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Healing healthcare: new approaches to an old problem

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Introduction

In 1959, writing in response to the rising costs of medical advances, the acclaimed microbiologist René Dubos commented "a time may come when medical ethics will have to be considered in the harsh light of economics" (Dubos, 1959). With healthcare budgets increasingly under pressure, new economic headwinds, and the rising costs of medical care, one could argue that that time has now come. The rise of COVID-19 has highlighted the fact that existing tools for decision-making are usually single-generational and fail to include approaches that intersect the needs of all birth cohorts in the society, let alone future generations. This essay argues that this short-sighted approach is no longer sustainable and is being challenged on two fronts.

First, compared to pre-COVID, what has now changed is that the financial position of governments has largely worsened. This is particularly concerning in lieu of the fact that technological advancements in the coming years are expected to raise the unit cost of medical treatments(Jakovljevic, 2016).

Secondly, currently strained public and private healthcare funds are further aggravated by the growing demands of a rapidly ageing society. Due to declining fertility rates and increased longevity, the proportion of the world's population over 60 years is expected to reach 22% by 2050 (WHO, 2021). This demographic shift is fuelling concerns that future working-age generations will face exaggerated tax burdens to meet the public costs of supporting retired professionals. At the same time, slow economic growth and increased public sector net borrowing means that the incomes of younger generations are unlikely to grow fast enough to offset rising public costs. According to McKinsey, between 2000 and 2018, average real wages grew by only 0.9% per year across Europe (McKinsey, 2020). Nonetheless, healthcare expenditure has consistently exceeded economic growth in recent years and is expected to do so over the next decade as well. By 2030, health spending will reach 10.2% of GDP, up from 8.8% in 2018 (OECD, 2019).

As the world's population continues to expand, the steady increase in healthcare spending raises substantial sustainability concerns. Because, on average, around two thirds of healthcare budgets are spent on medicines (OECD, 2021), policymakers around the world have become increasingly concerned about the innovation output of pharmaceutical companies. In the US alone, drug prices have been increasing by a staggering 9% annually between 2007 and 2018 (Yang, 2020). Although government interventions in pharmaceutical pricing remains a controversial issue, reforms to increase economic effectiveness are urgently needed. This essay argues that the rising costs of medicines risk widening the gap in intergenerational access to healthcare. This risk can only be mitigated by substantially and sustainably attenuating the costs of pharmaceutical innovation. So the key question is: how can we decrease pharmaceutical expenditure? Here, I will first present an analysis of the key elements of contemporary drug discovery that account for the rising costs of medicines and then propose a catalogue of structural reforms that will require a combination of government and pharmaceutical industry actions. While this essay focuses on the pharmaceutical industry, it is important to place its assessment in the broader context of enhancing value for money in the health system as a whole.

A ticking bomb: Threats to future generations

Beliefs in fairness between generations are not new. In 1987, the UN Brundtland Commission made decisive steps towards placing the needs of future generations at the centre of economic development policies (UN, 1987). However, while intergenerational fairness is often discussed under the prism of climate change concerns or environmental debt, the concept of intergenerational health has so far received little attention.

With respect to intergenerational fairness, rising healthcare costs are rapidly becoming an area of prominent concern around the world. Between 2000 and 2018, health expenditures achieved annualised growth rates of 2.8% globally, growing faster than GDP in real terms (WHO, 2020). While much of the expenditure growth can be explained by demographic changes, it is important to note that a major contributor remains costly product innovations. Globally, expenditure on pharmaceutical products rose to $1.135tn in 2017 - a 56% increase from 2007 (IQVIA, 2018) – and it's expected to swell to $1.5tn by 2023 (IQVIA, 2019). Part of the problem is inherent to the unique nature of the pharmaceutical industry. Drug discovery is a very time-consuming process and the cost of developing new drugs has increased considerably in recent years. Irrespective of its root causes, the sharp increase in drug prices has prompted extensive international debate and proposals, resulting in a flurry of cost-containment efforts ('price cap'). However, these regulations are contentious and often have the unintended consequence of deterring market entry for new drugs (Zhang, 2016).

Another concern is the stifling of pharmaceutical innovation. Studies have consistently shown that diminished pharmaceutical profitability causes cuts in R&D investments, resulting in the introduction of fewer new therapies. This has significant implications for the long-term welfare of future generations for two reasons.

1) High development costs have encouraged pharmaceutical companies to commercialise drugs that do not offer significant advantages to those already in the market – 'me too' drugs. Of all new drugs and indications approved in France between 1981 and 2001, only 12% represented a therapeutic advance. By 2012, that figure had shrunk to just 8%, a trend confirmed in other countries (Brooks & Geyer, 2015).

2) Because of the high costs of research, the expected market rewards for the development of new drugs for unmet medical needs – such as antimicrobial resistance (AMR) – are often insufficient to incentivise critical R&D. Meanwhile, according to the UN, AMR accounts for 700,000 deaths annually, a figure forecast to surge to 10 million by 2050 (WHO, 2019). This lends additional credence to the fact that the current system is ill-prepared to guarantee equitable distribution of healthcare in the future: failure to replace drugs rendered useless by resistance poses a looming threat to current and future generations. Therefore, it is important to consider additional strategies to ensure access to essential medicines at affordable price. To put it simply, today's pharmaceutical industry cannot sustain sufficient innovation to ensure long-term social welfare and prosperity, insofar as financial hardship associated with high drug prices can impede progress in other areas. Given the complexity of the current system, a one-size-fits-all approach is unlikely to yield significant results. New holistic solutions are required to strike a delicate balance between ensuring financial sustainability for health systems and stimulating innovation in the pharmaceutical sector. Below, I present four strategies to mitigate rising healthcare costs without undermining pharmaceutical innovation.

Ideas for a new intergenerational contract

1. Lowering demand for pharmaceuticals. To rein in pharmaceutical expenditures, governments can focus on both demand (volume) and supply (price). In most countries, the overwhelming tendency has been to focus on supply and regulate pharmaceutical prices, often to the detriment of the volume side of the equation. However, volume-centred, prevention measures have the potential to radically decrease healthcare costs for younger generations. In this context, sugar consumption has long been linked to risks of obesity, diabetes, and heart disease, making a compelling case for reduced consumption (Credit Suisse, 2013).

In 2014, more than 2.1 billion people – nearly 30% of the global population - were overweight or obese. By 2030, this will represent almost half of the world's adult population (McKinsey, 2014). The trend is of significant concern as conditions associated with high sugar consumption are expected to cost a total of $1.7tn by 2030 (WHO, 2016). In general, countries have taken significant steps to mitigate this trend. However, a comprehensive approach backed by stronger political commitment is necessary. With increasing evidence on the global health burden of sugar consumption, I propose that governments should adopt a global, industry-level tax on sugar to i) achieve significant healthcare cost savings and ii) protect future generations from inheriting unsustainable costs. Because the largest share of savings would be produced by reduced use of inpatient care and falling drug prescriptions, a further advantage of taxing sugar is that revenues generated by these taxes could be used to create new incentives for pharmaceutical innovation.

2. Rethinking tax benefits to incorporate social value considerations. Given the industry's exorbitant R&D costs, policymakers should create an environment that rewards the provision of successful therapies rather their quantity. I propose that tax incentives should be reformed to recognise products offering significant clinical advances over existing standards of care. Cross-country discrepancies in tax incentives have spurred concerns that preferential regimes may deter innovative activities and trigger a race to the bottom in corporate taxation (Alstadsæter, 2015). In contrast to existing paradigms, a practical alternative is to extend direct tax benefits equal to the social value of the innovation. This value would be inferred from efficacy assessments universally performed by health regulators, simplifying evidence generation and ensuring broad uptake of this measure. These tax benefits could take the form of an 'innovation box' that provides corporate tax benefits on certain IP-based income equal to the social value of the innovation.

In essence, all trading profits pharmaceutical companies make from successful research and innovation would fall into the "box" complementing existing tax benefits in relation to R&D expenditures. Because the rewards for this initiative are greatest for breakthrough innovations, this tool would also implicitly reduce the incentive for 'me too' products and duplicative R&D.

3. Provide incentives to accelerate digitisation. To reduce inefficiencies and wasteful failures in the coordination of clinical trials, governments should seek to incentivise greater technology adoption in drug development. In the wake of COVID-19, digital transformation has played a major role in reshaping business models in most industries. However, the pharmaceutical sector is historically reluctant to introduce new and potentially disruptive technologies to its modus operandi and has lagged behind other industries in embracing digital solutions (Strategy&, 2016). Governments and regulatory agencies can play a key role in boosting digital transformations. Because digital upgrades can be costly if operated across the entire value chain and quality control is under intense regulatory scrutiny, a reasonable step for policymakers would be to enforce new Good Manufacturing Practice (GMP) requirements to foster digitisation in manufacturing practice. As it stands, all newly developed products need to comply with stringent quality assurance standards. By rethinking these guidelines to incorporate new digital requirements, corporations would be encouraged to adopt leaner and smarter processes in all areas of production, from the starting materials, equipment to employee training and personal hygiene. The payoff would be substantial. Because manual processes are the biggest threat to compliance with GMP requirements, progress in this area would help corporations to achieve significant cost savings (McKinsey, 2019). A further advantage is that by improving R&D efficiency, pharmaceutical companies can also rein in increasing drug prices, thus reducing their burden on future healthcare budgets.

4. Designing a healthcare investment 'golden rule'. Within the context of modifying existing fiscal frameworks, structural reforms to budgetary agreements should be introduced to meet increasing public spending requirements that countries face in the wake of the pandemic. Certain policymakers in the EU have been advocating for the introduction of a 'golden rule' to cut accumulated debt and boost certain investments – for example, in projects tackling climate change. It would be naïve to not deploy similar tools in global budgeting practice to meet growing pressure on healthcare spending. In the last euro zone crisis, public investment fell sharply so it is vital that mechanisms are in place to meet the challenges posed by the current economic climate. In lieu of aforementioned demographic shifts, cuts in public investments can be expected to reduce economic growth to the detriment of future generations. In contrast, debt financing would ensure that not only future generations benefit from tailored investments but also participate to the costs. In the context of rapidly increasing debt, failure to implement this measure would weaken the generational contract, placing a disproportionate burden on younger generations through lower public spending and higher taxes.

Conclusion

As the world reflects on a new vision for the future of healthcare in the wake of COVID-19, considerations of intergenerational fairness need to move centre stage. If we are to ensure that healthcare remains affordable and widely available to future generations, we need a fundamental shift in how innovation is financed and regulated. Admittedly, the solutions eviscerated here are complex and require challenging vested interests and rethinking well established fiscal frameworks at a time of low business confidence. However, forthcoming change will require brave, new adjustments to every country's health system to embrace a new global health paradigm. To think away innovation and healthcare at a time of enduring crisis would be self-defeating and mistaken, for these are essential elements of prosperity and growth.

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