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Parallel session 1

## 1.1 THE SPACIAL AND SOCIAL DETERMINANTS OF URBAN HEALTH IN LOW, MIDDLE AND HIGH INCOME COUNTRIES

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## 01-1.1 URBANISATION AND SPATIAL INEQUALITIES IN HEALTH IN BRAZIL

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**Introduction** Segregation means enforced separation of disadvantaged social groups. The combination of poverty and spatial segregation favours the reproduction of poverty and affects the health of segregated groups as well the health of the population. A number of dimensions of segregation can now be measured through indices of spatial clustering, isolation and exposure to other social groups.

**Objectives** To analyse the association between socioeconomic urban segregation and population health in Brazil.

**Methods** This is a cross-sectional and ecological study. Secondary data for 20 of the biggest Brazilian cities was obtained from the census and from the national information systems. The district level health outcome variables were cardiovascular, cancer, external causes and total mortality rates. The explanatory variables were: census tract and district level scores of several spatial and local socio-economic segregation indices, and income. Regression analysis, testing for spatial autocorrelation, and spatial regression were used to check the association between segregation indices and health outcomes.

**Results** Districts with the poorest health were also districts with the highest segregation of the poorest groups. In contrast, districts with the best health were ones where the rich were isolated and lacked exposure to the poor.

**Conclusions** Within Brazilian cities, the disadvantaged social groups are spatially segregated. The data suggest that segregation is bad for the health of poor districts and good for the health of the rich districts. This process of segregation leading to divergent health outcomes depending on the socioeconomic profile of communities may intensify health inequalities.

## 01-1.2 SOCIOECONOMIC SEGREGATION IN MAJOR INDIAN CITIES AND MORTALITY

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**Introduction** A higher degree of urbanisation in developing countries is associated with lower levels of poverty, usually through economic growth. However, urbanisation is also linked with the segregation of poor communities, as they are clustered into fewer neighbourhoods (eg, through slum clearance programs) or increasingly isolated in the neighbourhoods they live in (eg, through the in-migration of poor migrants into their neighbourhoods or the out-migration of richer households).

Greater socioeconomic inequalities are associated with higher mortality, although the association of socioeconomic segregation with mortality is not as well established. If urbanisation leads to positive outcomes (economic growth) as well as negative outcomes (socioeconomic segregation), it is crucial to examine the association of such segregation with mortality rates.

**Methods** This ESRC Pathfinder project examines the association of socioeconomic segregation of poor communities in major Indian cities with mortality using data from the District Level Household Surveys in 2002 and 2008. Measures of socioeconomic segregation (indices of dissimilarity and isolation) were correlated with city level mortality rates.

**Results** Preliminary analysis suggests differential associations between measures of socioeconomic segregation and mortality. Cities where the poor are more isolated in their neighbourhoods have higher mortality rates than cities where the poor are less isolated. Whereas cities where the poor are clustered into fewer neighbourhoods have lower mortality rates than cities where the poor are more evenly spread out.

**Conclusion** As Indian cities grow in population, they may also become more socioeconomically segregated, which may also have negative consequences for population health.

## 01-1.3 THE SOCIAL AND ENVIRONMENTAL DETERMINANTS OF URBAN HEALTH INEQUITIES IN LOW AND MIDDLE INCOME COUNTRIES: FINDINGS FROM THE ROCKEFELLER FOUNDATION GLOBAL RESEARCH NETWORK ON URBAN HEALTH EQUITY

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Throughout the 20th and 21st centuries, our increasingly urban world has seen significant improvements in indicators of health and life expectancy. However there are marked geo-spatial, socio-economic and socio-cultural differences in rates of communicable and non-communicable diseases and premature mortality. In all countries, rich and poor, there is an unequal distribution of health both within countries (the urban-rural divide) and within cities (the social gradient).

Urban management is a pressing health issue for countries and cities at all stages of economic development—following the projected trajectory of urban growth, city populations in all countries will age, the triple threat of communicable and non-communicable diseases, and accidents, injuries, road accidents, violence and crime will grow, there will be more urban sprawl and greater numbers of people living in poverty, slums and squatter settlements.

This paper presents the findings from the Global Research Network on Urban Health Equity (GRNUHE) established by the Rockefeller Foundation to bring to the forefront the evidence and argument for urgent action in key societal and environmental factors—governance, urban design, social infrastructure and climate change—done in such a way as to improve the health premium from urbanisation and ensure its fair distribution.

## 01-1.4 THE PATTERNING OF DEPRIVATION AND ITS EFFECTS ON HEALTH OUTCOMES IN THREE POST INDUSTRIAL CITIES IN BRITAIN

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Scotland has some of the worst reported health in the developed world. In comparison to England and Wales it has higher mortality rates, as well as higher incidence and prevalence of heart disease, many cancers (especially lung cancer) and deaths from suicides, accidents and alcohol. Scotland also has some of the most deprived neighbourhoods in the UK, with most being concentrated in Glasgow. The link between poor health and neighbourhood deprivation is well documented but research has also shown that