



Smart Spending for Health

How to make each dollar count

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Preface

Latin America and the Caribbean finds itself at a crossroad. The global health crisis of COVID-19, coupled with the war in Ukraine and rising inflation, has placed our health systems, economies, and societies under unprecedented strain. Now more than ever, we need to explore innovative ways to secure the health of our communities, a necessary condition for broader socioeconomic development.

This report proposes a pragmatic yet forward-looking solution - smart spending for health. This strategy is one of the most effective ways to meet the challenge of inadequate and insufficient spending which, combined with economic and demographic pressures, has intensified the need for a fundamental shift in how we finance, manage, and allocate our healthcare resources.

The core premise of this report is not only about increasing our spending in healthcare - which is needed - but doing so in a way that maximizes the value and impact of every dollar spent. This concept of 'doing the right things' and 'doing things right', which will be addressed throughout the document, suggests that with the same level of spending, we could significantly improve health outcomes, increase life expectancy, and ensure a more equitable distribution of healthcare across our societies. With better spending and more resources allocated to health, solid progress toward Universal Health Coverage is achievable.

In this report, we delve into practical strategies, harness effective tools, and draw on real-world examples to guide the way forward for making smart spending not just an aspiration but a standard practice in health policy decisions. By embracing these principles, we can help foster a more efficient, equitable, and resilient health system that provides all individuals and communities access to the health services they need without causing financial hardship.

While smart spending encompasses many elements, this report focuses on three key areas: buying the right things, getting better deals, and reducing wasteful spending. In this context, we highlight the importance of explicit priority setting and health technology assessment; we discuss different strategies to better purchase and manage medicines and other inputs and supplies, such as procurement processes; and we review disinvestment practices.



Our efforts aim to make the right to health not just a noble aspiration but a reality for everyone in the Latin America and the Caribbean region. We believe smart spending is necessary to fulfilling it, and it complements our broader approach of promoting better health conditions, reducing the risk of poverty associated with health problems, and achieving sustainability of health services for the entire population.

We invite you to join us in this endeavor, engage with our research, and contribute to this ongoing dialogue.

Pablo Ibararán

Chief, Social Protection and Health Division (IDB).



Executive Summary

Countries in Latin America and the Caribbean (LAC) spend too little on healthcare, but they could also get more health for their populations with the money they spend. Government resources for healthcare are constrained because they collect too little tax revenue, have high levels of debt (made worse by the recent pandemic), and face economic shocks resulting from the war in Ukraine and the rise in inflation. At the same time, pressures to spend more on healthcare are growing as countries try to adopt new technologies and face rising demands to treat aging populations and an increasing prevalence of many chronic conditions. The COVID-19 crisis is also increasing pressures on public healthcare spending as countries treat acute and long-term effects of the disease, try to invest in pandemic preparedness for future emergencies, and deal with the health effects of the recent rise in poverty.

In this context, mobilizing new and additional resources for health is a difficult challenge. Now more than ever, the LAC region needs to spend smarter on healthcare. It needs to “do the right things” – that is, shift resources toward strategies and interventions that generate more value per dollar. And it needs to “do things right” – that is, achieve more health and equity with the same inputs. The potential is enormous. People in the region could gain three to five more years of life expectancy if their countries, using the same money they spend today, improved the way they spend to reach the efficiency standards of other countries.

This report is about making that kind of progress through smart spending on healthcare. In addition to the broad research on this topic, this report relies on the experience and resources of the Inter-American Development Bank’s (IDB) Social Protection and Health Division (SPH) and its knowledge network, CRITERIA, along with its partners in Latin America and the Caribbean.¹

In addition to financing healthcare programs in the region, SPH has conducted analysis, developed training courses, and provided technical support to governments about getting more value from their healthcare spending. As such, the IDB is part of a global movement in which applied researchers, health sector officials, politicians, and civil society groups are

1. CRITERIA is an initiative of the Inter-American Development Bank (IDB) that supports member countries as they develop the evidence and institutions required to better allocate and prioritize public healthcare spending. By strengthening processes, promoting collaborative work, and exchanging knowledge and experiences, CRITERIA offers ideas and alternatives to help countries progress towards universal health coverage despite constrained resources and rising costs.



finding ways to set priorities, rank the importance of healthcare services and treatments, increase productivity, reduce health system waste, and adjust public sector budget and policy decisions. Our goal? To get more healthcare to more people, more equitably and with greater financial protection.

Public policies have many ways to improve health outcomes, equity and financial protection, and smart spending is one of them. Other factors linked to better health outcomes include improved governance, transparency, and accountability, as well as better health sector incentives, planning, and personnel management. This report will focus on smart spending because it is an approach that has matured over the last ten years, with well-developed methods that have proven feasible and promising in many contexts.

This report introduces the main concepts, tools, and strategies for making smarter healthcare spending decisions, and guides readers to resources that provide practical examples and detailed explanations. Although smart spending includes many more elements, this report focuses on the following:

- **Buying the right things:** purchasing or providing healthcare goods and services that provide more value relative to their cost, more equitably, than other services.
- **Getting better deals:** finding ways to purchase the same inputs, services, and medications at lower prices, or ways to manage them at a lower cost.
- **Spending less on the wrong things:** reducing expenditure on healthcare services, medications, or devices that are harmful, wasteful, or provide little or no value.

The report shows that:

- Smart spending is not only compatible with the right to health, but also key to fulfilling the right to health.
- Smart spending requires a social agreement on values and consideration of opportunity costs.
- Explicit priority setting is key to managing cost pressures and expanding high-value healthcare services.
- Prioritization is not a one-time exercise. It is a process with multiple steps, applied systematically over time, and involving many actors.



- Explicit priority setting benefits from health technology assessments (HTAs) as a key decision-making input. However, prioritization is much more than HTA. It also involves decisions about authorizing sales and use, selecting which technologies will be subject to HTAs, deliberating whether to finance such technologies, monitoring markets and performance, and screening for disinvestment.
- Countries can reduce costs by buying better and then reallocating savings to expand coverage of good quality and cost-effective healthcare.
- Disinvestment can improve health and free up resources to be spent on high-value healthcare.
- Smart spending can help eliminate clinical, operational, and administrative waste.

More governments are recognizing the benefits of smart healthcare spending every day and are seeking evidence to inform explicit priority setting. The challenge is to generate and mobilize the information needed to guide the policy changes and make smart spending more than a one-time exercise. Smart healthcare spending will be most successful when it is incorporated as a regular and systematic feature of health system policy decisions.



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1



Introduction



Latin American and Caribbean (LAC) countries are committed to achieving Universal Health Coverage (UHC) but reaching everyone with the good high quality healthcare services they need is costly. Though many countries will require more spending to progress toward UHC, no country, no matter how rich, can buy everything for everyone. Indeed, countries must make smart spending on healthcare a priority. Spending what they can with greater efficiency – that is, spending smarter – is essential to improving health and making faster progress toward UHC.

This report is about smart spending on healthcare. In addition to the broad research on this topic, this report relies on the experiences and resources of the Inter-American Development Bank's (IDB) Social Protection and Health Division (SPH) and its knowledge network, CRITERIA², along with its partners in LAC.

In addition to financing health programs in the region, SPH has conducted analysis, developed training courses, and provided technical support to governments about getting more value from their healthcare spending. As such, the IDB is part of a global movement in which applied researchers, health sector officials, politicians, and civil society groups are finding ways to set priorities, rank the importance of healthcare services and treatments, increase productivity, reduce health system waste, and adjust public sector budget and policy decisions. Our goal? To get more healthcare to more people, more equitably and with greater financial protection.

Public policies have many ways to improve health outcomes, equity and financial protection, and smart spending is one of them. Other factors linked to better health outcomes include improved governance, transparency, and accountability, as well as better health sector incentives, planning, and personnel management. This report will focus on smart spending because it is an approach that has matured over the last ten years, with well-developed methods that have proven feasible and promising in many contexts.

This report introduces the main concepts, tools, and strategies for making smarter healthcare spending decisions, and guides readers to resources that provide practical examples and detailed explanations. In particular, it addresses the following three aspects of smart spending:

2. CRITERIA is an initiative of the Inter-American Development Bank (IDB) that supports member countries as they develop the evidence and institutions required to better allocate and prioritize public healthcare spending. By strengthening processes, promoting collaborative work, and exchanging knowledge and experiences, CRITERIA offers ideas and alternatives to help countries progress towards universal health coverage despite constrained resources and rising costs.



- **Buying the right things:** purchasing or providing healthcare goods and services that provide more value relative to their cost, more equitably, than other services.
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1.1 What is “smart spending?”

“Smart spending” in healthcare refers to policies that get as much health-related value as possible for the population within a given budget. But this definition raises further questions. For example, if healthcare is a right, why do we even have to think about budgets and costs? What determines the size of the available budget? And what is “value”?


1.1.1 The right to health


Health is recognized as a right in every Latin American and Caribbean country. Most of the countries have this right stated in their constitutions. Also, many countries have created legal procedures so that people can claim this right in a timely manner, even if this means bypassing regulatory, administrative, or lower-level judicial review. For example, in Brazil, people who have a prescription for a drug or service that is not included in the publicly financed health “packages” can go to court to claim excluded services at public expense (Giedion et al. 2018).

Does this mean healthcare should be provided without regard to cost? The right to health is among the economic, social, and cultural rights ratified in the UN Declaration on Human Rights in 1948. Recognizing that many of these rights cannot be realized within the resources available to governments, successive UN declarations have established that:

“States have a duty to use their maximum available resources for the progressive realization of economic, social and cultural rights. Even if a State clearly has inadequate resources at its disposal, it should still introduce low-cost and targeted programmes to assist those most in need so that limited resources are used efficiently and effectively.” (UNHCR 2008)



WATCH 



Explicit prioritization: health with the same resources

Amanda Glassman
(in CRITERIA's MOOC).

The World Health Organization's (WHO's) Consultative Group on Equity and Universal Health Coverage elaborated these obligations further in its report *"Making fair choices on the path to universal health coverage"* (WHO 2014). The report, prepared by a diverse group of ethicists, philosophers, economists, health-policy experts and clinical doctors from thirteen countries, concluded that priority setting is essential to progressively realizing UHC and the right to health. It lays out a three-step approach to fairness. First, categorize services into priority classes using appropriate criteria such as cost-effectiveness, helping the

worst-off, and financial risk protection. Second, expand coverage of high-priority services to everyone. Third, ensure that disadvantaged groups are not neglected (Norheim 2015). Smart spending in healthcare follows a similar logic. It helps countries fulfill their fundamental commitment to health. Healthcare spending that is effective and efficient can give more people the healthcare they need, more equitably and with less financial burden, than spending that ignores the links between healthcare and budgets. *"Explicit priority setting and the right to health are elements of two parallel worlds - health systems and jurisprudence - that have the same goal: the progressive realization of the right to health."* (María Luisa Escobar, MOOC)

1.1.2 How much to spend on healthcare?

Of course, realizing the right to health is easier for a country with more resources. But no country, no matter how rich, can afford to provide all the healthcare its population wants or needs. Rather, the amount countries spend on health is ultimately a political choice about taxation and spending priorities. It is affected by values, health system goals, framing of debates, and administrative capacity. It is also affected by the importance countries give to other kinds of public spending along with perspectives on the government's role in health-care. Thus, there is no "correct" amount of spending on healthcare. Rather there is an amount of spending required to reach a country's health goals (Savedoff 2007). The efficiency of



spending is a critical factor in this process because it affects how much money is needed. The more inefficient the spending, the greater the resources required.

Reaching health goals has always been difficult but it may be even harder these days. Countries in Latin America and the Caribbean have had long-standing macroeconomic and fiscal problems, periods of slow productivity growth, and other factors that limit how much they can spend on healthcare. More recently, the COVID-19 pandemic and climate change are straining public resources while increasing demands on public healthcare budgets.

In the pandemic's first year, regional gross domestic product (GDP) fell by 7 percent. Government revenues also fell while social spending rose, leading to large increases in public debt. Over the next 10 years, most governments in the region will face very tight budgets (Sparkes et al. 2021). Adverse weather patterns driven by climate change are also causing economic havoc in many places, generating a need for public investments in climate adaptation. When these factors are combined with long term trends that drive up healthcare expenditures, such as new technologies, economic growth, medical inflation, population growth, and population aging, smarter healthcare spending choices become an imperative.

1.1.3 The value of healthcare spending

No matter how much a country spends on healthcare, it will be better off if it considers the *value* it gets from its healthcare spending. Another term for efforts to get more value from a country's healthcare spending is "efficiency." A more efficient country gets more impact from the inputs it uses. Thus, countries that improve their health system's efficiency will be able to progress more rapidly toward UHC than those that spend inefficiently.

To get more value, it is often useful to distinguish "*doing the right things*" from "*doing things right*." "*Doing the right things*" involves directing funds toward health interventions that have more impact. The technical term for this is "allocative efficiency." "*Doing things right*" involves getting more impact from the same amount of resources by, for example, managing personnel better, reducing waste, or improving the quality of care. The technical term for this is "*technical efficiency*."

The values that guide countries when they are defining their health policy goals vary, but some are universal. The most common value that countries try to achieve with healthcare spending is improving population health. However, public healthcare spending choices also reflect values related to equity, financial protection, compassion for the disadvantaged, and other social and ethical aspirations (Zhang et al. 2022). Finding smarter ways to spend on



healthcare involves getting as much value as possible from the healthcare budget while considering this multidimensional sense of value (Pichon et al. 2021). Although all dimensions of health value are important, this report will primarily focus on two of the most prominent ones: health and equity. It will show how smarter spending can lead to more health, and do so more equitably, than if countries overlook the links between value and cost.

1.2 What is driving healthcare costs?

Healthcare spending has grown substantially over the last 50 years in Latin America and the Caribbean, just as it has across most of the world. Much of this spending has provided enormous benefits and contributed to an unprecedented increase in life expectancy and quality of life. Unfortunately, it has also grown faster than national incomes and shows no sign of slowing. So, what exactly is driving healthcare spending higher? And is it worthwhile or not?

1.2.1 Healthcare spending has grown rapidly

Between 2000 and 2020, total healthcare spending³ in Latin America and the Caribbean almost doubled from US\$366 to US\$583 per person (see Figure 1). Over the same period, public healthcare spending grew faster than total healthcare expenditure, from US\$168 to US\$314 per person. Thus, public healthcare spending is an increasing share of total healthcare spending, displacing private and out-of-pocket spending.

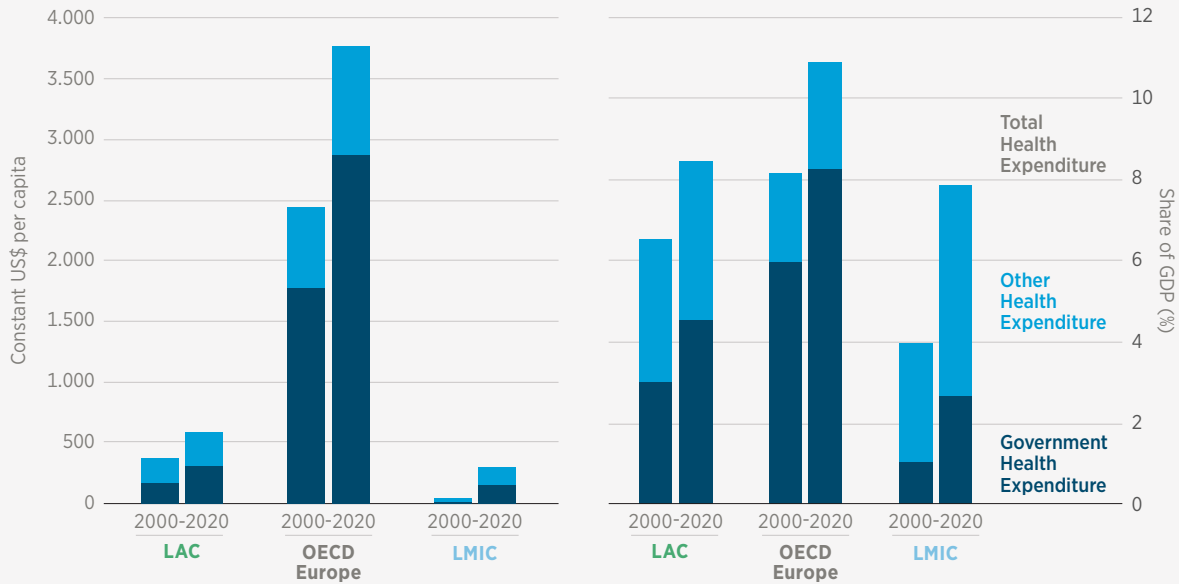
Healthcare spending grew faster than income between 2000 and 2020, accounting for a larger share of GDP. Total healthcare spending increased from 6.5 to 8.4 percent of GDP and government healthcare spending rose from 3.0 to 4.5 percent of GDP. Healthcare spending grew in other regions of the world, too. Healthcare spending in the European OECD countries rose from 5.9 to 8.3 percent of GDP and in low- and middle-income countries together, it rose from 1.0 to 2.7 percent of GDP.

3. Total healthcare spending includes all public and private healthcare expenditure. Healthcare spending includes the salaries of healthcare professionals, medications, medical equipment, medical supplies, infrastructure, health information systems, maintenance, auxiliary services (like food and laundry), and transport, etc.



FIGURE 1

GROWTH OF HEALTHCARE SPENDING BY REGION, 2000-2020



Source: Authors' calculations using information from the WHO's Global Health Expenditure Database, accessed June 14, 2023.

Notes: Total health expenditure in this figure refers to "Current Health Expenditure" based on the WHO's definition (i.e., excluding capital costs). Government health expenditure corresponds to all healthcare spending from mandatory insurance or government revenues; thus, it includes direct government spending and publicly constituted social security institutes. LAC refers to Latin America and the Caribbean members of the Inter-American Development Bank. LMIC refers to Low- and Middle-Income Countries, according to classifications of the World Bank. OECD-Europe refers to European members of the Organization of Economic Cooperation and Development.

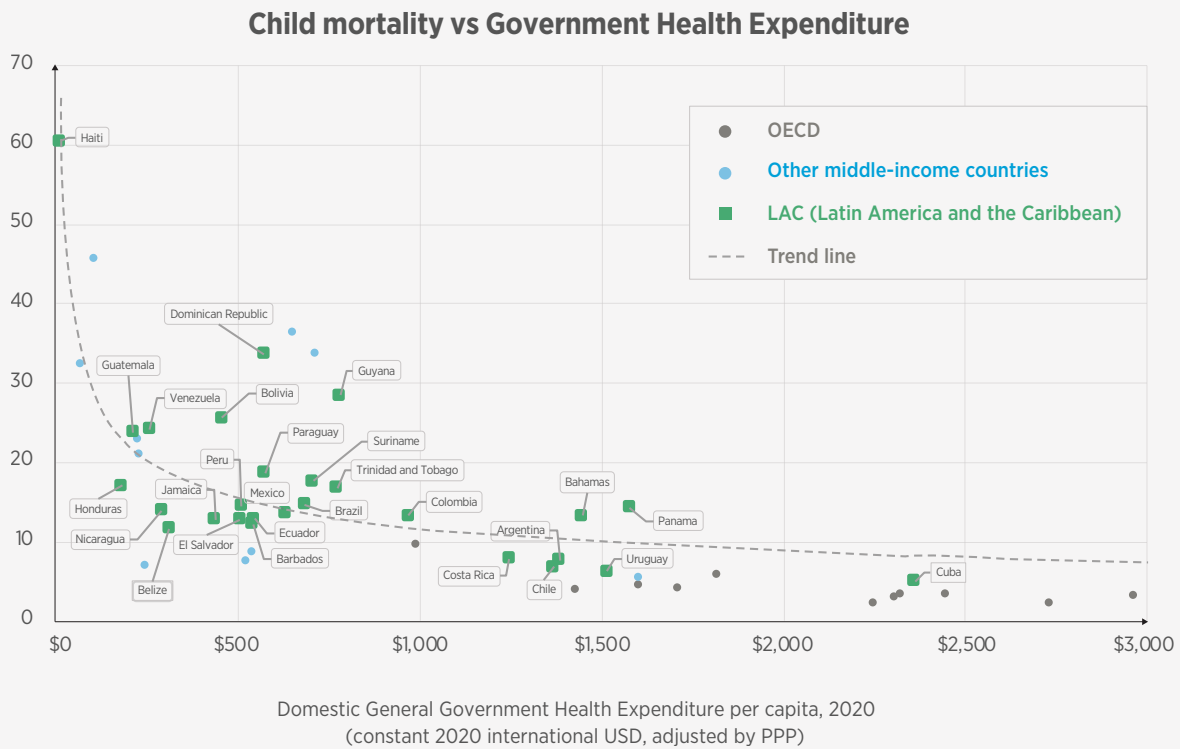
While healthcare spending grew in almost every country, the range of healthcare spending across Latin America and the Caribbean is quite large. Public spending on healthcare is highest in Uruguay (over US\$1,000 per capita), followed by Chile (US\$878) and the Bahamas (US\$801). The lowest spending countries are Haiti (US\$44 per person), Honduras (US\$75), and Guatemala (US\$91).

Countries also vary a lot in the health outcomes they get for the money they spend (see Figure 2). For example, El Salvador, Bolivia and the Dominican Republic all spend similar amounts on healthcare (US\$506, US\$457 and US\$573 per person, respectively), but child mortality is much lower in El Salvador (only 12.8 deaths per 1,000 live births compared to 25.6 and 33.7 in Bolivia and the Dominican Republic, respectively). Although Uruguay spends



about US\$1,000 per person on healthcare compared to the European Union average of US\$2,600 per person, the difference in life expectancy is only two years (78 and 80, respectively) and infant mortality is comparable (5 per 1,000 live births in Uruguay compared to 3.5 in the European Union). Researchers have shown that differences like these cannot be completely accounted for by factors such as a country's age profile or disease burden alone. Rather, smart spending strategies and more efficient uses of public funds are a significant part of why countries experience different health outcomes.

FIGURE 2
PUBLIC HEALTHCARE SPENDING AND UNDER 5 MORTALITY



Sources: WHO Global Health Expenditure Data and World Bank *World Development Indicators*.



1.2.2 Factors driving healthcare spending growth

Many factors drive increases in healthcare spending, including new technologies, economic growth, price inflation, population growth, population aging and changes in disease patterns (De La Maisonnette and Martins 2014; Fan and Savedoff 2014; Dieleman et al. 2018; A. L. Glassman and Zolota 2015; Rao et al. 2022). Research has shown that technological advances are the main contributor to healthcare spending growth. Technological advances affect both the amount countries spend on healthcare and the health value they obtain. Some new health technologies lower costs. These savings occur when the new health technology provides similar or better health benefits for the same or lower cost as existing technologies. For example, polio vaccines have eliminated the need to treat the effects of that disease; and non-invasive surgical techniques have reduced the time, risk, and cost of many kinds of surgery.

On the other hand, it is more common for new health technologies to increase healthcare spending. Many new technologies address previously untreatable health conditions, some providing cures, others transforming fatal diseases – such as HIV/AIDS – into manageable long-term conditions. In other cases, they expand the number of people who can benefit from treatment, as when new cancer drugs with fewer side effects replace drugs that could not be tolerated by many patients. In these cases, the additional spending may come with substantial health benefits that justify the cost (Cutler and McClellan 2001).

However, some new technologies are so costly that even if they provide health benefits, the additional cost may displace other, more cost-effective interventions. In addition, some new technologies provide little or no additional benefit. For example, between 2011 and 2017, only 54 of the 216 drugs approved for use in Germany had “considerable or major added benefits.”⁴

WATCH +

1. Changes in demographic profile

- Reduction in mortality rate
- Increase in life expectancy
- Reduction in fertility rate

which means fewer children are being born.

Discussing drivers of health expenditure

Ursula Giedion
(in CRITERIA's MOOC).

4. Based on an assessment conducted by the Institute for Quality and Efficiency in Health Care (iQWiG) which is described in the British Medical Journal at: <https://bit.ly/3JpUyY6>. For more information on iQWiG, see [Policy Brief 11](#) by Greiner 2016.

READ



Future health spending in Latin America and the Caribbean: Health expenditure projections and scenario analysis

Rao et al. (2022).

Indeed, more than half of the approved drugs (58 percent) lacked evidence to show that they were better than existing standard care.

Along with technology, economic growth is another big factor driving costs upward. As incomes rise, people and countries want to purchase more healthcare. Population growth, population aging, and changing disease patterns also play smaller but important roles. More healthcare is needed when the population grows, and older populations tend to have more chronic and degenerative diseases requiring treatment. Disease patterns are also changing in ways that raise costs. Countries are generally succeeding at reducing infec-

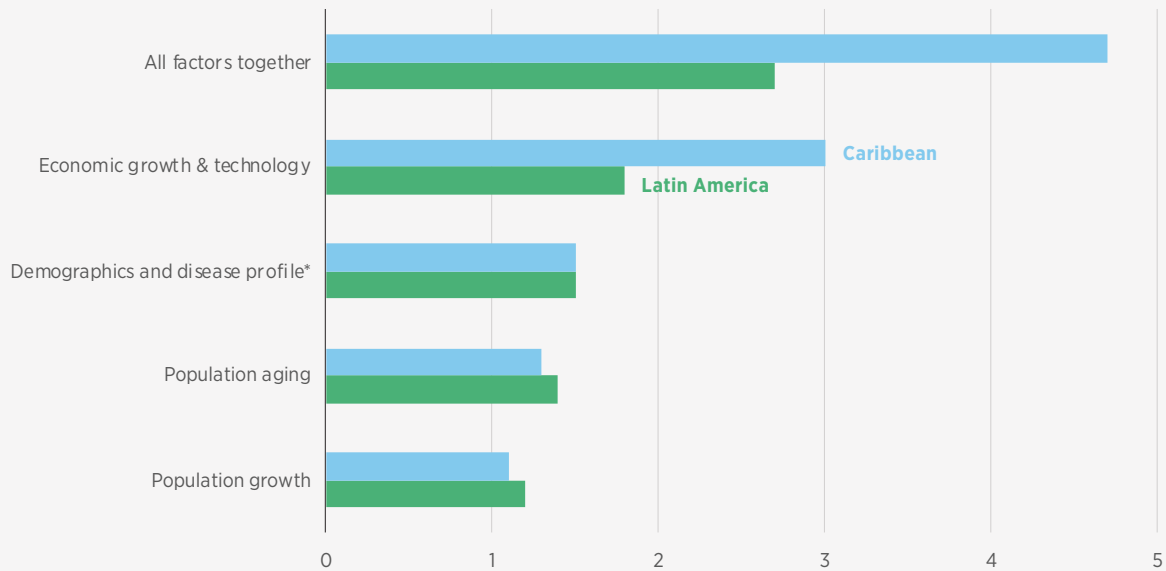
tious diseases, especially those that are inexpensive to prevent through vaccination. But chronic illnesses, like hypertension and diabetes, are on the rise. Managing chronic conditions raises spending because it is relatively costly. In many countries, the number of people developing these illnesses at earlier ages is also growing.

An IDB study for Latin America and the Caribbean projected healthcare spending from 2018 to 2050 (Rao et al. 2022). It estimated that healthcare spending will rise by 2.7 percent per year in Latin America and 4.7 percent in the Caribbean. The study found that an indicator combining the effects of economic growth, technology, and price inflation will have the biggest impact on future healthcare spending under current policies. On their own, these factors would raise healthcare spending by 1.8 percent each year in Latin America and 3 percent each year in the Caribbean (see Figure 3). Because smart spending on healthcare can affect which technologies countries adopt and finance, it can slow healthcare spending growth through its impact on this significant indicator of expenditure pressures.



FIGURE 3

PROJECTED ANNUAL GROWTH IN HEALTHCARE EXPENDITURES, 2018 TO 2050 (%)



Notes: *This category shows the effects of population growth, aging, and changes in age-specific prevalence on healthcare expenditure growth. "All factors together" is less than a simple linear summation would indicate because of interactions among the factors that make their individual contributions greater than their marginal contributions.

Source: Table 4.1 in Rao et al. (2022).

1.2.3 Can we slow future healthcare spending growth?

Smart spending is not the most effective tool for addressing many of the factors driving healthcare costs upward, such as aging, population growth, environmental health risks, and climate change (see Box 1). It also does not address a range of health system issues that affect the efficiency and growth in healthcare spending such as governance, management, fragmentation, incentives, and human resource capacities. However, smart spending can slow future healthcare spending growth by prioritizing expenditures that have a greater impact on health and equity through its impact on adopting new technologies and guiding policy decisions which influence who pays, how much, for what kinds of healthcare. Smart spending approaches that can help slow future expenditure growth include:



- **Improved markets:** countries that encourage competition where possible and regulate the prices charged in non-competitive markets are likely to pay less for drugs and services than those that lack these policies.
- **Technically informed budget decisions:** countries that analyze the cost and value of healthcare services together and use this information to inform budget decisions can slow the growth in healthcare spending and improve equity.
- **Reimbursement:** in countries with insurers, institutions that reimburse procedures or treatments at prices set by healthcare providers tend to increase costs without considering the effects on health and equity. By contrast, those that reimburse strategically do so by linking payments to the effectiveness and quality of care.
- **Accountability:** countries with public health systems that lack accountability tend to see costs rise without regard for the value of healthcare provided, while those with accountability mechanisms can promote greater value from a given budget.
- **Financial interests:** the health system includes many actors whose incomes and profits depend on selling their goods and services. When these goods or services provide good value for the price, marketing, lobbying, unionizing and other activities to expand sales or employment can improve value. However, when goods or services that are promoted do not provide good value for money, costs rise without associated benefits.
- **Judicialization:** where public health systems have chosen not to fund certain treatments because they are experimental, unproven, or too costly relative to other kinds of healthcare, people will sometimes go to court to force the government to pay for them anyway. Sometimes pharmaceutical companies or healthcare facilities that would benefit from these lawsuits provide support and encouragement. Countries that have developed a broad social consensus on what the public sector can and cannot finance in health are more vulnerable to inappropriate pressures from this kind of legal action (Gaviria Uribe 2016) than those that have engaged the judiciary in understanding challenges and issues specific to the health sector (Escobar et al. 2015).

Many different factors contribute to healthcare spending growth. Some generate additional value, and some do not. The goal of smart spending is not simply to cut spending – although it does include cutting or reducing spending that is wasteful or has little impact on health. Instead, smart spending allocates funds to more impactful services, influences prices, and



chooses which new technologies to adopt so that countries can get more value (more health and greater equity) with the money they spend.

BOX 1 SMART SPENDING, HEALTH RISKS, AND CLIMATE CHANGE

Many factors cause death and disease and many of them are more easily prevented or cost-effectively addressed outside the health sector. The top four risks to health in Latin America and the Caribbean are obesity, glucose intolerance, hypertension, and smoking. Alcohol and air pollution are also among the top 10 risks to health. The region has high rates of traffic injuries, homicides, and suicides relative to other regions, too. Since the middle of the last century, health risks have increased from environmental factors like toxic chemicals and the effects of climate change including heat, drought, and flooding. Zoonotic infections are also increasingly common in this century. Driven by a combination of climate change and human settlement expansion, previously unknown diseases have emerged at an increasing pace, including SARS (2002), H1N1 (2009), MERS (2012), Zika (2015), and COVID-19 (2019).

Although the health system is called upon to treat the consequences of these behavioral, social, and environmental risks, the effective measures to prevent these problems tend to lie outside the health sector. Examples include:

- Tobacco and alcohol control measures include excise taxes that have to be enacted and enforced by fiscal authorities.
- Promotion of healthy diets through changes to agribusiness subsidies, food distribution systems, and food labelling and advertising regulations require action by agencies dealing with agriculture, industry, and commerce.
- Improving environmental conditions related to air, water, urban environments, and housing involves agencies that regulate environmental contamination as well as local planning and governmental authorities.
- Reducing traffic and transportation injuries requires action by public works agencies and planning authorities.
- Slowing climate change requires changes to taxation, regulatory policies, along with social and behavioral changes, that engage everyone.
- Adaptation to climate change requires action by almost all public authorities, particularly those dealing with energy, land use, transportation, and commerce.



1.3 Can we get healthier through smart spending?

A range of tools and strategies make smart spending for health possible. But some of these strategies are easier to implement than others. For example, it is often easier to reject a costly new medication if an existing medication is equally effective and available at a lower cost. By contrast, strategies which limit choices among medications, reduce drug prices, or lower provider incomes are likely to face resistance from the patients, companies, and providers who are affected.

Given these kinds of difficulties, is it worth the effort? Indeed, it is. Smart spending approaches such as using cost-effectiveness information to guide budget allocations, improving regulation of medical staff, and allowing patients to choose among providers are associated with greater health and equity (Moreno-Serra et al. 2019; Castelli et al. 2020). By improving the efficiency of healthcare spending, including smart spending approaches, countries in Latin America and the Caribbean could increase life expectancy by 3.2 years, reduce child mortality by 7.1 deaths per 1,000 children under five years of age (a 30 percent reduction compared to the regional average), and expand the coverage of skilled birth attendance by another 7.6 percentage points (Castelli et al. 2020; Moreno-Serra et al. 2019). Smart spending means more people can live longer and have healthier lives.

Smart spending can also help countries make choices that achieve more equitable healthcare by using information about who benefits from public policy choices. Knowing who benefits can then guide choices to allocate limited resources toward diseases that represent a high burden for most of the population, people with the greatest healthcare needs, and disadvantaged groups with difficulties accessing or benefiting from healthcare services. Smart spending will prioritize interventions that provide the most value for the public healthcare budget, especially for disadvantaged groups, to ensure more healthcare is distributed in a fair manner (Norheim 2015).

2

**Smart spending:
wise ways to spend
on healthcare**



Every country has opportunities to improve health and equity through smarter spending (IDB 2021; OECD 2017). Changes to policies or management can make a difference in almost any aspect of public policy that affects expenditures, whether in planning, budgeting, and procurement, or payment systems, monitoring, and regulation. This section will focus on three particular aspects of smart spending that cover an important range of options and have shown results in different contexts. They are:

- **“Buying the right things”**: purchasing or providing healthcare goods and services that provide more value relative to their cost, more equitably, than other services.
- **“Getting better deals”**: finding ways to purchase the same inputs, services, and medications at lower prices, or ways to manage them at a lower cost.
- **“Spending less on the wrong things”**: reducing expenditure on healthcare services, medications, or devices that are harmful, wasteful, or provide little or no value.

2.1 Are we buying the right things?

This section discusses buying healthcare goods and services that provide a lot of value relative to their cost, with special attention to those which are cost-effective at generating improvements in health. Smart spending requires countries to think about what they want to buy with their money. It is difficult to get more value for each peso, dollar, or sucre if countries do not know what they mean by “value.” Once their goals are clear, many tools are available to help them set priorities when re-allocating their public healthcare budgets or making decisions about what to buy with new or existing funds.

2.1.1 Value

When making smart healthcare spending choices, the primary core value is improving population health. As discussed in section 1.1, decisions can focus on health outcomes, but it is more common for countries to incorporate other values, such as equity, financial protection, dignified treatment, healthcare service responsiveness, and histories of social exclusion. Finding smart ways to spend on healthcare involves getting as much value as possible from the healthcare budget in this multidimensional sense. This report will give greater emphasis to cost-effectiveness measures for which health impact is the goal because this approach has such well-developed methodologies and is important to achieving better health outcomes from today’s public budgets.



2.1.2 Cost-effectiveness

WATCH

Why Adopt Analytical Methods to Prioritize?
Peter Smith
(in CRITERIA's MOOC).

Cost-effectiveness measures the amount of value we can get for a certain amount of money. For healthcare spending, a relatively simple version might divide the total cost by additional years of healthy life to indicate the cost of an additional year of health. This ratio gives a rough guide to which kinds of therapies, policies, or interventions are “cheaper” or “more expensive” than others.

Calculating healthy life years per dollar or peso has its limitations. For instance, it does not consider who benefits from better health, when benefits occur, or who pays for those benefits. Certain regions, income classes, or age groups might benefit more than others.

The benefits could be immediate or far in the future. In addition, some actions might involve public spending or insurance reimbursement, while others are paid by households. Although researchers have developed methods to incorporate these issues into their technical calculations, it is more important for countries to debate, clarify, and establish their own value frameworks (Pichon et al. 2021). Cost-effectiveness calculations can use different health indicators. “*Quality Adjusted Life Years*,” “*Disability Adjusted Life Years*,” and “*Health Adjusted Life Expectancy*” are three common indicators.⁵ The costs may exclude or include some portion of fixed costs, such as physical infrastructure investments, maintenance, and administration. Calculations may address time lags by valuing future costs or benefits less than current ones at some established discount rate. Sometimes benefits or costs are adjusted to account for who is affected.

5. The two indicators used in this report are Quality-adjusted life years (QALYs) and Disability-Adjusted Life Years (DALYs) which are indicators of health status for an individual or a population. They combine the length of life and its quality in an index that ranges from death to a year of full health. A single QALY or DALY can be thought of as a single year of life lived in perfect health. The two measures differ in their theoretical underpinnings and in the way they are estimated. However, when used for cost-effectiveness calculations, the two measures tend to be correlated and yield similar rankings for healthcare interventions. In calculating DALYS, “disability” refers to any short-term or long-term health loss, other than death. This is different from the social model of disability recognized by the UN Convention on the Rights of People with Disabilities which defines disability not as a medical condition but as the result of an interaction between people with impairments and the external barriers that limit their effective participation in society (Sassi 2006; M.F. Drummond et al. 2005; Brazier et al. 2016; Feng et al. 2020).



Technical methods for making such modifications to cost-effectiveness calculations help countries assess tradeoffs by making assumptions explicit and ranking interventions. For example, extended cost effectiveness analysis (ECEA) includes information about equity and financial protection by giving greater weight to benefits that accrue to poorer households and interventions that reduce out-of-pocket expenditure. Multicriteria decision analysis (MCDA) is another method that can incorporate cost-effectiveness, but it uses multiple criteria that key stakeholders choose for their importance and relevance to the political and social context. Among the criteria that decision-makers have considered within an MCDA, the most common are safety, cost, and quality of delivery (Gongora-Salazar et al. 2023). In other cases, countries have used cost-effectiveness calculations as inputs to a process in which other considerations can be raised and incorporated in more qualitative ways.

2.1.3 Opportunity cost

When public health experts and economists think about smart spending and priority setting, they often talk about “opportunity cost” which is the value of the next best use of the money being spent. For example, if a government healthcare service is deciding whether to purchase a new and costly drug for treating late-stage cancers, the same funds could be used to prevent chronic illnesses or infectious diseases. The opportunity cost of the cancer drugs would be the health impact that could otherwise be gained from spending the money in a different way. In some cases, the new drug will be the best use of those funds. In other cases, it won't. Cost-effectiveness ratios help distinguish the two.

The method for calculating cost-effectiveness depends on how opportunity cost is defined. In other words, what is the “next best use” or “next most likely use” of those funds? The next best use could be a different way of treating the same disease, or it could be a treatment for a completely different disease, health condition, or population group.

Opportunity cost is not just an abstract concept. It can be demonstrated. For example, the Dominican Republic buys a drug, Sorefenib, for treating second line renal cancer. Treating one person with Sorefenib instead of the best alternative treatment takes the same amount of money as screening 763 people for type 2 diabetes and managing the condition for those who have it. With a \$100,000 budget, the Dominican Republic could “buy” 500 days of healthy life using Sorefenib or 27,956 days of healthy life with diabetes screening and treatment (see Table 1 and Box 2).



TABLE 1

EXAMPLE OF OPPORTUNITY COST - TREATING RENAL CANCER OF DIABETES

	SORAFENIB TO TREAT 2 ND LINE RENAL CANCER	SCREENING FOR TYPE 2 DIABETE
NUMBER OF PEOPLE AFFECTED	45	600,745
COST PER CASE (US\$)	18,970	734
COST PER CASE PER MONTH (US\$)	3,136	4
DAYS OF HEALTHY LIFE GAINED PER CASE	95	205
COST PER DAY OF HEALTHY LIFE (US\$)	199	4
DAYS OF HEALTH GAIN FOR A BUDGET OF \$100,000	500	27,956


Source: Calculations using data from Jorgensen et al. (2023), and Gutiérrez et al. (2023).

When the opportunity cost is defined in terms of the average cost-effectiveness of current healthcare spending, the net health benefit can be used to measure cost-effectiveness. The net health benefit is the amount of health gained from an intervention minus the amount of health that could otherwise be obtained by spending through the existing health system. In this case, the indicator is measured only in health units. If the net health benefit is positive, the intervention is judged to be worthwhile. If negative, it isn't.

When evaluating a new technology, the next best use of additional funding might be an existing technology. In this case, the existing technology is considered an opportunity cost and an Incremental Cost-Effectiveness Ratio (ICER) is calculated to measure the difference between the two technologies. The ICER calculation divides the difference in costs by the difference in their health benefits. New interventions that are less costly and more effective are better buys than older ones. But often new technologies cost more and are more effective. In such a case, the ICER shows whether the increase in effectiveness is worth the increase in cost.

In many cases it is difficult to identify a specific opportunity cost and so, to facilitate deci-

WATCH
+



Andrés Pichón-Riviére

Understanding what the cost-effectiveness threshold is, and how to use it is very important

Delving into the cost-effectiveness threshold method

Andres Pichon-Riviere (in CRITERIA's MOOC).



sion-making, cost-effectiveness ratios are compared to a benchmark or standard (Brouwer et al. 2019). A cost-effectiveness threshold (CET) is one such benchmark which can be set in numerous ways.

CETs can be chosen based on a fraction of a country's per capita income. Alternatively, the threshold can be based on a country's average cost-effectiveness (that is, dividing the total health gain attributable to the health system and dividing it by its total cost). The threshold can also be set through a social dialogue, by using willingness-to-pay surveys, or by estimating how much people value an additional year of life from the kinds of risks they take. Another approach infers a threshold based on decisions made in the past (McCabe et al. 2008). Many countries that use cost-effectiveness analysis apply it to new therapies, calculating the ICER and comparing it to the average cost-effectiveness of the country's health system as the benchmark.

In Latin America and the Caribbean, Brazil is the only country currently using a CET as an explicit part of its decision-making process. Brazil has a regulatory board that evaluates medications relative to a CET and negotiates prices based on the difference between the drug's cost-effectiveness and the CET. Colombia and the Dominican Republic have calculated CETs for analytical purposes but are not currently using them in their regulatory reviews or budget decisions (Pichon et al. 2021; Giedion et al. 2018).

BOX 2 THE OPPORTUNITY COST OF HIGH-COST DRUGS IN THE DOMINICAN REPUBLIC AND COLOMBIA

One way of thinking about “buying the right things” is looking at the cost of each healthy life year and choosing to spend on the diseases, treatments, or interventions that generate more healthy life for the money spent. A study in the Dominican Republic showed the opportunity costs of spending on ten drugs which are very expensive relative to their health benefits. It compared the health outcomes produced by spending on those ten drugs to the average health benefits produced by the health system's expenditures and then to two highly cost-effective interventions.

In 2022, the Dominican Republic spent US\$68 million on ten drugs that benefited 1,807 patients. The health and lives of these people is important and should not be ignored. However, the tradeoff between treating these patients and helping other people is stark. These ten drugs cost US\$29,000 to US\$5.4 million for each Quality Adjusted Life Year (QALY) gained. This is very expensive compared to spending US\$4,108 per QALY, which was the average cost of health gains from



the Dominican Republic's public healthcare expenditures that year. If the government had taken the money spent on these high-cost drugs to expand the general health system, it could have reduced the disease burden by some 28,240 to 40,835 QALYs – the equivalent of giving 2,824 to 4,084 people an additional 10 years of healthy life (Jorgensen et al. 2023).

If, instead, the country had chosen to target these funds at highly cost-effective services, it could have improved the health of even more people. For example, timely screening for cervical cancer and for type 2 diabetes costs US\$910 per QALY and US\$1,288 per QALY, respectively. Reallocating funds from the 10 costly medications to expand coverage of these two cost-effective services would have reduced death and disease equivalent to an additional 130,346 QALYs – equivalent to giving 13,034 people another 10 years of healthy life.

Colombia has a similar story to tell. It spends about US\$59 million each year on 10 drugs to treat conditions which provide about 3 additional healthy years of life per person compared to buying alternative therapies that are available in the market. The gains range from as little as 14 additional days for a macular degeneration treatment to one and a half year of healthy life for a treatment of a type of leukemia.

If patients were treated with the alternative therapies, the money saved could be used in other parts of the health system to generate 88,000 additional healthy life years for Colombians suffering from other conditions. Not everyone with the health conditions treated by these high-cost drugs is currently receiving them. If they were, the opportunity cost to Colombians with other health conditions would be ten times higher.

In some cases, a lower price would significantly reduce the opportunity cost. For example, a drug for type 2 diabetes would be more cost-effective than the existing alternative if its price were reduced by just 30%. In other cases, the drug's effectiveness is not much better than the existing alternative and no price reduction would make a difference to the opportunity cost. This occurs with a drug for macular degeneration which only adds 14 additional days of healthy life relative to the alternative therapy and yet, at its current price, has an opportunity cost of 17,000 health life years.

Source: Jorgensen et al. (2023); Gutiérrez et al. (2023).

Cost-effectiveness analysis has many applications. It can be used to identify cost-effective interventions that will be covered and funded with public resources or to decide on adopting new treatments. It can help prioritize public sector budget decisions or guide investments



in research and development. It can be used to negotiate prices by linking the cost to the associated health benefits. Above all, it provides information on the tradeoffs inherent in any budget decision between a particular use of funds and its opportunity costs.

2.1.4 Health Technology Assessment

WATCH

Using HTA to select what countries should buy
Kalipso Chalkidou,
Part I (in CRITERIA's MOOC).

Using HTA to select what countries should buy
Francis Ruiz,
Part II (in CRITERIA's MOOC).

While cost-effectiveness is a particular tool for comparing healthcare interventions or negotiating prices, Health Technology Assessment (HTA) is a broader systematic approach to evaluation and for deciding “*what are the right things to buy?*” Countries are increasingly adopting this approach to improve the evidence base for policymaking in the health sector. HTA can support decisions about which drugs and medical technologies to adopt. It also provides inputs for clinical practice guidelines, price negotiations, and other procurement strategies.

Essentially, HTA not only considers the health aspects of a new technology, but also economic, social, and ethical factors. In some countries, HTA is more concerned with long-term benefit-risk tradeoffs. In others, the focus is on short-run value and costs. In both cases, cost-effectiveness analysis is one part of the assessment along with other forms of analysis and information processing (Drummond et al. 2008).

Many countries use HTA, especially when evaluating new drugs and technologies. In a survey of 21 Latin America and Caribbean countries, 11 reported having established an HTA agency, while 17 said they conduct some kind of HTA (Lessa and Ferraz 2017; Lorenzoni et



al. 2019). Countries that use HTA appear to have more efficient health systems, achieve more health and equitable access relative to how much they spend (Castelli et al. 2020). Ireland uses information from its HTA process to negotiate prices with suppliers and has saved over €19 million annually with this approach (Mccullagh et al. 2014). Thailand also uses information from its HTA process when negotiating. In the case of oxaliplatin, a cancer treatment, Thailand obtained a 70 percent reduction in price, saving US\$4.75 million per year (Teerawattananon et al. 2014). Despite the promise of HTA, few countries in LAC use it as comprehensively or consistently as they might.

2.1.5 Health benefits packages

Another strategy for smarter healthcare spending is the design and use of health benefits packages (HBPs). A health benefits package explicitly lists services that the public sector will provide or reimburse. If this package is focused on services and drugs that maximize the country's health policy goals from the limited funds available, then it helps guide resources toward *"the right things to buy."*

Before designing an HBP, countries need to decide what values they are trying to achieve (Pichon et al. 2021). Then, the services best suited to achieving those values within the government's budget can be selected for the package. Efficiency, equity, and financial protection are three of the most common criteria endorsed by governments (Giedion et al. 2014).

An important characteristic of HBPs is that service coverage is made explicit. This gives citizens information about what services will and will not be publicly financed. It also gives payers, whether health insurers or national healthcare services, the information they need to assess and plan resource requirements. In this way, HBPs can promote accountability, guide budgetary decisions, and increase operational efficiency around the healthcare services and technologies that matter most (Glassman et al. 2017; Giedion et al. 2014).



WATCH

comprises a set of clearly defined services.

What is -and is not- a health benefit plan?

Marcela Distrutti
(in CRITERIA's MOOC).

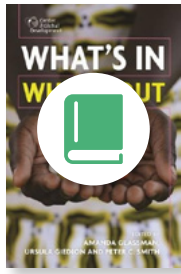
READ



Health benefit plan in Latin America

Giedion et al. (2014).

READ



What's in, what's out: designing benefits for Universal Health Coverage

Glassman et al. (2017).

Health benefits packages can also be transformative as a strategic purchasing tool. Once HBP's define the core services that will be financed, delivered, and guaranteed, other key policy questions automatically follow such as: how will these services be funded? How will the provider network be organized to deliver these prioritized services? Who will deliver these services? And how will the government be held accountable for fulfilling its commitment to the HBP?

In Latin America and the Caribbean, health benefits packages have been around for a long time, and an increasing number of countries are using health benefits packages in the context of their commitments to Universal Health Coverage. Yet, the variation in packages and utilization is quite wide (see Box 3). While some countries, such as Uruguay, have adopted comprehensive HBP's for everyone, other countries have adopted limited packages that focus only on certain populations (for example the poorest) or certain types of technologies (for example medicines or primary care services) (Giedion et al. 2014).

HBP's also vary across countries in terms of their enforceability. For example, Chile estab-

lished enforceable guarantees for financial protection, effective access, and quality standards which apply to all services in its HBP.⁶ Other countries have been more cautious, leaving beneficiaries with fewer options to initiate lawsuits or demand access to services in their HBP.

6. Chile defined its HBP in 2005 with a plan called "AUGE" which stands for "Acceso Universal con Garantías Explícitas" (Universal Access with Explicit Guarantees). The program has subsequently changed its terminology and refers to *garantías explícitas de salud* (GES) or in English "explicit health guarantees." See the Chilean Ministry of Health's website for more details: <https://auge.minsal.cl/>.



BOX 3 DESIGNING A HEALTH BENEFITS PACKAGE (HBP) IS USEFUL IN MANY WAYS

In 2018, Honduras initiated a process to design a health benefits package, with technical assistance from CRITERIA. Honduras chose three criteria (efficiency, equity, and financial protection) to rank healthcare interventions. The initiative compared interventions in terms of efficiency using cost-effectiveness calculations; and measured differences in terms of financial protection with data on household expenditures. Equity considerations were harder to operationalize because distributional data was unavailable, requiring a pragmatic approach with a mix of proxy indicators.

This initiative identified 74 essential healthcare interventions. Providing the staff, drugs, tests, and other inputs necessary for these healthcare interventions would have cost the Health Ministry about US\$73 per person annually. Because the Honduran health ministry was spending about US\$29 per person on these services, guaranteeing the package for everyone would have required an additional US\$44 per person. Spending this amount of money on the HBP was not possible in the short run because it would have absorbed 87% of the Ministry of Health's total service delivery budget.

Still, the information and the process were useful in several ways. The costing exercise highlighted inefficiencies which – if addressed – would have freed up money for extending health coverage. Knowing the cost of the package was also helpful for making strategic choices about any new funds that the Ministry of Health might receive. Leaving current spending allocations as they are, the government saw that it could dedicate new healthcare funding to a progressive expansion of coverage. Reaching 70 percent of the population over 4 years was not out of its reach. Another strategy might have focused on reaching vulnerable groups with the basic health package. Alternatively, if the government could scale back services that do not provide much health benefit, it could redirect those funds to reach more people with the basic health package. Read about the design of the HBP in Honduras with CRITERIA's support in Policy Brief 26: "Designing and Costing a Health Benefits Package in a Lower Middle-Income Country, The Case of Honduras." (Available in English and Spanish).

READ



The hidden beauty of costing health

Giedion et al. (2021).

Source: Gongora and Giedion (2021).



Using HBPs is not without its challenges. To succeed, countries need to design and regularly adjust their HBPs through explicit priority-setting processes. To keep HBPs aligned with their goals and values, countries need institutional frameworks that follow good governance principles. Furthermore, they need human resources capable of conducting the relevant analyses. Finally, the HBP needs to be delivered as promised. Only by assuring adequate financing, monitoring, human resources, and investment can countries provide effective access to the services included in the HBP. Failing to deliver the services as promised is likely to foster disillusionment and dissatisfaction in the population (Giedion et al. 2014; Glassman et al. 2017).

In most countries where health benefits packages are used, they are more than a set of healthcare services. Rather, they are a public policy statement regarding healthcare services that the government will commit to providing. In this regard, countries rarely design their health benefits packages using cost-effectiveness information alone. Instead, they establish procedures for consultation, deliberation, and review which, if successful, turn the health benefits package into a kind of social pact, a publicly negotiated statement of the kinds of care the country is willing to or aspires to provide.

Countries can spend smarter by explicitly identifying what they value and what they want to achieve with health spending. With clear goals, countries can use analytical methods like cost-effectiveness, informing policy decisions through health technology assessments, and setting priorities by designing health benefits packages to obtain more value from healthcare spending. These strategies provide the information and guidance to buy the right things.

2.2 Can we get better deals?

Once countries decide *what* they want to buy, they can get more health and equity by seeking better deals on the healthcare services (such as treatments for malaria), inputs (such as laboratory equipment), and infrastructure (such as clinics) they need. The strategies for getting better deals will differ across products because markets, products, suppliers, and buyers vary so much (Dubois et al. 2019; Rosen and Tordrup 2018; Silverman et al. 2019; WHO 2016). For example:

- Prices tend to be lower in markets with more competing suppliers and higher with more buyers.



- Small markets can affect supplier costs if the low volume keeps them from exploiting economies of scale in production.
- Patent protections lead to higher prices.
- Access to good quality market information regarding product availability, quality, and prices can sometimes bring costs down.
- Buyers' characteristics also affect the prices paid. Purchasers with better credit ratings, who pay promptly and have negotiating power, tend to pay less than others.

The process of buying healthcare products and services with public funds is called “procurement” and is more complex than simply going to a store and purchasing an item. Procurement in the public sector includes more than selecting what to purchase (discussed in section 2.1). It also includes regulating prices and quality of products, tendering, negotiating, contracting, ordering, and verifying delivery (especially quality assurance).

Procurement can be simple and direct or separated into distinct functions conducted by different organizations. In the simplest cases, a single agency might review advertisements for a product available in competitive markets, choose a supplier, and submit an order. In more complex cases, a national agency might negotiate prices with a company that has a unique product and establish a framework agreement or contract. Afterward, local health districts could purchase whatever quantity of this product they need under the framework's negotiated terms. In this latter example, negotiation and purchasing functions are distinct and are conducted by different organizations.

Because of government authority to pass laws and regulate markets, countries have a wide range of ways to get better deals on healthcare goods and services. They can take the current market situation as given and do a better job of administering procurement processes, searching for bargains, and negotiating prices. However, they can also change healthcare markets by passing laws, implementing regulations, and financing special programs to promote production or alter demand in favorable ways. In practice, these two broad approaches overlap. For example, even without any regulatory changes, government purchases affect the number of suppliers in a market depending on its volume of purchases and the prices it pays. Still, some strategies fall distinctly into one category or the other, and it is always important for the government to think about its full range of instruments.



While there are numerous strategies for getting better deals, this section will focus on four:

- Improving procurement administration and management
- Paying lower prices for similar products or services
- Pooling procurement
- Regulating prices

2.2.1 Improving procurement administration and management

READ 



(In Spanish only)
Guía de Referencia para Planes Maestros de Inversiones en Salud con Enfoque de Red
Acuña et al. (2018).

Administration and management of procurement has been problematic in many Latin American and Caribbean health systems. Consumables like medications and supplies might be purchased annually and based on historical levels rather than responding to changing population and medical needs. Tendering procedures have often required extensive documents and escrow deposits which increase transaction costs and dissuade bidders. This results in less competition, higher prices, and delays in making decisions and delivery. Many countries still have manual paper-based procedures. Not only is this slower than electronic systems but paper-based systems fail to generate databases that can facilitate analysis and improvement. Finally, human resources may lack the capacity to undertake effective plan-

ning, prepare tenders, manage bidding processes, prepare and finalize contracts, supervise contracted service providers, or assure the quality of delivered goods (Silverman et al. 2019).

Smarter healthcare spending is difficult if a country's procurement administration and management is inefficient. Buying the right things at a good price is less likely if suppliers are uninterested in selling to the government because of high transaction costs, delays in awarding contracts, or difficulties in getting paid.



Most countries in the region have tried to address these problems and make procurement more efficient. Many countries have replaced manual procedures with electronic ones. By using digital technologies, they can get more value from their spending in several ways. Electronic procurement facilitates more bids and greater competition by reducing the transaction costs for suppliers. It also increases transparency, making it more difficult for those involved to engage in favoritism or fraud.

For these reasons, digitization of procurement has become more common. At least nineteen countries have procurement portals online, and a majority can take electronic submission of bids. About half can conduct online auctions. On the other hand, only one-third, including Brazil and Jamaica, manage invoices online (OECD 2016).

Some countries have also undertaken legal or regulatory changes to facilitate the entry of new suppliers. These include signing international agreements on trade and intellectual property (e.g., TRIPS) and eliminating rules that favor local suppliers, such as requiring escrow accounts in local currencies. Many countries are reforming drug registration procedures to accept quality assurance evidence from highly regarded drug regulating agencies in other countries. One area of government procurement which involves substantial money and has long-term consequences is infrastructure. Smart spending on infrastructure requires a great deal of attention during the design phase to ensure that specifications are matched to the expected demand, staffing and supplies will be available for the structure's operation, and the structure's maintenance will be financially feasible (Acuña et al. 2018). This applies not only to hospitals, primary clinics, and healthcare posts but to any physical infrastructure related to the health system, such as research and diagnostic laboratories or data centers.

Because infrastructure has a long life, projecting utilization is very important. Choosing whether to build or rehabilitate hospitals or clinics requires information about the population and its disease profile. Designing the facility requires consideration of how it will fit into the network of local or national healthcare services. If possible, designs should be flexible so structures can be reorganized around changing demands. Resilience for natural disasters, effects of climate change, and health emergencies must also be considered (Barandiaran et al. 2019).

Hospitals, in particular, use a great deal of energy and water and produce dangerous waste, requiring designs that reduce the impact on natural resources, climate change, and waste streams. Since these decisions also affect future spending on operations, good planning will try to minimize energy and water use. For example, energy-efficient designs can reduce operating costs in health facilities by 20 to 50 percent (Fischel et al. 2020).



Smart spending on infrastructure also requires procurement strategies that keep costs down while assuring the quality and timeliness of construction. Typically, governments issue tenders and supervise the contractors hired to build a facility or install equipment. However, countries are experimenting with new ways that go beyond conventional procurement approaches by sharing management risks with private firms. These Public-Private Partnerships (PPPs) can be cost-effective when properly structured and implemented. As of 2017, some 26 PPP contracts were operating in the region's health systems. A study of hospitals using PPPs in Chile documented savings of 7 percent in construction and 16 percent in the net present value over time, incorporating operating costs, relative to conventional construction contracts. The PPPs were also finished closer to budget and faster than conventional approaches (Suarez Alemán et al. 2019). The conditions for PPPs to be successful in this way are fairly extensive, but the Chilean case suggests it is worth investigating.

2.2.2 Paying lower prices for similar products or services

Smart healthcare spending also involves looking for the best prices on the market. Equally effective medications and healthcare services are generally available at widely different prices. This is even true for goods and services manufactured by the same company and sold with identical packaging. It also occurs where products or services are differentiated by brands but have the same impact on health. In both cases, countries that spend smarter can make healthcare budgets go further by paying less and still get the same outcomes.

Prices paid for the same drug, equipment, or supplies (even when produced by the same manufacturer) vary by surprisingly large amounts depending on who is buying. Some British hospitals pay more than £16 for packs of rubber gloves, while others pay as little as £0.35 (Rose et al. 2018).

In other cases, prices vary across brands or manufacturers even when the efficacy and safety of the drug or equipment is the same. For example, Chile's National Consumer Service reported that original drugs cost twice as much as branded generics and eight times more than unbranded generics (SERNAC 2018). More generally, prices for common drugs have been found to vary by as much as 1600 percent across countries and by 300 percent even within the same country (Dubois et al. 2019).

Smart spenders can use different strategies to get lower prices. When a market has multiple suppliers, purchasers can switch to cheaper suppliers or seek bids to pay less. By researching



suppliers, prices, quality, and contract terms, purchasers can be better informed when they negotiate price discounts with their current manufacturers or distributors. Cost-effectiveness information has been used in many instances to negotiate prices with pharmaceutical companies that are seeking to get their drugs approved for use. Government agencies can insist that the price of the drug be set proportional to the expected health benefit as a condition for allowing it to be sold and used. This avoids introducing drugs with high prices that have limited benefit.

One of the top strategies for getting better deals in healthcare is to buy drugs that have the same value in terms of health but have lower prices. In fact, the WHO has stated that buying generic drugs and biosimilar equivalents instead of original drugs is the single most important policy for making health systems more efficient (WHO 2010). The remainder of this subsection will look at the strategy of purchasing generics in detail. It is a strategy that involves both the procurement process and market shaping.

Drugs that are protected by patents (called “on-patent” or “original” drugs) do not face competition until the patent runs out. On-patent drugs tend to have high prices because producers want to recover research and development costs and boost profits before the patent expires and competitors enter the market. In middle-income countries, original drugs account for about 20 to 25 percent of drug purchases by volume but, because they cost more, they can account for 60 to 80 percent of all drug spending. By contrast, off-patent drugs (those for which patents have expired) represent about 75 percent of all medications available and account for a smaller share of pharmaceutical expenditures, between 20 and 40 percent (Kanavos 2016).

Once a patent expires, competitors are free to produce and sell drugs that are “copies” of the original on-patent drug. Referred to as “generic drugs” or simply “generics,” these medications have the same active ingredients, are intended for the same use, and have similar profiles in terms of side effects and safety. Countries usually require generic manufacturers to conduct studies that demonstrate that the generic drug has the same therapeutic properties as the original drug (known as “bioequivalence”) before they are allowed to register and sell them. For a specific drug, it may be possible to buy the original drug, a branded generic drug produced by the same company that produces the original, branded generics by other companies, and unbranded generics (see Box 4).



BOX 4 ORIGINAL, BRANDED GENERIC, AND UNBRANDED GENERIC: WHAT'S THE DIFFERENCE?

An original drug is a medication produced and sold by the original manufacturer. For example, researchers at Boots Pure Drug Company Ltd applied for a patent in 1961 for a compound 2-(4-isobutylphenyl) propionic acid as an alternative to aspirin for treating rheumatoid arthritis. This compound was given the name “ibuprofen.” In 1969, Boots began to market it as a prescription drug called “Brufen.” In 1983, the UK approved ibuprofen for over-the-counter sales (without a prescription) and the Boots company marketed the drug as “Nurofen.” In 1985, the patent on ibuprofen expired and a wide range of branded and unbranded generics eventually entered the market.



Sources: [Encyclopedia.com](https://www.encyclopedia.com) and [The Pharmaceutical Journal](https://www.thepharmaceuticaljournal.com).

The savings from buying generics instead of original drugs can be considerable. Even switching from branded generics to generics saves substantial money, which can be spent more effectively on other healthcare needs. For example, 78 percent of sales value in retail pharmacies in the Dominican Republic is branded generics, and only 8 percent is unbranded generics. Unbranded generics are 3.5 times less expensive than the average price of original and branded generics. Consequently, if the country’s social security system purchased unbranded generics, it could save US\$14.4 million annually. Furthermore, if the country’s households switched to unbranded generics, out-of-pocket spending could be reduced substantially (Atal et al. 2023).



While replacing original drugs with generics may sound simple, it actually requires strong policies and programs to promote competition and encourage the uptake of generic drugs (see Box 5). First, manufacturers of original drugs often confuse the market when the patent expires by introducing a branded generic competitor to its own original drug (Appelt 2009). This strategy makes the market look competitive and can offer some savings to purchasers, but not as much as in the case of competition from other branded generics and especially from non-branded generics.

Government regulations and financial incentives can also inhibit competition by intentionally or unintentionally slowing the introduction of generics. Drugs need to be registered and approved for sale to assure efficacy and safety but sometimes the procedures are unnecessarily time-consuming or costly. Firms with a financial interest in limiting competition also seek to delay the entry of generics. They use many strategies, including making payments to competitors who agree not to enter the market, encouraging physicians and patients to switch from a drug with an expiring patent to a newer formulation that has longer patent protection, lobbying against imports of generics, and even buying companies that are potential competitors (Jones et al. 2016). When they are successful, fewer generics enter the market and prices remain high.

Public procurement policies and health insurance regulations can also hinder or promote the use of generic drugs. Many countries give physicians full discretion to prescribe original or generic drugs, but others have established rules or limits on this authority. For example, Spain, Italy, and Portugal have mandates requiring doctors to prescribe drugs by their generic name (Vogler et al. 2021).

When health systems reimburse the costs of drugs without considering the availability of lower-cost alternatives, they will spend more and fewer generics will enter the market. By contrast, when health systems require physicians to prescribe generics or decide to only reimburse bioequivalent drugs at the price of the cheapest alternative in the market, they spend less and encourage more generics to enter the market (Greiner 2016). Finally, the people who choose which drugs to buy may be biased.

WATCH +

and, therefore, a better balance between demand and offer;

Generic drugs and strategies to promote their use

Fatima Suleman
(in CRITERIA's MOOC).



Countering misinformation about generics requires enforcement of laws to stop physicians from being influenced by pharmaceutical companies (Toverud et al. 2015). It also requires regulations regarding marketing and labeling to ensure that physicians, pharmacists, and patients can easily identify generic equivalents to original drugs. For example, Brazil requires the generic name to be printed below the brand name (Da Fonseca and Shadlen 2017; Appelt 2009).⁷ Raising public awareness of the equivalence between original and generic drugs can persuade patients to support rather than resist the selection of lower-priced generics. Chile encourages citizens to “Ask for the Yellow” (“[Exige el Amarillo](#)”) – a reference to the yellow bar printed on the boxes of generics in Chilean pharmacies (Babar et al. 2014). Of course, persuading physicians, pharmacists, and the public that generics are equivalent to original drugs in terms of safety and efficacy also requires countries to establish the mechanisms that assure generics are indeed as safe and effective as claimed.

BOX 5 RECOMMENDATIONS TO ENCOURAGE THE USE OF GENERICS

- Establish therapeutic equivalence.
- Address packaging and labeling.
- Improve prescription practices.
- Encourage generic substitution at pharmacies.
- Define prices.
- Promote the entrance, sale, and manufacture of generics.

Source: Gutiérrez (2023).

The effect of limiting competition is quite costly and, conversely, the potential savings from promoting competition are quite large. In the United States, when patents expire, and three competitors are in the market, prices fall by about 20 percent; with 10 or more competitors,

7. Brazil passed a Generic Drugs Act in 1999 which helped consumers understand what they were buying by requiring that all generic drugs use the International Nonproprietary Name (INN) for the medication on their labels, along with the letter “G” and a yellow stripe to signal the drug’s equivalence to any other medication with that generic name. The Generic Drugs Act allows original drugs to include their brand name in larger letters, but the generic name can be no smaller than half the size of the brand name font. Brazil also requires physicians in the public Unified Health System to write prescriptions using the generic name; however, private sector physicians are not similarly obligated under the law (Da Fonseca and Shadlen 2017).



the price falls by 80 percent (Nguyen et al. 2022). In Europe, too, studies have found that within two years of a drug patent’s expiration, competitors enter rapidly and drive prices down sharply (Kanavos 2014).

Similar dynamics may occur in Latin America and the Caribbean. However, several factors such as small markets, slow regulatory systems, and strategic firm behavior, may limit competition more than in high-income countries. For example, information from Colombia shows that after a first competitor is approved, only one additional competitor is licensed in the following year, and only two licenses are granted in the following two years.⁸ This reinforces the need to understand the factors that inhibit or encourage the entry of generics and to undertake public policies that will promote competition for off-patent drugs.

2.2.3 Pooling Procurement

READ +

Mexico’s coordinating commission for negotiating the price of medicines and other health inputs

Bañuelos (2016).

Pooling procurement is a smart spending strategy to pay less for medical inputs and healthcare. When countries or organizations combine their purchases into larger batches, they can negotiate lower unit prices in the market and economize on administrative costs. When performance is measured in terms of paying lower prices, the best predictors of good procurement performance are volume and centralized procurement (Rosen and Tordrup 2018).

Pooled procurement has other benefits, too. Sometimes the organizations charged with procurement can act more quickly than their member governments or organizations during emergencies or unforeseen stockouts. They

may also obtain original drugs sooner by offering to buy large volumes and helping suppliers get drugs registered and approved (Nemzoff et al. 2019).

8. Calculations made by Leonardo Arregoces using information reported by the national regulatory agency INVIMA to the Ministry of Health managed information system on pricing of pharmaceutical (SISMED).

READ



Procurement policies for pharmaceuticals: the international experience

Kavanos (2017).

Some governments have created agencies that procure goods on behalf of public health-care providers instead of expecting each provider to get them on their own. Chile created the *Central de Abastecimiento del Sistema Nacional de Servicios de Salud* (CENABAST) to buy drugs, medical devices, and supplies for more than 500 public healthcare units and pharmacies. This generated savings of about 75 percent compared to the cheapest prices available from private pharmacies. By combining orders from a variety of different public healthcare agencies, Mexico's *Commission for the Negotiation of Prices of Medicines and*

Other Health Supplies (known as CCNPMIS from its Spanish abbreviation) was able to reduce pharmaceutical prices by 7 to 15 percent and, in the case of Antiretroviral Drugs (ARVs), by 38 percent between 2008 and 2015 (Barraza Lloréns 2012; Bañuelos 2016; Adesina et al. 2013). Private initiatives, called Group Purchasing Organizations (GPOs), purchase large volumes for both public and private healthcare providers. In Kenya, MedSource is a for-profit company that offers lower prices to member organizations, which may be pharmacies, pharmacy chains, hospitals, or other healthcare providers. It pools its members' demand and then negotiates discounts from manufacturers and distributors.

Countries can also pool procurement. While it can be difficult to negotiate such international agreements, they are feasible and effective. Sometimes countries authorize international agencies, such as the Global Fund and UNICEF to buy products for them. For example, the Organization of Eastern Caribbean States (OECS) created a Pharmaceutical Procurement Service in 1986 to buy healthcare supplies for its 10 member states. They report cost savings of about US\$4 million each year for their members (SERCOP 2015).

Another example is PAHO's Strategic Fund. Created in 2000 to procure health supplies for its 33 members, it aims to negotiate a single low price for all its members, whether buying mosquito nets, diagnostic kits, or sophisticated drugs. For high-cost drugs with long-term demand, such as HIV and TB drugs, PAHO's Strategic Fund has negotiated long-term agreements with fixed prices (Nemzoff et al. 2019). Countries clearly appreciate this service as indicated by a 15-fold increase in the procurement of ARVs through the



Strategic Fund between 2004 and 2012 (PAHO and WHO 2013). Another advantage of a pooled fund like PAHO's Strategic Fund is that it can procure supplies quickly during emergencies or unforeseen stock-outs. During the COVID-19 pandemic (see Box 6), PAHO's Strategic Fund assisted 25 countries in gaining access to more than US\$235 million of essential medicines and public health supplies. It also extended almost US\$39 million in lines of credit and provided technical assistance that was critical to the region's emergency response (Lal et al. 2022).

Instead of creating an international agency to pool purchases, countries can enter agreements that negotiate prices on their behalf. Each country then buys things directly from suppliers under the terms of the negotiated contract. For example, the Council of Ministers of Health of Central America (COMISCA) negotiates prices for its eight member countries. It has achieved substantial savings by jointly negotiating purchases of high-cost pharmaceuticals for chronic diseases (SERCOP 2015).

Beneluxa is an initiative of several small European countries that collaborate to monitor and predict technological change and conduct health technology assessments (HTAs). They share policy expertise and best practices, and jointly negotiate prices for a set of high price medicines. Like COMISCA, this initiative shows that small countries can join forces and use evidence to achieve better value (Giedion and Bettati 2023).

Combining purchases across countries is not without its difficulties. Countries have different legal and regulatory frameworks. They may apply different rules for drug registration, protecting intellectual property, and managing trade. Contractual terms for joint purchasing also must be negotiated. This may be complicated if countries have signed bilateral agreements with companies that concede exclusive access to the market or prohibit sharing information about contract terms. Pooling or centralizing purchasing within countries faces fewer obstacles but still requires dedicated time and energy to assure compatibility across institutions in terms of standardizing products, data, and timely orders.

Care is needed when implementing pooled procurement to avoid losing the benefits of decentralization. In general, decentralized purchasing seems to reduce waste and increase accountability for the delivery of goods. Scandinavian countries chose to decentralize procurement despite the higher prices they paid because they valued greater autonomy for local health facilities (Rosen and Tordrup 2018). To benefit from pooled procurement without losing the advantages of local purchasing, countries need to improve information exchange, supply chains, and product tracking. Negotiating standardized purchasing and price agreements at the central level and allowing local facilities to purchase under those terms is another strategy that can balance the benefits of pooling and decentralization.



2.2.4 Regulating prices



(In Portuguese only)
Acesso, desenvolvimento e regulação do mercado de medicamentos
Safatle (2019).

Public regulation of prices is another way to support smart spending. Pharmaceutical and medical input markets are rarely competitive because products are not standardized, the number of suppliers is often limited, and information about supply and quality can be challenging to obtain. One way to improve these markets is to improve information. Governments can organize, publish, or mandate the disclosure of information so that purchasers are better informed. Direct price regulation can also offset market power in markets with few suppliers. Some prominent approaches to price regulation include price caps, external reference prices, internal reference prices, and value-based pricing.

Price caps or price ceilings establish a maximum drug price. This approach is commonly used for the retail prices of generics (Puig-Junoy 2010), but it can also be used to limit prices of on-patent branded drugs. Since 2013, a price cap system in Colombia based on external reference prices has regulated drug markets⁹ with few suppliers. After implementing this approach, Colombia's ranking improved dramatically relative to other countries (Andía 2018).

External reference pricing (ERP), sometimes called international reference pricing, sets a drug price in relation to prices charged in other countries. Often, the average or lowest manufacturer's price in a group of peer countries is used as the external reference price. Some countries choose the ERP for the drug price, while others use the ERP as part of the information for setting the price (Remuzat et al. 2015).

Internal reference pricing (IRP) regulates a drug's price in relation to other drugs in the same country. Drugs with the same active ingredient are priced the same, often based on the cheapest available substitute (Kanavos 2016; Safatle 2019). A similar approach, called *therapeutic reference pricing (TRP)*, groups drugs that address the same condition regard-

9. In this case, the relevant market is for a group of drugs among which there is therapeutic and economic substitutability. See Benavides Gutiérrez 2019.



less of the active ingredient. For example, different drugs are available for lowering a fever (aspirin, ibuprofen, acetaminophen, etc.). Despite using different molecules, they could be priced to match the lowest-priced version. Some European countries that use IRP and TRP have reduced prices by more than 40 percent (Kanavos 2016).

Value-based pricing is a more recent innovation that sets prices in relation to the usefulness of a drug, that is, in terms of its therapeutic impact. Countries have experimented with at least three different forms of value-based pricing. When a company seeks approval for selling a new drug in a market, countries have set or negotiated a price based on how the new drug compares with existing therapies. In other cases, an estimate of the therapeutic value of the new drug is used to establish the price. A third approach relies on performance contracts to implicitly set the price. A performance contract might include provisions for partial or full reimbursement if the expected therapeutic outcome is not achieved. For example, a pharmaceutical company might agree to reimburse the government for the cost of a cancer treatment if it fails to increase survival rates (Kannarkat, Good, and Parekh 2020; Prieto-Pinto et al. 2020).

Price regulation can make a big difference, especially in the short term. Brazil was paying more than France for Imatinib (a cancer drug) until it established regulations and created the Drug Market Regulatory Chamber (CMED in French) in 2002 to conduct a Health Technology Assessment process and set price ceilings for drugs. Subsequently, Brazilian prices came down, saving the country an estimated US\$180 million over two years (Safatle 2019). Brazil's approach to price regulation classifies drugs into three categories based on their health benefits and costs. If a drug has greater therapeutic value than other medications in the market, CMED recommends a price ceiling based on external reference pricing. However, if the drug has little benefit relative to other drugs, its maximum price is set with internal reference pricing. The third category is drugs which have similar therapeutic value to others on the market but are being offered at lower prices. These price caps are then either accepted or revised downward by the public health system based on its own analysis of price and value.

READ



Access, development and economic regulation of the pharmaceutical market in Brazil

Safatle (2019).



This approach has led to drug prices in Brazil that are six times lower than the U.S. market. By contrast, Brazil does not regulate medical device prices. Without comparable regulation for medical devices, Brazil ends up paying very high prices for devices, as much as 30 times higher than the prices in other countries (Safatle 2019).

Each of these methods has its strengths and weaknesses. Price caps allow competition to drive prices below the cap. However, when price caps are set too low, the drug may no longer be profitable, and shortages might occur. Companies might also compensate for price caps on one drug by raising prices on others (Andia 2018).

In addition, regulating prices is often difficult because crucial information is lacking. Contracts for purchasing drugs often prohibit the disclosure of terms. Also, drug names, packaging, and dosages vary across and even within countries, making comparisons difficult. When companies learn how prices will be set, they can find ways “to game” the system. For example, with external reference pricing, companies can strategically introduce drugs in higher-priced markets to obtain higher prices (Andia 2018; Remuzat et al. 2015). Determining the value of drugs in terms of therapeutic impact is another challenge facing regulators.

Price regulation can also reduce market efficiency and discourage innovation. The undesired consequences must be considered in relation to the benefits achieved through pricing policies (Yadav 2009). While it is good to design price regulations well, it is even more important to monitor the market and act when problems emerge. Price regulation is not something that a country does once and then forgets. It must be part of a regular, ongoing and systematic approach to evaluating prices, quality, and value (Safatle 2019).


2.3 Are we buying the wrong things?


This section addresses the difficult choices around eliminating programs or rejecting certain medications or treatments which are too costly, wasteful, or cause harm.

People who want to make smart health spending choices might start by quitting smoking and avoiding sugar-sweetened beverages. Doing so will improve their health and give them additional spending money. The same is true for countries, that often buy the wrong things with their health budgets. To spend smart, countries need to avoid buying healthcare that provides little or no health gain, harms patients, or wastes resources.



2.3.1 Disinvesting in services with little or no health gain

READ 



(In Spanish only)
Desinversión en salud: un acercamiento basado en la evidencia
Esandi (2023).

Overuse of diagnostic tools and ineffective or unsafe treatments are too common in many health systems. Physicians order imaging for lower back pain or headaches and cardiac imaging in low-risk patients, raising costs and providing no significant benefit. Physicians also overprescribe or inappropriately prescribe antibiotics, antipsychotics, and proton pump inhibitors (for reflux disease) (Hurley 2014).

Partially or fully cutting back on healthcare spending for such practices, which have little or no value in relation to their cost, is referred to as “disinvestment” (Elshaug et al. 2007).

Countries do not always assess new technologies, but fewer still look at existing technologies and ask whether they should be discontinued. A recent review identified 45 disinvestment initiatives over the last 50 years, most of which were in high-income countries, though Argentina, Brazil, and Mexico were also represented. One initiative, the Choosing Wisely Campaign, began in the United States and its methodology was adopted in five other countries (Esandi 2022). Disinvestment initiatives need ways to identify technologies that might be of little or no value. Then they require methods to evaluate the technology. If the assessment shows that the technology is not worthwhile, a country can begin to disinvest in it. Initially identifying which technologies should be reviewed can be based on different kinds of evidence, including scientific studies that lack contextual reference, evidence from local context, or concerns reported by patients or doctors. Then, to decide whether to disinvest, countries can review existing systematic reviews and international databases or conduct new studies to obtain the necessary information.

Variations in medical practice can also reveal candidates for disinvestment, whether within or between countries. Countries in Latin America and the Caribbean have the highest rates of cesarean sections in the world – an average of 40.5 percent compared to 18.6 percent elsewhere (Betran et al. 2016). Cesarean surgery is used to deliver more than half of all babies born in Brazil and the Dominican Republic. When medical practices vary this much without significant differences in outcomes, it indicates that a substantial number of these surger-



ies are unnecessary. Disinvesting in unnecessary surgeries makes sense, but making such a change may not be easy. Efforts have been underway to reduce the number of unnecessary cesarean sections for decades with mixed success.

Countries that want to spend smarter also need to address treatment practices with little benefit. For example, as much as half of all antibiotic use by human beings is unnecessary and has no health benefit. This creates unnecessary risks to patients, encourages the emergence of resistant anti-microbial strains, and uses money that could otherwise be spent on other effective healthcare services. However, reducing overprescription of antibiotics is not simple. It requires educating and engaging physicians, pharmacists, and the public in conversations about antibiotic use, revising clinical protocols, and changing payment mechanisms.

If a country decides to disinvest in a medical technology or practice, it needs to be proactive. It might review and revise practice guidelines and medical protocols, engage healthcare providers in discussions and educational workshops, or adjust financial mechanisms and incentives. To be successful, action is probably required on all these fronts. Finding ways to persuade key stakeholders, especially healthcare providers, is crucial, along with reallocating any savings to other, more productive healthcare interventions.

Initiatives that provide information for disinvestment include DIANA¹⁰ based in Spain, the National Institute of Clinical Excellence (NICE) in the UK, and Choosing Wisely, an international initiative led by professional associations in six countries. These initiatives sometimes generate a “do not do” list – the approach taken by NICE in the UK – or a “high value/low value” classification – the approach taken by DIANA.

Examples of successful disinvestment include five low-value interventions identified by the Choosing Wisely Campaign. These include unnecessary laboratory tests, antibiotics for sinusitis, and DXA (bone density) screening for osteoporosis in people without risk factors. NICE issued a “do not do” decision for hysterectomies when they are prescribed to address heavy menstrual bleeding. Subsequently, the number of surgeries fell by about 10 percent (Chambers et al. 2017). From 2018 to 2020, an Argentine initiative reviewed available information on medical practices in cancer care (oncology) and identified 26 practices on “do not do” lists. After a deliberative process that included experts in oncology and health technology assessment, six of these practices were selected for disinvestment (Esandi 2022). Thailand

10. DIANA is a Spanish acronym for “Divulgación de Iniciativas para Analizar la Adecuación en Salud” (Dissemination of Initiatives for Analyzing the Appropriateness of Healthcare).



removed Atorvastatin from its national list of essential medicines when the HTA process showed it was no longer cost-effective (Teerawattananon et al. 2014).

2.3.2 Waste: Clinical, Operational, and Administrative

Disinvestment initiatives are not common, which is a problem given the benefits of scaling back unnecessary or harmful healthcare services. Researchers have estimated that ineffective and unsafe healthcare services, along with the provision of poor-quality healthcare, could account for as much as one-third of all U.S. healthcare spending (Berwick and Hackbarth 2012). The OECD found that up to one-fifth of healthcare spending was wasted and could be better spent. It analyzed three kinds of waste: clinical, operational, and administrative.¹¹ Clinical waste includes the provision of unnecessary, low-value, or harmful services, medications, and technologies, discussed earlier. So, this section will focus on operational and administrative waste.

Health systems have a great deal of *operational waste* - unnecessary expenditures and lost value from poor management of drugs, supplies, facilities, and networks. Providers might purchase too many medications or supplies only to discard unused products. Products are also discarded when prescriptions are duplicated, patients fail to adhere to their regimens, or hospitals mismanage their stocks. Australia analyzed the medicines being returned to distributors and found over US\$1 million of discarded medicines, most of which were prescription drugs. Hospitals have substantial operational waste caused by inefficient operations in food services, energy use, water use, and maintenance. Inefficient patient flow can also contribute to waste. Many surgeries are more costly than necessary because patients are admitted on an inpatient rather than outpatient basis. Hospital stays are often longer than necessary when the process of diagnosis, treatment, evaluation, and discharge is poorly coordinated.

Administration is an important part of any health system, but it is also wasteful. Administrative costs, associated with the health system's governance and with collection and management of healthcare funds, vary substantially across countries and across systems. Administrative costs are less than 2 percent of current healthcare expenditures in Italy, Japan, and Iceland; compared to over 5 percent of current healthcare expenditures in Mexico, France, and the U.S.

11. The following paragraphs rely on "[Tackling Wasteful Spending](#)" published by the OECD in 2017.



Administrative waste may be driven by health sector fragmentation. Health systems with multiple insurers spend a lot on billing and reporting. Single payers or national healthcare services generally have fewer costs associated with billing. However, administrative processes can be slow and costly when these systems have weak performance and poor accountability. Reducing administrative waste requires detailed analyses of procedures and processes to identify and solve problems. Standardizing codes and reporting can reduce some administrative costs and facilitate information sharing across providers, insurers, and regulators. Digital health technologies are creating new opportunities to reduce administrative waste by improving the availability, communication, and sharing of information about patients, healthcare provision, quality of care, and costs.

It is not smart to let healthcare funds be diverted through fraud, abuse, and corruption. Nevertheless, health systems are quite vulnerable to such problems (Savedoff and Hussmann 2006). A lot of money flows through the health sector, making it an attractive target for people seeking to enrich themselves at the public's expense. The health sector also has many dispersed and difficult-to-monitor transactions, including bidding processes, supplier selection, drug distribution, service invoicing, training, and prescribing. This combination of high potential rewards and low probability of detection guarantees that fraud, abuse, and corruption will be persistent issues for the health sector.

Conflicts of interest are also rife in the health sector. For example, pharmaceutical companies influence physicians in many ways. They may directly pay physicians for prescribing drugs in countries where such practices are not banned. Elsewhere, they find ways to benefit physicians by contracting them to conduct research or giving them trips to resorts for educational seminars (Transparency International 2006).

Curbing such abuse requires vigorous, agile, and systematic effort by the government and those responsible for supervising the health system. Dedicated offices of investigators are needed to gather intelligence regarding the kinds, scope, and scale of abuses being committed. Health system policies need to be reviewed and adjusted to reduce opportunities for abuse, increase transparency, and enforce laws, regulations, and codes of conduct. It is smart to spend money on curbing abuse. Estimates from the U.S. show that the government recovers over US\$6 for every US\$1 it spends on detecting fraud.



2.4 Can we build and support systems that spend smarter?

This section looks at the institutional and political aspects of smart spending.

Public healthcare spending choices are fundamentally social and political. This is true both for the overall level of public healthcare spending and the allocation of those resources (Glassman et al. 2012; Savedoff and Smith 2011). At the same time, deciding what to spend on is still one of the most difficult of all public policies in every sector, not just health.

Building systems that “spend smart” requires establishing mechanisms for governance that are appropriate to the context and work coherently with one another. Well-governed systems are easier to establish in countries with functional governments that promote and respond to social consensus. In countries without this advantage, well-governed health systems require mechanisms for building social compacts and resisting inappropriate external pressures.

Governance is a broad topic that addresses every aspect of healthcare. But if we focus on promoting and sustaining smart spending, a few issues stand out related to responsibilities, information, mandates, political processes, conflicts of interest, and pressures from vested interests.

Good governance involves assigning clear roles, responsibilities, and authority to multiple agencies. Regardless of a country’s health system structure, certain functions are necessary. Countries need to approve treatments, drugs, and devices. Within public healthcare budgets, they need to select or prioritize services. If they want a health benefits package, it needs to be designed, negotiated, and updated regularly. Similarly, if they want an effective Health Technology Assessment (HTA) agency, they need to explicitly embed it into the policymaking process. Supply markets and prices need to be monitored and regulated. Countries also need to accredit or license healthcare providers and determine the eligibility of suppliers. As well, countries need a way to monitor and assure the integrity of financial transactions.

Someone must be responsible for these functions. Responsibility can be assigned to executive branch agencies, legislative committees, para-statal institutions, non-profit organizations, or professional societies. Each institution requires a clear mandate, adequate resources and staff, and sufficient autonomy – but with accountability. They also need to have linkages that assure coherence between their decisions (e.g., approval of drugs by a drug agency) and those of other agencies (e.g., inclusion of drugs in a benefit package by a health insurance agency).



Good information systems make it easier to spend smarter. Whether finding the best price in the market for surgical instruments, adjusting a health benefits package, disinvesting in a low-value treatment, or detecting fraud, information is key. A good information system has systematic procedures for collecting data in ways that make analysis and interpretation easy. It also requires human resources, infrastructure, and connections to research centers that assure the quality and useability of information. The information system needs to be designed for use by the health sector. However, it also has specific governance requirements of its own to address such issues as cybersecurity, privacy, and equity (Carnicero and Serra 2020).

Laws and regulations mandating the use of value-prioritizing information in spending decisions make smart spending more likely. Laws that require consideration of “value for money” when allocating funds or engaging in procurement are perhaps the most direct way to mandate smarter spending. Similarly, legal mandates to link value (identified through HTAs) to price negotiations can help countries obtain better deals. Creating essential drug lists that include only high-value drugs and legally excluding other medications from reimbursement with public funding is a powerful instrument for improving the value obtained through healthcare spending.

Laws that require updating health benefits packages with new information on cost-effectiveness, opportunity costs, and distributional consequences are also valuable. Furthermore, it is easier for the public to hold the government accountable if laws require public disclosure of budgets and dissemination of companion documents that explain how the public budget will affect different populations and health outcomes. One way to insulate analysis from undue interference is to create independent health technology assessment offices that advise governments on the relative value of new or existing technologies.

Linkages between technical and political processes are an important part of good governance. It is extremely difficult to make public policy decisions solely on technical criteria. The public, and the politicians who represent them, rightfully expect the final say on what governments will do. Therefore, making informed spending decisions requires establishing

WATCH

Deliberation

- Thoughtful and careful way of reaching a conclusion
- Involves the focused evaluation of alternatives
- It is an important part of the explicit priority-setting processes

How participation improves governance

Tony Culyer (in CRITERIA's MOOC).



regular opportunities for technical information to be brought into social debates and political deliberations. Agencies that conduct technical analysis, especially HTAs, can improve spending decisions by engaging with politicians, political processes, healthcare providers, and industry (e.g., pharmaceuticals, devices, medical inputs) in ways that inform technical and political decisions. However, the procedures and rules for this kind of engagement need to protect the integrity of the technical analysis.

BOX 6 SMART SPENDING DURING A HEALTH EMERGENCY: LESSONS FROM COVID-19

Countries find it very difficult to budget for emergencies. Day-to-day demands for services today tend to overwhelm efforts to invest in emergency preparedness. Yet the COVID-19 crisis demonstrated how short-sighted countries can be when they neglect investment in public healthcare functions and resilience. Consequently, COVID-19 spread so rapidly and with such devastating impact that it disrupted market supply, closed large segments of the economy, and caused enormous social disruption.

Countries that want to spend smarter will recognize the high value of relatively small amounts of funding when they are consistently and intelligently invested in public healthcare functions such as epidemiological surveillance, the maintenance of diagnostic laboratory networks, and stockpiling key supplies.

Smart spending also applies during an emergency. The pandemic generated new demands on health systems to care for those infected with COVID-19 while trying to maintain other healthcare services, all within highly constrained budgets. Setting priorities in such cases is of the greatest importance. At the same time, the data needed to make decisions is often lacking.

Two lessons are worth highlighting from the COVID-19 crisis:

- Systems that function well during non-emergency times, with priority-setting mechanisms, data collection systems, and analytical capacity, will have an easier time allocating resources during an emergency. For example, Chile had a system for monitoring intensive care hospital beds in its public hospitals, but participation by private hospitals was voluntary. Because the information system already existed, Chile could mandate private hospital participation during the crisis and better manage the country's capacity for treating acute COVID-19 cases.



- Investments in *preparing* for an emergency are important, so that when a crisis occurs, people already know what to do. This applies to anyone who needs to mobilize, whether for screening and treating patients, collecting data, conducting analyses, making priority-setting decisions, or allocating resources. For example, Singapore and Korea responded to the SARS crisis by allocating funds to emergency preparation, stockpiling essential supplies, and running emergency simulation exercises. This made it possible for them to respond quickly and effectively even before COVID-19 arrived in their countries.

Read these works by CRITERIA for more information on smart spending during the pandemic:

- “Prioritization in times of pandemic. [No. 1: How to allocate scarce health resources in the midst of a pandemic: Conceptual framework, principles and processes](#)” (Gutiérrez 2021a).
- “Prioritization in times of pandemic. [No. 2: How to allocate scarce health resources in the midst of a pandemic : therapeutic interventions](#)” (Gutiérrez 2021b).
- “Prioritization in times of pandemic. [No. 3: How to allocate scarce health resources in the midst of a pandemic: non-therapeutic interventions](#)” (Gutiérrez 2021c).

Regulations are needed to address conflicts of interest and limit bias in technical and political decisions. People with direct financial interests in decisions can be legally barred from participating in ways that influence those decisions. Other provisions for managing conflicts of interest include disclosure rules, transparency in decision-making procedures, professional codes of conduct, and mechanisms to reward and protect whistleblowers.

Management of politically active groups with vested interests is among the most challenging problems to be addressed by good governance. Smart spending decisions tend to generate “winners” and “losers” by choosing which services, devices or drugs will be prioritized and which ones will not.

A fundamental problem in many countries is that efforts to introduce smart spending face resistance or are bypassed. People (and suppliers) have pursued legal action in court to



force public reimbursement of treatments that the government has sought to exclude because of low value relative to cost (i.e., judicialization). Lobbying by industry and/or patient associations has sometimes led to laws that restrict or forbid the use of cost data and cost-effectiveness when assessing and approving new technologies. At times, lobbying by special interest groups has obtained explicit laws or programs to finance specific treatments or to address specific illnesses without consideration of opportunity costs. Many countries have even institutionalized payments for low-value treatments that are otherwise excluded from health benefits packages by establishing “Catastrophic Funds.” These funds tend to be created to address the public’s sense that refusing to buy care for people with extremely costly conditions is unfair. Yet this sense of unfairness ignores suffering by people who will be unable to access the healthcare they need when public funds are diverted to low-value care. Dedicating large amounts of public money to relatively few people can compromise the health system’s ability to provide higher value care to others.

Managing these interests is not easy, but a range of strategies is available (Campos and Reich 2019; Reich 1994; Reich et al. 2016):

- **Mobilize groups to support smart spending.** Find organizations and parties that are interested in value more than cost or are interested in containing costs. These might include finance ministries, large employers, or health insurance contributors. Allies can be found among organizations that understand both the importance of healthcare and the limitations of resources. So, for example, finance ministries want to keep spending within budget, but are also politically sensitive to showing good value from public healthcare expenditure.
- **Focus public debates on value.** Take the higher moral ground in political debates by focusing attention on the improvements in health and equity that can be obtained through smart spending. Bring attention to the opportunity cost of decisions that ignore smart spending by showing the gaps in healthcare coverage for

READ

+

Todos son iguales, ¿pero algunos son más iguales que otros en sistemas de salud?
Giedion (2017).

(In Spanish only)



high-value care that will not be addressed. Publicize the increased incomes and profits that will accrue to providers or industry when smart spending is restricted

- **Weaken opponents to smart spending.** Isolate opponents by exploiting competing interests. For example, the business community generally allies with healthcare companies to resist government regulation. However, it may be possible to enlist them in support of smart spending, or at least weaken their engagement, by showing how a more efficient health system will lower their costs and raise worker productivity. Opponents of smart spending can also be weakened by taking away some of their resources and channels of influence. For example, countries can legally limit or ban political lobbying, advertising, public advocacy, and anti-competitive practices. They can also increase transparency, such as publicizing how much income doctors receive from pharmaceutical companies.¹²
- **Neutralize opposition.** Sometimes opponents can be offered concessions that are less costly than the potential gains from smart spending policies. Health insurance companies in the U.S. have generally opposed major healthcare reforms. Yet the Obama administration won their support for the *Affordable Care Act* in 2010 by agreeing not to include the creation of a competing public insurance agency. With this concession, the U.S. was able to establish mandatory universal health insurance coverage for the first time, along with some important constraints on health insurers that benefited the insured.

Success in choosing and implementing such strategies depends on strong local knowledge, cultural sensitivity, and good political judgment.

12.. The United States Center for Medicare & Medicaid Services maintains a database of payments made by drug and medical device companies to physicians, physician assistants, advanced practice nurses and teaching hospitals at <https://openpaymentsdata.cms.gov/>.



3



**Final words
(be healthy and wise!)**



For individuals with an adequate income, smart health spending might include buying a generic headache medicine instead of an original version, buying (and eating) more vegetables and fruits, and wasting less money on tobacco, alcohol, and sugar-sweetened drinks. Other ways to improve a person's health do not necessarily cost money, such as getting enough sleep (for those wealthy enough to work one job and have a roof over their head).

For countries, a parallel story can be told, though the options for promoting good health are more numerous. Countries can get better deals on the healthcare services and drugs that they buy, they can prioritize the government healthcare budget using information on cost-effectiveness, equity, and financial hardship to spending on healthcare goods and services that provide the most health value, and they can disinvest from activities that have very little or no value at all. And they can do things that cost little or no money, such as raising tobacco taxes, pooling their purchases with other countries, or banning toxic chemicals.

3.1 What's possible?

Smart spending is a way for countries to get more health and equity with public funds. Along with mobilizing revenues and allocating funds to the health sector, spending smarter is a way to progress faster toward Universal Health Coverage. But will spending smarter make enough of a difference? Regardless of how we estimate the impact of smart spending, the gains in health and equity justify the effort.

Section 2 discussed many ways countries can obtain more health value from the money they spend. How much of a difference would this make to health in the region? Buying generics instead of original drugs would save the social security system in the Dominican Republic an estimated US\$14.4 million which could generate an additional 12,000 QALYs if the funds were applied to two highly cost-effective interventions: screening for cervical cancer and detecting and managing diabetes. Buying generics instead of original drugs could save households in Chile US\$316 million out of a total US\$663 million that they spend on off-patent drugs, or 3.7 percent of all out-of-pocket expenditures. Pooling and centralizing procurement enabled savings on drug purchases in Mexico ranging from 7 to 38 percent.



Using this information and other studies, it is possible to illustrate the magnitudes of savings and health benefits that smart spending can bring to the region (see Table 2). For example, about 20 percent of public healthcare budgets pay for medications and about one-third of these are off-patent. If countries buy original brands in 80 percent of these off-patent cases and pay 3.5 times more when compared to unbranded generics, they could save more than US\$3 billion by switching half of this spending from original to unbranded generics. And if these funds were applied to high-value healthcare services, countries could generate about 600,000 healthy life years – the equivalent of extending the lives of about 60,000 people by 10 years in full health.

TABLE 2

REGIONAL SAVINGS AND HEALTH BENEFITS FROM SMART SPENDING, SIMULATIONS FOR LATIN AMERICA AND CARIBBEAN COUNTRIES

SMART SPENDING STRATEGY	BASE VALUES (US\$ MILLIONS)	SAVINGS & REALLOCATIONS TO HIGHER VALUE ACTIONS (US\$ MILLIONS)	HEALTHY LIFE YEARS GAINED	NUMBER OF PEOPLE WHO GAIN 10 OR MORE HEALTHY LIFE YEARS
SWITCH TO GENERICS				
PUBLIC HEALTH SPENDING	40,739	\$3,055	603,125	60,312
OUT-OF-POCKET SPENDING	118,228	\$4,374	-	-
POOLED PROCUREMENT	40,739	\$2,444	482,500	48,250
REALLOCATE FUNDS TO HIGHER VALUE ACTIONS	203,695	\$20,370	16,348,699	1,634,870
SYSTEM EFFICIENCY IMPROVEMENTS	203,695	N/A	47,283,323	4,728,332

Source: Authors' calculations using data from WHO Global Health Expenditure Database and cited literature.

Notes:

- The strategies for switching to generics and pooled procurement assume that funds are reallocated to healthcare interventions that cost US\$5,066 per QALY (see Pichon et al., 2020). The strategy of reallocating funds assumes that countries reallocate funds from interventions costing an average of US\$5,066 per QALY to more cost-effective interventions that cost US\$1,000 per QALY.
- The strategy for public sector use of more generic drugs assumes that countries substitute half of all original brand purchases to unbranded generics.
- The strategy to encourage household purchases of unbranded generics extrapolates parameters reported for Chile (Atal et al. 2013) to regional out-of-pocket spending.
- The pooled procurement strategy assumes that the region currently pools 5% of its drug purchases and that the share would increase to 25%.
- The system efficiency improvements simulation estimates DALYs gained from the findings of (Moreno-Serra et al. 2019).
- See appendix for more detail on calculations.



With similar reasoning and parameters from other studies, switching to generics could reduce out-of-pocket spending by households by US\$4.37 billion or 3.7 percent of all out-of-pocket spending. These are funds they could spend on other important household needs. Pooled procurement could save governments about US\$2.4 billion annually, a little less than one percent of their healthcare budgets and almost 4 percent of spending on medications. Assigning these funds to additional high-value healthcare services would extend the lives of some 48,250 people by 10 years of healthy life. Reallocating funds from lower to higher value healthcare can make an even larger difference. Under conservative assumptions, shifting 10 percent of public healthcare budgets in the region (about US\$20 billion) from lower value to higher value care could extend the lives of 1.6 million people by 10 years of healthy life.

Of course, these are just illustrations, and the estimates depend on various assumptions regarding key parameters. Nevertheless, the general magnitudes appear reasonable, and are consistent with projections made by other methods. A study that measured efficiency in terms of each country's health system performance relative to the best-performing countries found that most Latin American and Caribbean countries were inefficient (Moreno-Serra, Anaya-Montes, and Smith 2019). They estimated that improving the efficiency of health systems in Latin America and the Caribbean could add 47 million Disability Adjusted Life Years (DALYs) to the region's population. That is the equivalent of extending the lives of about 4.7 million people by 10 years of healthy life.

Because system efficiency includes all aspects of smart spending, along with a wide range of other healthcare policies, the potential gains are larger than any individual smart spending strategy. Other factors that have been linked to better health outcomes include governance quality, particularly procedures for establishing transparency and accountability to citizens. Another important factor is improvements in health sector incentives and planning (such as results-based management and medium-term expenditure frameworks) (Moreno-Serra, Anaya-Montes, and Smith 2019). Greater efficiency appears to be associated with better regulation of medical staff and patient choice of providers, as well as smart spending strategies like using cost-effectiveness to inform policy decisions (Castelli, Moreno-Serra, and Anaya-Montes 2020). Thus, smart spending strategies are part of a bigger picture in improving the level of health a country can support from its public healthcare budget.



3.2 Conclusions

This report has described the main concepts, tools, and strategies for smart healthcare spending. It has shown that:

- Smart spending is not only compatible with the right to health, but also key to fulfilling the right to health.
- Smart spending requires social agreement on values and consideration of opportunity costs.
- Explicit priority setting is key to managing cost pressures and expanding high-value healthcare services.
- Prioritization is not a one-time exercise. It is a process with multiple steps, applied systematically over time and involving many actors.
- Explicit priority setting benefits from health technology assessment as a key decision-making input, but prioritization is much more than HTA. It also involves decisions about authorizing sales and use, selection of which technologies will be subject to HTA, deliberation and decision-making on whether to finance such technologies, monitoring markets and performance, and screening for disinvestment.
- Countries can reduce costs by buying better and then reallocating savings to expand coverage of good quality and cost-effective healthcare.
- Disinvestment can both improve health and free up resources to be spent on high-value healthcare.
- Smart spending can help eliminate clinical, operational, and administrative waste.

Fortunately, more and more governments are recognizing the benefits of smart healthcare spending. They are seeking information to inform explicit priority setting. Many of them are creating Health Technology Assessment institutions, even if they are not fully using them to guide policy decisions. The challenge for most governments is to mobilize this information to support the policy changes required to make smart spending more than a one-time exercise and incorporate it as a regular feature of health system policy decisions.

This report has touched on key topics for getting more health value from public healthcare spending. However, it has only been able to reference a small share of the literature on im-



proving public healthcare spending choices. Along with other repositories of information, the [IDB's website](#) and [CRITERIA's web](#) pages provide a rich source of ideas, experiences, and tools to help countries spend smarter on healthcare. There, you can find more detailed discussions of the topics covered here along with related topics and diverse perspectives, all directed toward better policies in the field of healthcare.



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Appendix

Calculations for Table 2

- Information used in these simulations included health expenditure and population data from the WHO's Global Health Expenditure Database and cost-effectiveness ratios from literature cited in the report.
- Pichon et al. 2020 found that cost-effectiveness thresholds in Latin America ranged from 50 to 100 percent of GDP per capita. Using their midpoint (75 percent) and multiplying it by the regional average per capita income in Latin America and the Caribbean in 2019 (US\$6,754) yields a cost-effectiveness threshold of US\$5,066 per QALY.
- The strategies for switching to generics and pooled procurement assume that funds are reallocated to healthcare interventions that cost the regional average threshold of US\$5,066 per QALY.
- The strategy of reallocating funds assumes that countries reduce spending on interventions costing the regional average threshold of US\$5,066 per QALY and increase spending on more cost-effective interventions at US\$1,000 per QALY. The value of US\$1,000 per QALY was chosen for the more cost-effective interventions because it is about the midpoint between the cervical cancer and type 2 diabetes interventions referenced in Jorgensen et al. 2023; and it lies in the middle of the cost-effectiveness thresholds estimated in the literature for Honduras (\$658 y \$1.860 per DALY), and used to design a health benefits package for the country" (Góngora and Giedion 2021).
- The strategy for public sector use of more generic drugs assumes that countries substitute half of all original brand purchases to unbranded generics.
- The strategy to encourage household purchases of unbranded generics extrapolates parameters reported for Chile (Atal et al. 2023) to regional out-of-pocket spending.
- The pooled procurement strategy assumes that the region currently pools 5% of its drug purchases and that the share would increase to 25%.



- The system efficiency improvements simulation estimates DALYs gained from the findings of (Moreno-Serra, Anaya-Montes, and Smith 2019).
- The following table provides more information regarding the calculations.

COLOR KEY

ASSUMPTION OR DATA
CALCULATION
RESULTS

BASIC DATA 2019 FROM WHO GHED AND WORLD BANK DEVELOPMENT INDICATORS

REGIONAL POPULATION	629,891,939
REGIONAL PUBLIC HEALTH EXPENDITURES (US\$ MILLIONS)	\$203,695
REGIONAL OUT-OF-POCKET EXPENDITURE (US\$ MILLIONS)	\$118,228

COST-EFFECTIVENESS PARAMETERS: US\$ PER QALY (2019)

DOMINICAN REPUBLIC AVERAGE IS 3,109 PER QALY ACCORDING TO RIASCOS 2020	3,109
DOMINICAN REPUBLIC BEST SPEND, JORGENSEN ET AL 2023 (US\$/QALY)	1,187
DOMINICAN REPUBLIC AVERAGE FOR 2019 IN QALYS IS	2,372
PICHON, DRUMMOND ET AL 75% * LAC PIB PER CAPITA	5,066
HONDURAN HBP	878

PARAMETER USED FOR SIMULATIONS:	5,066
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STRATEGY

PUBLIC SECTOR BUYS UNBRANDED GENERICS INSTEAD OF ORIGINAL BRANDS

DRUG EXPENDITURES AS SHARE OF PUBLIC HEALTH EXPENDITURE	20%
PUBLIC HEALTH EXPENDITURES ON DRUGS (US\$ MILLIONS)	\$40,739
OFF-PATENT DRUGS AS SHARE OF TOTAL PUBLIC DRUG EXPENDITURE	35%
PUBLIC HEALTH EXPENDITURES ON OFF-PATENT DRUGS (US\$ MILLIONS)	\$14,259
SHARE OF OFF-PATENT DRUGS BOUGHT AS ORIGINAL	80%



PRICE RATIO: ORIGINAL TO UNBRANDED GENERIC	3.5
SAVINGS RATIO BASED ON PRICE DIFFERENTIAL	71%
SIMULATION - SHARE OF ORIGINALS REPLACED BY GENERICS	50%
SIMULATION - LAC DRUG BUDGET SAVINGS (US\$ MILLIONS)	\$3,055
SIMULATION - LAC SAVINGS AS SHARE OF PUBLIC DRUG EXPENDITURE	7.5%

SIMULATION - DOLLARS REALLOCATED PER QALY	5066
SIMULATION - QALYS	603,125
SIMULATION - # OF PEOPLE WITH 10 MORE HEALTHY LIFE YEARS	60,312

STRATEGY

HOUSEHOLDS BUY UNBRANDED GENERICS INSTEAD OF ORIGINAL BRANDS

SHARE OF HH OOP SAVINGS DUE TO PURCHASING GENERICS	3.7%
SIMULATION - LAC OOP SAVINGS (US\$ MILLIONS)	\$4,374
SIMULATION - LAC OOP SAVINGS PER CAPITA	\$6.94

SIMULATION - DOLLARS REALLOCATED PER QALY	5,066
SIMULATION - QALYS	863,487
SIMULATION - # OF PEOPLE WITH 10 MORE HEALTHY LIFE YEARS	86,349

STRATEGY

COUNTRIES INCREASE SHARE OF DRUGS PURCHASED THROUGH POOLING

SHARE OF BUDGET GOING TO DRUGS	20%
PUBLIC HEALTH EXPENDITURES ON DRUGS (US\$ MILLIONS)	\$40,739
SHARE OF DRUGS PURCHASED THROUGH POOLING	5%
SAVINGS FROM POOLING (% OF PRICE)	30%
SIMULATION - SHARE OF DRUGS PURCHASED THROUGH POOLING	25%
SIMULATION - SAVINGS AS SHARE OF DRUG BUDGET	6.0%
SIMULATION - TOTAL LAC PHE SAVINGS (US\$ MILLIONS)	\$2,444
SIMULATION - TOTAL LAC PHE SAVINGS PER CAPITA	\$3.88

SIMULATION - DOLLARS REALLOCATED PER QALY	\$5,066
SIMULATION - QALYS	482,500
SIMULATION - # OF PEOPLE WITH 10 MORE HEALTHY LIFE YEARS	48,250



STRATEGY

COUNTRIES REALLOCATE TOWARD MORE COST-EFFECTIVE INTERVENTIONS

REGIONAL PUBLIC HEALTH EXPENDITURE (US\$ MILLIONS)	\$203,695
SHARE TO BE REALLOCATED	10.0%
REALLOCATED FUNDS (US\$ MILLIONS)	\$20,370

SIMULATION - CURRENT DOLLARS PER QALY	5,066
SIMULATION - HEALTH BENEFITS PACKAGE DOLLARS PER QALY	1,000
CURRENT QALYS PRODUCED BY FUNDS THAT WILL BE REALLOCATED	4,020,831
SIMULATION - QALYS PRODUCED BY REALLOCATED FUNDS	20,369,529
SIMULATION - QALYS GAINED	16,348,699
SIMULATION - # OF PEOPLE WITH 10 MORE HEALTHY LIFE YEARS	1,634,870

STRATEGY

COUNTRIES ENGAGE IN EFFICIENCY REFORMS

DALYS LOST PER 100,000 POPULATION	7,507
TOTAL DALYS FROM INCREASING EFFICIENCY	47,283,323
SIMULATION - DALYS GAINED	47,283,323
SIMULATION - # OF PEOPLE WITH 10 MORE HEALTHY LIFE YEARS	4,728,332

