SSM -Population Health 2 (2016) 399–406

Contents lists available at ScienceDirect

SSM -Population Health

journal homepage: www.elsevier.com/locate/ssmph

Article

Political fragmentation and widening disparities in African-American and white mortality, 1972–1988

Yonsu Kim [a,*], Tim A. Bruckner [b]

[a] Planning, Policy, and Design, University of California Irvine, 300 Social Ecology I, Irvine, CA 92697-7075, USA
[b] Program in Public Health, University of California Irvine, 635 E. Peltason Drive, Irvine, CA 92697-3957, USA

ARTICLE INFO

Article history:
Received 8 October 2015
Received in revised form
20 May 2016
Accepted 23 May 2016

Keywords:
Political fragmentation
Health disparities
Mortality
Urban governance
GEE model
U.S. local government

ABSTRACT

Objective: During the 1970s and 1980s in the U.S., population movement, urban sprawl and urban governance reform led to a proliferation of local, autonomous jurisdictions. Prior literature examines how this creation of local governments, also referred to as political fragmentation, contributes to economic growth and social inequality. We examine the impact of political fragmentation on health equity by testing the hypothesis that the mortality disparity between whites and African-Americans varies positively with political fragmentation.

Methods: We retrieved mortality data from the multiple cause-of-death file and calculated total number of local governments per 1000 residents in a county to measure the degree of political fragmentation. We focused on 226 U.S. counties with population size greater than 200,000 and restricted the analysis to four distinct periods with overlapping government and mortality data (1972–73, 1977–78, 1982–83, and 1987–88). We applied generalized estimating equation methods that permit analysis of clustered data over time. Methods also controlled for the age structure of the population, reductions in mortality over time, and confounding by county-level sociodemographic variables.

Results: Adjusted coefficients of fragmentation are positive and statistically significant for both whites (coef: 2.60, SE: 0.60, $p < 0.001$) and African-Americans (coef: 5.31, SE: 1.56, $p < 0.001$). The two-fold larger positive coefficient for African-Americans than for whites indicates a greater racial disparity in mortality among more politically fragmented urban counties and/or time periods.

Conclusions: From 1972 to 1988, political fragmentation in large urban counties moves positively with the racial/ethnic gap in mortality between whites and African-Americans. We discuss intervening mechanisms through which political fragmentation may disproportionately affect mortality among African-Americans.

1. Introduction

After World War II, population growth and rapid urbanization in the U.S. led to dramatic political and geographic changes in urban areas. Scholars have explored how changes in the urban landscape affected economic growth as well as social and racial inequalities (Akai & Sakata, 2002; Bollens, 1986; Oates, 1985; Schneider, 1986; Stansel, 2008; Weiher, 1991). We build on this literature and focus on a relatively unexplored aspect: whether, and to what extent, increasing decentralization of political authority, in the form of governmental fragmentation, corresponds with rising health disparities between whites and African-Americans.

Political fragmentation refers to the process of redistributing functions, powers, or people away from a central authority by incorporating autonomous entities such as municipalities and special districts (Judd & Swanstrom, 2009). Decentralization of urban areas by population movement and urban sprawl in the U.S. led to a proliferation of local jurisdictions that established autonomous entities such as municipalities (Judd & Swanstrom, 2009; Morgan & Mareschal, 1999). Along with local governments, smaller jurisdictional boundaries resulting from fragmented governance allow residents to make locational decisions, considering the quality of schools, crime rates, racial composition and other public services (Weiher, 1991). Empirical studies report that political fragmentation accelerates spatial income and racial segregation (Bischoff, 2008; Miller, 1981; Morgan & Mareschal, 1999).

Hutson, Kaplan, Ranjit, and Mujahid (2012) used a cross-sectional analysis to examine the relation between fragmented governments and health disparities for large metropolitan statistical areas (MSA). The Authors examined data in the late 1990s and

* Corresponding author.
E-mail addresses: yonsuk@uci.edu (Y. Kim), tim.bruckner@uci.edu (T.A. Bruckner).

http://dx.doi.org/10.1016/j.ssmph.2016.05.008

report that the number of local governments varies positively with a disparity between white and African-American mortality. Their study provides a "proof of concept" of an association between political fragmentation and health disparities. However, Hutson and colleagues employed a fragmentation metric only for one time period in 1997. The pace of political fragmentation occurred rapidly in the 1970s and 1980s but significantly slowed in the 1990s. Such differences indicate that we cannot know the external validity of Hutson and colleagues' findings in understanding the health implications of urban landscapes that evolve over time. In addition, MSAs do not define legal or administrative municipal boundaries; rather, they define economically and socially integrated areas. Given that many local agencies are established primarily at the county level, Hutson and colleagues' choice of MSA as the unit of analysis may obscure meaningful county variation in political fragmentation that occurs within an MSA.

We build on the approach by Hutson and colleagues and assess whether results generalize to the dynamic period in the 1970s and 1980s. Specifically, we test whether fragmentation from 1972 to 1988 precedes an increase in African-American relative to white mortality rates. We improve upon earlier work in two ways. First, the structure of our analysis aims to exploit within- and across-county differences in fragmentation. Second, we control for confounding by secular improvements in mortality and the changing age structure of the U.S. population.

2. "White flight" and political fragmentation

In the 1960s and 1970s, metropolitan areas witnessed drastic growth in outer areas. The middle class moved from inner cities to suburban areas. Such urban sprawl and central city decline contributed to an outward movement of the economic base and employment opportunities (Jargowsky, 2002). This economic and demographic shift precipitated inequality between urban and suburban jurisdictions in access to public services, health care, affordable housing, education, infrastructure and job opportunities (Hutson et al., 2012). In addition, federal policies accelerated these inequalities by providing fewer opportunities for ethnic minorities. The Federal Housing Administration (FHA), the Veterans Administration (VA), and the Federal-Aid Highway Act helped affluent whites relocate to the suburbs and encouraged racial segregation (Cashin, 2010; Jackson, 1985; Judd & Swanstrom, 2009).

Coupled with urban sprawl, political fragmentation exerted a considerable impact on racial segregation. Newly incorporated government entities allowed middle class communities to segregate from the ethnic minorities or the less affluent, adopted zoning and planning restrictions, and provided tailored public goods and services for residents in that local jurisdiction (Bischoff, 2008; Hart, Kunitz, Sell & Mukamel, 1998). Researchers contend that this process of segregation promotes health disparities through several pathways, including through poverty concentration, insufficient housing, high unemployment rates, and low incomes (Acevedo-Garcia & Lochner, 2003; Hart et al., 1998; Jargowsky, 1997; La Veist, 1989; Massey & Denton 1993; Polednak, 1996; Wilson, 1996).

Our study focuses on urban governance that involves policies of local governments and provision of public goods and services. In accordance with federal and state authorities, many local agencies are established primarily at the county level. The delegation of authority to local governments, especially in the absence of federal or state laws, may lead to great variation of the structure and function of local health agencies across the country (Carter & Slack, 2010). Some counties vary in the extent of their public expenditures (e.g., public schools), taxes and social and fiscal policies. This large variation may affect the structures of economic and social opportunities, as well as the level of generosity of safety net programs. Such county differences may plausibly affect health disparities differentially, even if adjacent counties fall under the same larger metropolitan area.

The literature regarding political fragmentation examines whether fragmented governance enhances economic efficiency and contributes to economic growth. This hypothesis traces its origins to Tiebout's model and public choice theory. Tiebout (1956) argues that local governments provide public goods more efficiently in fragmented governance structures through the competition for residents who "vote with their feet". This argument coheres with public choice theory that stresses economic growth through the interjurisdictional competition in a decentralized organizational structure. Public choice theory implicitly criticizes a lack of competition in the consolidated government (Brennan & Buchanan, 1980; Brueckner, 2011; Kim & Jurey, 2013). Empirical studies assess the relation between fragmented governance and government expenditure, gross product growth, personal income growth, and employment growth. Findings, however, do not converge and remain controversial (Akai & Sakata, 2002; Eberts & Gronberg, 1988; Nelson & Foster, 1999; Raimondo, 1989; Schneider, 1986; Stansel, 2005).

Several studies examine the association between fragmented governance and social equity. Research reports that fragmented settings adversely impact income inequality and racial segregation presumably via increased poverty concentration in core urban areas and incorporation of the affluent community in the suburban areas (Bischoff, 2008; Hill, 1974; Swanstrom, 2001; Weiher, 1991). By contrast, other empirical studies that examine a panel of developing and developed countries report a positive association between fiscal decentralization and infant health (Mills, Vaughan, Smith, & Tabibzadeh, 1990; Robalino, Picazo, & Voetberg, 2001). Our study allows us to capture the variation of local government structures and its impact on health disparities in mortality. We also seek to replicate Hutson and colleagues' findings by utilizing data over four time periods spanning 15 years. We test the hypothesis that fragmented governance at the county level moves positively with widening health disparities in mortality between whites and African-Americans. Given the changes in the urban landscape in the 1970s and 1980s in the U.S., we focus our test on this time period.

3. Methods

3.1. Variables and data

We retrieved data on multiple causes of death from the National Vital Statistics System of the National Center for Health Statistics (NCHS). NCHS constructs the data on the basis of death certificates filed in each state. We obtained death counts at the county level. NCHS provides the entire death count data for the 1970s and 1980s across all counties in the U.S. These death counts include age and race information. Much literature documents the validity of age, race, and county identifiers on these death certificates and uses these files to describe racial disparities in mortality over this time period (Ezzati, Friedman, Kulkarni, & Murray, 2008; Levine et al., 2001; Meara & Culter, 2008; Murray et al., 2006; Satcher et al., 2005).

To measure the degree of political fragmentation, we employed total number of local governments per 1000 residents in a county. Prior literature uses this indicator to measure political fragmentation and more accurately captures the redistribution of political power in local governance than do alternative expenditure or revenue measures (Hawkins & Dye, 1970; Kim & Jurey, 2013). The U.S. Census Bureau conducts a census of local governments for all states for years ending in "2" and "7". This census limited our