Supplemental Online Content

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eAppendix 1. Affordable Housing Policy Reform, New Jersey, 1985-2008

In a pair of rulings (Southern Burlington County N.A.A.C.P. v. Mount Laurel Township I and II), the New Jersey Supreme Court barred municipalities from using exclusionary zoning to block construction of affordable low-and middle-income housing and held that municipalities had a constitutional obligation to use their zoning power in an affirmative way to provide a fair share of affordable housing. In 1985, the New Jersey legislature responded to these rulings by passing the Fair Housing Act that set up a framework for municipalities to meet their constitutional obligations to provide affordable housing for low- and moderate-income families.¹ There was no funding source specified, and implementation of the law varied across municipalities with some communities opposing the law: the law provided for municipalities to be released from up to half of their affordable housing obligation by funding affordable housing in other municipalities; however, some municipalities opted not to support affordable housing development and instead face lawsuits in the courts. Due to the unbalanced and insufficient provision of affordable housing, New Jersey enacted a second major set of affordable housing reforms in 2008.² As part of the reforms, municipalities were no longer able to transfer their housing obligations to other municipalities and a statewide 2.5% fee would be assessed on non-residential development to raise funds for the construction or rehabilitation of affordable housing. In addition to state funds, municipalities continue to use federal and local funds as well as municipal inclusionary zoning³,⁴ regulations to support affordable housing development.⁵,⁶ As a result, the availability of public-supported housing units per eligible person in the state has varied substantially across municipalities and over time.⁶ Further, the state of New Jersey has more jurisdictions with inclusionary housing than any other state,⁷ which is ideal for our analysis of the association between publicly supported affordable housing and severe maternal morbidity.
**eTable 1. Affordable Housing Units by Program, New Jersey**

| Program providing affordable housing                                                                 | # of units |
|-------------------------------------------------------------------------------------------------------|------------|
| **Single program**                                                                                     |            |
| NJ Fair Housing Act – Housing to meet a municipality’s NJ constitutional obligation. Some developments are federally funded, some are state funded, and some are inclusionary zoning developments. | 24,962     |
| Public Housing – A federal housing program                                                               | 16,354     |
| Section 221 – A federal housing program                                                                  | 5,168      |
| NJ Housing & Mortgage Finance Agency (HMFA) – Various housing supports including construction of affordable housing with state aid raised from bonds and real estate sales. | 4,849      |
| Section 8 – A federal housing program                                                                    | 3,159      |
| Low-income housing tax credit (LIHTC) – A federal housing program                                        | 2,990      |
| Section 236 – A federal housing program                                                                   | 1,455      |
| NJ Balanced Housing - Supports construction and conversions of new housing units and renovation of existing housing | 1,355      |
| Other programs                                                                                           | 1,302      |
| **Multi-program**                                                                                         |            |
| HMFA & LIHTC                                                                                             | 6,286      |
| HMFA & Section 8                                                                                         | 5,325      |
| HMFA & Section 236                                                                                       | 3,526      |
| HMFA, LIHTC & Balanced Housing                                                                           | 1,577      |
| Fair Housing Act, HMFA & LIHTC                                                                           | 3,385      |
| Fair Housing Act & Balanced Housing                                                                     | 2,231      |
| Fair Housing Act, LIHTC & Balanced Housing                                                               | 1,917      |
| Fair Housing Act & LIHTC                                                                                  | 1,904      |
| Fair Housing Act & any other program                                                                     | 7,627      |
| Other combination of programs                                                                            | 5,808      |

Note: Data are for 2015. Housing for seniors, people with disabilities, or other special populations is not included. Other programs include the federal HOME Investment Partnerships, Section 223, and HOPE VI programs, etc.

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**eTable 2. Severe Maternal Morbidity Indicators**

| Diagnostic Codes                                      | Procedure Codes                             |
|-------------------------------------------------------|---------------------------------------------|
| 1. Acute myocardial infarction                         | 17. Conversion of cardiac rhythm             |
| 2. Aneurysm                                           | 18. Blood products transfusion               |
| 3. Acute renal failure                                | 19. Hysterectomy                             |
| 4. Adult respiratory distress syndrome                | 20. Temporary tracheostomy                   |
| 5. Amniotic fluid embolism                            | 21. Ventilation                              |
| 6. Cardiac arrest/ventricular fibrillation             |                                             |
| 7. Disseminated intravascular coagulation             |                                             |
| 8. Eclampsia                                          |                                             |
| 9. Heart failure/arrest during surgery or procedure    |                                             |
| 10. Puerperal cerebrovascular disorders               |                                             |
| 11. Pulmonary edema or Acute heart failure            |                                             |
| 12. Severe anesthesia complications                   |                                             |
| 13. Sepsis                                            |                                             |
| 14. Shock                                             |                                             |
| 15. Sickle cell disease with crisis                    |                                             |
| 16. Air and thrombotic embolism                       |                                             |

Source: The Centers for Disease Control and Prevention
eAppendix 2. Testing for Spatial Autocorrelation

We used a choropleth map to visually assess the geographic clustering in housing cost burden in the state. As shown in Figure 1 of the main article, there was substantial variation in housing cost burden across municipalities but it was not clustered in any region of the state, suggesting no need to analyze higher levels of geography such as counties or regions.

We formally tested for the presence of spatial autocorrelation in the residuals in each model by computing global Moran’s I. We specified a queen contiguity spatial weights matrix (i.e. municipalities sharing a boundary or corner were considered neighbors). A Moran’s I significantly different from 0 indicates spatial dependence in the data that is unaccounted for in the analysis, which could bias the estimates. None of the global Moran’s I statistics calculated were statistically significant, indicating that spatial autocorrelation was not a concern.
### eTable 3. Association Between Affordable Housing Subsidy in Municipality of Residence and Severe Maternal Morbidity

|                                                                 | OR   | (95% CI)       | OR   | (95% CI)       | RR   | (95% CI)       |
|-----------------------------------------------------------------|------|----------------|------|----------------|------|----------------|
| Annual housing subsidy per person below poverty ('000s)         | 1.00 | (0.97-1.02)    | 0.92*| (0.85-1.00)    | 0.92*| (0.85-1.00)    |
| Annual housing subsidy per person below poverty ('000s) × High School | 1.11*| (1.02-1.21)    | 1.11*| (1.02-1.20)    |      |                |
| Annual housing subsidy per person below poverty ('000s) × Some college | 1.13**| (1.04-1.23)    | 1.13**| (1.03-1.23)    |      |                |
| Annual housing subsidy per person below poverty ('000s) × College or higher | 1.07 | (0.99-1.17)    | 1.07 | (0.99-1.17)    |      |                |

**Random parameter**

| Municipality-level variance | OR   | (95% CI)       | OR   | (95% CI)       | RR   | (95% CI)       |
|-----------------------------|------|----------------|------|----------------|------|----------------|
|                              | 0.03**| (0.02-0.04)    | 0.03**| (0.02-0.04)    | 0.03**| (0.02-0.04)    |

Note: Odds ratios (OR) are from multilevel logistic regression models and risk ratios (RR) are from a multilevel poisson regression model. The models also controlled for individual- and municipal-level factors, i.e., age, educational attainment, race/ethnicity, parity, year of birth, and municipality-level % with housing cost burden, % below poverty level, population size, and an interaction between educational attainment and % with housing cost burden.

* p<0.05, ** p<0.01.
**eFigure.** Marginal Effects (and 95% CIs) of Housing Cost Burden in Municipalities by Availability of Publicly Supported Affordable Housing for Older Adults Among Individuals With Less Than High School Education
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