



REDEFINITION OF THE HEALTH CARE IN POST COVID 19 ERA

Prof. D-r Rubin Zareski*¹

¹Institute of Pharmaceutical Chemistry, Faculty of Pharmacy, Mother Tereza 47, 1000 Skopje, N. Macedonia

***Corresponding Author: Prof. D-r Rubin Zareski**

Institute of Pharmaceutical Chemistry, Faculty of Pharmacy, Mother Tereza 47, 1000 Skopje, N. Macedonia

Article Received on 26/10/2022

Article Revised on 16/11/2022

Article Accepted on 06/12/2022

ABSTRACT

In the last 15 years we are experiencing hidden debate where decision makers do not want to opt for the “unpopular” decisions, which need to be taken if we need a sustainable health system on a long run. Lessons from the 2008 crisis and Covid 19 pandemic in 2020/21 have proven that policy decisions driven by external global forces beyond our control, were inconsistent and reasonable damaging also on a short and mid-term. Instead of addressing the core of the problem, in the attempt to reply to the old/new challenges, governments were “fanning the fire”. It becomes obvious that spending more money in uncoordinated way was not solution to the problem. Reducing the cost or expanding the fiscal budgets, both are heavily damaging the share of costs/ benefits in favour of one health area target, further “squeezing” the capacity of the economies to steer up the demand, which has to be driver to the solution and not cause of the problem. Consequently, in a high market developed economies, it become obvious that past cutting of the health budgets especially in primary and secondary care will only temporarily “make up” the state budgets, only until next big health crisis emerges. Due to the sensitivity of the health policies and their complexity (synergies) this will result in overspending in shorth term on problem solving actions, creating structural financial instability of the Funds, both private and State. In this lose-lose situation, with existing misbalances, contracting budgets, increasing demand and sensitive market players responses, there is a high time for redefinition of the Universal access to the health care (UAHC) systems and global policy responses, which will on long term create balanced and sustainable growth of health markets.

KEYWORDS: pharmacoeconomics, health care, new common model, Health Technology Assessment.

1. INTRODUCTION

Continuous loss of competitiveness mainly in the European Union (EU) countries caused primarily because of the inconsistency of structural reforms, declining productivity levels and soaring energy prices, resulted in a recession or stagnation of Gross Domestic Product (GDP) driven further by the artificially pumped demand levels that are currently attempted to be counterbalanced with higher interest rates of European Central Bank. Global policy responses to the structural problems of the economies remain rather confusing. Most of them opted to expand the budgets and increase the deficits, fusing inflation, instead of implementing countercyclical policies of spending less money in order to control the demand, but increase the productivity and investments implementing targeted policies to protect households' budgets. The element of decision in the contracting economies is very simple, states must reduce spending's with cost cutting measures as answer to the financial problems. While doing so, Governments must in parallel introduce so called “expenditure switching policies” of the state budgets including the health transfers, in a very controlled way. This will result in the partial solution of the existing fiscal disbalances but most

important, it will put the large state funds into function as main drivers to the health economy, easing the pressure on the households. These new policies will on the mid-term essentially result with the targeted stimulative mechanisms of decreasing overall demand, but will produce structural improvements in the specific health segments.

Ensuring that levels of public funding for the health system are adequate, public revenue flows are then predictable and revenue will be raised in a way that does not unfairly burden households. These are essential elements to promoting financial protection, equitable access to effective health services and equity in financing. Making this system sustainable requires that the Governments implement change to the way health care is funded and delivered, which limits the services provided by the state – creating new losers, as well as new winners. Although Governments may be pleased by this changed position, on the long run they may face with more problems. Reason is simple, the crisis is being driven by external global forces often beyond the control of individual states. Governments don't want to opt for

less control of the processes and to give up part of their economic sovereignty.

Revisiting conclusions in WHO published paper “Health 2020” (1), one can conclude that the policies and goals of investing in health through a life-course approach and by empowering people have not changed in last 30 years. Seems that there is no flexibility in the redefinition of some of the elements of the global systems that need to take the existing challenges to a whole new level. However, today more than ever before, there is political willingness to address the gap between revenue and expenditures in the health systems without undermining the performance. The major challenge is whether and how to transfer the rise of the expenditures and burden the taxpayers asking them to pay more money when it does not make sense because of their budgetary limits. This is when the so-called policy of efficiency gains (2) will take place.

In this new environment, pharmaceutical companies may experience regulated price pressure, at the same time benefiting from the major shift in the policy implementation by trading price for access to markets. “Circular economy” Model and balanced regional policies are gaining momentum to dominate the global economic policies. Therefore, it is expected that health economy and finances will play significant role in these new global developments. Whether transformation will be speeded up by new technologies, or simply by faster and more accurate publications and exchange of real-world data, or both, final expected outcome is better access to health services, targeted prevention, balanced development with more efficient use of funds.

2. MATERIALS AND METHODS

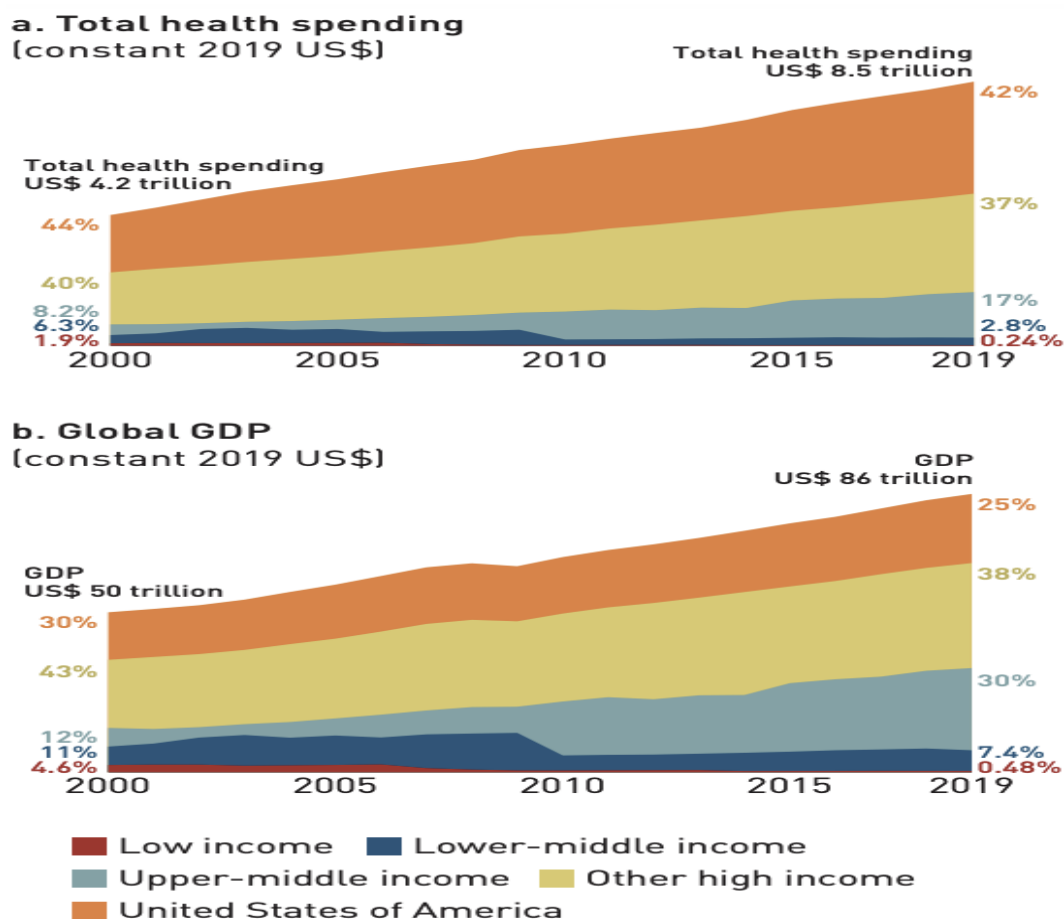
An extensive review of more than 200 published papers, books and scientific research publications related to the subject of health care policies and funding published in period 2010- 2022 was made, with goal to provide adequate data and additional relevant information about the tendencies, dynamics of changes and general effects on all involved players. Comparative analysis on regulations and policy responses in some major developed markets was done in the effort to find loopholes and make some policy recommendations. Complementing it with officially published data on GDP spending, health budgets and demographic changes, economic analysis and predictions in health care systems have been made targeted to short-term policy responses and creation of new UAHC Model.

3. Universal access to the health care/ results

Let's observe some data and tendencies. World population is constantly increasing especially since mid of 20th Century expected to reach 8 billion in 2022. This population growth affects in parallel changes in the demographic structure of the societies and wealth distribution. Both have been constantly pressurizing the utilization of the global resources, including the health

costs and state budgets, leaving to a short term disbalances. Global spending on health totaled US\$ 8.5 trillion in 2019, more than double, in real terms, compared to the US\$ 4.2 trillion spent in 2000 (3). About 60% of health spending came from government sources, whereas 40% came from domestic private sources and only 0.21% came from external aid. Over the same period, global GDP increased by 74%, from US\$ 50 trillion to US\$ 86 trillion. Consequently, health spending as a share of global GDP rose from 8.5% to 9.8%.

Numbers are also confirming that total global spendings on health remained unequal across income groups deepening the gap between the developed countries and the remaining world. The distribution of global spending on health by income group remained highly unequal in 2019, with high income countries accounting for approximately 80% of the total, compared with 17% for upper-middle income countries, 2.8% for lower-middle income countries and 0.24% for low income countries (Figure 1). The United States alone accounted for 42% of global health spending, equivalent to what the 83 lowest spending countries spent combined. This inequality gap of the health spending is significantly higher than the gap in distribution of global GDP.

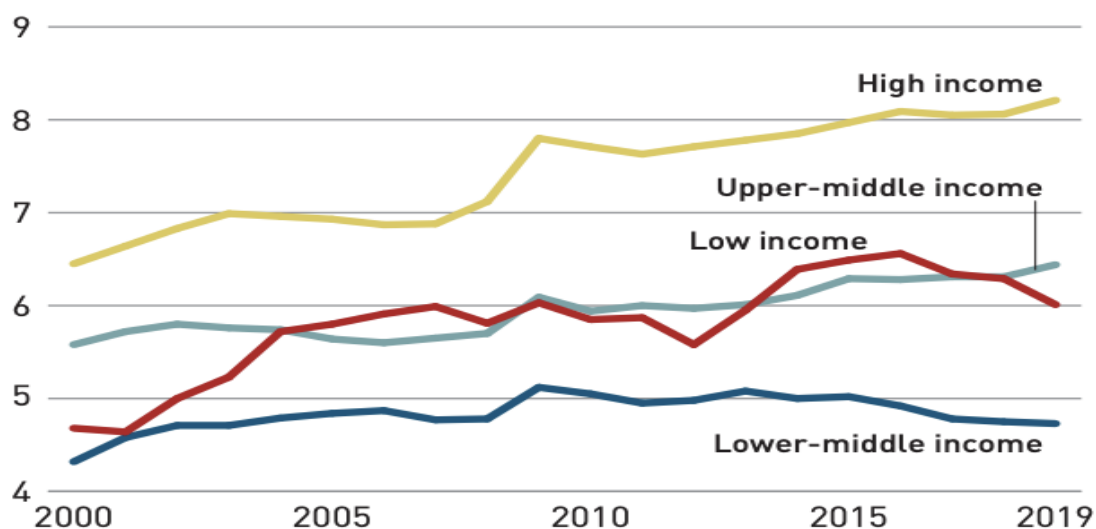


Data source: WHO Global Health Expenditure Database 2021

Figure 1. The distribution of global spending on health across income groups.

Another significant factor that influence global health policies is the demographic transformation in the countries, that requires an effective life-course strategy giving priority to new approaches for promoting health and preventing disease (4). In 21st century healthy and active ageing is a policy priority and a major research priority. Global context of today's health demand part is as follows. Estimations: +40% increase in the number of people aged 65-84 years by 2032, 60% increase in number of older people with basic care needs by 2030, 30% decrease in the number of nurses by 2022. This transformation of the societies requires switching from

“biomedical” Model of sickness to “positive health” Model where actions guided by individuals needs in area of prevention, are targeted and require less resources. However, these trends where patients want cures, not treatments, are further widening the gap between high- and low-income countries (Figure 2). High income countries don't reduce or limit the affordability gap covering the list of access to the health care services, and second, low-income countries are struggling to find a financial source to cover the basic medical needs and services.



Data source: WHO Global Health Expenditure Database 2021

Figure 2. High income countries spent a larger share of GDP on health than countries in other income groups.

Important changes in the structure and amounts of total health spending are registered in 2020. Analyzing preliminary health spending estimates as classified under the “SHA 2011 framework”, covering 22 mainly high-income economies countries during the first years of the response to the COVID-19 pandemic, in real terms in 2020 on average health spending per capita increased by 4.9%, considerably more than the 2% average year over-year growth rate between 2017 and 2019 (Figure 3).

Health spending as a share of gross domestic product (GDP) increased in 2020, due to the combination of economic recession (reducing the denominator) and higher health spending growth (increasing the numerator). Consequently, health spending as a share of GDP increased from 9.2% in 2019 to 10.1% in 2020 on average in the 17 high income countries and from 5.8% to 6.3% on average in the 5 low- and middle-income countries.

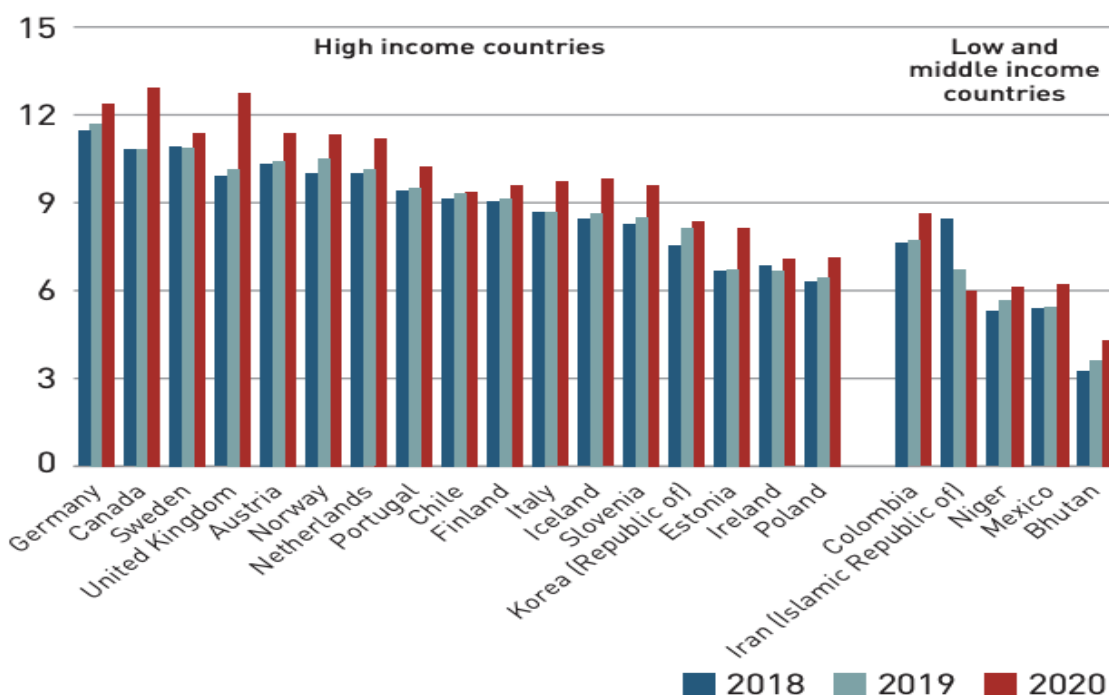


Figure 3. Health spending as a share of GDP.

Note: Growth rates were calculated using health spending per capita and GDP per capita in constant national currency units. The conversion from current values to constant values was made with a GDP deflator.

Data source: Joint Health Accounts Questionnaire and Global Health Expenditure Database data collection 2021; IMF [9] and OECD [10] for data on gross domestic product.

Another important factor determining the increase of the health spending in 2020 is the government financial arrangements contribution and compulsory insurance agreements (Figure 5). Health spending ending in 2020 was directly linked to the enforcement of public health measures with substantial additional public resources used in response to the health and economic shock

triggered by Pandemic. The additional expenditures were financed largely through public debt, tendency that is expected to fall because of reduced capacity among many governments to further accumulate public debt. Numbers showing rise in health spendings compared to GDP especially after 2019 are even more evident in the European countries (Table 1).

Table 1. Share of health spending to the GDP EU countries.

Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Country											
Austria		10.2	10.3	10.4	10.4	10.4	10.4	10.3	10.5	11.5	12.2
Belgium		10.5	10.5	10.6	10.8	10.8	10.8	10.8	10.7	10.8	..
Czech Republic		7.0	7.7	7.6	7.2	7.1	7.4	7.5	7.6	9.2	..
Denmark		10.5	10.3	10.3	10.3	10.3	10.1	10.1	10.1	10.5	10.8
Estonia		5.8	6.0	6.4	6.6	6.7	6.6	6.7	6.8	7.8	7.5
Finland		9.6	9.8	9.8	9.6	9.4	9.1	9.0	9.2	9.5	..
France		11.3	11.4	11.5	11.4	11.5	11.4	11.2	11.1	12.2	..
Germany		10.9	11.0	11.0	11.2	11.2	11.3	11.5	11.7	12.8	12.8
Greece		8.9	8.4	7.9	8.2	8.4	8.1	8.1	8.2	9.5	..
Hungary		7.4	7.2	7.0	6.9	7.0	6.7	6.6	6.3	7.3	..
Ireland		10.6	10.3	9.5	7.3	7.4	7.1	6.9	6.7	7.1	6.7
Italy		8.8	8.8	8.9	8.9	8.7	8.7	8.7	8.7	9.6	9.5
Latvia		5.4	5.4	5.5	5.7	6.1	6.0	6.2	6.5	7.4	..
Lithuania		6.3	6.1	6.2	6.5	6.6	6.5	6.5	7.0	7.5	7.9
Luxembourg		5.3	5.2	5.2	5.1	5.1	5.1	5.3	5.4	5.7	..
Netherlands		10.5	10.6	10.6	10.3	10.3	10.1	10.0	10.2	11.2	..
Norway		8.8	8.9	9.3	10.1	10.6	10.3	10.0	10.5	11.3	10.1
Poland		6.2	6.4	6.3	6.4	6.5	6.6	6.3	6.4	6.5	6.6
Portugal		9.7	9.4	9.3	9.3	9.4	9.3	9.4	9.5	10.5	11.2
Slovak Republic		7.6	7.5	6.9	6.8	7.0	6.8	6.7	6.9	7.3	..
Slovenia		8.7	8.7	8.5	8.5	8.5	8.2	8.3	8.5	9.5	..
Spain		9.2	9.1	9.1	9.1	9.0	9.0	9.0	9.1	10.7	..
Sweden		10.7	10.9	10.9	10.8	10.9	10.8	10.9	10.8	11.5	11.4
Switzerland		10.2	10.5	10.6	11.0	11.3	11.5	11.2	11.3	11.8	..
Non-OECD Economies	Bulgaria	7.5	7.1	7.7	7.4	7.5	7.5	7.3	7.1	8.5	..
	Croatia	7.5	6.4	6.6	6.7	6.7	6.7	6.8	6.8	7.8	..
	Cyprus	6.6	6.9	7.0	6.8	6.7	6.6	6.8	6.9	8.1	..
	Malta	8.8	9.2	9.1	8.9	9.0	8.8	8.6	8.9	..	..
	Romania	4.7	5.2	5.0	4.9	5.0	5.2	5.6	5.7	6.3	..

Inevitably fundamental global forces are changing the way systems work. Finding a right balance between global post Covid 19 trends, emergence of a new Common Model and implications, need to be in the focus of all future debates. What becomes evident from the numbers is that population growth and wealth trends will in the future drive healthcare demand towards the developing countries. Growth in importance of so called “emerging markets” will produce inequality to be unjustifiable, challenging the decision makers to meet basic health needs, of a growing “middle class” with developed world diseases, expectations, and money. This will produce need for redefinition of the global health policies, whereby balanced sustainable good health practices throughout the life-course will lead towards increasing healthy life expectancy. Result will

produce important economic, societal and individual benefits. Strong evidence indicates that this cost-effective policy pathways can directly enhance population health and well-being. Creating better conditions for health, improving health literacy and making the healthier and easier choice, remains the driving factor, while attempting to address this burning problem of the increasing health expenditures in the developing countries. With population shifting to developing world and increasing wealth demands, health expenditure will rooftop creating continuous pressure to Governments to act. Major reforms will reduce the reliance on market forces in which uncontrolled costs and unproportionate relative performance is not sustainable. Both elements of the realignment to demographic shift and balancing of funding and

expenditure will mark the future health policies.

The most difficult issue will be the content of “core provision” – and this choice is arbitrary. There is no known piece of work that tells what the threshold for Health technology assessment (HTA) should be, and yet, something has to be done (6). Broad scope of participants, stakeholders, requires series of consecutive actions to bridge the existing gap between needs and capacities. Developed markets will need to decrease the affordability gap as defined by the HTA by squeezing the expenditures for the services that are not cost effective.

While doing so they will have to give a high attention to the services which reduce overall burden on the health system and country, such as primary care and prevention, mental health, rehabilitation, screening, education, generics. Finally, developed countries must keep the main focus of financing and policy structuring to the services considered to be essential such as, pandemics, care of the elderly, sanitation, nutrition, control of infectious diseases, accident & emergency care (Figure 4). Developing countries on the other hand will focus on broadening the scope and financing of basic health needs and services.

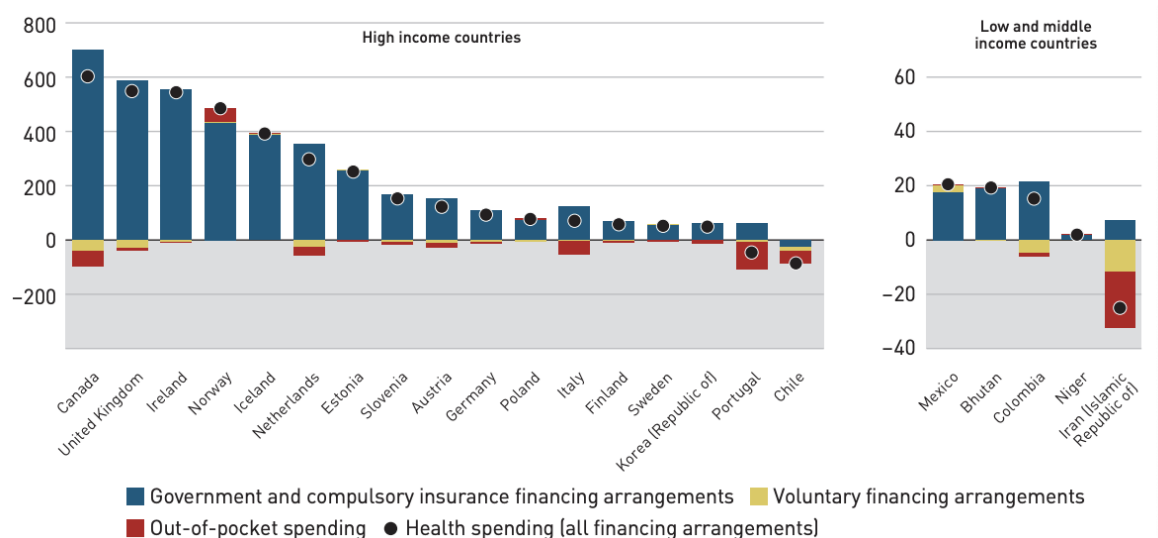


Figure 4. Changes in the health spending per capita.

Note: The changes were calculated as the difference between 2019 and 2020 spending per capita in constant (2019) US dollars for each category of financing arrangements. Values greater than 0 represent an increase in health spending per capita for the considered category, and values below 0 represent a decrease. The conversion from current values to constant values was made with a GDP deflator. Data source: Joint Health Accounts Questionnaire and Global Health Expenditure Database data collection 2021.

In their targeted policies governments will also need to address the technology that will transform healthcare services. Planning of parallel targets must be met acknowledging both growing demands and costs. Offering holistic care for people has started to blur the lines between health and social care services. By 2030, we will see more fully integrated services, as technology facilitates better communication and more efficiencies across the continuum of care. We're already seeing advanced management of many diseases where clinicians have more tools at their fingertips than ever before. From cutting-edge technology, to harnessing the power of big data and computing power, each technology that enables earlier diagnosis and more effective treatment delivers better outcomes for patients. Future action points will further improve technology to enable clinicians to diagnose earlier and intervene more

effectively, with patients in the center of the care playing proactive role and with coordination across all care settings.

As individuals assume more financial responsibility for their care, they will act more like consumers. Therefore, they will require better tools to understand and manage their health. Utilization of the real-world data (RWD) resulting from diagnosis “info pools”, will speed availability of new treatments, addressing the weakness of controlled clinical trials that are quickly becoming unseated by the availability of consistent, quality data collection for population- sized analysis. Vast quantities of data and enhanced computing power enables pure statistical comparisons of new treatments against old, providing a more realistic and updated view. Artificial intelligence will be in the focus of this transition. Technology investments will also bring more mobile, less invasive options, such as in diagnostic imaging in services that will detach patients from the hospitals, releasing capacities and reducing the costs both direct and indirect. Wearable physiological monitoring devices and the “Internet of Things” are facilitating more cost-effective management of patients through telemetry and telemedicine. This in turn improves epidemiological predictions as well as the ability to analyze the effect of treatments on large populations of patients in a real-world environment.

While in Europe, most Governments are not yet ready to admit the “social contract” is under challenge, rationing of universal provision is inevitable. UAHC as a human right with the basic premises of equality of health outcomes, consumer choice and patient safety, is no longer affordable. Reason relies on the necessity to address widening inequalities, in parallel to the pressures to increase healthcare spending as result of global pandemics. Future policies will need to address new diseases caused by lifestyle and “medicalisation” and increasing number of economically inactive people with high health needs. This is conflicting the possibility frontier and putting limit to the public funding of healthcare and investments in the new technologies. Solution is to progressively move towards increased rationing, as other interventions have failed. Combining government leadership, supportive environments and approaches that promote a sense of control and empowerment, can lead to success only after certain level of strengthening of social behavioral research is provided as growing evidence to underpin such developments. However, options are limited to the implementation of the changes to improve efficiency, but control demand. While patient co-payment can be expected to rise, there is no political decision/ agreement on how much the patient can bear. Governments need to shift spending to where it can deliver greatest health gain, but it's not necessary a rational decision. To achieve this goal both cost saving potentials and Quality of Adjusted life Years (QUALY) analysis has to be done throughout the major health lifecycle. Inevitably Governments should focus on spendings/investments that have the biggest impact on the health of the nation, with implementation of clear mechanisms in rationing of the services. Governments should focus on the easiest and least contentious first, postponing the decisions for improving of the reference-pricing list, which is not an easy task (5). In parallel this balancing policy has to limit the scope of “Core Services” paid through taxation, releasing the budget pressure. Decisions are partly rational, but also driven by societal preferences, political readiness and partisan pressure.

In parallel to these priority elements in the developed countries, developing markets will be forced to increase budgets allocated to health and to move from covering of the essential needs, towards prevention services and education, process which is opposite to the one in the developed countries. Balancing of those 2 approaches will result in balancing of the spending's, priorities and health markets. Eventually all health systems will converge largely into the same system structure.

4. New Health care Model

Government can proceed to the “New UAHC model” by design, or by default. In their intention to control the processes, governments will have to implement a list of measures and policy decisions that will in the core of the substance involve use of pharmacoeconomics so that they will avoid any voluntary and subjective choice.

Reason for this is even stronger considering the “narrowband” pharmaceutical producers are experiencing in the last 10 years.

Definition of the new Model requires list of actions of all involved partners. The role of the Governments will remain more or less without changes but with higher focus on the core service elements such as, to the emergency care, public health, prevention, mental health, disadvantaged groups which will be financed by taxation or compulsory contributions. On the other side payers will face with managed distribution of the “core service” funds and have market freedoms for non-core funding. Providers of the services and products that are represented by mix of public and private operators in this new Model will focus more on the regional planning activities which will also address the disbalances in the developments and presence. While doing so, they will be financed by tariff-based payments but will also have to experience increasing use of capitated / risk share. Fourth partner in this New deal/ Model are suppliers which will continue to face with regulated prices and pressures to cut the cost and increase the effectiveness. Moreover, suppliers will need to further adapt to the rules of centralised procurement with strict evaluation of cost effectiveness ratios. Naturally, they will benefit from the new growing markets and economies of scales. Finally, in the core of the Model are citizens, segment that will need to accept a more controlled process. Tax or compulsory contributions will not change as core elements for financing of the health needs. The new role will be mostly in the areas of limited co-payments where citizens will experience control of demand keeping gate for expensive acute care services. Of course, self-payment / insurance will remain for the non-core services. (see Figure 5).

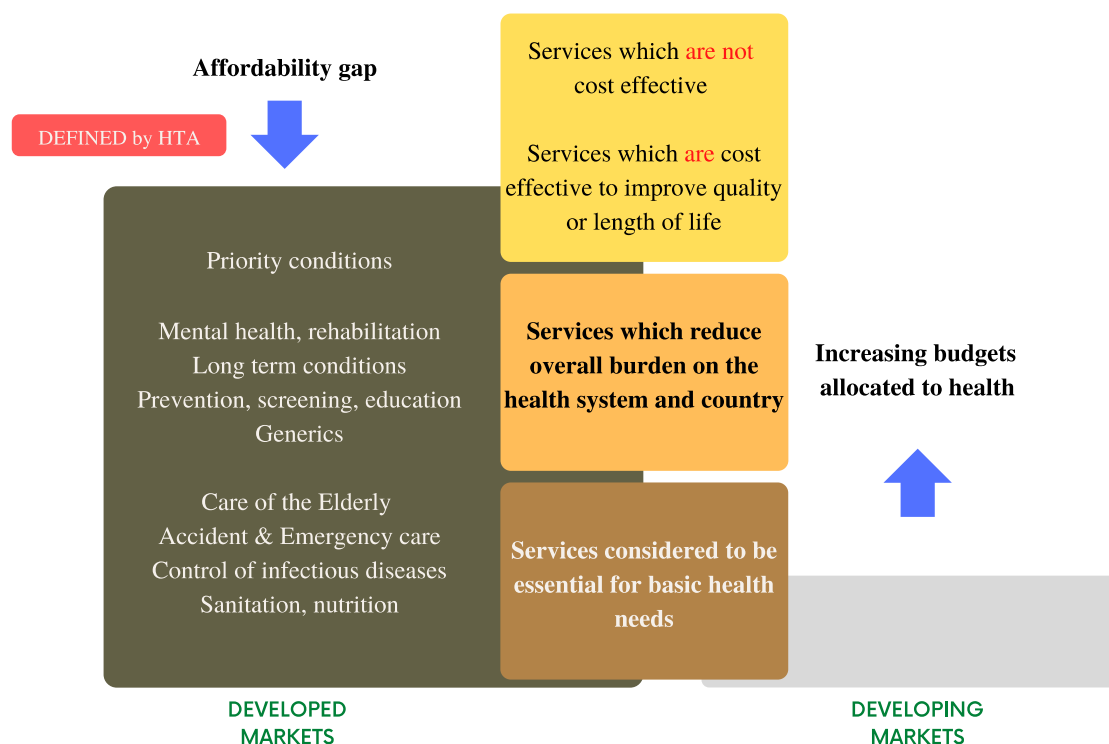


Figure 5. Approach to the new health rationing.

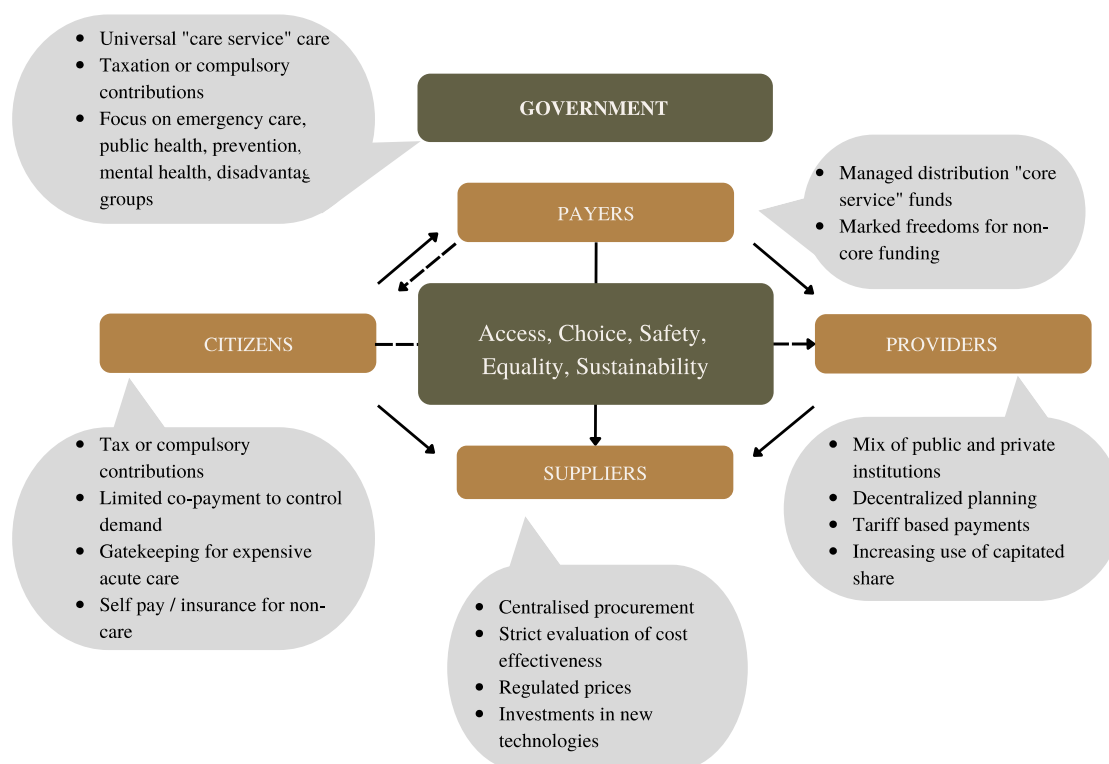


Figure 6. New Common Model.

The process that requires higher level of determination by all actors, is positioning the Government in the driver seat. It is therefore of no surprise that reaction to these new developments can be increase of the monopsony behaviour. This is the price that needs to be paid as counterweight to the economic and rational actions they

will have to perform. Among others, Government will have to increase the budgets and switch the expenditures with higher focus towards preventive and primary care, to involve pharmacoeconomic studies in the HTA and address the demands from the innovative drug companies. They will on the other hand benefit from

faster access to world markets, lower cost in R&D because of globalization of the efforts and clinical trials coupled with real world data availability.

5. CONCLUSIONS

Post COVID 19 era is marked with irreversible health processes on large scale. Increasing costs, fueled and unbalanced demand, existing disbalances and prevention of the households and state budgets, by default create a need for introduction of a new common Model for financing of health care. The core of this Model is the redefinition of the notion of universal access to the health care, service prioritization and budget reallocations. Decisions will require more profound use of pharmacoeconomic studies that will focus on what really drives treatment decisions and what new data would be viewed as clinically meaningful for prescribers and value-creating for economic stakeholders. This requires series of actions on a global world level, which must not be exhaustive ones or limited, but rather a coordinated list of performances on a global scale basis. Process which will address all actors in the field of policy definitions and practice will start by initiation of a detailed analysis, including assessment of the critical drivers of behavior for each stakeholder (prescriber, payor, and patient behavior). The substance of this action is to deliver the global targets by inclusion and not exclusion of the major stakeholders. In this way they will be assertive but also creative elements of the process. Therefore, stakeholder perception and its reflection in understanding of how competitors are perceived by each stakeholder against the most critical factors (financing, sustainability, covering, scope of services, budgets, tax policies etc.), which can help identify unmet needs, it is of utmost importance. This may request further detailed comparison of competitor labels and clinical data- to inform the decision makers which efficacy and safety endpoints matter most. Branded results of this action point will then be mapped against the competitor label and clinical data so to enable more granular understanding of real-world data on treatment decisions and outcomes.

Final outcome of this process that will consume some years before it is fully addressed and results are evident, will be a balancing act between the producers, services providers, decision makers, payers and consumers. All parties involved will therefore experience a full package of actions based on a clear pharmacoeconomic studies and HTA reports. The sooner this process starts with full dynamics the results will come faster, preventing the negative developments and tendencies we have experienced in the last 15 years.

REFERENCES

1. Helene B., Jonathan C. Walaiporn P. et al. Do efficiency gains really translate into more budget for health? An assessment framework and country applications, Oxford University Press in association with The London School of Hygiene and Tropical Medicine, 2021.
2. World Health Organization, regional Office for Europe, Health 2020 A European policy framework and strategy for the 21st century, isbn 978 92 890 0279 0, 2013.
3. Helene B. Jonathan C. Walaiporn P. et. al. Do efficiency gains really translate into more budget for health? An assessment framework and country applications, Health Policy and Planning, Volume 36, Issue 8, October 2021, Pages 1307–1315.
4. Jamison D T, Summers L H, Alleyne G, et. al. Global Health 2035: A World Converging within a Generation. 2013; The Lancet 382 (9908): 1898–55.
5. Rubin Z. Aleksandra K. Zorica N. et. al. The effects of the new methodology application on the method of pricing of the drugs- the case of the Republic of Macedonia, Value of health, VHRI282; S2212-1099(15)30011-X, 2015.
6. World Health Organization. Global expenditure on health: Public spending on the rise? ISBN 978-92-4-004121-9 (electronic version) ISBN 978-92-4-004122-6, 2021.
7. David A. W., Dean J. Anne M. et al. Universal Health Coverage and Essential Packages of Care, in Disease Control Priorities: Improving Health and Reducing Poverty. 3rd edition. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2017 Nov 27. Chapter 3.
8. Angela Y. C, Susan H, Dean J D T. Benefit-Cost Analysis in Disease Control Priorities, 3rd Edition: Chapter 9, The International Bank for Reconstruction and Development/ The World Bank; 2017.
9. Anna B., Ed S. Imagine 2030, What will healthcare look like in 2030, Allscripts 2018, <https://www.allscripts.com/Chevalier> F. Levitan J. Hospitals in 27 Member States of the EU. Collection Europa Dexia, 2009.
10. Dean J., Gelband H, Horton S, et. al. Disease Control Priorities: Improving Health and Reducing Poverty, Washington, DC: World Bank. 2018.
11. Funtleyder, L. Healthcare investing: Profiting from the New World of Pharma, Biotech, and Health Care Services. McGraw-Hill Finance & Investing, 2009.
12. Giedion U, Alfonso E. A, Díaz Y. The Impact of Universal Coverage Schemes in the Developing World: A Review of the Existing Evidence. Universal Health Coverage (UNICO) Studies Series No. 25, World Bank, Washington, DC, 2013.
13. Hélène B. and Sanjeev G., From Overall Fiscal Space to Budgetary Space for Health: Connecting Public Financial Management to Resource Mobilization in the Era of COVID-19, CGD Policy Paper 185, October 2020. <https://www.cgdev.org/publication/overall-fiscal-space-budgetary-spacehealth-connecting-public-financial-management>

14. Jean D, Viktor H, Nicolaus H. Health care costs: A market-based view, The McKinsey Quarterly, 2008.
15. John S. Lincoln C L. UHC Presents Universal Challenges, Health Systems and Reform, Taylor&Francis Group, LLC, 2016. 2:1, 11–14.
16. OECD, Pharmaceutical Innovation and Access to Medicines, OECD Publishing, 2018 https://www.oecd-ilibrary.org/social-issues-migration-health/pharmaceutical-innovation-and-access-to-medicines_9789264307391-en
17. OECD statistics, <https://stats.oecd.org/>
18. Organization for Economic Cooperation and Development, WHO,, <https://data.oecd.org/health.htm> Growth rate average growth in spending in OECD countries 1995-2014.
19. Price Waterhouse Coopers. Healthcare delivery of the future: How digital technology can bridge time and distance between clinicians and consumers, Health Research Institute, November 2014.
20. Price Waterhouse Coopers. Global top health industry issues: Defining the healthcare of the future, PwC Health Research Institute, 2018.
21. Sarah T, Josep F. Tamas E., et al. Economic crisis, health systems and health in Europe: impact and implications for policy, WHO Policy summary 12, 2014.
22. Sarah T. Thomas F. Elias M. Financing health care in the European Union- Challenges and policy responses, WHO on behalf of the European Observatory on Health Systems and Policies N.17, 2009.
23. Snell T, Wittenberg R. et.al. Future demand for Social care, 2010 to 2030; Projections of demand for social care and disability benefits for younger adults in England: Report to Commission on Funding of Care and Support, 2011, PSSRU 2800/2
24. UK Pharmaceutical Industry Competitiveness Task Force., 2012. <http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/ab/Archive/PICTF/index.htm>
25. World Health Organization., Annual reports 2010-2022
26. World Health Organization, WHO's response to COVID- 19- 2021 Annual Report, <https://www.who.int/publications/m/item/who-s-response-to-covid-19-2021-annual-report>
27. World Health Organization. Countries are spending more on health, but people are still paying too much out of their own pockets, WHO, 2019 <https://www.who.int/news/item/20-02-2019-countries-are-spending-more-on-health-but-people-are-still-paying-too-much-out-of-their-own-pockets>