

## Comparing health care workforce in circumpolar regions: patterns, trends and challenges

**Background:** The eight Arctic States exhibit substantial health disparities between their remote northernmost regions and the rest of the country. This study reports on the trends and patterns in the supply and distribution of physicians, dentists and nurses in these 8 countries and 25 regions and addresses issues of comparability, data gaps and policy implications.

**Methods:** We accessed publicly available databases and performed three types of comparisons: (1) among the 8 Arctic States; (2) within each Arctic State, between the northern regions and the rest of the country; (3) among the 25 northern regions. The unit of comparison was density of health workers per 100,000 inhabitants, and the means of three 5-year periods from 2000 to 2014 were computed.

**Results:** The Nordic countries consistently exceed North America in the density of all three categories of health professionals, whereas Russia reports the highest density of physicians but among the lowest in terms of dentists and nurses.

The largest disparities between "north" and "south" are observed in the Northwest Territories and Nunavut of Canada for physicians, and in Greenland for all three categories. The disparity is much less pronounced in the northern regions of Nordic countries, while Arctic Russia tends to be oversupplied in all categories.

**Conclusions:** Despite efforts and standardisation of definitions by international organisations such as OECD, it is difficult to obtain an accurate and comparable estimate of the health workforce even in the basic categories of physicians, dentists and nurses. The use of head counts is particularly problematic in jurisdictions that rely on short-term visiting staff. Comparing statistics also needs to take into account the health care system, especially where primary health care is nurse-based.

**List of Abbreviations** ADA: American Dental Association; AHRF: Area Health Resource File; AMA: American Medical Association; AO: Autonomous Okrug; AVI: Aluehallintovirasto; CHA: Community Health Aide; CHR: Community Health Representative; CHW: Community Health Worker; CIHI: Canadian Institute for Health Information; DO: Doctor of Osteopathic Medicine; FTE: Full Time Equivalent; HPDB: Health Personnel Database; MD: Doctor of Medicine; NOMESCO: Nordic Medico-Statistical Committee; NOSOSCO: Nordic Social Statistical Committee; NOWBASE: Nordic Welfare Database; NWT: Northwest Territories; OECD: Organization for Economic Co-operation and Development; RN: Registered Nurse; SMDB: Scott's Medical Database; WHO: World Health Organization.

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