

The carbon footprint of Chinese healthcare sector

Topic: Thematic IO analysis: Energy and Environment

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Research question: Carbon footprint of healthcare sector is a key indicator for measuring and reducing the carbon emission stemming from healthcare service. In developed countries, carbon footprints of healthcare sector are estimated to be 3%–10% of the total national CO₂ equivalent emissions. However, it remains unknown for developing countries. This study quantified the carbon footprint of Chinese healthcare sector and identified the major emission sources.

Method: We developed satellite account of CO₂ emissions and did an environmentally extended input-output analysis of Chinese healthcare sector for the year 2012.

Data: We used the latest input-output table of China in 2012. The expenditure data were obtained from China Health and Family Planning Statistics Yearbook. The energy data of 45 sectors were obtained from China Energy Statistics Yearbook. For healthcare sector, the energy data were not available in the Yearbook and were indirectly obtained from the input from energy sectors to healthcare sector in input-output table.

Novelty: In developing countries, several studies estimated energy consumption or carbon emissions at hospital level but ignored the indirect energy use or carbon emissions of purchased medicines, medical instruments, etc. This is the first study to quantify both the direct and indirect carbon emissions of the entire healthcare sector in a developing country.