

Opinion

The impact of health expenditures on public health in BRICS nations

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1. Peculiarity of the BRICS emerging economies

Since the late 1980s, accelerated globalization has provided economic growth opportunities in mature and emerging economies. The rapidly developing nations of Brazil, Russia, India, China, and South Africa (BRICS nations) have a combined economic output that makes BRICS countries the world's major emerging economies. Their growth in gross domestic product (GDP) permits increased investments in health care strategies, social support, and decreases in poverty. Although each country has followed its own distinctive development, milestones have been reached for the Sustainable Millennium Goals adopted by the United Nations.¹ With more than 3 decades of continuous economic growth, China has emerged as an overachieving nation, with more than 800 million people being lifted out of poverty.²

Health care investments are becoming a high public health priority globally. Most of the real GDP growth and the growth of health care spending worldwide is now occurring across emerging Eurasia nations that are beyond the borders of the European Union and extend to the Far East (e.g., Afghanistan, Armenia, and Kazakhstan). The fastest growth in health care spending is in nations in the Western Pacific region, including the People's Republic of China (hereinafter referred to as China).³ The growth of medical expenditures is largely driven by common health conditions for both mature and emerging economies alike. Yet, the emerging, fast-growing economies find themselves faced with a double burden. These economies still fight to eliminate infectious diseases while simultaneously being faced with a rising tide of noncommunicable diseases (NCDs).⁴

2. The big landscape on BRICS health care spending and outcomes

Investment in health care spending varies across BRICS nations. Four of the 5 nations—Brazil, Russia, China, and South Africa—have managed to increase their health care investment over time. This increase has been accomplished with national policies that remained continuous across multiple elections over the past 3 decades. Consumers, citizen expectations, and population aging demanded these increases in health care spending. According to data from the World Health Organization National Health Accounts⁵ from 1995 to 2013, health care expenditures increased by 3.0%, 2.0%, 1.5%, and 1.2% of the GDP for Brazil, China, South Africa, and Russia, respectively. In contrast, India's health care spending was reduced slightly from 4.06% of GDP in 1995 to 3.97% in 2013. However, given India's flourishing wealth, health care spending in absolute parity still increased significantly.⁶ This growth is important for all BRICS nations because growth means that priorities have been reset and adopted by consecutive governments. The key public health goals targeted by this growth in health care spending are extending longevity, promoting healthy lifestyles, controlling NCDs, improving access and affordability of medical care, and tackling the serious issue of health equity. Human longevity is the ultimate denominator of a successful health care system. Life expectancy at birth is calculated based on medium fertility, mortality, and migration predictions as inputs to the probabilistic models adopted by the United Nations Division of Social and Population Affairs (Table 1).

3. The Russian Health Care System—an exemplary BRICS pathway

Each BRICS nation faces unique health challenges that require government investments. BRICS nations have similar, but unique, plans in place to realize their health goals. Because

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Table 1

Life expectancy at birth (year, both sexes combined) by region, subregion, and country, 1950–2100: Historical, current, and medium fertility variant, 2020–2100 United Nations forecasted values for the BRICS nations^a

Life expectancy at birth (both sexes combined)	1950–1955	2015–2020	2030–2035	2050–2055	2095–2100
Brazil	50.83	75.56	78.50	82.07	87.71
Russian Federation	58.52	72.29	74.40	77.31	83.50
India	36.98	69.27	72.32	75.34	81.68
China	43.83	76.62	79.13	82.28	87.61
South Africa	44.83	63.62	66.96	70.10	76.12
World	46.96	72.28	74.79	77.35	81.70

Note: The 2nd and 3rd columns show historical figures, and the 4th, 5th, and 6th columns show forecasted values.

^a United Nations Population Division, Department of Economic and Social Affairs. World Population Prospects 2019. Data from: File MORT/7-1: POP/DB/WPP/Rev.2019/MORT/F07-1. Copyright © 2019 by the United Nations, made available under a Creative Commons license CC BY 3.0 IGO: <http://creativecommons.org/licenses/by/3.0/igo/>.

a detailed description of methods used by each BRICS nation is beyond the scope of this article, the method used by the Russian Federation provides an example.

Investments in Russia's health care system are made on the principle of targeted investments to achieve specific goals. The approach ensures that, even during conditions of economic crisis, positive results are achievable and important public health indicators for the country can be improved. For example, the Russian Federation was able to increase the national fertility level from 1.3 to 1.7 children per woman between 2006 and 2012.⁷ This positive change occurred despite Russia failing to reach the World Health Organization observed level of 6% of the GDP in low- and middle-income countries. Since 2000, core health care spending in Russia increased from 2.1% to 3.6% of the GDP. Health care spending, however, remained at 3.6% to 3.8% for the past decade, with the absolute health care spending increasing from USD11 billion in 2006 to USD46 billion in 2016.⁸

In 2018, Russia began a new version of the government health program termed the Healthcare Development.⁹ Funded at USD550 billion from 2018 to 2025, two strategic goals are targeted. First, a health care infrastructure goal was created aimed at modernizing the technological base of the health care industry, strengthening the development of medical science and

information technologies, supporting education and training to help enhance health care delivery, and improving medical management quality and standards. Emergency services aimed to provide specialized medical care for patients with acute disorders of cerebral circulation and acute coronary syndrome. An increased use of systemic thrombolysis and coronary artery angioplasty contributed to reduce mortality from myocardial infarction and cerebral vascular diseases by 7.3% and 3.6% in 2018, respectively. Second, a health care development goal was established that aimed at decreasing mortality, supporting healthy lifestyles and sports, improving public satisfaction with medical care, and increasing the social attractiveness of the medical profession. As an example of the program's initial action in 2018, 21.9 million people underwent a medical examination, including 5.2 million people who lived in rural areas. Preliminary results indicate an improved life expectancy of the population, a decrease in infant and maternal mortality, and a decreased trend in reducing mortality from the most common diseases and premature mortality in people of working age (Table 2).

4. Challenges and potential solutions

Socioeconomic transformation of the scale undertaken by the BRICS nations is far from complete. The core challenge

Table 2

Comparison of the health status in the Russian Federation between 2017 and 2018 and the 2024 targets

Indicator	2017	2018	Improvement 2017–2018 (%)	Goals by 2024
Life expectancy at birth				
Entire population	72.7	72.9	0.3	6.6%
Male	67.5	67.8	0.4	–
Female	77.6	77.8	0.3	–
Mortality (ages 0–17 per 100,000 children of the corresponding age)	69.0	67.0	–	–20.3%
Infant mortality (per 1000 children born alive)	5.6	5.1	–8.9	–19.6%
Maternal mortality	7.3	6.7	–8.2	–
All-cause mortality working adults (per 100,000)	484.5	481.6	–0.6	–26.0%
Cause-specific mortality				
Circulatory system	584.7	573.6	–1.9	–23.4%
Neoplasms	196.9	196.7	–0.1	185.0
Tuberculosis	6.2	5.5	–11.3	–
Respiratory diseases	41.3	40.7	–1.5	–
Others, including road accidents	95.4	89.4	– 5.5	–

Note: Dash indicates that data are not available.

for the BRICS governments is to become more effective in the management of the health care systems, which will help to achieve common health goals, such as decreasing NCDs, increasing life expectancy, and reducing disabilities. BRICS countries need to catch up with cutting-edge medical technologies; growing educational achievements across medical specialties; spreading of health care services, knowledge, and practice within the health sector electronically (e-health); and strengthening the network of medical facilities across the BRICS nations' vast rural areas. Given the uneven density of population across the BRICS countries, information dissemination will be challenging. What is needed is an increased capability and willingness on the part of each BRICS nation to invest in the health sector, as well as in the necessary research and development.

However, core challenges exist for making substantive and effective changes in BRICS countries. The rapid change of health care systems, although sustainable, has come at the price of increasing social differences, as measured in Gini indexes of income, living standards, and health care affordability. India, being home to the world's largest poor population for decades, has ultimately managed to reduce its poor population from 306 million in 2011 to 70 million in 2018.¹⁰ Consumer satisfaction survey research reveals a worsening of the accessibility to health care in India¹¹ and in inner rural areas of all BRICS countries. Access to health care is limited when complex diagnostic, treatment, and rehabilitative services are only provided in prestigious university clinics. Similarly, limited access also applies to innovative medicine prescription and dispensing. Drugs that offer life extension or improvement of incurable illnesses are obtaining marketing approval more rapidly across BRICS countries in the past decade.¹² Yet, market penetration remains rather low due to reimbursement obstacles and cost-effectiveness thresholds imposed to contain budget impact.¹³

In the presence of significant changes in health care spending, challenges in maintaining financial sustainability remain. Most medium-term economic forecasts predict that growth in BRICS countries is entering a sustainable stage, with slightly slower real GDP growth rates,¹⁴ which means that spending may slow in various sectors. However, the GDP growth in the BRICS nations still far exceeds growth in traditional high-income markets.¹⁵

This supports growth in the ability of BRICS nations to increase spending targeted at extending longevity and achieving better public health outcomes.¹⁶ The BRICS nations should strive to learn from each other and from historical experiences across the globe regarding how to make health financing mechanisms more effective in order to meet each country's public health needs.

5. Conclusion

Awareness for the need to invest in health care systems is growing among BRICS governments.¹⁷ Changes include the development of a public health agenda¹⁸ aimed at strengthening health and surveillance systems in order to respond to

infectious diseases and NCDs.¹⁹ There is also a need to establish strong academic exchanges and research funding^{4,17} with the medical sciences in order to address top research priorities.⁷ The driving force for these changes is the awareness that population health has a significant impact on societal economic productivity. In view of the World Health Organization's demand for developing long-term growth in health spending and effective health policies,²⁰ public health strategies in BRICS nations should include the promotion of physical activity and healthy lifestyles in order to improve population health and decrease global disease burden.

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Authors' contributions

MJ, YT, NVE, JVF, GS, SB, and VAR conceived of the content of this manuscript, participated in its design, and coordinated the drafting of the manuscript. All authors have read and approved the final version of the manuscript for important intellectual content, have fulfilled ICMJE criteria for full authorship, and have agreed with the order of presentation of the authors.

Competing interests

The authors declare that they have no competing interests.

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