Supporting a sustainable healthcare funding model: the role of private health insurance in addressing out-of-pocket spending

Final report

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Executive summary

Charles River Associates (“CRA”) was commissioned by Pfizer to undertake an analysis on the role of private health insurance in supporting sustainable healthcare funding, specifically on the impact on patient affordability. This is in line with Pfizer’s Bold Moves strategy to support policies that encourage innovation while ensuring patient access to latest therapies.¹

Context: Addressing the affordability challenge

Affordability of healthcare is a global challenge and remains a priority in economies and global agendas – for example, it has been recognised by the United Nations Transforming our world: the 2030 agenda for sustainable development with a goal of universal health coverage (UHC) and the WHO.² ³ Public resources were already constrained in many economies, and this is likely to have been exacerbated by COVID-19 pandemic which has exerted an unprecedented amount of pressure on healthcare systems. Many public systems now face significant funding challenges as a result of stalled economies, diminishing tax revenues, and increasing budget deficits.⁴ As a result, there are likely to be gaps in coverage potentially increasing payments made by patients for immediate healthcare, termed hereafter out-of-pocket (OOP) payments.

This report is focussed on private health insurance, defined as a non-publicly controlled organization which offers insurance products aimed at providing financial protection against healthcare costs. We find that diversifying healthcare funding by placing an increased reliance on private health insurance could relieve the burden placed upon public systems and also bring about benefits including improved patient affordability.

Methodology and approach

We adopted a three-step approach to investigate the current role of private health insurance in improving affordability within healthcare systems. First, we conducted an initial literature review to understand the extent of the affordability challenge and the role of different sources of funding in addressing this. Second, we investigated the role of private health insurance in a set of ten case study economies: Brazil, Canada, China, Colombia, France, Italy, Japan, Slovenia, South Africa and the United States (US). We focused on five therapy areas: oncology therapies, innovative chronic disease treatments, high-cost advanced therapy medicinal products, low-cost genericized chronic treatments and non-prescription medicines. Third we selected five economies (Brazil, Canada, China, France, and South Africa) to conduct an in-depth analysis on the policy debate and how private health insurance contributes towards the overall healthcare system conducting interviews with key stakeholders from a wide range of organizations: private health insurances, academia, cancer advocacy groups and pharmaceutical industry experts.

The role of private health insurance and its impact on OOP

We developed a taxonomy that is focused on differentiating between how systems use private health insurance as part of their funding model. We have set out eight different models:

- **Model 1: supplementary role in providing access to better hospital services** – primarily seen in economies with comprehensive universal healthcare systems, private health insurance is often obtained through employee benefits and offers higher quality hospital facilities, wider choice among providers and faster access to elective surgery (e.g. Italy).

- **Model 2: supplementary coverage of add-on services not covered in the public system** - provides financial protection to patients against OOP payments for dental, optical, physiotherapy, chiropractic treatment, or cosmetic surgery, whilst allowing the public funding to focus its resources on essential areas of care for a broader population (e.g. Colombia).

- **Model 3: provision of one-off lump sum payment** – generally obtained through employers, provides protection to patients with cancer /critical conditions against potentially catastrophic spending on medicines and in-and out-patient services (e.g. China and Japan).

- **Model 4: complementary coverage of mandatory patient co-payments for medicines or services** – in some universal healthcare systems, employers or individuals obtain voluntary private health insurance, which covers co-payments (e.g. France and Slovenia).

- **Model 5: supplementary coverage of innovative medicines not yet reimbursed or available in the public sector** - targeted primarily at innovative medicines which due to their high cost might not yet be available under a public system that is operating under budgetary pressures (e.g. China).

- **Model 6: supplementary coverage of medicines excluded from public basket** - even in developed universal healthcare systems, public funding is focused on specific classes of medicines (e.g. Canada- private health insurance policies cover out-patient medicines).

- **Model 7: duplicative model covering medicines and services in parallel to the public system** – in some developing economies, private health insurance obtained by the higher income population or employers can be main source of funding for all types of healthcare for this group in parallel to the public system (e.g. Brazil and South Africa).

- **Model 8: substitutive as the primary source of healthcare funding including medicines for some or a large proportion of the population** - developed and developing economies where a large proportion of the population relies on voluntary private health insurance as their sole healthcare coverage, funded primarily by employers (e.g. the US).

The type of private health insurance model can have significant implications for the funding of innovative medicines and we investigated potential impact on patient OOP costs across the five therapy areas selected. Observations are illustrated in Figure 1.
Figure 1: Summary of public and private health insurance models and observed split of costs shared with patients across selected therapy areas

<table>
<thead>
<tr>
<th>Therapy Area</th>
<th>Italy</th>
<th>Colombia</th>
<th>Japan</th>
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<th>Canada</th>
<th>China</th>
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<td>Rare Disease (ATMP)</td>
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<td>Rheumatoid Arthritis (anti-TNFα biologics)</td>
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<td>Over-the-counter pain (NSAIDs)</td>
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Source: CRA Analysis of public sources

Note: Qualitative measure of contributions of each funding stream to the costs of medicine. Not necessarily applicable in all examples or circumstances but intended as an overview. ATMP – Advanced Therapy Medicinal Product; CVD – cardiovascular disease; NSAIDs – non-steroidal anti-inflammatory drugs
The role of private health insurance in sustainable healthcare funding

Drawing from the five case study economies (Brazil, Canada, China, France and South Africa), we can look at the performance of different funding models along five dimensions: affordability and equity; access to healthcare; sustainability; efficiency; and quality of care.  

Affordability and equity – The evidence supports our hypothesis that private health insurance can work effectively alongside public funding in ensuring affordable access to healthcare for a broader population than what is otherwise feasible under a set budget, allowing for the most vulnerable populations to be prioritized – the elderly, those with life-threatening conditions, and low-income households. Some evidence points to the fact that private health insurance might deliver more affordable healthcare than public in some circumstances and support healthcare systems during the development of UHC. The role of private health insurance can lead to inequity, but a more equitable system can be ensured through a “safety net” for low-income households through state support for private health insurance premiums.  

We find the role of private health insurance varies across the different funding models and also varies by type of economy. In particular, we find that the two models can also co-exist in both high- and middle-income economies to ensure an overall affordable healthcare system. Supplementary coverage of medicines or services in addition to complementary coverage of patient OOP costs enable affordable patient access to both medicines (e.g. high-cost innovative medicines) and auxiliary services (e.g. dental and optical services), for which healthcare budget might not be sufficient.

Access to healthcare – The evidence supports our initial hypotheses that private health insurance can lead to faster and broader access to new treatments and thus offers broader patient choice. We conclude that supplementary (models 5 and 6) and duplicative models (model 7) support more comprehensive, faster and broader access than in the public system in both high- and middle-income economies. This enables broader patient choice, needed in the case of disease areas such as cancer, and faster access to innovative treatments in both high- and middle-income economies.  

In middle-income economies, these models might be the only option for patients to access a treatment in the first place such as high-cost innovative medicines for cancer or rare diseases which are typically unavailable under the basic public coverage. Finally, supplementary models support more robust and uniform coverage and patient access particularly in economies subject to a regional division of healthcare budgets which has led to more fragmented access.

Sustainability – Evidence suggests that private health insurance can promote the financial sustainability of healthcare systems in a number of ways and to differing extents depending on the funding model: First, private health insurance can indirectly support the public system by relieving the financial burden of care for proportions of the population as well as support medicines priced to

Note: The evidence supporting models that demonstrate the greatest impact is subject to the case studies chosen. Other models that were not included in the in-depth case study analysis i.e. five economies may experience similar benefits.


reflect ability to pay in the public sector. A range of models can support this including supplementary or complementary (models 4, 5, and 6) and duplicative models (model 7), where we observe similar benefits.

However, sustainability benefits are especially important for middle-income economies whose tax base is typically smaller and where raising funds for a growing public healthcare system is more challenging. Complementary private health insurance models (model 4) can assist public systems in balancing the demand for comprehensive public coverage in high-income economies with the need to contain rising healthcare costs whilst ensuring sufficient incentives are in place to retain skilled healthcare professionals in the long term.

Finally, private health insurance can play a particularly important role during times of economic crises when healthcare budgets are under pressure by shifting the burden primarily to employers. These can also support public healthcare systems during times of healthcare shocks such as COVID-19 by allowing increased capacity or reliance on the private system. Duplicative funding models (model 7) are best placed to shoulder the burden of a portion of healthcare without affecting public funds but supplementary and complementary models have also shown the potential to adapt to provisionally alleviate the most vulnerable sectors (e.g. hospital capacity) and populations (healthcare workers).9

**Efficiency** - For our case studies there is evidence on the benefits of private health insurance for efficiency of the healthcare system by allowing access and promoting the utilization of services or medicines that reduce future healthcare expenditure and ensure an efficient use of resources. We observe this mainly in models 5 and 6 (supplementary), and 7 (duplicative). In other models where private health insurance plays a less substantial role in provision of preventative goods and services, we did not find evidence to support our hypothesis. Also, in the past, concerns have been voiced on the opposite effect i.e. overuse and inefficient use of resources in model 8 (substantive) we did not find evidence of this in the deep-dive analysis. In supplementary (models 5 and 6) and duplicative (model 7) models, the key areas of benefits are observed in: encouraging adherence by reducing OOP costs, promoting early detection screening by removing barriers to access and improved uptake of digital health leading to improved healthcare utilization with reduced waiting times, and more efficient and accurate patient follow-up and better monitoring and disease management. This is particularly important for therapy areas where early diagnosis or changing lifestyles is important such as cancer and cardiovascular disease. Those demographics most at risk of diseases such as these would benefit most from private health insurance coverage to ensure that they achieve the best possible healthcare.

**Quality of care**– There is some evidence to support the role of private health insurance in improving overall quality of care, but this is: 1) inferred from the greater access to innovative services and medicines and ultimately better patient outcomes these will deliver and 2) frequently limited only to those with coverage. This is most clearly observable in the duplicative one (model 7) where the divide between sectors is clear. In this model, private health insurance allows for access to broader and better quality of resources providing a higher standard of care. These systems are likely to have the most significant benefit for serious conditions that require innovative therapies, tests, or surgeries. Typically, we observe duplicative private health insurance systems in middle to high income economies where the public system offers limited coverage. There is also some evidence that the public system patents also benefit from some benefits of cross-utilization particularly in healthcare staff and infrastructure especially at times of healthcare shocks such as the current pandemic, elevating the quality of care for all.

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Policy implications and recommendations

The analysis in the previous section provides a comprehensive assessment of the benefits of private health funding channels demonstrating its distinct role across healthcare systems, populations and therapy areas. Drawing from the evidence we set out key policy implications and recommendations:

1. **Policymakers should recognize and support the role of private health insurance in improving affordability.** Clarity of the role of private health insurance recognized by government is valuable for providers, patients and the healthcare system. This can be in a government dedicated plan or within the UHC plan. This can support affordability but also efficient use of scarce resources and delivery of healthcare that provide a mix of public and private sector as the public system is strengthened and progresses in coverage goals. These can also specify the role of private health insurance to support certain types of treatments such as those not yet covered in the public reimbursement list. As public coverage is strengthened, the scope of private health insurance will need to evolve, and this should be explicitly revised in government plans.

2. **Private health insurance can play an important role as countries move towards UHC.** Improving public funding and advancing UHC is a gradual process. National policymakers should ensure that private health insurance models support these broader healthcare objectives as economies and their income levels grow, and public healthcare systems develop to cover larger parts of the population. Identifying the strategic role that private health insurance can play is particularly important in supporting the global UHC agenda that economies are increasingly committed to. The evolution of UHC implementation and economic growth that expands the tax base and healthcare budgets should develop in parallel with a private health insurance model that targets only the high-income population to a model that protects against the most significant areas of OOP spend, including catastrophic expenditure, chronic disease care and access to more innovative treatments.

3. **Encourage forms of private health insurance that deliver faster and broader access to therapy areas with highly innovative medicines launches.** Depending on the structure of the public health coverage, private health insurance can be critical to ensuring improved access to innovative medicines and a competitive and viable environment for novel medicine launches particularly in oncology and rare diseases. National policymakers in economies with a supplementary model should encourage and steer private health insurance schemes, structured partnerships, and reinsurance models. These more flexible and dynamic agreements can target areas that represent a particular challenge given the high unmet need of the patient population and opportunity to provide a highly innovative treatment or to support local payers that have restricted resources to expand their provision.

4. **Integrate private health insurance provision into national strategies to promote preventative services and to improve adherence to care and treatment leading to savings.** Particularly in middle income economies, supporting a private health insurance model that addresses OOP costs (which can be both substitutive or complementary) is important to target cost-related non-adherence which leads to future healthcare system costs. Also, in line with supporting access innovative medicines, private health insurance encourages better access and uptake of preventative services, especially more novel diagnosis, screening and digital health technologies, which can lead to important savings in the future for both the public and private systems.

5. **Anticipate the role private health insurance can play in times of uncertainty.** As public funding faces greater restrictions as a result of health and economic crises such as the unfolding COVID-19 pandemic, payers and private health insurance can play an important role during this period. Economies where these play a more significant role in coverage
(models 4 to 8) can more easily build on the existing infrastructure, relationships but also social behavior and cultural acceptance of private health insurance as a coverage option. For example, during COVID-19 crisis private health plans have ensured: provision of services such as testing and telemedicine, comply with elective surgery schedules and ensure availability infrastructure for these and provide special packages for vulnerable population such as those most likely to be affected by the crisis (e.g. healthcare workers). It is important for governments to encourage the role that private health insurance can play as well as provide incentives for employer incentives to sustaining provision of private health insurance during times of crisis. Governments could structure incentives and support packages for business in such way that these ensure that employers maintain or expand their private health insurance benefits in return, as a way to support the healthcare system.

6. **Encourage collaboration and cross-utilization of private and public infrastructure and expertise to improve the public system and overall outcomes.** The evidence is that the infrastructure, experience of healthcare professionals and quality of care achieved under private health insurance coverage is often higher that the public system at least for some forms of care. The cross-utilization of infrastructure such as hospitals and equipment and healthcare enable an increased quality in care provided and transfer of knowledge hence, improved outcomes. Policymakers should adopt regulation and incentives to public and private players to support cross-utilization of infrastructure such as hospitals and equipment and for healthcare staff to be able to work across systems and transfer the knowledge and experiences gained in the private system. In other cases, tying performance frameworks for hospitals or healthcare workers to their contributions across the sectors could incentivise collaboration and use across sectors. In times of crises, such as during the COVID-19 pandemic, the use across sectors can also be mandated to make use of all resources available and improve outcomes.

7. **Policymakers can support the development of a private insurance model through clarity of its role but also targeted incentives to encourage uptake.** First, these can target individuals directly and provide tiered incentives for the different parts of the population. This can come in the form of an income tax rebate, credit or threshold that varies by type of employment (e.g. healthcare workers), income level, age or family status. Tax incentives can also vary across regions or provinces depending on the socioeconomic level and healthcare priorities. Similarly, tax incentives can aim to encourage employer insurance by providing tax credits to companies. Employers aiming to attract talent is noted as one of the leading drivers for employers providing private health insurance. The role of employers is important in promoting competition between insurers and ensuring private health insurance delivers value.

The role of private health insurance will inevitably vary from economy to economy and change to reflect developments in public healthcare system. Using an appropriate model of private health insurance can be an important tool in delivering affordable healthcare and contribute to healthcare sustainability; efficiency and quality of care, and improved access to innovative medicines.
Introduction

Charles River Associates ("CRA") was commissioned by Pfizer to undertake an analysis of the role of private health insurance in supporting sustainable healthcare funding, specifically on the impact on patient affordability. This is in line with Pfizer’s Bold Moves strategy to support policies that encourage innovation while ensuring patient access to latest therapies. In particular, the objectives are three-fold:

- Provide evidence on the role private health insurance plays in supporting patient affordability and addressing the negative consequences of patient out-of-pocket (OOP) payments by drawing on case studies focused on particular economies
- Examine how this varies for different therapy areas, patient segments, population demographics and market conditions
- Set out policy lessons and proposals for optimising the role that private health insurance models can play to improve patient affordability and access for different types of medicines.

1.1. Addressing the affordability challenge

Affordability of healthcare, defined as access to healthcare while avoiding an unreasonable burden on household incomes, continues to be a global challenge. Many patients are faced with either forgoing healthcare or facing financial hardship as a result of costs. In response to this, the United Nations has set out the Transforming our world: the 2030 agenda for sustainable development document with a goal of universal health coverage (UHC). However, achieving this ambitious goal will be challenging. UHC is often misinterpreted to mean a predominantly publicly funded healthcare system akin to those found in some high-income economies, however, the World Health Organisation (WHO) defines this as a system where “all individuals and communities receive the health services they need without suffering financial hardship” without specifying the source of healthcare funding that could alleviate financial hardship.

Public resources are constrained in all economies, and the pressure has only increased since the start of the COVID-19 pandemic. As a result, coverage gaps emerge which require direct payments made by patients for immediate healthcare, termed hereafter out-of-pocket (OOP) payments. These place substantial and unexpected financial burdens onto patients or result in forgone care. Across economies, OOP payments vary between demographics and therapy areas, with the gaps present in the public healthcare funding systems being almost as diverse as the economies themselves. Public health systems may prioritize hospital care, a limited basket of essential medicines and interventions, coverage for the poorest populations, or offer broad coverage but still require patient co-payments. Additionally, some therapy areas and types of medicines are subject to significantly higher OOP costs than others. A recent Organisation for Economic Co-operation and Development (OECD) report found that OOP costs lead to large variation in availability and affordability of oncology

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treatments and that discrepancies were largest for targeted therapies and in economically challenged economies.\textsuperscript{14}

Private funding mechanisms encompass a broad set of funding sources that either by nature of the funding itself or because of the intended recipient can fluctuate considerably. Private funding sources can include charitable donations from individuals, companies, non-governmental organizations (NGOs), crowdfunding, private loans, and prepaid private health insurance. Within this report we focus on private health insurance as the channel that could provide a more structured and sustainable alternative compared to other forms such as crowdfunding or private charitable donations. In this report, private health insurance is defined as a non-publicly controlled insurance product aimed at providing financial protection against healthcare costs. To a large extent, the existing role of private health insurance is also determined by the structure of the public system – i.e. the extent of the unmet need and coverage gap affects the role of private health insurance.

In a world where the COVID-19 pandemic has exerted an unprecedented amount of pressure on healthcare systems, many economies will face significant funding challenges as a result of declining economies, diminishing tax revenues, and increasing budget deficits. The OECD has stated it is likely that tax revenues will be significantly reduced as a direct result of the COVID-19 pandemic.\textsuperscript{15} In a post-COVID-19 world, economies will need to explore different funding models to sustain or improve healthcare coverage and make progress towards the UHC goals. Diversifying healthcare funding by a greater reliance on private health insurance could relieve the burden placed upon public systems and realize benefits including improved patient affordability. In this report we examine whether private health insurance, as a major component of private funding, can contribute to a sustainable healthcare funding model and how this varies across system.

1.2. Methodology

We adopted a three-step approach to investigate the current role of private health insurance in improving affordability within healthcare systems:

- Completed a literature review of academic, governmental and official policy reports, non-governmental organization (NGO), and grey literature sources to understand the extent of the affordability challenge and the link to healthcare funding channels
- Developed a case study analysis of different healthcare funding models, first comparing ten economies and then undertaking a deep-dive for five economies to investigate the impact of different models on affordability and other healthcare areas
- Held discussions with global and local experts on the role of private health insurance in addressing healthcare affordability and improving healthcare systems.

1.2.1. Literature review on the role of private health insurance

The first part of the literature review was aimed at understanding the extent of the affordability challenge and the role that different sources of funding have in addressing this. This part of the review covered academic and government policy reports, NGO publications and grey literature, primarily from the past ten years. Key words included “private health insurance”, “affordability”,
The role of private health funding

October 2020

Charles River Associates

1.2.2. Case studies review

In the second part of the review, we investigated the role of private health insurance in ten economies: Brazil, Canada, China, Colombia, France, Italy, Japan, Slovenia, South Africa and the United States (US). These economies were identified through a review of models that have varying roles of private health insurance. For the selected ten economies we undertook a literature search to understand the role of private health insurance in general and across therapy and different types of medicines. We focused on five therapy areas that were selected to represent a broad selection of medicine categories: innovative oncology therapies such as novel breast cancer treatments, innovative chronic disease treatments such as anti-TNFα biologics for conditions such as rheumatoid arthritis, high-cost advanced therapy medicinal products such as gene therapies for rare diseases, low-cost genericized chronic treatments such as statins and non-prescription medicines such as non-steroidal autoinflammatory drugs (NSAIDs).

Secondly, we selected five out of the ten economies (Brazil, Canada, China, France, and South Africa) for a more detailed analysis. These economies were selected to represent different income levels, public provision of healthcare, funding models, and based on the role of private health insurance in providing medicines funding across different therapy areas. The objective was to understand the policy debate and the role the private health insurance plays in the overall healthcare system funding. This was assessed across five indicators:

- **Affordability:** whether healthcare places an unreasonable burden on household incomes
- **Access:** the breadth and speed of healthcare access
- **Sustainability:** whether existence of private health insurance relieves financial pressure from the public system or might allow the public system to better cope with healthcare shocks
- **Efficiency:** whether private health insurance improves uptake of preventive services that result in future savings
- **Quality of care:** whether private health insurance improves patient outcomes.

1.2.3. Interviews programme

The third stage of the analysis involved interviews with experts. We conducted twelve interviews with leading academic and industry experts either with expertise in one of the five economies highlighted for detailed analysis or with experts with broad knowledge in the field of healthcare funding across multiple economies (Table 1). Interviews were structured as one-hour guided discussions, conducted from June to August 2020.

The experts provided insights on the policy environment, gaps, and opportunities for private health insurance, as well as any future reforms to or challenges for private health funding.

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Table 1: Interviews conducted with various experts (n=12)

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<thead>
<tr>
<th>Economy</th>
<th>Stakeholder</th>
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<tbody>
<tr>
<td>Brazil</td>
<td>Private health insurance representative – SulAmérica</td>
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</tbody>
</table>
| Canada  | Pharmaceutical industry expert – Innovative Medicines Canada  
           Private health insurance representative – Green Shield Canada |
| China   | Pharmaceutical industry expert – PhRMA  
           Pharmaceutical industry expert – ASK Health  
           Pharmaceutical industry expert – RDPAC |
| France  | Academic health economist – ParisTech  
           Population health researcher – Research Centre in France  
           Private health insurance consultant – Proxicare |
| South Africa | Advocate for cancer patients |
| Global  | Professor of Health Economics – The Wharton School of the University of Pennsylvania  
           Professor of Health Economics – University of Newcastle |

*Source: CRA analysis*

1.3. Structure of this report

The structure of the rest of the report is as follows:

- Chapter 2 examines the diverse roles of private health insurance within healthcare systems and how private health insurance can improve patient affordability
- Chapter 3 assesses the impact of private health insurance to address healthcare challenges across a broad range of indicators, affordability, access to innovation, sustainability, efficiency, and quality of care
- Chapter 4 sets out policy implications and recommendations for optimising the role private health insurance can play in improving affordability of healthcare.
2. The role of different funding models in improving affordability

In this chapter, we lay out the literature on the role of private health insurance in ensuring sustainable healthcare funding and patient affordability. We present a taxonomy of private health insurance models that we use throughout the analysis in the following chapters.

2.1. Healthcare system funding and patient affordability

Prior literature indicates that a key driver for the growing role of private health insurance is the pressure on public healthcare budgets. This could be the result of failure to raise enough taxation, economic downturns which further decreases the tax base, or de-prioritised healthcare spending in favor of other sectors. An inadequate public healthcare budget could lead to increased user charges and limited coverage, or a failure to provide services of adequate quality. Hence, individuals, or their employers, could buy private health insurance to reduce financial vulnerability by spreading the risk of potentially incurring catastrophic OOP payments. Growing dissatisfaction with public healthcare provision, as well as economic growth providing the financial means for some patient groups, means that private funding channels have the opportunity to increase choices and improve the quality of healthcare coverage.

In light of this, the World Bank and other international aid agencies have explored the drivers and merits of private healthcare funding, particularly in low and middle income economies and the impact of government regulation. Some argue that a regulated private health insurance system...
The role of private health funding can play a role not too dissimilar to public healthcare programs and can be implemented in low and middle income economies. This would allow the public sector to increase its own capacity to manage and finance healthcare, initially focussing on those most in need — the poor and vulnerable populations. Some have proposed private health insurance as a stepping stone on the path to UHC in low and middle income economies, given the existing large informal economies, inefficient taxation mechanisms, high OOP spending, and corruption. If carefully managed and adapted to local needs, private health insurance has been recognised as a valuable complement to existing financing options particularly in developing economies. Indeed, private health insurance systems preceded publicly financed systems in many European economies such as Germany and Sweden. Private health insurance can assume a supplementary role (i.e., it covers health services not at all covered by the public scheme), complementary role (i.e., it covers all or part of residual costs not otherwise reimbursed by the public system), or substitutive role (i.e., when individuals are entitled to public coverage but have chosen to opt out of such coverage). Prior literature sets out a range of ways that private health insurance can improve sustainable healthcare funding:

- **Enabling public resources to be prioritised on particular services:** Private health insurance could free up public resources to be spent on ensuring universal access to essential services and medicines than what would otherwise not be achievable under a set public budget, while maintaining low patient OOP costs;

- **Enabling prioritisation of those with greatest need:** It could allow for the public funding to focus on providing comprehensive affordable coverage to those patients most in need in society (e.g. the elderly, lower-income households, severely ill);

- **Supporting lower public-sector prices:** Principles on differential pricing could apply in cases when the private health insurance market is distinct from the public one. Higher prices

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in the private sector could facilitate lower prices in the public sector, ultimately supporting the sustainability of the public sector through lower costs;\textsuperscript{37}

- **Driving efficient use of resources**: Private insurers could be more efficient in managing parts of the healthcare system, by, for example, exerting pressure on health service providers to minimise costs; despite that multiple insurers could incur duplicative administrative costs;\textsuperscript{38}

- **Supporting faster access and broader choice**: Competition between private insurers could lead to faster and expanded access to services and medicines offered under insurance policies to supplement existing but partial public coverage, leading to enhanced choice for patients;\textsuperscript{39,40}

- **Enabling access to higher quality services**: Private health insurance enable patients to access services and medicines in the private healthcare sector which could be of higher quality compared to the public sector;\textsuperscript{41}

- **Rising the standard of care**: In economies where healthcare professionals work in both the public and private sector, by essentially funding the private sector, private health insurance could indirectly lead to spill-over effects such as the transfer of knowledge and expertise developed in the private to the public system, improving the overall standard of care;\textsuperscript{42,43}

- **Contributing to improved patient outcomes**: Bringing all of the above together, private health insurance could lead to overall improved patient outcomes than what is achievable solely under the public system, particularly due to its benefits in improving patient access and quality of care.

These hypothetical areas of impact can be categorised in five broad buckets – *affordability and equity; access to healthcare; sustainability; efficiency; and quality of care*, which we explore through evidence in the five case study economies.

\textsuperscript{38} Colombo, F., & Tapay, N. (2004). Private health insurance in OECD countries: the benefits and costs for individuals and health systems.
\textsuperscript{41} Costa, J., & Garcia, J. (2003). Demand for private health insurance: how important is the quality gap?. *Health economics*, 12(7), 587-599.
2.2. A taxonomy of private health insurance models

Prior studies have attempted to create taxonomies of healthcare systems based on the mix of public funding and private health insurance. The extent to which private models have been characterized in the literature is often limited to type of coverage (supplementary/complementary/substitutive), source of funding, risk-pooling mechanism, or whether it is voluntary or mandatory.\(^{44,45,46}\) We have developed a taxonomy focused on private health insurance models that includes a range of dimensions – the type of supplier, the degree to which it is compulsory, the extent and type of risk pooling, the form of insurance contract (community group, individual), extent of coverage, use of cost sharing, or type of insurance business.\(^{47}\) Using the existing literature and the review of the ten case study economies, we developed a taxonomy that is focused on differentiating between how systems use private health insurance as part of their funding model. These models of private health insurance are defined according to the following dimensions:

- **Type of product.** Whether private health insurance targets a specific type of healthcare products such as a class of medicines (out-patient medicines) or additional supplementary services such as dental and optical care.

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- **Funding source.** Whether insurance premiums are paid for individually by beneficiaries or their employers as part of employment-based benefits, and whether state subsidies exist (particularly for low-income households).

- **Therapy areas.** Whether private health insurance supports patient affordability in specific therapy areas where the resulting costs to the patient could potentially be catastrophic. This could be the case for chronic conditions which require continued treatment administration or critical conditions such as cancer or rare diseases, for which treatments are costly.

- **Patient populations.** Whether private health insurance targets a broad population base or only high-income households, with state subsidies for low-income households.

The analysis leads to a set of eight different models (set out in Figure 3 below):

**Model 1: supplementary role in providing access to better hospital services** – primarily seen in economies with comprehensive universal healthcare systems, private health insurance is often obtained through employee benefits. For example, in Italy only around 10 percent of the population has supplementary private health insurance which covers four percent of healthcare spending in 2017.\(^{48}\) These offer a higher standard of comfort and privacy in hospital facilities, wider choice among public and private providers, and faster access to elective surgery.\(^{49}\)

**Model 2: supplementary coverage of add-on services not covered in the public system** - provides financial protection to patients against OOP payments for dental, optical, physiotherapy, chiropractic treatment, or cosmetic surgery, whilst allowing the public funding to focus its resources on essential areas of care for a broader population. For example, in Canada some private health insurance policies cover patient expenses on services such as optical, dental and physiotherapy care. While financed by employers as part of competition for skilled labor, in Canada private spending on dental, optical and physiotherapy services represent 46.9 percent of the total private spending.\(^{50}\)

Similarly, in Colombia this offers supplementary access to dermatologists, coverage for ambulance transfers, and diagnostic imaging.\(^{51}\)

**Model 3: provision of one-off lump sum payment** – generally obtained through employers, it provides protection to patients with cancer /critical conditions against potentially catastrophic spending on medicines and in-and out-patient services. This could be the case under a public system with a limit on the level of public reimbursement or one without a limit on the total amount of co-payments that patients are due to pay. Such critical condition private health insurance policies have evolved in China, where the public system provides coverage at a set reimbursement level and annual maximum, which differs depending on the type of medicine, setting of care (in-patient or out-

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patient) and socioeconomic status of the province.\textsuperscript{52,53,54,55} This has resulted in relatively high patient OOP payments – most recent estimates showing this accounted for about 28.6 percent of national healthcare spending,\textsuperscript{56} with 13 percent of the population facing catastrophic health expenditure.\textsuperscript{57} Obtained by individuals primarily through their employees, private health insurance is providing protection to patients diagnosed with cancer or other rare inborn conditions against potentially catastrophic spending on both medicines and in- and out-patient services. Another model is in place in Japan, where private health insurance is used as an add-on to life insurance but obtained separately by individuals or in rare cases their employers. Private health insurance pays out lump sum payments upon hospitalisation and diagnosis with certain chronic diseases. Payments could be used for a range of services but are commonly used to pay for room upgrades and meals in hospitals, such services are not covered by the public health insurance.\textsuperscript{58}

**Model 4: complementary coverage of mandatory patient co-payments for medicines or services** – in some universal healthcare systems, employers or individuals obtain voluntary PHI, which covers co-payments. In France, for example, since 2016 employers have to provide voluntary private health insurance to employees, which covers co-payments and the “surcharge” for consultations with specialists. The co-payment is typically between 35 and 60 percent assigned based on the product’s level of medical benefit (SMR, service médical rendu), except in the case of chronic conditions on the ALD (Affection de Longue Durée) list, for which there is no cost sharing.\textsuperscript{59} Some form of private health insurance is provided to approximately 90 percent of the population and, in 2018, it covered 13.4 percent of medical consumption expenditure, leaving overall patient OOP payments of 7 percent, one of the lowest in Europe.\textsuperscript{60,61,62} In Slovenia, voluntary private health

\hspace{1cm}
\begin{itemize}
\item \textsuperscript{53} Zhao, S. W., Zhang, Y. Y., Dai, W., Ding, Y. X., Chen, J. Y., & Fang, P. Q. (2019). Effect of the catastrophic medical insurance on household catastrophic health expenditure: Evidence from China. Gaceta sanitaria.
\item \textsuperscript{55} Liu, P., Guo, W., Liu, H., Hua, W., & Xiong, L. (2018). The integration of urban and rural medical insurance to reduce the rural medical burden in China: a case study of a county in Baoji City. BMC health services research, 18(1), 796.
\end{itemize}
insurance is individually obtained and covers the mandatory patient co-payment for medicines of up to 30 percent (except for selected vulnerable population groups).

**Model 5: supplementary coverage of innovative medicines not yet reimbursed or available in the public sector** - targeted primarily at innovative medicines which due to the high cost might not yet be available under a public system that is operating under budgetary pressures. In China, private health insurance provides access to a designated list of high-cost innovative medicines (e.g. in oncology, rare diseases, or neurological conditions), which do not appear on the National Reimbursement Drug List (NRDL). This has the potential to off-set significant patient OOP costs in obtaining such treatments directly. The NRDL update process has a time lag and inevitably leads to delays in access to innovative medicines under the public system. Thus, private health insurance policies can also enable faster access given the potentially high unmet need for specific treatments.

**Model 6: supplementary coverage of medicines excluded from public healthcare system** - even in developed universal healthcare systems, public funding is focused on specific classes of medicines and some medicines will be excluded from provision. For example, in Canada private health insurance covers out-patient medicines or those not available or with restricted access under public plans and are primarily provided by employers. As such, only 36.7 percent of total pharmaceutical spending was publicly covered in 2019, below the OECD average of 58 percent. This could lead to a significant coverage gap and OOP costs, but due to the role of private health insurance, this covers around 31 percent of the pharmaceutical costs.

**Model 7: duplicative model covering medicines and services in parallel to the public system** – in some developing economies, private health insurance obtained by the higher income population or employers can be main source of funding for all types of healthcare for this group in parallel to the public system (e.g. Brazil and South Africa). In this model, those using private health insurance still contribute to the public system. While only a subset of the population obtains private health insurance (around 16 percent in South Africa and around 27 percent in Brazil – primarily higher income earners obtained through their employers), for those able to access it, private health insurance enables faster and broader access to medicines compared to the public system, leading to potentially better patient outcomes. In South Africa where healthcare professionals work both in the private and public sector, there could be a knowledge transfer benefit.

**Model 8: substitutive as the primary source of healthcare funding including medicines for some or a large proportion of the population** - developed and developing economies where a large proportion of the population relies on voluntary private health insurance as their sole healthcare coverage, funded primarily by employers. The system in the US. is an example of that, where in 2018 around 67.3 percent of the population relied on voluntary private health insurance as their sole


healthcare coverage, funded primarily by employers.\textsuperscript{68} Lower-income households and the elderly and the disabled rely on public coverage through Medicaid (21 percent of the population\textsuperscript{69}) and Medicare (18 percent\textsuperscript{70}), respectively. Competition between different private health insurers leads to diverse choice for beneficiaries of healthcare providers and benefits, potentially faster access to medicines.


Figure 3: Taxonomy of different private health insurance models
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<table>
<thead>
<tr>
<th>Model</th>
<th>1. Supplementary access to better hospital services</th>
<th>2. Supplementary coverage of add-on services</th>
<th>3. Provision of one-off lump sum payment</th>
<th>4. Complementary coverage of co-payments for medicines or services</th>
<th>5. Supplementary coverage of innovative medicines not in the public sector</th>
<th>6. Supplementary coverage of medicines excluded from public basket</th>
<th>7. Duplicative coverage of medicines and services</th>
<th>8. Substitutive coverage of medicines and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>• Upgraded in-patient healthcare facilities</td>
<td>• Coverage of dental and optical care</td>
<td>• Payment upon diagnosis with a life-threatening condition to cover services or medicines costs</td>
<td>• Coverage of patient co-payments for medicines or services above the public level of reimbursement</td>
<td>• Medicines not yet available in the public sector</td>
<td>• Class of medicines not publicly covered</td>
<td>• Access to the private healthcare channel</td>
<td>• Healthcare services and medicines from designated providers in the network</td>
</tr>
<tr>
<td>• Faster access to elective surgery</td>
<td>• Some types of elective surgery</td>
<td>• Branded generics</td>
<td></td>
<td></td>
<td></td>
<td>• High-cost innovative medicines not on reimbursement lists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding</td>
<td>• Extra benefit provided by employers</td>
<td>• Extra benefit provided by employers</td>
<td>• Extra benefit provided by employers</td>
<td>• Strong element of employer funding, cost-sharing with employers</td>
<td>• Extra benefit provided by employers</td>
<td>• Extra benefit provided by employers</td>
<td>• Premiums covered individually or by employers</td>
<td>• Premiums covered individually or by employers</td>
</tr>
<tr>
<td>• Premiums covered individually</td>
<td></td>
<td>• Premiums covered individually</td>
<td></td>
<td>• State subsidized</td>
<td></td>
<td>• Premiums covered individually or by employers</td>
<td>• State subsidized</td>
<td></td>
</tr>
<tr>
<td>Therapy</td>
<td>• Primarily in the in-patient care (e.g. separate room)</td>
<td>• Optical treatment</td>
<td>• Life-threatening conditions of high cost (primarily cancer, but also rare diseases, neurological conditions, stroke)</td>
<td>• All types or a selected class of medicines (e.g. out-patient) or services</td>
<td>• High-value innovative medicines</td>
<td>• Class of medicines such as out-patient medicines</td>
<td>• Therapy agnostic</td>
<td>• Therapy agnostic</td>
</tr>
<tr>
<td>• Elective surgeries (e.g. hip or knee replacement)</td>
<td>• Dental treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• High-value medicines (e.g. in oncology, rare disease)</td>
<td>• A regulated basket of therapy areas</td>
<td>• A regulated basket of therapy areas</td>
</tr>
<tr>
<td>• Chiropractic</td>
<td></td>
<td>• Cosmetic and plastic surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Medicines on the formulary</td>
<td>• Medicines on the formulary</td>
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<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Population</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• Middle-to-high income, employed</td>
<td>• The majority of the population</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>Enables faster access and improved quality of care</td>
<td>Protects against OOPs for selected add-on services</td>
<td>Protects against high OOPs, especially if patient is diagnosed with critical life-threatening condition</td>
<td>Protects against high OOPs, especially if patient suffers from a chronic condition</td>
<td>Protects against high OOPs, especially for high-cost innovative medicines</td>
<td>Protects against high OOPs, especially for high-cost innovative medicines</td>
<td>Creates competition and leads to faster access to medicines and improved patient choice with spill-over effects to the public system</td>
<td>Creates competition and leads to diverse choice, faster access to medicines</td>
</tr>
</tbody>
</table>

Application to case study economies

| Italy, Colombia | Canada, Colombia, France | China, Japan | China, France, Slovenia | Canada, China | Canada, China | Brazil, South Africa | The US |
Source: CRA analysis based on various sources
2.1. Private health insurance models and OOP for innovative medicines

The role of private health insurance can have significant implications for the funding of innovative medicines. To illustrate this, we investigated potential impact on patient OOP costs across therapy areas and their treatments: i) breast cancer with targeted therapies or immune-oncology treatments, ii) rheumatoid arthritis with anti-TNFα biologics, iii) rare disease with advanced therapy medicinal products (ATMPs), iv) cardiovascular disease with statins, and v) over-the-counter non-steroidal anti-inflammatory drugs (NSAIDs). Observations are illustrated in Figure 4 and summarized as follows:

- For breast cancer and rare disease treatments the costs to the patient is limited when they are covered in public system. This is thanks to public funding (France, Italy, Slovenia) or private health insurance (China, Colombia, South Africa), or a mix of both (Brazil, Japan, the US). In one system (Canada) this depends on whether the product is administered in the hospital or out-patient setting, and in another (Colombia) whether those are received in the private setting where patients would receive coverage. Access to some treatments might not yet be possible through either the public or the private health insurance due to lack of regulatory approval (China, South Africa, Brazil).

- For chronic auto-immune disorders with innovative high-cost treatments such as rheumatoid arthritis and chronic conditions such as cardiovascular disease with highly genericized classes, there often is an element of cost-sharing between the patient and the public system (China, Colombia, Japan, and the US) or between the patient and private health insurance (Brazil, South Africa and the US). However, in some cases, patients incur no OOP costs thanks to public funding (France, Italy) or a mix of public and private health insurance (Canada, Italy and Slovenia).

- Over-the-counter medicines are fully paid for by patients in the majority of economies, with some exceptions where cost-sharing occurs with the public (Brazil and Colombia) or private health insurance (some plans in South Africa paid by medical saving accounts).

In the following chapter we explore the evidence on the impact of different private health insurance models.
Figure 4: Summary of public and private health insurance models and observed split of costs shared with patients across selected therapy areas

<table>
<thead>
<tr>
<th>Private funding model</th>
<th>Italy</th>
<th>Colombia</th>
<th>Japan</th>
<th>France</th>
<th>Slovenia</th>
<th>Canada</th>
<th>China</th>
<th>Brazil</th>
<th>South Africa</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementary access to better hospital services (model 1)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Supplementary access to better hospital services: add-on services (models 1 &amp; 2)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
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<tr>
<td>Provision of one-off lump sum payments (Model 3)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Complementary coverage of co-payments for medicines: add-on services (Models 2 &amp; 4)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Complementary coverage of co-payments for medicines (Model 4)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Supplementary coverage of medicines not in or excluded from public basket: add-on services (Models 2, 5 &amp; 6)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
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<td>Private</td>
</tr>
<tr>
<td>Supplementary coverage of medicines not in or excluded from public basket</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Duplicative coverage of medicines and services (Model 7)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Duplicative coverage of medicines and services (Model 7)</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
<td>Public</td>
<td>Private</td>
</tr>
</tbody>
</table>

Source: CRA Analysis of public sources

Note: Qualitative measure of contributions of each funding stream to the costs of medicine. Not necessarily applicable in all examples or circumstances but intended as an overview. ATMP – Advanced Therapy Medicinal Product; CVD – cardiovascular disease; NSAIDs – non-steroidal anti-inflammatory drugs.
3. The role of private health insurance in sustainable healthcare funding

In this chapter, we present evidence of the impact of private health insurance models drawing first from a high-level assessment across the ten markets and literature and then focusing on evidence from the five case study economies (Brazil, Canada, China, France and South Africa) across key areas of potential impact – affordability and equity; access to healthcare; sustainability; efficiency; and quality of care.

3.1. Affordability and equity

As set out earlier, for the purpose of the analysis, we consider healthcare to be affordable when it does not place an unreasonable burden on household incomes. Different studies may use different measures of “unreasonable burden”, but here we rely on evidence including i) catastrophic spending on healthcare in proportion to household’s total resources; ii) impoverishment in terms of residual income after paying for healthcare being below the poverty line; iii) patients’ non-adherence to a treatment due to high associated costs (cost-related non-adherence); and iv) comparability of the levels of patient OOP costs across case study economies. Evidence that private health insurance helps relieve any unreasonable burden of healthcare cost, particularly innovative medicines, would imply that private health insurance helps support the affordability. Ensuring healthcare equity is a result of affordability whereby patient income does not represent a barrier to access to medicines and services.

Looking first across the ten markets in our study we find the role of private health insurance in supporting affordability and equity varies considerably by the type of economy and model in place:

- **Low impact**: In high-income economies (Italy and Japan), the public funding provides broad coverage and private health insurance plays a limited role (representing ~3 percent of healthcare funding) being a supplementary model 1 and 3, respectively.

- **Medium impact**: The US has historically had high levels of OOP but by effectively increasing eligibility for Medicaid and introducing subsidies for insurance premiums, the Affordable Care Act (ACA, 2010) reduced the uninsured population from 46.5 million in 2010 to 27.9 million in 2018 and improved the affordability and access to healthcare among low-income populations. Thus, an increase in provision of private health insurance was based on the existing substitutive private health insurance models (model 8). This played a role in helping mitigate the significant OOP payments that the uninsured would not otherwise be able to afford. In middle-income economies, where private health insurance plays a

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The role of private health funding
duplicative role (model 7) such as in Brazil and South Africa, there is some evidence that private health insurance frees up resources for those most in need (lower-income households). By covering those that can afford private health insurance, it allows the public sector to provide healthcare in a more affordable manner. For example, in Brazil incidence of catastrophic health spending is 2.2 percent under public and 1.9 percent under private plans, one of the lowest in the region. However, it is debatable whether private health insurance has supported equitable access given that low-income families still face challenges in accessing healthcare under the public and private system. While the national health insurance fund is administered through competing private and public insurers, in Colombia private healthcare insurance funding is not specifically geared towards addressing patient OOP costs. Private health insurance policies provide better access to healthcare and add-on services (Model 1 and 2). In Colombia, 9.6 percent of households still experience catastrophic expenditure, but private health insurance has supported a fraction of the population that can afford it in accessing supplementary services.

- **High impact:** In some high- and middle-income economies where private health insurance plays a supplementary or complementary role, we find stronger evidence in support of affordability. It could provide coverage for medicines excluded from the public budget in Canada (models 5 and 6), lump-sum payments and coverage of patient OOP costs in China (models 3, 4, 5, 6), or coverage of patient OOP payments in France and Slovenia (model 4).

In the rest of the section, we draw from evidence in the deep-dive case studies to assess the key impact areas of private health insurance models in affordability and equity.

**Role of private health insurance in ensuring affordability while UHC is under development**

Achieving UHC is a gradual and slow process. In economies with developing UHC systems, private health insurance can play a role to strengthen service delivery (through a duplicative model) or provide coverage for a set of services and address gaps in public provision as UHC is gradually implemented (through a supplementary model of private health insurance).

While an economy develops UHC, there is clearly a role for private health insurance. Furthermore, contrary to arguments that private health insurance schemes are an obstacle to UHC, there is

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some evidence that private health insurance has proved an important step of the gradual process to its implementation.

In South Africa, the debate around the introduction of National Health Insurance (NHI) has been long standing. In 2011 the government published a white paper which outlined the gradual establishment of universal NHI funded through taxation under a single payer system, contracting services from accredited public and private providers and providing free medicines for all. The implementation of NHI is expected to take overall 14 years by 2025. Government’s three-phase approach to implementing NHI strongly relies on the private sector: i) strengthening of the service delivery platform and reengineering of primary health care to be publicly provided, including purchasing services from private healthcare providers; ii) registration of the population and establishment of a transitional fund for purchasing primary healthcare services from public and private providers and contracting of private practitioners; iii) ensuring NHI fund is fully functional, certification of health facilities, and contracting of private sector providers at higher levels of care (Figure 5).83 The NHI Bill was introduced to Parliament in August 2019. While the Bill is currently under consideration by the National Assembly’s Portfolio Committee on Health, it states that the future role of medical schemes would be to cover services not reimbursable by the NHI.84,85

In China, the introduction of comprehensive basic medical insurance has been a similarly lengthy process. Since the introduction of basic medical insurance schemes between 1998 and 2007, the government launched reforms on strengthening the universal health coverage system in 2009 with the objective to provide universal coverage of basic healthcare by 2020. Since then, China has focused on establishing a multi-layered medical security system and drug supply and security system implemented through three sequential phases of healthcare reform plans (i.e. 2009-2011, 2012-2015, and 2016-2020 phases).86 The private sector has played a less direct role in the implementation of UHC, but as the government recognized the challenge of sustainably funding the urban employee basic medical insurance (UEBMI) scheme, it introduced tax incentives for employer-provided private health insurance in 2015.87 In March 2020, the government outlined their vision for private health insurance to play a supplementary role by 2030.88

Even in high-income economies such as Canada, it can be argued that UHC is not fully achieved and private health insurance addresses key gaps. Prescription drug coverage was part of comprehensive national healthcare proposals discussed in Canada as far back as the 1940s, but

Canada implemented coverage in stages, starting with hospital and medical care. Consideration of a national Pharmacare plan now sits at the top of the Government of Canada’s agenda, with the establishment of the Advisory Council on the Implementation of National Pharmacare in 2018. Their 2019 report outlines key steps in the implementation of Pharmacare expected to be completed by 2027.

Figure 5: Summary of key reforms, legislation and stages in UHC implementation in South Africa, China and Canada

Source: CRA analysis based on various sources

Private health insurance supports affordability by reducing exposure to catastrophic expenditure in economies with evolving universal healthcare systems that lack effective controls on patient OOP healthcare spending.

In economies striving to achieve UHC against the pressure of a small tax base and/or a large population, several private healthcare funding models could help relieve patient OOP payments and levels of catastrophic spending. These include models which provide a one-off lump-sum payment (model 3), complementary coverage for OOP payments (model 4) or supplementary coverage of medicines not available in the public basket (models 5 and 6). This is particularly observed in systems without effective controls on total patient OOP costs.

The mix of private health insurance models in China – models 3, 4, 5 and 6 (that provide complementary coverage of co-payments for medicines or services; a one-off lump sum payment


for critical illness diagnosis; or coverage of innovative medicines on specialty drug lists not reimbursed or excluded from the public basket) — improve patient affordability and reduce the risk of catastrophic expenditure. While models 3, 5 and 6 provide financial protection particularly against patients having to pay fully OOP cost of medicines not available in the public system, models 3 and 4 provide additional protection against OOP costs as the public level of reimbursement varies across public insurance schemes, is higher for in- than out-patient medicines and is capped based on provincial income. The effectiveness of these schemes has been documented showing that private health insurance can be effective in reducing the self-payment of medical expenditure and had a positive effect on protection from healthcare costs and a negative effect on catastrophic health expenditure. Indeed, having private health insurance decreases the risk of catastrophic health expenditure by 1.5 times. Studies argue that if more people are covered by private health insurance that is supplementary to government-run basic health insurance, some of the financial burden can be transferred from the government programs whilst also enabling affordable patient access to innovative medicines.

Evidence on this is provided by considering data on healthcare consumption expenditure as a percentage of total household consumption expenditure across provinces with similar average income Figure 6. There is a negative correlation between consumption expenditure on healthcare and private health insurance uptake. This result needs to be treated with caution as there are other potential factors that could have an impact including: i) healthcare spending could be a smaller percentage of household consumption expenditure for more affluent households and ii) differences in the quality of healthcare and social factors that determine how healthy the local population is and thus their demand for healthcare.

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96 The Chinese National Bureau of Statistics defines this as expenditure on “Health Care and Medical Services” — expenditure on drugs, supplies and medical and healthcare services. It is not specified if consumption expenditure includes spending on private health insurance premiums.
Private health insurance can provide affordable coverage allowing public funding to focus on certain therapy areas and vulnerable populations supporting equitable care provision. Private health insurance can work alongside established publicly funded systems to deliver affordable and equitable healthcare. A private health insurance model that provides supplementary coverage for medicines excluded from the public healthcare system (Model 6) supports patients in paying for medicines that could be essential but otherwise unaffordable. At the same time, it allows public funding to be allocated to other high severity areas of need (e.g. in-patient care).

The obvious example of this is Canada where private health insurance covers out-patient medicines for working-age middle-to-high income populations, excluded from the public system (Model 6). It caters to 69 percent of the population, while public healthcare funding focuses on those most in need (i.e. the elderly and low-income populations). The financial responsibility for working populations has been shifted away from the public system to employers (mandatory only in Quebec) – in 2015 approximately 90 percent of private health insurance premiums were paid through employers, unions, or other organizations. According to one interviewee the funding and provision of private health insurance is a key part of employment benefits by which employers compete for skilled labor.

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100 Interview with expert from Green Shield Canada.
Whilst relieving the financial burden on patients and public healthcare funding, private health insurance plans enable access to essential out-patient medicines. Examples include out-patient heart disease medicines and other regular prescription medicines for chronic conditions. Private health insurance coverage is also important for medicines administered in the out-patient setting such as innovative breast cancer therapies, novel biologics for rheumatoid arthritis, or some innovative medicines for inherited rare genetic disorders. Indeed, 67 percent of private drug plan costs in 2018 were for chronic disease drugs which contributed to 86 percent of the drug cost growth between 2016 and 2018. The top-growing spending medicines classes between 2016 and 2018 were medicines for auto-immune conditions (biologic and non-biologic medicines), cancer, and diabetes. The increasing costs for the auto-immune class can be attributed mainly to claims growth, while the other classes saw cost per claim play a bigger role, mostly due to innovations in those therapeutic areas.

Coverage of different populations and patient OOP payments vary considerably across provincial public plans. For example, people younger than 65 years and who are not on social assistance living in Alberta, Quebec and New Brunswick are charged premiums for provincial drug plans, subject to co-insurance (20-35 percent) and deductibles, and those who live in the remaining provinces are covered for catastrophic spending subject to high deductibles ranging from 2–35 percent of income across provinces and in some cases co-insurance.

However, private health insurance supports affordable healthcare for the working population in addition to ensuring access to important prescription medicines. Privately insured populations experience lower rates of cost-related non-adherence (CRNA) when compared to those without coverage and those relying on public plans (Figure 7). This suggests that employer-based models can be effective at supplying affordable access to those medicines covered. In turn, the public system is focused on providing universal coverage for in-hospital care for the entire population and out-
patient medicines for vulnerable populations. Thus, by providing supplementary coverage for medicines excluded from the public basket (Model 6), private health insurance can work in such a way that it i) improves patient affordability for innovative medicines for chronic conditions in the outpatient setting; ii) allows for the public funding to focus on in-patient care; and iii) allows for the public system to serve vulnerable populations – the elderly and poor.

Figure 7: Adjusted cost-related non-adherence (CRNA) rates across those with different insurance coverages in Canada

Source: Findings from a survey by Law et al. (2018)

Given the patchwork of provincial coverage plans, the government is taking steps to implement National Pharmacare, which would ensure universal public funding of prescription medicines. It involves the establishment of a Canadian Drug Agency responsible for the regulation of a national drug formulary. The suggested implementation of Pharmacare would take several steps: i) the establishment of the Canadian Drug Agency; ii) the development of essential medicines list by 2022 followed by the development of a comprehensive national formulary by 2027; and iii) a national strategy including a specialized process for the selection and funding of expensive rare disease treatments by 2022. It is estimated that to launch universal coverage of essential medicines would cost $3.5 billion in 2022 and as the formulary grows to cover a comprehensive list of drugs, the annual incremental costs will reach $15.3 billion in 2027. Current plans also propose a patient co-payment of $2 for essential medicines and $5 for other medicines, with a cap of $100 per year.

While private health insurance is likely to play a smaller future role, interviews highlighted that there would still be future gaps filled by supplementary private coverage for products or populations not

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included under Pharmacare. They also voiced a key concern to be ensuring the same level of access to the same range of innovative cutting-edge medicines is maintained, given access restrictions across provincial drug plans.

**Private health insurance models support patient populations that are particularly vulnerable to high OOP costs due to gaps in the public coverage (either due to the element of cost-sharing or due to paying for medicines that are not publicly covered) such as patients suffering from chronic conditions or life-threatening diseases such as cancer and rare diseases.**

In China, patients diagnosed with life-threatening conditions such as cancer\(^\text{114}\) or inborn genetic disorders\(^\text{115}\) are at a significant risk of catastrophic expenditure. This is because of two potential reasons – patient co-pays could be high for expensive treatments under the public insurance, or patients have to pay fully OOP for innovative medicines not in the public list. Lump-sum, one-off payments (called critical disease insurance in China) (Model 3) target these patients by providing extra cover. In addition, private insurers cover medicines excluded or not covered by the NRDL (Models 5 and 6) for selected rare diseases and cancers (for example, high-cost innovative cancer treatments). Because some orphan disease medicines can be extremely costly, private health insurance models provide enough coverage for patients’ healthcare costs. Indeed, there is evidence of this for some innovative treatments focused on genetic diseases.\(^\text{116}\)

Other patient populations that are at significant risk of catastrophic spending or impoverishment due to healthcare costs include patients suffering from chronic diseases such as cardiovascular disease, \(^\text{117}\) diabetes\(^\text{119} 120\) and multiple sclerosis.\(^\text{121}\) Such patients have high OOPs as a result of medicines costs and managing complications of the disease. While there are no specific supplementary insurance plans targeting such chronic conditions\(^\text{122}\), complementary private health insurance that provides coverage of the cost-sharing (Model 4) could help address some of these costs by covering a portion of patient OOP payments on medicines and services. Although there

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\(^\text{122}\) Interview with Pfizer internal experts on China.
was some support for this in the expert interviews, we have not found empirical evidence to suggest this.

Private health insurance can play a role even with a high level of public coverage. This is the case for supplementary coverage for services excluded from the public basket (model 2) and complementary coverage for patient OOPs for medicines and services (model 4). These support the overall affordability of the healthcare system and relieve pressure on public budgets, allowing for patients with life-threatening or chronic conditions to be prioritized, while maintaining low OOP payments for the population.

These type of models exist in France where since 2020 employers are required to purchase private health insurance for medicines’ co-payments, suchcharges for specialist consultations, and dental, audio and optical benefits. Complementary coverage of co-payments (Model 4) allows for the public system to prioritize funding life-threatening or chronic diseases and products of higher medical benefit and therapeutic value, while private health insurance protects patients from high OOP costs. In 2018, 73.5 percent of national medicines consumption expenditure was covered by the state, the remaining 12.5 percent by complementary private health insurance and 12.6 by households. According to interviews, the mix of public and voluntary private health insurance has successfully managed to ensure one of the lowest levels of patient OOP costs (this is supported by evidence although from some years ago, 9.4 percent in 2017) and catastrophic health expenditure (below 2 percent). According to a study in 2017, France also has the lowest levels of CRNA standing at 1.6 percent relative to the other economies in scope (Figure 8). Thus, the mix of private health insurance models in place support patient affordability across the whole population. According to interviews this allows the public budget to prioritize those in most need – for example, patients suffering from life-threatening or chronic conditions.

123 Interviews with French academic and local private health insurance expert.
Even without the role of employers, private health insurance models can provide high level of coverage in the public system. Another example is Slovenia, which has achieved near universal public healthcare coverage (only 0.17 percent were uninsured in 2018\textsuperscript{132}). With one of the highest shares of voluntary health insurance in Europe, overall patient OOP costs are amongst the lowest in the region – around 12 percent of total healthcare spending, close to those observed in France (Figure 9).\textsuperscript{133} Private health insurance in Slovenia takes the form of Model 4 and covers patient OOPs for medicines, leaving a very small proportion of pharmaceutical costs to be paid by the patients (e.g. when opting for more expensive alternatives or branded generics, or for medicines outside the public reimbursement list). Thus, Model 4 complementary private health insurance for patient co-payments has enabled broad coverage whilst keeping patient OOP costs to a minimum.

\textbf{Figure 8: Prevalence of cost-related non-adherence (percent of older adults) in 2014}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure8}
\caption{Prevalence of cost-related non-adherence (percent of older adults) in 2014}
\end{figure}

\textit{Source: Commonwealth Fund 2014 International Health Policy Survey of Older Adults and Osborn et al. (2014)\textsuperscript{130,131}}


Figure 9: Voluntary Health Insurance and OOP payments, WHO European Region, 2016

Source: Replicated from WHO 2019 Global Health Expenditure Database.\textsuperscript{134}

Note: OOP – out-of-pocket payments; THE – total healthcare expenditure; VHI – voluntary health insurance

\textit{Private health insurance can indirectly support the affordability of medicines in the public sector through differential pricing}

Under a duplicative model of private health insurance (Model 7), with differential pricing of medicines set according to the private payer's ability to pay, medicines manufacturers could make available their medicines at a lower price for the public sector. While leading to savings for the public sector, this ultimately benefits low- to-middle-income populations required to pay less as a result of cost-sharing in the public sector.

An example of this is the duplicative model in South Africa, where medicine prices in the private sector are distinct and regulated through the Single Exit Price (SEP). The SEP is set by a pricing committee appointed by the Minister of Health, whereas those in the public sector are determined through a “winner-takes-all” tender.\textsuperscript{135} The SEP is considerably higher than the publicly tendered price particularly in the case of oncology, diabetes and antirheumatic medicines (Figure 10). According to interviewees, an additional factor leading to lower public-sector prices is the higher volume of patients it offers access to (approximately 85 percent of the population). Medicine sales achieved in the private sector cover help mitigate the unpredictability of the tender-based system.\textsuperscript{136,137} Given cost-sharing requirements for secondary and tertiary-level of care for those of

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{135} Interview with South Africa experts.
\item \textsuperscript{137} Free Market Foundation. (2017). Reforming South Africa’s proposed healthcare financing reforms.
\end{itemize}
\end{footnotesize}

**Figure 10: Comparison of the 2020 tender price and the single exit price (SEP) of innovative medicines available both in the public and the private sector**

The evidence supports our hypothesis that private health insurance can work effectively alongside public funding in ensuring affordable and equitable access to healthcare for a broader population than what is otherwise feasible under a set budget, allowing for the most vulnerable populations to be prioritized – the elderly, those with life-threatening conditions, and low-income households. Some evidence points to the fact that private health insurance might improve affordability of healthcare in public system in some circumstances and support healthcare systems during the development of UHC. The role of private health insurance can lead to inequity, but a more equitable system can be

\footnote{The private sector prices are the Single Exit Price (SEP) reported on https://mpr.code4sa.org/ database. The public-sector prices were retrieved from the government’s most recent tender outcome. Non-generised originator products were selected out of the following therapy areas – oncology, HIV/AIDS (ARVs), antidiabetic products and rheumatoid arthritis. The reported prices are for products with the same unit/package quantity as follows: darunavir (75mg 480 tablets); lopinavir/ritonavir (100/25mg 56 tablets); raltegravir (100mg 60 tablets); ritonavir (100mg 60 tablets); idarubicin (10mg injection); medroxyprogesterone (100mg 100 tablets); nilotinib (200mg 112 capsules); trastuzumab (440mg injection); insulin (100 U/ml 3 ml); leflunomide (10mg 30 tablets).}

Summary

The evidence supports our hypothesis that private health insurance can work effectively alongside public funding in ensuring affordable and equitable access to healthcare for a broader population than what is otherwise feasible under a set budget, allowing for the most vulnerable populations to be prioritized – the elderly, those with life-threatening conditions, and low-income households. Some evidence points to the fact that private health insurance might improve affordability of healthcare in public system in some circumstances and support healthcare systems during the development of UHC. The role of private health insurance can lead to inequity, but a more equitable system can be
ensured through a “safety net” for low-income households through state support for private health insurance premiums.\textsuperscript{140,141}

In conclusion, the role of private health insurance varies across the different funding models but supports patient affordability in the following ways:

- Private health insurance models that provide complementary coverage of patient OOP payments for medicines (model 4) have successfully supported public systems in ensuring that broad patient coverage under a universal healthcare system is not achieved at the expense of high patient OOP costs. At the same time, such models allow for the public coverage to prioritize life-threatening or chronic conditions with expensive treatments.

- Private health insurance models that provide supplementary coverage of medicines not available in the publicly reimbursed list (models 5 and 6) have successfully allowed for public funding to be focused on higher severity areas/in-patient care and vulnerable populations – the elderly and low-income households. Evidence from middle-income economies shows that such models support access to high-cost innovative medicines and help avoid what would otherwise be catastrophic patient OOP costs for those diagnosed with severe conditions such as cancer and inherited rare genetic disorders.

- Duplicative (model 7) and supplementary private health insurance models (models 5 and 6) can support the public system in the implementation of comprehensive UHC which normally takes decades to achieve.

The role of private health insurance also varies by type of economy:

- Generally, in high-income economies with established UHC systems, private health insurance models provide support in achieving low patient OOP costs for a broad population, whereas in middle-income economies with developing UHC systems, they help avoid catastrophic healthcare spending.

- We find that supplementary and complementary models can also co-exist in both high- and middle-income economies to ensure an overall affordable healthcare system. Supplementary coverage of medicines or services in addition to complementary coverage of patient OOP costs enable affordable patient access to both medicines (e.g. high-cost innovative medicines) and auxiliary services (e.g. dental and optical services), for which healthcare budget might not be sufficient.

3.2. Access to healthcare, particularly innovative medicines

In this section, we consider the impact of private health insurance models on the overall access to medicines in the healthcare system – i) whether it enables broader patient access to innovative medicines in the first place; ii) whether it enables timelier access than under the public system; iii) whether it supplements the otherwise restricted public access to selected patients.

While other factors such as an economy’s income level and ability to pay for high-priced innovative medicines would have a strong impact on access to innovative medicines, we find that a range of models support better access to innovative medicines: economies with duplicative or substitutive


models (Models 7 and 8) and those where private health insurance provides supplementary access to medicines excluded or not in the public basket (Models 5 and 6):

- **Low impact**: In economies where private health insurance provides complementary coverage of patient OOP costs (Model 4) such as France and Slovenia, it is unlikely to have an impact on the breadth of medicines covered as this is determined in the public sector. Similarly, is the case of economies where the primary objective of private health insurance is to provide access to better quality healthcare (model 1) or add-on services (model 2) such as in Italy and Colombia.

- **Medium impact**: In economies like Japan where the dominant model is the provision of lump-sum payments (model 3), private health insurance could improve patient's ability to pay and therefore afford a wider range of medicines. However, private health insurance per se would not directly impact the variety of medicines available and timely access as there is an overall high level of public coverage.

- **High impact**: The model in the US (Model 8) is often cited as one that encourages timely, and broader patient access to medicines, considering the impact of private health insurance across all areas. We observe that the impact of private health insurance on access to medicines is more pronounced across models which provide medicines not available or excluded from the public system (Models 5 and 6) such as those in Canada and China and those with duplicative coverage of medicines (Model 7) such as in Brazil and South Africa.

In the rest of the section, we draw from evidence in the deep-dive case studies to assess the key impact areas of private health insurance models in access to healthcare and innovative treatments.

*Private health insurance supports more comprehensive coverage of innovative medicines in economies when UHC might be regionally fragmented*

*Private health insurance models that provide supplementary coverage of innovative medicines not yet available or excluded from the public basket (Models 5 and 6) enable more comprehensive coverage of innovative medicines.*

In Canada, the overall availability of in- and out-patient medicines listed in publicly covered provincial drug plans is seen as fragmented and with discrepancies across provinces. For example, coverage rates of in- and out-patient medicines in 2015 varied across provinces — less than half (48 percent) of 729 medicines were available in all public plans, with an average coverage rate of 79 percent across public provincial plans. Branded (single source) and high-cost drugs are less well and less consistently covered (i.e. with restrictions to which patients have access) than drugs with multiple sources (including generics). In contrast, according to interviewees, the likelihood of medicines being reimbursed on private plans is higher and those experience less restrictions in terms of the eligible patient population. For example, 92 percent of newly launched medicines were

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142 Interview with local expert from Innovative Medicines Canada.


145 Interview with local expert from Innovative Medicines Canada.
covered by at least one private plan compared to 28 percent by any public plan in 2012.\footnote{Skinner, B. J., Rovere, M., Mohindra, N., Tran, K. (2015). Pharmacare: what are the costs for patients and taxpayers? Canadian Health Policy. https://www.canadianhealthpolicy.com/products/pharmacare--what-are-the-costs-for-patients-and-taxpayers-.html. (accessed 6th August 2020).} According to the interviewees this still holds true today, whereby private health insurance plans provide access to a broader range and more innovative medicines than the public plans. By providing supplementary coverage, private health insurance could help level off access inequalities across provinces and patient populations, which put Canada behind other OECD economies.\footnote{Hoskyn, S. L. Patient Access to New Medicines In Canada: An International Comparison of Launch and Public Reimbursement Performance. ONCOLOGY, 272, 495.}

By enabling access to an expanded range of treatments, supplementary private health insurance providing coverage of medicines not available in the public sector (Model 5) supports broader patient choice of treatments. Such model has been particularly important in supporting broader patient choice to cancer treatments.

In Canada, there are several public funding options for oncology drugs including hospital budgets, provincial drug plans and/or provincial cancer agencies, as well as funding through private drug plans in the case of the non-senior or low-income population.\footnote{Alignment of oncology drug coverage across Canada. (2018). http://www.pmprb-cepmb.gc.ca/CMFiles/NPDUIS/2019_Posters/poster2.pdf. (accessed 30th July 2020).} A comparison of listing rates for oncology medicines shows that a broader range is available on private drug plans than on publicly funded provincial drug plans (Figure 11).\footnote{Alignment of oncology drug coverage across Canada. (2018). http://www.pmprb-cepmb.gc.ca/CMFiles/NPDUIS/2019_Posters/poster2.pdf. (accessed 30th July 2020).} Oncology medicines have higher approval rates in the private sector (89 percent) than in the public sector on average (73 percent).\footnote{Alignment of oncology drug coverage across Canada. (2018). http://www.pmprb-cepmb.gc.ca/CMFiles/NPDUIS/2019_Posters/poster2.pdf. (accessed 30th July 2020).} Thus, under this supplementary model of providing medicines not available on provincial drug plans (model 5) in Canada, private health insurance supports a broader patient choice of life-saving oncology medicines. This was also supported by interviewed experts on the Canadian system, who highlighted that public plans have step coverage of medicines only when certain eligibility requirements of prior treatment have been met. This is not the case in the private system where patients can get access with less restrictions.\footnote{Interview with an expert from Innovative Medicines Canada.}
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**Figure 11: Listing rates for oncology medicines reviewed by iJODR and pCODR between 1st March 2007 and the 30th June 2018**

![Graph showing listing rates](image)

*Source: Based on an analysis of IQVIA data*\(^{152}\)


The duplicative private health insurance model (model 7) also enables broader patient choice and access to a greater number of innovative high-cost medicines.

In Brazil, a wider range of treatments are used for lung cancer patients in the private healthcare sector than in the public system (Figure 12). For example, 90 percent of patients treated in the public system are managed with chemotherapy, whereas in the private system a variety of treatment strategies are used in addition to chemotherapy (37 percent) such as anti-EGFR tyrosine kinase inhibitors (24 percent) and immunotherapy on top of chemotherapy (15 percent).\(^{153}\) Access to a broader choice of treatments through private health insurance is particularly important for cancer, given the heterogeneity of tumour types and the need for more personalised approaches to managing cancer matched with strong innovation in the space in recent years. An additional access challenge in the public sector in Brazil highlighted by interviewed experts is the common shortage of medicines in public facilities due to failure to purchase those at the state level. This is not the case in the private sector where supply is secure.\(^{154}\)

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\(^{154}\) Interview with healthcare expert in Brazil.
Figure 12: Pharmacological treatments for first line lung cancer used in both the private sectors and public sector (2019)

This is also the case in South Africa with its duplicative model (model 7). Private health insurance schemes allow patients to have access to a greater number of medicines than those available in the public sector.\textsuperscript{156} For example, according to an IQVIA analysis, in 2014, there were 5,000 different medicines available under benefit schemes from 2,400 different manufacturers compared to 130 medicines and 90 manufacturers in the public sector.

**Achieving relatively higher prices in the private sector, incentivises pharmaceutical companies to launch their products in the market and facilitates lower prices to the public sector.** The decision to launch in a market is determined by a number of different factors and commercial opportunity as a whole is one. A viable private sector can give a company confidence in commercial opportunity even if the public market is unpredictable – for example due to the unpredictability of the public tender-based system.\textsuperscript{157,158} Although part of the price differential can be explained by volume difference between the public and private systems, the security of a viable market gives companies more confidence to enter the South African market.

The increased access in private model can also have externalities in terms of access to medicines through public health coverage. According to experts in Brazil, the earlier introduction of innovative medicines in the duplicative private sector is driving physicians’ and patients’ awareness of new treatments. Given that physicians engage in work in both the private and public sectors, their prescribing habits developed in the private sector result in pressure for the government to expand coverage in the public system as well.\textsuperscript{159} While we find no direct evidence to support this, the opportunity of ensuring patient access through the private sector incentivises pharmaceutical


\textsuperscript{157} Free Market Foundation. (2017). Reforming South Africa’s proposed healthcare financing reforms.


\textsuperscript{159} Interview with healthcare expert in Brazil.
companies to finance and implement local clinical trials. This in turn presents an opportunity for some patients to access life-saving medicines in an experimental setting.

*Private health insurance enables timely access to high-cost innovative treatments for cancer or rare diseases of limited availability in middle-income economies with developing UHC systems*

Supplementary private health insurance which covers medicines not available or excluded from the public basket (Models 5 and 6) could be important for enabling access to high-cost innovative treatments, particularly for rare diseases or oncology.

This is observed in China, where even though there are now more frequent updates to the national reimbursement list (NRDL), cutting-edge, novel treatments are often still excluded from NRDL.¹⁶⁰¹⁶¹ Patient advocates have raised concern on i) orphan medicines available abroad but unavailable in China and ii) those approved in China but not reimbursed (Figure 13). For example, a 2019 analysis shows that 47.3 percent of approved orphan medicines lack national reimbursement and only 60.4 percent of orphan medicines available globally were approved in China.¹⁶² Private health insurance plans based on coverage of selected medicines are evolving in China and can enable patient access in these circumstances. An example comes from the partnership pilot between the government-sponsored basic medical insurance and the Guangzhou Huimin Private health insurance, which covers innovative treatments not available on the NRDL for HER2-negative breast cancer, BRCA-mutated ovarian cancer, EGFR+ Non-small-cell lung cancer; Multiple Sclerosis; Myelofibrosis, Pulmonary Arterial Hypertension (PAH), Niemann-Pick type C (NPC) disease, Hyperphenylalaninemia.¹⁶³ According to interviewees other provinces are taking a similar approach – for example, the authorities in Chengdu (in Sichuan province) are partnering with private health insurers to develop supplementary insurance cover for non-NRDL covered medicines.¹⁶⁴ By making not publicly covered medicines available and accessible through this partnership private health insurance scheme, the supplementary private health insurance model in place is also supporting timelier patient access to those medicines, likely to be publicly reimbursed only after a delay in China given that the updates of the NRDL is not dynamic.¹⁶⁵


¹⁶⁴ Interview with healthcare experts in China.

¹⁶⁵ Interview with healthcare experts in China.
Under the supplementary private health insurance models 5 and 6, partnerships between manufacturers and private health insurers have also been important in ensuring (timely) access to innovative medicines, particularly for cancer. While the examples of these partnerships are limited, individual pharmaceutical companies have partnered with private insurers to enable timely access to their treatments in China before they are made available on the NRDL (Table 2).

Table 2: Examples of innovative medicines made available through supplementary private health insurance

<table>
<thead>
<tr>
<th>Innovative cancer medicines available originally through private health insurance in China</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In 2019, an inhibitor for cyclin-dependent kinases for hormone-positive and HER2-negative breast cancer, not listed on the national drug reimbursement list, was made available across cities in China through the People's Insurance Company of China and MediTrust Health following marketing approval in July 2018.</td>
</tr>
<tr>
<td>• In 2015, through a partnership between a pharmaceutical company, the Shenzhen Reimbursement Authority and Ping An insurance company, Shenzhen was the first city in China where four innovative cancer therapies (including three immuno-oncology treatments) were reimbursed.</td>
</tr>
</tbody>
</table>

Source: Based on an analysis by the China organization for Rare Disorders and IQVIA

Note: NRDL – National Drug Reimbursement List


167 Interview with local expert.


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- Through a partnership between a pharmaceutical company, a re-insurance and insurance companies, patients could purchase health plans enabling coverage of cancer treatment costs.\textsuperscript{170}
- Pharmaceutical companies are also exploring the opportunity to provide potentially curative treatments for rare diseases through a similar re-insurance models which could place significant financial risk on private health insurers.\textsuperscript{171}

Source: CRA Analysis of public sources

Private health insurance supports faster access to medicines compared to public systems in both high-income and middle-income economies

Private health insurance models could also enable faster access to innovative treatments compared to what is achievable in the public system. There is evidence in support of this from both systems in which private health insurance plays a supplementary (models 5 and 6) and duplicative role (model 7).

For example, in Canada the time delay between marketing authorisation and first listing was shorter on average by 321 days in the case of private health insurance plans than public ones (Figure 14).\textsuperscript{172} Interviewed experts in the Canadian system in part attribute this delay in the public sector to the price negotiation and the differences across regional processes. Interviewees acknowledged that there is a trend for the pricing process in the private sector to also take longer due to budget pressures and the high cost of some recent innovative medicines, waiting for the national health technology assessment by the Canadian Agency for Drugs and Technologies in health (CADTH).\textsuperscript{173}

In South Africa, the duplicative private health insurance model has enabled accelerated access particularly in the case of innovative cancer medicines, many of which become available first in the private sector.\textsuperscript{174}


\textsuperscript{173} Interview with Pfizer Experts and local expert from Innovative Medicines Canada.

Summary

The evidence outlined above is in support of our initial hypotheses that private health insurance supports both faster and broader access to new treatments and thus leads to broader patient choice. Furthermore, we conclude that this impact is observed across both high-income and middle-income economies through supplementary (Model 5 and 6) and duplicative insurance models (Model 7) as follows:

- Supplementary and duplicative models support more comprehensive, faster and broader access than in the public system in both high- and middle-income economies. Evidence from systems with these models show that private plans list more novel medicines and faster than in the public system. This enables broader patient choice, needed in the case of disease areas such as cancer, and faster access to innovative treatments in both high- and middle-income economies.

- In middle-income economies, supplementary and duplicative private health insurance models might be the only option for patients to access a treatment in the first place. This is often observed for high-cost innovative medicines for cancer or rare diseases which are typically unavailable under the basic public coverage. Partnerships between the public system, private health insurance and pharmaceutical companies, have also been a useful mechanism under supplementary models to ensure access to novel treatments that are not listed in national or local public payers’ lists.

- Supplementary private health insurance supports more robust and uniform coverage and patient access particularly in economies subject to a regional division of healthcare budgets which has led to more fragmented access.

3.3. Sustainability

In any healthcare system, funding is not unlimited and with the continuing global trends of an aging population with more chronic conditions, ensuring the sustainability of healthcare systems is an
important challenge if economies are to achieve UHC. As described in chapter 2, we define sustainability as a healthcare system that can meet the challenges of patients today and tomorrow.

For the purpose of the analysis, we consider private health insurance to be promoting sustainability of the overall healthcare system when it relieves financial pressure from the public system or allows the public system to better cope with healthcare shocks. We rely on evidence including: i) statistics on healthcare utilization between public and private settings; ii) price differentials between public and private sector provision of medicines; and iii) additional capacity within the private system that might help support the overall healthcare systems during healthcare shocks.

The ability of private health insurance to impact the sustainability of the overall healthcare system is in part defined by the model and size of the private health insurance:

- **Low impact**: Economies where private health insurance represents a very small proportion of overall healthcare spending are not in position to be as financially supported e.g. Japan, and Italy. Private health insurance systems akin to supplementary models 1 and 2 or similar to model 3 where lump sum payments are provided, have less scope to contribute to sustainability either financially or via adding capacity.

- **Medium impact**: Economies that can be characterized as having complementary or supplementary models 4, 5 and 6 are better able to financially support the public healthcare system because of the nature of coverage that they offer lends itself to either directly reducing public section expenditure, in the case of model 4 (France and Slovenia), where models 5 and 6 in economies such as Canada may allow the public system to focus on providing other goods and services and might also allow capacity to be increasing by supporting a limited private healthcare system.

- **High impact**: Economies with the highest proportion of private healthcare spending, such as the US, Brazil, and South Africa are best placed to support the public system because of the amount of financial healthcare funding they provide and the ability to build on the existing system at time of healthcare shocks. Notably these economies represent models 7 and 8, duplicative and substitutive, and it is these systems where reliance upon private health insurance is greatest, both financially and as a source of extra capacity since these systems provide access to alternative healthcare setting to the public systems. Furthermore, to limit public spending, UHC expansion in China has focused on providing a basic basket of services and medicines. The supplementary insurance model in China could sustainably expand this basic coverage basket and level of reimbursement while the financial responsibility is shifted to individuals or employers through the models in place, namely providing lump-sum payments to cover catastrophic costs (model 3), complementary coverage of co-payments (model 4), and enabling supplementary access to medicines excluded or not available in the public system (models 5 and 6).

In the rest of the section, we draw from evidence in the deep-dive case studies to assess the key impact areas of private health insurance models in sustainability.

**Indirect effects of private health insurance on public sector sustainability**

There is evidence that having a mix of funding channels can alleviate pressure from the public system allowing for a more financially sustainable healthcare system overall. This is especially important for middle-income economies whose tax base is typically smaller and therefore where raising funds for a growing public healthcare system is more challenging than in high-income economies. In economies with duplicative coverage of medicines and services akin to model 7 (Brazil and South Africa), the private system can reduce utilization of the public system whilst not directly affecting the tax collecting potential for the economy.
In markets where those with private health insurance also contribute to public system through taxes sustainability can be improved. The public system can provide greater level of services as they need to serve fewer patients with the same budget. Examples of such situations can be seen in Brazil where ~60% of the population reported only using the public system for healthcare, ~10% only use the private sector and the remaining ~30% use a mixture of both.\textsuperscript{176} Interviewed experts also highlighted that a sizeable portion of hospitalizations for procedures that are publicly covered are privately funded. The private sector relieves pressure in the public system by reducing waiting times in the public system, given the lack of funding for the public system.\textsuperscript{177} Furthermore, in Brazil, private insurers must repay all costs of covered treatment even if they take place in a public establishment again allowing the indirect financial support of the public system by private health insurance.\textsuperscript{178,179}

Additional evidence of how private health insurance indirectly support sustainability of the public sector, comes from South Africa through differential pricing of medicines. While there is an ongoing reform to introduce NHI,\textsuperscript{180} the private health insurance model has historically been duplicative offering coverage of services in the private care setting and medicines listed on private health insurance formularies.\textsuperscript{181} Around 16% of South Africa's population rely on private health insurance, obtained through their employer or by high-income earners which can also indirectly financially support the public system in a similar way to Brazil.\textsuperscript{182}

**Private health insurance models that provide complementary coverage for healthcare costs (model 4) can politically and financially support the sustainability of the overall healthcare system in the long term by shifting away the burden of financing healthcare (e.g. to employers).**

Private health insurance is also able to support healthcare systems politically in the face of rising healthcare costs. For example, in economies where increasing tax revenue to fund additional healthcare spending is politically unfavorable whilst facing the challenge of rising healthcare spending. We see evidence for this in economies defined as having medium impact models such as France (model 4) where there is a well-established private health insurance market which covers cost-sharing for medicines for the majority of the population. According to interviewed experts, this contributes to the government's objective to keep the growth of pharmaceutical spending to under one percent of total healthcare spending in 2019, while employers are required to pay for complementary coverage for their employees.\textsuperscript{183} This allows the public system to convey some


\textsuperscript{177} Interview with healthcare expert in Brazil.

\textsuperscript{178} Premont, M. C. (2015). Health insurance in Canada and Brazil, access to drugs, co-payment cards, loyalty programs, brand name drugs. RAHIS, 12(1).

\textsuperscript{179} Interview with local expert


\textsuperscript{181} Ataguba, J. E., \\& McIntyre, D. (2012). Paying for and receiving benefits from health services in South Africa: is the health system equitable? Health policy and planning, 27(suppl_1), i35-i45.


burden onto private health insurers (financed by employers) and reduces the amount needed to be raised through taxation. A similar situation is found in Slovenia where again a model 4 system allows private health insurance to take healthcare spending burden away from the public system. In the aftermath of the 2008 economic crisis co-payment levels in Slovenia were gradually increased to convey more of the burden onto private health insurers and away from the public system. This evolution did not have severe consequences to healthcare access given the extensive use of private health insurance in Slovenia but did contribute towards premium increases.\textsuperscript{184}

An important additional nuance of the French system is that the complementary private health insurance model covers the surcharges/extra billing – an incentive to retained skilled specialists. Without private health insurance the cost of extra billing for consultations above the set national limit would be passed onto patients or in the absence of such lead to a shortage of specialists. According to an interviewed expert this is allowed for specialists once they move to work in the ambulatory setting, following their work in hospitals. The prospect of extra billing in the ambulatory setting acts as an incentive to retain and ensure the availability of skilled specialists in the long term.\textsuperscript{185} Extra billing is made possible through complementary private health insurance as otherwise the fees would be unaffordable for patients or unsustainable for the healthcare system to cover, avoiding shortage of specialists in the long term.

*Private health insurance as a buffer during unexpected healthcare shocks*

Our hypothesis was that there might be an ability of private health insurance to support healthcare provision which is most tested during the time of a healthcare crisis. Currently, the full consequences of the COVID-19 global pandemic are still to be realized as are the implications of how different funding models can help support healthcare systems during similar unexpected healthcare shocks in the future. However, during pandemics there is evidence of an increased reliance on the private healthcare system, as in some cases economies have relied upon non-public support to bolster the capacity of the healthcare system; this is most apparent in models defined as high and medium impact (model 5, 6, 7 and 8). In South Africa the government negotiated a service level agreement allowing COVID-19 patients to be treated in private hospitals (which are commonly used by those with private health insurance) if the critical care capacity of the public system is reached, allowing the public sector to benefit from the additional critical care bed capacity in the private sector, which represents around two thirds of overall capacity.\textsuperscript{186,187,188} There is general evidence of closer public-private collaboration in South Africa during the COVID-19 pandemic with such things as

\begin{flushright}
\textsuperscript{185}Interview with expert academic on the healthcare sector in France. \\
\end{flushright}
expansion of free online doctor consultations for COVID-19 related issues. According to an interviewed expert, the COVID-19 pandemic has allowed for a model of closer collaboration between the private and public systems to be tested out as the government is embarking on implementation of NHI.

In China there is also evidence that private health insurance is responding to the COVID-19 pandemic by extending coverage on existing health policies to cover treatment costs or providing COVID-19-specific death cover, for example:

- Initiating 'Emergency Response Plans' to ensure fast claim settlement for policyholders
- Providing additional coverage to millions of healthcare workers and reporters working in the worst-affected area (as typically cover excludes epidemics)

Historically there is evidence that during times of viral outbreak there is an increased demand for private health insurance. In China during the 2003 SARS outbreak private health insurance experienced a short-term boom (Figure 15). This could in part be due to a potential rise in policy prices, but the magnitude of the increase suggests an increase in demand for insurance products indicating a reliance of individuals on private health insurance during times of viral outbreak. While a similar impact is yet to be observed as a result of the COVID-19 pandemic, interviewed experts agreed this was possible and highlighted accelerated reforms to increased role for the private system, as evidenced by recent government plans to support the sustainability of the healthcare system through expansion of the private health insurance market.

190 Interview with local expert.
It is notable that other economies try to increase private coverage during crises but without a culture for the use of private health insurance or pre-existing industry the ability of the private market to expand is often limited. Interviewed experts highlighted that COVID-19 has led to a reduction in the number of people opting for elective surgeries which can be delayed. This in turn is likely to result in long waiting lists in the public sector during the times when the pandemic is controlled. Overburdened public sector, shortage of staff and long waiting times is likely to lead to people seeking faster access to services such as elective surgeries through private health insurance models, which offer supplementary coverage for improved or add-on healthcare services (models 1 and 2). Reports already suggest an increase in the demand for private health insurance policies due to consumer concerns with the long waiting times in the public sector. Thus, there is an option value in having a private health insurance market particularly in times when the public system is over-burdened. Although there is some concern that this may result in income-based inequity in some economies, for example in Sweden where the role of private health insurance and equity is currently being subjected to a review due to be concluded in 2021.

We see evidence that supports our hypothesis that private health insurance can support the healthcare system from a budgetary and provision perspective. This evidence is concentrated in models where private health insurance has a more substantial role within the overall healthcare system, duplicative (model 7) and to lesser extent models 4, 5, and 6 where support is restricted but still apparent. Furthermore, demand for private health insurance is expected to increase in times

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197 Interview with PhRMA.


when the public system is overburdened even in economies where private health insurance plays a relatively limited role (model 1). In other models we did not find evidence to support our hypothesis.

Summary

In conclusion, evidence suggests that private health insurance can promote the financial sustainability of healthcare systems in a number of ways and to differing extents depending on the funding model:

- Private health insurance can indirectly support the public system by relieving the financial burden of care for proportions of the population as well as support medicines priced to reflect ability to pay in the public sector.

- In models such as supplementary or complementary private health insurance (models 4, 5, and 6), the benefits are similar to those of duplicative models (model 7) but are much more constrained by the gaps lefts by the public system.

- Complementary private health insurance models (model 4) can assist public systems in balancing the demand for comprehensive public coverage in high-income economies with the need to contain rising healthcare costs whilst ensuring sufficient incentives are in place to retain skilled healthcare professionals in the long term.

- Private health insurance can support public healthcare systems during times of healthcare shocks such as COVID-19 by allowing increased capacity or reliance on the private system. Duplicative funding models (model 7) are where the private system is best placed to shoulder the burden of a portion of healthcare without affecting public funds. Within models 4, 5 and 6 it is more challenging for private health insurers to provide support during times of healthcare crisis, such as COVID-19.

3.4. Efficiency

Given limited healthcare resources surrounding any healthcare system, efficiencies are important to maximize value for money in healthcare. Efficiency is a difficult concept to quantify in practice and as such when investigating the role of private health insurance in addressing it. We focused on areas where private health insurance is better able to provide services that minimize future preventable healthcare consequences.

We again find that the broader literature shows that the ability of private health insurance to impact the efficiency of the overall healthcare system is in part defined by the private health insurance model:

- **Low impact**: Economies where private health insurance plays a limited role in the provision of services (models 1, 2 and 3) it has limited agency to promote overall system efficiency.

- **Medium impact**: Systems that are characterized as supplementary (models 5 and 6), are better able to promote efficiency as they are typically more involved with provision of care that can result in cost savings, such as preventive services and provision of medicines that can have positive health consequences in the future.

- **High impact**: In economies where private health insurance provides complementary coverage for patient OOP costs (model 4), the reduced burden that falls on patients could in turn encourage patient adherence. Value-based efficient use of resources exists in the French system where public funding is focused on the reimbursement of most important treatments, whereas complementary private health insurance covers the patient OOP costs for treatments with limited therapeutic value. Duplicative and substitutive systems (models 7 and 8) where private health insurance is most able to promote access to preventive goods
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and services and therefore is most likely to support efficiency. Although, splitting the setting of care between public and private may in some instances reduce efficiency by increasing the cost of care in private establishments.

In the rest of the section, we draw from evidence in the deep-dive case studies to assess the key impact areas of private health insurance models in efficiency.

*Private health insurance supports uptake of preventative services, particularly for more innovative technologies*

*Private health insurance actively promotes the use of preventive healthcare services which can increase the efficiency of a healthcare system and reduce preventable future costs.*

Preventative services can take the form of screens where early detection can improve outcomes and reduce costs such as cancer screens; or medicines that are able to reduce the risk of serious healthcare consequences such as statins for cardiovascular disease. We find that supplementary, duplicative, and substitutive models are most likely to increase uptake of preventative services. Firstly, these models allow access to private facilities that may offer a broader range of innovative or high-cost services or facilitate speedier access. Secondly, these systems reduce the cost barrier to access services not covered under the public system. Both reasons may encourage uptake of preventative services and result in a more efficient healthcare system.

For example, in South Africa (duplicative model 7) access to breast cancer screening for at-risk women is fragmented and restricted within the public sector\(^{200}\) whereas private health insurance typically reimburses mammography screening tests. As a result, there are notable differences in the rates of early stage diagnosis of breast cancer in the private sector when compared with the public sector. Breast cancer diagnoses tend to occur at earlier stages when diagnosed in the private sector relative to the public which can result in more timely treatment, better clinical outcomes and cost savings due to avoided expensive management of late-stage cancer (Figure 16).\(^{201}\)

**Figure 16: Percentage of patients diagnosed with each stage of breast cancer patients in South Africa between public and private systems between 2000-2008**

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Similar examples from another duplicative system (model 7) Brazil are available; where an academic study found that women aged between 50 and 69 with private health insurance were more likely to undergo a mammography exam in the preceding 2 years than those without (Figure 17). Additionally, those covered by private health insurance were more likely to receive requests for a mammography exam and to receive that exam within 1 month of the request. Although part of this effect could be explained by differences in health awareness between populations, the difference in requests for screens is notable between the public and private systems, 59.4% vs. 83.9% respectively. This discrepancy could have major implications for screening uptake as the same publication reports that only 5.4% of women who received a request for a mammography failed to perform the mammography, with non-compliance rate higher in the public than the private system. Women covered by private health insurance in Brazil are also significantly more likely to undergo other preventative screens such smear tests when compared to those without.

**Figure 17: Percentage of women in Brazil aged between 50-69 who have received a mammography exam in the past 2 years between those with and without private health insurance coverage**

Another form of efficiency can be achieved by prevention of complications using pharmacotherapy. Since most preventative pharmacotherapies are given regularly in a home setting, Canada where private health insurance predominantly covers non-hospital medications (representing supplementary model 6) is an ideal model to investigate whether private health insurance can increase efficiency for conditions that require this element of pharmacotherapeutic prevention. As outlined in an earlier section of the report, patients on private drug plans experience lower CRNA

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than those uncovered and on public drug plans. Lower CRNA could in turn incentivise patient adherence to treatments that are needed, lowering costs in the long term. Conversely, non-adherence leads to increased utilization of services later on which could have been avoided. Indeed, a survey-based study estimates that 374,461 Canadians, or 24.1% of those who report CRNA, use healthcare services that they would not have otherwise needed and that those not covered by a private health insurance plan were more likely to report healthcare system consequences as a result of non-adherence (p<0.001). These services used as a result of CRNA were most commonly a physician visit, but emergency department visits and hospital stays were also reported (Figure 18). Chronic conditions such as heart disease, arthritis and depression were amongst the highest reported conditions for CRNA. Thus, a private health insurance model which supports lower patient costs for needed services and prescriptions supports more efficient utilization of healthcare by reducing CRNA and improving adherence to treatments.

**Figure 18: Adjusted percentage of those who report cost-related non-adherence reporting additional use of healthcare services in Canada**

![Figure 18](image)

_Please provide the correct image source._

In other supplementary models (5 and 6) there is also evidence that private health insurance coverage increased use of more general preventative healthcare services which again may improve the efficiency of the healthcare system over the longer term. For example, in China those with private health insurance are more likely to partake in preventative care such as physical examinations as these can be covered by private health insurance plans. Additionally, Qingdao has piloted an insurance-supported precision medicine program, covering precise targeted treatment for tumours, pulmonary vascular diseases, blood diseases, immune diseases, and diabetes. After the new

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initiative was implemented, the average number of per patient hospitalization days decreased significantly, from 15.57 days in 2010 to 9.74 days by the end of 2015.\textsuperscript{211}

**Private health insurance leads to increased competition between services providers and lower costs for patients**

Under a duplicative or substitutive private health insurance (model 7 and 8), providers compete to offer patients a better premium. This in turn exerts pressure on service providers to offer lower, more competitive contracts leading to ultimately lower costs for patients and more efficient use of resources.

Under the existing duplicative model of private health insurance (model 7) in Brazil, private health insurance provides patients with access to private healthcare facilities. Interviewed experts highlight that strong competition between multiple insurers leads to lower prices of service provision contracts, given that regulation prevents insurers from competing on the basis of the coverage basket.\textsuperscript{212} We found limited quantitative evidence to support this, but other global studies have recognized the role of private health insurance driving lower costs through intense competition.\textsuperscript{213}

**Private health insurance supports a more innovative model of healthcare delivery**

Private health insurance could support the increased uptake of more innovative healthcare delivery models such as digital service delivery, electronic medical databases, or wearable devices and apps. This implies a more efficient use of resources and savings for healthcare systems in the long term.

This is particularly observed in China where under the supplementary model of private health insurance for providing add-on services (model 2) private insurers are providing digital solutions to their enrollees. The Chinese government has called for the integration of big data, artificial intelligence, telemedicine, and online pharma retail to help address longstanding inefficiencies. While public sector providers are lagging behind, private health insurance companies are paving the way to a more digitalized healthcare model, accelerated especially as a result of the COVID-19 pandemic.\textsuperscript{214,215} For example, private health insurers such as Ping An’s Good Doctor are launching apps enabling digital consultations.\textsuperscript{216} According to interviewed experts, companies such as Alibaba and Tencent, which are also increasingly providing affordable insurance plans with broad coverage,

\textsuperscript{211} Precision medicine in China. Retrieved from https://www.sciencemag.org/sites/default/files/custom-publishing/documents/Bioryorg-Precision-Medicine-supplement_Final.pdf (accessed 13\textsuperscript{th} August 2020)

\textsuperscript{212} Interview with healthcare expert in Brazil.


are entering the digital health space.\textsuperscript{217} For example, Tencent, the parent company of WeChat is enabling residents in Shenzhen to obtain timely medical consultation, arrange appointments, and access healthcare information, to be gradually rolled out to other cities. This has the potential to better connect patients and healthcare providers through technology leading to increased operational efficiency and enabling patients to avoid long waiting times. Tencent is also incentivising the use of electronic patient records.\textsuperscript{218} Ali Health has also launched online doctor consultations and, through partnership with a pharmaceutical company, is offering virtual vaccination consultations. These have the potential to encourage the use of preventative treatments and lead to efficiencies in terms of long-term healthcare savings beyond those achieved through the use of digital platform.\textsuperscript{219} According to a consumer survey conducted in December 2019, only 24\% of Chinese respondents had used telemedicine. However, 97\% expressed interest in digital health services, if the costs were covered by an insurance provider or employer, and 64\% expected to use telemedicine within the next five years.\textsuperscript{220} Recently, China’s president Xi pointed to telemedicine as one of the widely used services that have played an important part in maintaining economic stability during COVID-19, potentially indicating that the Chinese leadership are supportive of telemedicine and may promote it over the longer term.\textsuperscript{221}

This is also reported in South Africa and Brazil under their duplicative private health insurance models (model 7). In South Africa, under the response to COVID-19 pandemic, in March 2020, one of the biggest health insurers, Discovery Health, announced that it will provide free online doctor consultations for COVID-19 related issues to all patients in both sectors.\textsuperscript{222} Increase healthcare digitization through private health insurance could overall lead to improved utilization of needed services with shorter waiting times, better coordination and follow-up through electronic medical records, more efficient and accurate processes, improved monitoring and disease management.\textsuperscript{223} In Brazil an expert reported that during COVID-19 the private health insurance industry pushed forward telemedicine.\textsuperscript{224}


\textsuperscript{224} Interview with healthcare expert in Brazil.
Summary
Overall, we find evidence from the deep dives that private health insurance can support efficiency within a healthcare system by allowing access to services or medicines that are able to reduce future healthcare expenditure and ensure an efficient use of resources. We observe this mainly in supplementary models (5 and 6), and duplicative (model 7). It should be noted that, in the past, concerns have been voiced on the opposite effect i.e. overuse and inefficient use of resources in model 8 (substantive) we did not find evidence of this in the deep-dive analysis. Also, in models that support private sector provision of healthcare, the cost per patient is also typically higher in the private sector when compared with the public sector resulting in an overall higher cost per patient but that cost is not placed on the public sector and in some circumstances, this can indirectly reduce public costs. For example, in Canada allowing increased utilization of preventative medicines may reduce physician and hospital visits. Since physician and hospital visits are fully publicly funded there are clear spill over efficiencies to the public system in this situation. In other models where, private health insurance plays a less substantial role in provision of preventative and other services, defined as low impact at the start of this section, we did not find supporting evidence.

In conclusion, private health insurance can promote increased utilization of cost effective healthcare goods and services that are ultimately beneficial to the efficiency of healthcare system as a whole over the longer term. Private health insurance is able to do this via a number of mechanisms that are better suited to some therapy areas:

- Private health insurance can indirectly encourage medicine compliance by reducing patient OOP costs. This can reduce non-compliance related additional healthcare visits which impose additional costs onto the healthcare system, as well also improve overall health outcomes and reduce indirect costs of disease. Although not in scope on the deep dive case studies, a substitutive system (model 8) has led to risk of excessive use of healthcare system resources, hence benefits may vary on the state of system development and that of the economy in general.

- Private health insurance can actively promote early detection screening by removing barriers to access such as waiting times and missed reminders. This has the potential to increase the efficiency of the healthcare system overall, for example it is more expensive to treat later stage cancer than early stage cancer.

- Efficiency through prevention is most suited to therapy areas where early diagnosis or changing lifestyles is important such as cancer and cardiovascular disease. Those demographics most at risk of diseases such as these would benefit most from private health insurance coverage to ensure that they achieve the best possible healthcare.

- Private health insurance could lead to improved uptake of digital health leading to improved healthcare utilization with reduced waiting times, and more efficient and accurate patient follow-up and better monitoring and disease management.

3.5. Quality of care
Finally, we consider if private health insurance improves quality of healthcare. We rely on evidence including i) statistics on mortality rates between public and private sectors; ii) disability-adjusted life year (DALY) assessments for different populations; iii) patient reported satisfaction; and iv) access to advances screens and tests that can benefit treatment decisions.

Across the ten economies in scope, we observe that the impact of private health insurance is more pronounced in economies with a duplicative of private health insurance providing coverage of medicines and services (Model 7), particularly in middle-income economies where public systems have limited ability to provide quality healthcare:
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- **Low impact:** The impact of private health insurance is likely to be limited across high-income economies that enjoy relatively high levels of investment in healthcare services and where the dominant purpose of private health insurance is to provide complementary coverage of patient co-payments for medicines (model 4) such as in the case of France and Slovenia or to cover extra costs with a lump-sum payment (model 3) in Japan.

- **Medium impact:** While private health insurance could have a potential role in improving the capacity of the healthcare system in middle-income economies such as Colombia, currently this potential is explored to a limited extent. Private health insurance provides supplementary coverage of better or add-on services (models 1 and 2) which are only one element of the quality of healthcare. Private health insurance could have an impact on quality healthcare provision by enabling supplementary access to better hospital services (model 1) in Italy and medicines (models 5 and 6) across Canada and China and providing substitutive coverage (model 8) in the US. It could indirectly lead to improved patient outcomes, but the evidence of improved patient outcomes compared to the public insurance is limited and difficult to interpret given the lack of clear separation between the public and private systems and the impact of compounding socioeconomic factors.

- **High impact:** In both South Africa and Brazil, the limitations in the public system lead to lengthy waiting times, lack of personnel or essential testing and imaging equipment due to lack of sufficient investment. The private health insurance sector provides duplicative coverage of medicines and services (model 7), driven by the demand for access to higher quality healthcare.

In the rest of the section, we draw from evidence in the deep-dive case studies to assess the key impact areas of private health insurance models in quality of care.

**Increased access to resources enables the private sector to provide higher quality services**

Where private health insurance plays a duplicative role, typically private systems have more resources and as a result can provide higher quality services.

This is observed in Brazil, where the private healthcare system has many resource advantages that can benefit patient care when compared with the public system including a greater capacity of hospital beds, superior access to advanced equipment such as CT and MRI scanners, as well as being more likely to have robust managerial structures in place. Similar evidence is available from South Africa, also model 7, where the private system is typically better equipped.

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and with the public system is characterised by lower availability of personnel, and shortages of equipment and essential medicines.\(^{231,232}\) These resource advantages can lead to a number of benefits such as faster diagnoses and treatment which improve outcomes.

In line with these findings, in South Africa and Brazil, patient perception of medical care in the private system is of greater quality compared with the public system. In South Africa those receiving care in the private sector are typically more satisfied with the care they receive with 92% being satisfied with services in the private sector vs 55% in the public sector.\(^{233}\) Furthermore, those receiving care in the private sector report fewer problems with their experiences such as the unavailability of medicines and long waiting times.\(^{234}\) Similarly, in Brazil patient satisfaction is higher in private healthcare facilities than public ones, with patients rating private healthcare institutions more highly across a range of metrics such as waiting time, availability of equipment, and cleanliness.\(^{235}\)

**Private health insurance could indirectly lead to improved quality of care in the public sector**

Under a duplicative private health insurance models where physicians work in both sectors, spill-over effects could occur from the public to the private sector in the form of improved knowledge and training, ultimately leading to rising healthcare standard for the system.

This is particularly relevant in the case of South Africa where physicians work in both sectors.\(^{236}\) Interviewed experts reported that this results in “cross-pollination” of knowledge and upgrading of healthcare professionals’ skills, an experience transferred in their public practice. Another expert reported that through the private sector physicians can also obtain access to innovative technologies and new medicines, which would otherwise not be available in the public system. This enables them to gain knowledge and experience with these innovations and, once these become available in the public system, have already an established habit of using these. In some situations, whilst physicians working between systems can bring benefits it also may result in physicians prioritizing private sector work due to the higher compensation levels. While we have not found specific quantitative evidence of these arguments, other studies also note that private health insurance ultimately contributes to increasing the overall standard of care.\(^{237,238}\)

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Private health insurance models can in part contribute to better health outcomes

Multiple factors result in better outcomes, but there is some evidence these are higher in private settings in duplicative (model 7) private health insurance systems.

In both Brazil and South Africa, we found evidence of better clinical outcomes for conditions largely treated in hospitals, such as cancer.\(^{239,240}\) In these systems better infrastructure, diagnosis, and treatment processes can lead to better outcomes. Additionally, in Brazil outcomes in other therapeutic areas such as infectious disease are better in the private sector. An academic study has reported that the setting of care, public or private hospital, is an independent risk factor for mortality following sepsis with public hospitals being more likely to have delayed recognition of sepsis and higher mortality rates.\(^{241}\) Other academic publications have found similar trends for sepsis mortality rates between public and private hospitals in Brazil.\(^{242,243}\)

In South Africa where private health insurance is not limited to hospital care, we also see evidence of improved outcomes associated with out-patient treatments, such as HIV/AIDS mortality rates. In South Africa, mortality rates for patients diagnosed with HIV/AIDS are higher for those treated in the public sector (10.5%) vs. the private sector (5.6%) after adjusting for covariates (Figure 19). In general, this academic study found that those treated in private clinics are able to initiate treatment earlier without having to wait until they meet eligibility criteria, a prerequisite in the public sector. Additionally, private patients may have had access to tertiary level care and alternative drug combinations that could result in improved tolerability and consequently better adherence to antiretroviral therapy.\(^{244}\)

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Figure 19: Percentage mortality rate for patients initiating treatment for HIV/AIDS in a private vs public sector facility between 2007 and 2012

Source: Moyo et al. (2016)\textsuperscript{245}

Private health insurance improves quality of care for hard-to-treat diseases such as oncology

Under a duplicative private health insurance model (model 7), the greater quality of services and broader treatment choice and testing options available in the private sector are important for the management of diseases that are hard to treat and involve multiple care levels. This particularly benefits patients diagnosed with conditions such as oncology, leading to improved patient outcomes.

Cancer is a serious and complex condition that often requires multiple separate interactions between a patient and the healthcare system ranging from an initial visit to a primary care practitioner through to specialist pharmaceutical and/or surgical treatment. As a result, cancer therapy represents a good proxy to evaluate how systems are able to treat complex, life-threatening, and high-cost conditions. In both duplicative systems (model 7 that we investigated (Brazil and South Africa), there is evidence supporting improved outcomes for cancer patients treated in the private healthcare system.

In Brazil there is clear evidence of improved cancer treatment practices in the private sector compared with the public sector. A report investigating patient journeys of cancer patients in Brazil finds that across a number of metrics from earlier diagnosis, access to advanced screening, and access to innovative medicines (covered in section 3.2) cancer patients receive superior treatment in the private sector. Fewer patients with lung cancer reported barriers at the stage of diagnosis in the private (56%) vs. the public (66%) system, with patients in the public system being more likely to report that it takes more than 2 months for a biopsy. A physician interview from the study explained that the public system is fragmented with multiple referrals required before a biopsy takes place whereas in the private sector this is more streamlined. A similar trend can be seen with those diagnosed with prostate cancer with a faster diagnosis following consultation at a highly complex establishment for those covered by private health insurance (median 34 days), compared with those in the public network (median 55 days) (Figure 20). \textsuperscript{246}


Figure 20: Delay between the date of the first consultation at a highly complex establishment and the date of diagnosis with prostate cancer in São Paulo (% of patients)

Source: CRA analysis based on Interfarma

In addition to faster diagnoses those within the private system are more likely to receive advanced tests such as genetic screening to help inform treatment options. Often these discrepancies can be partially attributed to limited or no coverage of these tests under the public system, whereas these are covered due to mandatory rules by the national regulatory agency for private health insurance and plans (ANS). An interviewed expert also highlighted that some of the most innovative genetic testing is available to patients in the private sector, while these are very hard to access in the public sector.

Overall there is a clear correlation between the percentage of individuals covered by private health insurance and burden of cancer in Brazil as measured by the number of disability-adjusted life years associated with cancer in different Brazilian states. The states with higher levels of private health insurance coverage tend to have lower levels of DALYs associated with breast, colorectal, prostate, and lung cancer (Figure 21).


Figure 21: Correlation between % of lives with private health insurance coverage and disability-adjusted life years (DALYs) for different cancers in each Brazilian state

Source: CRA analysis based on Interfarma

These findings are supported by independent academic studies reporting better outcomes in the private sector. One study reports a 45% lower risk of death after a relapse with breast cancer for patients with private health insurance coverage compared with those without. Another study reports that both overall and stage specific breast cancer outcomes are superior in the private sector with overall survival (OS) rates at 5 years for stage III breast cancer being 95% of those treated in the private sector vs. 65% in the public sector. When all stages are included OS rates were 97% for the private sector and 88% in the public sector which could partly be due to factors not directly related to quality of care such as increased awareness and therefore earlier diagnosis. However, the same study highlights differences in patient care with both rates of sentinel node biopsy as well as adjuvant chemotherapy with medicines such as trastuzumab differing between setting of care. 56.2% of patients in the private sector received adjuvant trastuzumab compared with 6.6% of patients in the public sector. Since this publication trastuzumab has been approved for use in the public system but with significant delays following marketing authorization, for example trastuzumab received marketing authorization for metastatic breast cancer in 1999 but was not approved for use in the public system for the same indication until 2017.


be seen for a number of innovative breast cancer therapies including lapatinib, trastuzumab emtansine, and pertuzumab\textsuperscript{253}, whereas those covered by private health insurance typically have access to a broader range of approved medicines (as discussed in section 3.2).\textsuperscript{254} A number of studies have estimated that lack of access to such medicines in the public system results in premature deaths, with one study estimating that lack of access to trastuzumab in the public sector between 2005 and 2012 was responsible for 5,223 avoidable deaths.\textsuperscript{255,256}

The health benefits provided by private provision have the potential to result in more widespread, spill over benefits. For example, it is estimated that the indirect cost of absenteeism as a result of cancer in Brazil is R$1.3 billion ($250 million USD at today’s rate).\textsuperscript{257} Improving cancer diagnosis, treatment, and outcomes may help to reduce indirect costs such as these and benefit the economy more holistically.

In South Africa there is also evidence of superior quality of care in oncology treatment. Breast cancer patients treated in the private sector have better overall and stage specific survival outcomes. While only outdated quantitative evidence was uncovered, overall survival rates in the private sector are 54.8 percent versus 45.2 percent in the public sector due to earlier detection discussed earlier. Interviewed experts in South Africa also voiced underperforming track record of patient outcomes in the public sector and voiced concerns that the standard of healthcare might deteriorate with the implementation of NHI so that the government has to ensure the positive aspects of private health insurance are carried over in the new system.\textsuperscript{258}

**Summary**

We find supporting evidence that private health insurance can improve overall quality of care by allowing access to innovative services and medicines and ultimately lead to better patient outcomes. This is most supported in economies with a duplicative model (model 7) where the divide between sectors is clear but also applies to other models such as supplementary (1, 2, 5 and 6) where similar provision of innovative treatment not available under the public system is possible, but we found no evidence to directly support this.

In conclusion, evidence demonstrates that where private health insurance is used under a duplicative (model 7) healthcare model, private health insurance can allow access to a higher quality of care.

- Private healthcare systems have access to greater resources allowing them to provide a higher standard of care in some circumstances. Duplicative (model 7) systems are likely to


\textsuperscript{258} Interview with healthcare expert in South Africa.
have the most significant benefit for serious conditions that require innovative therapies, tests, or surgeries.

- Typically, we observe duplicative private health insurance models in middle to high income economies where the public system offers limited coverage.

- Therapy areas where private health insurance can provide the most benefit is dictated to a certain extent by regulation, for example in Brazil because private health insurance is mostly excluded from providing out-patient medicines benefits are limited to hospital-centric healthcare. However, in Brazil this can work in a positive manner as well since private health insurance is also mandated to cover a wider range of tests and treatments than the public sector meaning that patients with private health insurance are consistently able to access superior care relative to those in the public sector, for example with genetic screening for cancers.

- Private health insurance facilitates access to an additional system that does not require resources from the public system but allows a sub-population to access higher quality healthcare if they so choose, benefiting the healthcare outcomes of the economy as a whole.
4. Policy implications and recommendations

In this chapter, we draw from the evidence of private health insurance models in the academic literature, our high-level review of ten economies and five deep-dive case studies to draw some conclusions on the role of private health insurance models and recommendations on how policymakers can optimize and incentivize models that benefit the wider healthcare system and of stakeholders involved. Although this analysis did not aim to include a systematic review of how private health insurance can be implemented, we draw from the experience in the case studies to develop a set of possible mechanisms:

The analysis in the previous section provides comprehensive assessment of the benefits of private health insurance on affordability, access of innovative treatments, sustainability of the healthcare system, efficiency in healthcare resource utilization and improving the overall quality of care and outcomes (as shown in Table 3). However, the role that private health insurance plays varies from model to model (and in terms of the type of economy and even the therapy area).

Table 3: Summary of impact of private health insurance on healthcare systems across models

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplementary access to better hospital services</td>
<td>Supplementary coverage of add-on services</td>
<td>Provision of one-off lump sum payment</td>
<td>Complementary coverage of co-pays</td>
<td>Supplementary coverage of innovative medicines</td>
<td>Supplementary access to better hospital services</td>
<td>Duplicative coverage of medicines and services</td>
<td>Substitutive coverage of medicines and services</td>
</tr>
</tbody>
</table>

Affordability and equity

Access to healthcare

Sustainability

Efficiency

Quality of care

Source: CRA analysis

Note: Observed positive impact: ● High, ● Medium, ● Limited

There are however a number of common conclusions that apply across economies for integrating private health insurance into health policy.

The analysis in the previous section provides a comprehensive assessment of the benefits of private health funding channels demonstrating its distinct role across healthcare systems, populations and therapy areas. Drawing from the evidence we set out key policy implications and recommendations:

1. **Policymakers should recognize and support the role of private health insurance in improving affordability.** Clarity of the role of private health insurance recognized by government is valuable for providers, patients and the healthcare system. This can be in a government dedicated plan or within the UHC plan. This can support affordability but also

This summary should take into account that the evidence for some of the models has been more limited (e.g. Model 8 = the US) as these have not been included in the deep-dive analysis, hence the assessment is done on the basis of the structure of the market and similarities in how it would address gaps with models for which we have evidence.
efficient use of scarce resources and delivery of healthcare that provide a mix of public and private sector as the public system is strengthened and progresses in coverage goals. These can also specify the role of private health insurance to support certain types of treatments such as those not yet covered in the public reimbursement list. As public coverage is strengthened, the scope of private health insurance will need to evolve, and this should be explicitly revised in government plans.

2. **Private health insurance can play an important role as countries move towards UHC.** Improving public funding and advancing UHC is a gradual process. National policymakers should ensure that private health insurance models support these broader healthcare objectives as economies and their income levels grow, and public healthcare systems develop to cover larger parts of the population. Identifying the strategic role that private health insurance can play is particularly important in supporting the global UHC agenda that economies are increasingly committed to. The evolution of UHC implementation and economic growth that expands the tax base and healthcare budgets should develop in parallel with a private health insurance model that targets only the high-income population to a model that protects against the most significant areas of OOP spend, including catastrophic expenditure, chronic disease care and access to more innovative treatments.

3. **Encourage forms of private health insurance that deliver faster and broader access to therapy areas with highly innovative medicines launches.** Depending on the structure of the public health coverage, private health insurance can be critical to ensuring improved access to innovative medicines and a competitive and viable environment for novel medicine launches particularly in oncology and rare diseases. National policymakers in economies with a supplementary model should encourage and steer private health insurance schemes, structured partnerships and reinsurance models. These more flexible and dynamic agreements can target areas that represent a particular challenge given the high unmet need of the patient population and opportunity to provide a highly innovative treatment or to support local payers that have restricted resources to expand their provision.

4. **Integrate private health insurance provision into national strategies to promote preventative services and to improve adherence to care and treatment leading to savings.** Particularly in middle income economies, supporting a private health insurance model that addresses OOP costs (which can be both substitutive or complementary) is important to target cost-related non-adherence which leads to future healthcare system costs. Also, in line with supporting access innovative medicines, private health insurance encourages better access and uptake of preventative services, especially more novel diagnosis, screening and digital health technologies, which can lead to important savings in the future for both the public and private systems.

5. **Anticipate the role private health insurance can play in times of uncertainty.** As public funding faces greater restrictions as a result of health and economic crises such as the unfolding COVID-19 pandemic, payers and private health insurance can play an important role during this period. Economies where these play a more significant role in coverage (models 4 to 8) can more easily build on the existing infrastructure, relationships but also social behavior and cultural acceptance of private health insurance as a coverage option. For example, during COVID-19 crisis private health plans have ensured: provision of services such as testing and telemedicine, comply with elective surgery schedules and ensure availability infrastructure for these and provide special packages for vulnerable population such as those most likely to be affected by the crisis (e.g. healthcare workers). It is important for governments to encourage the role that private health insurance can play as well as provide incentives for employer incentives to sustaining provision of private health
insurance during times of crisis. Governments could structure incentives and support packages for business in such way that these ensure that employers maintain or expand their private health insurance benefits in return, as a way to support the healthcare system.

6. **Encourage collaboration and cross-utilization of private and public infrastructure and expertise to improve the public system and overall outcomes.** The evidence is that the infrastructure, experience of healthcare professionals and quality of care achieved under private health insurance coverage is often higher that the public system at least for some forms of care. The cross-utilization of infrastructure such as hospitals and equipment and healthcare enable an increased quality in care provided and transfer of knowledge hence, improved outcomes. Policymakers should adopt regulation and incentives to public and private players to support cross-utilization of infrastructure such as hospitals and equipment and for healthcare staff to be able to work across systems and transfer the knowledge and experiences gained in the private system. In other cases, tying performance frameworks for hospitals or healthcare workers to their contributions across the sectors could incentivise collaboration and use across sectors. In times of crises, such as during the COVID-19 pandemic, the use across sectors can also be mandated to make use of all resources available and improve outcomes.

7. **Policymakers can support the development of a private insurance model through clarity of its role but also targeted incentives to encourage uptake.** First, these can target individuals directly and provide tiered incentives for the different parts of the population. This can come in the form of an income tax rebate, credit or threshold that varies by type of employment (e.g. healthcare workers), income level, age or family status. Tax incentives can also vary across regions or provinces depending on the socioeconomic level and healthcare priorities. Similarly, tax incentives can aim to encourage employer insurance by providing tax credits to companies. Employers aiming to attract talent is noted as one of the leading drivers for employers providing private health insurance. The role of employers is important in promoting competition between insurers and ensuring private health insurance delivers value.

The role of private health insurance will inevitably vary from economy to economy and change to reflect developments in public healthcare system. Using an appropriate model of private health insurance can be an important tool in delivering affordable healthcare and contribute to healthcare sustainability; efficiency and quality of care, and improved access to innovative medicines.