

Pharmaceutical Pricing and Reimbursement Policies: lessons learnt and perspectives for Brazil

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Abstract

The special series “Pharmaceutical Pricing and Reimbursement Policies” published throughout 2022, was organised by invitation of the Brazilian Journal of Hospital Pharmacy and Health Services, to characterise medicines pricing and reimbursement in Brazil and other countries and discuss implementation, effects, gaps and opportunities for improvement. The series included an editorial, a perspective on the Pharmaceutical Pricing and Reimbursement Policies (PPRI) network and eight country case studies, namely Austria, Brazil, Greece, Canada, Italy, United Kingdom, Portugal and the United States. In closing the series, an overview is presented, as well as a critical appraisal of how aspects such as innovation, access, health litigation, the importance of international cooperation and networking are producing advances or setbacks for country pharmaceutical regulation, pricing and reimbursement, and in-place health technology assessment. This article also highlights the scenario in Brazil, with recent developments in pharmaceutical policies approaching medicines pricing, incorporation (reimbursement), access, and expenditure, at the same time introducing arguments that show how these same issues may intertwine with planning and budgets, straining sustainability and threatening the concept of comprehensiveness adopted by the Unified Health System. New perspectives for strengthening of pharmaceutical regulation, pricing and reimbursement policies with a life-cycle approach, aiming for improving access to essential medicines, stimulating innovation and ensuring sustainability of the health system are needed. Experiences in the series’ case studies are examples of benchmarking and best practices, opportunities for increasing collaboration and sources of inspiration.

Keywords: Brazil; access to medicines; pricing; reimbursement; health technology assessment; legislation

Políticas de precificação e incorporação de medicamentos: lições aprendidas e perspectivas para o Brasil

Resumo

A série especial “Políticas de precificação e incorporação de medicamentos” publicada ao longo de 2022, foi organizada a convite da Revista Brasileira de Farmácia Hospitalar e Serviços de Saúde, para caracterizar a precificação e incorporação de medicamentos no Brasil e em outros países, e discutir sua implementação, efeitos, lacunas e oportunidades de melhoria. A série incluiu um editorial, um artigo de perspectiva sobre a rede *Pharmaceutical Pricing and Reimbursement Policies* (PPRI) e oito estudos de caso de países, nomeadamente Áustria, Brasil, Grécia, Canadá, Itália, Reino Unido, Portugal e Estados Unidos. Neste artigo de encerramento da série, é apresentada uma visão geral, bem como uma avaliação crítica de como aspectos como inovação, acesso, judicialização da saúde, a importância da cooperação internacional e o trabalho em rede estão produzindo avanços ou retrocessos para a regulação farmacêutica, precificação e incorporação de medicamentos, com avaliação de tecnologia em saúde no país. Este artigo também destaca o cenário no Brasil, com desenvolvimentos recentes nas políticas farmacêuticas, abordando precificação, incorporação, acesso e gastos com medicamentos, ao mesmo tempo em são apresentados argumentos que mostram como essas mesmas questões podem se entrelaçar com planejamento e orçamentos, pressionando a sustentabilidade e ameaçando o conceito de integralidade adotado pelo Sistema Único de Saúde. São necessárias novas perspectivas para fortalecer a regulação farmacêutica, as políticas de precificação e incorporação com uma abordagem de ciclo de vida, visando a melhorar o acesso a medicamentos essenciais, estimular a inovação, e garantir a sustentabilidade do sistema de saúde. As experiências dos estudos de caso da série são exemplos de *benchmarking* e melhores práticas, oportunidades para fortalecer a colaboração e fontes de inspiração.

Palavras-chave: Brasil; acesso a medicamentos; precificação; reembolso; avaliação de tecnologias em saúde; legislação



Pharmaceutical Pricing and Reimbursement Policies: lessons learnt and perspectives

The special series “Pharmaceutical Pricing and Reimbursement Policies” published throughout 2022, was organised by invitation of the Brazilian Journal of Hospital Pharmacy and Health Services (RBFHSS). Its objective was “to characterise the panorama of medicines pricing and reimbursement in Brazil and other countries, to present and discuss its implementation, effects, gaps and opportunities for improvement, from the perspective of experts and different stakeholders”.¹ The editorial, eight country case studies, namely Austria, Brazil, Greece, Canada, Italy, United Kingdom (UK), Portugal and the United States (US) (Table 1) and a perspective article about the Pharmaceutical Pricing and Reimbursement Policies (PPRI) network were published by

country experts, outlining pricing and reimbursement policies in the context of their respective health systems, considering the life cycle of medicines.^{2–10}

As such, this series and, in particular its country case studies, provided a contribution to the field of pharmaceutical systems research, which is a rather young discipline. The UK alignment of life-science strategy with pharmaceutical regulation, pricing and reimbursement, combined with one of the highest proportions of uptaking of generics in the national health system (NHS); the different uses of health technology assessment (HTA), as in Canada, Italy, Portugal and UK, combining HTA and other pricing strategies, such as external reference pricing; the pricing regulation of generics and biosimilars, as in Austria, are some of the successful experiences to be highlighted (Table 1).

Table 1. Highlights of pharmaceutical regulation, pricing and reimbursement policies of selected countries featured in the series of “Pharmaceutical pricing and reimbursement policies”. (Continue)

Country	General	Regulation	Pricing	Reimbursement
Austria(1)	Austria is a Central European, middle-sized, high-income country with universal health coverage and a highly fragmented health care system. Austria is a member of the European Union (EU). The health expenditure per capita was \$ 3,966 PPP (Purchasing Power Parity) corresponding to 10.4% of the Gross Domestic Product (GDP), and the pharmaceutical expenditure \$463 PPP (2019), corresponding to 17% of the health expenditure and 69% of the pharmaceutical expenditure was public expenditure (2018). In 2017, pharmaceutical revenue was 2,712 million euro, with generics (in volume) accounting for 55% of the outpatient market. For outpatient medicines, patients are charged a fixed prescription fee per prescribed item.	As part of the EU, Austria has an harmonised marketing authorisation (MA). The national regulatory authority (NRA) is the Austrian Medicines and Medical Devices Agency (AGES), a sub-division of the Federal Office for Safety in Health Care (BASG), which is responsible for marketing authorisation and the post-marketing surveillance of human and veterinary medicines.	In Austria, prices of out-patient medicines reimbursed by the social health insurance are regulated. External price referencing [26 EU Member States average price] is the major pricing policy, with regular price reviews with subsequent price adjustments. Generic and biosimilar medicines are subjected to a price-link policy to be included in the outpatient positive list. Prices of all medicines are regulated through regressive mark-up, for wholesale and community pharmacies. Inpatient medicines are neither subject to price regulation nor to health technology assessment (HTA).	The inclusion of medicines in the outpatient positive list is based on HTA, followed by price negotiations. Medicines are procured by hospitals, hospital groups and provinces which are the main owner of public hospitals. For medicines with high financial burden for the public payers, the Austrian Social Insurance (for the outpatient sector) and procurers for hospitals tend to conclude managed-entry agreements with confidential discounts. Studies have shown that the current pricing and reimbursement policies keep prices of outpatient medicines low and stable (high-cost medicines tend to range above EU average), whereas the unregulated hospital medicines prices are frequently the highest in the EU.
Brazil(2)	Brazil is an upper-middle-income country with a high human development index (HDI) of 0.765 (2019). The Unified Health System (SUS) is a universal, decentralised system, free at point-of-care, although 27% of Brazilians have voluntary supplementary health insurance. Health expenditure was \$311.5 billion PPP (2019), with pharmaceutical expenditure corresponding to 20.5% of health expenditure and 2% of the GDP. Although, 87.7% of the pharmaceutical expenditure corresponds to out-of-pocket, highlighting the importance of price regulation and a huge access gap to be addressed. The pharmaceutical revenue (2019) was \$37.7 billion PPP, with 13.7% corresponding to generics and 33.7% (nominal value) and 70.7% of the sales corresponding to off-patent (including branded-generics)	The Brazilian Health Regulatory Agency (Anvisa) is the NRA responsible for regulating quality, safety and efficacy of medicines and other products and services related to health. Marketing authorisation and maximum price approval are mandatory requirements for market entry for medicines. Marketing authorisation status, public drug assessment report (PPAM) for marketing authorisation of new drugs, leaflets (<i>bulas</i>) and alerts are among the information publicly available at Anvisa’s website. Priority and expedite reviews are available for medicines for rare diseases or for for treating serious and debilitating conditions, with conditional approval (<i>termo de compromisso</i>) based on less robust evidence.	The Drug Market Regulation chamber (CMED), an interministerial committee, is the Brazilian pricing authority, with its Executive Secretariat (SCMED) at Anvisa. The pricing authorisation of new drugs considers the patent status and added therapeutic benefit, with a combination of HTA and external or internal reference pricing. Drugs with active ingredients in the market mostly follow internal reference pricing. The maximum price of generics must be 65% of the reference’s price. The maximum approved prices and public procurement prices are publicly available. Manufacturers are obliged to inform SCMED twice a year their revenue and sales volumes. SCMED conducts a market monitoring and companies can be fined if sales prices exceed the maximum authorised prices. The pricing regulation is currently under revision.	Brazil has a value-based decision-making process (using HTA) for incorporating medicines and other technologies at the SUS (positive list). The National Committee for Health Technology Incorporation at SUS (Conitec) issues a recommendation for the Ministry of Health (MoH)’s decision. Horizon scanning, participation of patients in decision-making and re-assessment of technologies were recently implemented. As a decentralised system, medicines are procured by the MoH, states and municipalities, according to their level of responsibility based on a positive list. Pricing and reimbursement policies, including a consolidated generics policy, have been important in promoting transparency, predictability, and price stability, in turn contributing to cost-containment and access.



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Country	General	Regulation	Pricing	Reimbursement
Canada(3)	<p>Canada provides universal health coverage for hospital and physician services but not for prescription medicines. Public plans provide 42% of total drug funding, while private drug insurance covers 35% of expenditures and over 60% of Canadians – mainly through their employer. In Canada, total pharmaceutical expenditure is estimated to be \$1,114 (USD PPP 866) per capita (13,9% of health expenditure, with around 27% out-of-pocket), with different levels of coverage among different provinces and health insurance schemes. Specialty drugs (mainly biologics) account for about 30% of the pharmaceutical market, benefiting less than 2% of all patients. Generics accounted for 73% of all retail prescriptions and about 20% of prescriptions’ spending (2020).</p>	<p>The federal department of health (Health Canada) is the NRA that regulates, evaluates and monitors the safety, efficacy and quality of drugs, devices, and diagnostic products and also conducts post-marketing surveillance. There is a priority review for drugs for life-threatening or severely debilitating conditions for which there are few therapeutic alternatives on the market. There is a Special Access Programme, which allows physicians to gain access to drugs not currently available in Canada.</p>	<p>Medicines prices are evaluated, regulated, and controlled by several agencies. The federal Patented Medicine Prices Review Board (PMPRB) ensures prices of new patented drugs are not excessive. The regulation includes a scientific review, assessing the level of therapeutic improvement of a new patented drug and a price review, conducted on an ongoing basis. The PMPRB compares the median prices of new patented drugs to 11 comparators (PMPRB11).² Manufacturers are required to inform PMPRB the prices and sales of their patented drugs at market entry and twice annually thereafter until the patent expires.</p> <p>The pan-Canadian Pharmaceutical Alliance (pCPA) negotiates lower patented, generic and biosimilar drug prices on behalf of member jurisdictions; and the Canadian Agency for Drugs and Technologies in Health (CADTH) provides most public drug plans with robust HTA. Private drug plans have separate price and technology reviews.</p>	<p>In Canada, HTA is widely used to support evidence-based decision-making for reimbursement. There are more than 100 public drug plans which account for about 45% of prescription drug spending – one of the lowest shares among OECD countries. More than 100,000 private health insurance plans supplement public health programs and are primarily provided through employment. They usually provide larger drug formularies, faster access to new drugs and robust consumer support technology. However, private drug insurers tend to follow government initiatives, including the use of HTA, biosimilar switching and confidential Product Listing Agreements.</p>
Greece(4)	<p>Greece has a public universal health system, the National Health System (ESY), with mandatory insurance coverage (IKA) for all working people (either employees or self-employed), with 15% of the population with voluntary private insurance. Greece is a member of the EU. In 2018 public health expenditure corresponded to 60% of the total. In 2008, the pharmaceutical expenditure per capita was approximately 800 euros. Nevertheless, from 2009 to 2015 and due to the crisis, pharmaceutical expenses dropped from 2.6% to 2.1% of the GDP and were due to be reduced to 1%. The market share of off-patent drugs was 67.9% in 2019, with 34.3% corresponding to generic drug (while the EU mean was 61.5% of generic drugs).</p>	<p>National Organization for Medicines (EOF) is the NRA and is responsible for medicines marketing authorisation and also for post-market surveillance of medicines, medical products, of beauty and veterinary drugs.</p>	<p>Medicines prices are considered relatively lower compared with other EU countries. Since 2011, pricing regulation takes place after marketing authorisation, also as a requirement for their market entry. Since 2012, EOF is responsible for pricing authorisation, with the pricing list published by the Ministry of Health. Maximum pricing of new drugs is based on external reference pricing (mean of the three lowest prices for the same drug in the EU), applicable for synthetic, biological and biosimilar medicines). Generics are priced by the same rule or by a 50% price reduction in relation to the period in which the drug was under patent, with a maximum of 65% of the reference product. HTA does not influence the pricing. Price increases are not allowed, unless it is conducted to correct an error. Medicines have different levels of VAT and a dynamic price reduction scheme according to revenue.</p>	<p>Analysis for reimbursement by the social health insurance is allowed with inclusion in a positive list. In 2018, HTA was introduced as part of the criteria for inclusion or removal of products from the Positive List, conducted by a committee at EOF, which issues a recommendation for the MoH’s decision. Its implementation is still in process, with room for improvement. Linking HTA with the clinical guidelines is one of the major challenges. Several measures were implemented to increase transparency and openness in the Greek government, such as the “Clarity Programme”, the mandatory electronic prescription and the Pricing Monitoring Tool. Cost containment include pricing negotiation, joint procurement, a dynamic electronic bidding process, among other measures.</p>

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Country	General	Regulation	Pricing	Reimbursement
Italy(5)	The Italian National Health Service (SSN) is structured at comprehensive levels such as collective prevention and public health, cure and rehabilitation assistance, and pharmaceutical services, with the primary objective of guaranteeing universal access of all Italian citizens, on equal terms, to equitable provision of health services. It is a decentralised system. Italy is an EU member. The pharmaceutical expenditure (€ 348 per capita) corresponded to 19.2% of the health expenditure in Italy, with public PE as 76.5% of total PE. In 2019, the pharmaceutical market corresponded to € 34 million, with generics corresponding to 14.5 % in value (reimbursement segment) and 22.46% in volume (outpatient sector).	The Italian Medicines Agency (AIFA) is responsible for regulating efficacy, safety and quality, pricing and negotiations for reimbursement of medicines. Efficacy, safety, and cost-effectiveness analyses are conducted before the introduction of the medicines in the Italian market. The OsMed (<i>Osservatorio sull'impiego dei Medicinali</i>), part of AIFA, among other activities, is responsible for systematically and continuously monitoring information flows on medicines distribution, prescription, and procurement. It provides transparency and is an important planning tool, since it allows for prompt identification of emerging phenomena, framing prescription behaviours, and verifying the effectiveness of regulatory interventions at regional and national levels.. Post-marketing surveillance and monitoring allow controlling expenses and identifying avoidable costs.	For pricing and reimbursement decisions, AIFA is supported by two advisory committees: Pricing and Reimbursement Committee (CPR) and Scientific Technical Commission (CCTS). Health Technology Assessment (HTA) reports, elaborated by technical experts, are appraised by both advisory committees before the final decision of pricing and reimbursement. As part of the pricing decision, the therapeutic need and therapeutic value are assessed, and the evidence is reviewed based on the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) criteria, classifying the products in innovative, conditional (or potential) innovation, or non-innovative. The external reference pricing is used as supplementary, considering the price of 24 EU countries. Additional information such as sales volumes and availability of the drug to the SSN are also considered. Among the various negotiation criteria defined in specific legislation, biosimilars and generics enter the Italian market with a discount of at least 20% to the reference medicine. Price review occurs in a periodical basis and upon the emergence of new evidence of efficacy and safety arising from pharmacovigilance or upon request of changes in the therapeutic indications and/or dosage.	The medicines are classified in three lists, A (essential medicines, generally for chronic diseases, H (inpatient drugs or for specialised healthcare units) and C (drugs for minor diseases, non-essential, divided into mandatory prescription and non-mandatory prescription). Medicines in the national formulary are from lists A and H, and are reimbursable. Medicines from list C are non-reimbursable. During price negotiations, the medicines are placed under the list Cnn (non-negotiable) and therefore, not reimbursable. In Italy, two components can be considered as special interest, the classification of the added therapeutic benefit, namely innovative, conditional (or potential) innovation, or non-innovative, as well as the periodic price review.
Portugal(6)	Portugal is a European country with a high Human Development Index (HDI) and extensive health system coverage. Portugal is member of the EU. The Portuguese National Health System follows the <i>Beveridge</i> model, based on the right to health regardless of employment, funded by taxes collected from the taxpayers' income and supported by the public system. Approximately 25% of the population has private voluntary health insurance. In 2019, the health expenditure was USD 4,017.36 PPP per capita (9.5% of Portugal's GDP).	The National Authority for Medicines and Health Products, I.P. (Infarmed) is a governmental agency subordinated to the Ministry of Health. It performs the evaluation, regulation and post marketing surveillance for medicines and medical devices. Infarmed manages an electronic platform “Infomed”, with accessible information on medications to health professionals and the general public, including a summary of the medicines' characteristics, package insert, additional risk minimisation measures, and also the public evaluation report for marketing authorisation (MA) granting and an evaluation report for public financing purposes, when applicable.	Portugal regulates drug prices to ensure better access with financial sustainability. The pricing authority is Infarmed. The regulation is done with two main group: generics and non-generics. Maximum prices of non-generics are established using external reference pricing with a list of countries updated annually (in 2022 the reference countries were Spain, France, Italy and Slovenia). Maximum authorised prices for Generics are based on a discount of 50% of the reference price. An annual price review is conducted.	In 2015, the National Health Technology Assessment System (SINATS) was established. Health technology assessment (HTA) is recognised as an essential tool for making informed funding decisions. In Portugal, to be public funded, a drug undergo the following phases: appraisal, pharmacotherapeutic evaluation, pharmaco-economic evaluation, negotiation and decision-making. In line with the challenges faced by other countries in this domain, in the last few years, the methodologies and criteria used in the evaluation of different health technologies have been put to the test. Since 2015 almost all prescription and dispensing were conducted through the Electronic Medical Prescription (EMP) programme, leading to a 99% reduction in frauds and considered as a traceability reference in Europe, part of the digital transformation in Portugal and currently being implemented in other EU countries.

Table 1. Highlights of pharmaceutical regulation, pricing and reimbursement policies of selected countries featured in the series of “Pharmaceutical pricing and reimbursement policies”. (Conclusion)

Country	General	Regulation	Pricing	Reimbursement
United Kingdom(7)	In the United Kingdom of Great Britain and Northern Ireland (UK), the National Health System (NHS) is a universal healthcare system, with health services free at the point of delivery in all four nations. UK left the EU in 2020. Approximately 10.5% of the UK population has voluntary supplementary private health insurance. While the provision of inpatient medicines is free of charge, outpatient medicines provided have a dispensing fee in England. In 2019, the pharmaceutical expenditure (prescription and over the counter medicines, excluding hospital) amounted to \$515 USD PPP per capita. The government was responsible for 59%, while 41% was out-of-pocket (retail). In the UK, core biopharmaceutical sector generated a turnover of \$59.2bn PPP (€40.7bn); 46% of the total life-science sector (2020). Generics correspond to 85% of the market share in terms of volume and 36% of the revenue.	The Medicines and Healthcare Products Regulatory Agency (MHRA) is the NRA IN THE UK and its remit covers all types of health technologies, including medicines, medical devices and blood components for transfusion. Product licensing (registration) has different routes and schemes, according to the intended market and type of products, such as those for unmet needs and technologies considered promising, which aim to accelerate and facilitate commercialization and access by patients in the UK, such as the Early Access to Medicines Scheme (EAMS) and the Innovative Licensing Access Pathway (ILAP), with the possibility for companies to interact in advance with regulatory and health technology assessment (HTA) agencies. MHRA also conducts other activities, such as post-marketing surveillance.	The drug tariff is the official list, containing the prices know as “list price” (without value added tax, VAT), applicable for medicines to be used in the NHS. New active substances within 36 months of the launch of the first indication in the UK, and their license extensions have free listed pricing. Regulation of drug prices includes a voluntary scheme for branded medicines pricing and access (2019) and the statutory scheme established under the Branded Health Service Medicines (Costs) Regulations (2018), between the industry association and the Department of Health and Social Care (DHSC). Medicines and other technologies are subject to price negotiations in the NHS, sometimes with confidential price agreements, guided by NICE and other HTA agencies recommendations.	Routine funding decisions in the NHS are guided by HTA informed by agencies such as the National Institute for Health and Care Excellence (NICE) in England, the Scottish Medicines Consortium (SMC), and the All Wales Medicines Strategy Group (AWMSG). The NHS in England is legally mandated to fund technologies recommended by NICE. The other UK nations have similar arrangements or recognise decisions made in England. The high uptake of generics in the NHS (85%), the use of HTA for supporting decision-making, price negotiations, among other strategies, contribute towards cost-containment.
United States(8)	The United States (US) has largest pharmaceutical market in the world with a revenue of over USD 500 billion per year (40% of the global expenditure on pharmaceuticals and almost half of the global pharmaceutical pipeline, with 85,7% of the new drugs launched first in the US in 2021). Generics correspond to about 90% of the prescriptions and less than 20% of the spending. The price reductions generated by generics is estimated to be from 50% (when two generics are present in the market) up to 90% when there are 15 or more competitors. Branded specialty drugs (usually high-priced) account for 53% US spending. The country has the highest health and pharmaceutical expenditure per capita (USD\$1,376 PPP, 12% of the total health expenditure in 2019), with high drug prices accounted as one of their main driving factors (with a 10% out-of-pocket expenditure). Health coverage is strongly dependent on employment based private insurance, with government programs like Medicare and Medicaid providing coverage to older and poorer populations, respectively. The US pays on average 3 to 4 times higher prices for branded prescription drugs than other industrialised countries.	Department of Health and Human Services (HHS) plays an important role in regulating pharmaceuticals, with the Food and Drug Administration (FDA) as the NRA, overseeing drug development, pharmaceutical marketing authorisation, and post marketing surveillance. The conventional route for marketing authorisation of synthetic or ‘small molecules’ is through New Drug Application pathway (NDA) and as Biologics License Application pathway (BLA) if they are biologic products. There are several expedited review programs for drugs that treat serious conditions, breakthrough therapies, accelerated approval for drugs that fill an unmet need in the treatment of a serious condition, which accept less robust supporting evidence. The National Institute of Health (NIH) is the main catalyst for drug discovery and early drug development, and the Drug Enforcement Administration within the Department of Justice has a role in regulating controlled substances.	The US was until recently an unregulated market-based pricing system for drugs. Manufacturers set the so-called “list price”. There are two main price metrics to capture the list price: Wholesale Acquisition Cost (WAC), corresponding to the list price charged by the manufacturer to wholesalers, and the Average Wholesale Price (AWP), the price offered at the wholesale level. The list price doesn’t include any discounts or rebates negotiated in the supply chain. It is estimated that the different from list to net prices are from 28 to 36%. A drug pricing policy reforms in underway. In 2022, the US President signed into law the “Inflation Reduction Act”, which will come into effect from 2023 to 2025. It introduces provisions authorising the Secretary of Health and Human Services to negotiate prices of 10-20 drugs per year on behalf of Medicare beneficiaries and establishes penalties for drug manufacturers who raise drug prices above the inflation rate.	Coverage for outpatient prescription drugs is included in most, if not all, private health insurance plans and government programs. Inpatient drugs are usually part of the insurer’s medical coverage policies. In the US, public and private health insurers usually contract a pharmacy benefit manager (PBM) to design a drug formulary (positive list of covered medicines) and to conduct price negotiations with drug manufacturers on behalf of the insurer. Nowadays, three PBMs are responsible for more than 80% of the US prescription drug market. The US pricing reform will certainly have an important impact not only in the US health system but also internationally including in Brazil, considering the use of US prices as external reference pricing. Nevertheless, other initiatives are needed to ensure early access to new technologies at fairer prices at a global level.

Note: ¹In EU countries, marketing authorization (MA) can be conducted through the centralised procedure carried out by the European Medicines Agency (EMA), by mutual recognition, and decentralised procedures with other EU members or with a national procedure, carried out by the National Regulatory Authority (NRA). ²PMPRB11 comprises of Australia, Belgium, France, Germany, Italy, Japan, Netherlands, Norway, Spain, Sweden, and the United Kingdom.

Sources: (1)Vogler;² (2) Ivama-Brummell, Pingret-Kipman, Louly, et al.;³ (3) Bonnett, Stafinski, Trindade;⁴ (4) Barbosa, Zampiroli, Zuppo, et. al;⁵; (5) Melo, Ascef, Gianfrate;⁶ (6) Caldeira, Pingret-Kipman, Ferrador;⁷ (7) Ivama-Brummell, Pinilla-Dominguez, Biz;⁸ (8) Social, Ortiz, Garcia.⁹



The series offered an unprecedented opportunity to explore the intersection of the pricing and reimbursement policies with themes such as innovation, access, health litigation, the importance of international cooperation and networking, bridging these themes with practitioners, managers, academia, and other professionals with different outlooks, highlighting common challenges and ways to tackle them with innovative alternatives and increased collaboration. High-priced medicines, inequitable access, and financial hardships associated with high prices are issues in the health agenda, which can jeopardise the achievement of the universal right to health by patients and the health system.

The World Health Assembly Resolution WHA72.8 from 2019 recognised the critical role of health products and services innovation in bringing new treatments and value to patients and health care systems around the world. *“Improving access to health products is a multidimensional challenge that requires action across, and adequate knowledge of, the entire value chain and life cycle, from research and development to quality assurance, regulatory capacity, supply chain management and use”*.¹¹ The World Health Organization (WHO) has urged Member States to increase collaboration, national capabilities and transparency on pricing and data on regulation (from clinical trials, up to post-marketing surveillance, ensuring safekeeping of patient confidentiality), patents, regulatory status of health products, incorporation/reimbursement, procurement and use.¹¹

In several documents, the importance of integrating pricing and other pharmaceutical policies with broader ones, that may contribute to ensure timely access to affordable, quality, safe and effective medicines, stimulate innovation, incentivising research and development and the achievement of the health systems goals, safeguarding sustainability, is highlighted.^{12–14} These policies must take into account the life-cycle of the pharmaceutical products in their various regulatory levers and policy interventions.

The Covid-19 pandemic exposed many fragilities of the health systems, inequalities and how health and development go hand-in-hand, reminding us how medicines and other health technologies are indeed part of the essential public health functions, and how important they are for achieving health objectives and ultimately, the sustainable development goals (SDGs).^{15,16} These experiences are a good inspiration to review the regulation, pricing and reimbursement in Brazil, along with other areas of the pharmaceutical policies from a life-cycle perspective, looking forward to increasing their resilience. Other policies related to research, development and innovation, industrial development and beyond are also to be taken into account, in the perspective of the value chain of the economic industrial health complex.¹⁷ There are many challenges and opportunities for improvement.^{3,18–24}

Brazil has increased its pharmaceutical expenditure on the SUS over the years, it has the second higher share of pharmaceutical expenditure (18.2%, 2019) in relation to total health expenditure than most of the countries in the series, behind Greece (variation from 11% in the US to 30.2% in Greece, both from 2020), considering data from Pharmaceutical spending in the Organisation for the Economic and Cultural Development (OECD) of 2021 or the latest available data.²⁵

Nevertheless, its 87,7% out-of-pocket pharmaceutical expenditure stands out and is a call for action for strengthening access, when compared with the out-of-pocket share of countries like US (10%), Canada (27%) or UK (41%) (acknowledging possible limitations in comparability due to methodological particularities).²⁶ One of

the main challenges to be overcome is the overwhelming amount of judicialisation (litigation) for access to medicines, which compromises planning and budgets, straining sustainability and threatening the concept of comprehensiveness adopted by the SUS. New high-priced medicines, usually combined with limited added therapeutic benefit, can represent a high opportunity cost, therefore the use of HTA is crucial.^{3,23,26,27}

Strengthening the use of generics and biosimilars is internationally recognised as key for promoting access and cost-containment, and also requires a life-cycle perspective. Over the twenty years of enacting of the generics law, its market share in Brazil reached 13.7% (nominal value), and 35% of the volume of the pharmaceutical revenue in 2019.²⁸ There are different policy approaches for regulating non-original biologics in the country, with pricing regulation under review.^{3,29} Therefore, looking at successful experiences, such as UK, Austria, and Portugal, can help Brazil expanding the use of generics and non-original biologics, beyond price regulation, in line with the WHO recommendation classified as “strong” of “Promoting the use of quality-assured generic and biosimilar medicines”^{2,7,8,13}

For stimulating innovation, a shift of the pharmaceutical policies rationale in Brazil, especially price regulation is also needed, mostly conducted at the market entry, sometimes seen by the industry as a “gate keeper”, towards a life-cycle perspective. Examples, such as the UK, of an intersectoral approach in the revision of the pharmaceutical policies, aligned with the life-science strategy, including an earlier engagement with the industry with possible pre-submission joint-scientific advice, bringing together and aligning regulatory, pricing and HTA authorities, can facilitate the integration and streamlining of HTA along the medicines life-cycle.⁸ At the same time, strengthening the alignment and harmonisation of processes, repositories, databases and information systems, can contribute for example for generating post-marketing evidence. They can stimulate research, development and innovation with more robust evidence and better and more meaningful clinical outcomes, and contribute to converting data into evidence, for supporting evidence-based decision-making, with a ‘big data’ approach.^{3,23,27}

Several countries use a combination of HTA and external reference pricing or other policy options, as recommended by WHO.¹³ When using external reference pricing, there is flexibility on the basket of countries of similar development status, with most of them conducting price reviews on a regular basis, besides other circumstances, such as expiry of patents, the introduction of new therapeutic options and by request of the manufacturers, also within a life-cycle perspective (Table 1). At the same time, it is necessary to create mechanisms and conditions for essential medicines with low commercial interest to remain in the market, and be available to those that need them. These experiences can be taken into account in reviewing the pricing regulatory framework in Brazil, along with several recommendations from the scientific community, consumers and civil society organisations.^{3,18–24}

In Brazil, as the year and at the same time, a government come to a close, we look forward to the perspective of a transition, hoping for the best, and pleading for the strengthening of pharmaceutical regulation, pricing and reimbursement policies, addressing market failures, as well as improving the sustainability and access to medicines and other health technologies. In this sense, we can look at these experiences in the case studies of the series as examples of benchmarking and best practices, opportunities for increasing collaboration and sources of inspiration.



Conflict interests statement

The authors have no interests to declare.

Disclaimer

The views expressed in this article are from the authors, and do not necessarily reflect those of the Brazilian Health Regulatory Agency (Anvisa).

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