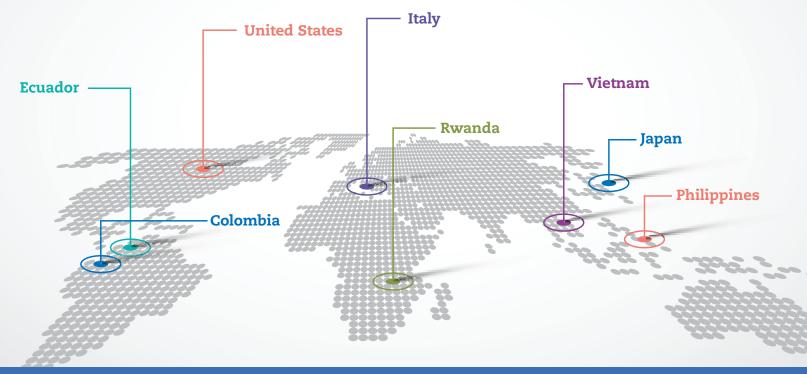
Dialogue on National Fiscal Policy and Health







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We are pleased to introduce this report of the Dialogue on National Fiscal Policy and Health, which proposes ten key principles for reinforcing the multidimensional ties between a nation's economic well-being and its citizens' health.





SEPTEMBER 2023

In 2022, we had the honor of co-chairing two meetings of a stellar group of former finance and health ministers from around the globe. This diverse group of participants shared experiences and knowledge from countries at many different income levels and also contributed their perspectives on working with global organizations. During our time together, we had robust discussions about the complex interrelationships between fiscal policy and health outcomes and explored opportunities to strengthen them both.

Reflecting a consensus among Dialogue participants, this report offers a set of principles that are at once widely applicable, yet also specific enough to be actionable. We believe this framework can have a meaningful influence on how ministries think about investing in health while helping to guide their decisionmaking. "Health Spending, Budgets, and the Impact of COVID-19," a stage-setting commissioned paper prepared by Margaret Kyle and Hannah Schirrmacher—and presented at the meeting—is included at the end of the consensus document.

COVID has had a huge impact everywhere, crystallizing the linkages between the economy and health as never before. The catastrophic shocks of the pandemic cannot be overstated but the response also showcased the power of innovation, the capacity of the public sector to confront an unprecedented emergency, and the value of public/private partnerships. By forcing nations to consider health investments in new ways, COVID has given us a wider lens through which to view longstanding challenges and potential solutions.

We are very grateful for the contributions of the Dialogue participants and the time they so generously donated to this work. Thanks, as well, to our co-sponsors, the Aspen Institute's Health, Medicine & Society Program and Pfizer, for hosting and supporting this convening. Together, we are proud to present a framework that can influence the ways in which governments think about improving the health of their populations.

John Lipsky Co-chair

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Donna E. Shalala Co-chair



Co-Chair JOHN LIPSKY

Former First Deputy Managing Director, International Monetary Fund Senior Fellow, Foreign Policy Institute, Johns Hopkins School of Advanced International Studies

John Lipsky is a senior fellow of the Foreign Policy Institute of Johns Hopkins University's School of Advanced International Studies. From 2006 to 2011, he was first deputy managing director and then acting manager of the International Monetary Fund (IMF) after holding a series of other positions at IMF early in his career. He has also served as vice chairman of JPMorgan Investment Bank, chief economist at JPMorgan Chase, chief economist and director of research at Chase Manhattan Bank, and chief economist at Salomon Brothers.

Lipsky is currently the chair of the National Bureau of Economic Research, the co-chair of the Aspen Institute's Program on the World Economy, vice chair of the Center for Global Development, and vice chair of the Bretton Woods Committee. He also serves on the advisory board of the Stanford Institute for Economic Policy Research and is a director of the American Council on Germany and a life member of the Council on Foreign Relations. He holds a PhD in economics from Stanford University.



Co-Chair DONNA E. SHALALA

18th Secretary, US Department of Health and Human Services, Trustee Professor of Political Science and Health Policy, University of Miami

Donna Shalala served as secretary of the US Department of Health and Human Services from 1993 to 2001 and is currently trustee professor of political science and health policy at the University of Miami. She served as president of the University of Miami from 2001 to 2015, and previously as chancellor of the University of Wisconsin-Madison and president of Hunter College of the City University of New York. Shalala is currently a member of the Council on Foreign Relations.

Elected to seven national academies, including the National Academy of Medicine, the National Academy of Education, and the American Academy of Arts and Sciences, Shalala holds more than five dozen honorary degrees from American and international universities. One of the country's first Peace Corps Volunteers (Iran), she received the Presidential Medal of Freedom and the Nelson Mandela Award for Health and Human Rights, was named one of "America's Best Leaders" by *U.S. News & World Report*, and was inducted into the National Women's Hall of Fame in 2011. Shalala received her PhD from Syracuse University.



ESPERANZA ALCANTARA ICASAS-CABRAL

Former Secretary, Department of Health, Philippines, Former Secretary, Department of Social Welfare and Development, Philippines

Esperanza Alcantara Icasas-Cabral, a cardiologist and clinical pharmacologist, served as secretary of the Department of Health from 2009 to 2010 and secretary of the Department of Social Welfare and Development in the Philippines from 2005 to 2009. An educator and leader in Filipino medicine, she was a professor of medicine and pharmacology at the University of the Philippines College of Medicine and served as director of the Philippine Heart Center and chief of cardiology at the Asian Hospital and Medical Center. Icasas-Cabral also consulted for the Dangerous Drugs Board, the Bureau of Food and Drugs, and the Department of Health, and served as commissioner for science and health on the National Commission on the Role of Filipino Women.

Icasas-Cabral is author or co-author of more than 85 scientific papers on hypertension, cardiovascular pharmacology, and clinical and preventive cardiology and has educated the public as a television show host on "HeartWatch" on IBC Channel 13 and "InfoMedico" on NBN Channel 4.



XIMENA GARZÓN-VILLALBA

Former Minister of Health, Ecuador Dean of Public Health, Universidad San Francisco de Quito

Ximena Garzón-Villalba served as Ecuador's minister of health from May 2021 to July 2022. In that capacity, she designed and implemented a comprehensive response to the COVID-19 pandemic crisis and led the emblematic "9/100 Vaccination Plan," vaccinating more than nine million people, half the country's population, within 100 days and positioning Ecuador as a regional benchmark. A physician with a doctoral degree in public health, Garzón-Villalba is currently dean of public health at Universidad San Francisco de Quito and a member of the Pandemic Fund's Technical Advisory Panel.

As professor of public health and occupational epidemiology in Ecuadorian and US universities, Garzón-Villalba designed several MPH programs and a medical specialty in occupational medicine. In addition to a private practice, she has been deputy medical director and chief of teaching and research at Quito-Sur General Hospital and chief of teaching at Carlos Andrade Marín Hospital; both healthcare facilities are operated by the Ecuadorian Social Security Institute.



DONALD KABERUKA

Former Minister of Finance and Economic Planning, Rwanda Chairman and Managing Partner, SouthBridge Emeritus President, African Development Bank High Representative, African Union for Financing, the Peace Fund and the COVID-19 Response Fund

A Rwandan economist and former finance minister, Donald Kaberuka was the seventh president of the African Development Bank (AfDB), a position he held from 2005 to 2015. During his two terms as president, he is credited with expanding the reach and impact of the bank, which is Africa's premier financial institution.

Currently, Kaberuka is the high representative of the African Union for Financing, the Peace Fund, and the COVID-19 Response Fund. He serves on the Board of Trustees of the Rockefeller Foundation, the Center for Global Development, the Mo Ibrahim Foundation, the Brookings Institution, and the London School of Economics, among other organizations. He also chairs the board of the Global Fund to Fight HIV/AIDS, TB and Malaria, co-chairs the Council on State Fragility, and is a member of the International Advisory Council of the Standard Chartered Bank. Previously, Kaberuka chaired the panel on the third External Evaluation of the International Monetary Fund. Since retiring from the African Development Bank, he has been chairman and managing partner of SouthBridge, a financial and investment advisory firm which he co-founded.



BEATRICE LORENZIN

Former Minister of Health Senator, Italian Republic

Beatrice Lorenzin is a former Italian minister of health whose seamless tenure from 2013 to 2018 was one of the longest in Italian history. In 2019, she joined the Democratic Party and was elected Senator of the Italian Republic in the 2022 general election. She is also a member of the Senate's Budget Committee.

Lorenzin first held political office in 1997, when she was elected to the Council of the 13th Municipal District of Rome. She was later elected a member of the Town Council of Rome and served as head of the technical secretariat of Undersecretary to the Presidency of the Council of Ministers for Information and Publishing. Elected to the Chamber of Deputies in 2008, she was reconfirmed in the same chamber in three subsequent elections. Lorenzin has also been a member of the Chamber of Deputies' V Permanent Commission—Budget, Finance and Planning, vice president of the Mixed Group, and president of the Civica Popolare Parliamentary Group.



JOSÉ MANUEL RESTREPO

Former Minister of Finance and Public Credit, Colombia, Former Minister of Trade, Industry and Tourism, Colombia, Rector, Universidad EIA

José Manuel Restrepo has served as Colombia's minister of finance and public credit and minister of trade, industry and tourism. Currently, he is rector of the Universidad EIA and was previously rector and provost of Universidad del Rosario and president of the College of Advanced Studies in Administration (CESA). At CESA he was also a professor of macroeconomics, microeconomics, and planning and management control. A widely published researcher, journalist, and business consultant, Restrepo's expertise includes quality and accreditation of higher education institutions, the role of higher education in developing countries, national research and innovation systems, corporate governance, and pedagogical innovations.

Restrepo was recognized by LatinFinance as the best minister of finance in Latin America in 2021 and awarded the Grand Officer of the National Order of Merit in 2017 for his contributions to the country's socioeconomic development. He has also been recognized as an outstanding young executive by the International Junior Chamber-Colombia and was one of six winners of the CEO of the Future Survey, organized by the Colombian business magazine, Revista DINERO.



YASUHISA SHIOZAKI

Former Minister of Health, Labour, and Welfare, Japan

Yasuhisa Shiozaki served as Japan's minister of health, labour and welfare from 2014 to 2017 and has been chief cabinet secretary and minister of state for the abduction issue, senior vice minister for foreign affairs, and parliamentary vice minister of finance. He is a former member of the House of Representatives and the House of Councilors of Japan, chaired the Standing Committee on Judicial Affairs of the House of Representatives, and was senior director of the Standing Committee on Budget. Prior to his transition to politics, Shiozaki worked at the Bank of Japan (Central Bank). He received his master's degree in public administration from the Kennedy School of Government at Harvard University.



NGUYEN THI KIM TIEN

Former Minister of Health, Vietnam Former Director, Pasteur Institute

Nguyen Thi Kim Tien is a politician and people's physician. She served as minister of health from 2011 to 2019 and as vice minister during the prior four years. Previously, Tien was director of the Pasteur Institute in Ho Chi Minh City and has also led the Central Health Care Protection Department. She has been a member of the National Assembly of Vietnam of Ha Tinh province, xiii course of Ho Chi Minh City, and was editor-in-chief of the Journal of Practical Medicine, published by the Ministry of Health.

In the Communist Party of Vietnam, Tien served as an alternate member of the 10th Party Central Committee, a member of the 11th Central Committee, and member of the Party Executive Committee of the Central Committee. She was again nominated to the Central Committee at the 12th National Congress of the Communist Party of Vietnam, but was not elected.

Report

he interplay between a nation's health and its economy has long been clear. Economic productivity is deeply influenced by health status, primary care capacities, systemic inequities, and the availability of affordable healthcare, giving governments everywhere a stake in financing sustainable health-promoting programs and systems and delivering high-quality services that are accessible to all.

Nothing has spotlighted the relationship between health and economic wellbeing more dramatically than COVID-19. For a time, the two were virtually inseparable. Indeed, for many countries the pandemic was as much an economic emergency as a health emergency. The shutdown of economies around the globe, and the vast resources required to prevent, diagnose, and treat the infection, strained national budgets while highlighting the role and limits of global health financing mechanisms, fiscal policy, and regional capacity. It also illuminated vast gaps in the health infrastructure of many nations. The pandemic reversed years of hard-fought progress in human development and poverty reduction, decreased vaccine uptake for other preventable diseases, and deflected attention from the many infectious and noncommunicable diseases that have long undermined the health of nations. The full costs have yet to be calculated.

If there is a silver lining here, it is that by loosening longstanding systemic constraints and assumptions, COVID created the political opening to act differently. Without in any way minimizing the many failures associated with the pandemic, governments, international organizations, and the private sector did mobilize at unprecedented speed to respond, and public/private partnerships quickly moved to the center of the most significant public health crisis in a century. Many countries acted swiftly to improve the capacities of their health systems, from establishing testing and vaccination sites to upgrading intensive care units to reorganizing healthcare staffing. Decisions were made in some settings to subsidize health insurance or cover all hospitalization costs of people "Economic productivity with severe disease (although some financial promises to both healthcare workers and health systems went unkept). Indirect health gains accrued from cash transfers, tax credits, wage subsidies, and other heightened commitments to social sustainability.

While the immediacy of the pandemic may be fading, it has crystalized the many ways in which health and economic performance are closely connected and made possible new conversations about health spending as an investment, not merely a tally of costs. Both the successes and failures of the COVID response invite further innovation and underscore the urgency of fostering more effective interactions between health and fiscal policymakers in order to strengthen the economy and generate better health for all.

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* The quotes used throughout this paper are systhesized from comments by Dialogue participants.

Report

In that spirit, Pfizer and the Health, Medicine & Society Program of the Aspen Institute cosponsored the Dialogue on National Fiscal Policy and Health. Through two convenings held in 2022, they created a forum for a group of former health ministers and former finance ministers from around the globe to talk together about how national governments consider health financing and to develop principles that can guide their decision-making going forward. The goal was to identify principles that were both broadly applicable and specific enough to lay a global foundation for action while respecting the tremendous diversity in national health systems and priorities, government structures, and available resources.

The first convening, held virtually in April 2022, helped to uncover key questions warranting further exploration. That was followed by a larger, hybrid convening in Washington in October 2022, with most participants attending in person. The Dialogue was cochaired by John Lipsky, former first deputy managing director of the International Monetary Fund, and Donna Shalala, former secretary of the US Department of Health and Human Services (see Participant List for full titles). Alan Weil, editor-in-chief of *Health Affairs*, moderated the discussions, and communications consultant Karyn Feiden drafted the report which was funded with support from Pfizer.

Dialogue participants explored four interrelated questions at the Washington meeting:

- How can national budgets be constructed to reflect the reality that health ministry spending affects more than health and that health is affected by more than the health ministry budget?
- What are the considerations for determining appropriate levels of investment in health and achieving the political consensus necessary to generate that investment?
- How do countries determine priorities for their health spending?
- What global financial instruments and institutions are needed to support equitable achievement of health goals?

"By loosening longstanding systemic constraints and assumptions, COVID created the political opening to act differently."

Informing the Conversation

To ensure a baseline of shared knowledge among Dialogue participants, Margaret Kyle, chair of intellectual property and markets for technology at MINES Paris, and Hannah Schirrmacher, economist at the Office of Health Economics in London, developed a research report, "Health Spending, Budgets, and the Impact of COVID-19" (included in this report).

Kyle presented highlights from the report at both convenings. Key points from her summary:

- Almost 10% of global gross domestic product (GDP) is spent on health, but that average masks significant differences across countries, even those of similar income. Some countries at every income level spend significantly more than 10% of their GDP while others spend less.
- Per capita spending is significantly higher in high-income countries (which average more than \$3,000 per capita) compared to low-income countries (averaging \$39 per capita). Overall, high-income countries account for 80% of the global total of health expenditures. Price differences are a factor in the differential, but not the dominant one.
- Health spending has more than doubled across nations of all income groups over the past two decades, with a higher level of growth in wealthier countries (both in absolute and percentage terms). In general, the growth rate of healthcare spending has been higher than the GDP growth rate, outpacing education, defense, and the environment. Projections suggest that health spending per capita will continue to increase at all income levels.
- Out-of-pocket household spending has grown across all income groups in most countries, although more slowly than total health spending. Out-of-pocket spending usually represents a larger proportion of health expenditures in lower-income countries than in higher-income countries. Where there is greater government spending and more costs covered by compulsory health insurance, out-of-pocket costs are generally lower.
- The impact of economic downturns on healthcare spending hits hardest where public spending is tied to short-term revenues. Downturns also affect the ability of households to afford out-of-pocket expenses.
- Spending on primary care accounts for more than half of global healthcare spending, but the proportion tends to decline as a country's income grow. It is not clear whether the spending in lower-income countries reflects a greater priority on primary care or the dearth of specialist services linked to resource shortfalls.

"As regional, national, and global entities confront the costly and continuing consequences of COVID, the urgency of strengthening health-promoting programs and healthcare systems and preparing for future emergencies is evident."

- Both the burden of disease and disease priorities differ across countries: lower-income countries spend more on infectious, parasitic, and tropical diseases, while higher-income countries spend more on noncommunicable diseases (e.g., diabetes, heart disease, and cancer). External aid, an important source of healthcare funding in lower-income countries, is almost always dedicated to infectious diseases despite the growth in noncommunicable diseases in those settings.
- Lower-income countries allocated a larger proportion of their total health spending to COVID, compared to higher-income countries, through 2020. Due to a two-year lag on health expenditure data, the effect of COVID vaccine spending on those proportions cannot yet be determined. At least in some instances, there is clearly a substitution effect, in which resources were taken away from other healthcare needs, rather than added into the system.
- Health spending as a share of GDP increased during COVID, partly due to more spending and partly due to a slowdown or shrinking of GDP. However, the share of health spending as a percentage of total government expenditures decreased in most countries, largely because of the counter-cyclical spending measures applied in response to economic conditions.

Reimagining Fiscal Policy and Health Spending: Ten Principles

"The interaction between fiscal policy and health requires that we ask: How robust are our health systems? How robust are our governance systems? How robust is our social capital?"*

By laying bare the weakness of healthcare and public health systems around the world, and the limitations of the global institutions designed to provide essential expertise and resources to countries with limited resources, COVID has forced a reckoning. A shaky healthcare infrastructure, vast information gaps, public policies that restrict the growth of health budgets, workforce shortages, siloed or poorly coordinated health systems, the absence of dedicated emergency responses, inequities in the supply chain, and a failure to share resources across settings are among the shortcomings that became evident during the pandemic. As regional, national, and global entities confront the costly and continuing consequences, the urgency of strengthening health-promoting programs and healthcare systems and preparing for future emergencies is evident.

"Health investments are a mechanism for economic development, in part because healthy workers are more productive." Dialogue participants call for a strategic planning framework guided by the following ten principles:

PRINCIPLE 1:

Health spending is an investment in a nation's future. Demonstrating that a healthy population and strong commitments to health contribute to GDP growth and the stewardship of scarce public funds can generate the political will to increase those investments.

PRINCIPLE 2:

All ministries have a stake in fostering a healthy nation; it is not the exclusive provenance of the health ministry. Significant engagement by the finance ministry is particularly essential.

PRINCIPLE 3:

Many influences contribute to population health, including a strong health delivery system, a strong public health system, attention to social determinants, and policies designed to reduce poverty. Cost-effective budgetary decisions about investing in these realms recognize that many healthpromoting activities take a long time to yield results.

PRINCIPLE 4:

Health spending has to be efficient and sustainable to garner political support, especially in the current environment of economic instability, inflationary pressure, and political uncertainty. Accountability is integral to health-promoting programs and health systems.

PRINCIPLE 5:

Trust fosters social cohesion and helps to build the consensus necessary to drive support for health sector investments. Community participation, inclusive engagement of public and private stakeholders, evidencebased decision-making, equity commitments, transparency, and dedicated efforts to root out corruption are core elements of trust.

PRINCIPLE 6:

A robust health information infrastructure enables optimal investments in health and informs priority-setting. That requires internet access and the capacity to collect, analyze, update, and share quality data, including on disease burden, treatment outcomes, cost-effectiveness of care, and the availability and allocation of clinical services, supplies, and other resources.

PRINCIPLE 7:

Technology improves the capacity to provide quality clinical services, enhances access to care, and generates actionable information that can be linked locally, nationally, regionally, and globally. The role of technology as an economic engine is further reason to support strategic budget decisions that will lead to its wider use.

PRINCIPLE 8:

Well-funded, readily accessible primary care and trained community health workers are essential ingredients of high-quality healthcare. Combined with an effective public health system, they are among the most sustainable ways to bolster population health.

PRINCIPLE 9:

Equity is at the core of strong healthcare systems in countries at every income level and the pathway to genuine global health security. Domestic, bilateral, and multilateral budget commitments can advance equity by reducing out-of-pocket costs, building local and regional capacity, and distributing resources on the basis of need, recognizing that all lives have equal value.

PRINCIPLE 10:

Existing global financial and health institutions can be more responsive to ongoing and emergent health challenges by framing action around commitments to global public goods, developing nimble financial instruments, and fostering country-specific and regional cross-sector partnerships.

Strategic Planning Framework

The ten principles developed by the Dialogue participants are informed by the understanding that health spending improves individual and population health, strengthens healthcare systems, and promotes economic well-being and that spending in many other sectors also contributes to those gains. Some investments are explicitly linked to health, including clinical services, public health, and health promotion. Less direct but no less consequential are the investments associated with economic development, education, social insurance, and the many other factors that influence the environments in which people live, learn, work, and play. Together, these distinct but interrelated influences, housed in many settings, have a long-term, measurable impact on health costs and outcomes.

PRINCIPLE 1: Health spending is an investment in a nation's future. Demonstrating that a healthy population and strong commitments to health contribute to GDP growth and the stewardship of scarce public funds can generate the political will to increase those investments.

Health-promoting programs and strong health systems are assets that support a nation's economy, not simply budget expenses. By revealing the extent to which health challenges can undermine the economy, COVID underscored the value of measures to strengthen health proactively, rather than dealing with the aftermath of systemic failures. It also demonstrated the stabilizing effect of certain public sector investments, such as bolstering social insurance and improving access to care, which decreased measures of poverty in some countries during the pandemic. Over the longer term, health investments are a mechanism for economic development, in part because healthy workers are more productive. Policies that provide incentives for developing and producing technologies to prevent, diagnose, and treat disease also reinforce the links between health and macroeconomic growth.

As finance ministries consider their budget priorities, documenting the contributions of health to economic well-being can be persuasive in arguing for more funding to the health sector. Such evidence can likewise deepen the engagement of other government ministries, as well as the private sector.

"Health investments are at the foundation of economic stability and growth."

"Documenting the contributions of health to economic well-being can be persuasive in arguing for more funding to the health sector." **PRINCIPLE 2:** All ministries have a stake in fostering a healthy nation; it is not the exclusive provenance of the health ministry. Significant engagement by the finance ministry is particularly essential.

The bidirectional influences of health and the economy are best understood by recognizing that health outcomes are not determined exclusively by the resources and activities of the health ministry, but rather by the engagement of multiple sectors and different levels of government. The role of a healthy population and a vigorous health system in bolstering economic well-being similarly suggests that the finance ministry, as well as ministries engaged with education, environment, housing, social security, and more, have a stake in strengthening the health sector.

This framework opens the door to a deliberative process for considering what should be counted in a comprehensive tally of health spending and how best to assign budget items that influence health to the appropriate government entities. Stepping away from the boundaries of ministries and traditional administrative processes allows health investments to be considered more holistically.

"Health doesn't belong to a single ministry but rather is a shared responsibility of governance."

PRINCIPLE 3: Many influences contribute to population health, including a strong health delivery system, a strong public health system, attention to social determinants, and policies designed to reduce poverty. Cost-effective budgetary decisions about investing in these realms recognize that many health-promoting activities take a long time to yield results.

The health benefits associated with both long-term investments in the health sector and with investments in sanitation, environmental protection, agriculture, rural development, nutrition, housing, education, and many other sectors, are well established. In countries at all income levels, a narrow emphasis on clinical care as the primary tool for building a nation's health overlooks important evidence about many other influences. Upgrading data collection systems, preparing for pandemics, designing programs that reduce the risk of noncommunicable diseases, and providing safe recreational spaces are just a few examples of cost-effective spending that improves population health over time.

"Stepping away from the boundaries of ministries and traditional administrative processes allows health investments to be considered more holistically." Yet budgets are too often built on short-term calculations rather than on the knowledge that it can take many years for health-promoting activities to pay off. Political considerations tend to favor immediate results and the lack of a crisp cost/benefit formula complicates the discussion. Nonetheless, budget decisions need to be informed as fully as possible by a comprehensive tally of cost inputs and investment returns in the form of improved health outcomes, increased productivity, economic growth, and appropriate long-term savings for the health system. Policymakers will need to balance funding for immediate demands, longer-term outcomes, and future challenges and to identify the optimal mix of resource allocations both for upgrading current programs and systems and for reimagining them more fundamentally. None of it is easy, all of it is vital.

"Health-related returns on investments in clinical care, public health, and many other health-influencing factors are highest when long-term goals are integrated into the spending calculus."

PRINCIPLE 4: Health spending has to be efficient and sustainable to garner political support, especially in the current environment of economic instability, inflationary pressure, and political uncertainty. Accountability is integral to health-promoting programs and health systems.

A shifting economic climate is altering the budget calculus in many countries. While health spending may continue to rise, the sector is unlikely to command the same government attention in the future as it did in the recent past and the public sector spending associated with COVID over the past three years will not be sustained. Indeed, there is a risk that the many lessons learned from the pandemic will be forgotten as other pressures assert themselves.

Increasing levels of public debt and concerns about a recession or sharply reduced growth threaten to force spending cuts that could lower GDP, raise poverty rates, and increase unemployment. At the same time, limited resources and the current global economic environment could reduce the external aid that is so crucial to the economies of low-income and middle-income countries. Rising inflation is also a concern, leading some nations to deliberately slow their economics and complicating the argument that health investments can support economic growth. Adding to this mix of sometimes-conflicting pressures are climate change, and other shifting national priorities that deflect attention from the health sector.

"Budgets are too often built on shortterm calculations rather than on the knowledge that it can take many years for health-promoting activities to pay off." All of that brings the importance of "value" into sharper focus, increasing calls for greater efficiencies in health spending and rational and transparent decisionmaking. Making the case for added resources is easier where populationwide benefits can be readily documented, or new technology clearly produces better outcomes at a reduced per-unit cost. Virtual medical appointments and telemedicine, which came into wider use during the pandemic, as well as new vaccine technologies are notable examples of relatively low-cost, highly productive healthcare.

Better coordination and appropriate consolidation can also extend resources. An example is the close working relationships between clinical and epidemiological activities that developed in the early stages of COVID, made possible in part by sharing digital data. Tying together the multiple funding streams that support health-promoting programs and health systems and encouraging well-structured public/private partnerships are other strategies to diminish fragmentation.

Tradeoffs are inevitable in determining appropriate spending levels, deciding how to allocate funds to health, compared to other societal needs, and distributing resources within the health sector itself. Whatever balance is struck, tighter budgets across the board make budget officials more likely to demand greater accountability and tie their allocations to evidence of results and impact. Importantly, informed priority setting requires that those same requirements be imposed on other sectors that compete with health for resources.

"Evidence of accountability and cost-effectiveness will help to ensure stable financing and broad support for the health sector."

PRINCIPLE 5: Trust fosters social cohesion and helps to build the consensus necessary to drive support for health sector investments. Community participation, inclusive engagement of public and private stakeholders, evidence-based decision-making, equity commitments, transparency, and dedicated efforts to root out corruption are core elements of trust.

Trust is a critical ingredient in driving budgetary decisions. At the level of individuals and communities, trust is based on the belief that those most affected by resource allocations will be heard in the process of establishing priorities, identifying needs, and developing strategies to address them. The capacity of governments and international organizations to disseminate information effectively is also essential to fostering trust. The consequences if they fail to do

"The importance of value has come into sharper focus, increasing calls for greater efficiencies in health spending and rational and transparent decision-making." so were revealed at the height of the COVID pandemic, when communication deficits undermined respect for scientific and policy expertise. That, in turn, can weaken compliance with health recommendations and tear at the social fabric.

Access to quality care that improves outcomes is key as well, inspiring confidence and promoting the social cohesion that in turn attracts further support for health spending. Conversely, decisions to reduce health spending in the face of a decelerating economy typically result in higher out-of-pocket costs and more limited access to health services, setting the stage for greater inequity and diminished trust. Tradeoffs are inevitable, but evidence that resources are being apportioned rationally between health expenditures and other spending to boost social welfare provides crucial reassurance that hard choices are being made prudently.

Governments—especially finance ministries—nongovernmental organizations (NGOs), philanthropies, and external aid organizations need to trust that their resources are being used properly if they are to sustain funding levels. In this context, trust is enhanced by evidence that health-related spending succeeds at improving population and individual health. Systems for accountability and transparency, including data to document prudent spending and due process in decision-making, are important trust-building ingredients.

"Shared trust in a country's health system is the basis for the public and government support necessary to sustain it."

PRINCIPLE 6: A robust health information infrastructure enables optimal investments in health and informs priority-setting. That requires internet access and the capacity to collect, analyze, update, and share quality data, including on disease burden, treatment outcomes, cost-effectiveness of care, and the availability and allocation of clinical services, supplies, and other resources.

Scientific evidence is needed to identify best practices in healthcare delivery and health promotion and to support measures that strengthen healthcare systems and advance population health. Rigorous, standardized medical data allow cost-saving efficiencies to be identified and elevate the paradigm of health as an investment, rather than exclusively as an expense. The power of information is evident, for example, in the capacity to document the costs associated with preventable hospitalizations and the lost productivity that accompanies premature mortality, and in the body of research that documents the links between population health and economic growth. "Evidence that resources are being apportioned rationally between health expenditures and other spending to boost social welfare provides crucial reassurance that hard choices are being made prudently." However, the health research infrastructure and its capacity to generate actionable information differ significantly by country. Where it is robust, it is possible to collect and analyze very large datasets and conduct the cost-effectiveness studies that can be persuasive to fiscal decision-makers. By contrast, weak analytic capacities can undermine strategies to make informed allocation decisions, target resources where they are most needed, and measure results. Nonetheless, every country has opportunities within their reach to assess both the impact of health on the economy, and the benefits of relevant spending.

Given that resource allocations affect health in many different ways, an equity lens will enrich any analytic work. A significant deterrent is that most national data are not sufficiently disaggregated to determine whether health spending reaches those with the greatest need. That makes it difficult to conduct a rigorous analysis of, say, the relative value of spending a dollar on bringing water to a remote village or improving local living conditions versus bringing high-tech imaging technology to an urban hospital or treating diseases that affect relatively few people. Data disaggregated by population and geographic region are an equity-building tool, informing both internal allocations and the use of external aid.

"Robust information allows health ministries to answer questions from the finance ministry about the level and use of health-related resource requests."

PRINCIPLE 7: Technology improves the capacity to provide quality clinical services, enhances access to care, and generates actionable information that can be linked locally, nationally, regionally, and globally. The role of technology as an economic engine is further reason to support strategic budget decisions that will lead to its wider use.

The value of appropriate technology and a workforce trained to use it is evident in numerous corners of any health system. In the pandemic emergency, countries with the right tools and a prepared workforce were better able to monitor the spread of infection and gauge on-the-ground demand for health services on a daily basis. The importance of telemedicine also came into sharper focus during the lockdown phase of COVID and its wider application is bringing new resources to rural and other underserved areas where access to care is difficult.

As it helps to digitalize the healthcare sector, technology can also be used to identify disease outbreaks, target services, build more transparency into the process of procuring medicine, personal protective equipment, and other "Data disaggregated by population and geographic region are an equitybuilding tool." supplies, and promote economies of scale. Simple technologies, such as mobile phones, make it possible to populate decision-driving datasets while investments in more sophisticated tools can enhance regional capacity to produce diagnostics, therapeutics, and vaccines, while fueling economic growth.

Evidence that robust data-gathering technology enhances health system efficiency "Evidence that robust can help persuade finance ministries to commit the necessary procurement resources. Importantly, however, not all technology drives greater efficiency. For example, many high-income countries expect to make virtually any new medical procedure or device that produces better outcomes widely available, regardless of cost, degree of benefit, or size of the treatment population. Knotty decisions about which technologies to invest in, how widely they should be distributed, and how they will be paid for demand vigorous conversations between health and finance ministries.

"A deep investment in technology promises to bring greater" efficiency and more accountability to health systems while also fueling macroeconomic growth."

PRINCIPLE 8: Well-funded, readily accessible primary care and trained community health workers are essential ingredients of high-quality healthcare. Combined with an effective public health system, they are among the most sustainable ways to bolster population health.

Evidence shows that the countries most able to deal effectively with COVID were those that already had resilient primary healthcare systems in place. That finding tracks with many others linking access to primary care with optimal health outcomes.

The dominance of primary care in lower-income countries reflects, in part, the limits of their capacity to afford the more costly specialty services and equipment available in tertiary institutions. As national wealth increases, spending on primary care tends to decrease as a share of a country's total health budget. But with its emphasis on prevention and coordinated, continuous services, and its deep engagement with the community, primary care remains crucial everywhere, lessening the incidence and costly consequences of widespread infectious and noncommunicable diseases.

Community health workers are a pillar of primary care. In some regions, they are supplemented by "community health insurance," a cooperative mechanism that data-gathering technology enhances health system efficiency can help persuade finance ministries to commit the necessary procurement resources."

couples pay-what-you-can fees from individuals with some form of subsidy from the public sector, NGOs, or faith-based organizations. Low-cost supply chain mechanisms and mobile technology are among other components of a robust primary care package. With sustainable funding, an integrated, communitybased care infrastructure can reduce reliance on hospital-centered services and protect broader populations from the consequences of more serious illness.

"Elevating primary care to a national priority can lessen the cumulative burden of infectious and noncommunicable diseases in low-income and high-income settings alike."

PRINCIPLE 9: Equity is at the core of strong healthcare systems in countries at every income level and the pathway to genuine global health security. Domestic, bilateral, and multilateral budget commitments can advance equity by reducing out-of-pocket costs, building local and regional capacity, and distributing resources on the basis of need, recognizing that all lives have equal value.

The equity imperative provides a framework for unassailable decision-making both within countries and at the global level. Domestically, most low-income and middle-income countries see reduced out-of-pocket spending as a priority for equitable healthcare. The need for more public spending to reduce individual cost burdens can be counterbalanced by primary care and health promotion investments that allow people to avoid more expensive tertiary care.

Universal health coverage, an important driver of equity goals, is also a way to push down out-of-pocket costs. The United Nations 2030 Agenda for Sustainable Development calls for a commitment to achieving such coverage, which should include financial risk protection, access to quality essential healthcare services, access to safe and effective essential medicines, and vaccines for all. However, national health insurance programs that pay only a portion of health expenses can actually have the unintended consequence of fostering inequity. Some individuals will be reluctant to seek care if out-of-pocket costs are still beyond their reach, leaving public subsidies to benefit those who can afford to fill in the coverage gaps.

"With sustainable funding, an integrated, community-based care infrastructure can reduce reliance on hospital-centered services and protect broader populations from the consequences of more serious illness." The quest for equity also intersects with the global health security challenges that COVID brought to the fore. The disorganization and lack of preparedness among advanced economies in the face of COVID, and their ensuing scramble to respond, reflected in part a faulty assumption that catastrophic infectious diseases occur only in low-income countries. The same skewed perspective on global health priorities was revealed in the initial willingness of high-income countries to spend vast sums of money on COVID to meet domestic needsand the diminished attention they devoted to it once large swaths of their own populations had been vaccinated.

The pandemic also revealed the fragility of supply chains for preventive, diagnostic, and therapeutic interventions in the face of unprecedented demand spikes and a "me-first" ethos that dominated over a needs-based strategy. Resources were further constrained by the restrictions attached to existing funding from external sources, such as requirements that it be used for hospital construction or equipment purchases rather than for medicine.

The result was to leave many nations at immense disadvantage and generate enormous distrust in global systems. Those experiences sent a clear message to low-income countries that they should build internal capacity. While this may be an appropriate political response to the inequities dramatized by COVID, having every country invest in its own production is likely to drain funds from other budgetary needs without contributing to either efficiency or equity.

An alternative is to give deeper consideration to innovative models of coinvestment and financial instruments that make it possible to share technology, grow the information infrastructure, and release funds quickly in an emergency, "The quest for equity whether as loans or grants. Regional models, undertaken with support from international aid organizations and partnerships with the pharmaceutical industry, are part of the equation. Regulatory harmonization and other policies that incentivize sustainable investments in health-related innovation, manufacturing, and distribution also have potential value. A number of other approaches-including greater flexibility in how and where global aid is used, restructured debt, multilateral credit funds, social bonds, impact investments that tie resources to specific metrics, and greater private sector engagement can also strengthen health systems and enhance equity.

"A commitment to equity is integral to any conversation about how to allocate and sustain health-related resources."

intersects with the global health security challenges that COVID brought to the fore."

PRINCIPLE 10: Existing global financial and health institutions can be more responsive to ongoing and emergent health challenges by framing action around commitments to global public goods, developing nimble financial instruments, and fostering country-specific and regional cross-sector partnerships.

A vacuum of global leadership was evident during the pandemic as it became clear that no single entity had a clear mandate to guide the response. This was perhaps not surprising: Existing institutions have historically been structured to deal with the internal shocks that can undermine a given nation's health or financial security, not with external shocks on a global scale. The absence of financing mechanisms and commitments to allocate public goods equitably dealt a blow to low-income and middle-income countries during COVID.

The weaknesses of the response also highlighted the limits of external aid as it is currently structured. Much of that funding is allocated vertically—that is, directed at specific health challenges, such as malaria, tuberculosis, and HIV/ AIDS. While targeted funding has been immensely productive, transforming the burden of many diseases, systems-focused investments are also crucial to confront still-intractable infectious diseases, the growing incidence of noncommunicable diseases, and unexpected systemic assaults.

There is little appetite for birthing a new organization to guide the activities necessary to take these on. Rather, in the radically altered post-pandemic world, there are opportunities to restructure and empower existing international bodies so they can support countries in domains such as disease surveillance, access to medicine, and primary care. Recommendations from high-level G20 groups and others offer the fresh thinking and impact analyses that will enable global financial and health institutions to play a more effective leadership role. A collective commitment that engages both donors and recipients can invigorate health-promoting programs and systems, garner political commitments, build regional participation, lift up public/private partnerships, and enhance the availability of flexible funding.

The Global Fund offers one example of how platforms that have traditionally focused on specific diseases can retool in the face of new perils. Recognizing that COVID threatened decades of progress against the infectious diseases at the heart of its mission, the Fund protected hard-won vertical gains by reallocating resources to pandemic-related spending. Shifting funds to develop or reinforce core health infrastructure—a horizontal approach—is likewise a strategy to lock in progress and erect guardrails against future threats.

"There are opportunities to restructure and empower existing international bodies so they can support countries in domains such as disease surveillance, access to medicine, and primary care." Responsibility for an upstream approach is not likely to rest in a single institution but in a constellation of global, regional, and subregional entities in both the public and private sphere. Countries that are recipients of aid or other investments from those sources will need to assume a degree of burden sharing so that resource allocations remain politically palatable to donors. Local participation is also an imperative to ensure that priorities match local needs. While external donors cannot influence the distribution of political power in the countries they serve, they do have mechanisms for ensuring that their funds engage communities affected by a disease and reach their intended targets. Applications to the Global Fund, for example, are submitted through a country coordinating mechanism that is obligated to include cross-sector representation, including academic institutions, civil society, faith-based organizations, government, multilateral and bilateral agencies, nongovernmental organizations, people living with the diseases of concern, the private sector, and technical agencies.

"A global response, built on sustainable financing and coordination with regional institutions, can spark infrastructure commitments that allow nations to meet both anticipated and unexpected health challenges."

Call to Action

COVID provides a rare opportunity to view health issues through a fiscal lens and fiscal issues through a health lens. By showcasing health as an economic engine, and demonstrating the risks to financial stability and social well-being posed by health challenges, the pandemic underscores the urgent necessity for effective interactions between health and finance policymakers.

At this unprecedented moment, finance ministries, and indeed all ministries, need a long view of what it takes to create value by promoting population health. The full return on their investments will not be established through short-term spending but rather through long-term commitments that put health at the center of a comprehensive discussion that also considers economic, social, and environmental sustainability.

The shortcomings of the past call on all nations and the global community to do things differently at every level of governance. It is best that the necessary conversations among stakeholders get underway in a period of relative calm, not when the next acute crisis hits. Cost-effective, transparent, and accountable health-promoting programs and systems are the foundation on which a nation's economic security can be built. The time to act on that knowledge is now.

"Cost-effective, transparent, and accountable healthpromoting programs and systems are the foundation on which a nation's economic security can be built."

Background Paper

Health spending, budgets, and the impact of COVID-19

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SEPTEMBER 2022

Health Spending, budgets, and the impact of COVID-19

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1 Introduction

The SARS-CoV-2 virus was first identified in December 2019. Nearly thirty months later, the resulting COVID-19 pandemic has claimed at least six million lives. It is estimated to have caused global GDP to shrink by 3.5% in 2020, compared to the 3.4% growth expected prior to its arrival (IMF, 2021). The arrival of vaccines has enabled many countries to resume (almost) normal economic activity. However, unequal vaccination rates across countries and the emergence of new variants of the virus continue to menace a global recovery.

The "double shock" of a health crisis as well as the associated economic crisis presents an enormous challenge to policymakers around the world. While progress towards the goal of universal health care has long been a concern to governments, COVID-19 laid bare inadequacies in the health systems of countries, both rich and poor. As the pandemic gradually recedes, there is an opportunity to assess and evaluate how these systems are organized and financed.

This background paper provides an overview of health expenditures prior to the pandemic. In particular, it compares the level of spending across countries as well as how that spending is financed and allocated. It then summarises the preliminary data available on spending related to COVID-19, and suggests what changes to expect as more data becomes available. It ends with a discussion of what questions policymakers should consider when debating how to establish sustainable health financing adapted to each country's specific needs.

2 Health expenditure prior to COVID-19

2.1 Health expenditures are an important share of GDP across countries of all income groups, and with significant variation across countries.

Global health expenditure was \$8.5 trillion in 2019, equal to 9.8% of global GDP (WHO, 2021a). However, the contribution to that expenditure is highly unequal. Spending in high-income countries (HICs) accounted for 80% of the \$8.5 trillion, compared with only 17% for uppermiddle-income countries (UMICs), 2.8% for lower-middle-income countries (LMICs), and 0.24% in low-income countries (LICs). The United States (US) alone accounts for 42% of total global health expenditure and more than half of the expenditure among HICs (WHO, 2021a).

To a large extent, the disparity in contribution to spending reflects HICs' larger share of global GDP. When health expenditures are measured as a percentage of each country's GDP rather than global GDP, differences across income groups are less pronounced. As a proportion of a country GDP, HICs spent a much larger proportion on health than any other income group, resulting in the distribution of health spending being more unequal than the distribution in global GDP (WHO, 2021a). However, there is not a linear relationship between income group and health expenditure as a percentage of GDP. On average, although HICs and UMICs spent the largest proportion of GDP on health (7.7% and 6.9%, respectively), LICs averaged 6%, exceeding the average of 5.1% in LMICs.

However, there are several outliers and significant variation within income groups. Figure 1 shows the median share of health expenditures for each income group, with the bars representing the range within each group. Interestingly, Afghanistan, a LIC, had the fifth-highest spending on health as a proportion of GDP globally, at 13.2%. The country with the highest health expenditure as a proportion of GDP in 2019 was Tuvalu (a UMIC), spending 24% of GDP. The US spent the second-highest amount as a proportion of GDP at 16.8% (WHO, 2021b).

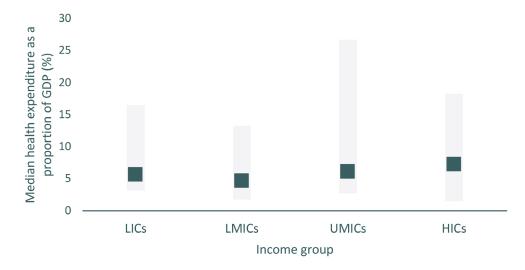


FIGURE 1: AVERAGE HEALTH EXPENDITURE AS A PROPORTION OF GDP, BY INCOME GROUP

Data source: WHO, Global Health Expenditure Database, 2021.

Population-adjusted expenditures show similar patterns. The average health spending per capita in 2019 was \$1,105, but varies widely by income group: in HICs, the average health spending per capita was \$3,191, but the average in LICs was only \$39 (WHO, 2021a). The US is once again an outlier, spending the most per capita at \$10,921, and the countries with the five highest health spending per capita were all HICs. Among LICs, Afghanistan remained the highest spending country per capita, but its average of \$65.8 is far below the averages for all other income groups (WHO, 2021b).

2.1.1 Changes over time

Over the past two decades, health spending has more than doubled across all income groups. Figure 2 shows the growth in health expenditure per capita from 2000-2019 (WHO, 2021b). Globally, the average annual growth of health spending has consistently been above 2% since 2000. Countercyclical fiscal policies implemented by governments to counter the economic shock of the global financial crisis led to a temporary increase to 5% from 2008 to 2009. In HICs, the growth rate of total health spending has nearly always been higher than the growth rate of GDP, with exception of 2018 (WHO, 2020). Since 2000, growth in health spending in 22 HICs¹ has outpaced growth in other public spending priorities, including education, defence, and the environment. While spending on health rose from 11.9% of general government spending in 2000 to 15.0% in 2019, the share of government spending on education and the environment remained stable, and defence spending decreased slightly from 4.1% to 3.4% (WHO, 2021a).

¹ The countries included are Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States of America.

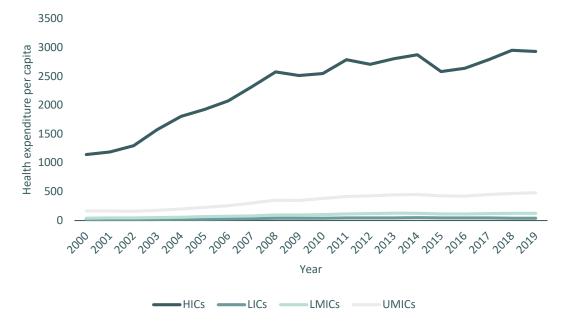


FIGURE 2: AVERAGE HEALTH EXPENDITURE PER CAPITA, BY INCOME GROUP

Data source: WHO, Global Health Expenditure Database, 2021.

2.2 Funding for health expenditure also varies across and within income groups.

Health expenditure is funded through a combination of funding sources, including government transfers, social health insurance contributions, voluntary health insurance contributions, external aid, and out-of-pocket spending (OOPS). The composition of these funding sources varies significantly by country and income group. The latter two sources – OOPS and external aid – are relatively more important outside HICs.

2.2.1 Out of pocket spending (OOPs)

When health care is not free at the point of use, households must pay out-of-pocket (World Bank, 2022). Although households are more likely to face financial constraints in LICs and LMICs than in wealthier countries, OOPS in these income groups made up at least 40% of health spending in 2019. This figure is about half that of HICs, where OOPS average 21% (WHO, 2021a). However, there is significant variation within income groups as well. For example, among HICs, OOPS as a share of health expenditure is highest in Trinidad and Tobago (46.9%), but only 1.1% in Nauru. Along LICs, the share of OOPS in health expenditures ranges from 10% in Mozambique to more than 79% in Afghanistan. Similar variation is observed in upper-middle and lower-middle income countries (WHO, 2021b).

While OOPS ensures that households have "skin in the game," reducing the moral hazard associated with generous subsidies or insurance coverage that can sometimes encourage wasteful consumption in high-income countries (Bajari et al., 2014), high OOPS also risks reducing access to healthcare. This can have particularly important long-run consequences if households reduce investments in preventative care (Qin et al., 2019) or are pushed into poverty due to a large burden of healthcare costs (Sirag and Nor, 2021). The highly regressive nature of OOPS implies that reliance on this form of financing may exacerbate inequalities

within a country. The WHO found that more government health spending is associated with a smaller share of OOPS in total health spending, potentially reflecting different policy choices among countries (WHO, 2021a).

2.2.2 External Aid

Many countries rely on external aid to fund health expenditures. Reducing extreme poverty is one of the main criteria for external aid. Consequently, this external aid is concentrated among a few countries. In 2018, the top nine recipient countries of external aid absorbed more than 40% of total aid (WHO, 2020). In LICs and LMICs, external aid made up 29% and 12% of health spending in 2019, respectively. In contrast, external aid made up just 0.1% of funding in HICs (WHO, 2021a).

The effects of external aid on total healthcare spending are ambiguous. Recipient countries may treat the aid as fungible and redirect government spending to other priorities, as suggested in a case study of Tanzania (Alvarez et al., 2016). Analysis by the WHO finds that in countries that were heavily reliant on external aid for health, higher levels of aid were offset by reductions in domestic financing sources in government health spending, suggesting a reduction in the prioritization of health by governments (WHO, 2021a).

2.2.3 Changes over time

Although OOPS per capita has been growing since 2000 in nearly all countries, the share of OOPS in total health spending has been decreasing on average for all income groups (WHO, 2021a). In other words, as health spending has increased, the share of the burden borne directly by households has fallen even as the total expenditures for households rise. External aid has also risen since 2000, peaking in 2014 at \$19 billion and totalling \$17 billion in 2019 (WHO, 2021a). Aid funding as a share of health spending has increased for both LICs and LMICs since 2005 while remaining stable in UMICs. LICs received more aid than LMICs from 2006 to 2012, but the opposite has been the case in other years (WHO, 2020).

2.2.4 Insurance schemes

Health insurance schemes play a much smaller role in financing health expenditure in most developing countries. Only in HICs does health insurance represent a bigger proportion of current health expenditure than OOPS. Even then, this is driven by Compulsory Health Insurance (CHI) (an arrangement using mandatory contributory-based entitlement), making up around 31% of current health expenditure in 2019 (WHO, 2021a). Voluntary Health Insurance (VHI) (defined as domestic private source of funding) represents less than 10% of current health expenditure in 2019 for every income group (Figure 3).

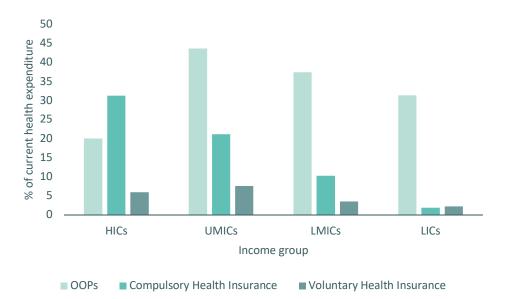


FIGURE 3: FINANCING SCHEMES AS A PROPORTION OF CURRENT HEALTH EXPENDITURE BY INCOME GROUP

Data source: WHO, Global Health Expenditure Database, 2021.

2.2.5 Other sources of health financing

Government spending on health plays a larger role in HICs. However, even among HICs, there is variation in the reliance on financing through government budget schemes versus compulsory insurance, and whether insurance is provided by a public program or by private companies. A complete discussion of the trade-offs associated with these choices is beyond the scope of this document but is increasingly pertinent in emerging markets (ACCESS Health, 2022). It is worth noting that there is no apparent systematic relationship between how healthcare is financed in HICs and health spending per capita, growth in spending on healthcare, or growth in GDP per capita (WHO, 2021).

The choice of healthcare financing has implications for expenditures across diseases as well as a country's ability to respond to shocks to the health system. For example, healthcare systems that rely on social contributions from the labour force may have insufficient funds as populations age (Cylus et al., 2019). Cyclicality related either to social health insurance schemes or to government spending can be counterproductive in attaining health goals (Thomson et al., 2022). Private health insurance presents an opportunity to reduce the burden on government spending. In addition, competition between private insurance may lower health care costs if it results in insurers' delivering care more efficiently. However, the development of a viable market in private health insurance often requires a regulatory environment that addresses the potential for adverse selection and the need for pooling of risk.

3 Health budget allocation prior to COVID-19

3.1 Countries differ in their disease priorities.

In addition to differences in the *level* of spending, either as a percent of GDP or per capita, country income groups show wide variation in *how* spending is allocated across diseases. Based on WHO analysis for 51 countries (mostly LICs and MICs), infectious and parasitic diseases accounted for 37% of health spending in 2019. Of this 37%, 11% was spent on malaria, 9% on HIV/Aids, 1% on tuberculosis, and 16% on other infectious diseases. The second largest share of health spending was on noncommunicable diseases (NCDs) (26%), followed by unspecified (17%) (treatment of general symptoms that cannot be linked to a specific disease), reproductive health (12%), injuries (5%), and nutritional deficiencies (3%) (WHO, 2021a).

These patterns reflect a number of factors. The burden of disease varies, with tropical and infectious diseases exacting a much larger toll in poorer countries (see Figure 4). There is also variation in the cost of treatment. Diseases addressed with easy-to-administer pharmaceutical treatments are less expensive than conditions requiring hospitalization or other resource-intensive services, which can change over time due to innovation. For example, individuals with untreated hepatitis C are at higher risk of liver failure and hepatocellular carcinoma. Access to care for such individuals is limited even in many HICs. The development of direct-acting antiviral treatments that can cure hepatitis C means that the disease can be treated relatively easily: oral medication is easier to distribute, especially in settings with limited resources. While the price of these treatments is controversial, manufacturers have made efforts to increase access through voluntary licensing, and their use has gradually increased (WHO, 2018). Thus, a disease like hepatitis C may appear to have a high burden and little associated spending in 2012, but a lower burden and high spending in 2022.

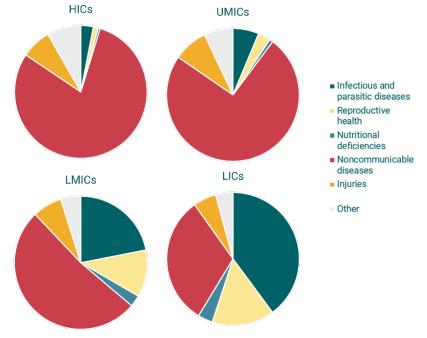
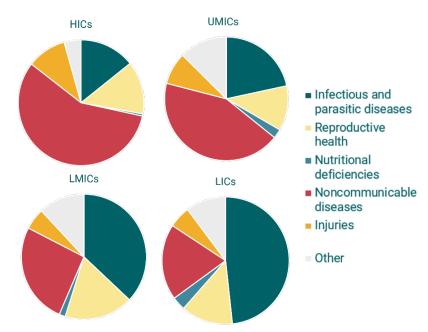


FIGURE 4: BURDEN OF DISEASE IN 2019, BY INCOME GROUP

Data source: WHO, Global Health Expenditure Database, 2021.

FIGURE 5: DISTRIBUTION OF DOMESTIC GOVERNMENT EXPENDITURE IN 2019, BY INCOME GROUP



Data source: WHO, Global Health Expenditure Database, 2021.

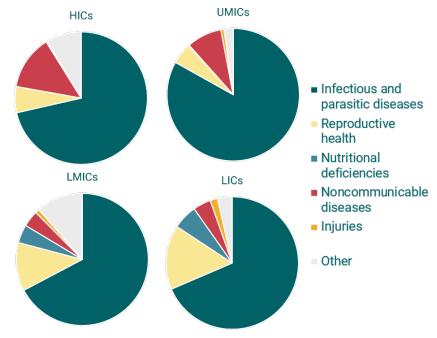


FIGURE 6: DISTRIBUTION OF EXTERNAL EXPENDITURE IN 2019, BY INCOME GROUP

Data source: WHO, Global Health Expenditure Database, 2021.

3.2 Countries differ in the source of funding for health expenditures.

3.2.1 Government expenditure on health

Further disaggregating spending by the source of financing reveals that the variation reflects domestic policy choices. Figure 5 depicts domestic general government expenditure on different diseases or programmes as a percentage of domestic general government expenditure on health in 2019². These expenditures reflect governments' disease priority. For both LMICs and LICs, infectious and parasitic diseases are the largest proportion of government expenditure. Compared to the 48% in LICs, infectious and parasitic diseases only made up 14% of government expenditure in HICs. NCDs made up a far greater proportion of government expenditure in nutritional deficiencies is smaller in wealthier income groups (WHO, 2021b), but is about the same for reproductive health.

3.2.2 External expenditure on health

While there are stark differences in the disease priorities of government expenditure between income groups, external expenditure across diseases reflects a more uniform pattern across income groups (Figure 6). The latter is overwhelmingly targeted at infectious diseases, with more than two-thirds of external funding being spent on infectious and parasitic diseases across all income groups. Reproductive health receives more attention from external funders in LICs and LMICs than in other income groups, accounting for 12% and 16% of external health expenditures, respectively. Nutritional deficiencies also are more of a priority in relatively poorer countries, with no external funding expenditures in HICs. Externally funded expenditures on injuries represent the smallest proportion of spending across all income groups (WHO, 2021b).

² Analysis is limited to countries with available data. For any indicator this is no more than 47 countries.

3.3 Countries differ in the budgetary importance of primary and preventative care.

Primary care and essential public health functions are central to the WHO's Sustainable Development Goals, reflecting the view that it is "the best and most efficient way to achieve health for all."³ Primary care includes general outpatient curative care, home-based curative care, outpatient and home-based long-term care, and preventative care. Primary health care spending accounts for the largest proportion of health spending, at 53% of total health spending and amounting to 3.1% of GDP on average across 91 countries in 2019. The share of primary health care spending generally falls as income rises, making up 65% of total health spending in LICs but only 42% in HICs. The reasons for this pattern are unclear. It may reflect (the lack of) supply: fewer hospitals and specialist physicians may be available in poorer countries. Alternatively, it may reflect relative prices, with a smaller difference between the cost of a primary care physician and a specialist in poorer countries than observed in richer countries.

In LICs and LMICs, external aid spending favours primary health care. The share of external aid devoted to primary health care is more than 75%, on average, in these income groups. In LICs, external aid amounts to one-third of primary health care spending versus 16% of spending on non-primary health care. In contrast, government spending is 18% of primary health care spending and 30% of non-primary health care spending in LICs (WHO, 2021a). Note that about half of spending is done by private funding (households, or corporations and nonprofits serving households, or compulsory or voluntary prepayment) for both primary and non-primary health care. Countries in which households are responsible for most spending, which includes most LICs, have lower primary health care spending per capita but a higher share of total health spending devoted to primary care.

Within the primary health care category, outpatient curative care and medical goods account for most spending in LICs and MICs. This too varies by funding source. Medical goods, in particular, are a large share of private spending. External aid is especially important in spending on preventive care. For example, in LICs, 25% of total primary health care spending went to preventative care, and 80% of this spending was funded by external aid (WHO, 2021a).

Immunization programs are an important component of preventative care. The available data shows significant variation in the share of spending allocated to immunization. On average, immunization made up 0.4% of total health spending in HICs, 0.7% in UMICs and 1.5% in both LICs and LMICs. To some extent, these differences may reflect the younger age distribution observed in LICs and LMICs. Furthermore, LICs relied more heavily on external aid to fund spending on immunization. In contrast, government schemes were more important in funding preventive care in HICs (WHO, 2021a).

3.4 Spending reflects priorities, but many other factors as well.

It is important to recognize that spending on health care reflects both the true cost of delivering care as well as markups and inefficiencies in a system. It is well-known that the US has higher per capita spending on health than many other HICs, but lower life expectancy and poorer health outcomes. An increase in overall spending on health may not improve welfare if the money is not efficiently spent (for example, increased spending for a treatment that is not cost-effective). High levels of spending in a country due to large administrative costs will not necessarily yield desirable improvements in health.

The price of health care, whether the salary for a medical doctor or a pharmaceutical intervention, is not always the result of a competitive market. They can be regulated, as is often the case for drugs. They can reflect significant entry barriers, such as years of medical training in order to obtain certification. A lack of systematic data on how prices are set and the extent of competition is not available across a large sample of countries limits further analysis.

³ https://www.who.int/health-topics/primary-health-care

4 The impact of COVID-19

The pandemic has had far-reaching impacts on the delivery of health care. First, systems must absorb the cost of caring for individuals with severe infections, which may require the use of oxygen, ventilators, and a limited number of treatment options. The latter include some products that have received marketing authorization in some countries, such as certain monoclonal antibodies and antivirals, as well as products used off-label, such as ivermectin and hydroxychloroquine. Second, after the development of vaccines against COVID-19, countries needed to procure and distribute them. In addition to these direct costs, some health systems have been forced to delay or ration care for other conditions due to a lack of hospital capacity or a shortage of personnel (Carr et al., 2021). Lockdowns in some countries may have hindered access to care, such as HIV treatments in South Africa (Benade et al., 2022). Paying the direct costs requires raising revenues through taxes or borrowing. The slowdown in business activity caused by COVID-19 reduced government revenues, and not all countries are able to access external finance on favourable terms. The slowdown also negatively affects many households' income, which itself can contribute to poor health if liquidity constraints and high OOPS restrict access to care.

It is too early to provide a complete accounting of all these costs. Data on COVID-19-related expenditures is available for only a subset of countries and covers only the first year of the pandemic. The patterns observed in these countries and during this stage of the crisis may not be very informative for understanding the effects in countries with different rates of infection and severity and with different preventative and treatment options now available.

4.1 Health expenditures increased in absolute terms and as a share of GDP.

Early evidence on government health budgets indicates that LICs were allocating a much larger proportion of government spending on COVID-19 than any other income group. Using per capita data on government expenditure on health in 2018 and budget allocation estimates for the COVID-19 health response for a selection of countries, WHO (2020) finds that COVID-19 budget allocations represent 36% of pre-COVID-19 public spending on health in LICs, 13% in MICs, and 8% in HICs (Figure 7). This is somewhat surprising, as deaths due to COVID-19 are highest in HICs, followed by UMICs (Figure 8) (Ritchie et al., 2020).

FIGURE 7: COVID-19 BUDGET ALLOCATION AS A PROPORTION OF 2018 GOVERNMENT SPENDING ON HEALTH



Data source: WHO, Global spending on health: Weathering the storm, 2020.

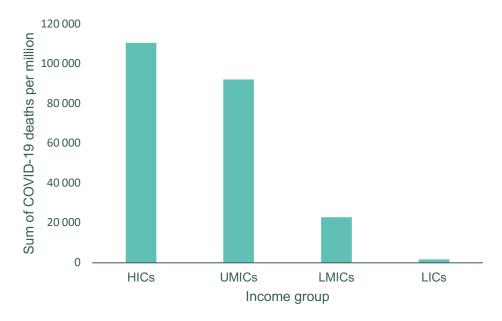


FIGURE 8: TOTAL COVID-19 DEATHS PER MILLION, BY INCOME GROUP

Data source: Our World in Data, COVID-19 dataset, 2022.

Because health expenditure data is usually reported with a two-year lag, there is limited data available on health expenditure for the period since the beginning of the pandemic (WHO, 2021a).

However, preliminary health spending estimates for 2020 are available for 22 countries (mostly HICs)⁴. For these 22 countries, the growth rate of health spending per capita increased to 4.9% from the 3% average between 2017 and 2019. However, there was significant variation, with five countries having growth rates higher than 10% and four countries with less than 2% growth rates. As a result of higher health spending, in addition to the economic recession, health spending as a share of GDP increased in 2020 from 9.2% in 2019 to 10.1% on average in 17 HICs, and from 5.8% to 6.3% on average in the five MICs and LICs (WHO, 2021a).

Although health expenditure increased, the share of health spending in total general government expenditure decreased in two-thirds of the countries for which information is available (WHO, 2021a). This is due to most countries applying counter-cyclical measures in response to the economic crisis caused by the pandemic, increasing total general government expenditure in 2020. Furthermore, OOPS fell in most countries. This decline may be due to lower utilization of health care services where such services are usually financed through OOPS (WHO, 2021a), or to the expansion of fee-free services in other countries; the US, for example, saw an increase in Medicaid enrolment (Khorrami and Sommers, 2021). Prior to the pandemic, external aid made up a large proportion of health funding in LICs. It is likely that as more data becomes available, the importance of aid since the start of the pandemic will become even more apparent.

Preliminary estimates of current health spending on COVID-19, funded through government and compulsory insurance arrangements, are available for 16 countries. However, these estimates may not be comparable between countries, given different methods of estimating spending. Initial analysis suggests that, as with health spending pre-COVID-19, significant variation exists across income groups as well as between countries within income groups. In HICs, COVID-19

⁴ Austria, Bhutan, Canada, Chile, Colombia, Estonia, Finland, Germany, Iceland, Iran, Ireland, Italy, Korea (Republic of), Mexico, Netherlands, Niger, Norway, Poland, Portugal, Slovenia, Sweden and United Kingdom.

spending estimates range from \$12 to \$602 per capita, and in LICs and MICs, the corresponding range is from \$3.2 to \$22 per capita (WHO, 2021b).

Projections for future health spending suggest that health spending will continue to grow across all regions of the world in 2022. The growth rate of health spending is expected to decline compared to 2021, given the large spending on vaccines in 2021, but still remain far above growth rates from the past ten years (EIU, 2021). This spending will be necessary to continue facing the challenges of COVID-19 but also to tackle the rising non-COVID-19 costs associated with growing backlogs and increased severity and incidence of conditions that went unaddressed during the pandemic.

4.2 COVID-19 is likely to shift spending towards preventative care.

A further seven countries provided 2020 total health spending information, i.e. including COVID-19 expenses. With the exception of Finland, the increase in government and compulsory insurance spending in HICs was driven mainly by higher spending on inpatient care services, specifically for long-term care for patients with high long-term dependency. In the LICs and MICs included, preventative care services were the main driver of growth in government spending, although preventative care services were also of importance in HICs (WHO, 2021a).

For those countries where data on COVID-19 spending is available, an average of 40% of spending went to treatments, 21% to testing and tracing, 21% to medical goods, 15% to other functions and 3% on immunization. In seven out of eight countries where data was available for healthcare provision, hospitals made up over 40% of COVID-19 health spending, with preventive care receiving the second-largest share of spending (WHO, 2021a). However, these estimates pre-date the arrival of COVID-19 vaccines, which would be expected to cause an increase in preventative care spending in most countries.

5 Looking to the future

The COVID-19 pandemic necessarily triggered a significant response by governments in countries of all income levels. The direct costs of COVID-19 -- including hospitalizations, treatments, testing, and vaccinations – required most governments to borrow the necessary funds. Consequently, public debt as a share of GDP is very high relative to historical levels, and this limits the "fiscal space" available to finance health and other important functions going forward.

The knock-on effects of the pandemic, combined with other headwinds in the global economy (war in Ukraine, spikes in energy prices, supply chain disruptions, etc.) may continue to push people into poverty. This is especially true in LICs and MICs. Addressing this situation, which often entails negative consequences for health status as well, requires additional government resources even if direct spending on COVID-19 falls as the pandemic wanes. Because COVID-19 did not spare HICs, which donate directly or indirectly to finance health in poorer countries, external aid is also likely to be impacted.

Countries now face many challenges in health care financing. Returning to the health care spending share of GDP observed pre-pandemic is difficult but considered by the World Bank to be the most likely scenario (Kurkowski et al., 2021). However, as GDP has declined in most countries, even meeting this challenge will leave per capita spending on health below pre-COVID-19 levels. However, the shock to health care systems does provide an opportunity to reassess a number of policy choices.

First, is the pre-pandemic level of health care spending in any given country optimal? And as importantly, is its *allocation* optimal? Of particular interest is the relative investment in infrastructure to detect and prevent diseases and primary care versus secondary and tertiary care. The fact that domestic spending on health has different priorities than those of external aid is also worth exploring. This could indicate that external aid does not account for country-specific health care needs; that internal spending is misallocated or captured by some segments of the population to the detriment of others; or that there are comparative advantages in the delivery of different types of care by organizations with internal vs. external financing.

Finally, for a given level and allocation, how should health be financed? As discussed above, LIC health systems rely more on OOPS. This is highly procyclical: as household income falls due to an economic slowdown, OOPS is also likely to decline and needed treatments postponed. SHI contributions are also generally procyclical and ill-adapted to aging populations (OECD, 2021). Tax-funded systems have more flexibility to adjust to health crises if government borrowing is an option. The choice of financing thus depends on a country's specific circumstances, such as its age distribution, disease burden, and ability to borrow.

A number of solutions – or at least reforms aimed to improve health outcomes, if not solve all problems in a health system – have been proposed. For LICs and MICs, debt relief and external aid from HICs may relieve some of the fiscal burden in the short to medium run. However, these may just crowd out domestic spending on health care without a clear, credible commitment by recipient countries. "Sin" or pro-health taxes on cigarettes, sugary drinks, etc. may generate revenues and discourage unhealthy behaviours. These depend on successful implementation and enforcement (Javadinasab, 2020), and their success in discouraging unhealthy behaviours limits their use as a source of sustainable finance. Private health insurance may also have an important role to play (ACCESS Health, 2022). Its effects on the overall efficiency of the health system and government policies to encourage the development of private insurance in emerging markets are key issues to examine.

References

Bajari, P., Dalton, C., Hong, H., & Khwaja, A. (2014). Moral hazard, adverse selection, and health expenditures: a semiparametric analysis. *The RAND Journal of Economics*, *45*(4), 747–763.

Benade, M., Long, L., Rosen, S. *et al.* Reduction in initiations of HIV treatment in South Africa during the COVID pandemic. *BMC Health Serv Res* **22**, 428 (2022). https://doi.org/10.1186/s12913-022-07714-y

Carr A, Smith J A, Camaradou J, Prieto-Alhambra D. Growing backlog of planned surgery due to covid-19 *BMJ* 2021; 372 :n339 doi:10.1136/bmj.n339

Cylus J, Roubal T, Ong P, Barber S. Sustainable Health Financing with an Ageing Population: Implications of Different Revenue Raising Mechanisms and Policy Options. Copenhagen:

European Observatory on Health Systems and Policies; 2019. Available from: http://www.ncbi.nlm.nih.gov/books/ NBK550584/.

EIU, 2021. *Healthcare in 2022*. [online] Available at: https://www.eiu.com/n/campaigns/healthcare-in-2022/?utm_source=eiuwebsite&utm_medium=blog&utm_campaign=industries-in-2022&utm_content=anchor-2#mktoForm_anchor.

IMF, April 2021. World Economic Outlook. [online' Available at: <u>https://www.imf.org/</u>/media/Files/Publications/WEO/2021/April/English/text.ashx.

Javadinasab H, Masoudi Asl I, Vosoogh-Moghaddam A, Najafi B. Comparing selected countries using sin tax policy in sustainable health financing: Implications for developing countries. Int J Health Plann Manage. 2020 Jan;35(1):68-78. doi: 10.1002/hpm.2817.

Khorrami P, Sommers BD. Changes in US Medicaid Enrollment During the COVID-19 Pandemic. *JAMA Netw Open.* 2021;4(5):e219463. doi:10.1001/jamanetworkopen.2021.9463

Kurkowski, C. et al. From Double Shock to Double Recovery – Implications and Options for Health Financing in the time of COVID-19. World Bank Discussion Paper, March 2021.

OECD (2021), "Adaptive Health Financing: Budgetary and Health System Responses to Combat COVID-19", OECD Journal on Budgeting, vol. 21/1, <u>https://doi.org/10.1787/69b897fb-en</u>.

Qin VM, Hone T, Millett C, *et al.* The impact of user charges on health outcomes in low-income and middle-income countries: a systematic review. *BMJ Global Health* 2019;**3**:e001087.

Ritchie, Hannah, Edouard Mathieu, Lucas Rodés-Guirao, Cameron Appel, Charlie Giattino, Esteban Ortiz-Ospina, Joe Hasell, Bobbie Macdonald, Diana Beltekian, and Max Roser. 'Coronavirus Pandemic (COVID-19)'. Our World in Data, 5 March 2020. https://ourworldindata.org/covid-deaths.

Sirag, A., & Mohamed Nor, N. (2021). Out-of-Pocket Health Expenditure and Poverty: Evidence from a Dynamic Panel Threshold Analysis. *Healthcare (Basel, Switzerland)*, *9*(5), 536. https://doi.org/10.3390/healthcare9050536

Stenberg K, Hanssen O, Edejer TT-T, Bertram M, Brindley C, Meshreky A, et al. Financing Transformative Health Systems towards Achievement of the Health Sustainable Development Goals: A Model for Projected Resource Needs in 67 Low-Income and Middle-Income Countries. Lancet Glob Health. 2017 Sep 1;5(9):e875–87.

Thomson S, García-Ramírez J, Akkazieva B, Habicht T, Cylus J, Evetovits T. How resilient is health financing policy in Europe to economic shocks? Evidence from the first year of the

Background Paper

COVID-19 pan- demic and the 2008 global financial crisis. Health policy. Available from: https://doi.org/10.1016/j. healthpol.2021.11.002.

WHO, 2018. *Progress Report on Access to Hepatitis C Treatment.* [online] Available at https://apps.who.int/iris/bitstream/handle/10665/260445/WHO-CDS-HIV-18.4-eng.pdf.

WHO, 2020. *Global spending on health: Weathering the storm*. [online] Available at: https://www.who.int/publications-detail-redirect/9789240017788 [Accessed 16 Mar. 2022].

WHO, 2021a. *Global expenditure on health: Public spending on the rise?* [online] Available at: https://www.who.int/publications-detail-redirect/9789240041219 [Accessed 16 Mar. 2022].

WHO, 2021b. *Global Health Expenditure Database*. [online] Available at: https://apps.who.int/nha/database/Select/Indicators/en [Accessed 16 Mar. 2022].

World Bank, 2022. Out-of-pocket expenditure (% of current health expenditure) | Data. [online] Available at: https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS [Accessed 16 Mar. 2022].

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