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The Health Dimension in Neighborhoods and Moving Patterns

Lack of research in health and neighborhoods

For years politicians have wanted to know the relationship between residential areas and residents’ health. There exists an underlying assumption that an individuals’ health depends not only on hereditary health conditions and personal socioeconomic characteristics but also on access to health services as well as the demographic and socioeconomic composition in the neighborhood. The latter factors are referred to a contextual effect (Manski, 1993), where a special composition of the neighbors affects the resident health. Thus, it is a key research question as to what extent certain neighborhoods characteristics have negative or positive impacts on the residents’ health status.

Empirical studies on health differences in residential areas are scarce. The research that does exists in Denmark is limited to case studies on health aspects in particularly deprived neighborhoods (e.g., Carlsen, 2010).

A unique opportunity with Danish data

Unique Danish administrative data for the full Danish population allows us to investigate the interaction between the health of residents and their neighborhoods in a way, which is currently

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2 The definition of a deprived neighborhood is based on the Social Ministry’s list of deprived neighborhoods in 2011 (Ministry of Housing, Urban and Rural, 2014). This 2011 list included 28 residential areas with a total of 59,000 residents living in 14 different municipalities.
unexplored. Particularly, we are able to investigate who is moving to and from different residential areas, and whether people moving to and from certain residential areas have a detected change in health after a removal.

The Danish administrative register data contains information about socioeconomic characteristics, demographics, housing, moves, somatic as well as mental health care use and prescriptions. Information on socioeconomic characteristics and housing/moves are from 1980 to 2014, while information on admissions to somatic hospitals is from 1995 to 2014. In addition, we use information on children’s well-being for a larger sample of children. Using information on individual residential addresses, we construct geographically defined quadrants that indicated the neighborhoods. Finally, we merge our data with information from the Ministry of Housing, Urban and Rural on deprived neighborhoods. For a selection of the larger municipalities’ we include information about local authority social housing instructions.

Using this data we examine the impact of a move using different definitions of a neighborhood. The definitions can be based on the characteristics of the housing, geographical location and/or socioeconomic characteristics of the residents. Thus, we examine the effect of moving to or from a specific residential area on health care use (including the number of hospitalizations by admission diagnosis and contacts with the GP and specialists), mental health and well-being, as well as the use of prescription drugs.

**Empirical strategy and challenges**

Two issues arise when we examine how moving to and from a residential area affects health. (1) A direct link between moves and health might reflect the reverse causality e.g. people with specific health problems more often than healthy people end up in a financial situation where they are forced to move to a cheaper residential area. (2) There might also be some unobserved characteristics that determine health and residential choices. This can be the case if people with certain characteristics invest less in their health while they also are less able to control their financial situation.

These empirical challenges can be overcome by using the Danish administrative register panel data. Thus, the use of health care 5 years before and 5 years after a move is described. The health care use among people that moves to and from a deprived area is compared with a group of siblings of the same sex with a minimum of a 5-year age difference. This analysis does not reveal the causality in the relationship between, for example, moving to a specific residential area and the likelihood of being admitted to a hospital. However, with these figures we illustrate changes in the use of health care services before and after the removal.

In order to determine the causal impact of moving to certain residential areas on health we use a before and after approach. Two basic conditions are required to use this approach. First, the people must be observable before and after the move. Then we can compare a person’s health care use with himself by calculating differences for the average of outcome measures, and thus remove an individual specific component in the empirical estimation. Second, one needs to define the counterfactual situation, i.e., what would have happened if the person did not move to another neighborhood. This can be solved by using a valid comparison group e.g. siblings. As
an alternative identification strategy we use the fact that residencies are assigned randomly in certain neighborhoods for the social housing sector to analyze the effect of moving to a deprived neighborhood.