Journal of the European Observatory on Health Systems and Policies

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European Health Forum Gastein 2023

› Health systems in crisis: Countering shockwaves and fatigue

- Countering the great resignation of healthcare workers
- Safeguarding the welfare state in Europe
- Primary health care and resilience
- Young cancer survivors and mental health
- Accelerating digital integrated care
- European periphery countries
- Climate change and marginalised communities
- Public Health Institutes post-pandemic
- Addressing antimicrobial resistance

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Journal of the
European Observatory on Health Systems and Policies
Eurostation
Place Victor Horta/Victor Hortaplein, 40/30
1060 Brussels, Belgium
T: +32 2 524 9240
F: +32 2 525 0936
Email: contact@obs.who.int
http://www.healthobservatory.eu

SENIOR EDITORIAL TEAM
Sherry Merkur: +44 20 7955 6194 s.m.merkur@lse.ac.uk
Gemma Williams: + 44 20 7107 5304 g.a.williams@lse.ac.uk

FOUNDING EDITOR
Elias Mossialos: e.a.mossialos@lse.ac.uk

LSE Health, London School of Economics
and Political Science, Houghton Street,
London WC2A 2AE, United Kingdom
https://www.lse.ac.uk/lse-health

EDITORIAL ADVISORY BOARD
Reinhard Busse, Josep Figueras, Suszy Lessof,
David McDaid, Martin McKee, Elias Mossialos

DESIGN EDITOR
Steve Still: steve.still@gmail.com

PRODUCTION MANAGER
Jonathan North: northj@obs.who.int

Editorial Information and Article Submission Guidelines
Available at: https://eurohealthobservatory.
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List of Contributors

Christina Amrhein • Austrian Ministry of Social Affairs, Health, Care and Consumer Protection, Vienna, Austria

Clemens Martin Auer • European Health Forum Gastein, Bad Hofgastein, Austria

Natasha Azzopardi Muscat • World Health Organization Regional Office for Europe, Copenhagen, Denmark

Rosa Castro • European Public Health Alliance (EPHA), Brussels, Belgium

Marco d'Alessandro • European Public Health Alliance (EPHA), Brussels, Belgium

Joanna Drake • DG Research & Innovation, European Commission, Brussels, Belgium

Stefan Eichwalder • Austrian Federal Ministry of Social Affairs, Health, Care and Consumer Protection, Vienna, Austria

Michelle Falkenbach • European Observatory on Health Systems and Policies, Brussels, Belgium

Josep Figueras • European Observatory on Health Systems and Policies, Brussels, Belgium

Ane Fullaondo • Kronikgune Institute for Health Services Research, Barakaldo, Bizkaia, Spain

Anita Gottlob • Gesundheit Österreich GmbH (GOeG), Vienna, Austria

Catherine Guinard • Wellcome Trust, London, UK

Claudia Habl • Gesundheit Österreich GmbH (GOeG), Vienna, Austria

Dirk Hadrich • DG Research & Innovation, European Commission, Brussels, Belgium

Yhasmine Hamuis • Kronikgune Institute for Health Services Research, Barakaldo, Bizkaia, Spain

Dorli Kahr-Gottlieb • European Health Forum Gastein, Bad Hofgastein, Austria

Cale Lawlor • European Public Health Alliance (EPHA), Brussels, Belgium

Madda Henry Magbity • European Public Health Alliance (EPHA), Brussels, Belgium

Denis Opresnikis • National Institute of Public Health, Ljubljana, Slovenia.

Herwig Ostermann • Gesundheit Österreich GmbH (GOeG), Vienna, Austria

Dheepa Rajan • European Observatory for Health Systems and Policies, Brussels, Belgium

Milka Sokolović • European Public Health Alliance (EPHA), Brussels, Belgium

Ilana Ventura • Austrian Ministry of Social Affairs, Health, Care and Consumer Protection, Vienna, Austria

Matthias Wismar • European Observatory on Health Systems and Policies, Brussels, Belgium

John Yfantopoulos • MBA-University of Athens Health Care Management and IPOKE Research Institute, Athens, Greece

Jelka Zaletelis • National Diabetes Programme Coordination Group, Ministry of Health, Ljubljana, Slovenia

Tomas Zapata • World Health Organization Regional Office for Europe, Copenhagen, Denmark

Eurohealth editorial team

Sherry Merkur • European Observatory on Health Systems and Policies, London, UK

Gemma A. Williams • European Observatory on Health Systems and Policies, London, UK

Eurohealth Gastein commissioning team

Chloe Maher • European Health Forum Gastein, Bad Hofgastein, Austria

Dorli Kahr-Gottlieb • European Health Forum Gastein, Bad Hofgastein, Austria

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FOREWORD

European Health Union: a starting point to a healthier tomorrow

This time last year, I addressed you to mark 25 years of the European Health Forum Gastein. Landmark occasions such as these give us pause for reflection, on what we have faced, and what we have done, and what we look towards. As I reflect on this mandate, I cannot help but think of what has been achieved.

FOREWORD

Despite the first pandemic in over a century and war returning to Europe, major and long-lasting change has been implemented, to build a strong European Health Union (EHU).

Europe's vaccine strategy demonstrated the power of solidarity, ensuring timely access to vaccines for all EU citizens. It is this spirit of solidarity that we are harnessing to unleash the full potential of our Health Union. The EHU has already made inroads in reinforcing our health defences. This started with the strengthening of the European Medicines Agency and the European Centre for Disease Prevention and Control, along with agreement on the Regulation on serious cross-border threats to health – all providing a stronger health security framework for the EU.

Amid uncertainty, we have powered through with major reforms in several areas to revitalise and reinvigorate the state of our Union's health, to make it better, stronger, and apt for the digital world of the 21st century. The launch of Europe's Beating Cancer Plan signalled our unwavering commitment to equal access to prevention and cancer care – even in the darkest of times – for all European citizens. And it is delivering in a major way. The new Cancer Screening Scheme, one of many actions already up and running under the cancer plan, is already in place. This will help EU Member States to ensure that 90% of the EU population who qualify are offered breast, cervical and colorectal cancer screenings by 2025.

Central to the EHU is the development of the Pharmaceutical Strategy for Europe, which aims to establish a patient-centred regulatory framework for the 21st century. Access to affordable medicines is essential for a strong healthcare system. Our vision for a robust EHU relies on a modern, competitive, and simple to navigate pharmaceutical system that meets the needs of all individuals, regardless of where they call home.

Our commitment to place the interests of individuals at the centre was shown in the revolutionary proposal for the European Health Data Space (EHDS). This will empower people to access and control their health data, to improve data collection, sharing, and interoperability across healthcare systems in the EU. Furthermore, the revision of our pharmaceutical legislation and the Council Recommendation on antimicrobial resistance will drive EU action to tackle this growing threat.

As we look ahead, we are also conscious that mental health issues are on the rise. That is why, this year, we launched a comprehensive and prevention-oriented approach to promote mental health across EU policies.

The world is changing, and we are changing with it. I extend my heartfelt thanks to all who have contributed to our shared mission. Together, we can forge a stronger European Health Union and leave the legacy of a healthier, safer Europe for all.

Sandra Gallina, Director General for Health and Food Safety (DG SANTE), European Commission

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FOREWORD

Health systems in crisis, countering shockwaves and fatigue

This year's European Health Forum Gastein comes at a critical time, as we find our health systems confronted by a convergence of challenges.

FOREWORD

Historical chronic underinvestment, an ageing health workforce, and while the post-pandemic recovery is ongoing, a number of geopolitical crises, including well over a year of full-scale war in Ukraine, increasing health needs of migrants and refugees, cost-of-living crisis and climate emergency, are contributing to an explosive cocktail.

But amid these challenges, there is light on the horizon. We are seeing an unprecedented level of interest in health and health systems among European countries, including at the highest political levels. And the fact that the Forum this year is shining a spotlight on these issues is a clear recognition of the need for us all to act. Indeed, we find hope in the collective determination to address these challenges head-on. The Forum serves as an essential platform to bring key stakeholders together to exchange ideas, share best practices, and come up with new solutions.

We at WHO/Europe, in consultation with our Member States, are reorienting our work toward rebuilding and strengthening health systems in the WHO European Region.

In March, we held a first-ever forum on the well-being economy, then convened a regional meeting calling for more and better support to and investment in our health workforce. The Bucharest Declaration adopted by more than 250 participants from 50 countries showed us that this issue needs action now.

In June, we held a regional meeting on the future of hospitals – noting especially the need to ensure a dual-track approach and re-orienting services to serve patients' and health professionals' needs – and, in September, we will be convening a symposium on digital solutions, and issuing a report on how all 53 WHO/Europe Member States are adopting and adapting to new digital health technology.

Continuing the focus on health services and systems, October sees a regional primary health care meeting ahead of WHO/Europe's annual Regional Committee, and in December we will bring everything together to celebrate the 15th anniversary of the Tallinn Charter on health systems. The conference theme is 'trust and transformation', which reflects our view that while system transformation is needed to address the shockwaves and fatigue captured in the title of this year's Forum, we need people to transform systems. But this can only be done in a climate of trust and co-creation.

Only through concerted and united efforts can we enhance the capacity of health systems to respond to the diverse needs of our populations while safeguarding the well-being of our health and care workforce.

As we navigate this critical juncture, I am confident that our collective commitment and dedication to achieving health for all – the vision WHO charted 75 years ago – will serve as a rallying-call for a healthier and more prosperous future. In that regard, this year is a special one for us, as we mark the announcement of the official collaboration between the European Health Forum Gastein and WHO/Europe – a partnership of which I am personally proud. WHO/Europe has always been a firm supporter of the Forum and its community, and our recent work and achievements have shown that we are aligned in terms of our vision and objectives.

I extend my appreciation to Eurohealth and to the Forum for partnering on this special edition. Let us truly seize this moment in time to shape a healthier Europe, fortified all the better against crises, and resolute in building a better tomorrow for all our citizens.

Dr. Hans Henri P. Kluge,
WHO Regional Director for Europe

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GUEST EDITORIAL

Europe is in a state of permacrisis. COVID-19, the war that continues to rage in Ukraine, the cost-of-living crisis, and the looming climate emergency are stretching health systems, and in particular the health and care workforce, to their limits. The European Health Forum Gastein (EHFG) 2023 will explore solutions to the shockwaves that have hit health systems and discuss countermeasures to safeguard the fatigued health and care workforce. Health systems serve as a cornerstone of both a thriving society and economy. It is therefore key that they are well resourced, dependable, and steadfast in times of crisis.

GUEST EDITORIAL

In this issue of Eurohealth, one important aspect of reinforcing the resilience of European health systems is highlighted in Clemens Auer's urgent call to safeguard welfare systems and solidarity as our unique – and crucial – European values. He argues that sustainable funding will be key to support health and welfare systems following the recent shockwaves they have had to counter.

Thomas Zapata and co-authors address health workforce shortages in their article "From Great Attrition to Great Attraction: Countering the great resignation of health and care workers" and urge for action to explore solutions to retain and attract health workers. Solutions need to consider the changing labour market with different expectations of work, an ageing workforce, and mobility and migration leading to acute shortages and uneven distribution of healthcare professionals.

The first EHFG topic track, "Innovation for a resilient future", will look at the transformative potential of innovative solutions for the challenges we face and shed light on the controversies that surround them. In their article, Madda Henry Magbity et al. are advocating an ambitious One Health approach to counter antimicrobial resistance. To truly advance in battling the silent pandemic, the authors point to the need for multisectoral European Union policy actions and ensuring prevention efforts are equally adopted across the human, animal, and environment sectors.

The necessity to build health systems that will not only withstand shocks, but have the flexibility to anticipate, adapt, and respond to emerging crises is explored in the EHFG topic track "Building shock-proof health systems".

The Joint Action JADECARE reinforces the capacity of health authorities to successfully address important aspects of health system transformation. In their article, Ane Fullaondo Zabala et al.highlight

the importance of best practice transfer between EU Member States to foster digitally enabled integrated care.

In his article on the crisis of health systems in Southern and Eastern European countries, John Yfantopoulos draws attention to the lack of public spending on health, exacerbated by the current crises, and urgently calls for action to redress the imbalance in health between European citizens.

The EU Mission on Cancer has set the very ambitious target to improve the lives of more than three million people by 2030. In their article "Boosting mental health of young cancer survivors", Dirk Handrich and Joanna Drake point to the support and adapted approaches needed to improve the mental health and quality of life of young cancer patients and survivors. This requires not only an involvement of young patients in policy development, but also a societal change to improve the understanding of young cancer patients' needs.

In her article on climate and health, Catherine Guinard calls for more research on the profound impact of climate change on health, specifically on Europe's most marginalised populations. These under-represented communities are impacted both by the worsening of existing health problems, as well as exacerbated challenges in accessing care.

Dheepa Rajan and colleagues present the importance of primary healthcare (PHC) as a foundation of health system resilience and health security. Their article outlines the specific impact PHC has on addressing community needs, eventually leading to better outcomes and serving as a protector against future health shocks.

The crises we are currently facing have brought health to the forefront of the EU's political agenda and led to ambitious policy efforts towards a European Health Union. At the EHFG 2023, we will discuss how to uphold these advancements and maintain the momentum for an encompassing union for health, featured in the track "Health policy at a crossroads".

National public health institutes play a special role in maintaining the resilience of health systems. To foster future Health for All Policies, Herwig Ostermann introduces novel roles and mandates and the need for new strategic partnerships to address the challenges and learnings from COVID-19, conflicts, and global economic shocks.

With these "tasters" of this year's EHFG topics, we invite you to discuss how to ride out the current shockwaves and how crises can help catalyse the development of new approaches to health system problems. Following positive policy developments on the European level with all actors working towards a true European Health Union, we will discuss and collect "health asks" in view of the European elections taking place in June 2024 to ensure that health will be kept high on European priority lists, despite–or because of–the shockwaves that health systems have had to counter.

Dorli Kahr-Gottlieb, Secretary General, European Health Forum Gastein

Josep Figueras, Director, European Observatory on Health Systems and Policies

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FROM GREAT ATTRITION TO GREAT ATTRACTION: COUNTERING THE GREAT RESIGNATION OF HEALTH AND CARE WORKERS

By: Tomas Zapata, Natasha Azzopardi Muscat, Michelle Falkenbach and Matthias Wismar

Summary: Health workforce shortages in Europe could escalate dramatically if immediate steps are not taken to retain existing health and care workers. This article examines the reasons for attrition amongst the health and care workforce. It then moves to offer solutions as to how countries can move from having high attrition rates to attracting and retaining health and care workers. We conclude by stressing that the time to act is now if we want to address these challenges with minimal future consequences.

Keywords: *Health and Care Workforce, Health and Care Workers, Attrition, Retention, Human Resources for Health*

> #EHFG2023 – PLENARY 2:
Great Attrition or Great Attraction? Addressing healthcare workforce challenges

Tomas Zapata is Head of Unit, Health Workforce and Health Services, **Natasha Azzopardi Muscat** is Director, Division of Country Health Policies and Systems, World Health Organization Regional Office for Europe, Copenhagen, Denmark; **Michelle Falkenbach** is a Technical Officer, **Matthias Wismar** is Programme Manager, European Observatory for Health Systems and Policies, Brussels, Belgium. Email: zapatat@who.int

Introduction

Over the last decade, the number of health and care workers (HCWs) working in the European region has increased. When considering the global context, the World Health Organization's (WHO) European region has the highest density of HCWs among all the regions in the world (37 doctors and 80 nurses per 10,000 population in 2020) [1] and no country is defined as having a critical shortage of HCWs as per the definition in the recently published WHO safeguard list.[2] Moreover, the European region, especially Western European countries, have more HCWs than ever. During the past ten years, there has been a 13.5% and an 8.2% increase in the availability of doctors and nurses and a 37% and 26% increase in the training of doctors and nurses in the European region (15.3 regional average graduate doctors and 36.6 nurses per 100,000 population in 2020).[1]

Despite these increases, a deficit remains. In 2013, the WHO estimated that the overall shortage of HCWs was 1.6 million in Europe, which the study estimated would require an average annual exponential growth of 2% to offset the trend. Seeing as this growth rate has not yet been reached within the 27 Member States of the European Union (EU), a shortage of 4.1 million by 2030 (0.6 million physicians, 2.3 million nurses and 1.3 million other healthcare professionals) is projected, despite having a historically high availability of doctors and nurses as mentioned above.[1,2] These figures are conservative and not generally applicable to the entire European

region. In addition, HCW shortages are especially prominent in rural, remote, and underserved areas.[1]

This deficit of HCWs is the result of the COVID-19 pandemic, supply and demand discrepancies, and a lack of planning and forecasting.

> projected to reach a shortage of 4.1 million by 2030

COVID-19. The COVID-19 pandemic has exacted a high toll on HCWs in terms of mortality and physical and mental strain. HCWs across the European region feel undervalued, overworked, and burned-out, and their disaffection and lack of trust in the systems they work in and people that employ them is progressively increasing.[1,3,4] Multiple strikes across countries in the region have been seen, where HCWs are demanding improved working conditions, more respect, appreciation and protection.

Supply and demand discrepancies. Even before the COVID-19 pandemic, European countries were experiencing health and care personnel shortages because the demand for services is increasing much faster than the availability of HCWs. This surge in demand is due to a progressively ageing population, an increase in chronic diseases and multi-morbidities, and the population's expanding expectations of health services. Rising backlogs accumulated during the COVID-19 pandemic are further exacerbating this problem.

A lack of planning and forecasting. Being able to specify what health systems need in terms of the health and care workforce is key and requires: strengthened and resourced data collection, analysis and reporting to the public domain; improved forecasting and scenario planning for health and care services and all public health functions, including emergency preparedness and response; linking data to models of care and explicit reform goals; breaking down needs in terms of competencies, practice activities, distribution and aims.[5]

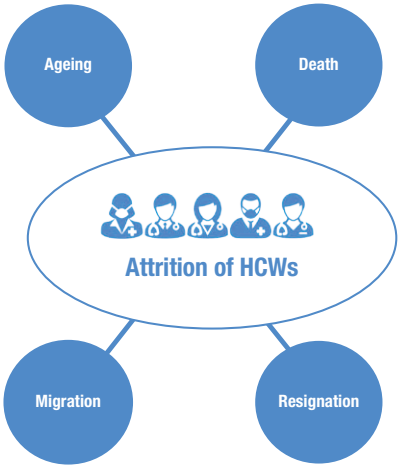
The health and care workforce shortages are likely to get worse because of the impact of COVID-19 and increasing rates of attrition in some countries. The European region has experienced an unprecedented health and care workforce crisis over the last decade, culminating in the COVID-19 pandemic. Because of this, the region has seen the attrition rate amongst HCWs increase at the same time as demand for health services has increased. Given these growing challenges, this article looks at reasons for attrition in Europe and suggests how this can be tackled.

In this article, we define attrition as the number of HCWs who have left the health workforce due to retirement, death, outward migration, or resignation over a given period of time (**see Figure 1**). While there is currently only a limited amount of data available in support of increasing attrition rates during and post-pandemic, there is reason to believe that these attrition rates will increase if challenges (retirement, mortality, outward migration and resignation) leading to attrition are not dealt with.

Four potential reasons for attrition amongst health and care workers

The first reason why the attrition rate amongst HCWs is so high can be attributed to retirement. The increasing number of retiring health workers, particularly doctors, is a significant area of concern (**see Figure 2**). Italy is leading the region with almost 60% of medical doctors over the age of 55 with Israel, Latvia and Estonia following close behind. In 13 of the 44 countries in the European region providing data, at least 40% of the doctors are over 55 and will retire within the next ten years. If we look at the average of all 44 European region countries providing data, 30% of the doctors in the region are over 55 years of age.[1] **Figure 3** indicates that the regional average of medical doctors over the age of 55 between 2010 and 2021 has increased by around 5%. If this trend continues, there will be a "tsunami" of attrition over the next ten years caused solely by retirement.

Figure 1: Main dimensions of health and care worker attrition

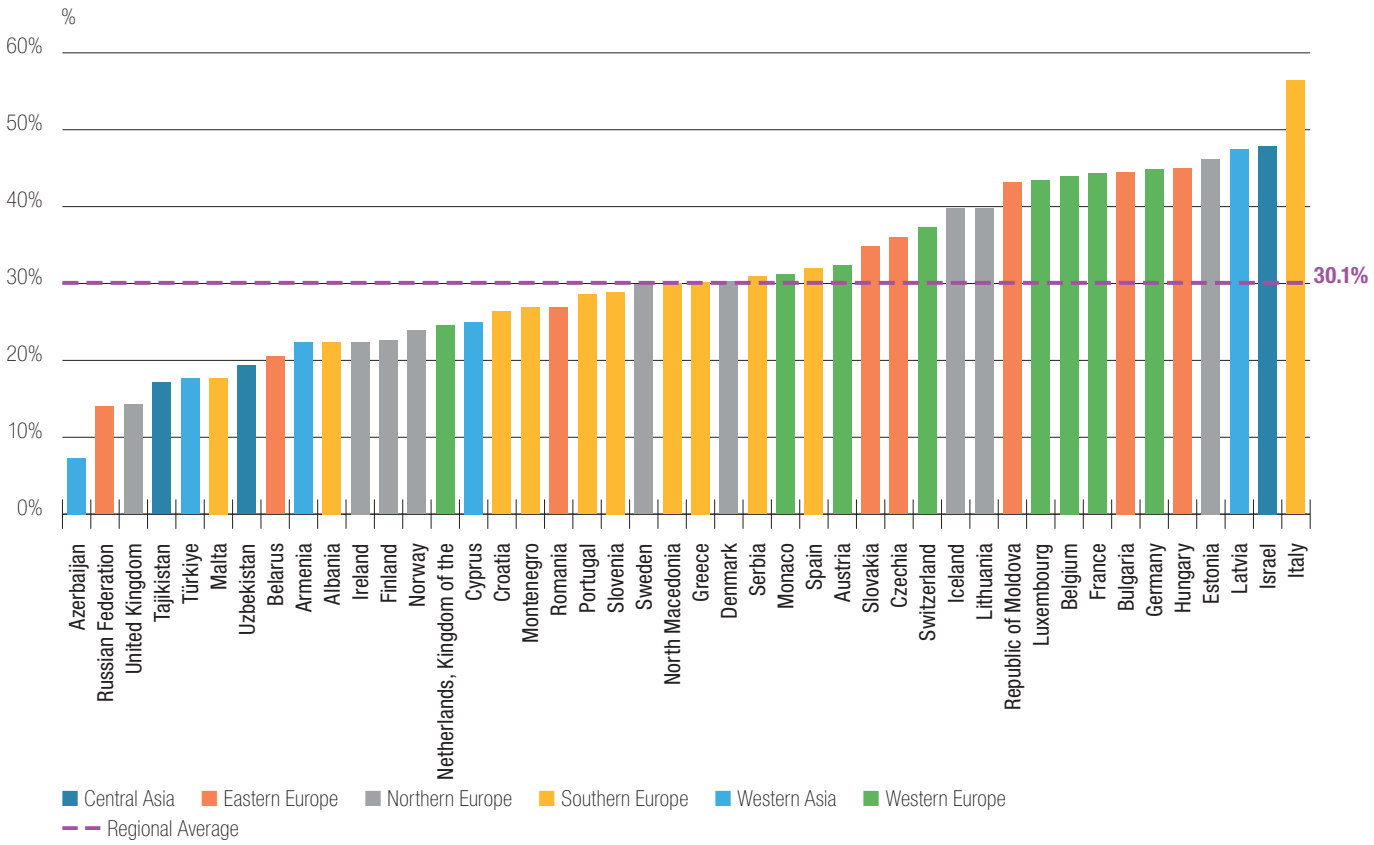


Source: authors' own.

The second reason points to the death toll amongst HCWs during the COVID-19 pandemic. HCWs were at a higher risk for COVID-19-related hospitalisations than non-HCWs, although the case-fatality ratio was only 1.8% amongst HCWs compared with 8.2% amongst non-HCWs.[8] While HCWs had comparatively lower deaths rates from COVID-19, potentially as a result of early access to treatment or the healthy worker effect*, the number of HCW deaths increased during the COVID-19 pandemic. It is estimated that globally around 115,000 health workers died due to COVID-19, 49,374 of them in the European Region alone with only the Americas having a higher population based estimate at 60,380.[9] Every single human resource that died represents an invaluable loss not only on a personal level but also for the health and care system. Furthermore, absences and deaths during the pandemic created gaps in rotations and shifts, which in turn placed additional stress on those HCWs still in the system,

* This implies that workers often exhibit lower overall death rates than the general population because the severely ill and chronically disabled are often excluded from employment or leave employment early.

Figure 2: Percentage of medical doctors aged 55 and older, 2020 or latest



Source: [6]

thereby contributing towards a vicious circle of stress, burnout, resignation and potentially even death.

> vicious circle of stress, burnout, resignation

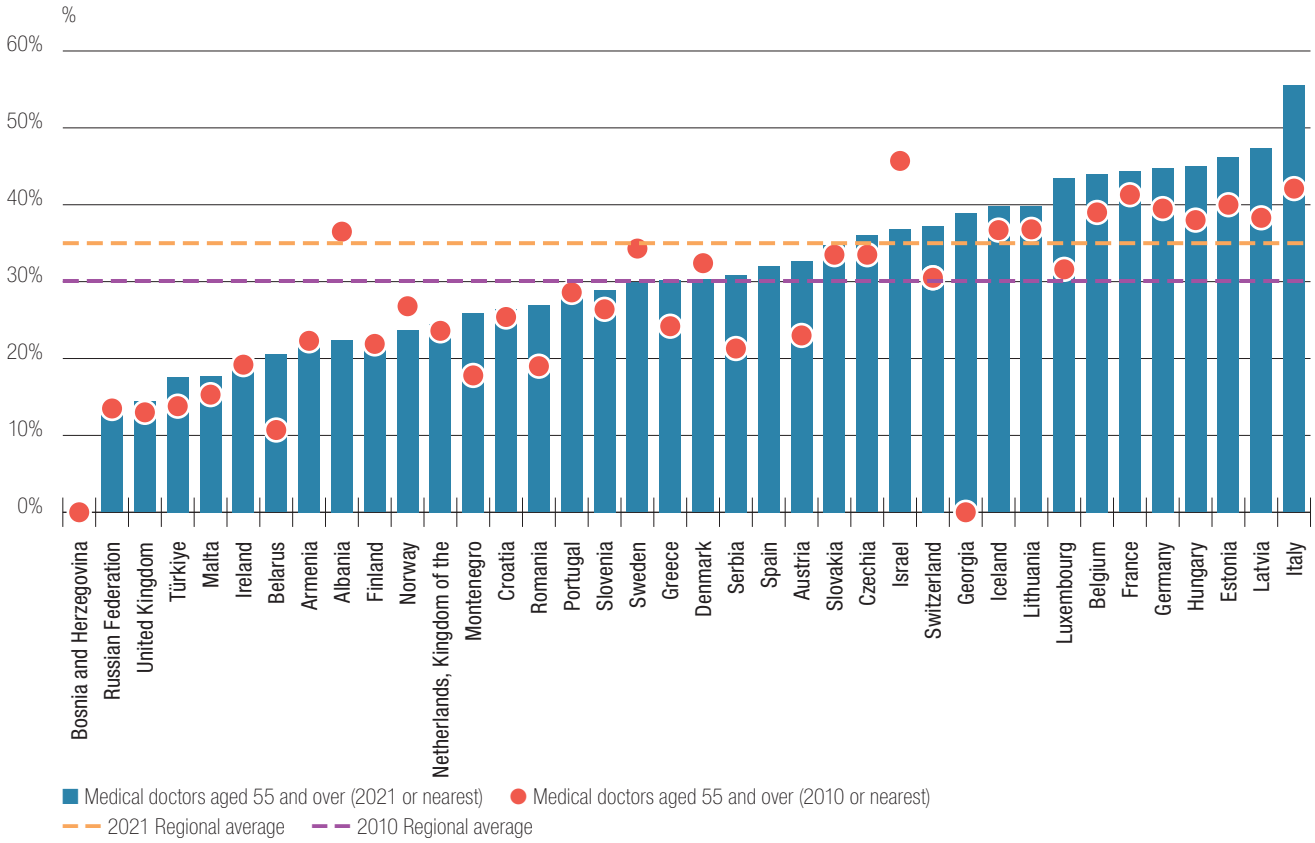
A third reason for attrition can be attributed to the outward migration of HCWs. Because of points one and two, resulting in the scarcity of HCWs in some European region countries, very aggressive recruitment tactics from countries in Europe and from outside have ensued. For example, looking at the changes in the percentage of foreign-trained medical doctors between 2000–10 and 2011–21, Switzerland increased significantly, moving from around 25% to almost 40%. Similarly, in the United Kingdom, the percentage of foreign-trained nursing personnel increased from just over 10% to almost 20%.[2] HCWs are recruited from multiple countries outside and inside the European region. Some countries have active recruitment strategies to recruit long-term care professionals from Eastern Europe and EU candidate countries. Thus, European region countries such as Romania, Bulgaria and Poland are facing high attrition rates due to this type of outward migration.[10]

The fourth reason contributing to the increase in attrition is resignation due to poor working conditions and poor work-life balance. HCW absences during the pandemic skyrocketed by 62%, and the WHO European region received reports that 9 out of 10 nurses considered quitting their jobs.[11] The reasons for leaving or thinking about leaving the profession include psychological distress and mental health issues resulting in increasing rates of burnout amongst HCWs.[1] Multiple countries within the region report around 52% of HCWs feeling burned-out, and it is one of the main contributing factors for increased attrition. Psychological stress, fatigue, anxiety, and depression due to increased workload, long working hours, workplace violence and inadequate on the job resources are positively correlated to an increased propensity to burnout and intention to leave.[12] [13]

Moving from attrition to retention

The health workforce crisis in Europe is mainly caused by an increasing gap between the availability of HCWs and the increased demand for health services. Some of this gap is due to attrition due to high rates of burnout, and increasing intention to leave rates may lead to a significant wave of resignation amongst HCWs in the coming years. If immediate steps are not taken to retain existing

Figure 3: Change in percentage of medical doctors aged 55 and over, between 2010 and 2021



Source: authors' own.

Note: Analysis of OECD's data on health worker migration[7] indicates that there is an increase in the average inflow of foreign trained doctors and nurses to OECD countries during COVID-19 (2020–21) as compared to the pre-COVID-19 period (2017–19).

HCWs, the problem of attrition could escalate, undermining the functioning of health systems. So, what can be done?

Stabilising and reversing the attrition rates of HCWs through retention strategies is currently the highest priority within the European region.[14] The WHO report "Health and Care Workforce in Europe: time to act" highlights ten concrete actions to strengthen the HCW in the region. Several of these actions aim to reduce the attrition of HCWs as summarised below:[1]

- **Improving working conditions**. This includes reducing the excessive workload that many HCWs are exposed to, especially after the COVID-19 pandemic; offering more flexible working arrangements leading to a better work-life balance (this is an essential factor in increasing the attractiveness of the profession); providing adequate equipment, infrastructure and the introduction of digital health technologies for the delivery of quality health services; and offering continuous professional development as well as mentorship opportunities.
- **Offer fair remuneration**. Financial compensation is not the most crucial factor, but it is a pre-condition to improve retention rates and make the profession more attractive to newcomers.
- **Protect against violence**. Violence against HCWs has increased during the COVID-19 pandemic and often results in stress, burnout, and physical harm, solidifying intentions to leave. Policies and laws to protect HCWs should be enacted and enforced, and communication strategies and media campaigns should be developed to improve public awareness and sensitivities. Furthermore, integrating violence prevention in education and training is necessary, as is the improvement of the monitoring and reporting systems.[4]
- **Care for health workers**. Although care against stress, depression and burnout of HCWs has increased during the COVID-19 pandemic, policies and interventions to provide individual care to protect HCWs' mental health and well-being are necessary. In addition, systems wide measures such as the one mentioned above are also needed to prevent and address mental health and well-being problems of the health and care workforce.[13]
- **Increase focus on rural, remote and underserved areas**. Retaining HCWs in rural areas is incredibly challenging. As per the latest WHO guidelines on health workforce development,[15]

attraction, recruitment, and retention in rural areas requires a bundle of coordinated interventions on education, regulation, financial incentives and support interventions.

- **Improve health workforce data**. There is a paucity of data on attrition of health workers implying that one cannot extrapolate from a few isolated studies. Strengthening human resources for health information systems that include mechanisms to record attrition from a quantitative and qualitative point of view to understand why they are leaving is urgently needed.
- **Change employment and recruitment strategies**. Improved HCW planning and forecasting is required to address the retirement wave of HCWs within the European region and plan for increased recruitment. Short-term solutions could include introducing voluntary policies that are adequately incentivised to extend the practice of HCWs beyond the retirement age.

> “paucity of data on attrition of health workers

The time to act is now

The current health and care workforce crisis in the European region requires country-determined policy actions to strengthen national health systems making them more resilient to future crises and equipping them to effectively deal with current and future population needs whilst also regaining trust in political leadership and decision-making.[1,16]

As reinforced during the Bucharest Declaration on the health and care workforce in Europe, comprehensive and urgent actions to strengthen Europe’s health and care workforce are needed now.[16] Sarah Abrams, a junior doctor in the United Kingdom, underlined the urgency of action, stating that “the workforce retention crisis numbers are truly staggering, and anecdotally many of my friends are planning to leave. Of the eight juniors, I started my training with, only two of us are definitely planning to continue in the NHS.” Financing the existing workforce is one of the best investments that can be made. If HCWs are not supported, are burnt-out, overworked and feel undervalued, they will not be able to perform optimally and may drop out of the workforce entirely. This is a failure on behalf of employers.[17]

Immediate and priority policy actions to improve the retention of HCWs are needed to stop the attrition and the intention to leave amongst this professional group. The WHO has declared the health and care workforce a five-year policy priority and will present its framework for action to strengthen Europe’s health and care workforce at the Regional Committee in Astana in October 2023. The framework not only addresses attrition issues but has put the retention of HCWs at the core of its framework. In addition, the Tallinn health systems conference on “Trust and transformation” will be held in December 2023, which will include results from a series of consultations with patients, health workers, and politicians on HCW retention and creating resilient and sustainable health systems for the future.[18]

References

1 WHO. *Health and Care Workforce in Europe: Time to Act*. Copenahgen: World Health Organization. Regional Office for Europe, 2022.

2 WHO. *WHO report on global health worker mobility*. Geneva: World Health Organization, 2023. Available at: https://www.who.int/publications/i/item/2023-who-report-on-global-health-worker-mobility

3 Ghahramani S, Lankarani KB, Yousefi M, Heydari K, Shahabi S, Azmand S. A systematic review and meta-analysis of burnout among healthcare workers during COVID-19. *Frontiers in psychiatry* 2021;12:758849.

4 Kuhlmann E, Brînzac MG, Czabanowska K, et al. Violence against healthcare workers is a political problem and a public health issue: a call to action. *European Journal of Public Health* 2023;33(1):4–5.

5 Caffrey M, Tancred T, Falkenbach M, Raven J. What can intersectoral governance do to strengthen the health and care workforce? *Policy Brief 53*. Copenhagen: WHO/European Observatory, 2023.

6 WHO. National Health Workforce Accounts data portal [online database]. Geneva: World Health Organization, 2022. Available at: https://apps.who.int/nhwaportal/

7 OECD. Health Workforce Migration. Available at: https://stats.oecd.org/, accessed 22 July 2023.

8 Ferland L, Carvalho C, Dias JG, et al. Risk of hospitalization and death for healthcare workers with COVID-19 in nine European countries, January 2020 – January 2021. *Journal of Hospital Infection* 2022;119:170–4.

9 WHO. The impact of COVID-19 on health and care workers: a closer look at deaths. World Health Organization, 2021. Available at: https://apps.who.int/iris/bitstream/handle/10665/345300/WHO-HWF-WorkingPaper-2021.1-eng.pdf

10 Kuhlmann E, Falkenbach M, Klasa K, Pavolini E, Ungureanu M-I. Migrant carers in Europe in times of COVID-19: a call to action for European health workforce governance and a public health approach. *European Journal of Public Health* 2020;30(S4):iv22–7.

11 International Council of Nurses. *The Global Nursing shortage and Nurse Retention. Policy Brief*. Available at: https://www.icn.ch/sites/default/files/inline-files/ICN%20Policy%20Brief_Nurse%20Shortage%20and%20Retention_0.pdf

12 Poon Y-SR, Lin YP, Griffiths P, Yong KK, Seah B, Liaw SY. A global overview of healthcare workers’ turnover intention amid COVID-19 pandemic: A systematic review with future directions. *Human Resources for Health* 2022;20(1):1–18.

13 Ziemann M, Chen C, Forman R, Sagan A, Pittman P. Global Health Workforce responses to address the COVID-19 pandemic: What policies and practices to recruit, retain, reskill, and support health workers during the COVID-19 pandemic should inform future workforce development? *Policy Brief 52*. Copenhagen: WHO/ European Observatory, 2023.

14 Zapata T, Azzopardi-Muscat N, McKee M, Kluge H. Fixing the health workforce crisis in Europe: retention must be the priority. *BMJ* 2023;381:947. doi: 10.1136/bmj.p947

15 World Health Organization. WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas. World Health Organization, 2021.

16 Kluge H, Azzopardi-Muscat N, Figueras J, McKee M. Trust and transformation: an agenda for creating resilient and sustainable health. *BMJ* 2023;380:651. Available at: https://doi.org/10.1136/bmj.p651

17 McPake B, Dayal P, Zimmermann J, Williams GA. What steps can improve and promote investment in the health and care workforce? Enhancing efficiency of spending and rethinking domestic and international financing. *Policy Brief 54*. Copenhagen: WHO/ European Observatory, 2023.

18 WHO. Bucharest Declaration on the Health and Care Workforce 2023. Copenahgen: World Health Organization. Regional Office for Europe, 2023. Available at: https://www.who.int/europe/publications/i/item/bucharest-declaration

AN URGENT CALL TO SAFEGUARD THE WELFARE STATE IN EUROPE

By: Clemens Martin Auer

OPINION PIECE

Summary: The development of the modern welfare state is a prerequisite for allowing people to share in the progress of science and medicine through public healthcare systems. Yet modern welfare states are coming under tremendous pressure in the permacrisis. A debate must now ensue on how to safeguard sustainable funding for solidarity and healthcare systems. The democratic debate demands that a balance be struck between the various types of constantly growing governmental functions and the public spending associated with them, on the one hand, and ways of raising the financial resources needed to pay for them, on the other.

Keywords: *Welfare State, Solidarity, Permacrisis, Health Financing*

> #EHFG2023 – PLENARY 3:
Safeguarding Europe's soul – a people-centred welfare state

Clemens Martin Auer is President of the European Health Forum Gastein, and the former Special Envoy of Health for the Austrian Ministry of Health (MoH), Vienna and until May 2022 the Vice-Chair of the Executive Board of the World Health Organization, Geneva, Switzerland. From 2005 to 2018, he was Director General of the MoH in Austria. Email: Clemens.Auer@ehfg.org

Introduction

One of the most important achievements in the political history of Europe is the development of the modern welfare state. It is also a prerequisite for allowing people to share in the enormous scientific progress made in medicine through well-developed public healthcare systems. But this does not necessarily happen as a matter of course. Modern welfare states are coming under tremendous pressure in the permacrisis we face in politics, the economy, society and the climate. This situation poses a political challenge extending far beyond the usual debate on healthcare policy.

The great strides which have been made in enforcing justice are embodied in the codes of social law passed by parliaments over the past century. The welfare state in the European/western tradition establishes social justice in the form of programs that provide social security and stability not as appellative charity but as codified law. Basically speaking, these are social rights, claimable rights and benefits in the major areas of healthcare, old age, family, education and unemployment. The code of social law provides a central lever for, in theory at least, providing equity of access and a fair share in the overall economic performance of a society and for combating poverty.

The evolution of the state's role in economy and society

In *Capital in the Twenty-First Century,*[1] Thomas Piketty lucidly presents these developments: The state's (active) role in the economy and society can be measured by examining historical time series of the ratio of total taxes to national income. This ratio amounted to less than 10% in comparable states in the West between 1870 and 1910. It then increased

steadily and, by the mid-1950s at the latest, rose to between 35 and 55%. The traditional welfare states of continental Europe have since stabilised at plus/minus 50% over the past 40 years or so, whereas the United States has tended to be at around 30% and the United Kingdom at about 40%. Piketty's thesis is that until the end of World War I all of these states confined themselves to performing "regalian" governmental functions (military, police, courts, foreign policy, general administration, and small amounts of investment in schools and infrastructure). The rise seen since then in Europe, from a ratio of tax revenues to national income of 10% to now 50%, is attributable mostly to the growing public spending on health and (to an increasing extent with ageing populations) on pensions as well as for education (schools and universities), as opposed to on unemployment benefits, or other forms of transfer payments (families, children, social assistance, etc.)

The level of the tax revenues to national income ratio is thus a political expression of the voted for and democratically desired and thus legitimised redistribution of wealth and income assets of a national economy, in favour of social participation and with an eye to creating social justice.

Many political parties can therefore lay claim to having brought about a historically unprecedented quality of freedom and justice in society. For instance, in a welfare state in continental Europe, the majority of people need not be afraid of endangering his or her social and economic existence as the result of a serious illness and the costs associated with it.

That is an expression of maximum integration having been achieved socially and politically. Important corrective mechanisms of the code of social law and the social market economy interlock here, forming the foundations of a modern understanding of social justice. In this context, the humane principle applies that those unable or no longer able to take part in the achievements of a society have a legal and not just a moral right to governmental assistance.

Newly arising governmental functions and the effect on social justice

It is against this backdrop of a basically positive balance of justice that today's challenges begin. If it is true that the form of codified solidarity described here is democratically desired, in other words, that the current level of the tax to national income ratio expresses this politically agreed desire for social justice, then the *newly arising* governmental functions, namely, to stabilise the financial and capital markets and to overcome the ecological crisis, cannot be squeezed into the current range of this ratio. Or put another way, if this level of tax to national income ratio enabled by solidarity is funded primarily through taxes on income from work/employment and consumption, the government revenues required in the financial and ecological crisis cannot be covered from these government revenues as well without undermining the stability of social justice.

> "a successful healthcare system largely relies on a solid funding base

Add to this the statistical fact that the average income from work has stagnated in Western countries from a general, not an individual standpoint. At the low part of the range, average income has even declined in some cases. At the same time, wealth from capital income has increased rapidly.

Thus, a previously unscrutinised axiom casts doubt on one unwritten "social contract" of society. There was a general belief in Europe after 1945 that the next generation would see economic and social improvements in their lives. However, for those born after 1980, this generational prospect of a better life no longer seems to apply. They are coming too late to the party at the agora of democracy in terms of economic and prosperity policy*. This unequal share in income distribution, the questioning of this "social contract" and the dynamically unfolding ecological crisis, are rapidly laying the groundwork for growing political destabilisation.

Addressing the challenges faced by solidarity systems

These observed and interlinking challenges must matter to the people responsible for European health systems; in fact, they must not overlook this metatrend (changes that drive other changes) and must clearly point out what is at stake here and do so in a timely manner. Regardless of all the scientific and technological progress that has been made in the health sector, the healthcare system needs stable funding. The solidarity system requires stable funding and must not come under pressure in the permacrisis we face, especially in light of the financial resources required to overcome the environmental and climate crisis. Social tranquillity and thus the stability of democracies based on the rule of law depend on the stability of the solidarity system. In sum, a successful healthcare system largely relies on a solid funding base from the solidarity system.

Attention must therefore be focused on the funding of the healthcare system to ensure it is sustainable and sufficient. In a nutshell, the essential sources of money for National Health Systems and Social Insurance Systems are income-based taxes (wage and income taxes) on work as well as consumption taxes (value-added taxes). The tax rates on work and income are already very high in most European Union countries and are deeply interwoven with issues of the global competitiveness of national economies and wealth formation among the broader population.

Social contributions, especially in countries with social insurance, are split between employer and employee contributions. The former is part of the employers' non-wage labour costs and thus have direct effects on the quality

* Several studies have confirmed this fact, beginning with those of the OECD. Most recently, for example, see Lukas Sustala.[2]

of a business location for companies, whether in industry or in the multifaceted service sector.

That means there are upward economic limits to exhausting the tax and contribution rates on labour, with increased challenges with revenue raising as populations age. The same holds true for the level of consumption taxes, which are highly regressive in their effect on wealth distribution policy, affecting people in lower income brackets much more strongly than those in higher brackets. The limitations of these two basic forms are therefore clear, especially also as they pertain to revenue and taxation levied on work, in times when income from work is stagnating or in some cases declining. Wealth-based taxes are limited by their negative effect on the economic maintenance of economic and production assets. Taxes on capital market transactions, for their part, require far-ranging global harmonisation, which though well justified will be difficult to achieve.

Various forms of out-of-pocket-payments for benefits from healthcare providers or medications are widely spread models for funding healthcare systems. The recent groundbreaking studies by the WHO Regional Office for Europe [3] have shown the "catastrophic effects" in several European countries on access to healthcare benefits and on economic burdens, especially for the chronically ill. From the standpoint of fairness, deductibles are therefore the worst way of all for (co)funding the healthcare system.

These findings open the way to urgently required discussions on fundamental policy on funding the European solidarity and healthcare systems. On the one hand, the motive for this debate must be guided by the knowledge (and the principles deriving from it) that solidarity safeguarded by legal policy is the only outstandingly positive feature of Europe in the world and prerequisite for social and political tranquillity in Europe. On the other hand, one must not politically dodge the fact that the ageing of the European population and scientific progress, plus the power of innovation in the sector, are creating life-extending effects and thus also costs.

Conclusion: Is mission-oriented public funding the way forward?

There is neither room nor opportunity here to provide final answers to these challenges. All potential solutions must be carefully examined to determine their socio-economic effects and their ramifications on wealth distribution policy. The thrust in raising these additional needed revenues could well be in "mission-oriented" forms of public funding. To echo Marianna Mazzucato's theory,[4] this means that governments and legislators must cover precisely targeted healthcare, innovations and the costs arising from them in a participatory manner.

"Mission-oriented" forms of taxation can be developed on this basis on all types of (economic) behaviour that make people ill, indeed that in some cases kill people. Initial examples of these types of taxation already exist. Best known are taxes on tobacco and alcohol as well as carbon taxation. Less widespread are taxes on sugar, (trans)fats, salt or other ingredients in unhealthy foods.

New types of taxation could be levied on types of production and economic activity that cause illness and have negative effects on the environment, for instance, taxes on certain forms of soil depletion, environmental pollution or the use of non-renewable resources.

In this "mission orientation", we must encourage the political behaviour and willingness of finance ministers to earmark specific types of taxation so that politically agreed missions can in fact be taken up and carried out. Healthcare spending is at the forefront in this context.

The limitations on these "negative consumption and behavioural taxes" always lie in their regressive effect, which is detrimental to wealth distribution policy for lower income groups. In addition, these taxes should be shaped to shift the burden of payment to companies rather than individuals. This is especially important in the context of dramatically rising wealth of billionaires and many companies – which have skyrocketed during COVID-19 – while the incomes of ordinary people stagnate or even go down. An innovation drive is therefore needed to sound out new taxes to safeguard the solidarity and healthcare systems in a sustainable manner.

> "the healthcare sector is certainly called upon to enter into this debate

The intent of this article was not to provide final answers. Its intent was to appeal to those individuals who have responsibilities in this area to begin the debate on how to safeguard sustainable funding for well-developed solidarity and healthcare systems. This appeal is highly political, because the democratic debate demands that a balance be struck between the various types of constantly growing governmental functions and the public spending associated with them, on the one hand, and ways of raising the financial resources needed to pay for them, on the other. The healthcare sector is certainly called upon to enter into this debate. If the people responsible for this sector do not want to have decisions made over their heads on what future forms of funding will be, they must initiate this debate themselves.

References

1 Piketty T. *Capital in the Twenty-First Century.* London: The Belknap Press of Harvard University Press, 2014.

2 Sustala L. *Zu spät zur Party.* (Late to the party). Salzburg: Ecowin, 2020.

3 WHO/EURO. Achieving universal health coverage web page. Copenhagen: WHO Regional Office for Europe. Available at: https://www.who.int/europe/activities/achieving-universal-health-coverage

4 Mazzucato M. *Mission Economy: A Moonshot Guide to Changing Capitalism*. London: Allen Lane, 2021.

STRENGTHENING PRIMARY HEALTH CARE AS A FOUNDATION FOR RESILIENT HEALTH SYSTEMS

By: Dheepa Rajan, Ilana Ventura, Christina Amrhein and Stefan Eichwalder

Summary: In addition to pursuing the goal of universal health coverage, primary health care (PHC) helps to ensure health system resilience and health security. Community engagement plays a vital role in PHC leading to increased trust and safeguarding vulnerable groups against health threats. It is also critical for reducing inequalities, a key weakness when facing health threats. The comprehensive approach and expanded roles in multi-disciplinary teams within PHC strengthen the capacity to address community needs and enhance resilience. Greater integration of PHC and public health, as observed in some settings during the COVID-19 pandemic, can lead to better outcomes. PHC played a crucial role during the pandemic and can protect against future health shocks.

Keywords: *Primary Health Care, Resilience, Multi-disciplinary Teams, Public Health, Community Care*

> #EHFG2023 – Session 1:
Primary health care and resilience. Can strong PHC help counter health system shocks?

Dheepa Rajan is Health System Specialist at the European Observatory on Health Systems and Policies, Brussels, Belgium; **Ilana Ventura** is Deputy Head of the Department on DRG, Health and Pharma Economics at the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection; **Christina Amrhein** is a Policy Officer at the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection; **Stefan Eichwalder** is Director, Health Systems Division at the Austrian Federal Ministry of Social Affairs, Health, Care and Consumer Protection. Email: rajand@who.int

Introduction: PHC is foundational for health system resilience

Policymakers and practitioners alike recognise primary health care (PHC – **see Box 1**) as the cornerstone of a people-centred health system. This acknowledgment has been reinforced through various declarations and resolutions signed by countries, highlighting the importance of strengthening PHC as a global priority.[1] However, the discourse often emphasises the role of a robust PHC-oriented health system solely in achieving universal health coverage, while its significance in ensuring health system resilience and health security is equally essential.

The concept of resilience has gained significant traction in health system literature since the COVID-19 crisis, reflecting its increased importance in policy and practice circles. Resilience refers to the ability of health systems to proactively anticipate, adapt to, and respond effectively to shocks and stressors, ranging from pandemics and economic crises to climate change.[2] When applied to health systems, "resilient" describes a characteristic that minimises the negative consequences of disruptions, recovers

Box 1: Primary health care: a definition[4]

The 2018 Astana Declaration on Primary Health Care defines it as follows: *"a whole-of-society approach to health that aims equitably to maximize the level and distribution of health and well-being by focusing on people's needs and preferences (both as individuals and communities) as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment"*.

In addition, the Astana Declaration clearly lays out 3 components of primary health: (1) primary care and essential public health functions as the core of integrated health services; (2) empowered people and communities; (3) multisectoral policy and action.

swiftly, learns from experiences to improve routine operations, and reduces vulnerability to future shocks.[3]

PHC can be viewed as an essential pillar for health system resilience, playing a vital role before, during, and after health emergencies like the recent COVID-19 pandemic. Before a pandemic, PHC offers health security through its holistic approach, integrating individual and population perspectives to address a wide range of health needs, particularly those relevant in a health emergency. For example, preventive population health services and community engagement are fundamental elements of both emergency response and PHC.[4]

During a pandemic, PHC acts as the entry point for communities and patients into the health system, where the emergency response begins, its impact can be mitigated, and essential services must be maintained during a crisis. The multidisciplinary nature of robust PHC, including its public health component, ensures comprehensive coverage of community health needs, serving as a pillar for both basic services and effective emergency response.

After a pandemic, the innovations introduced in response need to be sustained and learned from. While this applies to the entire health system, it is within PHC where the majority of people's health needs are addressed and where underlying social and medical vulnerabilities make them most susceptible to future health system shocks. Thus, PHC can become a focal point for learning and building resistance against future emergencies. Additionally, PHC plays a crucial role in addressing healthcare backlogs and scaling up routine services post-emergency to expedite recovery and restore community health.

In light of the above, a recent Lancet correspondence expressed concerns about the insufficient focus on strengthening PHC in the global discourse on pandemic prevention, preparedness, response, and recovery.[5] Aligned with Lal & Schwalbe's perspective, we provide an overview here on the contributions of PHC to health system resilience: its proximity to communities, the multi-disciplinary team which covers both **public health and primary care**, and PHC as a fulcrum of **learning and adaptation** following a shock.

Community engagement

The *Astana Declaration on Primary Health Care*[5] unequivocally positions communities as the focal point of the PHC approach, with "empowered people and communities" being one of the three fundamental pillars of PHC. In the majority of health service delivery contexts, community engagement predominantly takes place within the realm of PHC, as it serves as the convergence point for primary and community care, addressing the holistic health requirements of both individuals and populations.

Community engagement plays a vital role in the adaptability of PHC to health-related stressors. Firstly, community engagement fosters trust, a factor increasingly studied as significantly influencing COVID-19 infection levels, vaccine uptake[6] and overall COVID-19 outcomes.[7] Secondly, community engagement helps to safeguard vulnerable groups from the disproportionate effects of shocks by providing a pre-existing channel for information and communication between crisis responders and those affected the most by a crisis – thereby also tackling an important weakness to resilience, namely inequalities.[8] A recent scoping review on health system resilience confirms that community engagement is pivotal for trustful communication and community resourcefulness in addressing crises.[9]

> "PHC offers health security through its holistic approach

During emergencies, civil society and community groups demonstrate grassroots resourcefulness, especially in areas where government reach is limited. In the context of the COVID-19 response, these groups have played five key roles: mediating between communities and governments, providing and disseminating information on infection prevention and control (IPC), collecting and distributing humanitarian aid, offering social support and counselling, and supplying personal protective equipment.[10] They have also been involved in contact tracing and monitoring to prevent further disease spread.

For instance, Traveller community organisations in Ireland collaborated with local government to support Travellers with homeschooling and shelter during lockdowns. They also disseminated IPC messages and organised dialogue

sessions to address vaccination concerns and questions. Community-based organisations played a pivotal role in contact tracing within the Traveller community, underscoring their importance in emergency response efforts.[11]

> multi-disciplinary teams within a PHC-oriented health system serve as a foundation for resilience

However, surveys conducted during the COVID-19 crisis reveal a significant challenge in effectively integrating the perspectives, insights, and experiences of civil society into government strategies, heavily contributing to a lack of resilience in the face of future pandemics.[12] This challenge can be attributed to the prevailing structure of PHC in many countries due to decades of political de-prioritisation, resulting in a still-dominant biomedical model of health with a weak emphasis on public and population health, as well as community care.

Box 2: Areas of focus for integration efforts between public health and primary care[19]

Health protection

Primary care services protect individual health through risk identification, counselling, safety promotion, and tailored guidance, while also supporting public health campaigns and advocating for policies targeting specific risk factors; on the other hand, public health assesses, monitors, and takes action to reduce risks, drawing on specialist knowledge and resources.

Health promotion

Health promotion, primary care, and public health collaborate to empower individuals and communities in making healthy choices, providing individualised support, advocating for improved living conditions, and addressing the health needs of diverse populations, aiming to promote holistic well-being and community engagement.

Disease prevention

Effective primary care, encompassing disease prevention, chronic disease management, maternal and child health, and other conditions, is vital for achieving improved health outcomes, while public health collaborates with primary care to identify patterns, manage outbreaks, reduce disparities, and work across sectors and organisations.

Surveillance, monitoring and population health analysis

Collaboration between primary care and public health facilitates real-time surveillance and early detection of emerging threats through primary care's provision of essential data, complemented by public health's expertise in epidemiology and biostatistics, ultimately contributing to joint planning, population profiling, and evidence-based health policy development.

Public health emergency preparedness and response

Collaboration between primary care and public health in emergency preparedness, response, and recovery, including information sharing, risk reduction, and vaccination efforts, builds resilient health systems capable of addressing natural disasters, pandemics, and armed conflicts.

Multi-disciplinary teams

In a PHC-oriented health system, multi-disciplinary teams play a vital role in building resilience during emergencies. These teams consist of diverse health professionals, such as social and link workers,* psychotherapists, nurses, and physiotherapists. Alongside providing episodic care and responding to acute health issues, multi-disciplinary teams possess the necessary skills and scope of practice to deliver comprehensive, preventive, and patient-centred care through long-term relationships with the community.

These long-term relationships are crucial in addressing people's concerns, fears, and needs, and effectively managing potential health problems, especially during infectious disease pandemics. An example from Iceland during the COVID-19 crisis highlights how the trust and local knowledge within these teams enabled rapid identification of at-risk patients and improved access to vulnerable, rural, and underserved communities that often suffer the most during health emergencies.[13]

For example, in Austria, PHC units played a significant role in maintaining dual track health services for both COVID and non-COVID patients. The capacity of multi-disciplinary primary care teams, combined with additional space and collaborative efforts, allowed for continuity of care while conducting COVID-19 testing, triage, and patient education to contain the spread of infection.[14]

Over the past decade, efforts to expand the scope of health professionals and shift tasks to workers with less training have yielded positive results in terms of health emergency preparedness. Countries like Slovenia and the United Kingdom increased the role of community health

* Link workers help to reduce health inequalities by supporting people, especially vulnerable groups and underserved communities, to connect with needed health services, acting as a navigator to ensure a match between patient need and service offered. They also known as social navigators, patient navigators, community connectors, community health workers, and health advisors.

Box 3: The European Union's Recovery and Resilience Facility: Implementation in Austria

The Recovery and Resilience Facility (RRF) was initiated by the European Commission to boost public investment in key sectors to mitigate the impact of the COVID-19 pandemic on the economy and society. It focuses on investing in the green and digital transition to drive necessary structural reforms – also in the health sector.

To receive financing, Member States prepare national recovery and resilience plans which go through an assessment process by the European Commission, after which it is approved by the European Council.

Austria listed several health-related projects in its national Recovery and Resilience Plan. The biggest one comes with a budget of €100 million and aims at strengthening PHC. The project focuses on two key aspects: enhancing the attractiveness of PHC and providing funding for PHC.

Firstly, it aims to make primary care more attractive through the development and launch of the Austrian PHC Platform. The platform serves as a hub for communication, exchange and information sharing among primary care professionals and also provides support measures during the founding phase (mentoring). For example, training and workshops are offered on the platform to foster social innovation and increase capacity building. Secondly, the project funds the set-up of new PHC units, especially in rural areas; in addition, projects which strengthen existing PHC settings are supported. The overarching goal is to fund more than 150 PHC projects by 2026, including at least 45 new PHC units.

workers to provide home-based care during the COVID-19 pandemic.[6] Home health aides in the United States played a central role in caring for veterans by providing medical and emotional support during lockdowns.[15] The formal integration of home health aides into primary care teams, catalysed by COVID-19, with clearly defined scopes of practice, contributes to resilience in future crises.

During the H1N1 and the COVID-19 pandemics, community pharmacists in the USA collaborated closely with public health agencies to strengthen prevention efforts and support vaccination.[16] Similar strategies were implemented in Canada, Ireland, and Portugal, where pharmacists were granted broader prescription rights to share the workload with other prescribing professionals.[17]

In summary, multi-disciplinary teams within a PHC-oriented health system serve as a foundation for resilience during emergencies. Their comprehensive approach, long-term relationships, and collaborative efforts across different health professions contribute to an effective emergency response and preparedness. The integration of diverse health professionals and the expansion of their roles strengthen the capacity to address community needs and ensure a resilient health system.

Integration of primary care and essential public health functions

The vision of PHC, as outlined in the Alma-Ata and Astana Declarations, emphasises a dual responsibility towards both individuals and populations.[7] While primary care focuses primarily on individuals, public health addresses the health needs of entire populations. The integration of both primary care and public health is crucial for a comprehensive PHC approach that builds resilience across the entire health system.

There are areas of overlap and shared interests between primary care and public health where integration efforts, which ensure resilience before a health threat arrives, can be concentrated (**see Box 2**). Public health activities such as case finding, disease prevention, health promotion, immunisation, and screening align with primary care. Public health organisations also provide primary care services such as sexual health, pre- and post-natal care, and tuberculosis treatment. Enhancing integration between public health and primary care can reduce exposure to risk factors, leading to better outcomes during health emergencies. It also improves access to health services, particularly preventive and promotive services required during epidemics, and fosters greater public involvement in decision-making processes.[18]

Despite the benefits of integration for emergency preparedness, response, and recovery,[8] only a few health systems have effectively integrated essential public health functions with primary care.[20] However, where successful integration has occurred, primary care providers have played a crucial role in public health operations during the COVID-19 pandemic, supporting surveillance, contact tracing, and case management in countries like Spain and India.[23] In Colombia, North Macedonia, and Vietnam, the integration of COVID-19 surveillance with national information systems has facilitated local surveillance and contact tracing.[21] Moreover, PHC has been instrumental in implementing large-scale and rapid COVID-19 vaccination campaigns in these countries.[6]

Adaptation and learning

Amidst the disruptions caused by COVID-19, PHC demonstrated remarkable adaptability and rapid learning worldwide. A notable transformation was the swift transition from in-person to virtual care, initially driven by closures and stay-at-home orders, and later embraced for its convenience by patients and providers. In the European Union (EU), a survey in 2021 revealed that over 40% of respondents received physician care online or via telephone during the pandemic.[6] Virtual care options encompassed a range of technologies, including remote patient monitoring apps, patient portals,

interactive chatbots, video consultations, crisis and help lines, emails, text messages, and expanded electronic prescribing.[6]

However, these rapid changes were not without challenges. A recent scoping review highlighted the imperfect role of virtual care during the acute phases of the COVID-19 pandemic, underscoring pre-existing issues that were further exacerbated by the crisis. These challenges encompassed technical hurdles, insufficient attention to equity, diversity, and patient-centeredness, and digital literacy of people and health professionals.[22] Still, PHC is an important driver of innovation in health service delivery, but smart investments are needed to overcome challenges and leverage the post-pandemic momentum. For example, many European countries, with support from the EU, took advantage of public funding to strengthen public health or health equity (**see Box 3**) by investing in areas like PHC and digitalisation.

Conclusion

Because PHC is at the frontline of a crisis response, its key role in emergency preparedness, immediate response, and learning and adaptation following the shock cannot be understated. Strengthening, politically prioritising, and adequately funding PHC thus has the potential to improve health and strengthen health system resilience. Especially through its emphasis on community engagement and multi-disciplinary teams, which can cover both individual and population health services, and through the focus on integration of public health and primary care. In addition, PHC can provide a foundation for learning and adaptation to future-proof health systems from further shocks, which will inevitably occur.

Understanding the specific contributions of PHC to health system resilience is a complex task, and frameworks for conceptualising and monitoring performance are only beginning to incorporate explicit measures of resilience.[23] Nonetheless, the experiences during and beyond the COVID-19 pandemic have offered compelling evidence of how PHC played a crucial role in mounting effective, efficient, and equitable responses to the crisis.

References

1 United Nations. Political declaration of the high-level meeting on universal health coverage. *Universal health coverage: moving together to build a healthier world*. New York: UN General Assembly, 2019. Available at: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N19/311/84/PDF/N1931184.pdf?OpenElement

2 Thomas S, Sagan A, Larkin J, Cylus J, Figueras J, Karanikolos M. Health systems and policy analysis: *Strengthening health systems resilience: Key concepts and strategies*. Copenhagen: European Observatory on Health Systems and Policies, 2020. Available at: https://eurohealthobservatory.who.int/publications/i/strengthening-health-system-resilience-key-concepts-and-strategies

3 OECD. OECD Health Policy Studies: *Ready for the Next Crisis? Investing in Health System Resilience*. Paris: OECD, 2023. Available at: https://doi.org/10.1787/1e53cf80-en

4 WHO & UNICEF. *A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals*. Geneva: World Health Organization and the United Nations Children's Fund, 2018. Available at: https://apps.who.int/iris/handle/10665/328065

5 Lal A, Schwalbe N. Primary health care: a cornerstone of pandemic prevention, preparedness, response, and recovery. *The Lancet* 2023; 401(10391):1847.

6 Bollyky TJ, et al. Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021. *The Lancet* 2022;399(10334):1489–512.

7 Casey BH. Covid-19: did higher trust societies fare better? *Discover Social Science and Health* 2023;20;3(1):6.

8 Morales-Garzón S, et al. Addressing Health Disparities through Community Participation: A Scoping Review of Co-Creation in Public Health. *Healthcare (Basel)* 2023;11(7):1034.

9 Forsgren L, Tediosi F, Blanchet K, Saulnier DD. Health systems resilience in practice: a scoping review to identify strategies for building resilience. *BMC Health Services Research* 2022;22(1):1173.

10 Venema M, Rajan D, Toure K, Wong B, Mumba O, Frost M. Different roles that communities and civil society took in response to the COVID-19 pandemic in lower- and middle-income countries (LMIC): scoping review. Forthcoming 2023.

11 Villani J, Daly P, Fay R, Kavanagh L, McDonagh S, Amin N. A community-health partnership response to mitigate the impact of the COVID-19 pandemic on Travellers and Roma in Ireland. *Global Health Promotion* 2021;28(2):46–55.

12 Rajan D, et al. 'Build forward better' must include heavy investment in government capacities to engage with communities and civil society. *Eurohealth* 2021;27(1):54–9.

13 European Observatory on Health System and Policies. *Health System Response Monitor Covid-19,* 2020. Available at: https://eurohealthobservatory.who.int/monitors/hsrm/overview

14 OECD. OECD Policy Responses to Coronavirus (COVID-19): *Strengthening the frontline: How primary health care helps health systems adapt during the COVID 19 pandemic*. Paris: OECD Publishing, 2021.

15 Franzosa E, et al. Home Health Aides' Increased Role in Supporting Older Veterans and Primary Healthcare Teams During COVID-19: a Qualitative Analysis. *Journal of General Internal Medicine* 2022;37(8):1830–7.

16 Rosenfeld LA, Etkind P, Grasso A, Adams AJ, Rothholz MC. Extending the Reach: Local Health Department Collaboration with Community Pharmacies in Palm Beach County, Florida for H1N1 Influenza Pandemic Response. *Journal of Public Health Management and Practice* 2011;17(5):439–48.

17 OECD. OECD Policy Responses to Coronavirus (COVID-19): *Beyond containment: Health systems responses to COVID-19 in the OECD*. Paris: OECD Publishing, 2020.

18 Martin-Misener R, et al. A scoping literature review of collaboration between primary care and public health. *Primary health care research & development* 2012;13(4):327–46.

19 Pinto A, Jurgutis A, McKee M, Petric VK, Zhao J. Integrating public health and primary care as the core of the PHC approach. Chapter 5 in *Implementing the Primary Health Care Approach: A Primer*. WHO and the European Observatory on Health Systems and Policies, 2023.

20 Kinder K, et al. Integrating primary care and public health to enhance response to a pandemic. *Primary Health Care Research & Development* 2021;22:27.

21 Barış E, Silverman R, Wang H, Zhao F, Pate M. *Walking the Talk: Reimagining Primary Health Care After COVID-19*. Washington DC: World Bank Publications, 2022.

22 Wong ZS, Rigby M. Identifying and addressing digital health risks associated with emergency pandemic response: Problem identification, scoping review, and directions toward evidence-based evaluation. *International journal of medical informatics* 2022;157:104639.

23 McDarby G, et al. A synthesis of concepts of resilience to inform operationalization of health systems resilience in recovery from disruptive public health events including COVID-19. *Frontiers in Public Health* 2023;11:1105537.

BOOSTING MENTAL HEALTH OF YOUNG CANCER SURVIVORS

By: Dirk Hadrich and Joanna Drake

Summary: Cancer is the number one cause of death by disease in children. The EU Cancer Mission uses novel, innovative ways to break barriers, and to mobilise more resources and actors in the fight against cancer and related mental health challenges that negatively impact survivorship. Especially, young cancer patients and survivors face huge mental pressure and are too often provided with suboptimal cancer care thus requiring adapted approaches and more engagement in policy development. EU funded research addresses these challenges, aiming to improve mental well-being whereby individuals realise their own potential and can cope with the stresses of life.

Keywords: *Cancer, Mental Health, Young Cancer Survivors, Quality of Life, Inequalities*

> #EHFG2023 – SESSION 8:
Boosting mental health of young cancer survivors: What we can do to improve quality of life after cancer

Dirk Hadrich is Policy Officer, **Joanna Drake** is Mission Manager of the Cancer Mission and Deputy Director General, DG Research & Innovation, European Commission, Brussels, Belgium. Email: Dirk.HADRICH@ec.europa.eu

Introduction

The **European Cancer Information System (ECIS)** [1] estimates that there were almost 16,000 children in the European Union (EU) diagnosed with cancer in 2020. One in every 300 children born that year is likely to develop cancer by the age of 19. While there have been vast improvements in cancer survival for children in Europe in recent years, around 2,000 are estimated to have died from the disease in 2020. Cancer remains the number one cause of death by disease in children aged over one.

In 2021, **Europe's Beating Cancer Plan (EBCP)** [2] **and the EU Cancer Mission** [3] were established with the ambition "to improve the lives of more than 3 million people by 2030, through prevention, cure and for those affected by cancer including their families, to live longer and better".[3] The Cancer Mission aims to break barriers, to foster cross-sectoral solutions, to bring new research and innovation (R&I) approaches together with public health policies as well as to mobilise commitment from Member States and communities at large. The concrete **objectives** of the Cancer Mission are to enhance understanding and prevention of cancer, to optimise screening, early detection, diagnosis and treatment and to improve cancer patients' quality of life during and after their cancer treatment. The EBCP focuses on new technologies and on how the most advanced understanding of cancer initiation, progression, prevention and diagnosis, and follow-up can improve health outcomes for individual patients. The Cancer Mission and EBCP are fully integrated: one cannot deliver without the other.

Cancer patients have to undergo very intensive oncological treatments. There is very often a lack of understanding or insufficient consideration of cancer patients' needs, therefore their **quality of life** is reduced. Additional impact on their quality of life comes from comorbidities,

late side-effects, disabilities, physical and mental health problems. Unfortunately, stigmatisation of patients and survivors still negatively impacts careers and creates challenges when obtaining health insurance or a mortgage. This generates a substantial burden especially for young cancer patients, survivors, and their families. It also requires the adaptation of countries' health systems and changes in the organisation of health services and broader social services in general.

> links between cancer, quality of life and mental health problems

There are **strong interdependent links** between cancer, quality of life and mental health problems. Cancer patients, for example, often refer to a strong influence of mental effects on the progression and survival of cancer. Scientific evidence shows that cancer does not just affect your body, it also affects your mind and feelings, and it can lead to depression, anxiety and fear.[4] Young cancer patients and survivors often ask for psychosocial support, both during and after treatment, when late effects such as fatigue, chronic pain, infertility, disabilities, fear of relapse, secondary cancers, etc. hugely impact their lives.

EU initiatives address quality of life and inequalities

The Cancer Mission undertakes a thorough analysis of all **key factors and unmet needs** related to patients' quality of life, including the development of early predictors for quality of life, less damaging therapies, better supportive care and monitoring of side effects, as well as novel diagnostic technologies and increased attention to the benefits of palliative care, with a focus on young cancer patients. Another important component to improve quality of life is the active engagement of patients throughout their disease pathway.

A study[5] is ongoing to provide an operational concept for a **European Cancer Patient Digital Centre**, an initiative that aims to empower patients to co-decide on their treatment, to access, control, and share their own health data, as well as finding tailored information and support. Through this empowerment, patients would be able to take better informed decisions on their treatments and better self-manage their health and well-being.

The EU project **EUonQoL**[6], launched under the EU Cancer Mission, is expected to be a game changer as it will provide robust evidence regarding what matters for cancer patients and survivors in Europe. It should, therefore, incentivise policymakers to consider this evidence for new policies. Currently, the assessment of quality of life is normally not part of routine oncology practices. Health care systems as well as cancer control programmes do not really take quality of life into consideration. Before end of 2024, EUonQoL will identify unmet needs and, via a co-design process with patients, survivors and other stakeholders, it will develop a novel digital assessment tool for the quality of life, based on preferences of cancer patients and survivors. As part of the project, this tool should be scientifically validated in a pan European pilot survey with 4,000 cancer patients and survivors.

The **European Cancer Inequalities Registry,**[7] launched under the EBCP, provides sound and reliable data on cancer prevention and care to identify trends, disparities and inequalities at regional, national and EU level. Survival rates have generally increased in Europe due to early detection, screening and new technologies. However, people from lower socio-economic backgrounds are still more likely to die from cancer or less likely to enjoy a good quality of life as cancer survivors. Measures are being investigated to address inequities and inequalities especially at the transition from hospital to home care, during follow-up care and also for the continuity in education or employment. A major aim is for policy interventions at the national level to reduce these inequalities and to lower the overall burden and mortality rates.

Boosting mental health and dialogue with young cancer survivors

The new **EU Comprehensive Approach to Mental Health**[8] aims to use evidence coming from research and to integrate mental health across all policies and to promote mental well-being states in which individuals realise their own abilities and can cope with the stresses of life, work productively and contribute to community life. Before the COVID-19 pandemic, already 1 in 6 people in the EU suffered from mental health issues.[9] Now the situation has worsened, especially among the young and those with pre-existing mental disorders. To address this, the EU project **BOOST**[10] suggests that youth need to be engaged in a novel, social and emotional learning approach that our society and schools have not yet implemented. The total cost of mental disorders across Europe is estimated at more than €600 billion. The new EU approach attracts attention, raises awareness about this trend, and also addresses cancer patients, survivors and their families because cancer can lead to or exacerbate mental health problems. As one of the **flagship initiatives** of the Comprehensive Approach, the European Commission will provide young cancer survivors with a **platform to help them to boost their mental health** via the EU Cancer Mission.

> to reduce inequalities and to lower the overall burden

In this context and as part of citizen engagement activities of the Cancer Mission, the European Commission has launched a dialogue with young cancer survivors to better understand their specific needs and challenges and to co-create initiatives that will help addressing these. In the beginning of 2023, about 70 young cancer survivors from all over Europe met in workshops to prepare the conference

"Addressing the needs of young cancer survivors" which took place in Brussels on 7 February 2023.[11] The most important topics of this conference were the quality and availability of psychosocial support, the transition from childhood to adult care, the move from hospital to home care, suboptimal counselling, too general or not personalised follow-up care as well as educational and career development. The aim was to strengthen the engagement with young cancer survivors, to shed light on their unmet needs and to establish a long-term dialogue including also co-creation of new EU initiatives or projects.

Reflections on EU cancer projects

Evidence of past and ongoing projects should also provide useful evidence for better policymaking in cancer. The EU project **RELEVIUM**[12] started in September 2022 to show that the quality of life of certain cancer patients can be significantly improved through behavioural changes, highly personalised nutrition, physical activity and pain management strategies. Towards this goal, the project aims to empower patients with digital tools that facilitate patient-doctor communication and enable them to self-manage their disease. We can expect new recommendations for remote monitoring and improving quality of life in the care of cancer patients.

Also the EU projects **PREFERABLE-II**[13] and **FORTEe**[14] move beyond traditional bedrest care and develop innovative physical exercise therapies to change behaviours and to improve cancer treatment outcomes for better survivorship and mental health. Exercise therapies are still not accessible for most young cancer patients across the EU, also because adaptation to personal and disease specific conditions are challenging. Achieving physical fitness and sustainable behavioural change play a major role in enhancing the impact of health promotion and preventive measures.

Conclusion

The European Commission is carefully monitoring the trends and developments in the field of mental health and cancer with the intention to inform the development of better policies, to reduce human suffering, to ensure Europe's resilience and to address burden and costs appropriately, in particular for young cancer survivors.

References

1 A new tool to monitor childhood cancer in Europe. News announcement, 6 December 2021. Available at: https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/new-tool-monitor-childhood-cancer-europe-2021-12-06_en#:~:text=One%20in%20every%20300%20children,from%20the%20disease%20in%202020

2 Europe's Beating Cancer Plan. Press release, 3 February 2021. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_342

3 EU Mission: Cancer web page. Available at: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/eu-mission-cancer_en

4 Depression web page. Available at: https://www.cancer.net/coping-with-cancer/managing-emotions/depression

5 ECPDC (European Cancer Patient Digital Centre) web site. Available at: https://www.hidih.org/projects/epcdc

6 Quality of Life in Oncology. Available at: https://cordis.europa.eu/project/id/101096362

7 European Cancer Inequalities Registry. Available at: https://cancer-inequalities.jrc.ec.europa.eu/framework

8 A comprehensive approach to mental health. Available at: https://health.ec.europa.eu/publications/comprehensive-approach-mental-health_en

9 UNICEF. *State of the World's Children 2021*. United Nations Children's Fund, 2021. Available at: https://www.unicef.org/eu/media/2021/file/State%20of%20the%20World's%20Children%202021.pdf

10 Building social and emotional skills to BOOST mental health resilience in children and young people in Europe. Available at: https://cordis.europa.eu/project/id/755175

11 Addressing the needs of young cancer survivors. European Health and Digital Executive Agency (HaDEA). Available at: https://hadea.ec.europa.eu/events/addressing-needs-young-cancer-survivors-2023-02-07_en

12 Improving quality of life of advanced pancreatic cancer patients through an AI-guided multimodal intervention, combining pain and cachexia management, nutrition, and physical activity. Available at: https://cordis.europa.eu/project/id/101057821

13 Personalised Exercise-Oncology for improvement of supportive care: a super umbrella trial to demonstrate the (cost)effectiveness of live-remote exercise in cancer survivors (PREFERABLE-II). Available at: https://cordis.europa.eu/project/id/101057059

14 Get strong to fight childhood cancer: an exercise intervention for children and adolescents undergoing anti-cancer treatment (FORTEe). Available at: https://cordis.europa.eu/project/id/945153

ACCELERATING THE PATH TO DIGITALLY ENABLED INTEGRATED CARE IN EUROPE

By: Ane Fullaondo, Yhasmine Hamu, Jelka Zaletel and Denis Opresnik, on behalf of the JADECARE Consortium

Summary: The journey of care delivery transformation in Europe is evolving rapidly, and the underlying digital health technologies that will support future health and care transformation need to be designed, developed and cost-effective. The speed and scale of the response required by the COVID-19 pandemic highlighted how the fragmentation in current healthcare systems significantly impairs our ability to respond effectively to meeting needs. The Joint Action JADECARE is focused on reinforcing health authorities, especially in incorporating digitally enabled integrated care. It has supported the good practice transfer between EU countries, thus enabling them to benefit from proven efficient solutions.

Keywords: *Integrated Care, Digital Innovation, Health System Transformation, Sustainability*

> #EHFG2023 – Session 15:
Accelerating the path to digitally-enabled integrated care. Sharing best practice for health system transformation in Joint Action JADECARE

Ane Fullaondo is Scientific Director, **Yhasmine Hamu** is Researcher, Kronikgune Institute for Health Services Research, Barakaldo, Bizkaia, Spain; **Jelka Zaletel** is Assistant Professor, Senior Diabetes and Policy Expert, and Co-Chair of the National Diabetes Programme Coordination Group, Ministry of Health, Ljubljana, Slovenia; **Denis Opresnik** is Researcher and Development Associate, National Institute of Public Health, Ljubljana, Slovenia. **JADECARE Consortium** at: https://www.jadecare.eu/about/consortium/ Email: afullaondo@kronikgune.org

Europe is ageing, what do we do?

The population of Europe is ageing, contributing to a growing burden of chronic conditions and multimorbidity. This is steadily increasing the demand for more extended and efficient care and a more intelligent outcome-based delivery of personalised care. Unfortunately, many of the existing European healthcare models focus primarily on short- and medium-term interventions for single conditions, failing to integrate the care planning of multiple providers and often overlooking the interconnections between different chronic diseases.[1]

The absence of a coordinated approach to health and social care increases difficulties in aligning care across care teams and care settings. This seriously compromises the ability of health systems to provide universal, equitable, high-quality, and financially sustainable care.[2] Increased specialisation with "siloed" and fragmented care approaches lead to poor communication and information sharing, which in turn cause shortcomings and gaps in the services provided for patients with chronic conditions and long-term care needs.

The evidence suggests that developing integrated person-centred care should generate significant improvements in the care and health of all citizens. This includes enhanced quality and access to care, health and clinical outcomes, health literacy and self-care.[3] The satisfaction of patients and job satisfaction for health and care workers would also improve, as would the efficiency of services. The overall costs would be reduced.[4] Person- centred

care identifies health concerns and needs, shared health objectives and healthcare goals, and appropriate activities associated with the healthcare process.

> digital health tools need to be embedded into health and social care delivery systems

Ageing of the population and the increasing prevalence of chronic conditions require that European countries move towards a more integrated person-centred approach to care delivery. This approach should be designed in a way that coordinates services around the needs of the citizens and puts them in the centre, enabling them to participate in, and make informed decisions about their care. Many countries are already implementing some form of integrated care even though the nature and scope of their approaches differ. However, many health systems have already experienced and acknowledged difficulties in implementing good quality integrated care.[5]

Call for action: digitally enabled person-centred integrated care

The COVID-19 pandemic is one of the worst health catastrophes of the last century, which caused severe economic, political, and social effects worldwide. Despite these devastating consequences, opportunities have also arisen that, if capitalised on, can drive reforms of health systems that will help them to become high-performing, effective, equitable, accessible, and sustainable organisations. Digital health tools have already seen an accelerated implementation throughout the world in response to pandemic challenges.[6]

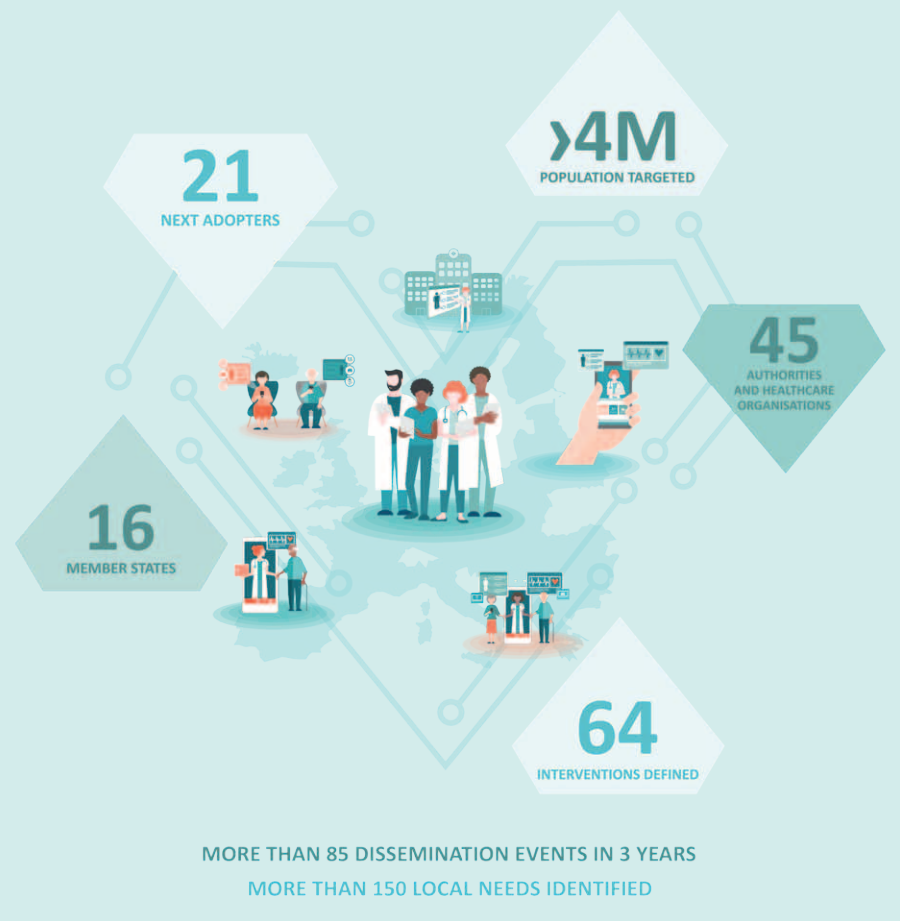
Digital innovation (new technologies, products, and organisational changes) has the potential to facilitate and support the delivery of integrated person-centred services based on citizen's needs, by improving coordination among stakeholders and information channels, and providing more targeted, personalised, effective, and efficient healthcare. Such innovative digital tools and services help deliver integrated person-centred care to the population, improving the quality of care, and reducing costs. To harvest the full benefits of integrated digitally enabled person-centred care, digital health tools need to be embedded into health and social care delivery systems. However, the difficulties implicit in the design, implementation, transfer, and evaluation of integrated care supported by digital solutions are still to be overcome.[7]

The journey of care delivery transformation in Europe is still in its first stage. The underlying digital health technologies that will support this transformation need to be purposefully designed, developed, and must demonstrate cost-effectiveness potential. It will be a complex program of change which requires adequate methods, processes, tools, and techniques. To speed up the adoption of integrated person-centred care solutions in Europe, Member States need to improve their capacity to redesign and improve their healthcare systems. This requires simultaneous operations at three levels: at the system level (strategy, governance, and allocation of resources); at the service level (commissioning, operations, and service redesign); and at the interface between service users, carers, and their care providers (delivery of care in new and better ways).

Transfer and adoption of good practices: Joint Action JADECARE

The systematic incorporation of evidence-based interventions into policy and practice can improve healthcare

Figure 1: Scope and impact of JADECARE



Source: authors' own.

performance and outcomes.[8] However, population-wide health improvements also depend on large-scale implementation of effective health interventions. The transfer and spread of innovation from their sites of origin to other regions could help accelerate progress in Europe. Nevertheless, one key lesson learned from successful cases of implementation of integrated care,[9] (including from the implementation cases in JADECARE), is that the approach has to be adapted to local context and needs, otherwise the intervention(s) may not deliver the expected benefits. Care authorities should focus their care integration ambitions on local circumstances. Attainment of broad health system goals, including quality, accessibility, efficiency, and equity are objectives against which to judge new digital health services.

> “the approach has to be adapted to local context and needs

In this context, the European Commission launched a series of initiatives to support countries in health promotion and the prevention of non-communicable diseases. One such initiative is the Joint Action on implementation of digitally enabled integrated person-centred care (JADECARE). This Joint Action aimed to reinforce the capacity of health authorities to successfully address important aspects of health system transformation, in particular the transition to digitally enabled integrated person-centred care, and support the best practice transfer from the systems of the “Early Adopters” to the “Next Adopters”.

JADECARE involves 45 organisations from 16 European countries (Belgium, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Portugal, Serbia, Slovenia, Spain and the United Kingdom). Good Practices are transferred to 21 “Next Adopters” where the local context, maturity of integrated care models, legal frameworks, culture, and values are of great heterogeneity (**see Figure 1**).

JADECARE has enabled the participating health authorities to benefit from efficient solutions in digitally enabled integrated person-centred care through adoption of core elements* of four “Good Practices” that were selected by the Steering Group on Health Promotion and Prevention and Management on Non-Communicable Diseases in February 2019. The JADECARE Good Practices are:

- Basque Health strategy in ageing and chronicity–integrated care,
- Catalan open innovation hub on ICT-supported integrated care services for chronic patients,
- The OptiMedis Model-Population-based integrated care (Germany), and
- Digital roadmap towards an integrated health care sector (Region of South Denmark).

The JADECARE original Good Practice cases involve complex and huge strategies consisting of concrete initiatives related to integrated care, population-based stratification, patient empowerment, and regulation that, in all cases, have taken years and significant investment to develop, deploy and scale across the region. Due to the size of the Good Practices, transferring them in their entirety to new contexts within the framework of JADECARE seemed unrealistic. To overcome these difficulties–which are often confronted when trying to replicate successful good practices in other local contexts–a multi-phase implementation strategy was designed. It included a series of methods, procedures, and recommendations to enhance the quality of the adoption and sustainability of transferred good practices.

The JADECARE strategy considers the needs, interests, possibilities, resources, strategies, and expectations of “Next Adopters”. It is scientifically appropriate, applicable considering data availability and feasible according to the project´s timeline (three years) and resources. The implementation strategy provides a blueprint for adoption, roll-out monitoring, reporting, and ensuring the sustainability of successful interventions into new contexts. As a result, 21 Local Good Practices (newly designed or built upon existing resources), which contain selected elements of the original Good Practices (tools, programmes or services related to population-level risk stratification, integrated care, patient empowerment or regulation), have been deployed across Europe, targeting more than four million citizens, and facilitating the transition of healthcare systems towards digitally enabled integrated person-centred care (**see Boxes 1 and 2** for examples).

Sustainability strategies for good practice to continue

It is well known that the transfer and replication of a good practice to a different context is not simple or straightforward. Numerous interventions which prove to be effective in research studies in health services, often fail when they are transferred to other contexts and translated into routine practice. It is estimated that two thirds of the initiatives that organisations try to implement do not achieve successful results or required much longer to be incorporated into routine healthcare practice.[10] Although JADECARE has shown that this significant challenge can be successfully overcome, there is a further challenge to ensure that digitally enabled integrated person-centred care initiatives are sustainable beyond the end of the project.

In JADECARE, special emphasis has been placed on the sustainability planning of each of the Local Good Practices developed by the Next Adopters, mainly focusing on:

- learning from experiences of the four Early Adopters
- supporting implementers to consider sustainability-oriented activities in their actions plans

* Core features are varied and can include, for example: stratification; data extraction processes and construction of dashboards; creation of integrated healthcare organisations; creating appropriate governance structures; and tele-psychiatry.

Box 1: Central Administration of the Health System Portugal (ACSS)

Portugal faces challenges due to its high percentage of the population at older ages and a significant portion of the population affected by multimorbidity. ACSS implemented the JADECARE project, focusing on population risk stratification and continuity of care. They adapted the Basque Health Strategy to improve care models, better identify the needs by population groups, as well as adopt their financing and commissioning model. The project aimed to enhance citizens' quality of life, care continuity, and system efficiency through risk stratification. Training 262 professionals in risk stratification and engaging stakeholders through communication plans and international meetings were part of the project. Co-design training for 21 professionals led to the development of (digitalised) care pathways for specific conditions.

This initiative improved communication and coordination between hospital and primary care teams. The integration of national and local levels in the project's implementation further strengthened the collaboration among professionals. Additionally, plans were made to improve the electronic health record with care pathways, in alignment with the Recovery and Resilience Facility. ACSS believes that JADECARE was crucial in supporting the shift towards a national population-based approach in Portugal, leading to increased access, quality, and sustainability of the healthcare system.

Box 2: Regional Ministry of Health and Consumers Affairs of Andalusia (CSCJA) & Andalusian Public Foundation Progress and Health (FPS)

Andalusia, a region with 8.4 million people and an average life expectancy of 82.22 years, is facing a significant rise in the number of people living with chronic conditions, posing a strain on its healthcare system. Multimorbidity is a major challenge that needs to be addressed. In 2022, 404,092 complex chronic patients were identified, representing 5% of the population but consuming 30% of primary healthcare and hospital resources. The focus of the JADECARE implementation in Andalusia was to improve healthcare at home for these patients based on the TeleCOPD component from Denmark. They developed a Centralised System for Proactive Follow-up that gathers information from homecare professionals attending to complex chronic patients and integrates it within the corporate IT system. This allows for proactive and remote monitoring, early identification of warning signs, adaptation of prescriptions, and support to caregivers, ultimately enhancing patient quality of life. The pilot project was supported by the Regional Ministry of Health and Consumers Affairs of Andalusia and involved the active participation of healthcare professionals. The results have contributed to evidence-based practices that can be shared across Europe.

- developing concrete and realistic sustainability strategies.

In addition, the JADECARE Policy Board was created, which has proved to be a key element in providing valuable recommendations. Members of this Policy Board, with representatives of national health authorities and other institutions of 19 European countries, have actively participated in Policy Dialogues, which are deliberate conversations that convene policymakers to discuss a topic of mutual interest, together with representatives of the European Patient Forum, Directorate General SANTE and the European Health and Digital Executive Agency (HaDEA).

The JADECARE Policy Board has two main advisory roles. First, to support the alignment of Local Good Practices to national, regional and local policies, strategies, plans and programs. Second, to identify and build up the potential EU added value of JADECARE such as implementing EU legislation, achieving economies of scale, promoting best practices, benchmarking for decision making, considering cross-border issues, enabling (or supporting) movement of people and/or networking.

> “policy environment, ownership of sustainability, culture of collaboration and consensus seeking

While there are numerous contextual differences between countries and healthcare systems where the Local Good Practices have been implemented, Policy Board members have identified three overlapping core elements of sustainability: policy environment; shared ownership of sustainability; culture of collaboration and consensus seeking.

Regarding *policy environment,* engaging policy-level representatives in the design, implementation, and monitoring of the Local Good Practice to help link the practice to the country's and/or broader relevant funding opportunities seems to be crucial. Showcasing the impact of the practice is essential as well; informing policymakers about achievements increases the likelihood that the authorities will commit to sustaining change. The sense of *shared ownership* implies a co-creation approach, so a wide variety of stakeholders build a better understanding of the context where the practice is being implemented and its alignment to the local needs, priorities and resources are guaranteed. Finally, *culture* as a set of beliefs, values, behaviours,

perceptions and local conventions strongly influences practice implementation and its sustainability. In this sense, great efforts are needed to establish shared values and a common vision across the healthcare community. Key stakeholders should openly discuss their motivations and expectations. Learning from past experiences and creating a common language to communicate clear and simple messages to which all can relate are core elements. Finally, training, education and capacity building are fundamental pillars if sustainable practices are to continue over the long term.

Digital health technologies hold significant promise to advance towards integrated person-centred care. The COVID-19 pandemic has created a window of opportunity to rapidly promote the adoption of digital solutions which can support the integration at clinical, professional, organisational and system levels. Successful examples exist worldwide; now the challenge is to extend these good practices to other contexts, capitalise the learning and reach better health outcomes and long-term sustainability of health systems.

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References

1 Øvretveit J. Digital Technologies Supporting Person-Centered Integrated Care – A Perspective. *Int J Integr Care*. 2017;17(4):6.

2 Hughes G, Shaw SE, Greenhalgh T. Rethinking Integrated Care: A Systematic Hermeneutic Review of the Literature on Integrated Care Strategies and Concepts. *The Milbank Quarterly* 2022;98:446–492.

3 Tian Y, Zhang Y, Wang S, et al. Integrated care for older people based on information and communication technology: a scoping review protocol. *BMJ Open* 2022;12:e061011.

4 Baxter S, Johnson M, Chambers D, Sutton A, Goyder E, Booth A. The effects of integrated care: a systematic review of UK and international evidence. *BMC Health Serv Res*. 2018;18(1):350.

5 World Health Organization. Framework on integrated, person-centered health services, 2016. Available at: http://www.who.int/servicedeliverysafety/areas/peoplecentered-care/en/

6 Kouroubali A, Kondylakis H, Katehakis DG. Integrated Care in the Era of COVID-19: Turning Vision Into Reality With Digital Health. *Front Digit Health*. 2021;3:647938.

7 Baltaxe E, Czypionka T, Kraus M, et al. Digital Health Transformation of Integrated Care in Europe: Overarching Analysis of 17 Integrated Care Programs. *J Med Internet Res*. 2019;21(9):e14956.

8 Foy R, Sales A, Wensing M, et al. Implementation science: a reappraisal of our journal mission and scope. *Implementation Sci* 2015;10:51.

9 European Commission. *Tools and Methodologies to Assess Integrated Care in Europe,* 2017.

10 Rubin R. It Takes an Average of 17 Years for Evidence to Change Practice – the Burgeoning Field of Implementation Science Seeks to Speed Things Up. *JAMA* 2023;329(16):1333–6.

HEALTH SYSTEMS IN CRISIS: THE CASE OF EUROPEAN PERIPHERY COUNTRIES

By: John Yfantopoulos

Summary: Over the past two decades, Southern and Eastern European Countries have achieved impressive rates of economic growth, which are not reflected in public spending on health. Chronic underinvestment in public health systems, increasing out-of-pocket payments, persistent unmet needs for health services combined with geopolitical challenges have resulted in significantly lower healthy years of life as well as health and socioeconomic inequalities compared to the rest of Europe. These long-standing problems have been exacerbated by the economic and COVID-19 crises. This paper highlights the findings of case studies from European periphery countries and emphasises the urgent need for common European Union (EU) actions and policies to address low investment.

Keywords: *Unmet Needs, Life Expectancy, Underinvestment in Healthcare, Southern Europe, Central European Countries*

Introduction

Investing in health contributes to the Europe 2020 objective of smart, sustainable, and inclusive growth. Health is wealth, and investment in health contributes to economic growth, economic prosperity, and welfare. People's health is an important social and economic component because it influences labour supply, increases productivity, and improves the human capital of our societies. Health spending as percent of gross domestic product (GDP) varies significantly among the EU Member States. From around 6% in Luxembourg (5.8%), Romania (6.3%) and Poland (6.5%) to more than 12% in France (12.2%) and Germany (12.8%).

The purpose of this paper is to assess the association between health outcomes and underinvestment in health services over the period 1960–2021 in selected European Union (EU) countries in Southern and Eastern Europe. It is based on a study conducted at the University of Athens and the IPOKE Research Institute.[1]

Long standing problems have been exacerbated by the economic and COVID-19 crises and require immediate intervention from the EU to ensure better access to health services and to tackle increasing health inequalities across and between Member States. Along these lines, the European Commissioner, Stella Kyriakides, in the G7 Health Ministers

> #EHFG2023 – Session 17:
Health systems in crisis – the case of European periphery countries. How to secure an equitable future for all?

John Yfantopoulos is Professor of Health Economics, Academic Co-ordinator MBA-University of Athens Health Care Management and President of IPOKE Research Institute, Athens, Greece. Email: yfantopoulos@pspa.uoa.gr

Table 1: Health Expenditure as % of GDP in the EU and the Periphery Countries

	EU-27	SOUTHERN EUROPEAN COUNTRIES					CEE COUNTRIES				
Year	EU-27	Portugal	Greece	Spain	Italy	Cyprus	Hungary	Poland	Czechia	Romania	Bulgaria
2009	10.00	10.13	9.41	9.11	8.78	6.50	7.22	6.40	7.00	4.70	7.10
2010	10.00	10.03	9.60	9.12	8.78	6.52	7.45	6.40	7.00	4.70	7.10
2011	10.00	9.73	9.19	9.17	8.78	6.45	7.48	6.40	7.00	4.70	7.10
2012	10.00	9.65	8.92	9.15	8.78	6.55	7.41	6.40	7.50	4.73	7.54
2013	10.00	9.40	8.44	9.07	8.78	6.95	7.23	6.41	7.72	5.20	7.14
2014	10.00	9.34	7.89	9.09	8.87	6.95	7.04	6.28	7.60	5.02	7.68
2015	9.95	9.32	8.22	9.13	8.86	6.82	6.85	6.34	7.20	4.95	7.39
2016	9.95	9.39	8.45	8.95	8.73	6.68	6.99	6.50	7.11	5.00	7.46
2017	9.89	9.31	8.14	8.95	8.68	6.64	6.74	6.56	7.38	5.15	7.49
2018	9.88	9.41	8.12	9.00	8.68	6.85	6.58	6.33	7.47	5.56	7.33
2019	9.93	9.51	8.20	9.14	8.66	6.95	6.30	6.45	7.60	5.74	7.09
2020	10.90	10.55	9.51	10.71	9.63	8.09	7.25	6.49	9.24	6.27	8.52

Note: Red cells represent underinvestment in comparison to the European average, yellow an intermediate level of investment, and green an investment close to or above the European average.

Source: [4]

Meeting [1,2] launched the New EU Global Health Strategy. In her speech, she invited EU Member States to tackle health globally and to implement effective policies to attain the 17 Sustainable Development Goals (SDGs) promoted in 2015 by the United Nations.[3] These goals are essential towards the European Health Union and require harmonic multidisciplinary investigation and multisectoral actions. SDG3 invites the Governments *"to ensure healthy lives and promote wellbeing for all, at all ages"*. SDG10 emphasises the need to tackle poor health and health inequalities which undermine economic growth (SDG8).

> Investment in health should not be considered as a cost

This paper is based on a study conducted at the university of Athens and the IPOKE Research Institute.[1] The study investigated the impact of underinvestment in health systems on health outcomes using macro and micro analysis based on time series from 1960 to 2021 and a sample of 45,554 individuals across Europe. The study confirmed the underlying risks in further lowering public healthcare budgets and their impact on low quality of life, multimorbidity, and increased dissatisfaction of the European Citizens with their healthcare system.

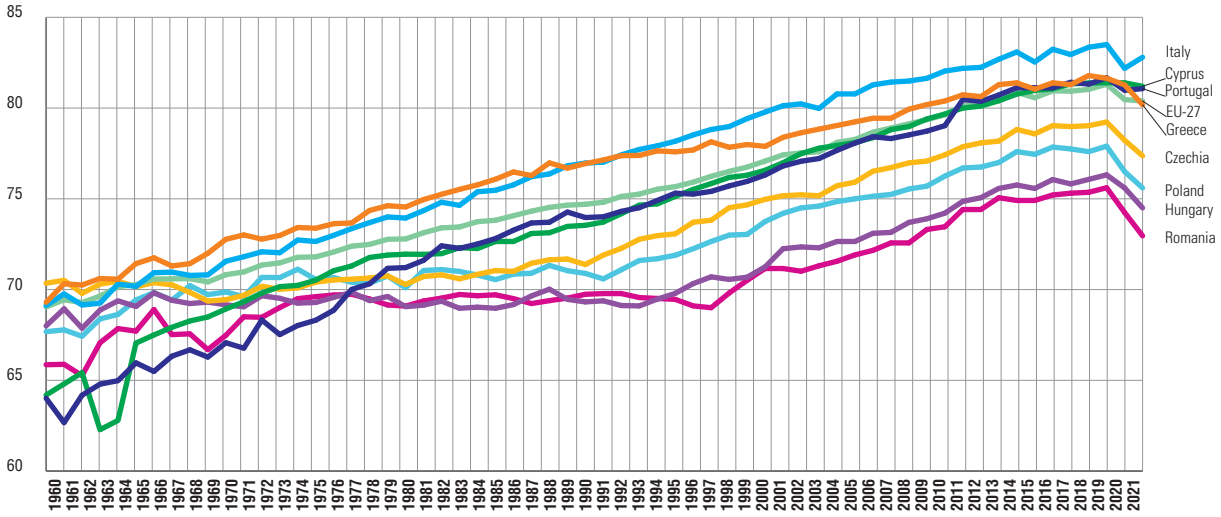
Investment in Health

After the Central and Eastern Europe (CEE) accession to the EU, the CEE countries witnessed impressive economic growth and high convergent trends with the EU27 average and the rest of the Southern and Western European economies. The highest convergent trend is recorded in Romania (+135%) and Poland (+75%). The 10-year economic crisis in Greece contributed to the divergence of GDP by -27%. Despite the economic growth there is a significant underinvestment in health as a share of GDP.

Table 1 presents the different profiles of health expenditure as percent of GDP for EU-27, the Southern and the CEE Countries for the period 2009–2020. The red cells present the worst cases and the green the best expenditure scenarios. On average, the EU devotes over 10% of its GDP to health. The underinvestment in health is presented in **Table 1** (in red cells) and refers mainly to Cyprus and Romania. The country with the highest percentage of GDP devoted to health is Portugal (around 10%). Total health expenditure per capita is significantly below the European average in the CEE countries and public investment in health is comparatively insufficient versus the European average for all CEE countries. At the same time, CEE countries and Greece experience high levels of out-of-pocket (OOP) payments for healthcare: Greece 35%, Poland 20%, Romania 19% versus the EU27 of 15.3%.[4] Further analysis of OOP payments indicated worsening of households' living conditions, impoverishment, and catastrophic health expenditures.

The financial protection of households and the avoidance of Catastrophic Health Expenditure (CHE) is one of the SDGs promoted by the United Nations in 2015.[5] The research based on 133 countries undertaken by Wagstaff et al.[6] indicted that the global incidence of health catastrophic spending increased from 9.7% in 2000 to 11.7% in 2010.[6] Further analysis on catastrophic health spending in Europe highlighted the increasing financial hardships confronted

Figure 1: Life Expectancy in the EU and the Periphery Countries



Note: EU-27 = European Union Average.

Source: authors' own.

by the European households, which disrupted their living conditions and created barriers to healthcare access.[7,8]

Life expectancy trends 1960–2021

A large number of studies in the social epidemiology and health economic literature have highlighted the positive relationship between health spending and life expectancy,[9] including also other factors such as: income, education, occupation, age, sex, and lifestyle. Higher health spending is associated with better health, improved longevity, higher labour productivity, higher earning and contributes to the accumulation of human capital.[10] These leads, according to the traditional endogenous growth theories, to significant improvements in the output per worker. The investigation of life expectancy across time and countries with different economic and political trajectories becomes an important topic for academics and policymakers.[10]

In our analysis, a simple double logarithmic model for the OECD countries between life expectancy and total health expenditure per capita found an elasticity of 0.04 (when the USA was included in the sample), and 0.05 (when the USA was excluded). This implies a 10% increase in health spending would improve life expectancy by 5–6 months. An OECD study[11] reached similar results. It was found that a 10% increase in health spending would increase life expectancy in OECD countries by 3–4 months under the condition that "the extent of inefficiency will remain unchanged".[11]

Life expectancy is a key metric for assessing the health status of a population or a socioeconomic group. **Figure 1** presents the evolution of life expectancy in selected Southern and Eastern European countries in relation to the EU27 average (blue shaded line) over the period of 61 years, from 1960 to 2021. Throughout this period, we witness three different trends in the evolution of life expectancy.

The first period covers the existence of the Communist regime in the CEE countries where stagnation and divergent trends are observed from the EU27 average. The Southern European Countries present higher or similar trends which fluctuate closely with the EU27 average (**Figure 1**). A characteristic example of the divergent trends in the CEE countries is Romania under Ceausescu's rule, where the health gap in life expectancy between Romania and the EU27 increased from around 2.5 in the early 1960's to 7.2 years in 1997.

In Poland, the health gap increased from less than one year in the early 1960's reaching 4.2 years in 1991.

The second period is related to the full accession of the CEE countries to the EU where a high convergence is observed in health outcomes between the CEE countries and the EU27 average. The preexisting health gap is significantly reduced. Despite this reduction, the overall health gains over the period 1960–2019 presents significant inequalities. The health gain in Portugal (17.7 years) is more than double in comparison to Romania (9.6 years), Poland (10.2 years) and Hungary (8.3 years) (**Figure 2**).

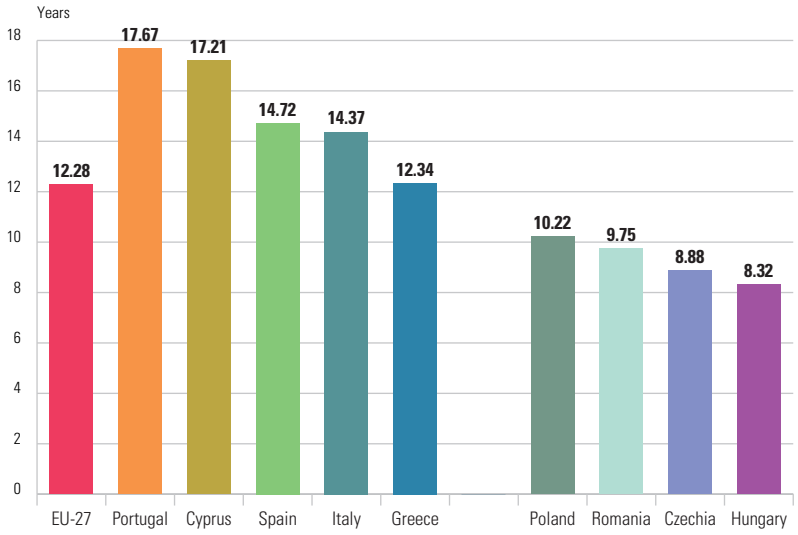
The third period, 2019–2021, presents the effects of COVID-19 on life expectancy reduction. The EU27 average life expectancy declined by one year. Life expectancy declines were 2.65 years in Romania, 2.3 years in Poland, 1.86 years in Czechia, 1.82 years in Hungary, and 1.46 years in Greece. (**Figure 1**).

Satisfaction with health services

Most European countries conduct surveys to monitor citizens' satisfaction with health services. Using the Gallup World data for 2020,[12] we witness wide variations between countries, with

Northern European Citizens (Belgium, and the Kingdom of the Netherlands 92%) being the most satisfied, while those in Southern (Greece 38%) and CEE countries (Poland 26%) the least satisfied. **Figure 3** portrays the relationship between the proportion of GDP devoted to public health services and the percentage of citizens reporting satisfaction with health services. A positive relationship was identified ($R^2 = 0.49$) between these factors. This suggests that public investment in health services would contribute to greater citizens' satisfaction with health services. However, it should be noted that greater spending should be related to the core principles of effectiveness, efficiency and equity. As Tony Culyer argues these three "E's have high ethical and political content for health policy".[13]

Figure 2: Years of Health Gains during 1960–2019



Note: EU-27 = European Union Average. Grouped by Southern European and CEE countries.

Source: authors' own.

Unmet Needs

Unmet needs for healthcare are closely related to access, universal health coverage (UHC) and health inequalities. Reducing unmet needs is policy concern for the World Health Organization,[14] the European Commission,[15] and national governments across Europe. Although most European Member States have attained the goal of UHC, many countries still confront barriers to access which have been further aggravated by the economic crisis and the COVID-19 pandemic, which have both increased health inequalities.[16] [17]

In this study, unmet healthcare needs refer to the cases where a healthcare need was not met due to financial reasons, (cost) or lack of availability. The measurement of unmet health needs was based on respondents' subjective self-assessment of whether their healthcare needs were met or not. Unmet needs were investigated for the year 2020 using a sample of 45,554 participants across Europe. The data source was the Survey of Health, Ageing and Retirement in Europe (SHARE) panel microdata.[18] The SHARE survey collects data on health, social and economic factors for people aged 50 and over in European countries, using a probability sampling approach.

Analysis shows very high shares of individuals reporting unmet healthcare needs in Greece (28%), Romania (21%), Poland (12%), versus single digit prevalence in Belgium, Germany, and Austria.

We further pursued an analysis to investigate the relationship between unmet needs for healthcare and public investment measured in terms of public health expenditure in Euros purchasing power standards (PPS) per inhabitant. A linear relationship of at least moderate strength ($R^2 = 0.28$) was established between the prevalence of overall unmet healthcare needs and (the natural logarithm of) public health expenditure (**Figure 4**).

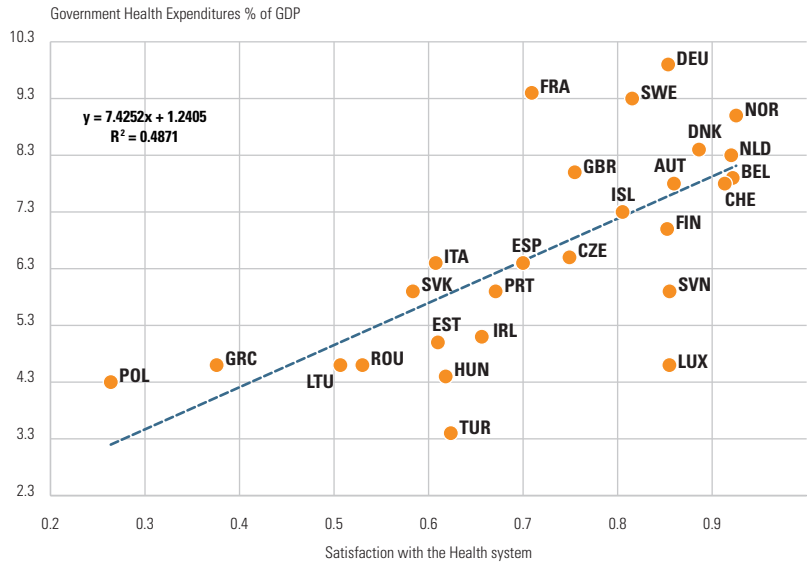
Countries were further categorised based on the level (high-low) of public health expenditure and unmet needs in four clusters (**Figure 4**). The upper left quadrant (high public health expenditure / low unmet needs) consists mainly of Central and Northern European countries (Austria, Belgium, Denmark, Germany, Luxembourg, the Kingdom of the Netherlands, Sweden, and Switzerland) as well as two Mediterranean countries (Malta and Spain). The lower right quadrant (low public health expenditure / high unmet needs) comprises primarily Eastern European countries (i.e., Bulgaria Hungary, Estonia, Latvia, Lithuania, Poland and Romania) and also Cyprus and Greece. The least occupied quadrant is the lower left one (low public health expenditure / low unmet needs), which includes Croatia, Slovakia, and Slovenia. Finally, the upper right quadrant consists of countries that, despite their high level of public health expenditure, they are characterised by high prevalence of unmet needs. Interestingly, this is as particularly heterogeneous group of countries (Czechia, Finland, France, and Italy)

Our results suggest that a higher level of public health expenditure would significantly decrease the probability of unmet health care needs.

Conclusion

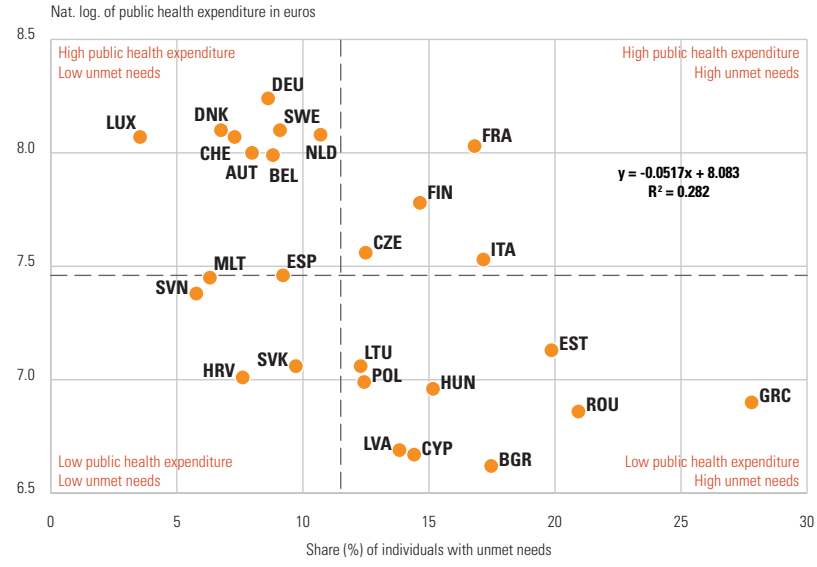
The availability of public health resources have a decisive influence on the performance of the health systems.[19] Sufficient investment in health systems is not only a prerequisite for the improvement of health outcomes, but also a driver for economic growth. The findings of this study highlight the importance of public health expenditure in reducing unmet healthcare needs and improving citizens' satisfaction with

Figure 3: Government Health Expenditure in relation to Health system satisfaction 2020



Source: [12]

Figure 4: Relationship between public health expenditure and overall unmet needs among European countries



Note: Dashed lines indicate the median among included countries, i.e.,11.5% for share of individuals with unmet needs and 7.46 for the natural logarithm of public health expenditure per inhabitant pps.

Source: authors' own.

health services. Investment in health should not be considered as a cost, instead policymakers should consider public funding of their health systems as an opportunity to invest in the health of the population, namely, the human capital of their economy.

Immediate increase of the investment in health expenditure and in public pharmaceutical expenditure would significantly:

- decrease the burden on households for pharmaceutical OOP payments
- reduce the risk of catastrophic health and pharmaceutical OOP payments
- reduce health inequalities
- improve the health status and quality of life of the population

> "the time is now to take immediate actions towards increased healthcare investments

In line with the European Agenda related to initiatives like *"equal access to healthcare for all European Citizens"*, the initiative on healthcare budget increase should be ranked highly on the EU Commission agenda. Bearing in mind that health becomes a top priority in the political agenda of European governments, and given the current uncertainty in the geopolitical situation, as well as the unfavourable situation related to healthcare outcomes in the European periphery countries, the time is now to take immediate actions towards increased healthcare investments. Common interactive actions and health policies should be developed in moving the needle in needed policy interventions to improve

access and health outcomes by tackling health inequalities and ensuring better and effective quality health services.

References

1 IPOKE Research Institute. The Impact of underinvestment on medicines and health services. The case of Poland, Romania and Greece, 2022. Available at: www.Ipoke.gr

2 European Commission. Statement by Commissioners Stella Kyriakides and Jutta Urpilainen – Towards a new EU Global Health Strategy. Brussels, 2022.

3 United Nations. Sustainable Development Goals, 2015.

4 Eurostat, 2023. Data Base Accessed 1st August 2023.

5 United Nations. Resolution A/RES/70/1. Transforming our world: the 2030 agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015.

6 Wagstaff A, Flores G, Hsu J, Smitz M-F, et al. Progress on catastrophic health spending in 133 countries: a retrospective observational study. *The Lancet Global Health*. 2018;6(2):e169-e79.

7 Cylus J, Thomson S, Evetovits T. Catastrophic health spending in Europe: equity and policy implications of different calculation methods. *Bulletin of the World Health Organization*. 2018;96(9):599.

8 Chantzaras AE, Yfantopoulos JN. Financial protection of households against health shocks in Greece during the economic crisis. *Soc Sci Med*. 2018;211:338–51.

9 OECD. Health at a Glance 2021: OECD Indicators. Paris: OECD Publishing; 2021. Available at: https://doi.org/10.1787/ae3016b9-en

10 Jakovljevic MB, Vukovic M, Fontanesi J. Life expectancy and health expenditure evolution in Eastern Europe – DiD and DEA analysis. *Expert Review of Pharmacoeconomics & Outcomes Research*. 2016;16(4):537–46.

11 OECD. Health Care Systems: Efficiency and Policy Settings. Paris: OECD Publishing, 2010. Available at: http://dx.doi.org/10.1787/9789264094901-en

12 OECD/European Union. Health at a Glance: Europe 2020: State of Health in the EU Cycle. Paris: OECD Publishing, 2020. Available at: https://doi.org/10.1787/82129230-en

13 Culyer T. Efficiency, equity and equality in health and health care, 2015. CHE research paper No.120 York, U.K. Centre for Health Economics University of York 201.

14 WHO. Health systems: universal health coverage 2020. Available at: https://www.who.int/healthsystems/universal_health_coverage/en/#:~:text=Universal%20health%20coverage%20is%20defined,the%20user%20the%20financial%20hardship

15 European Commission. European Pillar of social rights 2021. Available at: https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights_en#background

16 González-Touya M, Stoyanova A, Urbanos-Garrido RM. COVID-19 and unmet healthcare needs of older people: did inequity arise in Europe? *International journal of environmental research and public health*. 2021;18(17):9177.

17 Yfantopoulos J. Health related quality of life inequalities. *Frontiers in Public Health*. 2023;11:1214899.

18 Börsch-Supan A, Brandt M, Hunkler C, et al. Data resource profile: the Survey of Health, Ageing and Retirement in Europe (SHARE). *International journal of epidemiology*. 2013;42(4):992–1001.

19 Onofrei M, Vatamanu A-F, Vintilă G, Cigu E. Government health expenditure and public health outcomes: a comparative study among EU developing countries. *International Journal of Environmental Research and Public Health*. 2021;18(20):10725.

How can the EU support sustainable innovation and access to effective antibiotics?

Policy options for existing and new medicines

By: Anderson M, Panteli D, Mossialos E.

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Antimicrobial and particularly antibiotic resistance is one of the biggest public health challenges the world faces. Over 1 million years of life are lost each year in the European Union (EU)/ European Economic Area (EEA) alone due to antibiotic resistance, and it costs healthcare systems about €1.1 billion annually. These health and economic impacts are expected to worsen. Securing sustainable innovation and access to effective antibiotics is fundamental to tackling antibiotic resistance. Despite this, the antibiotic pipeline is not sufficient to meet public health needs, and a fragile supply-chain continues to drive recurrent and prolonged shortages of essential antibiotics in many EU Member States.

Drawing on an expert-led review of published sources, and stakeholder interviews, this policy brief maps the challenges faced in securing access to new and pre-existing antibiotics, and what policy options exist for action with a focus on the European Union (EU) level. It also considers the EU's contribution to leveraging progress in tackling AMR on a global level. The publication was produced as a collaboration between the European Observatory on Health Systems and Policies, the London School of Economics and Political Science (LSE), and the Ministry of Health and Social Affairs of Sweden as part of the 2023 Swedish Presidency of the Council of the European Union.

CLIMATE CHANGE AND HEALTH: UNDERSTANDING THE IMPACT ON EUROPE'S MOST MARGINALISED COMMUNITIES

By: Catherine Guinard

SESSION PRIMER

> **#EHFG2023 – SESSION 19:** Climate and health: Understanding the impact on Europe's most marginalised communities

Catherine Guinard is Europe Lead at Wellcome, a global philanthropic foundation with bases in the United Kingdom and Germany; with input from the Nobody Left Outside secretariat. Email: C.Guinard@wellcome.org

Wellcome will be supporting the event convened by Nobody Left Outside at EHFG. The event will be sponsored by MSD.

Summary: There is already a body of evidence on the impact of climate change on our health. But important gaps persist. In Europe, data on the impact of climate change on marginalised groups is incomplete. Further research and evidence generation is crucial as the impact on these communities will be two-fold: climate change will exacerbate health problems, and compound their challenges in accessing care. Better evidence is a crucial driver for better policy solutions which foreground equity, and the lived experience of these groups.

Keywords: *Climate Change, Marginalised Groups, Inequalities, Lived Experience*

Introduction

Climate change's impact on our health is not the first thing that comes to mind when we think about increasing greenhouse gas emissions – but soon it might be. Record-breaking temperatures, flash floods, forest fires and other extreme weather events fuelled by climate change, are already causing death and sickness across Europe and, as climate change worsens, so will its impacts on our health. In the years to come, the ability of our health systems to protect us when we get sick will rely on our shared commitment to manage the climate crisis today.

The link between climate change and health isn't new, but it's only now that the health community at large are beginning to recognise that climate change is both a health crisis in its own right, and the fuel that fires other health crises. As far back as 2008, the South-East Asia Region of the World Health Organization (WHO) developed a regional action plan to protect human health from the effects of climate change with the goal to build capacity and strengthen health systems.[1] There was already a recognition that mitigating the effects of climate change can have direct and immediate benefit in limiting harm to our health. Yet, more than a decade on, not enough action has been taken.

Just under a year away from the European elections, it's vital that as health actors we make the case for the next Parliament and Commission to build on the momentum of the current legislature on climate action, foregrounding its benefits to human health. This legislature has been strong on climate and strong on health as separate challenges, now we need these agendas to move together. Leveraging the European Union's (EU) dual role as a research funder and a political actor on the global stage will be crucial for making the

progress we desperately need on climate, not just within the EU but across the world. It's a crucial decade for action on climate – and the world is looking to the EU for leadership.

> not enough action has been taken

The impact of climate change on our health – what we know

A growing body of evidence already paints a chilling picture of how climate change is negatively impacting our health. Heatwaves caused more than 60,000 excess deaths across Europe last year, despite countries like France rolling out a national prevention scheme to mitigate their impact.[2] Meanwhile, as the European Centre for Disease Prevention and Control (ECDC) identified the natural environment and climate change as important drivers of disease carrying mosquitoes,[3] Europe has seen an increase in locally transmitted outbreaks of dengue, chikungunya, West Nile fever and even malaria since 2010.[4]

The impacts of climate change are not limited to physical health. Heatwaves are known to exacerbate underlying mental health conditions and contribute to higher rates of illness, deaths and hospitalisations among people suffering from these conditions.[5] Extreme weather events, such as flooding and storms, have well-established impacts including Post traumatic stress disorder, anxiety and depression.[6]

All of these health impacts are more likely if you're vulnerable. Vulnerability is contextual, meaning impacts are experienced differently across and between communities and individuals.[7] But we know that people living with pre-existing chronic health conditions, those from poorer backgrounds, children, older people, and some ethnic minority groups are at particular risk. They may also have a potentially low capacity to adapt and often lack the financial, social, or community resilience needed to cope, manage, and recover from new environmental hazards or climate stress.[8]

Climate change and marginalised groups – better understanding health impacts and solutions

Existing data on the impact of climate on marginalised communities is incomplete. Further research and evidence generation is crucial as the impact on these communities will be two-fold: climate change will exacerbate existing health problems (as these groups can often suffer from poor health), and in turn compound their existing challenges in accessing care.

Better understanding how marginalised communities are impacted by climate change is at the foundation of creating evidence-based policy solutions which are fit for purpose. Better evidence will equip us to develop solutions which mitigate the health impacts of climate change on these groups, but also avoid any unintended consequences of the actions to tackle climate change on marginalised groups, for example on their ability to find work.

A way forward

As a community of researchers, advocates and policymakers, we need to move fast on climate change and the damage it brings to our health. Wellcome is delighted to see the WHO appoint, Dr Vanessa Kerry, as the first-ever Director-General Special Envoy for Climate Change and Health with the aim to amplify WHO's climate and health messaging and advocacy. The appointment comes in a crucial year for the intersection of climate change and health, with the first day dedicated to health at the COP28 summit on 3 December 2023.

We need to fill data gaps, but also need to act to ensure the communities most affected by climate change have a central voice in the climate debate. Nobody Left Outside's Panel session at the Gastein Health Forum this year, "Climate and health: Understanding the impact on Europe's most marginalised communities", will be an opportunity to galvanise together around the challenge. I am very pleased that Wellcome can take part in this important session. I am excited to see how our discussion develops, and I am going into the session with the following core principles in mind:

1. Research and evidence are crucial drivers of health

Research and evidence is the lifeblood of effective, tailored policy solutions which drive health. The more we understand how people in marginalised groups are experiencing the impacts of climate change on their health and why, the more we stack the odds in our favour to find solutions to support.

> develop solutions which mitigate the health impacts

There is work already underway. Currently the EU is funding the research project BOLSTER (https://bolster-horizon.eu/) to improve understanding of marginalised communities in the climate transition. Running from 2022–2025, *Bridging Organizations and marginalized communities for Local Sustainability Transitions in EuRope* includes 12 key research partners and another 23 associated partners from across the EU including knowledge institutions, governmental institutions, NGO's and members of the business community.

Ensuring that research translates to meaningful change will be crucial.

2. Equity is at the heart of the solution to the climate crisis.

The impact of the climate crisis on health is universal but inequitable. We will all be impacted, but the world's vulnerable are particularly at risk, both of climate change's impacts and of being left behind by solutions to adapt to and mitigate it. WHO estimates that *'the climate crisis threatens to undo the last fifty years of progress in development, global health,*

and poverty reduction, and to further widen existing health inequalities between and within populations.[9]'

As with the pandemic, the inequity we see in this part of the world is seen at a greater scale across communities and countries in the Global South. The EU has a key role in securing the wellbeing of its most affected communities in Europe, including marginalised groups, alongside – as articulated in the EU's Global Health Strategy – addressing the enormous challenges facing communities in the Global South. It's a huge challenge but one that is vital if we are to achieve the health-related Sustainable Development Goals (SDGs) and greater health equity on a global scale.

3. Marginalised groups and voices have a strong role to play in health advocacy

As organisations that advocate on climate or health issues, we need to be highlighting people from marginalised groups across our work. Not only will this mean our policy work genuinely speaks for the audiences which have been feeling the effects of climate change for a lot longer, it will also ensure that no one is left behind as we aim to tackle these issues.

4. Bringing actors together around a shared agenda for climate and health

Key initiatives of this legislature, such as the Green Deal and the EU's Global Health Strategy, lay important foundations to build on. Alongside this, more research into climate and health, which foregrounds vulnerable groups including marginalised communities, through the latter part of the current Horizon Europe programme and its successor, Framework Programme 10, will be crucial for building the case for policymakers in Europe and worldwide to act both domestically and on the global stage.

Do join us at Gastein, we very much look forward to seeing you there as we come together to both better understand the issue and co-create a path forward.

References

1 Climate Change and Health. WHO ACM Agenda 7.2, 18 June 2008. Available at: https://apps.who.int/iris/bitstream/handle/10665/126809/SEA_ACM_Meet.%201_7.2%20%28Rev.1%29.pdf?sequence=1

2 Ballester J, Quijal-Zamorano M, Méndez Turrubiates RF, et al. Heat-related mortality in Europe during the summer of 2022. Nature Medicine. Available at: https://www.nature.com/articles/s41591--023--02419-z

3 Semenza JC, Lindgren E, Balkanyi L, et al. Determinants and Drivers of Infectious Disease Threat Events in Europe. Emerg Infect Dis. 2016;22(4):581–9.

4 Vector-borne diseases. European Climate and Health Observatory. Available at: https://climate-adapt.eea.europa.eu/en/observatory/evidence/health-effects/vector-borne-diseases/vector-borne-diseases

5 Thompson R, Hornigold R, Page L, Waite T. Associations between high ambient temperatures and heat waves with mental health outcomes: a systematic review. Public Health 2018;161:171–91.

6 World Health Organization. Regional Office for Europe. Flooding: managing health risks in the WHO European Region. Copenhagen: WHO, 2017. Available at: https://apps.who.int/iris/handle/10665/329518

7 Mikulewicz M. Politicising vulnerability and adaptation: on the need to democratise local responses to climate impacts in developing countries. Clim Dev. 2018;10:18–34.

8 Kreslake JM, Price KM, Sarfaty M. Developing effective communication materials on the health effects of climate change for vulnerable groups: a mixed methods study. BMC Public Health. 2016;16:946.

9 World Health Organization. Climate change and health web page. Available at: https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health

Strengthening primary care in Europe: How to increase the attractiveness of primary care for medical students and primary care physicians?

By: Kroezen M, Rajan D, Richarson E.

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The imperative of strengthening primary health care (PHC) has been widely acknowledged, yet many countries in Europe struggle with shortages and geographical maldistribution of general practitioners (GPs). One of the root causes for these challenges is the perception among medical students and doctors that PHC is not an 'attractive' career option. In most contexts this is reinforced by substantial pay differentials and perceived low status of General Practitioners compared to specialists.

This policy brief presents evidence on effective strategies to improve the attractiveness of primary care for medical students and primary care physicians. It aims to be of use for those seeking solutions for their primary care workforce challenges, especially where a lack of general practitioners has been identified. The brief highlights a number of effective interventions covering medical education, working conditions, PHC models and workforce planning. Specific interventions for rural, remote and other underserved areas are highlighted.

THE (NEW) ROLE OF NATIONAL PUBLIC HEALTH INSTITUTES IN A POST-PANDEMIC SOCIETY: HOW TO PREPARE TO MAKE "HEALTH FOR ALL POLICIES" HAPPEN

By: Herwig Ostermann, Anita Gottlob and Claudia Habl

Summary: In the aftermath of the COVID-19 pandemic, National Public Health Institutes (NPHIs) have the potential to undertake novel roles and new mandates. Some key strategies for NPHIs to help foster Health for all Policies include: building new coalitions, nurturing co-benefits, and expanding evaluation practices. By fostering new partnerships towards achieving public health goals, NPHIs in Europe can work to overcome present and future crises. Central to these partnerships is recognising the reciprocal relationship between health and other policy areas for building more resilient healthcare systems and societies.

Keywords: *Health for All Policies, National Public Health Institutes, Sustainable Development Goals, Co-Benefits, Public Mandate*

> #EHFG2023 – SESSION 9:
New partnerships for Public Health in Europe: The role of national public health institutes in overcoming present and future crises

Herwig Ostermann is Executive Director at Gesundheit Österreich GmbH (GOeG), Vienna, Austria; **Anita Gottlob** is Junior Health Expert at GOeG, **Claudia Habl** is Head, IPED Department at GOeG, Vienna, Austria. Email: Herwig.Ostermann@goeg.at

Introduction

The COVID-19 pandemic not only posed a significant challenge for societies and their decision-makers worldwide, but also presented major challenges for National Public Health Institutes (NPHIs). Suddenly, central public health functions,[1] such as surveillance and ensuring essential healthcare provision, came into focus. Additionally, increased attention for public health came from the media and society as well as other policy areas, which were now facing a stronger dependence on population health than before the pandemic. As the consequences of the pandemic on health systems and societal dynamics are far from over, it is expected that strong and coordinated efforts will continue to be necessary in Europe and beyond. To address these challenges and to facilitate the strengthening of our societies and the solidarity among communities,[2] healthcare needs to ultimately achieve a greater level of sustainability.

Additionally, a new paradigm emerged within the context of the pandemic that demonstrates how health as a policy area can play a new role in shaping civil societies and democracies. So far, the discourse (and approach to the policy field) was characterised by the "Health in All Policies" approach whereby the significant influence of other policy

Table 1: Recommendations for NPHIs in three different areas

Balancing the double agenda	Establishing relationships/building coalitions	Nurturing co-benefits
(1) Uphold public health as the primary policy area as well as the affiliation within public administrations, while expanding the reference framework.	(1) Actively, inclusively, and independently seek new alliances in different fields (i.e., scientific field, governmental institutions, civil society).	(1) Promote a mutual comprehension of essential indicators in public health and their applicability across various policy domains.
(2) Account for the interdisciplinary and socially relevant nature of public health within NPHIs' work.	(2) Ensure independence in scientific conduct.	(2) Facilitate staff exchanges with other institutions from different fields.
(3) Continuous development and capacity building of staff.	(3) Professionally and structurally anchor novel public relations and media activities.	(3) Cultivate an open practice of evaluation, improving effectiveness of measures and interventions.

Source: authors' own.

areas such as education and economy on population health was highlighted, and their commitment to protecting public health was promoted through inter-ministerial working groups.[3] However, the paradigm is currently shifting to recognise that this relationship is not one-sided:* health and the healthcare system also play a significant role in the functioning of other policy areas. Thus, "Health in All Policies" has evolved conceptually into "Health for all Policies".[4] There are now preliminary working documents, guidelines, and practical examples available on how health can contribute to societal progress as a policy area of equal relevance to other sectors.[5] The reference framework for this lies in the United Nations' Sustainable Development Goals (SDGs)[5], which expand the scope and opportunity for health policy to contribute to social development through policy design, accompanied by a broadened sense of responsibility and accountability. In particular, the interlinkages among the SDGs and the policies necessary to achieve them have prompted increased focus toward the comprehensive advantages of co-benefits.[6†]

Addressing co-benefits and the "Health for All Policies" approach can arguably help to strengthen resilience in society and allow for better preparedness in several sectors. For example, the pandemic has shown that improving population health will result in a more resilient health system and therefore better preparedness for future health crises.[7] As a wide body of research suggests, to promote health in the population it is necessary to address wider determinants of poor health [7] – thus linking into other policy areas such as economics – and ideally achieving a co-benefit such as better welfare in society.

> concerted action across multiple public health and policy domains

This expanded perspective on public health brings about changes in the requirements for public health institutes, raising the question of what new tasks lie ahead for NPHIs and how they can best be addressed. In this context, the Stockholm Statement of 2022 by the International Association of NPHIs (IANPHI).[8] emphasises the commitment of IANPHI's members to support the attainment of the SDGs. It highlights the vital roles that NPHIs can play in ensuring integrated political responses and in considering health across diverse policymaking domains.

Indeed, NPHIs have emerged as indispensable actors in crisis response, as evidenced by their pivotal role during the COVID-19 pandemic.[8] Therefore, building on the Stockholm Statement, we believe that fortifying NPHIs mandate and their roles in fostering Health for all Policies will help to enhance overall preparedness capabilities for future health crises.

Based on these considerations, we suggest three important areas to put novel NPHIs roles and mandates into action and draft respective recommendations for NPHIs (see summary in **Table 1**). In the following, we briefly outline the basic challenges and potential approaches for addressing these three areas.

Balancing the double agenda (Extended mandate to the public)

Health for all Policies entail expanding the conceptual framework to explicitly consider and actively shape the (positive) influences of health on other policy areas. Nevertheless, it does not imply that the (pre)existing challenges in strengthening population health and particularly public health systems no longer persist.

Lifestyle-related diseases, persistent socioeconomic inequalities and varying (healthy) life expectancies based on education and/or income highlight the need for sustained efforts across multiple public health and policy domains.[9] Despite ongoing progress in multiple areas,

* While the concept of Health for All Policies is not yet established beyond the field of Public Health, the discourse on its advantages has only just begun and is being brought forward by entities such as WHO, the European Observatory on Health Systems and Policies and also various academics and public health professionals. It is crucial to substantiate this discourse with practical strategies to facilitate and support this process effectively.

† This refers to the phenomenon where equitable and effective policies in a particular domain yield advantages in another area, ultimately resulting in "self-sustaining" cycles.[4 6]

achieving sustainable impact requires concerted action across multiple public health and policy domains – from research to health promotion, prevention, and expanded social and economic policies. In this context, demonstrating the effectiveness of a "Health for All Policies" approach requires further validation, while the adoption of mission-oriented approaches such as the Horizon Europe program, wherein the grant societal challenges are addressed by utilising mission-oriented, solution based approaches‡ – appears conceptually promising.[10]

In this light, public health institutes must not only address existing issues but also embrace new tasks to meet the requirements of "Health for All Policies". In order to establish and integrate mutual agendas and responsibilities between public health and other policy areas, public health institutes and activities must first recognise and incorporate the logic of other policy domains into their goal system.

In this sense, NPHIs vision statements should be expanded to make explicit connections to an overarching reference framework§, such as the SDGs.[5] Additionally, they should systematically explore whether achieving specific goals also benefits other policy areas, such as science, labour, or social affairs.

Ideally, if applied consistently, this approach could lead to complementing the paradigms of other policy areas through the explicit focus on the SDGs and health as a core element. Similarly, the WHO highlights the importance of prioritising physical and mental well-being for all people as a key goal of the economy, hence placing "Health for all" at the centre of economic and societal development.

With this new understanding of "Health for all policies", the contribution of NPHIs to societal well-being becomes broader and more comprehensive. Importantly, pre-existing challenges form the foundations from which public health derives its functional legitimacy as well as its enhanced agenda.

In addressing these challenges, it may be beneficial for NPHIs to:

- Uphold public health as the primary policy area as well as the affiliation within public administrations, while simultaneously expanding the reference framework
- Account for the interdisciplinary and socially relevant nature of public health within NPHIs' work, encompassing not only the represented topics but also the individual themes and sub-disciplines inherent to public health. The pandemic has demonstrated that fields like epidemiology intertwine with social causes and ramifications, underscoring the necessity for NPHIs' actions and recommendations to be evaluated in terms of societal and legal contexts.
- Continuous development and capacity building of staff, through structured international programmes, conferences, and fora (such as the EHFG) but also through intensified academic linkages.

Establishing new relationships and building new coalitions

Expanding the societal mandate of NPHIs in the realm of "Health for All Policies" requires the forging of novel partnerships and coalitions with institutions and organisations outside of the traditional public health field.

This includes governmental, independent, and academic research institutions, addressing issues related to the labour-market, the economy, society, and the environment. Examples of possible relationships are manyfold and depend on the national landscape of these institutions. For instance, activities aimed at enhancing the climate resilience of healthcare systems rely on input from meteorological institutes (at least until NPHIs develop their own measurements and predictions). Similarly, efforts to secure an adequate health workforce are more successful when complemented by labour market measures, such as (re)training and upskilling, possibly even through joint development of these measures.

Secondly, the pandemic has placed (public) health at the centre of public interest, leading to positive developments for NPHIs in terms of attractiveness to applicants and resource allocation. It is now crucial to continue conveying the contributions of NPHIs to societal well-being to the public, not only for self-legitimisation but also to showcase their activities to the public, aiming to generate broad participation and critical feedback.

Finally, for NPHIs to successfully balance the double agenda, it is essential to not only form systematic alliances with established governmental structures and institutions but to also foster broad networks with civil society. This way, mission-oriented approaches can unfold their full potential.[11] Furthermore, coalitions with civil society allow to develop sensitivity for areas that may currently receive less societal or public interest, but nonetheless represent important fields of action for strengthening the resilience of social care.

Considering the above, we suggest for NPHIs to:

- Actively and inclusively seek new alliances, whether in the scientific field, with governmental institutions, or civil society – without exclusively relying on the hierarchies of state administration (e.g., requiring contact with national economic research institutes solely through top-level state department officials).
- Ensure independence in scientific conduct, which is crucial to establish NPHIs role as a trusted partner for civil society organisations. Additionally, it enables the formation of coalitions at multiple levels.
- Professionally and structurally anchor the public relations and media activities that have often arisen during the pandemic. This requires allocating appropriate importance to dissemination of work in the program planning of NPHIs.

Nurturing Co-Benefits

For partnerships and coalitions to unfold their full value in line with the "Health for All Policies" aims, they must initiate and

‡ For more information on what sets mission-oriented programs apart, see [12]

§ cf. the first point of the Stockholm Statement by IANPHI [8]

achieve as many co-benefits as possible. Crucially, these co-benefits also have to be measurable (e.g., by indicators) and evaluated in order to meet the criteria of accountability towards policymakers and society.

For NPHIs, this entails explicitly considering the relevant policy areas and incorporating them into the development of measures from the outset. For example, when developing dietary recommendations, this may involve considering the aspect of climate and environment and also social policy.[12] The first area may be integrated through assessing the CO2 impact of food production and distribution, the latter by examining to what extent social welfare could be affected by ensuring affordability.

Moreover, regular, transparent evaluations can assess co-benefits and their implications for public health. This requires robust, continuously evolving frameworks within scientific research,[7] which concurrently provide insights for the development of new measures. Due to their focus on societal well-being, NPHIs play a significant role in the evaluation and advancement of these reference frameworks along with all the co-benefits that need to be considered.

To achieve these aims, the following strategies may be considered for NPHIs in order to enhance public health systems and beyond by nurturing co-benefits:

- Promote a mutual comprehension of essential indicators in public health and their applicability across various policy domains. Indicators for documenting and assessing health and health systems (e.g., life expectancy)[9] are crucial for the repertoire of public health professionals. The better the understanding of key indicators in other policy areas, the more easily co-benefits can be anticipated.
- Facilitate staff exchanges with other institutions, primarily serving other policy areas. This can broaden the public health perspective of the organisation. On an international level, this may also foster future international cooperation, which is an important factor for coordinated responses in times of crises.[7] This can be achieved through staff rotations, internships, and exchange programs.
- Cultivate an open practice of evaluation, which can improve the effectiveness of measures and interventions. Finally, an evaluation friendly culture can foster organisational learning and adaptability within Public Health Institutes by taking a meta-perspective on evaluations themselves.

Conclusion and outlook – Health for all policies and beyond

The role of NPHIs has undergone substantial changes during the COVID-19 pandemic, leading to increased public perception and recognition. As the pandemic subsides, it is now necessary for NPHIs to realign their thematic agenda. The adoption of the SDGs and the principle of "Health for all Policies" represent a promising strategy in this endeavour, allowing NPHIs to continue fulfilling their societal and social responsibilities.

Finally, the consistent application of "Health for all Policies" opens new perspectives for NPHIs by extending their scope of action and fostering collaborations. By acknowledging health as a central pillar in the pursuit of societal well-being, NPHIs can become key players in driving social innovation in order to build more resilient health systems as well as societies.

References

1 WHO. Essential public health functions, health systems and health security: developing conceptual clarity and a WHO roadmap for action. Geneva: WHO, 2018. Available at: https://www.who.int/publications/i/item/9789241514088

2 Mishra C, Rath N. Social solidarity during a pandemic: Through and beyond Durkheimian Lens. *Social Sciences & Humanities Open,* 2020;2(1). doi. org/10.1016/j.ssaho.2020.100079 World Health Organization & Government of South Australia. Adelaide statement on health in all policies: moving towards a shared governance for health and well-being. WHO, 2010. Available at: https://apps.who.int/iris/handle/10665/44365

3 Greer SL, Falkenbach M, Siciliani L, McKee M, Wismar M, Figueras J. From Health in All Policies to Health for All Policies. *The Lancet Public Health* 2022;7(8):718–20. Available at: https://doi.org/10.1016/S2468-2667(22)00155-4

4 UN. Transforming our world: the 2030 Agenda for Sustainable Development. United Nations 2015. Available at: https://sdgs.un.org/2030agenda

5 McKee, M. One health through the lens of the Sustainable Development Goals. *Eurohealth* 2022;28(3):40–2. Available at: https://apps.who.int/iris/handle/10665/362206

6 OECD. Ready for the Next Crisis? Investing in Health System Resilience, OECD Health Policy Studies 2023. Paris: OECD Publishing. Available at: https://doi.org/10.1787/1e53cf80-en

7 IANPHI. The Role of National Public Health Institutes in Supporting Preparedness and Response to Emergencies Affecting Population Health. Brussels: IANPHI, 2022. Available at: https://ianphi.org/news/2022/stockholm-statement.html

8 OECD/European Union. Health at a Glance: Europe 2022: State of Health in the EU Cycle, Paris: OECD Publishing, 2022. Available at: https://doi.org/10.1787/507433b0-en

9 European Commission, Directorate-General for Research and Innovation, Mazzucato M. Mission-oriented research & innovation in the European Union – A problem-solving approach to fuel innovation-led growth. Brussels: Publications Office, 2018. Available at: https://data.europa.eu/doi/10.2777/360325

10 WHO Council on the Economics of Health for All. Health for all: transforming economies to deliver what matters – Final report. Geneva: WHO, 2023. Available at: https://www.who.int/publications/m/item/health-for-all--transforming-economies-to-deliver-what-matters

11 Laine JE, Huybrechts I, Gunter MJ, et al. Co-benefits from sustainable dietary shifts for population and environmental health: an assessment from a large European cohort study. *The Lancet Planetary Health* 2021;5(11);86–96. Available at: https://pubmed.ncbi.nlm.nih.gov/34688354/

12 European Commission, Directorate-General for Research and Innovation, Mazzucato M. *Mission-oriented research & innovation in the European Union: a problem-solving approach to fuel innovation-led growth.* Brussels: Publications Office, 2018. Available at: https://data.europa.eu/doi/10.2777/360325

ONE HEALTH IN ACTION: OPPORTUNITIES TO PREVENT ANTIMICROBIAL RESISTANCE IN THE ANIMAL HEALTH SECTOR

By: Madda Henry Magbity, Marco D'Alessandro, Cale Lawlor, Rosa Castro and Milka Sokolović

Summary: Recent global and European Union (EU) policy actions on antimicrobial resistance (AMR) are important to tackle the huge risks posed by antibiotic-resistant microorganisms. With 60% of antibiotic sales in European countries intended for veterinary purposes, and 70% of global consumption focused on farming, the fight against AMR requires an increased preventative approach across the human, animal and environment sectors following the One Health approach. This article highlights policy opportunities to advance the fight against AMR, with a focus on the animal sector, that could be implemented in the EU, which are crucial for public health and to protect future generations.

Keywords: *Antimicrobial Resistance, One Health, Global Health*

> #EHFG2023 – Session 13:
One Health in action: addressing antimicrobial resistance

Madda Henry Magbity is European Public Health Alliance's (EPHA) Policy Manager on AMR and Access to Medicines, **Marco d'Alessandro** is an EPHA policy trainee, **Cale Lawlor** is EPHA's Senior Policy Manager on Global Health, **Rosa Castro** was EPHA's Senior Policy Manager on Healthcare Delivery, **Milka Sokolović** is EPHA's Director General, Brussels, Belgium. Email: madda.magbity@epha.org

Introduction

Antimicrobial resistance (AMR) causes 35,000 deaths every year in the European region alone.[1] It has been classified by the World Health Organization (WHO) as one of the greatest threats to global health,[2] while the estimated number of annual deaths from antibiotic-resistant microorganisms is expected to reach 10 million in 2050.[3] As the health of animals, humans, and the environment are interlinked, AMR can only be addressed through collaborative action across all the involved sectors in a One Health approach.

AMR contributes substantially to the current shockwave of health systems fatigue and crisis, coming with a huge economic and public cost for society. Beyond its health burden, it is estimated that AMR costs €1.5 billion annually in healthcare costs and productivity losses in European Union/European Economic Area (EU/EEA) countries.[4] Increased healthcare costs are mainly driven by reduced treatment options, which cause an estimated 568 million extra hospital days in the EU/EEA area.[5] The soaring healthcare costs associated with AMR limit the ability of health systems to counter shockwaves and fatigue, exacerbating a European health landscape that is already challenged by multiple crises. For most EU governments, health is the largest and growing area of expenditure, and it is projected to come under additional pressure because of

demographic ageing, increases in chronic diseases, widening health inequalities and future pandemics. Yet, despite these costs, and lessons from the COVID-19 pandemic, infectious diseases (linked to AMR) do not get sufficient attention in the policy debate in Brussels and in national capitals.

> growing recognition and consensus to reduce the use of antimicrobials in the agrifood system

Evidence suggests that preventive measures and interventions to curb AMR, such as antimicrobial stewardship and vaccines, can reduce the economic burden on health systems.[6,7] However, antimicrobials are also used on food-producing animals. It is estimated that the global consumption of antibiotics in farming is around 70%.[8] Similarly, despite great progress due to the EU's early action in addressing antimicrobial use in farming, it is currently estimated that more than 60% of total antibiotic sales in 29 European countries are intended for veterinary purposes, mainly in farming.[9] A great proportion of this is due to the use of antibiotics as growth promoters or to compensate for poor hygienic conditions in farm management and husbandry.

Resistance to antimicrobials used to treat human diseases can emerge in animal production settings and spread to humans through direct contact or in the food chain; for example, prior to revamped 2022 EU Regulation 2019/6 on veterinary medicinal products, medicated feed was loosely regulated and transmission of antimicrobial resistance from animals to humans occurred.[10] It therefore follows that preventive measures should also include the prudent use of antimicrobials in animals as well as in humans.

Current policy developments at the intersection of global, EU and national level efforts are offering a unique window of opportunity to fight AMR under a One Health approach that recognises the links between human, animal, and environmental health.

Global policy action on AMR in the animal health sector

At a global level, there is a growing recognition and consensus to reduce the use of antimicrobials in the agrifood system. For instance, at the third *Global High-Level Ministerial Conference on Antimicrobial Resistance* that took place in Muscat, Oman in 2022, representatives of 47 countries worldwide agreed on a target to reduce the total amount of antimicrobials used in the agrifood system at least by 30–50% by 2030 from the current level.[11] The proposed targets were based on the successful experience of some countries, and reflect the targets set out in the EU Farm to Fork Strategy (see below). In the same year, the Antimicrobial Resistance Multi-Stakeholder Partnership Platform was launched. The platform is a global, inclusive and voluntary coordination mechanism to harness multistakeholder dialogue and collaboration across the One Health spectrum. It is established and facilitated by the Quadripartite (Food and Agricultural Organization, World Health Organization, United Nations Environment Programme and World Organization for Animal Health), with EPHA a member of the Platform as a civil society representative.[12]

As AMR is a global threat, addressing the inappropriate use of antibiotics in animal farming requires concerted action at all levels. This global effort could benefit from good practices introduced in Europe, that are presented below.

EU Regulatory and policy environment on AMR

Concerns about the possible passage of AMR bacteria or resistance genes from animals to humans led the EU to initiate policies to address AMR transmission from animals to humans. The use of antibiotics as growth promoters was phased out and then banned in 2006.

The Regulation (EU) 2019/6 on Veterinary Medicines* and Regulation (EU) 2019/4† on Medicated Feed came into force in 2022. They will further advanced EU standards by banning the routine use of antibiotics in farming such as purely prophylactic antibiotic treatments of animal groups. Moreover, the European Commission is further implementing the Veterinary Medical Products (VMP) Regulation's via the *Commission Delegated Regulation 2021/578,* which establishes requirements for the collection of data on the volume of sales and on the use of antimicrobial medicinal products in animals, and the *Commission Implementing Regulation 2022/209,* which establishes the format of the data to be collected and reported, to ensure easier and faster access to reliable data. Furthermore, the EU VMP offers the opportunity of extending successful EU practices, such as the ban on the use of antibiotics as growth promoters, to the rest of the world. Sharing the good practices of the EU with the rest of the world should be enhanced with the extended mandate of the European Centre for Disease Prevention and Control (ECDC) to work in non-EU countries, endorsed in 2022.

In May 2020, the European Commission adopted the Farm to Fork Strategy, a tool linked to the European Green Deal to help shape the EU's path towards a more sustainable food system. One of its objectives is the 50% reduction of overall EU sales of antimicrobials for farmed animals and in aquaculture by 2030, using the 2018 reference value of overall sales of antibiotic VMPs – 118.3 mg/population correction unit (PCU) in the 27 EU Member States – to set the targeted consumption levels at 59.2 mg/PCU by 2030.

* Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC. Available at: https://eur-lex.europa.eu/eli/reg/2019/6/oj

† Regulation (EU) 2019/4 of the European Parliament and of the Council of 11 December 2018 on the manufacture, placing on the market and use of medicated feed, amending Regulation (EC) No 183/2005 of the European Parliament and of the Council and repealing Council Directive 90/167/EEC. Available at: https://eur-lex.europa.eu/eli/reg/2019/4/oj

Increased attention to AMR also led to the adoption in June 2023, of *the EU Council Recommendation on stepping up EU actions to combat AMR in a One Health approach*. These recommendations guide EU Countries on how to install AMR stewardship programs regarding animal, human and environmental health. Specific recommendations from the Council on animal health are detailed in **Box 1**.

> Sharing the good practices of the EU with the rest of the world should be enhanced

Box 1: Recommendations from the Council on animal health

- Improve monitoring and infection prevention and control (IPC)
- Develop integrated systems for the surveillance of AMR
- Measures to improve the health and welfare of food-producing animals to decrease the occurrence and spread of infectious diseases in farming and subsequently reduce the need for antimicrobial use.
- Targets for antimicrobial consumption referring to the Commission's target of a 50% reduction of the overall EU sales of antimicrobials used for farmed animals and in aquaculture by 2030.

National level discrepancies in antibiotic use in the EU

Data published by the European Medicines Agency show that despite significant reductions in use over the past decade, huge differences in the levels of farm antibiotic use persist across different European countries. The twelfth European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) project report, which contains data on the sales of veterinary antibiotic agents from 31 European countries in 2021,[13] showed that from 2018 to 2021, sales for the 27 EU Member States have declined by 18.3% (from 118.3 mg/PCU to 96.6 mg/PCU), achieving approximately one-third of the final 50% reduction target for overall aggregated sales of 59.2 mg/PCU in 2030. Overall, this trend is in line with the Farm to Fork strategy call for a 50% reduction in sales of antimicrobials for farmed animals and in aquaculture by 2030.

A report by the WHO and the government of France details the challenges of antibiotic availability, and shortages in the human and animal sectors. The data revealed a substantial reduction in available antibiotics for the animal sector in recent years. However, this positive development has a negative side-effect as it may increase the risk of low investment in new antibiotics by pharmaceutical companies developing antibiotics.[14]

Opportunities offered by better farming practices

Different policies could contribute to further reducing the overuse and misuse of antibiotics in animal farming, while also safeguarding the welfare and health of animals. These include restricting their use to the individual treatment of sick animals rather than group treatment as a preventive measure to compensate for poor farming practices, and limiting the use of antibiotics that are critically important for human use. Improving data gathering and surveillance are also crucial pillars of the fight against AMR as relevant and updated evidence about effective policy interventions is needed on an ongoing basis. It is recommended that national and EU policy makers should impose risk assessments to understand and estimate the real risk of antibiotic use in animal agriculture (inclusive of aquaculture) and its implications to humans.

In the report on antibiotic availability and shortages in the human and animal sectors in France,[14] 11 clear policy measures were proposed, with four measures recommended for prioritisation by the EU: (1) adopt a common definition of lack of availability of antibiotics for veterinary use; (2) Centralize the reporting and publish past and current shortages of veterinary medicines at the European level; (3) Establish a procedure allowing manufacturers to declare market withdrawal or their intention to withdrawal a marketing authorisation (similar to the existing process for shortages); and (4) Allow health care professionals to notify authorities with perceived lack of availability of veterinary antibiotics.

Additionally, policies should emphasize the need for good animal husbandry practices such as improved hygiene, reduced indoor stocking density, better diet, and access to the outdoors for animals. Following these practices is crucial to ensure healthy living conditions of livestock, and to ultimately avoid the need for antibiotics. Better hygiene practices in farming have the potential to help farmers to stop the use of antibiotics to prevent infections while also improving animal health and welfare. Therefore, many of these measures can improve the health of animals and humans under a One Health approach. This has already become a reality in several EU countries. For example, Finland, Iceland, Norway and Sweden banned routine prophylactic use years before the EU and are among the lowest farm antibiotic users in Europe. In these countries, group treatments account for only 6–31% of overall farm antibiotic use whereas antibiotics are mainly used to treat individual sick animals. On the contrary, in the five highest-using countries in Europe, group treatments for animals still account for over 90% of antibiotic use.[15]

Conclusion

Reducing the use of antibiotics in animals is crucial to alleviate the burden of AMR, and the EU has taken important steps to address this issue. However, compliance is not yet homogeneous among Member States. Furthermore, AMR is a transboundary issue, that requires that European policies to address antibiotic use in animals and good farming practices are also shared globally. Finally, bolder targets, coupled with better guidelines, improved surveillance systems and reporting mechanisms are needed at a European and global level, to properly address the link between human and animal health.

The EU has pioneered better standards for the prudent use of antimicrobials in animals and humans. The opportunity to continue pushing for better standards in a One Health spirit both at the EU and global level is not only open but it must be used to address AMR with urgency. Pursuing the One Health approach is a choice that matters for future generations.

References

1 ECDC. Assessing the health burden of infections with antibiotic-resistant bacteria in the EU/EEA, 2016–2020. Stockholm: European Centre for Disease Prevention and Control, 2022. Available at: https://www.ecdc.europa.eu/en/publications-data/health-burden-infections-antibiotic-resistant-bacteria-2016-2020

2 WHO. 2020. Antibiotic Resistance. Health Topics Factsheet. Available at: https://www.who.int/news-room/fact-sheets/detail/antibiotic-resistance

3 de Kraker MEA, Stewardson AJ, Harbarth S. Will 10 million people die a year due to antimicrobial resistance by 2050? PLoS Med 2016; 13: e1002184

4 ECDC. *The bacterial challenge: time to react*. Stockholm: European Center for Disease Prevention and Control, 2009. Available at: https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/0909_TER_The_Bacterial_Challenge_Time_to_React.pdf

5 OECD. *Stemming the Superbug Tide: Just A Few Dollars More,* OECD Health Policy Studies. Paris: OECD Publishing, 2018. Available at: https://doi.org/10.1787/9789264307599-en

6 Naylor NR, Zhu N, Hulscher M, et al. Is antimicrobial stewardship cost-effective? A narrative review of the evidence, *Clinical Microbiology and Infection* 2017;23(11):806–11. Available at: https://doi.org/10.1016/j.cmi.2017.06.011

7 Yemeke T, Chen HH, Ozawa S. Economic and cost-effectiveness aspects of vaccines in combating antibiotic resistance. *Hum Vaccin Immunother*. 2023;19(1):2215149.

8 Tiseo K, Huber L, Gilbert M, Robinson TP, Van Boeckel TP. Global Trends in Antimicrobial Use in Food Animals from 2017 to 2030. *Antibiotics (Basel)*. 2020;9(12):918.

9 European Centre for Disease Prevention and Control (ECDC) et al. "Third joint inter-agency report on integrated analysis of consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals in the EU/EEA: JIACRA III 2016–2018." *EFSA journal. European Food Safety Authority* 2021;19(6):e06712.

10 Allel K, Day L, Hamilton A, et al. Global antimicrobial-resistance drivers: an ecological country-level study at the human–animal interface. *The Lancet Planetary Health* 2023;7(4):e291–303.

11 Global High-level Ministerial Conference on Antimicrobial Resistance (AMR) in Muscat, Oman. Paving the way for bold and specific political commitments at the 2024 United Nations General Assembly High Level Meeting on AMR. 2022. Available at: https://www.amrconference2022.om/MuscatManifesto.html

12 Food and Agriculture Organization of the United Nations. Antimicrobial Resistance. AMR Multi-Stakeholder Partnership Platform. Available at: https://www.fao.org/antimicrobial-resistance/quadripartite/the-platform/en/

13 EMA. *Sales of Veterinary Antimicrobial Agents in 31 European Countries 2021*. Twelfth ESVAC Report. European Medicine Agency, 2022. Available at: https://www.ema.europa.eu/en/veterinary-regulatory/overview/antimicrobial-resistance/european-surveillance-veterinary-antimicrobial-consumption-esvac

14 WHO. Antibiotic availability and shortages in the human and animal sectors in France. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO. Available at : https://cdn.who.int/media/docs/default-source/antimicrobial-resistance/j0051_who_eaopa_output1_report_web_v58b39b891-32b5-457e-aabc-fa2c5c8b38f1.pdf?sfvrsn=4fb04988_1&download=true

15 Nunan C. *"Ending routine farm antibiotic use in Europe." Achieving Responsible Farm Antibiotic Use through Improving Animal Health and Welfare in Pig and Poultry Production*, 2022. Available at: https://www.saveourantibiotics.org/media/2019/report_ending-routine-farm-antibiotic-use-in-europe_final_january2022-1.pdf

Health System Summaries

The European Observatory on Health Systems and Policies have released a new series of Health System Summaries, which aim to be a complementary resource to Health System in Transition (HiTs) reviews, enhancing the Observatory's country monitoring activities and supporting rapid access to country evidence.

Health System Summaries are stand-alone, concise documents summarizing the main elements of a country's health system in an engaging, policy-relevant way. They analyse core evidence and data on the organization, financing and delivery of health care. They also provide insights into key reforms and the varied challenges testing the performance of the health system.

Available Health System Summaries can be downloaded here:
https://eurohealthobservatory.who.int/publications/HiT-summaries

WHO Fifth Global Forum on Human Resources for Health Policy Briefs

The World Health Organization (WHO) and European Observatory on Health Systems and Policies have produced three policy briefs in support of The Fifth Global Forum on Human Resources for Health, which was held from 3rd to 5th April 2023, under the theme of *Protecting, safeguarding, and investing in the health and care workforce*.

The Forum explored the required policy solutions, investments and multi-sectoral partnerships that can help address global health and care workforce challenges, and advance health systems towards universal health coverage and health security.

The focus of the three briefs are:

1) learning lessons from COVID-19 and identifying future opportunities for policy and investment
2) how best to work across sectors to educate, employ and retain health and care workers
3) increasing capital and operational investment for the health and care workforce.

The Policy briefs are freely available for download here: **https://eurohealthobservatory.who.int/publications/policy-briefs**

More information on the Fifth Global Forum for Human Resources for Health can be found here: **https://www.who.int/teams/health-workforce/about/5thglobalforum-hrh**

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