

Associations between of child care quality regulations on children's health outcomes

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According to the data from Survey of Income and Program Participation (SIPP), in 2011, 32.7 million children were in a child care arrangement (U.S. Census Bureau, 2011)¹, with the most commonly used type of care being enter based care. Given this, it is essential to identify how child care center regulations matter for children's health and development. In this paper, we aim to investigate the association between state regulations related to the quality of center based child care and children's health and developmental outcomes. We compile an extensive set of child care quality regulations and link these to measures of child well-being.

We perform these analyses using restricted access ECLS-B (Early childhood longitudinal study, birth cohort) data, which follows a nationally representative sample of about 14,000 children born in 2001. This data contains rich information about children and their parents, as well as information about the child care providers. The restricted access data has state identifiers, which are used to merge with state policy indicators. Among different waves of ECLS-B, we focus on the preschool wave in 2005 because this is a developmentally important age range. We compiled a set of policy indicator variables such as whether the state has any education requirement for the teacher (who spends the most time interacting with children), has postsecondary degree as one of the education requirements for the teacher, the maximum group size requirement, and the staff to child ratio in 2005. To date, no previous study has related these aspects of child care quality regulation to children's outcomes.

The outcome measures we examine are obesity, healthy and unhealthy eating habits, doctor diagnosis of ear infection, gastrointestinal illness, bronchitis, and other developmental outcomes such as whether they passed motor balance test, and math and reading score scales. Child level control variables include child's age in months, race categories (Non-Hispanic White, Non-Hispanic Black, Hispanic, and other), gender, whether they are enrolled in Head Start, and whether they are enrolled in full time child care. Also, we adjust for children's prior health conditions by controlling for relevant health information from the birth certificate records. For instance, we control for low birth weight status (<2500 grams), five minute APGAR score at birth, inadequate Kessner index, number of any birth conditions (sum of binary indicators for

¹ http://www.census.gov/how/pdf/child_care.pdf

anemia, injury, seizure and more), and whether the mother smoked or drank alcohol during pregnancy. It is important to account for these early health conditions because these may reflect preexisting health status of the child, which can also affect children's likelihood of being obese, or having various illnesses at preschool age (age 4). For family characteristics, we control for marital status, mother's education level (less than high school, high school graduate, some college, college graduate, or beyond college), mother's work status (whether she works 35 hours a week or more), nativity, and family income.

After controlling for relevant child, mother, and family characteristics as well as state demographic characteristics, we find that requiring teachers to have a postsecondary degree is associated with improvements in children's health, including obesity, unhealthy eating habits, and numbers of infection and illnesses. We also find that having a maximum group size requirement is significantly and negatively associated with illness and infection outcomes. This study shows that factors that lead to higher quality of child care can affect children's health outcomes after controlling for relevant characteristics of the child, mother, and family. Although this relationship is not causal, result from this study is novel and meaningful because previous studies have not related various aspects of child care quality regulation to children's health outcomes. Findings from this paper suggest that it is important for policymakers to consider what aspects of child care quality are positively associated with children's health outcomes.