

Possible ways for BRICS countries to cooperate in the field of health care: problems and solutions

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The need for BRICS countries to work together to achieve universal health coverage is emphasized in almost every declaration of the annual BRICS summits. Thus, 10 years ago, it was noted that "most BRICS countries face a number of similar health challenges, including those related to universal access to health services, technologies and medicines"¹. In 2022, the Beijing Declaration of the XIV BRICS Summit reaffirmed that "BRICS countries will strengthen multilateral technical cooperation aimed at enhancing capacity for ... universal health coverage, vaccine research and development, preventive and therapeutic health systems and digital medicine".

Goal 3 of the ² Agenda for Sustainable Development for the period until 2030, "Ensure healthy lives and promote well-being for all at all ages" states the following target 3.8: "Achieve universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all."

In order to measure and assess universal health coverage (UHC), the World Health Organization developed an integral indicator, an index that takes into account the values of indicators grouped into four components:

¹ Clause 42 IV BRICS Summit - Delhi Declaration (Delhi Declaration adopted following the results of IV BRICS Summit). <https://nkibrics.ru/pages/summit-docs>

² United Nations General Assembly Resolution A/RES/70/1, adopted on 25.09.2015.

reproductive, maternal, newborn and child health; communicable diseases; non-communicable diseases; and access to health services^{3, 4}.

However, in addition to this indicator, other indicators are analyzed as part of monitoring the achievement of the sustainable development goals in the area of health care.

In this study, the following indicators were initially grouped and analyzed:

- indicators of financial provision (current expenditures per capita; current expenditures on health care from gross domestic product; share of citizens' funds in current expenditures on health care);

- infrastructure indicators (provision of the population with doctors, nurses and hospital beds);

- generalized public health indicators (life expectancy; probability of dying between the ages of 30 and 70 from any of cardiovascular disease, cancer, diabetes or chronic respiratory disease; overall mortality rate of non-communicable diseases).

- The sources of statistical data for the study were the World Health Statistics, published annually by the World Health Organization (WHO), and the WHO Global Health Observatory.⁵ This made it possible to make the assessment and comparison of countries' health care systems completely objective.

Due to the pronounced difference in the socio-economic situation of the BRIC countries and South Africa, the latter was not included in this study, the values of public health indicators in the Federal Republic of Brazil (hereinafter referred to as Brazil), the Russian Federation (hereinafter referred to as Russia), the Republic of India (hereinafter referred to as India), the People's Republic of China (hereinafter referred to as China) were analyzed.

³ World health statistics 2016: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2016.

⁴ Primary health care on the road to universal health coverage: 2019 global monitoring report. Geneva: World Health Organization; 2021.

⁵ <https://www.who.int/data/gho>

When analyzing the values of individual indicators of financial provision of the health care system of the countries, pronounced differences in the values of the indicator "Current health care expenditures per capita" were identified: the value of the indicator in Russia is comparable with those in Brazil, but significantly higher than in India and China.

What is important is not only the expenditure per person, but also the proportion of Gross Domestic Product (GDP) that is spent on health care in a country. By this indicator, the situation is somewhat different: in Brazil, about 10% of GDP is spent on health care, in Russia and China - a little more than 5%, in India - about 3%.

A completely different situation is observed when analyzing the values of the indicator "Share of citizens' funds from current health care expenditures", the leader here is India (with the lowest value of the indicators "Current health care expenditures per capita" and "Current health care expenditures as a percentage of GDP" among the BRICS countries). The values of this indicator are again comparable in Russia and China, and significantly lower than the population's own expenditures on health care in Brazil.

The next group is infrastructure indicators. Russia is the leader in terms of bed availability. The value of this indicator is almost 1.5 times less in China, almost 3.5 times less in Brazil and 13 times less in India. Russia is also a leader in the provision of doctors, but in Brazil and China the values of this indicator are comparable and less than in Russia by about 1.7 times, in India the value is less by 5 times. The distribution by values of the indicator "Availability of nursing staff" is quite different: the leader is Brazil, Russia takes the second place with a slight difference, almost 2 times less than in Brazil, the value in China and 4 times less in India.

The pronounced ratio of physicians to nursing staff equal to 1:3 in Brazil is interesting, which clearly demonstrates the possibilities of transferring part of the workload (functions) to qualified nursing staff.

Thus, we have considered two components of the material support of the universal health coverage. Undoubtedly, it is impossible to compare the values of the financial provision indicators with the values of infrastructure, but it is possible to compile an aggregate average ranking of each country on the indicators considered and compare it with the OHC index and the ranking of each country on this indicator.

Russia is comparable to Brazil in terms of the average ranking for "material support" (finance and infrastructure), China takes the third place and India takes the fourth place.

In the next stage of the study, the obtained average ranking of countries was compared with the value and ranking of countries according to the UHC index. Russia and Brazil have almost the same UHC value and, accordingly, the same ranking on this indicator; India has a significantly lower value of material support indicators, UHC index and ranks fourth on these indicators. An interesting pattern is observed for China: having the third value (both absolute and ranking) in terms of material support of the health care system it has the highest value of the UHC index and, accordingly, ranks first in this group.

How does China manage to provide the highest level of health coverage among the BRICS countries at a lower cost? Of course, this is the result of work to promote and expand the means and methods of traditional Chinese medicine, recreation activities and their preventive orientation.

In the next step, UHC index values were compared with population health indicators, among which the following were selected: the probability of dying between 30 and 70 years of age from any of the cardiovascular diseases, cancer, diabetes or chronic respiratory diseases (risk of premature death from target NCDs); the overall mortality rate of non-communicable diseases (NCD mortality rate); and life expectancy at birth and at the age of 60.

UHC indicators are absolutely correlated with life expectancy rates. However, with equal UHC values, there is a marginal increase in life expectancy in Brazil.

The results of the health indicator analysis are thought-provoking: for the same UHC values, Brazil has a 40% lower risk of premature death from target NCDs than Russia, and a 30% lower mortality rate from NCDs. It should be noted that Russia has the highest values of these indicators among the BRICS countries.

There is a clear need to figure out and understand what the mechanism is that ensures the achievement of results in population health indicators.

Along with this study, a comparison was made of retail pharmaceutical expenditures in different countries (countries were ranked according to the ⁶⁷share of the population's funds for outpatient drug payments of total retail pharmaceutical expenditures into the following four groups: with a share of citizen payments of less than 30%; between 30% and 49%; between 50% and 70%; with a share of citizen payments of more than 70%) with UHC, risk of premature death from target NCDs; mortality rate of NCDs; expected life expectancy at birth and at the age of 60.

The following results were obtained:

- when comparing the share of citizens' funds for medicines and UHC, an inverse dependence was revealed;

- a direct correlation was determined between the share of citizens' funds to pay for medicines, the risk of premature death from target NCDs and the mortality rate of NCDs;

- the inverse dependence was also revealed when comparing the share of citizens' funds to pay for medicines and life expectancy (both at birth and at the

⁶ Health at a Glance: Europe 2020: State of Health in the EU Cycle. OECD/European Union: OECD Publishing, Paris; 2020. <https://doi.org/10.1787/82129230-en>.

⁷ Health at a Glance 2021: OECD Indicators. OECD: OECD Publishing, Paris; 2021. <https://doi.org/10.1787/ae3016b9-en>.

age of 60), which is undeniable given the decline in health coverage and increasing mortality from non-communicable diseases.

The results obtained prove the impact of the level of payments of the population for medicines under outpatient treatment on the accessibility of medical care (UHC index) and population health indicators.

It is known that the Unified Health System (National Health System) of Brazil seeks to ensure the population's access to medicines. In particular, about 70% of the medicines for continuous use and about 70% of the prescribed medicines were provided free of charge⁸.

Thus, this study allowed us to conduct a comprehensive analysis of the performance of health care systems in the BRICS countries, to determine the position of the countries by individual indicators and to identify possible ways to improve the values of indicators in the Russian Federation.

⁸ Bertoldi AD, Barros AJ, Camargo AL, Hallal PC, Vandoros S, Wagner A, Ross-Degnan D. Household expenditures for medicines and the role of free medicines in the Brazilian public health system. *Am J Public Health*. 2011. 101(5): 916-21. doi: 10.2105/AJPH.2009.175844.