

1 Assessment and recommendations for the health system in Brazil

In the 30 years since the inception of a universal health system in Brazil through the creation of its Unified Health System, there has been significant improvement in population health indicators and increased access to health care. However, a number of key challenges remain, including persistent inefficiencies in the use of resources in the Brazilian health system, insufficient collection, linkage and analysis of health data and growing risk factors for health. At the same time, the path towards universal health coverage offering high-quality services has been unequal across socio-economic groups and geographic regions, suggesting some gaps to provide effective coverage. This chapter assesses the performance of the health system in Brazil. It considers four topics in detail: improving efficiency and sustainability of financing, upgrading its health data infrastructure, and addressing major population risk factors such as overweight and harmful alcohol consumption. It provides a set of recommendations on improving the performance of the health system in the country.

Over the past 30 years, Brazil has pursued policies to achieve universal health coverage and improve access to care. The 1988 Federal Constitution gave rise to the current Unified Health System (*Sistema Único de Saúde*, [SUS]). Universality, integrality, decentralisation and community participation are the key principles enshrined in the Brazilian health care system. Since the inception of SUS, virtually the entire population is formally covered by the public health sector, with equal benefits and equal financial protection. As a result, Brazil has significantly improved most general population health indicators, increased access to health care and reduced health inequalities. The implementation in 1994 of the Family Health Strategy, which aimed to reorganise and strengthen primary health care (PHC), has also been a key component of this success. Infant mortality rates have decreased by 60% over the past two decades, from 30.3 deaths per 1 000 live births in 2000 to 12.4 deaths per 1 000 live births in 2019. Life expectancy at birth also increased by 5.7 years, from 70.2 years in 2000 to 75.9 years in 2019. Strong empirical evidence suggests that the Family Health Strategy led to a significant reduction in avoidable hospitalisations over the past two decades.

Nevertheless, major problems remain for the Brazilian health care system. Mobilising sufficient financing for the universal health coverage mandate of SUS has been a constant challenge, not helped by persistent inefficiencies in the use of resources in the Brazilian health system. While Brazil spends a lot on health (9.6% of GDP in 2019 – higher than the OECD average of 8.8%), 60% of this expenditure is private, leaving the Unified Health System underfinanced, and resulting in marked health inequalities. Indeed, the path towards universal health coverage offering high-quality services has been unequal across socio-economic groups and geographic regions. The most vulnerable and remote municipalities in the North and Northeast regions consistently present poorer health outcomes and lower care quality than the wealthier South and Southeast. Diabetic patients, for example, have a higher likelihood of experiencing complications (as measured in hospitalisations) in the Northeast than the Southeast; this risk is systematically higher for individuals whose household income is at or below the minimum wage than for households earning more than three times the minimum wage (IBGE, 2020^[1]). In a similar vein, people with a better socio-economic situation, who can pay for private health insurance, have higher access to health care services than those from lower socio-economic backgrounds.

Such socio-economic inequalities are compounded by the persistence of high out-of-pocket costs, which affect disproportionately Brazil's poor and disadvantaged populations. In 2019, 25% of health spending was financed out-of-pocket, above the OECD average (20%). As a result, one in four Brazilians faces financial hardship owing to health care costs – a much higher share than in nearly all OECD countries. This is too much if Brazil wants to achieve a more equitable and efficient health care system, signalling to some extent a failure of current arrangements to provide effective coverage.

Brazil is also undergoing a profound demographic and epidemiological transition. By 2050, 21.9% of the Brazilian population is expected to be 65 years or older, up from 8.9% in 2017 (OECD, 2019^[2]). This represents an increase of 13 percentage points, compared to the projected increase of around 10 percentage points across the OECD region (from 17% to 27%).

Growth in chronic conditions will also be exacerbated by rising obesity rates, physical inactivity among adults and children, and other unhealthy lifestyles that are already widespread in Brazil. Recent projections suggest that a substantial increase in health spending will be necessary over the next decades to meet future health and long-term care needs associated with an ageing society. In its baseline scenario, the OECD health spending projection model suggests that health spending in Brazil will increase to 12.6% of gross domestic product (GDP) by 2040 (compared to 9.6% in 2019) (Lorenzoni et al., 2019^[3]). This projected increase is more pronounced than in most OECD countries, and also stronger than in Chile and Colombia. Critically, Brazil will need to generate efficiency gains within the health sector to help meet future health care financing needs. Box 1.1 shows the key features of the Brazilian health system.

Box 1.1. Key features of the Brazilian health system

The Brazilian health system is mostly public in terms of governance, funding and provision through SUS. Private initiative in the provision of health care complements the public system. All residents are entitled to services provided by SUS and this is the main source of health care for 78% of the population without private health insurance. SUS is financed through general taxation, and services are free at the point of care. The **Ministry of Health** is responsible for central management of the system, with a mandate to design, monitor and evaluate health policies and services linked to SUS, and national co-ordination. Its mandate includes food and nutrition policies; health surveillance systems; networks of public health laboratories and services of high complexity; and national strategic planning.

The SUS is decentralised, with a shared governance structure within the federal, states and municipal governments. **State Health Secretaries** in 26 states are responsible for regional governance, co-ordination of strategic programs (such as high-cost medicines), and delivery of specialised services. **Municipal Health Secretaries** in 5 570 municipalities handle the management of SUS at the local level, including co-financing, co-ordination of health programs, and delivery of health care services. The Federal District, where the Federal capital is located, has a mix of state of municipal responsibilities.

The main quasi autonomous national level health agencies are the **National Supplementary Health Agency (ANS)** and the **National Health Surveillance Agency (ANVISA)**. The mission of the ANS is the defence of the public interest in private health insurance, regulating sector operators. The mission of ANVISA is to protect and promote the population health by intervening in the risks from the production and use of products and services subject to health surveillance, including pharmaceuticals.

The Federal Constitution mandates community participation in the health system at all levels of government. 'Social control' takes form through **health councils** and **health conferences**, which are composed of 50% community members, 25% providers, and 25% health system managers. The private sector is present at the financing and provision levels of health care. **Private health insurance** is voluntary and in 2020, 22% of Brazilians had this type of coverage. It can be classified as duplicate coverage as it covers medically necessary curative services that are also covered under SUS.

Table 1.1. Key health system indicators in Brazil and OECD, 2019 (or latest year available)

	Brazil	OECD average (lowest; highest)
Health status		
Life expectancy at birth (years)	75.9	81 (75.1; 84.4)
Avoidable mortality (deaths per 100 000 population)	176	199 (97; 405)
Infant mortality (deaths per 1 000 live births)	12.4	4.2 (1.1; 17.3)
Risk factors for health		
Smoking (daily smokers, percentage population aged 15+)	9.8%	16.5% (4.2%; 28.0%)
Alcohol (litres consumed per capita, population aged 15+)	6.1	8.7 (1.3; 12.9)
Overweight prevalence (age-standardised, percentage population aged 15+)	56.5%	58.4% (27.2%; 67.9%)
Health system capacity		
Hospital beds (per 1 000 pop)	2.2	4.4 (1.0; 12.8)
Doctors (per 1 000 population)	2.3	3.5
Nurses (per 1 000 population)	8	9.1
Health system financing		
Health spending per capita (USD in PPPs)	1.5K	4.1K (1.1K; 10.9K)
Health spending as a share of GDP (%)	9.6%	8.8% (4.3%; 16.8%)
Health spending as a share of total government spending (%)	10.5%	15.4% (9.5%; 24.1%)
Health spending, government schemes and compulsory health insurance (% of total health spending)	40.9%	74.0% (49.3%; 85.8%)

Persistent health inequalities, combined with the new epidemiologic profile and a post-COVID-19 recovery period, suggest that continued adjustments and reforms are needed in Brazil's health system. Existing SUS arrangements and the range of health care providers are not as developed as they should be, both to keep Brazilians healthy and to deliver a high-quality, equitable and sustainable health care system. A number of key challenges remain:

- Inefficiencies persist, with some evidence pointing to inefficient use of resources in the PHC sector. The registration system with a primary care doctor (or a family health team [FHT]) is not well established, and too many patients bypass PHC to seek care directly in outpatient specialty clinics and hospitals. Co-ordination between primary and secondary care also features some shortcomings, with patchy distribution of integrated care models across the country. Given the challenges brought by the demographic and epidemiological changes, this is untenable.
- The hospital sector in Brazil is characterised by a low occupancy rate of hospital beds (particularly in small municipalities) and low-value care, with a potentially adverse impact on care quality and patient safety. Better governance models, transparency and accountability mechanisms are urgently needed to improve performance in inpatient care delivery.
- Despite the diverse distribution channels and the comprehensive list of essential medicines under SUS, Brazilians still struggle to access medications. Around one in six people who received a prescription for medication during a recent medical consultation is unable to obtain all the prescribed items (OECD, 2019^[21]). Fragmented public pharmaceutical procurement and financing, with responsibilities shared across all three levels of government, partly contributes to this problem; so does the underutilisation of generic drugs.
- The administration and governance of Brazil's health system is complex and costly, requiring good stewardship and oversight. In 2019, over 6% of current health expenditure went towards governance and health system administration; this is a higher percentage than in nearly all countries of the OECD region, and more than twice the OECD average. While expenditure for governance and health system administration is not bad in itself, Brazil needs to evaluate carefully the costs and benefits of its current governance model.
- The collection, linkage and analysis of health data is insufficient in Brazil. Improving the health information system would lead to significant gains and insight for service delivery planning in SUS. This would allow developing a more digitalised health system, and reaching a better understanding of the cost and effectiveness of medical treatments and health care services. This, in turn, would lead to a reduction in both wasteful spending and gaps in intra- and inter-regional health care quality.
- Several worrying indicators point to an urgent need for better prevention and an improved public health strategy, notably to address the increase in overweight and harmful alcohol consumption in recent years. These risk factors will increasingly damage health, leading to premature mortality and decreased life expectancy. They also have impacts on health expenditure and the broader economy (in terms of GDP reduction). Implementing public interventions to reduce the risk of overweight and harmful alcohol consumption can be great value to improve population health.

The rest of this chapter summarises the report's in-depth assessment of Brazil's health system and formulates key recommendations to improve its performance. It considers four topics in detail: 1) improving the efficiency and sustainability of health spending; 2) strengthening the health data infrastructure and information system; 3) addressing overweight; and 4) reducing harmful alcohol consumption.

Policy recommendations to strengthen the performance of Brazil's health system

Improving the efficiency and sustainability of the Brazilian health system

- Increase public funding for SUS by revisiting ineffective public programmes or tax exemptions. For example, tax subsidies for out-of-pocket spending and health insurance premiums could be substantially reduced or phased out and resulting savings for the public purse invested into SUS.
- Strengthen PHC by enhancing the gatekeeping system and further supporting the rollout of FHTs; improve the co-ordination of service delivery across different levels of care, with primary care at the centre.
- Explore options to repurpose small hospitals that are not operating efficiently into intermediate care facilities; improve telehealth applications and emergency transportation for patients requiring urgent acute care in remote areas.
- Improve access to essential medication by changing procurement processes (only 10% of total spending for retail pharmaceuticals are publically funded); rein in pharmaceutical spending by revisiting pricing policies and allow substitution also for branded generics (*'similares'*) with proven bioequivalence, and reducing the high costs for medications that are not cost-effective and accessed through court rulings by supporting judges to make informed decisions.
- Begin the transition towards more formal long-term care delivery by expanding day care facilities and rolling out home care; introduce entitlement to long-term care benefits based on needs assessment.
- Improve SUS management efficiency by reviewing management and planning processes across all levels of governments, with a stronger focus on regionalised planning.

Strengthening the health data infrastructure and information system in Brazil

- Consider a greater integration and co-ordination of different levels of government; intensify efforts to uniquely identify patients in order to strengthen data governance and accountability.
- Expand staff training to ensure more reliable data collection; continue to provide monetary incentives to encourage data collection by more municipalities, especially those located in remote areas.
- Ensure access to the Internet, as well as essential infrastructure (such as computers and EHR platforms) for data collection and transmission; strengthen the capacities of programming and IT staff to improve data-collection procedures and the reliability of indicators.
- Accelerate the harmonisation of health-data standards and methodologies to move towards more data comparability and coverage; consider expanding and enforcing data standardisation in Brazil.
- Support evidence-based decision-making and impactful health research in Brazil with real-time, linked health data, which also include remote locations, indigenous communities and localities with limited access to ICT in health-related data-collection processes.
- Adopt OECD standards for national and international benchmarking capacity; participate in OECD data-collection processes, for example covering health care quality and outcomes, health statistics, economics of public health, pharmaceutical and medical devices, and the Patient-Reported Health Surveys (PaRIS).

Tackling overweight and obesity

- Combine interventions in “prevention packages”, as well as evaluation and monitoring for higher benefits covering: communication-based approaches through information and education; the development of a more active role of primary health care in prevention and treatment of overweight; policy packages including food reformulation, workplace and school-based interventions; and advertising regulations and pricing food policies.
- Expand communication-based approaches through information and education, notably by introducing the labelling scheme to restaurant menus; use multichannel mass media campaigns and mobile phone applications to promote more active and healthier lifestyles.
- Organise and promote the prescription of physical activity in primary care settings by developing guidelines (such as the Physical Activity Guide for the Brazilian Population) for both health professionals and patients.
- Pursue food reformulation more actively through voluntary or mandatory policies, notably targeting a reduction of trans-fatty acids; set clear objectives and accountability mechanisms to monitor and encourage improvement.
- Develop healthy workplace policies to influence healthier lifestyles. Promote collaboration between the health and labour sectors, as well as co-ordination with the private sector for healthier workplaces.
- Implement stricter regulations governing food and beverage advertisement, with a focus on protecting children; in particular, move towards mandatory regulation of advertising for unhealthy foods and drinks to increase the impact on diet and obesity. Further encourage physical activity and choice of healthy menus in schools.
- Implement targeted pricing policies, such as taxes on sugar-sweetened beverages or other products high in sugar, saturated fats or salt. In this case, careful policy design and implementation will be required to avoid substitution with other calorie-dense foods or beverages and ensure that targeted pricing policies benefit the poorest population.

Reducing alcohol consumption

- Combine interventions in “prevention packages” including regulation of advertising, sobriety checkpoints, alcohol taxation and alcohol counselling in primary care and schools, as well as evaluation and monitoring of policies.
- Avoid the normalisation of alcohol consumption by restricting alcohol advertising, particularly on TV and social media, prioritising the impact on children and adolescents; consider regulating sports sponsorships by alcohol companies.
- Expand drink-driving policies consistently across states by implementing more visible and frequent sobriety checkpoints to better enforce the Lei Seca.
- Review existing pricing policies, for example introduce minimum alcohol pricing policies targeting cheap alcoholic beverages.
- Make screening and brief interventions in family health teams available to all Brazilians; develop clinical guidelines and set standards of care to help teams provide these interventions.
- Expand school-based education programmes by developing national guidelines on alcohol-related harms for school children and adolescents.

1.1. Brazil's health system has continuously progressed towards universal health coverage

1.1.1. The health system in Brazil is decentralised, with complex administration and governance

The current principles and structure of Brazil's health care system were conceived in 1988 following the approval of the new Brazilian Constitution. The constitution established health as a universal right for the whole population and a state responsibility, paving the way for the implementation of SUS in 1990. SUS was put in practice after the enactment of Laws numbers 8 080 and 8 142 in 1990, which enshrined the principles of universality, integrality, decentralisation and community participation within the health system. The laws also moved power and responsibility to local governments, by transferring duties and health care provision funds from the federal government to state and municipal governments. Three principles underpin SUS:

- the universal right to comprehensive health care at all levels of complexity (primary, secondary and tertiary)
- decentralisation, with responsibilities given to the three levels of government (federal, state and municipal)
- social participation in formulating and monitoring the implementation of health policies through federal, state and municipal health councils.

While the Brazilian health care system is predominantly public in terms of governance, funding and provision through SUS, the constitution also allowed the unfettered participation of private initiative as a complementary measure in the provision of health care.

SUS has a shared governance structure, foreseen in the Constitution of the Federative Republic of Brazil from the perspective of the shared competence of the three levels of the republic: the federal district, the states and the municipalities. The Ministry of Health is responsible for central management of the system, with the mandate to formulate, define, audit, control and evaluate the set of health policies and services linked to SUS, along with co-ordinating its national actions. The activities are preferably executed in a decentralised manner, with the municipal component acting as the main provider of health care services. State government duties include regional governance, co-ordination of strategic programmes and delivery of specialised services that have not been decentralised to municipalities. Health departments in the 5 570 municipalities largely handle the management of SUS at the local level, including co-financing, co-ordinating health programmes and delivering health care services.

Several spheres of governance ensure the autonomy of each federative entity. They also ensure both vertical co-ordination of actions, as seen by the tripartite inter-management committee (Comissão Intergestores Tripartites [CIT]) and the bipartite inter-management committee (Comissão Intergestores Bipartite [CIB] on a state level and horizontal co-ordination between states (e.g. through the National Council of State Health Secretaries [CONASS]) and municipalities (e.g. through the National Council of the Municipal Health Secretaries [CONASEMS]). In addition, the Health Pact of 2006 introduced new entities – the “health macroregions” (*Macrorregiões de saúde*) and the “health regions” (*Regiões de saúde*), comprising various neighbouring municipalities supported by the states – charged with institutionalising service delivery planning on a more regional level. A plethora huge number of standing bodies also safeguard the participation of civil society at all three levels of government, such as through health conferences and health councils. A highly developed private sector – both from a payer and provider perspective – adds to the complexity of governance, but also to the delivery of health services.

Both the public and private sectors deliver health services. In the hospital sector, the share of public hospital beds is much lower than among OECD countries. In 2019, 38.2% of hospital beds were public,

38.1% were private non-profit, and 23.6% were private for-profit, while in the OECD, public beds made up the largest portion (69%), and only 12% of beds were private for-profit. Public hospital beds did, however, increase by 47.2% in Brazil between 2009 and 2019, while private for-profit beds decreased by 21.6%, and private non-profit beds remained stable. In primary care, services are predominantly provided by publicly employed staff working in multidisciplinary primary care teams (the FHTs).

Brazil has fewer doctors and nurses per capita than the OECD average, and their geographic distribution is a concern. In 2019, physician density in Brazil was 2.3 per 1 000 inhabitants, lower than in all OECD countries (except Colombia) and well below the OECD average of 3.5 per 1 000 inhabitants. Brazil's nursing workforce has increased over the past decades, reaching 8 nurses per 1 000 people in 2019. Generally speaking, two of the main persisting workforce problems in the Brazilian health system are the shortage of doctors and the misdistribution of professionals between levels of health care and geographical areas (OECD, 2021^[4]). Brazil has introduced a comprehensive package of policies designed to strengthen the provision of health care services in underserved communities. The successful More Doctors Programme, established in 2013, has allowed recruiting over 16 000 physicians, both from within Brazil and abroad, to work exclusively in PHC. More recent strategies, such as the *Programa Médicos pelo Brasil* (More Doctors for Brazil Programme) initiated in 2020 by the federal government, are expected to step up the provision of medical services in remote or vulnerable locations.

1.1.2. The population benefits from universal health coverage, but out-of-pocket expenditure remains high

Brazil has steadily progressed towards universal health coverage and has introduced major reforms to improve access to care for the whole population.

The key principles of SUS, as laid out in Articles 196 to 198 of the Constitution of the Federative Republic of Brazil, are universality, integrality, equity, decentralisation and social participation. Based on these principles, everyone in Brazil is entitled to comprehensive health services, provided under SUS, regardless of their socio-economic circumstances or ability to pay. Universal health care coverage was a key milestone in the history of Brazil and is considered a success story in extending health care coverage to disadvantaged population groups that did not previously have access to health care services. This was partly achieved by focusing on the reorganisation and strengthening of primary care, which made it easier to obtain health services at the community level. The Family Health Strategy, one of the largest community-based PHC programmes in the world, has successfully increased population coverage. Since its launch in 1994, the Brazilian population has enjoyed free access to preventive and PHC services delivered by multidisciplinary FHTs.

With expanding coverage, households' out-of-pocket health expenditures have fallen over the past two decades. Today, out-of-pocket expenditures in Brazil account for 25% of total national health expenditure, positioning the country above the 20% OECD average, and below medium-income countries such as Chile (33%) or Mexico (42%). At the same time, restricted access to specialist services, long waiting times and discontent with health care services have spurred middle- and high-income households to seek private care. Private health insurance is voluntary and can be classified as duplicate coverage, since it covers medically necessary curative services that are also covered under SUS. In 2020, 22% of Brazilians were covered by private health insurance.

Overall, Brazil has high – and growing – spending on health. Total health expenditure amounted to 9.6% of GDP in 2019, corresponding to USD PPP 1 514 per capita (United States dollars at purchasing price parity), higher than the average across OECD countries (8.8%), and above other Latin American countries such as Chile (9.3%), Colombia (7.7%), Costa Rica (7.3%) and Mexico (5.4%). While overall spending on health is high in Brazil, its public share is low. In 2019, only 41% of all health spending was financed publicly (mainly through SUS), 30% by private health insurance and 25% by out-of-pocket payments.

1.1.3. Despite progress, Brazil faces challenging health care needs and substantial inequalities

Many measures of health system performance in Brazil have improved since the creation of SUS following the 1988 Federal Constitution. Life expectancy at birth in Brazil increased from 70.2 years in 2000 to 75.9 years in 2019, still five years below the OECD average. Infant mortality rates decreased from 30.3 deaths per 1 000 live births in 2000 to 12.4 deaths per 1 000 live births in 2019. Nevertheless, the infant mortality rate in Brazil is still above the OECD average of 4.2 deaths per 1 000 live births. The same is true for maternal mortality rates in Brazil, which decreased to 60 women per 100 000 live births in 2017 (a drop of 13 percentage points since 2000), still higher than the OECD average of 8 women per 100 000 live births (OECD/The World Bank, 2020^[5]).

Similarly to many Latin American countries, Brazil has experienced a rapid epidemiological transition towards a predominance of chronic non-communicable diseases (NCDs). In 2019, four NCDs were the main causes of mortality in Brazil: circulatory system diseases (27%), neoplasms (17%), chronic respiratory diseases (12%), and diabetes (5%). In terms of Brazil's national burden of diseases as measured by disability-adjusted life years (DALYs), the epidemiological transition has also been substantial. In 1990, three of the leading five causes of DALYs were communicable and maternal and child health diseases. By 2019, all five were NCDs, with maternal and neonatal disorders moving to eighth place.

Risk factors for health, such as overweight and alcohol consumption, have been rising over the past decades in Brazil, contributing to the burden of NCDs and a large number of premature deaths. More effective preventive and public health strategies, and appropriate medical interventions, are necessary to keep Brazilians healthy and manage the burden of NCDs.

As in many OECD countries, Brazil's progress in population health features substantial inequalities. Evidence shows large health disparities across education levels, with a difference of more than 30 percentage points in the likelihood of reporting a good health status between the most educated (possessing at least 11 years of schooling) and the least educated (with up to three years of schooling). More worryingly, the gap between these two groups has increased over time. There are also large health inequalities across regions. For example, premature mortality rates from NCDs have decreased in the South, Southeast and Central-West regions, but have remained constant in the North and increased in the Northeast, the least developed regions.

Brazil has pushed different policies to reduce health inequalities, particularly among disadvantaged groups. Such policies include adding information on colour and race to SUS National Health Cards; paying particular attention to sickle cell anaemia, which disproportionately affects black people; exempting homeless persons from needing to show proof of residence to qualify for SUS care; and creating a Special Secretariat for Indigenous Health.

Persistent health inequalities and the new epidemiologic profile suggest that Brazil will need to make new arrangements to deal with its ageing elderly population and the growing burden of NCDs in an effective, equitable and sustainable manner.

1.1.4. The COVID-19 pandemic has had a dramatic impact on the Brazilian population

The impact of COVID-19 on population health and the economy has been considerable in Brazil. As of 17 November 2021, registered deaths totalled over 611 000, with approximately 41 000 average monthly registered deaths in 2021. This situates COVID-19 as the first cause of death during the pandemic when compared to the average monthly figures for 2015-19 of deaths attributed to other conditions. Brazil's economy was also hard hit: GDP dropped by 4.1% in 2020, more than the 3.4% observed globally and the 3.2% in G20 countries.

Co-ordination between the federal, state and municipal levels in handling the pandemic has been challenging, revealing governance weaknesses. In many OECD countries, national governments have steered stay-at-home and mask-wearing policies. In Brazil, states and municipalities were left to decide and enforce such policies. Uncoordinated policy measures and the extensive spread of the virus have worsened the health situation. The federal government has taken some good steps to roll out the COVID-19 vaccine from January 2021, in association with state and municipal government. For example, the National COVID-19 Vaccine Operationalisation Plan provides national guidelines regarding the epidemiological situation and defines the target population for vaccination; it also provides important information on the COVID-19 vaccines, pharmacovigilance and the operationalisation of vaccination (Ministério da Saúde, 2021^[6]). Brazil also participates in the United Nations COVAX Facility, an important mechanism to improve the country's supply of vaccines and ensure a more equitable global distribution of vaccines. As of 17 November, 60% of Brazilian population was fully vaccinated, approximately 298 million doses were applied, and vaccine hesitancy has been low in Brazil. A survey conducted in April 2021 found that 93% of respondents would get a vaccine if it were available to them (Ipsos, 2021^[7]), and a subsequent survey conducted in August 2021 found that 96% of those fully vaccinated would get a booster shot if it was available (Ipsos, 2021^[8]).

1.2. Improving the efficiency and sustainability of the Brazilian health system

1.2.1. Although overall health spending in Brazil is above the OECD average, the share of public spending is very low

SUS has been a major success for Brazil in terms of increasing access to health care services and reducing health inequalities. However, finding sufficient financing has been a constant challenge since its inception, and dissatisfaction with apparent inefficiencies in the Brazilian health system is widespread.

In 2019, Brazil allocated 9.6% of its GDP to health care, up from 8.3% in 2000. Given Brazil's state of economic development, the total share is relatively high – and above the OECD average (8.8%). Yet while Brazil spends more on health care overall than many peer countries, it relies heavily on financing from private sources. In 2019, public health spending represented only 3.9% of its GDP (41% of all health spending), a much lower share than in most OECD countries (6.6% on average), and also below Chile and Colombia. The Federal Government, states and municipalities share responsibilities for the financing and management of SUS, and frequent changes to the financing rules have been the norm since its inception. Over the last decades, these changes have led to a greater involvement of the states and municipalities in financing SUS.

1.2.2. Brazil should increase public spending on health, but also needs to spend better to meet future health financing needs

Because of population ageing and the associated increase in the number of patients with chronic conditions, the Brazilian health financing system will face increasing pressures to meet future health care needs. Without taking into account any structural breaks stemming from the COVID-19 pandemic, the OECD health spending projection model suggests that health spending in Brazil will increase from 9.6% in 2019 to 12.6% of GDP by 2040 in a base-line scenario with similar policies in place; this 3.1 percentage point increase is more pronounced than in most OECD countries.

The escalating health financing needs in Brazil can theoretically be addressed through four options, or a combination of them. The first three of these are: (i) increase total government spending without changing priority spending areas; (ii) better prioritise health spending within the existing total public spending envelope; and (iii) find efficiency gains in the health sector. On the other hand, a fourth option would be relying more on the private sector to meet future health spending needs, which does not seem desirable

for Brazil given both equity and efficiency implications. The share of private spending in total health spending is already higher than in any OECD country due to a strong private health insurance market, which grants duplicate coverage to around one-quarter of the population (mainly with higher incomes) also benefiting from tax deductions for insurance coverage. As mentioned earlier, the share of out-of-pocket spending in total health spending (25%) is also above the OECD average (20%), affecting poor and disadvantaged population groups more disproportionately. Furthermore, private expenditure is not necessarily efficient, as it can be used to overutilisation of costly procedures and exams. For example, in 2019 the number of magnetic resonance imaging exams (MRI) per privately insured person in Brazil (179 per 1 000) (Agência Nacional de Saúde Suplementar, 2021^[9]) was 2.3 times higher than that average MRI per population in the OECD (79 per 1 000) and considerably above the rate of Austria (148 per 1 000), which was the highest in the OECD in that year. An in-depth analysis of the Brazilian health system emphasises that a mix of approaches can help meet future health financing needs and make health spending more sustainable. The bottom line is that Brazil needs to rebalance its public-private financing split by devoting more of its public resources to health but it also needs to spend better.

1.2.3. Brazil has limited fiscal space to step up total government spending

Against the background of the challenging economic and fiscal situation of recent years, the federal government has taken several initiatives to improve fiscal outcomes while stabilising and reducing public-sector debt. A key element of this strategy was the adoption of an expenditure ceiling in 2016 through a Constitutional Amendment, limiting the growth of primary federal government expenditure to inflation. For health spending, the amendment set the minimum allocation of federal funding to health at 15% of federal current net revenue, pegging future annual increases of this minimum floor to inflation until 2036.

Given the current fiscal situation in Brazil and the need to pursue the path of adjustments to ensure overall fiscal sustainability, a substantial increase in overall government spending seems less likely in the short and medium term. Moreover, the level of public spending in Brazil (41% of GDP in 2019) is already around the OECD average and much higher than in countries with a comparable level of development (OECD, 2020^[10]).

1.2.4. There is scope for better prioritising health spending within government spending

A more viable option than increasing total government health spending to meet future needs is making health spending a higher priority within an existing public spending envelope (health accounts for only 10.5% of total government spending – much less than on average across the OECD). There exist various areas where potential savings could be generated and reallocated to funding SUS, including reducing ineffective subsidies and tax expenditure, improving the effectiveness of social transfers, managing high payroll expenses and revisiting the preferential tax treatment of particular actors in the health system (OECD, 2020^[10]).

Preferential tax treatments that are subject to revision include for example the tax deductibility of private health insurance premiums and direct out-of-pocket expenses for health care, as well as tax exemptions for some health care providers. Personal income-tax exemptions depend on the individual tax rate and are therefore highly regressive, benefiting the rich much more than the poor and raising questions about their appropriateness. Phasing out the tax deductibility of health expenses and insurance premiums for individuals from personal income taxation alone would provide fiscal space amounting to around 0.2% of GDP (Receita Federal, 2018^[11]).

1.2.5. Ample opportunities exist to cut waste and make the Brazilian health system more efficient and accessible

Generating efficiency gains and cutting waste within the health sector will be key for Brazil to soften the emerging spending pressures. The analysis shows that achieving efficiency gains across the entire health system, including PHC, secondary and hospital care, pharmaceuticals, long-term care, and administration and governance, seems feasible in Brazil.

Despite its achievements, PHC performance should be further strengthened

Since its inception, a clear focus of SUS has been strengthening the role of PHC and moving away from a health system that has historically been very hospital-centred. The development of FHTs and implementation of the Mais Médicos programme have yielded some success in improving equality of access to care and health outcomes. The recently initiated “Previne Brasil” strategy also attempts to increase access while improving efficiency.

However, further efforts are needed to realise the full potential of PHC in Brazil. For example, geographic imbalances in the availability of doctors lead to higher unmet needs in disadvantaged and rural areas. This requires coherent nationwide workforce planning, which has been largely missing to date. Moreover, despite ongoing attempts to roll out FHTs, PHC is still fragmented, with persistent problems in co-ordinating care across service levels. For example, only half of the diabetic population identified basic health units as their last contact with the health system, with the rest using other facilities such as hospital units (IBGE, 2020_[12]). This is inefficient, as these types of chronic conditions are best treated in primary care settings (OECD, 2020_[13]). While the Family Health Strategy should be promoted, increased financial support may be needed, particularly in disadvantaged rural areas. Further development of PHC in Brazil could also require giving general practitioners (GPs) a stronger “gatekeeping” role. This would entail patients having to register with a primary care physician or practice, and GPs controlling access to secondary care through a referral system. A related issue is the need to better co-ordinate care across health systems, also addressing the long waiting times for visits to specialists or diagnostics. While there are attempts to establish health care networks in Brazil, the centrality of primary care in these networks is not always clearly established.

Service delivery planning in hospitals should be rethought

Widespread inefficiency in the provision of hospital services in Brazil, mainly owing to the high number of small hospitals, has been thoroughly documented (World Bank, 2017_[14]; Tribunal de Contas da União, 2020_[15]). These inefficiencies should be addressed, without compromising access to acute care for patients in remote areas. One option could be to convert small hospitals into more intermediate facilities while strengthening telehealth applications and expanding emergency transportation to better-equipped general hospitals in urban areas. The central role played by municipalities (which vary substantially in size and capacity) in the planning and management of SUS services appears to contribute to these inefficiencies. Following the example of many OECD countries, Brazil could explore moving hospital planning to a higher level of government.

The current mechanism to finance hospital services within SUS is complex and does not appear to incentivise improving hospital performance. Transfers from the federal government to states and municipalities are partly based on historic budgets and payments by procedure through an outdated fee schedule. As a result, price signals are distorted, and payments do not necessarily reflect treatment costs. To improve technical efficiency, Brazil could consider allocating hospital budgets according to diagnosis-related groups, wherein payments per case reflect the differences in resource use.

Moreover, Brazil should do more to disincentivise the provision of low-value care, such as surgical deliveries (caesarean sections) without medical indication. This could involve extending financial incentives

to providers to curb surgical births, as well as intensifying efforts to raise awareness of this issue among women. More generally, encouraging patient-provider conversations about the appropriateness of certain treatments can be one way to reduce low-value care. Finally, establishing evidence-based clinical practice guidelines, and monitoring their compliance, is an important tool to improve health care quality and reduce unnecessary care.

Obtaining pharmaceuticals can be a challenge which contributes to a high share of out-of-pocket costs

Although coverage of essential medicines under SUS is theoretically very broad, obtaining them when needed can be an issue for many people. This can trigger high out-of-pocket costs if patients have to purchase necessary medications outside the public system (only 10% of overall retail pharmaceutical spending is financed by SUS). Fragmented public pharmaceutical procurement and financing, with joint responsibilities across all three levels of government, may contribute to this problem. For example, pharmaceuticals used in primary care are procured by municipalities. Procurement for these medications could be delegated upward to states or the federation. Alternatively, Brazil could develop national negotiations or public bidding processes at the federal level, with municipalities directly purchasing medicines from nationally contracted manufacturers at the nationally agreed price.

While the share of generics is comparably high in Brazil, more could be done to rein in pharmaceutical spending. One option could be instituting more frequent price revisions for branded and unbranded generics, and increasing the scope of substitution to include similars with proven bioequivalence. Expanding campaigns to educate prescribers and patients on the interchangeability of generics (including similars) is another option.

Finally, cases where patients obtain access through individual court rulings to medications that are not deemed cost-effective are a huge drain on pharmaceutical budgets. Supporting judges in making informed decisions may help curb these costs.

Future long-term care needs should be anticipated

To prepare itself better for rising long-term needs associated with an ageing society, Brazil should start investing in more formal long-term care arrangements. Relying on informal workers will be increasingly difficult and may also hamper economic growth. A first step in the transition towards more formal arrangements could be for Brazil to better support family carers while at the same time expanding day care facilities and rolling out home care. As a starting point, long-term care benefits should be more explicitly defined, with eligibility criteria based on needs assessments, and the responsibilities of both the Ministry of Health and the Ministry of Social Development should be clarified.

The operation of SUS is complex and resource-intensive

An overarching issue is the immense complexity of managing and operating SUS. Competencies and responsibilities are frequently shared across all levels of government, leading to a duplication of tasks and a lack of clarity and accountability. As a result, Brazil allocates a very high share of total health resources (more than double the OECD average) to administration and governance. A critical evaluation of the current management and planning processes of SUS at all levels of government could help identify superfluous administrative procedures, and streamline competences to increase efficiency and accountability. Given the large number of small municipalities with limited management capability, taking a more regionalised approach in planning and managing SUS could also improve efficiency. To achieve this, the scope of the existing “health regions” should be widened by delegating some responsibilities from the municipalities to them. This would also require providing them with the necessary financial means and resources to carry out such tasks.

1.3. Strengthening the health data infrastructure and information system in Brazil

1.3.1. Brazil has launched an ambitious digital health strategy to leverage the potential of digital health data

Across the OECD, the health sector lags behind other sectors in exploiting the potential of data and digital technology that could help save lives and financial resources. Building people-centred, efficient and sustainable health systems is an objective that is attainable through the intelligent use of data and digital technologies, which requires proper policy action and leadership (OECD, 2019^[2])

The Brazilian health data infrastructure and information system recently embarked on an ambitious digital health strategy for 2020-28, based on the National Health Data Network (RNDS). The Ministry of Health has a steering role in the generation of health data and statistics, but other public entities also participate in these processes (Ministério da Saúde, 2020^[16]). Bodies such as the National Supplementary Health Agency (ANS), the National Health Surveillance Agency (ANVISA) and the Brazilian Institute of Geography and Statistics (IBGE), are key players for producing health data and could have an even stronger impact when further data linkages are undertaken (IBGE, 2021^[17]).

1.3.2. Brazil generates a large amount of digital health data but lags behind in data availability, reporting, governance and integration

Based on the results of the 2019-20 OECD Survey of Health Data Development, Use and Governance, Brazil compares favourably to other countries in terms of the development and use of data within key national health datasets. However, the availability and reporting of health data could be improved, as substantial gaps exist between Brazil and OECD members (OECD, 2021^[18]). These gaps exist not only for the OECD Health Statistics main indicators (for which Brazil collected and reported data pertaining only to two out of ten groups of indicators), but also for health care quality outcomes indicators and other health surveys and questionnaires. Brazil is invited to participate in upcoming rounds of OECD health data collection.

Brazil could also improve on the governance of health datasets to approach the average score of OECD member countries. While it has experimented with linking datasets by merging personal records across databases, more efforts are needed to uniquely identify patients and follow their pathways through the health systems. Given the political structure of Brazil as a federal republic, a key component of the efficient functioning of data governance and accountability is integration and co-ordination at the federal, state and municipal levels. Currently, silos separate producers and final users of health data, especially at the state and municipal levels. Improving synergies between these two groups would increase the impact and collection of health data, by better co-ordinating the needs of health data users and the range of data collected by data producers. Brazil could also improve its national coverage of data through regionalisation, to allow comparisons between regions, states or municipalities.

To strengthen data governance and accountability, Brazil could also make it easier to identify patients and facilitate linking their information across the different areas of SUS. In this regard, it is key to continue migrating from probabilistic methods for identifying and linking patient data in VinculaSUS (such as using the patient's name, place and date of birth, or parents' personal information) towards deterministic methods, such as those applied in ConecteSUS, using unique patient identifiers such as the Registry of Physical Persons (*Cadastro de Pessoas Físicas*).

1.3.3. Data-collection procedures and reliability can be improved by providing staff training, as well as the necessary IT equipment and connectivity

The Ministry of Health is promoting the collection and use of health data by training staff and offering monetary incentives to municipalities that submit timely health data. The federal government should continue and enhance such support to ensure the accurate inclusion of data from more Brazilian municipalities – especially those located in remote areas – and the reduction of inequalities.

The federal government should also ensure access to the Internet, as well as provide infrastructure tools (e.g. computers and electronic health records platforms) and training for data collection and transmission. For example, 18% of the Brazilian Primary Care Centres (Unidades Básicas de Saúde [UBS]) reported they did not have access to the Internet in 2019, and 9% reported they had not used a computer during the last year (OECD, 2020^[13]). Strengthening the skills of health programming and IT staff is also key to improve data-collection procedures and the reliability of health indicators. Such measures would allow developing more sophisticated data collection and linkages, as well as expanding the work on population health surveys (particularly by the IBGE).

1.3.4. Expanding and enforcing data standardisation will lead to more data comparability and coverage

Brazil's standardisation of definitions and compilation methodologies, conducted through the Ministry of Health Ordinance 2.073 of 2011, is an important step forward, although it has not been as timely and efficiently as expected. Meetings to discuss the application of this ordinance and accelerate the harmonisation of health data standards and methodologies could be more frequent. Moreover, monetary incentives to ensure compliance could represent a powerful catalyser for improving the standardisation process.

1.3.5. Evidence-based decision making and impactful health research should be supported with linked and inclusive real-time health data

Brazil should promote a health data infrastructure system featuring timelier data and improved data linkages, and including data from the private sector in national datasets. Progress in these three areas would yield more relevant, up-to-date and comprehensive data, which could serve as building blocks for evidence-based policy design. Research centres and universities would also benefit from these innovative and cutting-edge data. Real-time data are a necessary tool for evaluating the continuous impact of health policies, as well as making better-informed and accurate decisions. This is true not only in exceptional scenarios such as pandemics and other health crises, but also in less contingent times.

Brazil should also improve its health data collection processes to cover data from remote locations, indigenous communities and localities with limited access to information and communication technologies (ICT).

1.3.6. Brazil should adopt OECD standards for international benchmarking capacity and national coverage of health data

Brazil is invited to adopt OECD standards for the national and international use of data and statistics. It should attend the different health statistics and expert meetings that discuss best practices, and participate in the various data-collection processes involving OECD member countries and partner economies. This includes participating in related data-collection processes related to health care quality and outcomes, health statistics, economics of public health, and pharmaceutical and medical devices. More active participation would allow Brazil to improve its data collection, availability and comparability, which could in turn be used in multinational studies and analyses by the OECD.

Brazil is also encouraged to adhere to the Recommendation of the OECD Council on Health Data Governance (OECD, 2019_[19]). This recommendation promotes the implementation of a national health data governance framework and sets out 12 high-level principles for the development, content and evaluation of national frameworks in areas such as patient privacy, transparency, monitoring, independent research, and training and skill development (OECD, 2019_[19]).

1.4. Tackling overweight in Brazil

Half of Brazil's population is overweight: in 2016, 56.5% of adults had a body mass index of 25 kilogrammes per square metre (kg/m² or higher), the threshold endorsed by the World Health Organization (WHO) to define overweight. While this prevalence is below the OECD average (58.4%), Brazil showed the fourth-largest increase in overweight between 2006 and 2016 with an increase of 12.5%, behind only Costa Rica, Japan and Korea.

Overweight rates for children in Brazil and in OECD countries tend to be considerably lower than for adults. In 2016, Brazil had a childhood overweight rate of 28%, very close to the OECD average (28.5%). However, childhood overweight rates in Brazil increased by 27% between 2006 and 2016, more than the 15% increase in the OECD region.

Diet and healthy lifestyle are key determinants of overall health and well-being, including overweight. Individuals who follow a diet rich in fruits and vegetables and low in fat, sugars and salt/sodium have a lower risk of developing overweight, one or more cardiovascular diseases and certain types of cancer. As in most OECD countries, the estimated daily consumption of fruit and vegetables in Brazil in 2018 was under the WHO recommendation 400 grammes (g) per person per day according to the Global Dietary Database. Brazilians consumed 85 g of fruit per day, lower than the average in OECD countries (115 g). Similarly, Brazilians consume 93 g of vegetables per person per day, again lower than the OECD average (137 g). Consumption of sugar through sugary foods such as grain-based desserts (cakes, cookies, pies) and sodas is very high in Brazil and much higher than in OECD countries.

At the same time, a large proportion of the Brazilian population does not exercise. In 2016, the prevalence of insufficient physical activity in Brazil was 47%, higher than the OECD average (32.8%). Between 2001 and 2016, the proportion of insufficient physical activity increased by more than 15% in Brazil. This was the largest increase among all the 65 countries with available data, signalling a substantial public health problem in Brazil.

1.4.1. Overweight will reduce life expectancy by an estimated 3.3 years and will result in a 5% reduction of Brazil's GDP over the next 30 years

The annual number of premature deaths caused by overweight in Brazil between 2020 and 2050 will be high. Around 83 deaths per 100 000 people will result every year from overweight. As a result, overall average life expectancy is expected to drop by 3.3 years in Brazil over 2020-50 owing to overweight, compared to a decrease of 2.7 years in OECD countries.

Overweight is one of the leading risk factors contributing to the burden of NCDs, increasing the risk of developing type 2 diabetes, cardiovascular diseases, musculoskeletal disorders, several types of cancer and depression. Consequently, the prevalence of overweight contributes to an increase in health care expenditure. Brazil will need to devote 8.7% of its total health expenditure to NCDs – higher than the OECD average of 8.4% – demonstrating that overweight will have a significant impact on Brazil's health financing system.

Combining the impact of overweight on life expectancy, demographics and labour-force productivity, Brazil's GDP will be 5% lower over the next 30 years than it would have been in the absence of overweight.

This drop is much greater than the expected impact on GDP on average across the OECD region (3.3%), perhaps owing to the relatively large impact of overweight on life expectancy and workforce productivity in Brazil.

Tackling obesity requires combining public health actions into prevention packages. While some policies may be very effective, none of them is sufficient in isolation. Combining interventions in prevention packages is even more effective and cost-effective, notably because packages of interventions address multiples causes at the same time, target different population groups simultaneously, and because policies within a package interact with one another sustaining positive behavioural changes in a more than additive fashion. Brazil should thus focus on the implementation of the most effective forms of the policy throughout the country, with the proper measures and policy design, including robust monitoring and evaluation systems.

1.4.2. Brazil should expand its communication-based approaches through information and education

Brazil has produced several strategies to address overweight. The National Policy on Food and Nutrition (*Política Nacional de Alimentação e Nutrição*) published in 1999, and the Intersectoral Strategy for Obesity Prevention and Control (*Estratégia Intersectorial de Prevenção e Controle da Obesidade*) implemented in 2014, are important components of the national agenda for overweight control in Brazil. Brazil also has a food labelling scheme featuring both a mandatory back-of-pack nutrition label and a new mandatory front-of-pack label. The new front-of-package label regulation for packaged foods was approved by ANVISA in 2020. Under the new regulation, the nutritional labelling must be placed on the front panel of packaged foods using simple and clear icons to emphasise high contents of saturated fat, added sugar and sodium. This will facilitate understanding of nutritional information, helping consumers to make more informed decisions on their food intake. This is in line with labelling in OECD countries like Chile, Finland, Israel and Mexico.

School-based policies are also well-advanced in Brazil, with mandatory nutritional standards included in several national programmes, such as the Health at School Programme (*Programa Saúde na Escola*, [PSE]) and the National School Meals Programme (*Programa Nacional de Alimentação Escolar*, [PNAE]).

Although all these strategies are valuable and should be maintained, Brazil could also develop more communication-based approaches through education and information. It should, for example, extend the labelling scheme to restaurant menus. The evidence shows that menu labelling can positively influence consumer choices by decreasing calorie consumption, as well as encouraging restaurants to reformulate their menus by offering a lower calorie content. Brazil could learn from the United States, Australia and Canada, where some restaurant chains in certain states or provinces are required to display their menu items' energy content or calorie information.

Beyond menu labelling, Brazil could use other channels, such as mass media campaigns and mobile phone applications, to promote more active and healthier lifestyles. It already broadcasts rare mass media campaigns targeting overweight. Developed by the Alliance for an Adequate and Healthy Diet (*Aliança pela Alimentação Adequada e Saudável*), the campaign called "You have the right to know what you eat" (*"Você tem o direito de saber o que come"*) broadcasts pieces over the radio, television, digital and print media focusing on the relationship between overweight and the consumption of unhealthy foods (AAAS, 2017^[20]). As in many countries, Brazil's population has access to a variety of mobile apps, including the Digital Food Guide (*Guia Alimentar Digital*). Although the available evidence shows that using the app has a positive impact on weight loss and the consumption of a high-quality diet, Brazil will need to develop regulations to promote the use of mobile apps that provide reliable and safe nutritional information.

1.4.3. The PHC system should play a more significant role in preventing and treating overweight

The PHC setting is the best place to provide information and advice on healthy lifestyles, as well as encourage physical activity through behavioural counselling or more formal prescribing (OECD, 2019^[21]). International evidence supports that prescribing physical activity for people at risk of developing chronic diseases results in an additional 56 extra minutes of moderate exercise per week, about one-third of the 150 minutes per week recommended by the WHO. As in at least one-third of OECD countries, PHC settings do prescribe physical activity, but not as a regular practice: only four in ten health units in Brazil reported running a physical activity intervention programme. At the same time, the instructions given to patients are reportedly not specific enough to empower them to exercise. PHC workers should receive greater guidance to support the prescription of physical activity, for example, within the Physical Activity Guide for the Brazilian Population developed by the Ministry of Health (Ministério da Saúde, 2020^[22]). Key international examples also provide a basis for learning, for example from the United Kingdom, Germany and Scandinavian countries, which have introduced counselling programmes for physical activity. In Sweden, a medical worker (who may be any qualified licensed health care practitioner, not necessarily a medical doctor) provides written individualised prescriptions for both everyday physical activities and aerobic fitness, strength and flexibility training to patients at risk of developing NCDs. A formal follow-up procedure is also in place, with the results entered into the patient's medical record.

1.4.4. A more comprehensive package of policies is needed to tackle overweight and its drivers

Brazil's current policies may not be sufficient to tackle overweight and its drivers if the local environments provide only limited opportunities to engage in healthy lifestyles.

Brazil should pursue food reformulation more actively. Food reformulation, where the composition of food products is changed to improve their nutritional profile, can contribute to healthier diets. Since 2007, the Ministry of Health has been working with the Brazilian Association of Food Industries (ABIA), which produces over 70% of all processed foods in the country, to improve their nutritional profile. This included setting targets for reducing salt consumption, with positive results: the average sodium content of over half the existing food categories in Brazil has dropped by a significant 8-34% over the past decade. The Ministry of Health also monitors the targets set by the Pan American Health Organization, publishing reports every two years and releasing the data to the media. Brazil needs to pursue either voluntary or mandatory reformulation policies, notably targeting the reduction of trans-fatty acids, building in clear objectives and accountability processes. Such policies will be beneficial for all stakeholders, including consumers, government and industry.

Brazil should also strengthen the currently timid "healthy workplace" policies to influence healthier lifestyles. Workplace-based interventions include improving diets through changes to the choice of daily menus and snacks in workplace cafeterias; promoting physical activity and reducing sitting time through sit-stand workstations; and implementing workplace wellness programmes. The federal government has also shown a growing interest in developing and promoting preventive strategies for cardiovascular diseases. To expand on such a valuable initiative, Brazil could develop communication strategies and financial incentives for companies and individuals. It could learn from Japan, where central and local governments provide various incentives – usually in the form of awards – to both public and private employers to implement workplace health-promotion programmes. These programmes often focus on addressing risk factors for health such as unhealthy diets, physical inactivity, harmful alcohol consumption, smoking and mental well-being (OECD, 2019^[23]).

At the same time, federal and state governments in Brazil should continue to encourage active travel, including walking, which has been found to increase physical activity and improve both physical and mental health.

1.4.5. Advertising regulations and pricing food policies

Brazil should implement stricter regulations for food and beverage advertising, with a focus on protecting children. The benefits of stricter TV advertising policies on food preferences, purchase requests and consumption patterns has already been demonstrated elsewhere, with a strong impact on children. In Quebec, Australia and Chile, for example, restrictions on commercial food advertising and promotion had a significant effect on dietary intake. In Brazil, the National Council for the Rights of Children and Adolescents (*Conselho Nacional dos Direitos da Criança e do Adolescente [CONANDA]*) recently issued a resolution (Resolução 163, 13 March 2014) establishing criteria for publicity and marketing aimed at children (up to 11 years old) and adolescents (12-18 years), and prohibiting any kind of “abusive publicity”. However, TV restrictions are voluntary in Brazil, unlike in 14 OECD countries that enforce mandatory restrictions. Brazil should move towards mandatory advertising regulations for unhealthy food and drinks to increase their impact on diet and obesity.

At the same time, the Brazilian Government may wish to influence food-related consumer behaviour through targeted pricing policies. Policy actions in this field have focused on increasing the price of products high in sugar, saturated fats or salt, and have also included targeted price reductions for healthier foods sold in shops (OECD, 2019^[23]). A systematic review and meta-analysis concluded that a 10% tax on sugar-sweetened beverages (SSBs) led to a 10% decline in SSB purchases and dietary intake. Taxes on SSBs or other foods are a strategy implemented internationally by 13 OECD countries. Examples include “soda taxes” in France, Chile, Mexico, the United Kingdom, and the City of Berkeley and State of Pennsylvania in the United States, and a tax on ready-to-eat meals in Hungary. Careful policy design and implementation to avoid substitution with other calorie-dense foods or beverages will be necessary if Brazil wants to move in this direction, as well as to ensure that targeted pricing policies benefit the poorest population.

1.5. Reducing alcohol consumption in Brazil

Although alcohol consumption in Brazil stands below OECD averages, there are signs it has increased in recent years among all population groups. These increases are particularly worrying for women and young adults, for instance with regard to heavy episodic drinking. This scenario will increasingly damage health, increasing premature mortality and decreasing life expectancy at slightly lower rates than in OECD countries. It will also have a significant impact on health expenditure and the broader economy in terms of GDP reduction, although this will be of smaller magnitude than OECD average.

1.5.1. Alcohol consumption in Brazil will reduce life expectancy by an estimated 0.8 years and will translate into a 1.4% reduction of Brazil’s GDP over the next 30 years

Levels of alcohol consumption in Brazil are lower than the OECD average. In 2018, Brazilian men drank 11.8 litres of alcohol per year, around 4 litres less than the OECD average, while Brazilian women drank 3.3 litres, just under 2 litres less than the OECD average. However, heavy episodic drinking among Brazilians aged 18 and more has almost tripled in six years, from 5.9% in 2013 to 17.1% in 2019. The increase was larger among women than men.

Alcohol consumption has an impact on Brazil’s population health and economy. Alcohol consumption above 1 drink per day for women and 1.5 drinks per day for men can also lead to people dying prematurely, i.e. between the ages of 30 and 70, according to the WHO definition (WHO, 2018^[24]). Accordingly,

premature mortality in Brazil from alcohol consumption above 1 drink for women and 1.5 drinks a day for men will amount to 20 people per 100 000 population between 2020 and 2050, lower than the OECD average of 24 people per 100 000. This will translate into a drop in Brazilians' overall life expectancy: on average over 2020-50, life expectancy is expected to decrease by 0.8 years owing to alcohol consumption, close to the 0.9 year reduction across OECD countries.

When the impact of alcohol consumption above the cap of 1 or 1.5 drinks per day translates into loss of employment and productivity, Brazil is projected to lose on average USD PPP 47 per capita per year. Moreover, the Brazilian GDP will be 1.4% lower over the next 30 years – just below the 1.6% average across OECD countries – owing to the impact of diseases caused by alcohol consumption over the daily cap for women and men.

1.5.2. Brazil has implemented a range of policies to reduce alcohol consumption

Brazil recognises the issues surrounding alcohol consumption and has stepped up its response accordingly. In 2007, Brazil introduced its first national policy on alcohol, targeting a collective confrontation of problems related to alcohol consumption. The policy adopts an intersectoral and integral approach to reduce harms to health, as well as situations of violence and criminality associated with alcohol use. Brazil has also progressively developed other alcohol policies, including the Emergency Plan for the Expansion of Access to Treatment and Prevention of Alcohol and Other Drugs in 2009, and the National Policy against Drugs in 2019. Brazil also participates in the WHO SAFER initiative, demonstrating its commitment to combatting alcohol consumption and reducing its harmful consequences. However, while Brazil has a national written policy on alcohol, the lack of a related action plan makes its implementation challenging.

Brazil's minimum drinking age has been very important in limiting the risks associated with early onset drinking, such as violence and injury, and the likelihood of developing alcohol dependence in adulthood. Since 2005, the legally mandated minimum age for purchasing alcohol has been 18, the same threshold applied across 28 OECD countries. Anyone who fails to comply with this rule in Brazil is subject to two to four years' imprisonment and a fine ranging from BRL 3 000 (Brazilian real) to BRL 10 000 (USD 545 to USD 1 800).

Remarkably, the introduction of the Lei Seca ("Dry Law") in 2008 instituted a zero tolerance policy for drink driving in Brazil. Any blood alcohol concentration (BAC) detected on a breathalyser test is considered an infraction. It becomes a crime when the BAC reaches 0.6 grammes per litre (g/L) of blood or 0.34 milligrammes per litre (mg/L). The law was amended in 2012 to establish stricter punishments for drivers under the influence of alcohol or other psychoactive substances who commit crimes of culpable homicide (without intent), or bodily injury of a serious or very serious nature. Recent evidence shows that the 2012 amendment had a statistically significant impact in reducing lethal accidents. Recent policy developments have made the Lei Seca tougher. Starting in April 2021, drivers under the influence of alcohol or drugs who cause accidents involving bodily harm will be arrested, meaning that the offender will no longer have the right to substitute prison sentences for lighter sentences such as community service, as was previously the case.

Brazil also regularly conducts mass media campaigns targeting drink driving. The federal government conducts drink-driving mass media campaigns during the Carnival period on an almost yearly basis. In 2019, the "Accident Prevention Campaign – Carnival" aimed to promote zero alcohol consumption before driving to reduce traffic accidents, as well as raise awareness of the grave and wide-ranging consequences of alcohol consumption (Ministério da Infraestrutura, 2019^[25]). Although no impact evaluation of such campaigns has been conducted in Brazil, evidence from Australia, Denmark, Finland, Italy, the

Netherlands, New Zealand, the United Kingdom and the United States shows that mass media campaigns can increase knowledge on the impact of alcohol consumption and boost treatment-seeking behaviour.

1.5.3. Brazil should create a comprehensive policy package and expand current policies to further reduce alcohol consumption

While alcohol is highly valued by many consumers as a source of individual pleasure and social enjoyment, and its production and trade represent an important part of the economy in many countries, harmful alcohol consumption is an important risks to population health, causing many chronic non-communicable diseases which, in turn, have wider detrimental societal consequences. Furthermore, policies to tackle harmful alcohol use require complex choices to be made. Interventions targeting all consumers – such as alcohol taxation or regulation of advertising – are highly effective at the population level but, by affecting all people who drink independently of their level of alcohol consumption, they also involve interpersonal trade-offs in welfare.

As Brazil already has a number of restrictive alcohol policies in place, it may wish to consider policies further focusing on the most harmful effects of alcohol consumption, such as limits on advertising, drink-driving policies, or those with a strong preventive and educational component, such as primary health care-based approaches or school-based programmes. Overall, these policies should have a positive impact on Brazil's economy and population health. Pricing policies in particular can generate the largest reductions in health expenditure and labour-market costs (e.g. employment), while producing the biggest gains for population health (e.g. life expectancy) and the broader economy (e.g. GDP). Combining policies in coherent prevention strategies would have an even greater impact.

Introducing minimum alcohol pricing policies

Although pricing policies are a critical pillar of a strong comprehensive alcohol package, Brazil has not considered any policy related to alcohol minimum pricing, unlike many OECD countries (e.g. Canada, Australia and the United Kingdom) which have implemented minimum unit pricing policies (MUP). MUP sets a mandatory floor price per unit of alcohol or standard drink, targeting cheap alcoholic beverages. To date, empirical research evaluating MUP has found promising results in reducing consumption. In Scotland (United Kingdom), a study found that MUP led to a 7.6% reduction in alcohol purchases, with a greater impact in households that consumed the most alcohol. Other policy tools Brazil could consider include implementing bans on below-cost selling (as in the United Kingdom) and volume discounts (as in Iceland and Sweden), and setting minimum mark-ups and profit margins (as in the United States).

Limits on alcohol marketing and sports sponsorship are warranted

Alcohol marketing is an important factor in alcohol consumption in Brazil. There exists strong evidence of the positive association between exposure to alcohol marketing and the initiation of alcohol consumption, as well as binge and hazardous drinking.

The current regulations on advertising and restrictions on sports sponsorship in Brazil features important limitations. Law No. 9 294 of 1996 limits the advertising of alcoholic beverages with an alcohol content above 13 degrees (°) on the Gay Lussac scale. While the National Council of Advertisement Self-Regulation (CONAR) also instituted new advertising regulations for alcoholic beverages in 2008 that specifically targeted children and adolescents, advertising of alcohol products (except spirits) remains omnipresent in Brazil.

Brazil could join most OECD countries in further restricting traditional media advertising of alcohol. It may wish to introduce a statutory ban on alcohol advertising to children and adolescents. Across the OECD, seven countries enforce a full statutory ban on traditional platforms, including television, radio and print

media. Brazil could also include social media in this ban, as youth spend more time on these new platforms. Turkey, Norway and Lithuania, for example, take this approach.

In tandem, Brazil could also regulate alcohol sports sponsorship. Extensive international evidence confirms the adverse public health impact of sponsorship, which is associated with initiation of drinking for previous non-drinkers and higher levels of consumption among current drinkers, as well as athletes and sports club members. The current regulation does not cover alcohol beverages below 13° on Gay-Lussac scale, leaving out beer, the dominant category in sports sponsorships.

Stronger drink-driving policies

Brazil should expand its drink-driving policies. First, implementation of sobriety checkpoints to enforce the Lei Seca policy is currently patchy across Brazilian states, with breath tests more frequently performed in capitals. Sobriety checkpoints have been found to be cost-effective in reducing road accidents. In Brazil, they should be widely publicised, highly visible and conducted frequently. Brazil should better target sobriety checkpoints through more efficient use of alcohol-related data. For instance, information about traffic accidents, concentration of alcohol outlets and well-known events where alcohol is consumed could guide the planning of sobriety checkpoints.

Second, alcohol ignition interlock programmes, which require drivers to take a breath test to assess their blood alcohol reading in order to start their vehicle, could be a good complement to the Lei Seca policy. Brazil could learn from several OECD countries (Austria, Belgium, Canada, Denmark, Finland, France, Poland, Sweden and certain states in the United States) that penalise first-time drink-drivers with ignition interlocks, or from countries that impose this penalty for repeat offenders (i.e. Belgium, France, New Zealand, Sweden and certain US states). If Brazil wishes to further update the Lei Seca by introducing alcohol ignition interlock programmes, it will need to undertake pilots within states and municipalities featuring higher alcohol-related traffic accident rates in order to better understand the implications in the Brazilian context.

1.5.4. Screening and brief intervention in PHC and school-based education programmes

Screening and brief intervention (SBI) in the context of PHC, which is designed to identify at an early stage individuals with a drinking problem and motivate them address the issue, has been found to be cost-effective in most of EU countries. Brazil has introduced several initiatives to support the development of SBI in PHC. The Pathways of Care programme (*Caminhos do Cuidado*), implemented in 2013 by the federal government, successfully expanded capacity in PHC for treating alcohol and drug use disorders. The programme trained over 290 000 community health workers and nursing assistants in the prevention and management of alcohol and drug use disorders. The development of Psychosocial Care Centres (*Centros de Atenção Psicossocial*) as strategic points of care within the Network for Psychosocial Care (*Rede de Atenção Psicossocial*) has also been a key reform in improving care for people with alcohol and drug disorders through SBI.

However, beyond the context of Psychosocial Care Centres and Network for Psychosocial Care, SBI in PHC is not systematically embedded in family health teams practice, particularly as part of regular health check-ups. This is unlike OECD countries, such as the United Kingdom, where GPs undertake SBI as part of a normal health check. If Brazil wants to take this direction, it needs to develop and implement clinical guidelines more consistently across the country, setting standards of care for SBI. It could also create a registry and monitoring system, which would be very useful in co-ordinating family health teams with Psychosocial Care Centres and Network for Psychosocial Care to integrate services more efficiently, making health care more people-centred.

There is also scope for strengthening the educational strategy of the Health at School Programme (*Programa Saúde na Escola [PSE]*), established in 2007, to further discourage drinking initiation and

drinking behaviours among school-aged children. The PSE does not propose specific guidelines on alcohol-related harms in schools, so that actions and activities related to alcohol use are more limited than in other prevention areas. In addition, the #Tamojunto programme, implemented by the Ministry of Health in 2013 to prevent adolescents' use of alcohol, tobacco and other drugs, has failed to meet – and indeed, countered – its objectives. Indeed, previous evaluations have shown that youngsters involved in the programme were more likely to initiate alcohol use. In this context, it will be crucial to develop national PSE guidelines on alcohol-related harms for school children and adolescents, develop initiatives to support professors and health workers in implementing the guidelines, and create an evaluation system to assess the guidelines' impact. Learning from the experience of the #Tamojunto programme will be paramount, either to scale up a revised form of the programme or develop a new programme for PSE students.

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