The Federal Effort to Desegregate Southern Hospitals and the Black-White Infant Mortality Gap

D. Mark Anderson
Montana State University, IZA and NBER

Kerwin Charles
Yale University and NBER

Daniel Rees
University of Colorado Denver, IZA and NBER

Introduction

- In the Jim Crow Era, Southern hospitals were racially segregated
  - Black hospitals were, with a few exceptions, understaffed and lacked the latest medical technology (Thomas 2006; McBride 2018, pp. 49-50)
  - White-run hospitals could be "biracial" but Black patients were physically separated from their White counterparts and did not receive equal care (Reynolds 2004; Thomas 2006)

- Eradicating this entrenched system of discrimination was a key objective of the Civil Rights Movement (Washington et al. 2009)

- Under political and legal pressure, a handful of hospitals in the South desegregated between 1962 and 1965 (Brown-Nagin 2001; Smith 2016)

Introduction

- On July 30, 1965, President Johnson signed Medicare into law, promising to generously pay for the health care of millions of people.
  - Enacted under the Social Security Act to provide health insurance to people age 65 and older (and some younger people with disability status), regardless of income or medical history.

- Most Southern hospitals were racially segregated until the spring of 1966, when the federal government threatened to withhold Medicare funding from those that were not in compliance with Title VI of the Civil Rights Act
  - "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Introduction

- By November of 1966, more than 7,000 hospitals had been certified by the newly created Office of Equal Health Opportunity (OEHO) as eligible to receive Medicare funds
  - OEHO disseminated a set of guidelines to which participating hospitals would have to adhere
  - "Litmus test" was random assignment of patients to hospital beds and doctors to patients
  - OEHO trained hundreds of investigators to conduct on-site inspections of hospitals
  - Working closely with civil rights activists and black hospital workers, they identified, and tried to correct, discriminatory practices
- Two hundred and fourteen Southern hospitals opted to forgo all federal funding (Nash 1968; Reynolds 1997)
  - Several of these non-compliant hospitals resisted integrating their facilities through the early 1970s (Davis 1975)

Introduction

- The federal campaign to desegregate hospitals has been described as "a powerful force for equal treatment" (Smith 2016, p. 181) and "among the most important Civil Rights achievements in U.S. history" (Sternberg 2015, para. 2).
- With one prominent exception, however, its effects have been woefully understudied.
- Using data from Mississippi, Almond, Chay and Greenstone (2006) found that the black postneonatal mortality rate (PNMR) fell much faster in counties that were served by a Medicare-eligible hospital than in counties that were not.
- Almond et al. (2006) concluded that the federal campaign had saved thousands of lives and contributed substantially to the narrowing of the national black-white postneonatal mortality gap during the period 1965-1975.
  - In fact, their estimated effect on the black PNMR is large enough to explain the entire convergence between black and white IMRs in Mississippi over the period 1965-1971
  - However, Almond et al. (2006) do not account for the downward trend in the Black PNMR during this period.
    - "Modest variation" in Medicare certification dates precluded Almond et al. (2006, p. 15) from including year fixed effects in their regressions

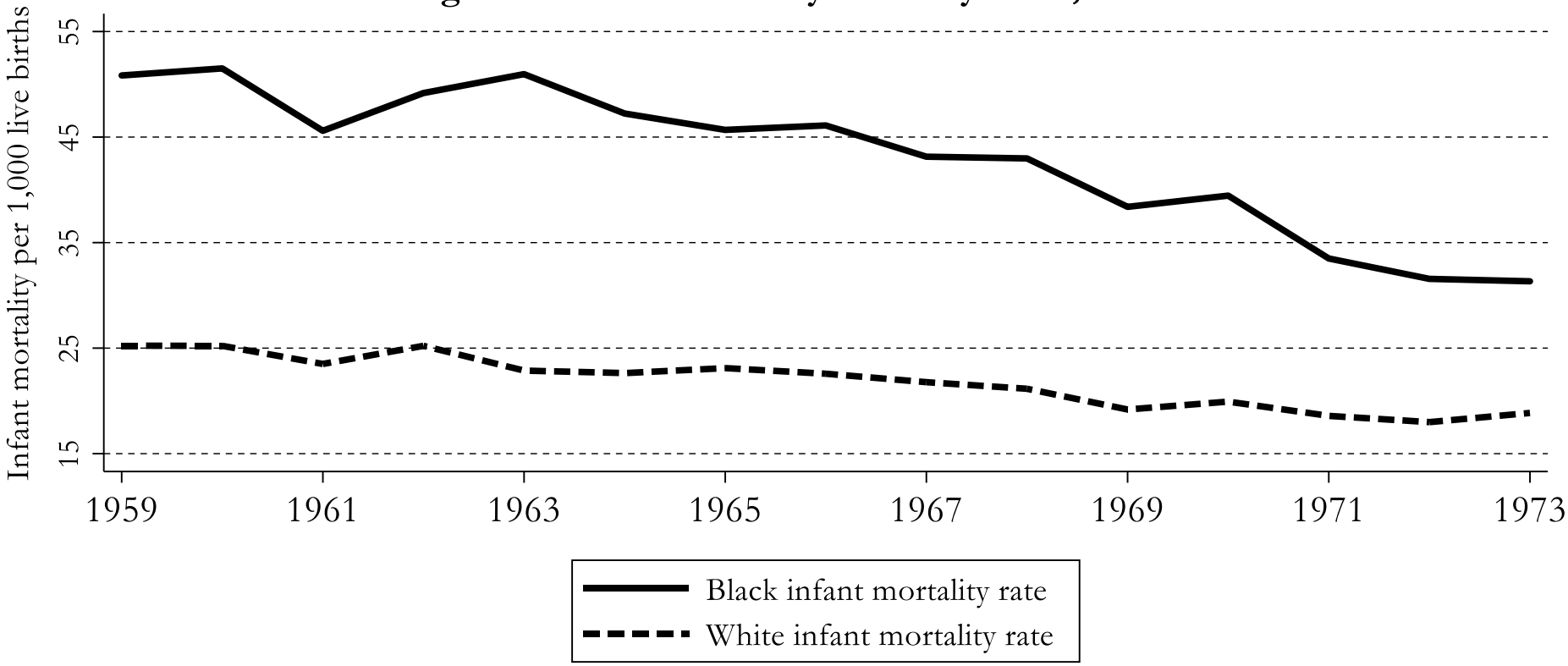
Introduction

- This study uses county-level data from the Multiple-Cause-of-Death Files, published by the National Vital Statistics System (NVSS), to reexamine the effect of the hospital desegregation campaign on the black-white infant mortality gap

- Our focus is on 5 Deep South states in which support for segregationist policies and practices was especially staunch: Alabama, Georgia, Louisiana, Mississippi, and South Carolina.
  - One of the advantages of using data from 5 Deep South states, as opposed to only Mississippi, is that we observe more than twice as many counties whose residents gained access to a Medicare-eligible hospital after 1967 than did Almond et al. (2006)
  - Allows us to distinguish the effects of access from the secular black IMR trend

- During the 1960s, the black infant mortality rate (IMR) was trending downwards across the Deep South (Figure 1) and, indeed, in the rest of the country (Almond et al. 2006).

Figure 1. Infant Mortality Rates by Race, 1959-1973



Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System.

What do we find?

- Leveraging more cross-county variation in Medicare certification dates than was available to Almond et al. (2006) and flexibly controlling for common shocks, we are able estimate the contribution of the hospital desegregation campaign to the general downward trend in black infant mortality

- Our results suggest that having access to a Medicare-eligible hospital had little, if any, effect on infant mortality
  - Consistent with descriptions of the federal campaign as producing "strikingly limited" and largely "cosmetic" changes (Smith 2005, p. 264)
  - Illustrates the limits of anti-discrimination policies imposed upon reluctant actors.

- Specifically, we find that having access to a certified hospital is associated with 1.36 additional black infant deaths per 1,000 births
  - Although this estimate is insignificant, it is precise enough to reject the hypothesis that the desegregation campaign contributed substantially to the narrowing of the black-white infant mortality gap

What else do we find?

- We find evidence that in-hospital black births increased, albeit modestly, after receiving care from a Medicare-eligible hospital became an option
- This estimated effect is, however, not nearly large enough to explain the overall trend towards in-hospital deliveries among mothers living in the Deep South
- In addition, we find no evidence of an effect on black maternal mortality

Bottom Line

- OEHO investigators were not tasked with addressing structural barriers that, to this day, prevent minority patients from accessing high-quality healthcare, nor could they expunge deeply held racial prejudices that had been fostered for generations
  - OEHO was dismantled in the spring 1967 and enforcement fell to the Office of Civil Rights (OCR)
  - OCR enforcement was not nearly as strict (e.g., onsite reviews were less frequent)

- In 1972, the Government Accounting Office (GAO) released an assessment of hospital compliance with Title VI. It concluded that the hospital desegregation campaign had virtually eliminated what it described as "overt" racial discrimination but noted that more "subtle" forms of discrimination persisted (GAO 1972).

  - Evidence of ostensibly desegregated hospitals defying Title VI guidelines:

> "Last year the APHA was involved in a study in Mississippi where we had the opportunity to examine a lot of hospitals within the delta area. There were two things we found out through this study. One is…that, on a given day when the hospital is forewarned of a visit by some sort of enforcement agency, beds are shifted and it is very simple to shift a bed on wheels. And so coincidentally, on that and maybe for a couple of days, the hospital appears totally integrated."
>
> --Jeffrey Merrill, Coordinator of the Action Board, American Public Health Association (APHA)

- Our results suggest that correcting overtly discriminatory practices was not enough to ensure that black infants and their mothers would experience the same health outcomes as whites

Neshoba hospital delays $250 deposit for blacks

PHILADELPHIA, Miss. (AP) — A new policy requiring all black Medicare patients to pay a $250 deposit before being allowed to enter the Neshoba County Hospital for treatment "will be postponed indefinitely," hospital manager L. G. Salter says.

Salter said the decision to delay implementation of the controversial policy came after a Tuesday night meeting and "despite the fact no federal Medicare officials" attended.

tives of the Medicare program were not on hand because "they simply had no answer for the problem. I guess if you don't have an answer you are not going to show. Everyone was disappointed because they expected somebody to represent the other side."

Representatives of six or seven other hospitals attended the meeting, he said, "and they all said they were having the same problems."

He said he would not set a

Medicare officials were invited to the meeting, Salter said, "but when we gave them an opportunity to join us for discussion of the problem no one spoke up. If they were there they didn't say a word."

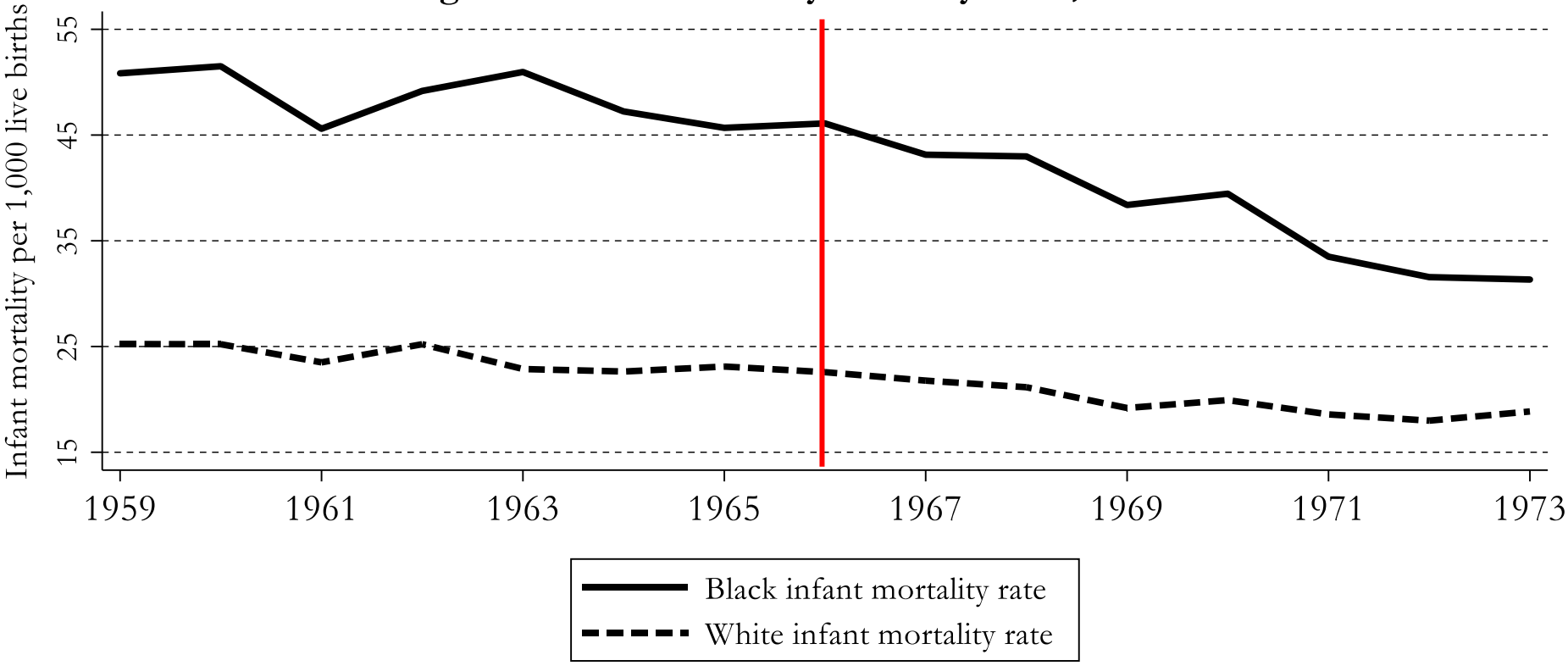
Salter said he had announced the possible deposit requirement as one method to help cover the difference between Medicare payments and the actual cost of treatment, an expense he said the hospital could no longer absorb.

The plan would not require whites to make deposits, he said, since most could afford to pay the balance of their hospital debts.

Overcrowded maternity ward in Memphis, TN. The photo was taken in 1970, after hospitals were “desegregated.”

Did the hospital desegregation campaign, which began in 1966, contribute to the narrowing of the black-white infant mortality gap shown in Figure 1?

Figure 1. Infant Mortality Rates by Race, 1959-1973



Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System.

Did the hospital desegregation campaign contribute to the narrowing of the black-white infant mortality gap?

- Black Southerners were making significant economic progress both in absolute terms and relative to whites throughout the 1960s (Freeman 1981; Donohue and Heckman 1991; Wright 1999)

- Other government interventions, could have also mattered, including:
  - Rollout of community health centers (Bailey and Goodman-Bacon 2015)
    - "CHCs could facilitate the diagnosis of potentially lethal diseases and afford medications for treatment, but they were not substitutes for hospitals' acute care of sick infants" (Baily and Goodman-Bacon 2015, p. 1075)
  - Implementation of state Medicaid programs, which offer benefits not normally covered by Medicare (Goodman-Bacon 2018)
    - After Medicaid, public insurance utilization increased and mortality fell more rapidly among children and infants in high-Medicaid-eligibility states. Mortality among nonwhite children on Medicaid fell by 20 percent, leading to a reduction in aggregate non-white child mortality rates" (Goodman-Bacon 2018, p. 216)

Baseline Regression Model

$$lMR_{ct} = \beta_0 + \beta_1 Medicare_{ct} + v_c + \varepsilon_{ct}$$

Following Almond et al. (2006), our independent variable of interest, $Medicare_{ct}$, is equal to 1 if black mothers in county *c* had access to a certified hospital during year *t* and is equal to 0 otherwise.

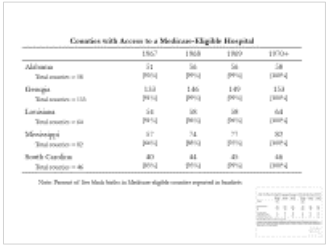
- If there were no hospitals in county *c*, then access was determined based on whether there was a certified hospital operating in a neighboring county.

Table 1. The Effect of the Hospital Desegregation Campaign on Infant Mortality by Race, 1959-1973

	Black Infant Mortality	*Black Infant Mortality*	*Black Infant Mortality*	*White Infant Mortality*	*White Infant Mortality*	*White Infant Mortality*
Medicare	-13.3***			-4.92***		
	(.720)			(.339)		
Pre-treatment mean	47.8	47.8	47.8	23.5	23.5	23.5
N	6,033	6,033	6,033	6,033	6,033	6,033
R^2	.192	.246	.368	.098	.121	.261
Year fixed effects	No	Yes	Yes	No	Yes	Yes
County-level covariates	No	No	Yes	No	No	Yes
County-specific linear trend	No	No	Yes	No	No	Yes

*Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System. Each column represents results from a separate OLS regression. The dependent variable is equal to the number of infant deaths per 1,000 race-specific live births in county c and year t. All models control for county fixed effects. Regressions are weighted by race-specific live births. Standard errors, corrected for clustering at the county level, are in parentheses.



Standard Two-Way Fixed Effects Regression Model

$$(2) \quad lMR_{ct} = \beta_0 + \beta_1 Medicare_{ct} + \boldsymbol{X}_{ct}\boldsymbol{\beta}_2 + v_c + \lambda_t + \Theta_c t + \varepsilon_{ct},$$

- $\boldsymbol{X}_{ct}$ includes controls for direct hospital expenditures, % population with high school diploma, and employment-to-population ratio
- λ_t: year fixed effects
- $\Theta_c t$: county-specific linear trends

Based on the lower bound of the 90 percent CI, certified hospital access did not reduce the black IMR by more than 0.82, or 9 percent of the change in the black IMR from 1965 to 1973

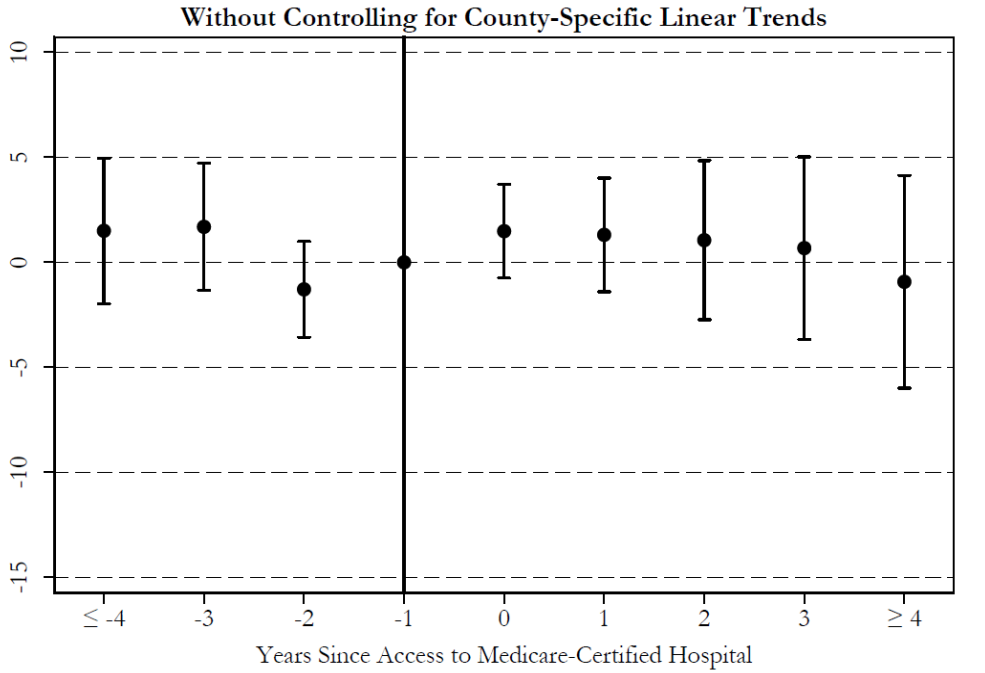
Table 1. The Effect of the Hospital Desegregation Campaign on Infant Mortality by Race, 1959-1973

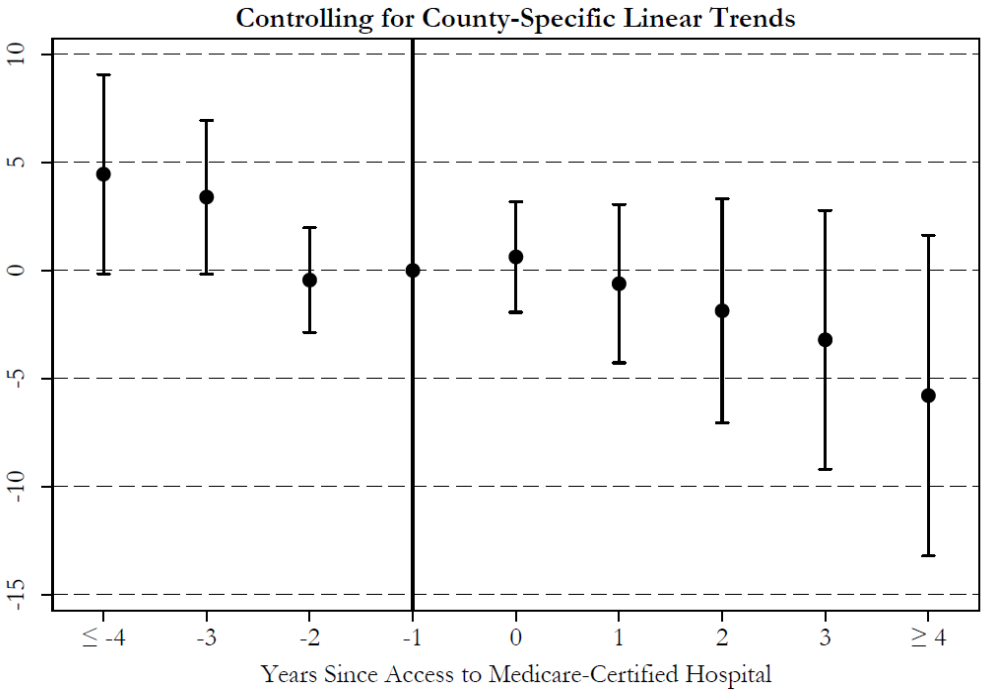
	Black Infant Mortality	*Black Infant Mortality*	*Black Infant Mortality*	*White Infant Mortality*	*White Infant Mortality*	*White Infant Mortality*
Medicare	-13.3***	1.69	1.37	-4.92***	-2.45	-2.01
	(.720)	(1.24)	(1.44)	(.339)	(1.54)	(1.28)
Pre-treatment mean	47.8	47.8	47.8	23.5	23.5	23.5
N	6,033	6,033	6,033	6,033	6,033	6,033
R^2	.192	.246	.368	.098	.121	.261
Year fixed effects	No	Yes	Yes	No	Yes	Yes
County-level covariates	No	No	Yes	No	No	Yes
County-specific linear trend	No	No	Yes	No	No	Yes

*Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System. Each column represents results from a separate OLS regression. The dependent variable is equal to the number of infant deaths per 1,000 race-specific live births in county c and year t. All models control for county fixed effects. Regressions are weighted by race-specific live births. Standard errors, corrected for clustering at the county level, are in parentheses.

Appendix Figure A1. Pre- and Post-Treatment Trends in Black Infant Mortality



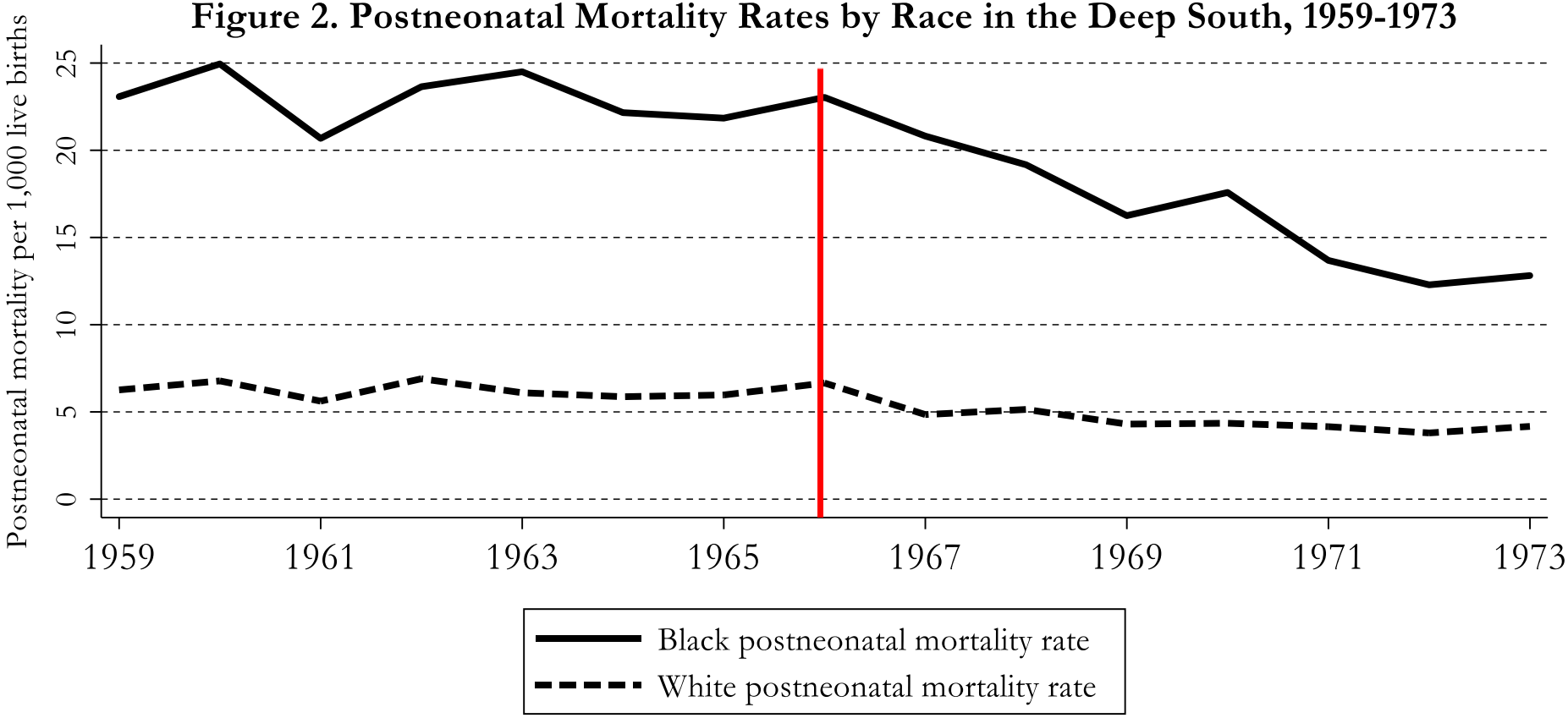


Postneonatal Mortality and Mortality due to "Preventable" Causes

- Almond et al. (2006) argue that, given the medical technology of the 1960s, gaining access to a Medicare-certified hospital should have had a more pronounced effect on postneonatal mortality
  - Technologies benefitting premature and low-weight infants were not developed and diffused widely until the 1970s and 1980s (e.g., improvements in mechanical ventilation).

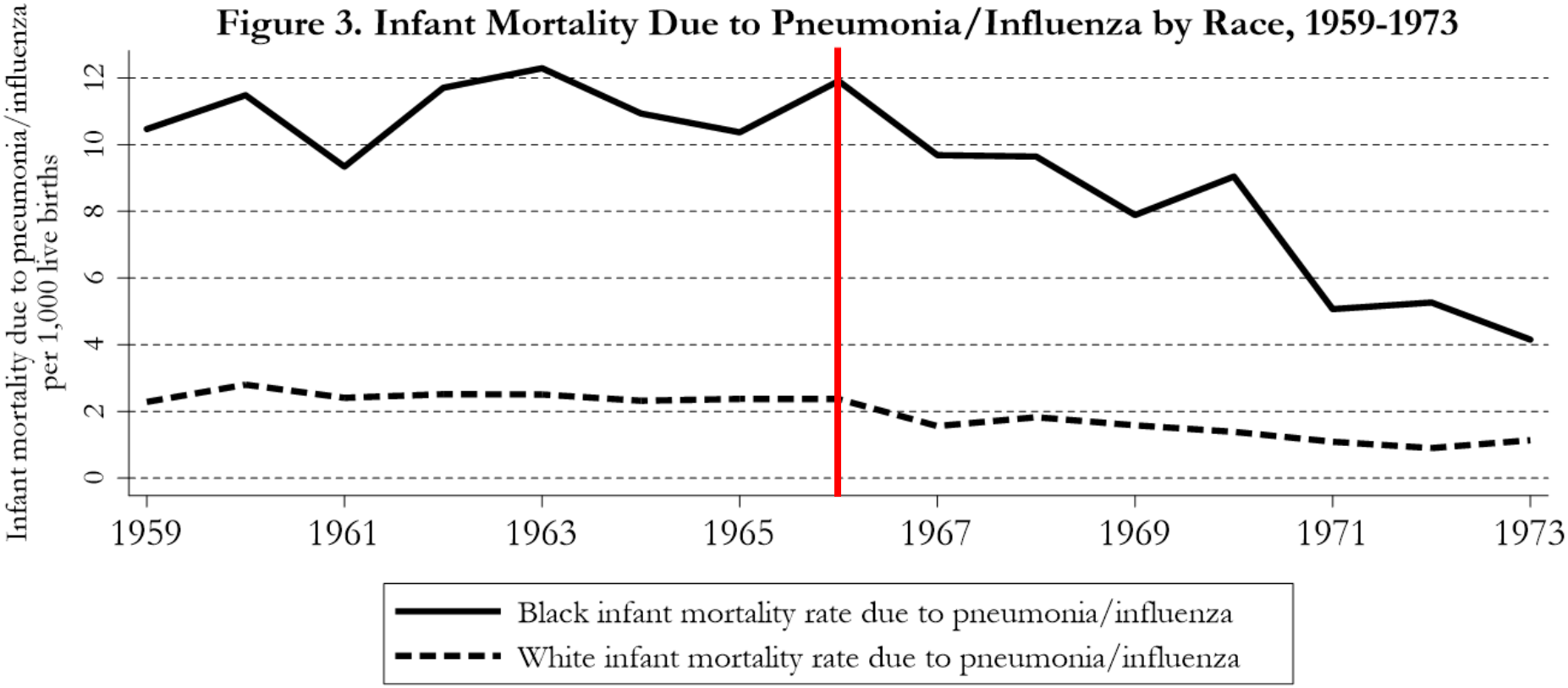
- Deaths due to Influenza/Pneumonia and Diarrhea were largely preventable with timely hospital treatment
  - Pneumonia/influenza and diarrhea were two of the leading causes of mortality among U.S. infants during the sample period (U.S. Department of Health, Education, and Welfare 1963).

Figure 2. Postneonatal Mortality Rates by Race in the Deep South, 1959-1973



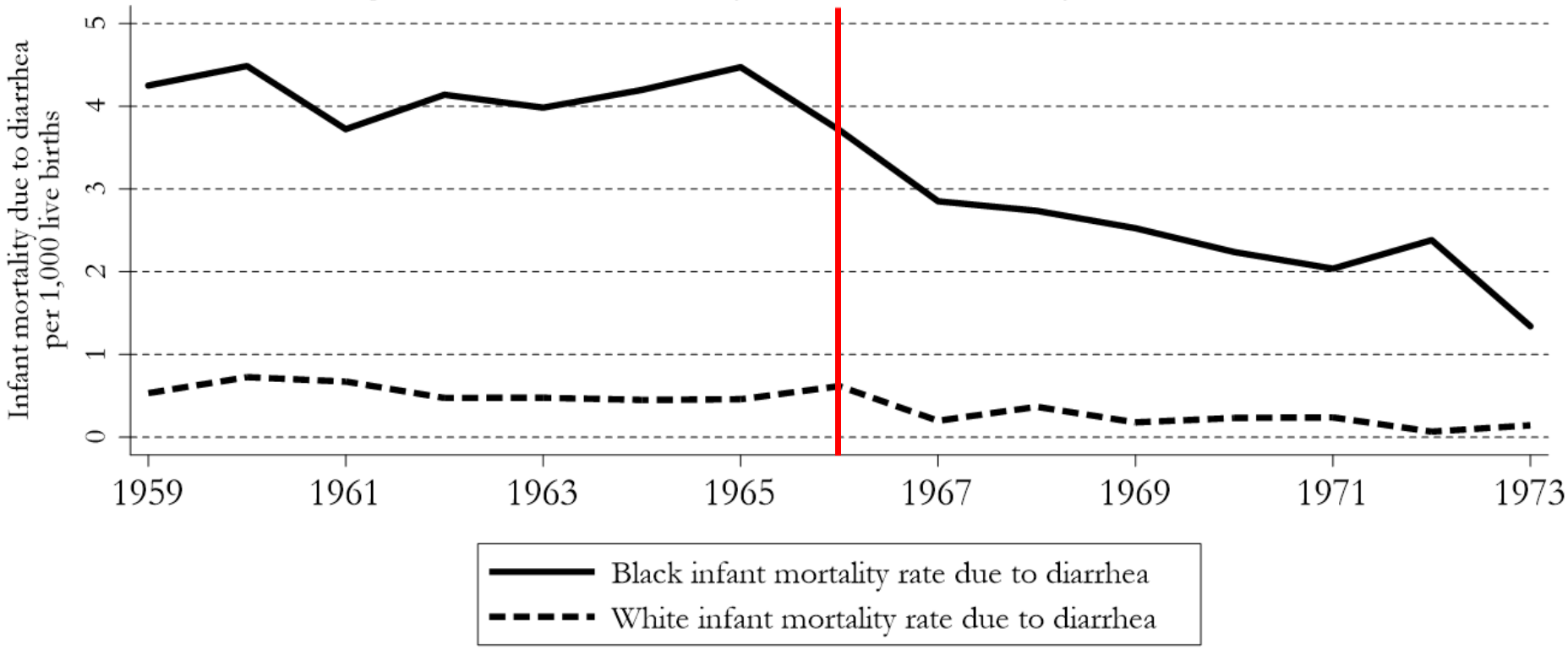
Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System.

Figure 3. Infant Mortality Due to Pneumonia/Influenza by Race, 1959-1973



Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System.

Figure 4. Infant Mortality Due to Diarrhea by Race, 1959-1973



Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System.

Table 3. The Effect of the Hospital Desegregation Campaign on Black Neonatal, Postneonatal, and Infant Mortality by Cause, 1959-1973

	Black Postneonatal Mortality	*Black Infant Mortality Due to Pneumonia/ Influenza*	*Black Infant Mortality Due to Diarrhea*
Medicare	1.18	.723	.238
	(1.01)	(.698)	(.399)
Pre-treatment mean	21.0	9.57	3.69
N	6,033	6,033	6,033
R^2	.327	.247	.182

*Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: Based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System. Each column represents results from a separate OLS regression. The dependent variable is equal to the number of specified black deaths per 1,000 live black births in county *c* and year *t*. All models control for the county-level covariates listed in Appendix Table A2, county fixed effects, year fixed effects, and county-specific linear trends. Regressions are weighted by live black births. Standard errors, corrected for clustering at the county level, are in parentheses.

Extensions, Robustness Checks, and State-by-State Estimates

- Explore alternative measures of treatment based on the following thresholds:
  - Whether 25 percent (or more) of the hospital beds in county *c* belonged to Medicare-eligible hospitals
  - 50 percent (or more)
  - 75 percent (or more)
- Distinguish between counties in which the first hospital was certified as Medicare-eligible in 1966-1967 and those in which the first hospital was certified in 1968 or later.
  - Presumably, non-compliance after 1967 is indicative of greater racial animus.
- 75 out of the 403 counties in our analysis were not served by a general or maternity hospital prior to 1967. Up to this point, treatment for these counties has been based on whether there was a Medicare-eligible hospital operating in a bordering county.
  - Drop no-hospital counties
- Control for the number of bordering counties with at least one Medicare-eligible hospital
- Distinguish between the effects of having access to a Medicaid- vs. Medicare-eligible hospital
  - Participation in both of these programs required Title VI compliance
  - Estimate the effect of having access to a Title VI-compliant hospital with the option of Medicaid covering the expenses
- Other stuff: Unweighted regressions and alternative dependent variable specifications
- Estimate regressions separately for each of the 5 Deep South states

Appendix Table A4. The Effect of the Hospital Desegregation Campaign on Black Infant Mortality by State, 1959-1973

	Panel I: Alabama			
Medicare	-8.92***	4.29	4.82	7.87*
	(.842)	(3.97)	(3.87)	(4.25)
Pre-treatment mean	44.1	44.1	44.1	44.1
N	869	869	869	869
	Panel II: Georgia			
Medicare	-11.7***	1.48	1.40	-4.30
	(.953)	(3.08)	(3.04)	(3.48)
Pre-treatment mean	44.5	44.5	44.5	44.5
N	2,284	2,284	2,284	2,284
	Panel III: Louisiana			
Medicare	-13.0***	4.69*	4.83	5.45
	(.666)	(2.75)	(2.94)	(3.29)
Pre-treatment mean	44.7	44.7	44.7	44.7
N	960	960	960	960
	Panel IV: Mississippi			
Medicare	-12.8***	3.80*	4.05**	3.53
	(1.18)	(1.98)	(1.96)	(2.47)
Pre-treatment mean	52.7	52.7	52.7	52.7
N	1,230	1,230	1,230	1,230
	Panel V: South Carolina			
Medicare	-23.0***	-5.85	-5.89	-2.64
	(2.68)	(4.04)	(4.17)	(3.76)
Pre-treatment mean	55.5	55.5	55.5	55.5
N	690	690	690	690
Year fixed effects	No	Yes	Yes	Yes
County-level covariates	No	No	Yes	Yes
County-specific linear trend	No	No	No	Yes

Replicating and Extending Almond et al. (2006)

- Why are our results so different?
- Their fully specified model includes county-level controls, county fixed effects, and county-specific linear trends.
- As noted above, their estimates are negative, significant, and large enough to explain the narrowing of the black-white IMR gap in Mississippi from 1965 to 1971.
- Although we do not have the information necessary to perfectly reconstruct their $\boldsymbol{X}_{ct}$, we are able to come reasonably close to reproducing their estimates…

Appendix Table A5. Replicating and Extending Estimates from Almond et al. (2006)

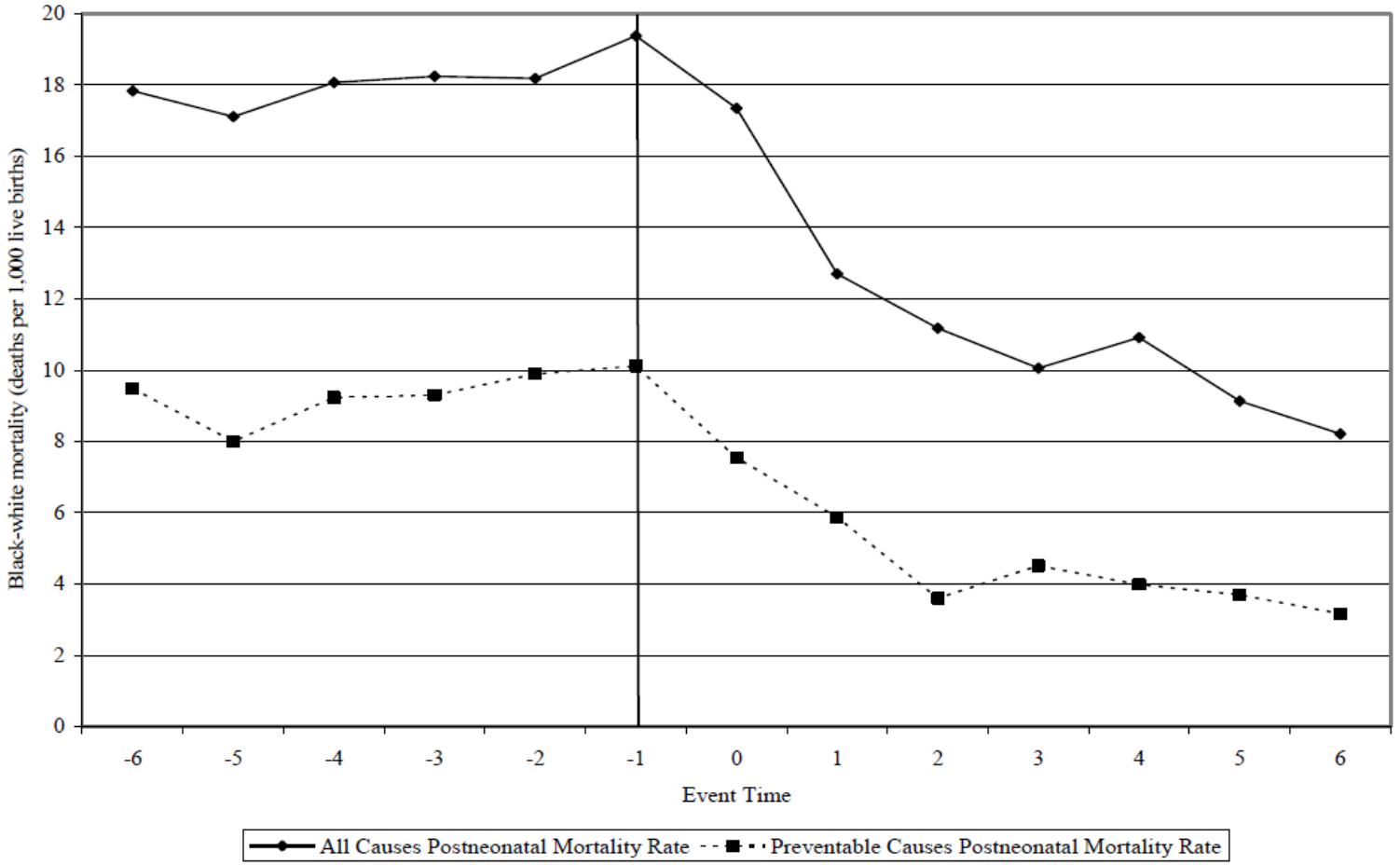
	Estimates reported in Almond et al. (2006)	Replicating and extending estimates reported in Almond et al. (2006)				
Panel I. Black postneonatal mortality in Mississippi						
1 Year After Medicare	-5.74***	-5.84***	-6.46***	-5.34***	-1.64	-2.64
	(1.36)	(1.46)	(1.20)	(1.16)	(1.46)	(2.08)
2 Years After Medicare	-8.00***	-8.09***	-8.15***	-6.64***	-1.62	-3.35
	(1.37)	(1.50)	(1.01)	(1.15)	(1.65)	(2.79)
3 Years After Medicare	-9.79***	-9.81***	-8.39***	-6.59***	-.751	-3.30
	(1.54)	(1.83)	(.899)	(1.32)	(1.84)	(3.79)
4 Years After Medicare	-10.2***	-10.3***	-10.6***	-9.05***	-1.84	-5.54
	(1.82)	(2.17)	(1.16)	(1.39)	(2.34)	(4.72)
5 Years After Medicare	-11.5***	-11.9***	-10.4***	-9.19***	-.258	-5.17
	(2.06)	(2.46)	(1.48)	(1.82)	(3.14)	(6.38)
6 Years After Medicare	-12.6***	-12.9***	-9.10***	-7.63***	1.67	-4.20
	(2.19)	(2.78)	(1.25)	(1.74)	(3.51)	(7.65)
N	1,022	1,022	1,200	1,200	1,200	1,200
Panel II. White postneonatal mortality in Mississippi						
1 Year After Medicare	.377	.600	-1.08**	-.472	1.01	-.093
	(.589)	(.660)	(.456)	(.631)	(.749)	(1.01)
2 Years After Medicare	-.660	-.302	-1.52***	-.762	1.41	-.393
	(.607)	(.691)	(.504)	(.681)	(.792)	(1.44)
3 Years After Medicare	-1.03	-.556	-2.27***	-1.42*	-.177	-2.90
	(.667)	(.749)	(.431)	(.755)	(.849)	(1.86)
4 Years After Medicare	-1.76**	-1.36	-2.23***	-1.49**	.588	-3.04
	(.716)	(.840)	(.449)	(.737)	(.947)	(2.36)
5 Years After Medicare	-1.52**	-1.21	-1.83***	-1.03	1.18	-3.66
	(.729)	(.840)	(.628)	(.902)	(1.28)	(2.86)
6 Years After Medicare	-1.35	-1.08	-1.16**	-.366	1.77	-4.71
	(.878)	(1.02)	(.561)	(.914)	(1.44)	(3.73)
N	1,022	1,022	1,200	1,200	1,200	1,200
County fixed effects	No	Yes	No	Yes	Yes	Yes
County-level covariates	No	Yes	No	Yes	Yes	Yes
County-specific linear trend	No	Yes	No	Yes	No	Yes
Year fixed effects	No	No	No	No	Yes	Yes

*Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: Each column within each panel represents results from a separate OLS regression. The dependent variable is equal to the number of postneonatal deaths per 1,000 race-specific live births in county *c* and year *t*. Medicare certification dates come from Almond et al. (2006). The models in columns (1) and (3) also include a pre-Medicare certification linear trend. In column (2), the county-level covariates used by Almond et al. (2006) include measures of maternal characteristics, per capita income and government transfer payments. The county-level covariates used in columns (4)-(6) are listed in Table 1. Almond et al. (2006) restricted their sample to no more than 7 years before and 6 years after Medicare certification. In columns (3)-(6), the sample is based on all county-year combinations for the period 1959-1973. Standard errors, corrected for clustering at the county level, are in parentheses.

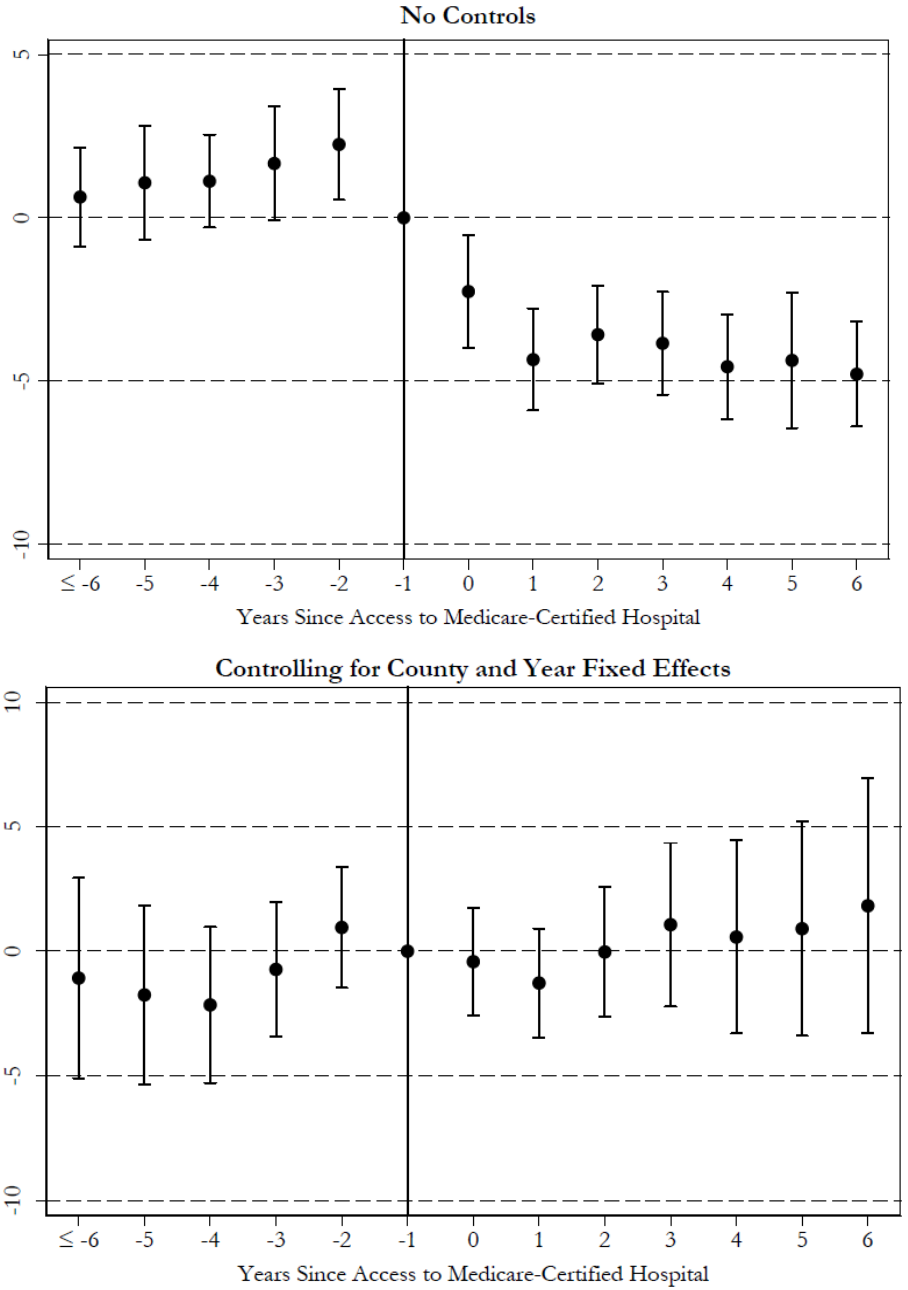
Event-Study Figure from Almond et al. (2006)

Figure 3: Black-White Difference in Postneonatal Mortality Rates by Time to Medicare Certification of Hospital in County of Residence.



Notes: The figure plots the parameters associated with the event time indicators from the estimation of versions of equation (2). See the text for further details.

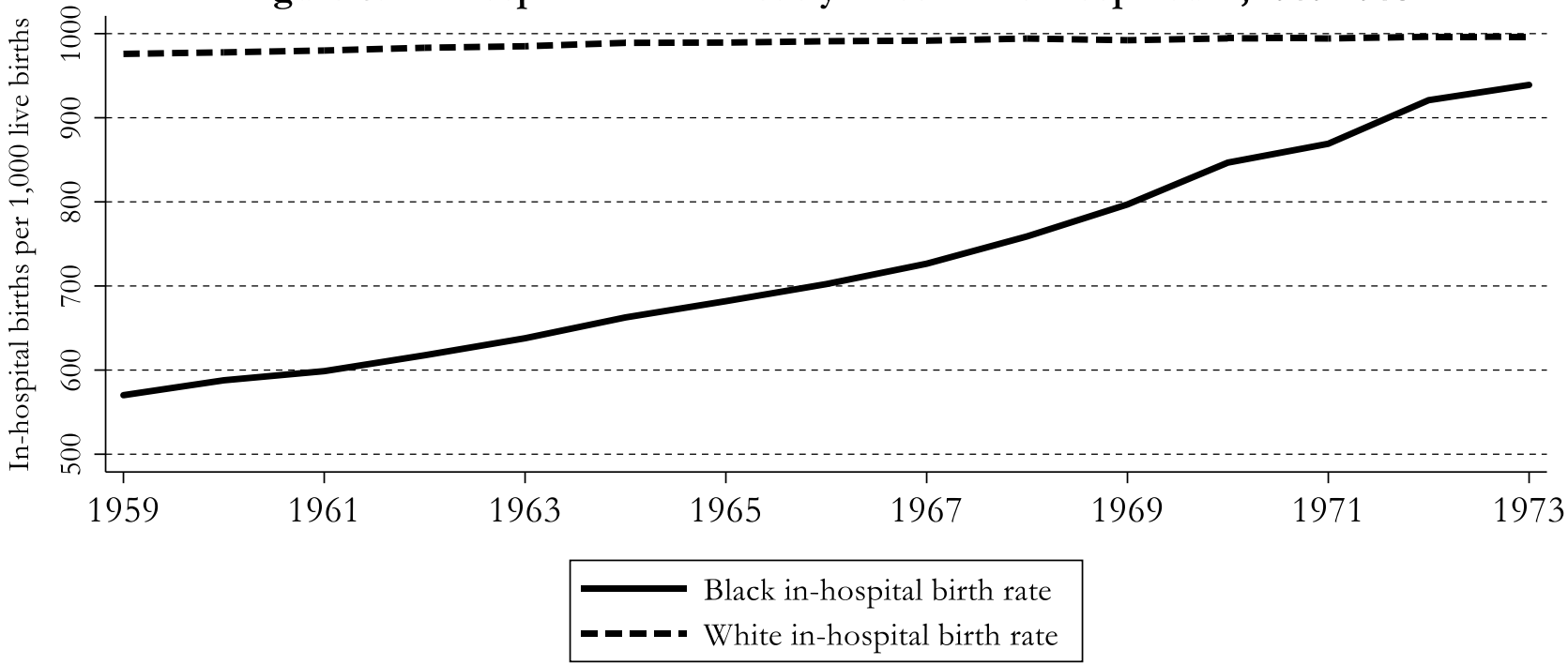
Replicating and Extending Event-Study Figure from Almond et al. (2006) on Black-White Difference in Postneonatal Mortality Rates due to Pneumonia, Influenza, and Diarrhea in Mississippi



In-Hospital Births

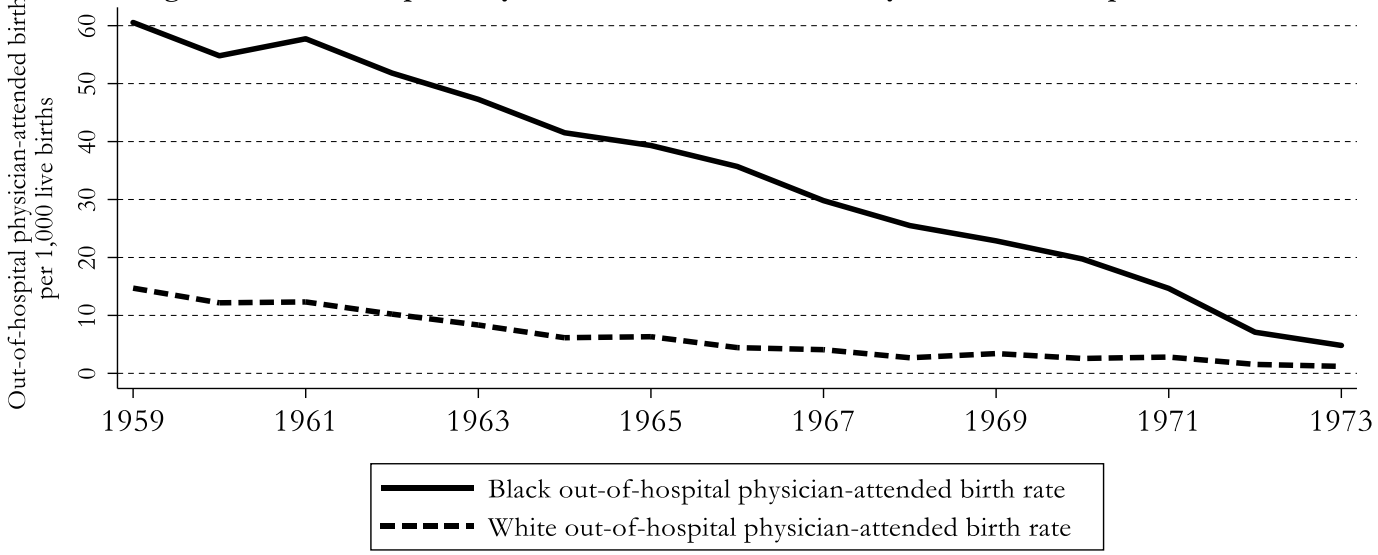
- Did federal efforts to desegregate hospitals contribute to the in- and out-of-hospital birth rate trends among black mothers?

Figure 6. In-Hospital Birth Rates by Race in the Deep South, 1959-1973



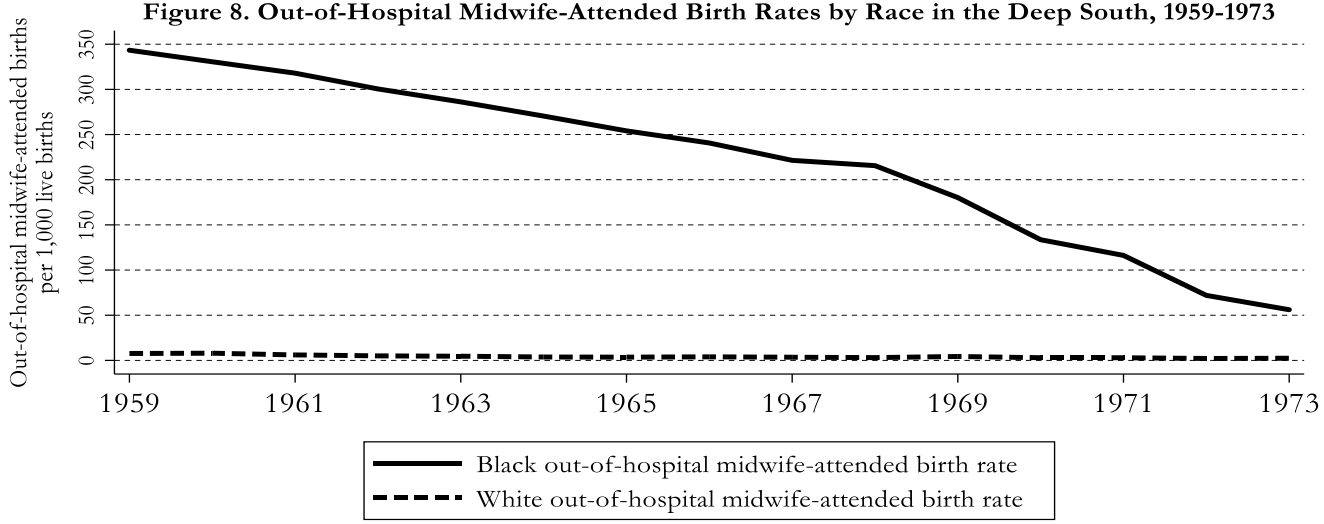
Notes: Based on annual data from the Natality Files, published by the National Vital Statistics System.

Figure 7. Out-of-Hospital Physician-Attended Birth Rates by Race in the Deep South, 1959-1973



Notes: Based on annual data from the Natality Files, published by the National Vital Statistics System.

Figure 8. Out-of-Hospital Midwife-Attended Birth Rates by Race in the Deep South, 1959-1973



Notes: Based on annual data from the Natality Files, published by the National Vital Statistics System.

What about Maternal Mortality?

- Midwives across the Deep South were required to be licensed (Anderson et al. forthcoming).

- According to contemporary accounts, licensing greatly improved the quality of midwifery services provided (South Carolina 1960; Bonaparte 2014).

- Nonetheless, midwives were not trained to attend complicated pregnancies and it is possible that the shift to in-hospital births resulted in fewer mothers dying during childbirth.

Table 6. Black Births by Location/Attendant and Maternal Mortality, 1959-1973

	(1)	(2)	(3)	(4)
	In-Hospital Black Births	*Out-of-Hospital Black Births by Physicians*	*Out-of-Hospital Black Births by Midwives*	*Black Maternal Mortality*
Medicare	32.0***	.450	-32.5***	-.018
	(10.5)	(2.97)	(11.5)	(.215)
Pre-treatment mean	727.2	37.1	235.7	1.16
N	5,164	5,164	5,164	6,033
R^2	.838	.572	.823	.110

*Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: The results in columns (1)-(3) are based on annual data from individual state vital statistics reports and the Natality Files, published by the National Vital Statistics System. The results in column (4) are based on annual data from the Multiple Cause-of-Death Mortality Files, published by the National Vital Statistics System. Each column represents results from a separate OLS regression. In columns (1)-(3), the dependent variable is equal to the number of live black births by location and attendant per 1,000 live black births in county *c* and year *t*. In column (4), the dependent variable is equal to the number of black maternal deaths per 1,000 live black births in county *c* and year *t*. All models control for the county-level covariates listed in Appendix Table A2, county fixed effects, year fixed effects and county-specific linear trends. Regressions are weighted by live black births. Standard errors, corrected for clustering at the county level, are in parentheses.

Conclusion

- Using county-level data from 5 states in the Deep South, and thereby exploiting substantially more variation than Almond et al. (2006), we revisit the relationship between the federal hospital desegregation campaign and the black IMR for the period 1959-1973.
- After controlling for the secular downward trend in black infant mortality, we find that having access to a Medicare-eligible hospital had no observable effect on the black IMR, nor did it have an effect on black postneonatal deaths due to preventable causes.
- Our estimates are measured with precision, allowing us to reject the hypothesis that the desegregation campaign drove the narrowing of the black-white infant mortality gap.
- Access to a Medicare-eligible hospital is associated with an increase in the rate at which black mothers chose to give birth in-hospital and a similarly sized decrease in out-of-hospital births attended by a midwife.
  - These effects are, however, not nearly large enough to explain the trend towards in-hospital births.
- Finally, we find no evidence that the federal hospital desegregation campaign reduced maternal mortality among black women.

Conclusion

- The black-white infant mortality gap has been closing steadily in several Southern states over the past two decades (Speights et al. 2017).
- It is very possible this would not have occurred without the push to desegregate hospitals by the Johnson administration.
- Our results, however, suggest that, at least in the short run, the desegregation campaign did not affect black infant mortality rates, nor did it contribute to the narrowing of the black-white infant mortality gap.
- Chay and Greenstone (2000) documented the steep decline in black infant mortality during the 1960s and speculated that it could have been caused by black economic progress or other federal efforts to improve access to high-quality healthcare
- Identifying the factors that contributed to this profoundly important phenomenon will depend on exploiting well-defined natural experiments and carefully accounting for secular trends.

Thank You!

Appendix Slides

Background: Further Details on the 1972 GAO Report

- In 1972, the GAO released an assessment of hospital Title VI compliance in Atlanta, Birmingham, Detroit, and Los Angeles. It described the federal hospital desegregation campaign as having eliminated "overt" discrimination

- However, GAO investigators observed that a "disproportionately large share of minority patients received their healthcare at government-owned hospitals" and that private hospitals routinely denied staff privileges to black physicians
  - The practice of denying staff privileges to black physicians effectively barred their patients, who were themselves predominantly black, from being admitted to private hospitals.

- According to GAO investigators, public hospitals "attracted" minorities because they provided low-cost care to indigent patients, were easily accessible, and because they had a history of treating minorities
  - There were 14 private hospitals in Atlanta, all of which were Medicare-certified, but almost 60 percent of black patients in the city were served by the county-run Grady Hospital

U. S. Civil Rights Commission Survey of Hospitals

- The Johnson administration initially focused on encouraging hospitals to voluntarily comply with Title VI of the Civil Rights Act in 1965, which banned the allocation of federal funds to entities that discriminated on the basis of race

- From July to October of 1965, the U.S. Commission on Civil Rights surveyed 39 hospitals in Southern and border states with the goal of determining whether they were in compliance with Title VI

- The Commission found that two Maryland hospitals had "desegregated substantially" before the passage of the Civil Rights Act; 11 of the 39 hospitals had made "significant changes in their discriminatory patterns" since its passage; and 26 hospitals still engaged in discriminatory practices (U.S. Civil Rights Commission 1966, p. 6)

"At the time of the Commission investigation, James Walker Memorial Hospital in Wilmington, North Carolina…continued to maintain a building for Negro patients at the rear of the main facility. Negro patients were wheeled from the separate structure into the main facility for surgery and other services. Some Negro patients were housed in segregated wards in the main building. The hospital also made staff assignments according to race although the administrator said some Negro nurses had been assigned to care for white patients since the passage of the Civil Rights Act."

--U.S. Civil Rights Commission (1966, p. 8)

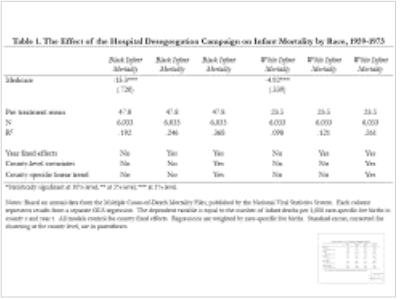
"Macon Hospital in Georgia had made only minimal changes to comply with Title VI provisions. After passage of the Civil Rights Act, the hospital converted its formerly all-Negro building into a facility for welfare patients only. Negros account for 60 to 70 percent of the welfare patient load. No Negro and white patient occupied the same room or ward in this building at the time of the Commission staff visit."

--U.S. Civil Rights Commission (1966, pp. 8-9)

Counties with Access to a Medicare-Eligible Hospital

	1967	1968	1969	1970+
Alabama Total counties = 58	51 [93%]	56 [99%]	56 [99%]	58 [100%]
Georgia Total counties = 153	133 [91%]	146 [99%]	149 [99%]	153 [100%]
Louisiana Total counties = 64	54 [91%]	58 [96%]	58 [96%]	64 [100%]
Mississippi Total counties = 82	57 [64%]	74 [88%]	77 [95%]	82 [100%]
South Carolina Total counties = 46	40 [85%]	44 [95%]	45 [99%]	46 [100%]

Note: Percent of live black births in Medicare-eligible counties reported in brackets.

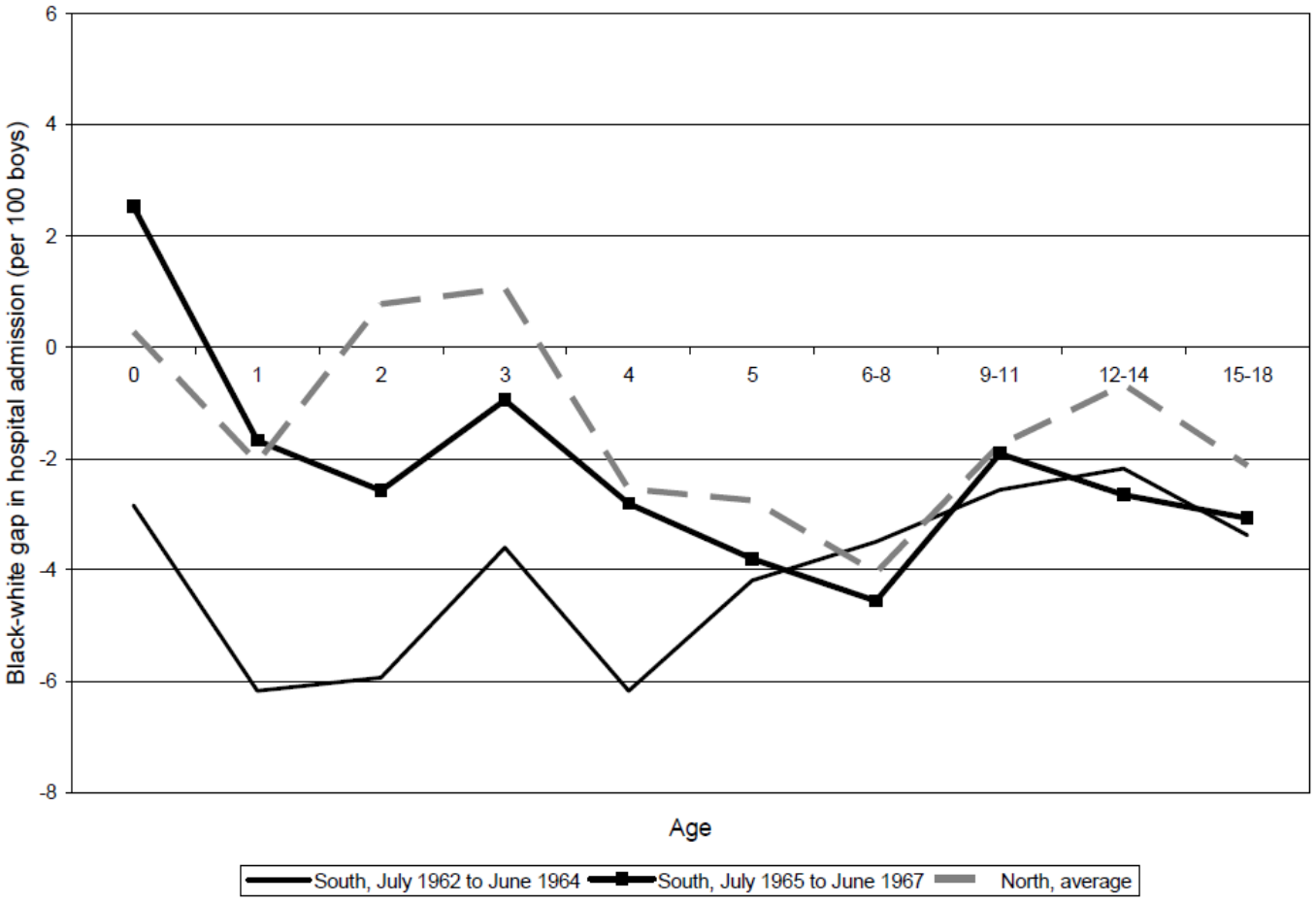


Further Evidence from the National Health Interview Surveys (NHIS)

- Chay et al. (2009) show that the Southern Black-White hospital admission rate gap among infants and children was narrower in the years 1965-1967 than the years 1962-1964.

Figure 7: Black-white hospital admission rate differences by age (boys)

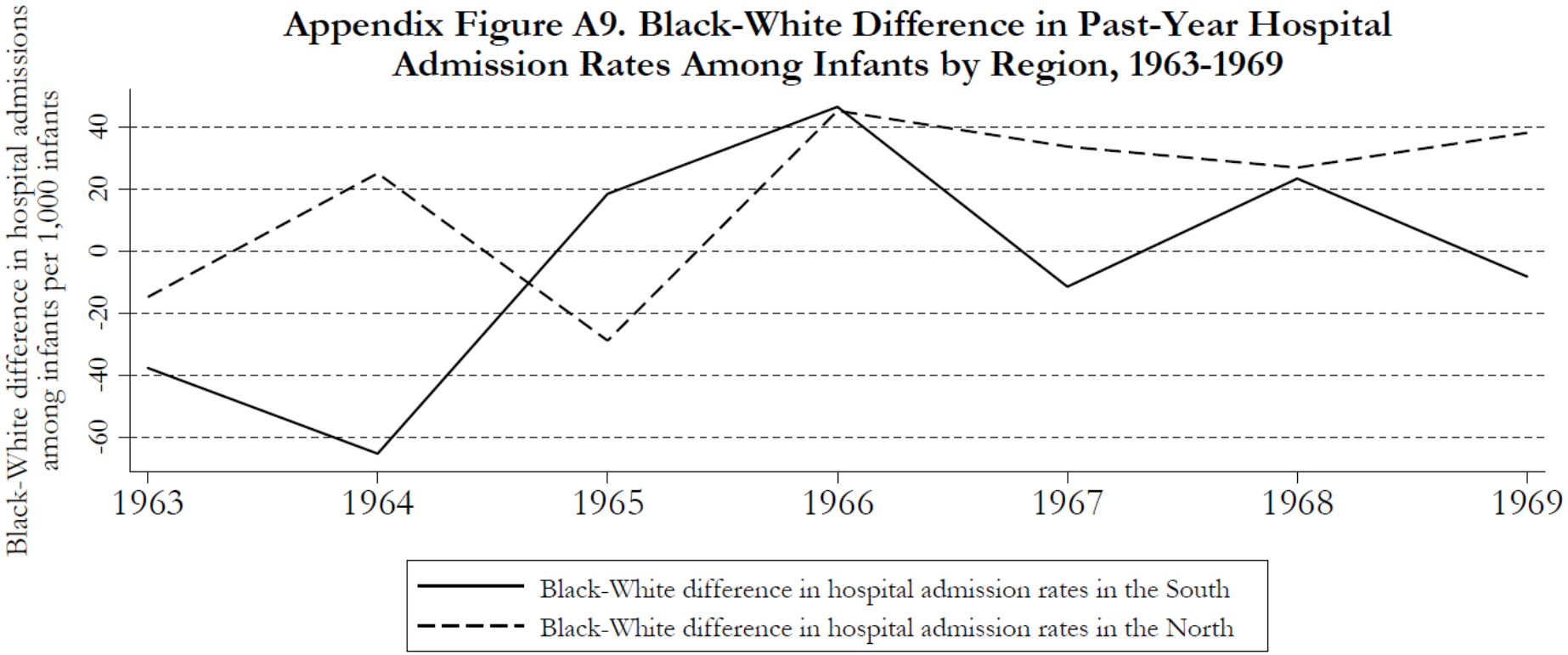
A. Hospital admission gap (per 100 boys)



Re-examination of the NHIS Data

- The Black-White difference in hospital admission rates among infants began trending upward in 1964, peaked in 1966, and then leveled off.

Appendix Figure A9. Black-White Difference in Past-Year Hospital Admission Rates Among Infants by Region, 1963-1969



Notes: Based on annual data from the National Health Interview Survey. Southern states include those in the West South Central, East South Central, and South Atlantic census divisions. Northern states include those in the West North Central, East North Central, and Middle Atlantic census divisions.