



CARTOGRAMS

# HEALTHY PLANET

BY BENJAMIN HENNIG

Shortages in the global health workforce have become a major concern over recent years. The issue has even been included in the United Nation's global strategies on health ever since the Millennium Development Goals were signed in the year 2000. The new Sustainable Development Goals related to health issues revisit the subject by setting targets with the goal of ensuring 'healthy lives and

promoting wellbeing for all at all ages.' Monitoring and improving access to 'quality essential healthcare services' remains an important element in achieving this goal.

In 2015, the global health workforce was estimated to be 43 million. According to Global Health Observatory data by the World Health Organization (WHO), this number included 9.8 million physicians and 20.7 million nurses and midwives. These two categories provide the basis for this month's cartograms in which the distribution of doctors, nurses and midwives - as well as their shortage and surplus numbers - are depicted. Not included in these maps are dentists, pharmaceutical personnel, and the surgical workforce.

WHO recommendations define a threshold of 23 doctors, nurses and midwives per 10,000 members of a population as being a critical minimum for a country in order to deliver essential health-related services, especially in areas such as maternal and child health. Based on this threshold, data about the current healthcare workforce in each country was analysed to determine shortages in each country.

The main cartogram above shows the distribution of healthcare workers across the globe with each country resized according to the total number of doctors, nurses

and midwives working there. The colour scheme shows the number of healthcare workers per 10,000 people divided across five classes from extreme shortages (five and below) to relatively high numbers (above 100). The reference map shows this same data but on a conventional world map.

Two additional cartograms dissect the estimated absolute differences from the WHO's '23' threshold, with the first resizing countries based on the absolute number of health workers missing from that minimum number per capita. As this cartogram shows, the largest shortages are on most of the African continent as well as in Southeast Asia.

When setting the threshold to 44.5 health professionals (a number which includes other needs-based skills mentioned above, such as dentists and pharmaceutical personnel) per 10,000 population, as was done in a recent WHO study, then the absolute shortage is currently estimated to be at 17.4 million health workers. This is a number that will only have dropped to 14 million in 2030 if current trends continue.

On the other end are those countries with a more adequate healthcare workforce, shown in the 'surplus' map. This cartogram shows where the provision of workers is at its highest and how unequal these two

dimensions are. This cartogram looks a lot closer to how a cartogram of the global GDP production would appear, and therefore shows how healthcare is largely dependent on a certain level of wealth in a country.

Providing adequate access to healthcare goes much further than these numbers suggest. While the data provides a detailed picture of the global situation of access to healthcare, this scale does not reveal the inequalities in access to healthcare within each country. This remains a challenge in most countries, including the wealthy parts of the world where health policies and regional disparities prevent an equal access to such services.

Health continues to require action at all levels, from the global to the local. Understanding the underlying geographies plays an important part in finding strategies and defining actions to improve health for everyone.

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