get to see her. They took her right away. I even see her. So, once she came home, I was like, this is my time, this is what I should be doing.

I: Right, right. No, I know, there's – and I think a lot of what we need to start fo

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Coding Density

- Priorities
- Privacy
- Preferred interventionist characteristics
- Stress and sadness
- Experience w birth
- Perspectives on MI approach

Analyzing Themes

"I didn't really have the time – well, I slept and everything and took care of my hygiene. But as far as anything else, no, I put him first."

"Yeah. So it was like I had to – focus was just all – was just all him, the kids all the time. And then it's like – it was mainly just more so I was more focused on him than with it was with me

"I guess I was trying to like breastfeeding her from when I was in the hospital with her, but didn't really have any – at that point I wasn't thinking about any other priorities for myself."

Priorities
priorities and goals
that participants are
focused on achieving

Mothers' Voice:

Anything else that you would want to say about sort of your own health needs or how care managers could be more – could improve the services that they're delivering?

“...Sometimes you can do things and they look easy until you're behind that desk and you have to manage it all by yourself and you realize it's not as easy as it looks.”

“Yeah. Really. Whether it's between your parents or your significant other, or whoever's supporting you, it's very important that you have another type of support.”

Cultivating resistance to the chilling effect

PI: Diana Montoya-Williams, MD

Aim: Learn can the health care system confer resilience to the chilling effect on prenatal care and early nutrition resource utilization among pregnant and early parenting Latine people

Methods

1 Interview Latine immigrant people

Conduct one-on-one interviews with Latine immigrant people (pregnant or birth parents of children under 2 yr)

2 Interview Prenatal Health Care Providers

Conduct one-on-one interviews with prenatal health care providers

3 Provide Strategies

Build consensus regarding strategies to implement involving both patients and providers.

4

Lessons Learned

Wrap-up

Lessons Learned

- Qualitative and quantitative research are both important.
- Causal directed acyclic graphs are a useful tool
- The process of developing a research question is complex.
- Community partners are crucial to doing research with health equity in mind.

Acknowledgements

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Questions?

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