

### ID: 678906

# Inequalities in Health and Health Care in Serbia

R.A. Carr-Hill, G. Boulton , Centre for Health Economics, University of York, UNITED KINGDOM

## **Objectivos (Objectives):**

## Background:

As part of work to develop a resource allocation formula for funding the decentralized Serbian Primary Health Care System, it was necessary to identify reliable and valid measures of need at decentralised geographical levels (the local Health Authorities, Dom Zdravijas or DZs). In particular, the associations between a wide variety of proxy need indicators and inequalities in health (as measured by mortality) and inequalities in health care (as measured by current budgetary allocations and staffing provision) were examined.

## Objectives of this Paper:

To examine variations in the provision of health care between DZs in order to assess the extent to which they are equitably distributed; and to examine variation in mortality between DZs in Serbia. In order to assess the extent of the relation between inequalities in health and inequalities in wealth

#### Metodologia (Methodology):

- Compilation of coherent and consistent set of data at DZ level from various sources
- Calculation of expenditure at DZ level based on staffing norms.
- Indirect age-sex standardisation of DZ populations
- Correlations between health care provision, mortality levels and indicators of poverty at DZ levels

• Multivariate analysis of both the Serbian Demographic and Health Survey for 2003-04 and the Living Standards Measurement Survey for 2007, using both fixed and random effect estimators to understand apparently anomalous results at DZ level

#### **Resultados (Results):**

The analysis of variations in health care showed that there are large inefficiencies in the provision of health care with rural areas over-staffed and large metropolitan areas relatively under staffed. These variations (inequalities) are largely unrelated to income or mortality, generating an Inverse Health Care Law at DZ level. This appears to be confirmed at an individual level where expenditure on health care is only weakly (inversely) related to household expenditure levels.



The analysis of variations (inequalities) in death between DZs showed that they are unrelated to income or any other measure of poverty. On the other hand, self-reported health is strongly (inversely) related to household expenditure levels.

This paper goes on to explore three possible hypotheses as to how these apparently anomalous results at the DZ level might have arisen, using both the Demographic and Health Survey and the Living Standards Measurement Survey:

• Cross border migration and internal displacement of people, following the break up of the former Yugoslavia; and / or tight bureaucratic control over internal migration;

• Most of the poverty measures are based on information / records about those employed in the formal sector, and these are a poor proxy for the actual level of poverty;

• Alcohol, for an Eastern European country, is relatively expensive and so is more available to the wealthier.

#### **Conclusões (Conclusions):**

There is an Inverse Health Care Law in Serbia because current allocations to the local health authorities are based on a set of staffing norms according to age-sex specific population groups which generates fractional numbers of each staff category but, as part time employment is illegal under current employment law, those fractions are rounded up, so that small size DZs which are usually healthy rural populations receive more allocation.

Inequalities in mortality between health authority areas are NOT related to inequalities in income and wealth at that level, whilst there are relationships between self-reported health and income at the household level. This arises mostly because of the 'dual' economy with a large non-formal sector.