

HEALTH SYSTEMS AND POLICY ANALYSIS

POLICY BRIEF 50

Making Health for All Policies

Harnessing the co-benefits of health

Scott L. Greer
Michelle Falkenbach
Luigi Siciliani
Martin McKee
Matthias Wismar
Praneetha Vissapragada
Marie C. Montás
Janamarie Perroud
Olivia Rockwell
Josep Figueras

Keywords:

Delivery of health care

Health management and planning

Health policy

Health systems plans –
organization and administration

Intersectoral cooperation

© World Health Organization 2023 (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies)

Address requests about publications of the WHO Regional Office for Europe to:

Publications

WHO Regional Office for Europe

UN City, Marmorvej 51

DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office web site (<https://www.who.int/about/policies/publishing/permissions>).

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

This policy brief is one of a new series to meet the needs of policy-makers and health system managers. The aim is to develop key messages to support evidence-informed policy-making and the editors will continue to strengthen the series by working with authors to improve the consideration given to policy options and implementation.

What is a Policy Brief?

A policy brief is a short publication specifically designed to provide policy makers with evidence on a policy question or priority. Policy briefs

- Bring together existing evidence and present it in an accessible format
- Use systematic methods and make these transparent so that users can have confidence in the material
- Tailor the way evidence is identified and synthesised to reflect the nature of the policy question and the evidence available
- Are underpinned by a formal and rigorous open peer review process to ensure the independence of the evidence presented.

Each brief has a one page key messages section; a two page executive summary giving a succinct overview of the findings; and a 20 page review setting out the evidence. The idea is to provide instant access to key information and additional detail for those involved in drafting, informing or advising on the policy issue.

Policy briefs provide evidence for policy-makers not policy advice. They do not seek to explain or advocate a policy position but to set out clearly what is known about it. They may outline the evidence on different prospective policy options and on implementation issues, but they do not promote a particular option or act as a manual for implementation.

	page
Contents	
Acknowledgements	2
List of figures, boxes and tables	3
Key messages	5
Executive Summary	7
Policy Brief	9
1. Introduction: Why this brief?	9
2. What are co-benefits?	10
3. Achieving the SDGs through health co-benefits	12
4. How to identify co-benefits	17
5. Politics and governance: achieving the co-benefits	22
6. Conclusions	26
References	27

Authors

Scott L. Greer, University of Michigan

Michelle Falkenbach, European Observatory on Health Systems and Policies

Luigi Siciliani, University of York

Martin McKee, London School of Hygiene and Tropical Medicine

Matthias Wismar, European Observatory on Health Systems and Policies

Praneetha Vissapragada, University of Michigan

Marie C. Montás, Harvard University

Janamarie Perroud, University of Michigan

Olivia Rockwell, University of Michigan

Josep Figueras, European Observatory on Health Systems and Policies

Editors

Josep Figueras

Anna Sagan

Matthias Wismar

Michelle Falkenbach

Series Editor

Anna Sagan

Managing Editors

Jonathan North

Lucie Jackson

The authors and editors are grateful to the reviewers who commented on this publication and contributed their expertise.

Acknowledgements

We would like to thank Patrick Fafard, Anna Sagan, collaborators in the broader project and audiences at the European Public Health Association (2021) and Health Systems Global (2022) for their very helpful comments.

List of boxes and tables

Figures

Figure 1: Health policies can be designed to benefit multiple sectors	10
Figure 2: The Sustainable Development Goals (SDGs)	12
Figure 3: Two main routes can be used to pursue health co-benefits for other SDGs	13
Figure 4: Health spending in selected OECD countries ranges from 5% to 20% of GDP	14
Figure 5: Health and social care account for up to a fifth of total civilian employment	15
Figure 6: The health sector is a major emitter of greenhouse gases and can be a major contributor to carbon neutrality	16
Figure 7: A hospital can have positive and negative spillovers on many SDGs (Hospital infographic)	20

Boxes

Box 1: Improving health means improving both the health status and health equity	13
Box 2: How to use econometrics and statistical models to analyse the impact of health status on other SDGs?	17
Box 3: Using systems dynamic modelling and decision analytic methods to support the development of Health for All Policies and quantify health co-benefits ¹⁷	17
Box 4: Using policy analysis to identify co-benefits of health systems and policies	19
Box 5: There are many examples of how health systems and policies can produce co-benefits for other SDGs	19
Box 6: What are the possible co-benefits of a hospital?	20
Box 7: Example roadmap to reduce carbon footprint by a Catalan hospital	21

Tables

Table 1: A high-salience, low-conflict problem has the highest potential of being resolved	23
Table 2: What are some of the governance tools that can support intersectoral action?	24

Key messages

Health actors will not achieve their aims on Sustainable Development Goals unless they are able to change the narrative. Health in All Policies is a key tool in making that change but is sometimes overlooked as too focused on health goals. There is a need to convince other sectors that health contributes to their aims and to achieving goals across sectors and to demonstrate that the co-benefits of working intersectorally is key to making real progress achieving the SDGs.

1. **Health *in* All Policies (HiAP) tends to focus on wins for the health sector but may not appeal to other sectors.**
 - Recognizing that factors outside the health care services (wider determinants of health) are critical and mainly controlled by the policies of sectors other than health is not enough – other sectors have to be willing to engage with health.
2. **Health *for* All Policies complements HiAP by drawing attention to win-win solutions for all sectors.**
 - Emphasizing mutual benefits of health and other sectors working together (health co-benefits) can make intersectoral action more appealing and bring other sectors on board.
3. **Health co-benefits can be achieved directly, through improved health and health equity, and indirectly, through the impacts health systems and policies have on other areas of life.**
 - Improving health and reducing health inequalities allows for a better educated, more equal, and more productive population.
 - Health systems and policies play a major role in the economy and society. The health sector is an employer and purchaser, invests in research and education, and has a broader influence on infrastructure, urban development and climate change.
4. **Identifying and quantifying practical health co-benefits is not easy but SDGs can help structure the way policymakers think about them.**
 - Identification of health co-benefits requires sector-specific knowledge and understanding of context, but the SDGs offer a useful framework to think about the various links across the sectors.
 - There is a growing body of tools and empirical evidence that can inspire intersectoral action towards co-benefits.
 - Some of the greatest co-benefits can come from sectoral action; however, both sectoral and intersectoral coordination will often be obstructed by politics.
5. **Good governance can help address the very real challenges of implementing and sustaining co-benefits.**
 - Potential for achieving co-benefits will depend on the political context and active efforts to overcome siloed thinking, inertia, and opposition.
 - Immediate opportunities can be seized for high-salience, low-conflict issues, while building coalitions to make progress elsewhere.
 - Simple policy designs where co-benefits are clear and easy to trace can make policies more implementable and sustainable.
 - Using governance frameworks such as **T**ransparency, **A**ccountability, **P**articipation, **I**ntegrity, **C**apacity (TAPIC) can help diagnose governance problems and identify potential solutions.
6. **Focusing on health co-benefits creates a chance to make real headway towards achieving SDGs and improving wellbeing more broadly.**
 - COVID-19 caused an enormous amount of damage in terms of progress towards the SDGs, but also showed the interconnectedness of many sectors, making a strong case for health co-benefits and Health for All Policies.

Executive summary

Health in All Policies (HiAP) tends to focus on achieving wins for the health sector and may not appeal to other sectors.

Health and health policy have wide ranging effects on people and societies; in terms of the Sustainable Development Goals (SDGs), the impact of health policies and outcomes go far beyond Goal 3, good health. Work to achieve intersectoral goals has often been described as Health *in* All Policies (HiAP), a much-discussed effort to achieve health goals through intersectoral action that has sometimes disappointed in practice. In part this is because of an asymmetry built into the HiAP concept: it often seemed to require that other sectors of society change their priorities to solve the problems facing the health sector. This limited coalition-building prospects and made it hard to entrench victories.

The notion of Health for All Policies and health co-benefits changes perceptions and offers win-win solutions for all sectors.

Health *for* All Policies, presented in this Policy Brief, is an approach that supplements HiAP by focusing on health *co-benefits*: beneficial results of health and health policies that span multiple sectors. The decisions involved in siting, building, and staffing a hospital offer relevant insights. A set of decisions, taken within the health sector, can have a range of potential co-benefits for other sectors and SDGs: for equalities, if it is accessible by a range of transportation options and its staff are chosen equitably; for urban design, if it is centrally located and integrated with the urban fabric; for climate change, if its design and construction are carbon-neutral; and for economic development, through its employment and the attractiveness of a city with a hospital to employers, to list some examples. The logic of co-benefits can create new possibilities for coalitions across sectors, institutions, and political actions by focusing attention on support for win-win solutions across sectors, and can thus make intersectoral action politically more feasible.

Co-benefits of health come about in two ways: directly, through better health and health equity, and indirectly, through the impact of health systems and policy.

Health policies produce co-benefits through two kinds of pathway. The first is through the impact of *health status* on other goals: better health and reduced health inequalities have a positive influence on a variety of goals such as better education, better jobs and work, and reduced inequalities. The second is through the impact of *health policies and systems* on other SDGs. Health care alone is a major employer, source of research, owner and commissioner of infrastructure, and part of the educational system in many countries. Catastrophic health care costs can plunge people into poverty. Even SDGs seemingly very distant from health care such as sustainable life under the sea, are affected by food sourcing and waste disposal practices in health care. Decisions made in health policy and health care can therefore affect a wide range of goals such as sustainability, economic development, equalities and good jobs.

Identifying practical co-benefits is not easy, but the SDGs offer a framework for understanding cross-sectoral interrelationships.

Understanding and estimating the impact of health systems and policies on other SDGs depends on an understanding of context and trade-offs. The first step is to understand the basic relationships between the health systems and policies and the issue in question. Here, the SDGs can offer a useful starting point - their breadth means that they create a whole conceptual framework for understanding interrelationships between issues and sectors.

These relationships can be empirically demonstrated using well-established quantitative methods and policy analysis tools such as process tracing and evaluation. Indeed, there is a growing body of evidence documenting co-benefits of both health and health systems and policies in various settings that can inspire development of intersectoral action.

Many co-benefits can be attained by action within a single sector or ministry and might not even require new resources if the money can be redeployed from elsewhere within the sector. However, coordinating within a sector is by no means easy and it is much harder when multiple sectors are involved. Political conflict and interest group influence present major hurdles and it is difficult to improve coordination without considering this dimension.

Implementing and sustaining co-benefits in practice is challenging.

Implementing policies based on co-benefits requires solving two problems, both of which can be affected by the design of the policy: The problem of *implementation* is immediate and well-known. It is the challenge of inducing people and organizations to change what they are doing. Policymakers must overcome the challenge of implementation by bringing people and organisations out of siloes and overcoming organizational inertia and opposition from those whose interests are challenged. Appointing the right people can often be an effective strategy for overcoming sectoral inertia and opposition to change. A minister without policy capacity – specifically without capable people – will quickly find obstacles to generating political will.

The problem of *sustainability* is no less serious. Organizations and people often know that they will outlast any given government or individual minister. Entrenching changes in bureaucratic process and building durable supportive alliances is crucial if policies are to be maintained once political attention has moved away and sustained across electoral cycles. Achieving practical health co-benefits requires policies that, as far as possible, offer win-win solutions and can build strong, lasting and supportive coalitions within and between sectors.

Immediate opportunities can be seized for high-salience, low-conflict issues, while building coalitions to make progress elsewhere.

Adopting policies based on the logic of co-benefits requires analysis of political opportunities. While context often varies, and in very specific ways, there are two broad characteristics of an issue which shed light on the possibilities for change:

Salience is the importance of an issue to the government and other political actors. How important is the issue, especially to the head of government and those who have influence on them? *Conflict* is the extent of disagreement between sectors, ministries, politicians, or other actors. Low-conflict, high-salience policy areas are ripe for successful intersectoral action to deliver co-benefits. High-conflict, low-salience areas are unpromising because the incentives to seize the opportunity are limited. Effective action means both seizing opportunities and working to create salience or reduce conflict in important areas by shaping networks and coalitions.

Good governance can help address implementation and sustainability problems.

There is an extensive toolkit of *governance tools*, such as the **T**ransparency, **A**ccountability, **P**articipation, **I**ntegrity, **C**apacity (TAPIC) framework, to address these problems, each with their own costs, benefits, and time frames.

Policymakers must consider the positions and strengths of different stakeholders in designing, implementing, and promoting their policies. Policies can create their own politics, creating supporting coalitions or eroding themselves over time. This requires attention to policy design. Simple policies with immediate benefits that voters and civil society can see and identify with, for example, are more likely to be enacted and survive. Those where the benefits are less clear, are delayed, or framed as aimed at those seen as “others”, are less likely to succeed. Policies that matter will incur opposition, and opponents will use different strategies at each stage to oppose adoption, implementation, and sustainability; good policy design takes that into account.

In summary, the logic of Health for All Policies amounts to making a case for investment in health- but also for orienting health care policies so the health sector helps to address all the serious challenges identified by the SDGs.

The time is right to reconsider intersectoral action for achieving progress towards the SDGs.

COVID-19 showed the interconnections of many policy sectors and ruthlessly exposed weaknesses of all kinds. While it did enormous damage in terms of the SDGs, it also made a strong case for health co-benefits and Health for All Policies as a means to making up for the progress towards achieving SDGs that was lost during the pandemic.

The logic of Health for All Policies amounts to making a case for investment in health, but also for orienting health care policies so the health sector helps to address all the serious challenges identified by the SDGs and improve societal well-being more broadly.

POLICY BRIEF

1. Introduction: Why this brief?

It has long been recognised that factors outside health care services determine our health and involve many sectors (Ståhl et al., 2006). This understanding draws on arguments dating back to at least the Alma Ata Declaration (Lawn et al., 2008; Chorev, 2012; Weber, 2020; Fukuda-Parr, 2018) and many other documents, including the 2018 Tallinn declaration (Cylus, Permanand, & Smith, 2018; McKee & Kluge, 2018). Health in All Policies, although coined only in the early 2000s, builds on these decades of international work to improve health and equity through the wider determinants of health. The Economy of Well-being, the idea that well-being drives economic prosperity, stability and resilience, and vice versa, is one way of thinking about this. Finding ways to increase the contribution of health to societal well-being while simultaneously impacting, for example, education or poverty reduction, will help refocus attention on the need for putting people at the centre of policy.

The stated commitment by governments to achieving the Sustainable Development Goals (SDGs) offers an opportunity not only to reinforce action on health – but also to go beyond Health in All Policies to focus on co-benefits. COVID-19 highlighted the importance of other sectors to health, and vice versa, and offered a window of opportunity to embrace intersectoral action. The COVID-19 pandemic also saw the world go backwards on the SDGs, reversing years of progress (United Nations, 2021). Given that progress has been slow in the past and is now at risk of permanently reversing, what can be done differently now to be more successful?

This brief draws on and makes a case for changing the argument about intersectoral action, from one focusing on health and the health sector as the main beneficiary to one focusing on the mutual benefits that can be achieved by all sectors. The term co-benefits has been most commonly used in the climate policy literature in reference to strategies aimed at capturing the development and climate benefits within one policy or measure (Pearce, 2000; Metz et al., 2001; Metz et al., 2007). This brief extends it beyond climate.

This brief argues for a Health for All Policies approach that focuses on co-benefits between sectors. The fundamental point is that co-benefits work for all sectors involved. This means that when the health sector works together with other sectors, co-benefits arise for the health sector and the other sectors, that is, education co-benefits, environmental co-benefits, etc. It also means that when health worsens or health policies do not support co-benefits, the result can be deterioration in other areas.

It uses the SDGs as a framework for identifying goals that can be pursued across sectors. It summarises evidence along two causal axes. One is the impact of improved health status

on other SDGs – for example, better health can lead to better educational and employment outcomes. The other is the impact of health systems and policies on other sectors. The health sector is a major employer, a driver of economic activity, and user of infrastructure, for example. In all of these it can be a contributor to other goals. While Health in All Policies was often a call to action for other sectors, Health for All Policies is both a call to improve health as a way to achieve goals beyond health and a call for the health sector itself to do better in understanding and directing its impact on the world beyond the health care it provides. Better health and better health policies are goods in themselves and can have benefits far beyond health status and health sectors.

Section 2 of this brief defines co-benefits and Health for All Policies and the reason why this concept is important now. This policy brief also distinguishes Health for All Policies from other approaches. In Section 3, the SDGs are presented as a framework for understanding intersectoral co-benefits and explain the two causal chains that link health outcomes and health policies and organisations, respectively, to other SDGs. Section 4 identifies the methodological challenges of identifying and measuring co-benefits, discussing the empirical methods that can be used to predict and evaluate the effects of Health for All Policies approaches. Section 5 engages with the weak spot in all intersectoral action: the political and governance challenges. It presents a framework for understanding intersectoral co-benefits. The section then explains the two governance challenges and presents a set of techniques for addressing the challenges. The Conclusion then briefly summarises the approach and the possibilities that it highlights.

2. What are co-benefits?

The Health in All Policies movement has long sought to achieve health goals through intersectoral action

Health in All Policies was the most important international movement to achieve health goals through intersectoral action (de Leeuw 2017). Health in All Policies was a “horizontal, complementary policy-related strategy contributing to improved population health”. The core of Health in All Policies was to “examine determinants of health that can be altered to improve health but are mainly controlled by the policies of sectors other than health” (Ståhl et al., 2006). Health in All Policies entails “coordinated action that explicitly aims to improve people’s health or influence its determinants. Intersectoral action for health is seen as central to achieving equity in health, especially where progress depends upon decisions and actions in other sectors” (Ståhl et al., 2006). Note how these definitions focus on what can be achieved for health by activities in other sectors.

Health in All Policies is generally a means to an end: healthy public policies (Kickbusch, 2010). It should, however, be noted that there are other movements that have a similar underlying philosophy, such as the Healthy Cities movement, for example (De Leeuw, 2001; Ashton, 2002; De Leeuw et al., 2015).

Focusing on co-benefits and win-win solutions for all sectors offers a renewed opportunity to achieve progress in intersectoral action

This policy brief proposes to go beyond Health in All Policies to focus on Health for All Policies (Fig. 1). Health for All Policies focuses on co-benefits, policy outcomes that affect all involved sectors positively, regardless of which sector provides the policy outputs (Greer et al., 2022).

This brief focuses on solutions that work between sectors: not asking policy-makers in transport, education or agriculture to solve health problems, but focusing on ways that better health policies can benefit both. This shift in newer work, which stresses that policy should be built on the “principle of co-benefits” means that all parties that contribute should benefit from being involved. As well as improving health and health equity, partnerships should support other sectors to achieve their own goals, such as creating good-quality jobs or local

economic stability. At the same time, a healthier population is likely to bring social and economic benefits to other sectors, at least in the long term. This offers further rationale for cross-sectoral investment” (Greszczuk, 2019).

Co-benefits are benefits of a policy that accrue to multiple sectors: ways in which a single policy (for example, reduction of inequalities in child health) leads to a variety of beneficial outcomes (for example, reduction of inequalities in educational performance, employment outcomes, and political participation). They are policies that achieve goals across multiple policy sectors and, politically, help to transcend the sectoral logic of much policy-making. Health for All Policies captures a wider range of interactions (Fig. 1).

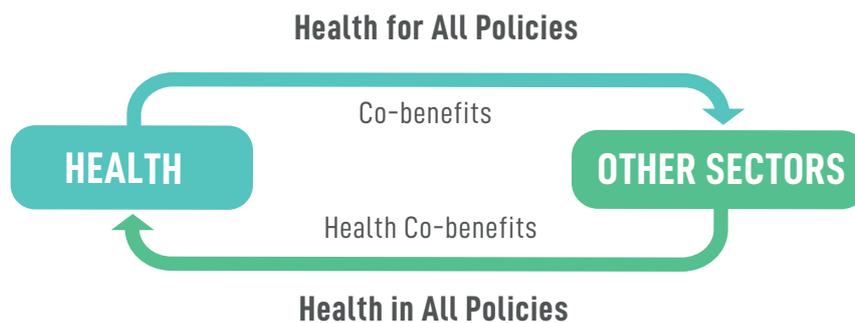
The term “co-benefits” comes from climate science, where researchers have developed the concept extensively and refined ways to measure and understand co-benefits (Karlsson, Alfredsson & Westling, 2020). There is no reason why the logic of co-benefits should be a focus of only climate researchers. This brief extends the logic of these researchers and policy-makers to health, knowing the logic of co-benefits could be extended beyond climate and health.

Spillovers between sectors can be positive or negative, but the logic of co-benefits focuses on removing negative externalities and identifying win-win solutions

There are many documented examples of co-benefits because many kinds of policies have intended or unintended effects beyond their main targets. Nevertheless, the impact of one policy on another area can be negative. Such negative externalities clearly exist and are a problem (as discussed in the case study of hospitals, in Box 6 below). Sometimes the needed policy change is to stop doing something harmful, including where a health policy has negative effects on another sector.

The logic of co-benefits focuses our attention on identifying and tackling such situations, identifying win-win rather than win-lose solutions. The complexity of public policy encourages such a focus on co-benefits because there are usually degrees of freedom in every step of policy formulation and implementation that allow the creation of positive-sum relationships instead of trade-offs. The challenge is to maximise the situations where there are mutual benefits and to take advantage of them.

Figure 1: Policies can be designed to benefit multiple sectors



Source: Authors' compilation based on Greer SL et al. (2022)

...pursuing co-benefits allows us to do more with less

COVID-19 arose against the backdrop of a decade of austerity in some countries, reversing earlier growth in the social and health sectors. Governments faced huge fiscal challenges, both to pay for the direct response to the pandemic, for example public health measures, and to mitigate the social and economic consequences of the responses necessary to interrupt transmission of infection. As governments seek to recover from the pandemic, often laden with high levels of debt, they are faced with difficult choices. In such circumstances, investments in health are more likely to be palatable if they can be shown to produce benefits outside the health sector just as investments in other sectors might become more attractive if they produce health.

...such approach allows us to build new and stronger political coalitions

One of the problems with Health in All Policies is that it could appear as if health ministers were trying to divert other departments' resources for their own benefit, or "lifestyle drift", in which it could develop an unproductive focus on individual choices (Godziewski, 2022). By contrast, a focus on co-benefits is a search for broader solutions: ways that other sectors can benefit from health policy and investment, and ways that health policy and investment can produce benefits for other sectors.

...it also allows us to gain more value from our health policies and investments

Health care now assumes a large share of public expenditure in most countries. It has a substantial physical infrastructure, a large workforce with diverse qualifications and skills, and an extensive science and research base. It exerts a large impact on labour mobility and is a major consumer of goods from potatoes to high technology instruments. Purchasing, employment, locational and other decisions in the health sector are often made without much regard to their effects on broader policy areas. Support for health care investment – and actual ability to achieve other goals – might be higher if policy-makers were able to demonstrate the potential beneficial impact of health care decisions on other sectors.

Public health interventions, likewise, are often framed purely in terms of aggregate health status or equity effects, but the economic, social, and environmental consequences should be part of their justification. The COVID-19 pandemic, in good and bad ways, showed the need to understand the impact of public health measures and their effects on other goals such as education, unemployment, and social services (Douglas et al., 2020; Greer et al., 2021a; Sagan et al., 2021). It showed how the world economy itself depends on good public health, and the damage that ineffective or poorly coordinated public health policy can do to the global trade and political systems that are necessary to achieve goals (Jarman, forthcoming).

Coordination across sectors is a key challenge for modern governments – while coordination problems cannot be eliminated, their impact on policies and outcomes can be reduced

This particular consideration is, of course, part of a broader, much-discussed and probably ineradicable tendency to sectoral differentiation within society and governments. Coordinating different sectors is a key challenge faced by modern governments, and while it is often treated as a problem of bureaucratic inertia, political conflict will often turn out to be the real problem. The question is how to overcome this challenge by building coalitions to support intersectoral policies, and designing policies with an eye to their implementation and sustainability.

These approaches have focused attention on the complementarity of some policies intended to do something other than improving health. A focus on wins for the health sector, though, has the obvious drawback that people with other primary goals than health might not be interested. Their economic, political, career or other incentives and interests lead them to focus on other issues. Focusing on co-benefits cuts across other common trends on public policy. For decades, policies in some countries have explicitly focused different parts of the public sector on a small number of narrow goals, such as test results for schools and waiting times for health care systems, regularly incorporating marketisation and contracts that emphasise competition rather than collaboration. It is hard to counter the message that these policies have promoted and tell schools that they are expected not only to get better examination results but also improve student health, or to persuade health providers, faced with severe budgetary constraints, that they should be better employers. It is precisely because of these challenges that a focus on health for all policies is important.

3. Achieving the SDGs through health co-benefits

This section shows how the commitment to the SDGs can reinforce the commitment to investing in health and the health sector and how the focus on co-benefits can support this.

SDGs offer a framework for understanding, identifying, quantifying and adopting policies that produce co-benefits

The SDGs were adopted in 2015 by the United Nations. They are a set of 17 top-level goals (Fig. 2) for the planet, backed by a large set of more detailed targets and indicators on practical action. Hence, for example, SDG17 (Partnerships for the Goals) includes targets from better national statistics to reforms of trade policy and development assistance.

The SDGs do not just structure the agenda of the United Nations and other international organisations. Their breadth means that they create a whole conceptual framework for discussing issues and understanding their interrelationships. Even those who are not interested in the specific activities of the United Nations can use the SDGs framework to understand policy objectives and their combinations.

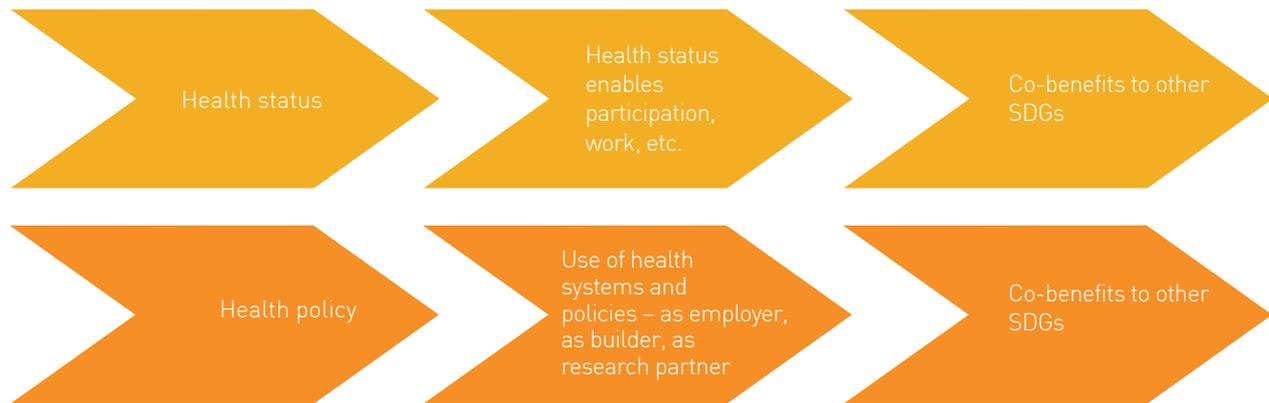
The SDGs lend themselves to a co-benefits analysis. They are explicitly linked in the recognition that they affect each other, and it is unlikely that they can be achieved in isolation from each other. For example, "access to safe and inclusive green and public spaces" is an objective under SDG11 (Sustainable Cities and Communities, 11.7) but also contributes to reduced inequalities, mitigation of climate change, reduced discrimination on grounds such as gender or disability, and – by enabling exercise and open-air socialisation – health.

It is therefore important to look at achieving SDGs as a useful framework to understand, identify, quantify and adopt policies that produce co-benefits. Not only will co-benefits be necessary if the world is to achieve the goals to which governments committed in 2015, co-benefits also create conceptual building blocks and accompanying data that allow us to identify goals and progress. It is possible to express a broad range of goals for our societies in terms of SDGs, and thereby benefit from the monitoring, and reporting mechanisms of the SDGs as well as engage with a global conversation about the best ways of attaining the United Nation’s Goals. The SDGs also make it clear that health equity cannot be ignored. Not only are two of the seventeen SDGs explicitly about equity (SDG5, gender equality, and SDG10, reduced inequalities), other SDGs such as SDG8 (good jobs and economic growth) and SDG11(sustainable cities and communities) make it clear that equity is part of the goal (see Box 1).

Figure 2: The Sustainable Development Goals (SDGs)



Source: From <https://www.un.org/sustainabledevelopment/blog/2015/12/sustainable-development-goals-kick-off-with-start-of-new-year>
 © United Nations [2015]. Reprinted with the permission of the United Nations.

Figure 3: Two main routes can be pursued to achieve co-benefits to other SDGs

Source: Authors' compilation based on Greer SL et al. (2022).

Health for All Policies have two causal pathways: through health directly and through health policy

This policy brief identified two basic paths by which health investment and accompanying policies produce co-benefits for other sectors, shown in Fig. 3. One is through the benefits of health itself. Better health status and outcomes and greater health equity all contribute to attaining other social goals. The other is through the benefits of health policy and expenditure. Health care systems are large employers, sustain extensive research, occupy a great deal of built infrastructure, have a great deal of impact on their environments and are often entwined with education. This means that they have a great deal of power to create co-benefits for other sectors.

Health as a contributor to other SDGs

Better health status has many obvious and often documented effects on other SDGs

The first way in which health generates co-benefits is through the benefits of better health and reduced health inequalities. Better health status has many obvious and often documented effects on other goals (Greer et al., 2022). Existing empirical literature provides some evidence on how health outcomes causally affect other policy goals mentioned above (Suhrcke et al., 2006; McKee et al., 2009; Stuckler et al., 2009). Health status should mean both overall health status (for example, country averages) and health inequalities (see Box 1).

Consider a few examples:

- The health of children influences their educational performance (SDG4).
- Health inequities influence the ability of women (SDG5), the poor (SDG1), and vulnerable groups (SDG10) to receive the benefits of education and then secure equal access to good jobs (SDG8).
- Health status affects political participation and civil society engagement (SDG16) (Constantino, Cooperman & Moreira, 2021).

- Ill health can cause catastrophic health care spending that can make people fall into poverty (SDG1) (Kawabata, Xu & Carrin, 2002).

Box 1: Improving health means improving both the health status and health equity

Aggregate population health data often conceal considerable diversity, with the situation of those who face discrimination, with worse health as a result, effectively invisible. Improving “health” therefore means two things: improving the average health status and reducing health inequity.

There are two reasons why equity matters. The first is normative: the SDGs call, repeatedly, for reduction in inequity – not just in SDG5 (gender equality) and SDG10 (reduced inequalities), but in the implementation of other SDGs. For example, SDG8 (Decent work and economic growth), is clear that that goal means decent work for all. To adhere to the SDGs is to commit to equity.

The second reason that equity matters is that a society with wide inequalities will struggle to make progress in many other areas. Unhealthy children will not benefit as much as they should from education. Health inequalities that drive people out of the formal labour force (for example, to care for their families), will waste their skills and undermine economic development.

These two goals, improving overall health and narrowing inequalities, can be mutually reinforcing but they are not the same. It is easy to find policies that improve overall health but increase health disparities as those with better health have a higher ability to benefit. Public health measures against COVID-19, for example, saved many lives by enabling white collar workers to work from home, but left many “frontline workers”, in sectors such as health care, food service and transportation, unprotected because they could not work from home. This was one of the many ways in which COVID-19 showed how inequalities of all kinds turn into health inequalities (Bambra, Lynch & Smith, 2021). New health technologies and approaches that cost money can save lives but will generally be adopted first by richer and more socially advantaged people, thereby widening disparities (Phelan & Link, 2015). As a result, policy cannot be directed only at overall health status, but must focus on inequity (Lynch 2017, 2020).

Health systems and policies as a contributor to other SDGs

The health sector has a large and multifaceted impact on other areas of life, including jobs, economic growth and climate change

Policymakers, citizens and analysts do not always fully appreciate the size and impact of the health sector on our lives, the economies that surround us and our wider societies. Fully appreciating the potential contribution of the health sector opens up new policy vistas. The health care sector is a very large and geographically dispersed employer, operator of infrastructure, purchaser of materials, investor in research and education, and influencer of labour mobility and urban development. Public health policies, as the COVID-19 pandemic brought home, can shape a wide range of social and economic outcomes, and the failure of public health measures can inflict significant harm on economies and societies.

Consider three areas of pressing concern for policy-makers: good jobs (SDG8) (Greer, 2018), industry, innovation and infrastructure (SDG9), and climate change (global heating, SDG13). Even policy-makers uninterested in the SDGs are likely to see a reason to care about their populations’ employment and incomes, and climate change is an existential threat everywhere. There is scope for co-benefits linking health with all of these issues.

The health system is a major *employer* but is also often an important wage-setter (Fig. 4). It contributes to the skills of the workforce, both sector-specific and transferable, while their

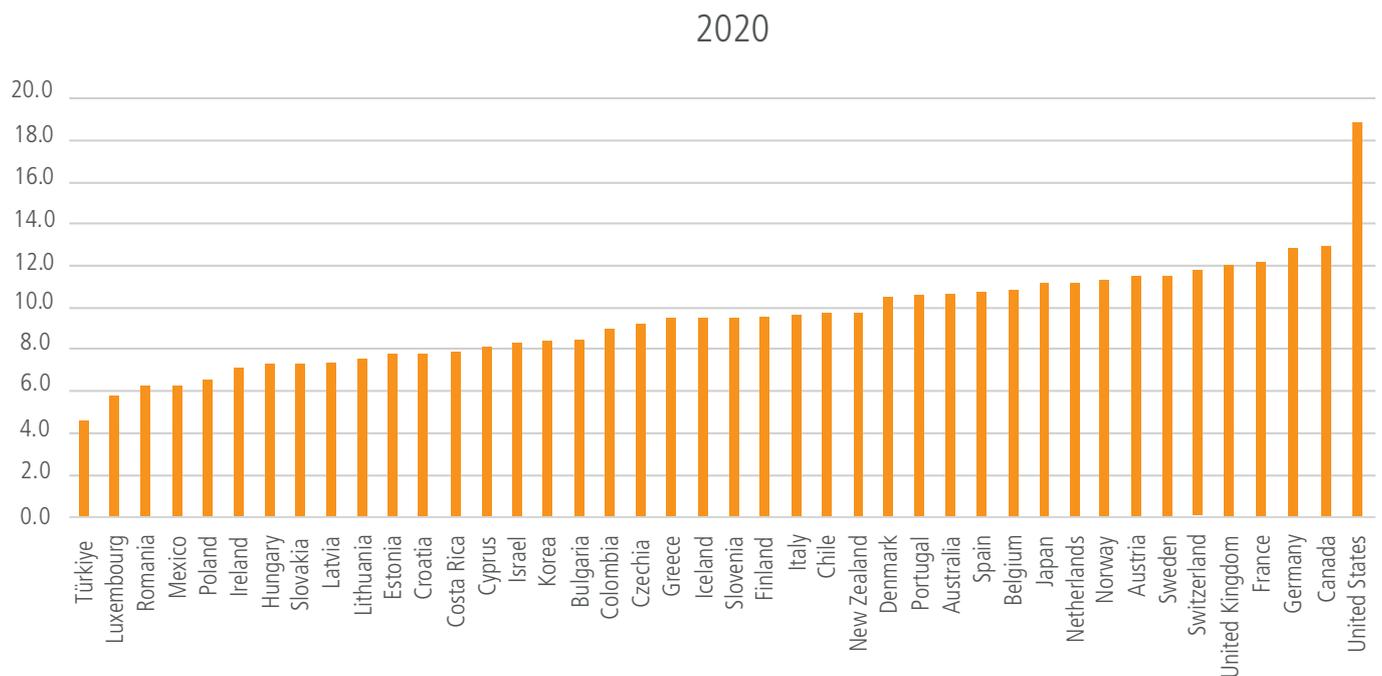
employment decisions can promote (or undermine) equity, especially where they give opportunities to groups that experience discrimination in other sectors. Especially in areas facing post-industrial decline, they can be an important contributor to family income, reflecting the traditional gender differences in the health sector and manufacturing industry.

Health care makes a major contribution to the *economy* in high- and middle-income countries, both directly, as an employer (Fig. 5), and indirectly, through a wide range of mechanisms, such as purchases of local goods and services or contributions to research and development, and beyond those to greater labour force participation and productivity by improving the health of the population served.

It is, however, still common to view health care as a consumption good rather than an investment in the wider economy and, especially, in the stock of "human capital". This mismatch is becoming more problematic than ever given the increasing labour force in many countries – and the shrinking labour force in many other countries.

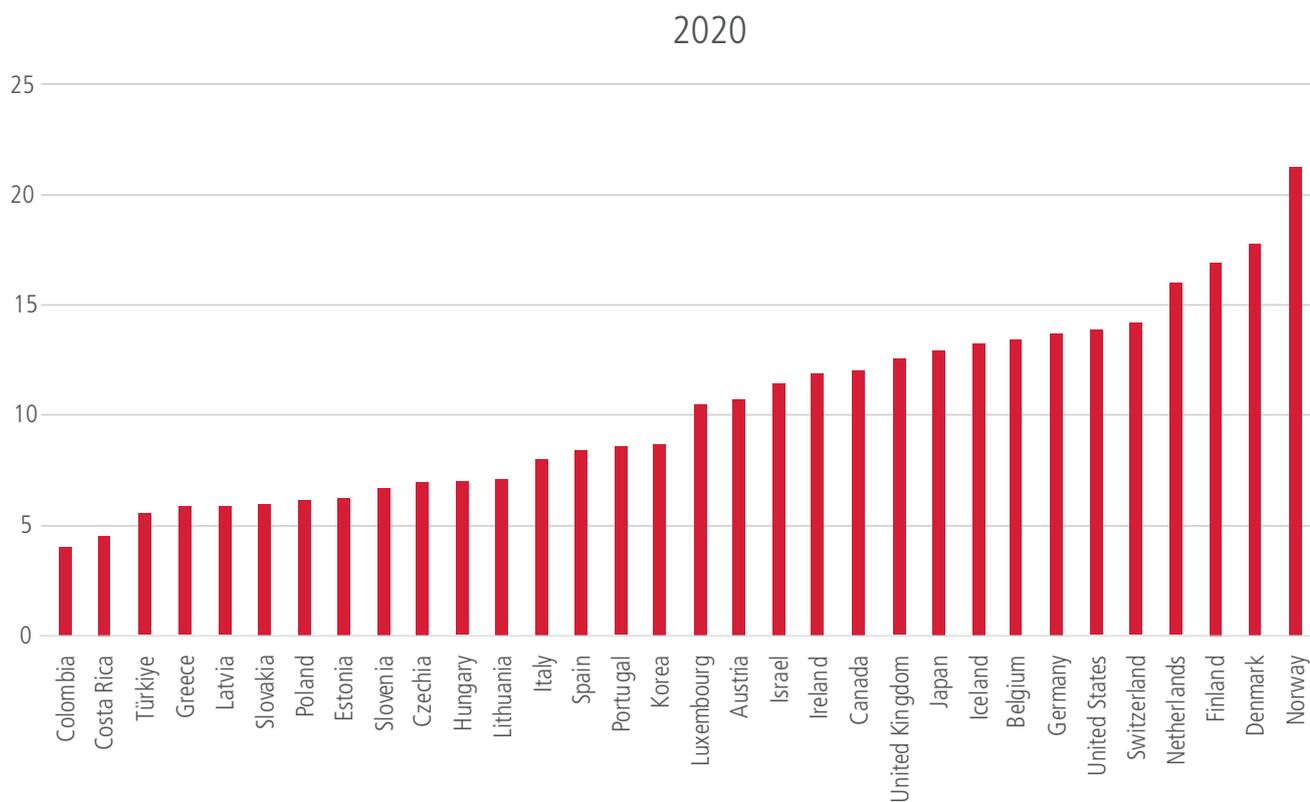
The economic case for investment in health care goes beyond its contribution to human capital. There is growing evidence that health care contributes to social capital, the relationships that are important for societal functioning. Accessible and affordable health care is a manifestation of reciprocity and solidarity. There is also growing evidence that communities that experience deteriorating health lose faith in the commitment of the state to support them and provide fertile ground for those promoting division and non-democratic policies (Gugushvili et al., 2020).

Figure 4: Health spending in selected OECD countries ranges from 5% to 20% of GDP



Source: OECD (2022). Health Care Resources: Total health and social employment.

Figure 5: Health and social care can account for more than a fifth of total civilian employment

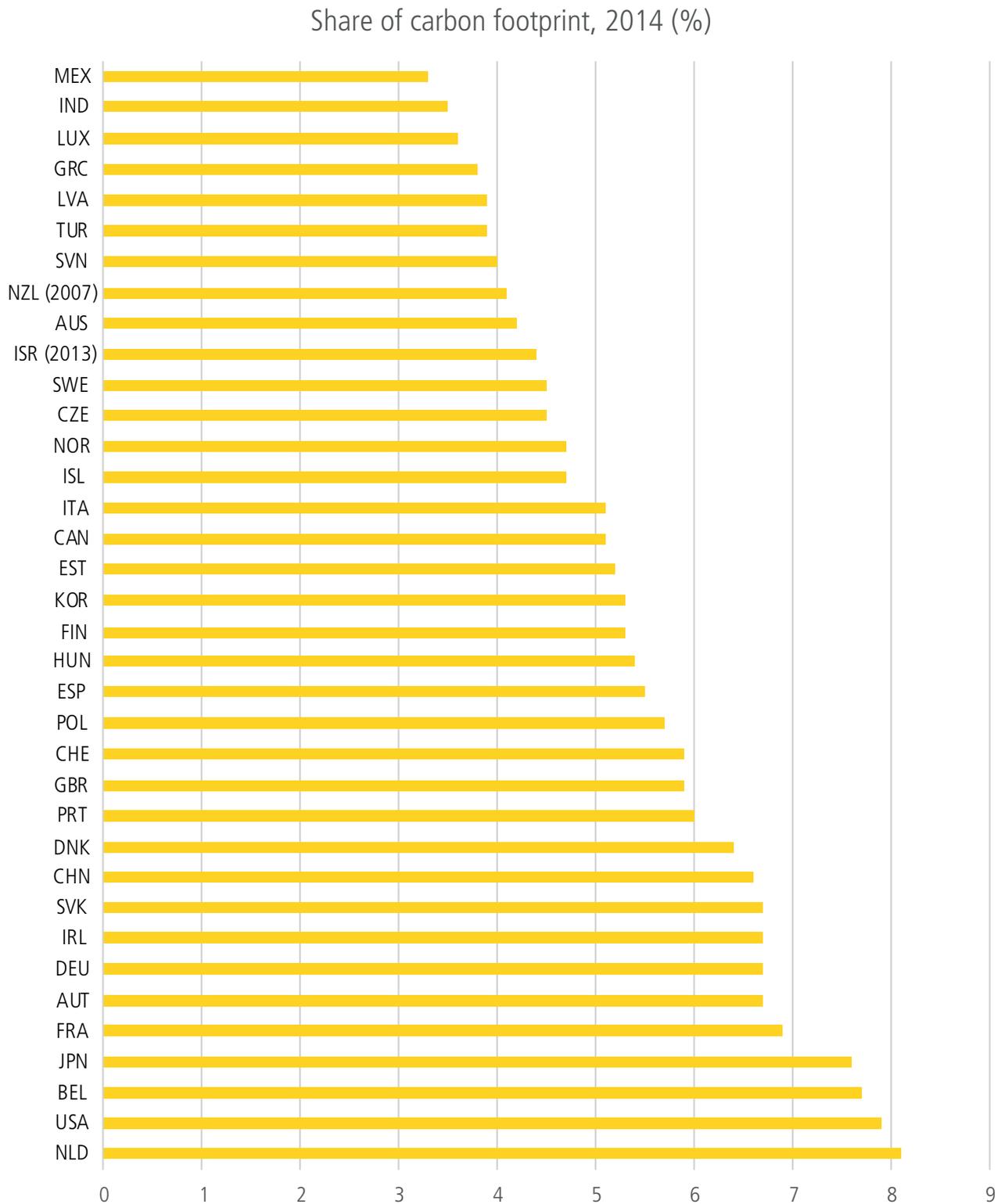


Source: OECD (2022). Health Care Resources: Total health and social employment.

Some governments promote the health sector as a source of foreign exchange. Examples include training health workers who will work abroad and send back remittances, medical tourism, or hosting clinical trials. These activities can play an important role in some middle-income countries such as Brazil and India (Massard da Fonseca & de Moraes Achcar, forthcoming). However, it should be noted that these approaches can raise ethical issues and may not be the best use of scarce resources.

Health care is an important contributor to *climate change*. It is a carbon-intensive sector, although emissions can vary considerably across countries. Health care's share of a country's total carbon footprint ranges from 3.3% (Mexico) to 8.1% (the Netherlands) (Fig. 6) (Pichler et al., 2019). This variation offers lessons for higher-emitting countries. One US study found that the health care sector accounts for 8.5% of total carbon emissions, including construction and operation of health care facilities, their energy use and the carbon incorporated in the supply of medical products (Dzau et al., 2021). For a number of these countries, health care might be a pressing area in which to reduce carbon emissions.

Figure 6: The health sector is a major emitter of greenhouse gases and can be a major contributor to carbon neutrality



Source: Pichler et al. (2019). International comparison of health care carbon footprints. Environmental research letters, 14(6):064004. Reprinted with permission.

4. How to identify co-benefits

Understanding and estimating the impact of health and health policy on other SDGs is not simple but is possible

Estimating the costs and benefits to different sectors of a given policy depends on an understanding of context and trade-offs. Fortunately, there are both established and innovative methods and approaches for understanding and estimating the impact of health and health policy on other SDGs.

Identifying co-benefits of health outcomes

Improved health status and reduced health inequalities generate positive spillovers across many sectors

The first category of co-benefits is where an improved health status contributes to goals outside the health domain. The COVID-19 pandemic clearly showed ways in which health issues and policy responses can spill over into other issues.

There is a growing literature on co-benefits affecting other SDGs (Jack & Kinney, 2010; Howden-Chapman & Chapman, 2012; Shaw et al., 2014; Alam, 2015; Haines, 2017; Sharifi et al., 2021). Looking at education (SDG4), shows how, in Tanzania, a father's illness decreases children's school attendance by 5% and children's likelihood of completing primary school by 25%, leading to one and half fewer years of schooling (Alam, 2015). With employment (SDG8), Dillon, Friedman & Serneels (2021) showed that preventing malaria infection in Nigeria can increase earnings by about 10%. Fadlon & Nielsen (2021) show that severe non-fatal health shocks such as a heart attack or stroke in Denmark reduce earnings by 18% and household income by 3.4%. In contrast, fatal health shocks lead to increases in surviving spouses' labour force participation by 7.5% and annual income by 6.8%. Jockers et al. (2021) show that roll-out of antiretroviral therapy programmes in South Africa improve life expectancy and reduce absenteeism rates among workers living with HIV by about 12 days per year. Eriksen et al. (2021) show that the onset of diabetes in children induces mothers to shift to part-time work, experiencing a long-term 4–5% decrease in wage income in Denmark. With political participation (SDG16), Constantino, Cooperman & Moreira (2021) show that higher COVID-19 incidence near the time of the election in Brazil was associated with lower voter turnout. These studies, and other similar ones, illustrate the scope for quantifying co-benefits involving health.

Boxes 2 and 3 briefly present relevant quantitative empirical and modelling techniques that can be used to understand and calculate actual and likely co-benefits for policy analysis and research.

Box 2: How to use econometrics and statistical models to analyse the impact of health status on other SDGs?

In health policy, changes made should ultimately improve outcomes and equity while reducing disparities at the population level. As policy-makers, we want to quantify these impacts to bring proposals onto the policy agenda and evaluate their effectiveness. One way to put numbers on the causal link of co-benefits from health programmes and policies in other sectors, or the contribution of health status to other goals, is by using regression analysis and empirical quantitative methods (Angrist, Angrist & Pischke, 2008; Gertler et al., 2010; Angrist & Pischke, 2015; Abadie & Cattaneo, 2018; Cunningham, 2021).

There are two types of methods that can be used to estimate the impact of health on other SDGs. The first, experimental designs, are ideal to estimate the contribution of health policy to other outcomes. By enabling comparison with those not exposed to the policy, randomised control trials provide – if they can be undertaken, which is not always – an unbiased estimate of the effect of a policy on other sectors. Although most often involving randomisation of individuals, policy research is more likely to employ cluster randomised trials, where the unit of analysis is communities (Miguel & Kremer, 2004), as has been done to investigate the effect of health policies on diverse outcomes such as earnings, labour supply or productivity (Dillon, Friedman & Serneels, 2021). However, the scope to use these experimental designs is limited. They take time, often yielding results only after several years; they are expensive; and they are subject to many practical difficulties.

Quasi-experimental methods, the second type, are useful tools in situations where true experiments cannot be used for ethical or practical reasons. Researchers can use them to establish causality where it is not possible to randomise individuals or communities. They often use existing data from surveys, either repeated cross-sectional ones or panels, where the same people are followed over time. With these tools, it is possible to take advantage of how interventions are implemented at different times or places, offering greater potential to estimate co-benefits coming from health policies or reforms. Commonly used methods include difference-in-difference (where some groups are exposed to a policy, for example in a given region or area, but other groups are not) and regression discontinuity (where some groups just below an eligibility cut-off point, for example individuals below a poverty threshold, are compared with those just above the same cut-off point) (Imbens & Wooldridge, 2009; Angrist & Pischke, 2010; Dimick & Ryan, 2014). For instance, Fadlon and Nielsen (2021) use differences-in-differences and matching methods and show that experiencing heart attacks or strokes in Denmark reduces earnings by 18% and household income by 3.4%. Using robust empirical methods, it is possible to calculate the benefits of policies or programmes in multiple sectors in a Health for All framework, achieving cross-sectoral involvement between actors and building stronger political coalitions.

Box 3: Using systems dynamic modelling and decision analytic methods to support the development of Health for All Policies and quantify health co-benefits

Mathematical models use theoretical frameworks and equations to relate components of a system to each other (Vanagas, Krilavičius & Man, 2019; Panovska-Griffiths, Kerr, Waites, & Stuart, 2021). These models can support the development of Health for All Policies by conceptualise systems and how they will react to policies.

An understanding of the relationships between health and other sectors in a given context is critical in taking a Health for All Policies approach. System dynamics modelling can be useful in mapping these relationships because it not only identifies which parts of the system interact, but characterises how they interact through feedback loops, delays, and non-linear effects (Darabi & Hosseinichimeh, 2020). Expanding the complex systems approach to health policy (Adam & de Savigny, 2012; Peters, 2014) beyond the traditional frame of a health system can allow models to capture these broader relationships and help to inform the development of policies that produce co-benefits.

Models can also quantify the co-benefits of health policies through their applications in decision analytic methods. These analyses employ decision models that provide a structural framework capable of synthesising available data across a range of fields to evaluate outcomes of policy alternatives (Briggs, Claxton, & Sculpher, 2006; Kuntz et al., 2016). Among decision analytic methods Cost–Benefit Analysis (CBA) is particularly conducive to measuring co-benefits. Given that CBA measures all outcomes in monetary terms, it facilitates the inclusion of costs and effects beyond the domain of health (Owens et al., 2016). CBA has often been used in a deliberately crude way but more recently it has been successfully employed to evaluate the impacts at the intersection of environmental and health policy (OECD, 2018), a practice that can be adapted to other sectors.

Identifying co-benefits of health systems and policies

Health policies also contribute to goals outside the health sector and these co-benefits have been documented in the empirical evidence

The second category of co-benefits is the way in which specific health policy interventions contribute to goals outside the health domain. For example, expanding universal health coverage or child nutrition programmes can reduce poverty by eliminating catastrophic payments (SDG1), or improving education attainment (SDG4) or employment outcomes (SDG8). The previous section presents some examples. Box 6 and Fig. 7 show, in one case, how a hospital can affect multiple SDGs for better or for worse.

These co-benefits have been documented in the empirical evidence. For example, in relation to poverty (SDG1), using differences-in-differences methods (Limwattananon et al., 2015) show that a reform which greatly extended health insurance coverage in Thailand reduced out-of-pocket expenditure by 28% and reduced catastrophic payments by two percentage points. Bauhoff, Hotchkiss & Smith (2011), using a regression-discontinuity design approach, suggest that the Medical Insurance Programme for the Poor in the republic of Georgia decreased mean out-of-pocket expenditures for some groups and reduced the risk of high inpatient expenditures, though the programme did not affect the utilisation of health services. In contrast, Bernal, Carpio & Klein (2017), using a regression-discontinuity design, show that an expansion of health insurance coverage in Peru had large effects on measures of curative care use (individuals more likely to visit a doctor by 9 percentage points, to receive medicines by 15 percentage points, that a diagnostic test is performed by 5 percentage points, to visit a hospital or receive surgery by 8 percentage points) but increased out-of-pocket spending by 282 Soles (US\$ 73), equivalent to 1.5% of household income, due to higher consumption of medicines, hospital visits and/or surgeries not covered by insurance financed by households due to more awareness of health need. Hu et al. (2018), using synthetic control methods, show that the Medicaid expansions under the 2010 Patient Protection and Affordable Care Act reduced the number of unpaid bills and the amount of debt sent to third-party collection agencies.

In relation to employment (SDG8), using differences-in-differences methods, Del Valle (2021) shows that expansion of health insurance coverage in Mexico increased labour supply by reducing the likelihood of informal workers exiting the labour market by 15%. Goodman-Bacon (2021), using a differences-in-differences method, shows that children covered by Medicaid in the USA have higher labour supply by 4 percentage points. Jeon & Pohl (2019), using matching methods, show that innovations in cancer treatment in Canada during the 1990s and 2000s reduced the negative employment effects of cancer by 63–70%. Beuermann & Pecha (2020), using differences-in-differences methods and a regression discontinuity design, show that the elimination of user fees in public health facilities in Jamaica reduced the number of sick days by 44% for individuals who were 40–64 years old.

For education (SDG4), Araújo, Carrillo & Sampaio (2021) provide evidence that a large-scale iodine supplementation programme in Tanzania increased completed years of education and income scores in adulthood. Butikofer & Salvanes (2020), using differences-in-differences methods, show that cohorts of children included in a tuberculosis control programme in Norway introduced in 1948 reduced missing school days by 9% in the short term, and increased years of education by 0.5 years in the long term and earnings by 7%. Baranov & Kohler (2018), using differences-in-differences methods, show that access to antiretroviral therapy for AIDS in Malawi increases expenditures on education and children's schooling, and increases savings. Ozier (2018), using a phased randomised intervention design, shows that deworming interventions in Kenya had cognitive effects on children that were equivalent to at least half a year of additional schooling. Brown, Kowalski & Lurie (2020) show that greater childhood Medicaid eligibility expansions in the USA increase college enrolment. Bütikofer, Mølland & Salvanes (2018) show that the roll-out of a free nutritious breakfast programme in schools in Norway increases education by 0.1 years and earnings by 2–3%.

Identification of co-benefits of health systems and policies requires policy analysis drawing on sector-specific knowledge and understanding of the context

The identification and estimation of co-benefits from health systems and policies presents different methodological challenges. It is more dependent on sector-specific knowledge of causal mechanisms as well as contextual factors such as budgeting procedures, urban design, or labour law. Box 4 shows a stylised version of the process. This relationship has been demonstrated with a series of test cases (Greer et al., 2022), some of which are discussed in Box 5.

Box 4: Using policy analysis to identify co-benefits of health systems and policies

It is possible to identify co-benefits in three steps, though a fuller analysis will be more complex (De Leeuw & Peters, 2015). The first is to understand basic relationships between the health care system and policies and the issue in question, perhaps by building a preliminary logic model. This need not be hard: in many cases there is an obvious connection, and the question is how to gauge its importance and the relevant mechanisms.

The second step is to develop a logic model of the way policies can influence those relationships. For example, how can decisions about siting and building a hospital (Boxes 6 and 7, Fig. 7) influence different goals such as equitable employment and reduction of carbon emissions? This asks for knowledge of the policy sector in the country context as well as the broader international literature on the relationships involved. The quality and extent of the international scholarly literature varies greatly from topic to topic here, but it can map out basic mechanisms as well as some estimates from possibly relevant contexts. A model of the policy can also enable the commissioning of rapid research on topics in a particular context if necessary.

The third step is to identify the policies or actions with significant potential co-benefits and the most realistic chances of success and implementation. This means two things. First, it means trying to develop quantitative estimates of the benefits of a given policy. Second, it means further analysis of the organisational requirements and barriers to implementation combined with an analysis of the potential coalition of supporters. Box 5 shows examples.

Box 5 There are many examples of how health systems and policies can produce co-benefits*SDG 3 Good Health and Well-Being and SDG 5 Gender Equality*

Health care needs to include equity of and access for women, men, and all other genders. The reverse is necessary as well: gender equality and human rights need health equity, which is a goal that health care systems can attain through both equitable care and equitable action as employers, purchasers, and service providers. This strong connection between SDG3 (health) and SDG5 (gender) creates specific conditions of co-benefits. However, bringing a gender lens to the debate over SDG co-benefits raises more general questions about universalist policy concepts, which assume “neutrality” and do not adequately respond to policy contexts and the diverse needs and interests of stakeholders. Increased attention to gender equality and intersectionality would allow policy-makers to capture and address the importance of participatory governance more effectively. (For more information see Kuhlmann & Lotta (forthcoming 2023).)

SDG8 Decent Work and Economic Growth

Health is wealth. This case study explores how health policy can help support progress towards SDG8 (creating decent work and economic growth), in light of the health and care sector being a major source of employment globally. Better health promotes better work and employment. Health policy itself can also promote better work and employment by improving health system standards and making health sector actors better employers. In many cases these improvements involve redirecting or increasing health expenditure to improve the safety, quality, and career progression of jobs at the lower ranks of the health system. Increasing public budgets can lead to political discourse when budgets already face constraints. However, if implemented well, changes in health expenditure can have benefits to the organisation. A suggested solution includes paying an efficiency wage for better productivity rather than simply hiring at the lowest possible wage. (For more information see Williams, Rockwell & Greer (forthcoming 2023).)

SDG9 Industry, Innovation and Infrastructure

WHO has attempted to incentivise low- and middle-income countries to invest in needs-driven Research & Development and local drug production; however, these goals have yet to be fully accomplished. Initiatives such as technology transfer and local production of pharmaceuticals in low- and middle-income countries can be a means to promote industrial and innovation goals (SDG9), while meeting health needs. The main goal is to strengthen regulatory systems through local production. This will not only allow for the increased assessment of manufacturing practices and heightened quality control but will also provide additional opportunities to train and develop human resources, develop new skills, and promote local industrial development. Pharmaceutical development and production in lower- and middle-income countries is an area in which intersectoral initiatives between health and industrial policies and how they can ultimately lead to increased health benefits can be seen. (For more information see Massard da Fonseca & de Moraes Achar (forthcoming 2023).)

SDG11 Sustainable Cities and Communities

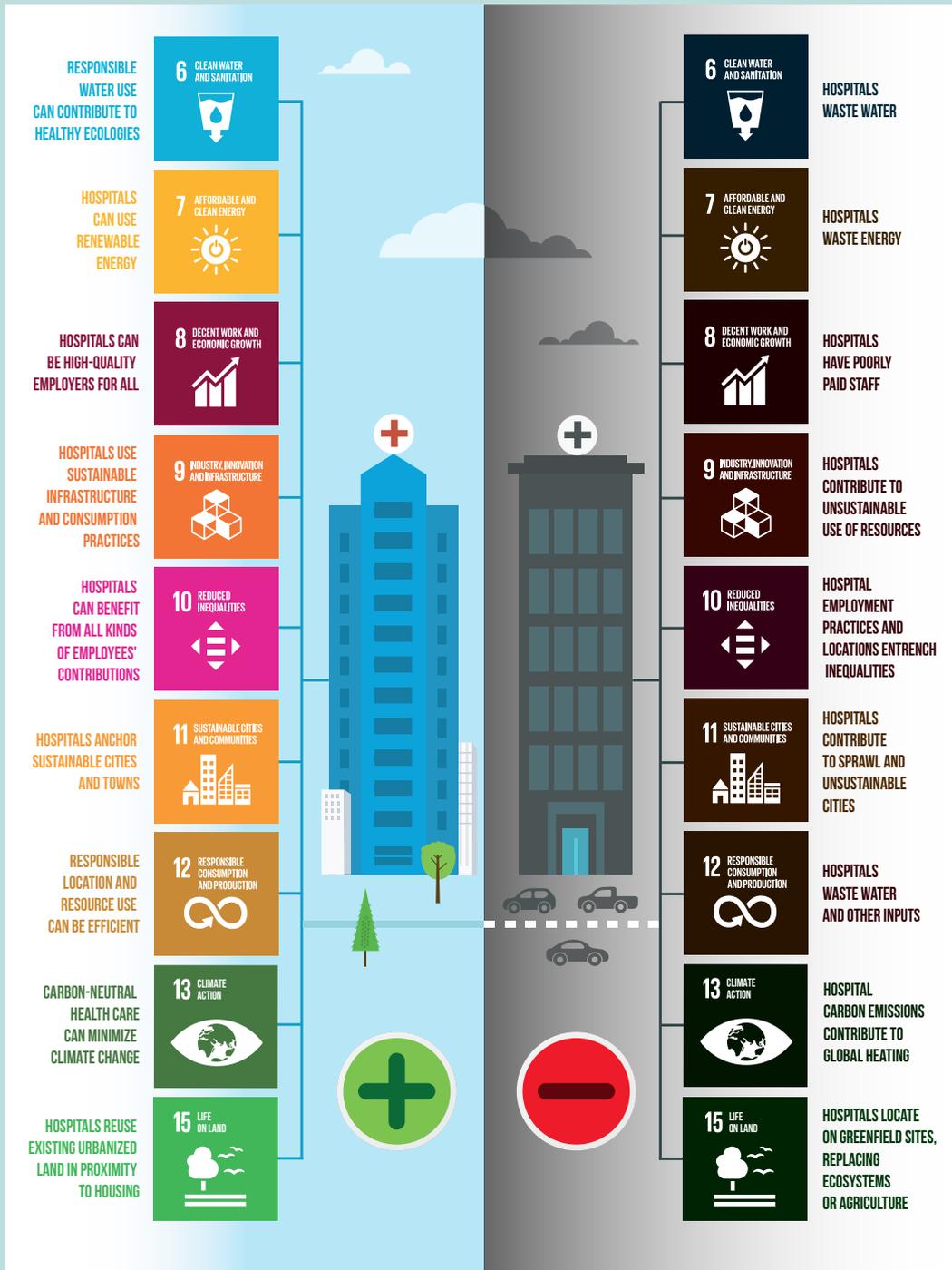
With more than half of the world's population living in urban areas, cities are projected to continue to grow. The problem is that cities are not equipped to accommodate such large populations when faced with rapid urbanisation, and health care systems such as hospitals can be part of the problem or part of the solution. With a multi-sectoral urban governance approach that emphasises health, cities can expand successfully and equitably while leaving no residents behind. As countries look to improve their commitment to building sustainable, healthy, inclusive and resilient cities (SDG11), stronger coordination across multiple sectors is needed to ensure that policies and programmes targeting equitable growth are in place to prevent the negative consequences of rapid urbanisation. (For more information see Mehdipanah & Koeman (forthcoming 2023).)

Box 6: What are the possible co-benefits of a hospital?

Health for All Policies means that this brief needs to look at ways in which the health sector and health policies do or do not contribute to broader social goods. Imagine the development of a hospital, newly built, efficient and located on the outskirts of the city, in an area primarily accessible by car. What is the hospital's impact on key policies highlighted in the SDGs? What could be done better if co-benefits were sought rather than simply the efficient production of health care services?

Climate action (SDG13) calls for a move to carbon neutrality while hospitals are a key source of greenhouse gas emissions (Tennison et al., 2021). In the UK, the National Health Service (NHS) is responsible for 4% of total national carbon emissions, of which 79% come from primary care and community services (NHS, 2012). Of these emissions, hospitals, which are large buildings requiring 24/7 energy for heating, ventilation, lighting and advanced energy-intensive medical devices and pharmaceuticals, are the greatest contributors (Eckelman & Sherman, 2016). NHS-related travel explains 3.5% of all

Figure 7: A hospital can have positive and negative spillovers on many SDGs



Source: Authors' compilation.

road travel in the UK, making travel the sixth highest contributor of greenhouse gas emissions in the hospital system following medical equipment, pharmaceuticals, business services, fuels, and electricity (NHS, 2012). The high use of energy in hospitals also creates an opportunity for hospitals to impact the SDG of accelerating renewable energy use (SDG7). Currently, most hospitals rely on non-renewable sources of energy. Studies have shown switching to renewable sources can contribute to SDGs while also creating savings for hospitals (Vaziri, Rezaee & Monirian, 2020; Prada et al., 2020; Sala, Alcamo & Nelli, 2017).

In addition to energy, hospitals are large consumers of water impacting SDG6 and SDG9: Clean Water and Sanitation and Responsible Consumption and Production, respectively. In 2017, the NHS utilised water equivalent to the total water use of Estonia (Sala, Alcamo & Nelli, 2017). In Spain, 900 hospitals account for 7% of the total use of water in the country, which amounts to roughly 600 million euros (Garcia-Sanz-Calcedo et al., 2017). The use of water in hospitals comes mostly from direct use (35–70%), research and treatment (15–40%) and food preparation (5–25%). Studies find this elevated water use could be limited with more responsible monitoring and auditing of water use (McGain & Naylor, 2014).

Hospital development can also impact SDGs of decent work (SDG8) and reduce inequality (SDG10). Hospitals are staff intensive and offer high opportunities for employment in the regions where they are located. In France, an average public hospital employs 876 people (Clark & Milcent, 2011). Locating these hospitals in suburban areas may provide employment opportunities in already prosperous areas, increasing employment inequity between suburban, urban and rural communities. In addition to employment inequality, hospitals and hospital location can increase inequality in health care access. Reliance on political will for funding and development of hospitals may lead to a lack of access to hospital care in marginalised communities (Matheson et al., 2018). Even when hospitals are accessed by these marginalised communities, poor hospital culture, such as embedded systematic racism, may lead to differences in treatment among groups (Matheson et al., 2018). Additionally, hospitals are generally resistant to change and show a lack of responsiveness to community needs, which has a greater impact on quality health care access in marginalised communities (Matheson et al., 2018).

Box 7: Example roadmap to reduce carbon footprint by a Catalan hospital

According to the data provided by the organisation Health Care Without Harm, the climate footprint of the health sector is equivalent to 4.4% of net global emissions (Health Care Without Harm, 2019). This implies that those that are supposed to take care of people's health (for example, health care personnel, hospitals) generate harm as well. Health and the environment are inseparable.

It is on this premise that *MútuaTerrassa* (a hospital in Catalonia, Spain) conceived its "Green Commitment". Hospital leaders began by calculating the carbon footprint of our organisation of more than 5000 professionals. This allowed them to establish a roadmap, in the form of a Climate Action Plan based on four axes:

Energy transition All the energy consumed by the university hospital will have a renewable origin from zero kilometres, meaning that the energy will be generated on-site. The hospital will install photovoltaic panels on three of the four facades of the hospital, which is the tallest building in the city and is to make the institutional commitment to the energy transition visible and inspiring.

Sustainable mobility All people coming to the hospital are sent an SMS containing instructions as to how to reach the hospital in the most sustainable and healthy way.

Circular economy The hospital has shifted towards using surgical protection material (sterile gowns, clean air pyjamas and cover for patients) in its operating theatres that can be reused up to 300 times. In each major operation the result is an average reduction of 3.5 kg of waste compared with operations with single-use materials. The hospital has shown that opting for re-use was more economically viable, more environmentally sustainable and produced more reliable than complex supply chains for single-use goods.

Biomedical research on health and climate change *MútuaTerrassa* serves around 300 000 inhabitants covering primary, specialised, mental health and elderly health care. The hospital is working in partnership with several research groups and the Catalan Meteorological Service to uncover indicators on the impact of climate change on prevalent cardiovascular, metabolic, neurological and respiratory diseases.

Source: Josep Rull i Andreu, Tomás Pérez Porcuna, and David Dalmau, *MútuaTerrassa*

5. Politics and governance: achieving the co-benefits

Identification of co-benefits is only the first step towards achieving intersectoral action; they then need to be implemented and sustained

On one hand, identifying co-benefits means understanding where impact is likely. That was the focus of the previous section. But on the other hand, there are often reasons why potential win-win solutions are precluded, ignored, or adopted, not implemented or sustained. Coordination has long been the “holy grail” of public administration, and administrative history is littered with more and less successful efforts to promote “joined-up government” and other such goals (Bogdanor, 2005). In health, a sector often known for its comparative isolation from the rest of government, efforts to achieve this coordination seem particularly important. A focus on co-benefits is an extension of longstanding research and practical experience in intersectoral policies. The intuitions behind it are, of course, much older. Claiming that a single policy achieves multiple goals is a persuasive tactic as old as politics. It is often necessary to create or hold together a political coalition by winning supporters with different priorities. The question is how to make such claims in a valid, robust and politically effective way.

Coordination is a key part of the problem of governance. Governance is how societies make and implement decisions (Greer et al., 2019). It refers to the formal and informal institutions that manage conflict and turn it into policy. This section first identifies the basic logic of failures of intersectoral action. It then briefly reviews some of the extensive literature on policy solutions to the problem and concludes with a discussion of the importance of implementation and sustainability.

Salience and difficulty in coordination: identifying practical co-benefits

Many co-benefits can be attained by action within a single sector, ministry or organisation, but even within a single sector coordination is not easy and it is much harder when multiple sectors are involved

Improved school nutrition, green health care facilities, or reduced catastrophic health care costs can be achieved without intersectoral cooperation and might not even require new resources if the money can be redeployed from elsewhere within the sector. This means, perhaps paradoxically, that some of the greatest co-benefits will come from sectoral, rather than intersectoral, actions.

Coordinating within a sector is by no means easy, though; it is easier to write about redeploying resources from elsewhere within the sector than to actually do it.

It is also possible to write about coordination and intersectorality as if it were merely a problem of public administration. That is not always the case. It is common to find, hiding behind apparent bureaucratic obstacles, significant political conflict and interest group influence. It is difficult to improve coordination without considering this dimension.

Differing time horizons can obstruct identification of co-benefits

One problem in identifying practical and effective co-benefits arguments is time horizons. Advocates of public health measures and preventive care have long lamented the problem that the timeline for their initiatives to show results is much longer than it is for other investments, leading governments to invest less. Some of the long and indirect causal chains that shape co-benefits can be difficult to express or might not deliver results in a time frame that is relevant to budgeters or politicians focused on electoral calendars.

Understanding routes to effective action requires understanding the particular political system and constraints of the government involved

Fortunately, there are useful middle-range social scientific tools for political analysis (Greer et al., 2017; Greer et al., 2018). These can include understanding agenda-setting dynamics, which are useful for policy entrepreneurship and advocacy (Kingdon, 2003; Page, 2006; Ståhl et al., 2006; Greer, 2015) as well as understanding the particular institutional and political landscape of a given country.

How much political conflict a proposal generates and how important it is to politically determine prospects for effective action

In terms of identifying prospects for effective action, intersectoral or within a sector, Edward C. Page developed a simple four-cell that is very useful for understanding the prospects of a proposal for action, shown in Table 1 (Page, 2005). It requires coding a given specific proposal – for example, locating hospitals in city centres – in two dimensions. The first question is whether the proposal is contentious between one or more powerful actors. The second is whether it is salient to high-level political generalists whose intervention can force a resolution to a dispute. In the abstract, the ideal situation for policy change is a high-salience, low-conflict policy. The second best is a low-conflict, low-salience area where patience can often achieve good outcomes. A high-conflict, low-salience issue has a bad prognosis because it is unlikely to attract the attention of more powerful actors who can decide an outcome, whereas a high-conflict, high-salience issue is one that is likely to get a resolution because the top of government cannot avoid it. An issue's characterisation in this grid can change, and much of the work of policy experts and advocates is precisely in trying to change its location – most often, reasonably enough, by trying to increase the salience of the issue and perhaps reducing the conflict by proposing new policy alternatives or rethinking trade-offs.

Table 1: A high-salience, low-conflict problem has the highest potential of being resolved

	High political importance	Low political importance
High conflict	High-conflict, politically important issues are crucial to governments and occur when there are serious disagreements about priorities and strategies. These can be the highest-stakes and most dangerous political junctures.	In principle, this requires some sort of hierarchical decision. Progress can require reframing or resolving conflict or its political importance.
Low conflict	The second easiest kind of problem to solve. Almost any sort of intersectoral governance arrangement could, potentially, fix it.	The easiest kind of problem to solve, requiring some combination of bureaucratic action and work to raise the profile of the issue for key actors.

Source: Page (2005). Modified by authors.

Focusing on co-benefits can increase the salience of the issue and shift the narrative to reduce conflict

A focus on co-benefits has two potential persuasive advantages in understanding and acting within this type of situation. First, it can increase the salience of the issue by offering more, or by documenting greater harms from a policy than were previously understood. For example, if the impact of catastrophic health care costs is considered as a problem of both immiseration – poverty creation – and health access, then there might be a bigger constituency to address them than if the focus is only on health care access. Second, a focus on co-benefits also allows us to consider ways to redirect the conversation in ways that reduce conflict. Identifying win-win solutions can release us from win-lose (or lose-lose) policy debates that have often gone on for a very long time and which are often formed entirely within the constraints of very crude budgeting logic (White, 2013). It thereby helps integrate health with other political priorities by showing the contribution (or potential contribution) of health and health policy to solutions.

Understanding challenges of implementation and sustainability

There is no single recipe for implementing co-benefits that will work across different contexts and survive political changes

There are two key problems facing a new policy: the problem of implementation and the problem of sustainability.

Implementation means that actors throughout a system change their behaviour in order to achieve the intended goal. It is famously one of the most theoretically and empirically challenging topics in social sciences, and it is not for want of attention by researchers in fields as diverse as public

administration, political science, economics, change management, organisational behaviour and psychology.

There are powerful reasons why something that has been decided might be ignored at the level where it must be implemented; from habit to complexity, to inadequate resources to poor communications, to interest group resistance to corruption, to well-founded disagreement with the policy. It appears that, for all the effort, there is no one good theory of implementation or how it works that can be adopted across different contexts.

Many answers from the field of "implementation science" or "change management" presume a top-down approach that does not necessarily work within private sector organisations and is of still more limited use in understanding problems of implementation across sectors in a fundamentally political environment, whereas more politically oriented research tends to identify enablers and constraints rather than immediately workable strategies.

Sustainability is a second problem, which is of great interest to political science researchers and working politicians but often receives less attention in public health and health policy literatures (Greer & Lillvis, 2014). Put simply, most officials, ministers, and governments are not in a given position long enough to assume that even policies they implement will be sustained. New officials, ministers and governments will have their own agendas, might be actively hostile to their predecessor's activities, and might be unlikely to invest too much energy in the previous agenda. Interest groups and others who lost out in the original decision and resisted implementation will have additional opportunities to undermine the policy. The problem of sustainability is the problem of designing policies that will survive political change, be hard to undermine and even develop their own supportive coalitions.

Policy tools exist to implement and sustain policies over time

Table 2 shows some of the key tools that governments adopt in order to implement and sustain policies. They include a) setting objectives that are clear, widely understood, measurable and monitored; b) establishing who is responsible, including co-ordination mechanisms where appropriate, supported by appropriate legislative, regulatory, or administrative mechanisms; c) engaging all relevant parties, including those outside government; and d) ensuring accountability, taking account of existing constitutional roles, legislation, and programmatic design.

There are a variety of solutions that governments can adopt in trying to address the sustainability problem and entrench their programmes. Solutions include entrenching them in legislation or even constitutional law, the solutions' effectiveness of which varying by political institutions. The more difficult it is to legislate; the more value politicians will see in legislation because the difficulty of legislating will deter or defeat successors who do not value the policy.

Legislation can also include mandatory requirements of various sorts which expand the scope of conflict and thereby make it harder for governments to renege on commitments.

This can mean, for example, mandatory submission of reports on progress to the legislature, publication of regular and relevant data, and public consultation processes that allow allies in civil society to follow policy closely and argue for continued policy implementation. The legal system can also sustain policies, especially if there is legislation that creates rights of action such as a right to health care that can be enforced through lawsuits.

Simple policy design, with clear and easy to trace co-benefits, can help sustain policies over time

Policies themselves can be more or less implementable and sustainable. Implementable and sustainable policy will often include public visibility and "traceability" of benefits, which allows voters to know who, and what policy, is responsible for something good that they received (Arnold, 1990). This is partly achieved through simple policy design, which makes it clear where benefits and co-benefits come from. It can also be achieved by incorporation of existing interest groups, when necessary, though this can interfere with the simplicity and traceability of the policy. The key goal is to ensure that voters and key interests will give credit to those who protect the policy and blame those who undermine it.

Table 2: What are some of the governance tools and actions that can support intersectoral action?

Category	Tool	Possible governance actions with these tools
Plan	Plan	Goals & targets, policy guidance, financial support, legal mandate
Indicators & Targets	Indicator	Evidence support, monitoring & evaluation
	Target	Goals & targets, monitoring & evaluation
Budgeting	Pooled budget	Goals & targets, financial support, implementation & management
	Shared objectives	Goals & targets, financial support, implementation & management
	Coordinated budgeting	Goals & targets, financial support, implementation & management
Organisation	Ministerial linkages	Coordination, policy guidance, financial support, implementation & management
	Specific ministers	Coordination, monitoring & evaluation, policy guidance, implementation & management
	Legislative committees	Evidence support, advocacy, monitoring & evaluation, implementation & management
	Interdepartmental committees/units	Evidence support, coordination, monitoring & evaluation, policy guidance, implementation & management
	Departmental mergers	Coordination, policy guidance, financial support, implementation & management
	Engagement (for example, civil society, industry, public)	Evidence support, advocacy, monitoring & evaluation, implementation & management

Continued on next page >>>

>>> Continued from previous page

Category	Tool	Possible governance actions with these tools
Accountability		
	Transparent data	Evidence support, advocacy, monitoring & evaluation
	Regular reporting	Evidence support, advocacy, monitoring & evaluation
	Independent agency/evaluators	Evidence support, advocacy, monitoring & evaluation
	Support for civil society	Evidence support, advocacy, monitoring & evaluation
	Legal rights	Advocacy, monitoring & evaluation, legal mandate

Source: Greer et al., forthcoming, drawing on McQueen et al., 2012

6. Conclusions

It is not only the health sector that can benefit from policies enacted in other sectors; other sectors benefit from health policies and better health too

The case for Health for All Policies is not just that other policies can affect health – it is that health can contribute to the achievement of a wide range of policy goals. From avoiding catastrophic spending that pushes people into health poverty, to reducing gender inequalities in work, to reducing climate change and enhancing urban environments, health can be a good route to achieving many of the SDG targets and goals.

Generalist policy-makers and governments should not underestimate the impact of health investments on their economies and societies

Better health can lead to better education, work and equalities, among many other things. Intelligently used health expenditure can lead to scientific and industrial development, workforce investment, and more liveable and sustainable cities. Investment in health and better health outcomes are a clear contributor to economic growth. Understanding the impact of better health across the SDGs can show the importance of focusing on better health outcomes.

Health sector policy-makers should pay more attention to how health and health policies can benefit other areas of life

The concept of an economy of well-being has attracted focus as a way to understand the contribution of health and other social policies to a better society. The policy and scholarly literature on Health in All Policies is vast. Our research found that there was far less attention paid to what health policies and organisations could do for others- to the ways in which health policies, focused on health outcomes, can contribute to avoidable problems ranging from global heating to unsustainable cities to inequalities in the workforce. Health for All Policies does not just rebrand Health in All Policies; it also calls on policy-makers, and people across the health sectors, to do what they have called on others to do and think about the impact of their decisions on the rest of society – which, as we all know, will eventually also affect health.

The time is right to reconsider intersectoral – and sectoral – action for the SDGs and societal wellbeing

COVID-19 showed that governments around the world are capable of extraordinary feats of policy and policy integration (Greer et al., 2021b). It showed the interconnections of many policy sectors and ruthlessly exposed weaknesses of all kinds (Sagan et al., 2021). It created interest in future work to build the resilience of health systems and societies (Hynes et al., 2020; McKee, 2021; Williamson et al., 2022); and, in terms of the SDGs, it also did tremendous damage. The impact of the pandemic on health, directly and indirectly, was a disaster

for much of the world (World Health Organization, 2022). The interaction of the pandemic and various social, economic and policy responses reversed the already faltering progress the world was making on many other SDGs (United Nations, 2021). A pre-pandemic debate about whether we were making sufficient progress has turned into a post-pandemic debate about whether we can ever make up the regress and start to make gains again. Without Health for All Policies, the answer might well be no.

REFERENCES

- Abadie A, Cattaneo MD (2018). Econometric Methods for Program Evaluation. *Annual Review of Economics*, 10(1):465–503.
- Adam T, de Savigny D (2012). Systems thinking for strengthening health systems in LMICs: need for a paradigm shift. *Health Policy and Planning*, 27(suppl_4):iv1–iv3.
- Alam SA (2015). Parental health shocks, child labor and educational outcomes: Evidence from Tanzania. *Journal of Health Economics*, 44:161–175.
- Angrist JD, Pischke J-S (2010). The credibility revolution in empirical economics: how better research design is taking the con out of econometrics. *Journal of Economic Perspectives*, 24(2):3–30.
- Angrist JD, Pischke J-S (2015). *Mastering 'metrics: The path from cause to effect*. Princeton, NJ, Princeton University Press.
- Angrist JD, Angrist JD, Pischke J-S (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton, NJ, Princeton University Press.
- Araújo D, Carrillo B, Sampaio B (2021). The long-run economic consequences of iodine supplementation. *Journal of Health Economics*, 79:102490.
- Arnold RD (1990). *The logic of congressional action*. New Haven, CT, Yale University Press.
- Ashton JR (2002). Healthy cities and healthy settings. *Promotion & education*, 9(1_suppl):12–14.
- Bambra C, Lynch J, Smith KE (2021). *The unequal pandemic: COVID-19 and health inequalities*. Bristol, Policy Press.
- Baranov V, Kohler H-P (2018). The Impact of AIDS Treatment on Savings and Human Capital Investment in Malawi. *American Economic Journal: Applied Economics*, 10(1):266–306.
- Bauhoff S, Hotchkiss DR, Smith O (2011). The impact of medical insurance for the poor in Georgia: a regression discontinuity approach. *Health Economics*, 20(11):1362–1378.
- Bernal N, Carpio MA, Klein TJ (2017). The effects of access to health insurance: evidence from a regression discontinuity design in Peru. *Journal of Public Economics*, 154:122–136.
- Beuermann DW, Pecha CJ (2020). The effect of eliminating health user fees on adult health and Labor Supply in Jamaica. *Journal of Health Economics*, 73:102355.
- Bogdanor V (ed.) (2005). *Joined-up Government*. Oxford: British Academy/ Oxford University Press.
- Briggs AH, Claxton K, Sculpher MJ (2006). *Decision Modelling for Health Economic Evaluation*. Oxford, Oxford University Press.
- Brown DW, Kowalski AE, Lurie IZ (2020). Long-term impacts of childhood Medicaid expansions on outcomes in adulthood. *The Review of Economic Studies*, 87(2):792–821.
- Bütikofer A, Salvanes KG (2020). Disease control and inequality reduction: evidence from a tuberculosis testing and vaccination campaign. *The Review of Economic Studies*, 87(5):2087–2125.
- Bütikofer A, Mølland E, Salvanes KG (2018). Childhood nutrition and labor market outcomes: Evidence from a school breakfast program. *Journal of Public Economics*, 168:62–80.
- Chorev N (2012). *The World Health Organization between North and South*. Ithaca, NY, Cornell University Press.
- Clark AE, Milcent C (2011). Public employment and political pressure: The case of french hospitals. *Journal of Health Economics*, 30(5):1103–1112.
- Constantino SM, Cooperman AD, Moreira TMQ (2021). Voting in a global pandemic: Assessing dueling influences of Covid-19 on turnout. *Social Sciences Quarterly*, 102(5):2210–2235.
- Cunningham S (2021). Inference. In: *Causal Inference*. New Haven, CT, Yale University Press:423–424.
- Cylus J, Permanand G, Smith PC (2018). *Making the economic case for investing in health systems: What is the evidence that health systems advance economic and fiscal objectives*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Darabi N, Hosseinichimeh N (2020). System dynamics modeling in health and medicine: a systematic literature review. *System Dynamics Review*, 36(1):29–73.
- De Leeuw E (2001). Global and local (glocal) health: the WHO healthy cities programme. *Global Change and Human Health*, 2(1):34–45.
- De Leeuw E (2017). Engagement of sectors other than health in integrated health governance, policy, and action. *Annual Review Public Health*, 38(1):329–349.
- De Leeuw E, Peters D (2015) Nine questions to guide development and implementation of Health in All Policies, *Health Promotion International*, 30(4):987–997.
- De Leeuw E et al. (2015). European Healthy Cities come to terms with health network governance. *Health Promotion International* 30(suppl_1):i32–i44.
- Del Valle A (2021). The effects of public health insurance in labor markets with informal jobs: Evidence from Mexico. *Journal of Health Economics*, 77:102454.
- Dillon A, Friedman J, Serneels P (2021). Health information, treatment, and worker productivity. *Journal of the European Economic Association*, 19(2):1077–1115.
- Dimick JB, Ryan AM (2014). Methods for evaluating changes in health care policy: the difference-in-differences approach. *JAMA*, 312(22):2401–2402.
- Douglas M et al. (2020) How can we protect against the wider health impacts of the COVID-19 pandemic response? *BMJ* 369:m1557
- Dzau VJ et al. (2021). Decarbonizing the US Health Sector—A Call to Action. *New England Journal of Medicine*, 385(23):2117–2119.

- Eckelman MJ, Sherman J (2016). Environmental impacts of the U.S. health care system and effects on Public Health. *PLOS ONE*, 11(6).
- Eriksen TLM et al. (2021). The impact of childhood health shocks on parental labor supply. *Journal of Health Economics*, 78:102486.
- Fadlon I, Nielsen TH (2021). Family labor supply responses to severe health shocks: Evidence from Danish administrative records. *American Economic Journal: Applied Economics*, 13(3):1–30.
- Fukuda-Parr S (2018). Sustainable development goals. In: Weiss TG & Daws S (eds). *The Oxford Handbook on the United Nations*, 2nd edn. Oxford, Oxford University Press, 763–778.
- Garcia-Sanz-Calcedo J et al. (2017). Analysis of the average annual consumption of water in the hospitals of Extremadura (Spain). *Energies*, 10(4):479.
- Gertler P et al. (2010). *Impact Evaluation in Practice*. Washington, DC: World Bank Publications.
- Godziewski C (2022). *The Politics of Health Promotion in the European Union*. Berlin: Springer.
- Goodman-Bacon A (2021). The Long-Run Effects of Childhood Insurance Coverage: Medicaid Implementation, Adult Health, and Labor Market Outcomes. *American Economic Review*, 111(8):2550–2593.
- Greer SL (2015). *John W. Kingdon Agendas Alternatives and Public Policy*. In Balla SJ, Lodge M, Page EC (eds), *The Oxford Handbook of Classics of Public Policy and Administration*. Oxford, Oxford University Press, 417–432.
- Greer SL (2018). Labour politics as public health: how the politics of industrial relations and workplace regulation affect health. *European Journal of Public Health*, 28(suppl_3):34–37.
- Greer SL, Lillvis DF (2014). Beyond leadership: political strategies for coordination in health policies. *Health Policy*, 116(1):12–17.
- Greer SL, Vasev N, Wismar M (2017). Fences and ambulances: Intersectoral governance for health. *Health Policy*, 121(11):1101–1104.
- Greer SL et al. (2017). Policy, politics and public health. *European Journal of Public Health*, 27(Suppl.4):40–43.
- Greer SL et al. (2018). Political analysis in public health: middle-range concepts to make sense of the politics of health. *European Journal of Public Health*, 28(suppl_3):3–6.
- Greer SL et al. (2019). *It's the governance, stupid: TAPIC: A Governance Framework to Strengthen Decision Making and Implementation*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Greer SL et al. (2021a). Social policy as an integral component of pandemic response: Learning from COVID-19 in Brazil, Germany, India and the United States. *Global Public Health*, 16(8-9):1209–1222.
- Greer SL et al. (eds). (2021b). *Coronavirus Politics: The Comparative Politics and Policy of COVID-19*. Ann Arbor: University of Michigan Press.
- Greer SL et al. (2022). From Health in All Policies to Health for All Policies. *The Lancet Public Health*. ([https://doi.org/10.1016/S2468-2667\(22\)00155-4](https://doi.org/10.1016/S2468-2667(22)00155-4), accessed 12 September 2022).
- Greer SL et al. (eds). (forthcoming). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press.
- Greszczuk C (2019). *Implementing health in all policies*. (<https://www.health.org.uk/publications/reports/implementing-health-in-all-policies>).
- Gugushvili A et al. (2020). Votes, populism, and pandemics. *International Journal of Public Health* 65:721–722.
- Haines A (2017). Health co-benefits of climate action. *The Lancet*, Apr 1;1:E4–E5.
- Health Care Without Harm (2019). *Health Care's Climate Footprint: How the Health Sector Contributes to the Global Climate Crisis and Opportunities for Action*. (<https://noharm-global.org/documents/health-care-climate-footprint-report>).
- Howden-Chapman P, Chapman R (2012). Health co-benefits from housing-related policies. *Current Opinion in Environmental Sustainability*, 4(4):414–419.
- Hu L et al. (2018). The Effect of the Affordable Care Act Medicaid Expansions on Financial Wellbeing. *Journal of Public Economics*, 163:99–112.
- Hynes W et al. (2020). Bouncing forward: a resilience approach to dealing with COVID-19 and future systemic shocks. *Environment Systems and Decisions*, 40(2):174–184.
- Imbens GW, Wooldridge JM (2009). Recent Developments in the Econometrics of Program Evaluation. *Journal of Economic Literature*, 47(1):5–86.
- Jack, DW, Kinney PL (2010). Health co-benefits of climate mitigation in urban areas. *Current Opinion in Environmental Sustainability*, 2(3):172–177.
- Jarman H (forthcoming). Co-benefits to strengthen the means of implementation and revitalize the global partnership for sustainable development. In: Greer SL et al. (eds). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press
- Jeon SH, Pohl RV. (2019). Medical innovation, education, and labor market outcomes of cancer patients. *Journal of Health Economics*, 68:102228.
- Jockers D et al. (2021). HIV treatment and worker absenteeism: Quasi-experimental evidence from a large-scale health program in South Africa. *Journal of Health Economics*, 79:102479.
- Karlsson M, Alfredsson E, Westling N. (2020). Climate policy co-benefits: a review. *Climate Policy*, 20(3):292316.

- Kawabata K, Xu K, Carrin G. (2002) Preventing impoverishment through protection against catastrophic health expenditure. *Bulletin of World Health Organization*. 80(8). (<https://www.scielosp.org/article/bwho/2002.v80n8/612-612/>, accessed 30 November 2022).
- Kickbusch I (2010). Health in all policies: the evolution of the concept of horizontal health governance. *Implementing health in all policies*: Adelaide, Department of Health, Government of South Australia, 11–24.
- Kingdon JW (2003). *Agendas, Alternatives, and Public Policies*. New York: Harper Collins.
- Kuhlmann E, Lotta G. (forthcoming) SDG 3 Health and SDG 5 Gender Equality: Co-benefits and Challenges. In: Greer SL et al. (eds). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press.
- Kuntz KM et al. (2016). Decision models in cost-effectiveness analysis. In: Neumann PJ et al. (eds), *Cost-Effectiveness in Health and Medicine*. Oxford: Oxford University Press, 105–136.
- Lawn JE et al. (2008). Alma-Ata 30 years on: revolutionary, relevant, and time to revitalise. *Lancet*, 372(9642), 917–927. doi:10.1016/S0140-6736(08)61402-6
- Limwattananon S et al. (2015). Universal coverage with supply-side reform: The impact on medical expenditure risk and utilization in Thailand. *Journal of Public Economics*, 121:79–94.
- Lynch J (2017). Reframing inequality? The health inequalities turn as a dangerous frame shift. *Journal of Public Health*, 39(4):653–660.
- Lynch J (2020). *Regimes of Inequality: The Political Economy of Health and Wealth*. Cambridge: Cambridge University Press.
- Massard da Fonseca E, de Moraes Achcar H (forthcoming). Technology and Knowledge Transfer as Means to Generate Co-benefits between Health and Industrial Sustainable Development Goals (SDG 9). In: Greer SL et al. (eds). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press
- Matheson A et al. (2018). Lowering hospital walls to achieve health equity. *BMJ* <https://doi.org/10.1136/bmj.k3597>.
- McGain F, Naylor C (2014). Environmental sustainability in hospitals – A systematic review and Research Agenda. *Journal of Health Services Research & Policy*, 19(4):245–252.
- McKee M (ed.). (2021). *Drawing light from the pandemic: a new strategy for health and sustainable development. A review of the evidence*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- McKee M, Kluge H (2018) Include, Invest, Innovate: Health Systems for Prosperity and Solidarity. *Journal of Health Services Research and Policy* 23:209–211.
- McKee M et al. (2009). Health systems, health, and wealth: a European perspective. *The Lancet*, 373(9660):349–351.
- McQueen DV et al. (2012). *Intersectoral governance for health in all policies: structures, actions and experiences*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Mehdipanah R, Koeman J (forthcoming). Making cities healthy, sustainable, inclusive, and resilient through strong health governance: SDG 11. In: Greer SL et al. (eds). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press.
- Metz B et al. (2001). How can the European Union contribute to a CoP-6 agreement? An overview for policy makers. *International Environmental Agreements*, 1.2:167–185.
- Metz B et al. (2007). Mitigation of climate change. *Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)*. Cambridge, Cambridge University Press.
- Miguel E, Kremer M (2004). Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities. *Econometrica*, 72(1):159–217.
- NHS (2012). *The NHS: Carbon Footprint. NHS Public Health Special Interest Group – Sustainable Development*. London, National Health Service (NHS).
- OECD (2018). *Cost-Benefit Analysis and the Environment*. Paris, OECD.
- OECD (2022). *Health Care Resources: Total health and social employment* (<https://stats.oecd.org/index.aspx?DataSetCode=SHA> accessed on Dec 14, 2022)
- Owens DK et al. (2016). Designing a cost-effectiveness analysis. In Neumann PJ et al. (eds), *Cost-Effectiveness in Health and Medicine*. Oxford: Oxford University Press.
- Ozier O (2018). Exploiting externalities to estimate the long-term effects of early childhood deworming. *American Economic Journal: Applied Economics*, 10(3):235–262.
- Page EC (2005). Joined-Up Government and the Civil Service. In: Bogdanor V (ed.) *Joined-Up Government*. Oxford, Oxford University Press/ British Academy, 139–155.
- Page EC (2006). The Origins of Policy. In Moran M, Rein M, Goodin RE (eds), *The Oxford Handbook of Public Policy*. Oxford, Oxford University Press, 207–226.
- Pearce DW (2000). *Policy frameworks for the ancillary benefits of climate change policies*. London, Centre for Social and Economic Research on the Global Environment.
- Panovska-Griffiths J et al. (2021). Mathematical modeling as a tool for policy decision making: Applications to the COVID-19 pandemic. *Handbook of Statistics*, 44:291–326.

- Peters DH (2014). The application of systems thinking in health: why use systems thinking? *Health Research Policy Systems*, 12:51.
- Phelan JC, Link BG (2015). Is racism a fundamental cause of inequalities in health? *Annual Review of Sociology*, 41:311–330.
- Pichler PP et al. (2019). International comparison of health care carbon footprints. *Environmental research letters*, 14(6):064004.
- Prada M et al. (2020). New solutions to reduce greenhouse gas emissions through energy efficiency of buildings of special importance – hospitals. *Science of The Total Environment*, 718:137446.
- Sagan A et al. (2021). Health systems resilience during covid-19. *Lessons for building back better*. Copenhagen, WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.
- Sala M, Alcamo G, Nelli LC (2017). Energy-saving solutions for five hospitals in Europe. In: Sayigh A et al. (eds) *Mediterranean Green Buildings & Renewable Energy*. Berlin, Springer Cham, 1–17.
- Sharifi A et al. (2021). A systematic review of the health co-benefits of Urban Climate Change Adaptation. *Sustainable Cities and Society*, 74:103190.
- Shaw C et al. (2014). Health co-benefits of climate change mitigation policies in the transport sector. *Nature Climate Change*, 4:427–433
- Ståhl T et al. (eds) (2006). *Health in all policies: prospects and potentials*. Finland, Ministry of Social Affairs and Health.
- Stuckler D et al. (2009). The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis. *Lancet*, 374.
- Suhrcke M et al. (2006). The contribution of health to the economy in the European Union. *Public Health*, 120(11):994–1001.
- Tennison I et al. (2021). Health care's response to climate change: a carbon footprint assessment of the NHS in England. *The Lancet Planetary Health*, 5(2):e84–e92.
- United Nations (2021). *The Sustainable Development Goals Report 2021*. Geneva, United Nations.
- Vanagas G, Krilavičius T, Man KL (2019). Mathematical Modeling and Models for Optimal Decision-Making in Health Care. *Computational and mathematical methods in medicine*, 2945021.
- Vaziri SM, Rezaee B, Monirian MA (2020). Utilizing renewable energy sources efficiently in hospitals using demand dispatch. *Renewable Energy*, 151:551–562.
- Webb EJ et al. (1999). *Unobtrusive Measures*. Thousand Oaks, CA, SAGE Publications.
- Weber M (2020). From Alma Ata to the SDG s: The Politics of Global Health Governance and the Elusive “Health for All”. *Global Governance: A Review of Multilateralism and International Organizations*, 26(1):176–197.
- White J (2013). Budget-makers and health care systems. *Health Policy*, 112(3):163–171.
- Williams GA, Rockwell O, Greer SL (forthcoming). Promoting Decent Work and Economic Growth: Health Policies to achieve SDG8. In: Greer SL et al. (eds). *Health for all policies: Harnessing the co-benefits of health systems*. Cambridge: Cambridge University Press.
- Williamson A et al. (2022). Effective post-pandemic governance must focus on shared challenges. *The Lancet*, 399(10340):1999–12001.
- World Health Organization (WHO) (2022). World health statistics 2022: monitoring health for the SDGs, sustainable development goals. Geneva, WHO.

The Policy Brief Series

1. How can European health systems support investment in and the implementation of population health strategies? *David McDaid, Michael Drummond, Marc Suhrcke*
2. How can the impact of health technology assessments be enhanced? *Corinna Sorenson, Michael Drummond, Finn Børlum Kristensen, Reinhard Busse*
3. Where are the patients in decision-making about their own care? *Angela Coulter, Suzanne Parsons, Janet Askham*
4. How can the settings used to provide care to older people be balanced? *Peter C. Coyte, Nick Goodwin, Audrey Laporte*
5. When do vertical (stand-alone) programmes have a place in health systems? *Rifat A. Atun, Sara Bennett, Antonio Duran*
6. How can chronic disease management programmes operate across care settings and providers? *Debbie Singh*
7. How can the migration of health service professionals be managed so as to reduce any negative effects on supply? *James Buchan*
8. How can optimal skill mix be effectively implemented and why? *Ivy Lynn Bourgeault, Ellen Kuhlmann, Elena Neiterman, Sirpa Wrede*
9. Do lifelong learning and revalidation ensure that physicians are fit to practise? *Sherry Merkur, Philipa Mladovsky, Elias Mossialos, Martin McKee*
10. How can health systems respond to population ageing? *Bernd Rechel, Yvonne Doyle, Emily Grundy, Martin McKee*
11. How can European states design efficient, equitable and sustainable funding systems for long-term care for older people? *José-Luis Fernández, Julien Forde, Birgit Trukeschitz, Martina Rokosová, David McDaid*
12. How can gender equity be addressed through health systems? *Sarah Payne*
13. How can telehealth help in the provision of integrated care? *Karl A. Stroetmann, Lutz Kubitschke, Simon Robinson, Veli Stroetmann, Kevin Cullen, David McDaid*
14. How to create conditions for adapting physicians' skills to new needs and lifelong learning *Tanya Horsley, Jeremy Grimshaw, Craig Campbell*
15. How to create an attractive and supportive working environment for health professionals *Christiane Wiskow, Tit Albrecht, Carlo de Pietro*
16. How can knowledge brokering be better supported across European health systems? *John N. Lavis, Govin Permanand, Cristina Catalo, BRIDGE Study Team*
17. How can knowledge brokering be advanced in a country's health system? *John. N Lavis, Govin Permanand, Cristina Catalo, BRIDGE Study Team*
18. How can countries address the efficiency and equity implications of health professional mobility in Europe? Adapting policies in the context of the WHO Code and EU freedom of movement *Irene A. Glinos, Matthias Wismar, James Buchan, Ivo Rakovac*
19. Investing in health literacy: What do we know about the co-benefits to the education sector of actions targeted at children and young people? *David McDaid*
20. How can structured cooperation between countries address health workforce challenges related to highly specialized health care? Improving access to services through voluntary cooperation in the EU *Marieke Kroezen, James Buchan, Gilles Dussault, Irene Glinos, Matthias Wismar*
21. How can voluntary cross-border collaboration in public procurement improve access to health technologies in Europe? *Jaime Espín, Joan Rovira, Antoinette Calleja, Natasha Azzopardi-Muscat, Erica Richardson, Willy Palm, Dimitra Panteli*
22. How to strengthen patient-centredness in caring for people with multimorbidity in Europe? *Iris van der Heide, Sanne P Snoeijs, Wienke GW Boerma, François GW Schellevis, Mieke P Rijken. On behalf of the ICARE4EU consortium*
23. How to improve care for people with multimorbidity in Europe? *Mieke Rijken, Verena Struckmann, Iris van der Heide, Anneli Hujala, Francesco Barbabella, Ewout van Ginneken, François Schellevis. On behalf of the ICARE4EU consortium*
24. How to strengthen financing mechanisms to promote care for people with multimorbidity in Europe? *Verena Struckmann, Wilm Quentin, Reinhard Busse, Ewout van Ginneken. On behalf of the ICARE4EU consortium*
25. How can eHealth improve care for people with multimorbidity in Europe? *Francesco Barbabella, Maria Gabriella Melchiorre, Sabrina Quattrini, Roberta Papa, Giovanni Lamura. On behalf of the ICARE4EU consortium*
26. How to support integration to promote care for people with multimorbidity in Europe? *Anneli Hujala, Helena Taskinen, Sari Rissanen. On behalf of the ICARE4EU consortium*
27. How to make sense of health system efficiency comparisons? *Jonathan Cylus, Irene Papanicolas, Peter C Smith*
28. What is the experience of decentralized hospital governance in Europe? *Bernd Rechel, Antonio Duran, Richard Saltman*
29. Ensuring access to medicines: How to stimulate innovation to meet patients' needs? *Dimitra Panteli, Suzanne Edwards*
30. Ensuring access to medicines: How to redesign pricing, reimbursement and procurement? *Sabine Vogler, Valérie Paris, Dimitra Panteli*
31. Connecting food systems for co-benefits: How can food systems combine diet-related health with environmental and economic policy goals? *Kelly Parsons, Corinna Hawkes*
32. Averting the AMR crisis: What are the avenues for policy action for countries in Europe? *Michael Anderson, Charles Clift, Kai Schulze, Anna Sagan, Saskia Nahrgang, Driss Ait Ouakrim, Elias Mossialos*
33. It's the governance, stupid! TAPIC: a governance framework to strengthen decision making and implementation *Scott L. Greer, Nikolai Vasev, Holly Jarman, Matthias Wismar, Josep Figueras*
34. How to enhance the integration of primary care and public health? Approaches, facilitating factors and policy options *Bernd Rechel*
35. Screening. When is it appropriate and how can we get it right? *Anna Sagan, David McDaid, Selina Rajan, Jill Farrington, Martin McKee*
36. Strengthening health systems resilience: key concepts and strategies *Steve Thomas, Anna Sagan, James Larkin, Jonathan Cylus, Josep Figueras, Marina Karanikolos*
37. Building on value-based health care *Peter C Smith, Anna Sagan, Luigi Siciliani, Dimitra Panteli, Martin McKee, Agnès Soucat, Josep Figueras*
38. Regulating the unknown: A guide to regulating genomics for health policy-makers *Gemma A Williams, Sandra Liede, Nick Fahy, Kristiina Aittomaki, Markus Perola, Tuula Helander, Martin McKee, Anna Sagan*
39. In the wake of the pandemic: Preparing for Long COVID *Selina Rajan, Kamlesh Khunti, Nisreen Alwan, Claire Steves, Trish Greenhalgh, Nathalie MacDermott, Anna Sagan, Martin McKee*
40. How can we transfer service and policy innovations between health systems? *Ellen Nolte, Peter Groenewegen*
41. What are the key priority areas where European health systems can learn from each other? *Johan Hansen, Alexander Haarmann, Peter Groenewegen, Natasha Azzopardi Muscat, Gianpaolo Tomaselli, Mircha Poldrugovac*
42. Use of digital health tools in Europe: Before, during and after COVID-19 *Nick Fahy, Gemma A Williams, COVID-19 Health System Response Monitor Network*
43. European support for improving health and care systems *Nick Fahy, Nicole Mauer, Dimitra Panteli*
44. What are patient navigators and how can they improve integration of care? *Hannah Budde, Gemma A Williams, Giada Scarpetti, Marieke Kroezen, Claudia B Maier*
45. What are the implications of policies increasing transparency of prices paid for pharmaceuticals? *Erin Webb, Erica Richardson, Sabine Vogler, Dimitra Panteli*
46. How can skill-mix innovations support the implementation of integrated care for people with chronic conditions and multimorbidity? *Juliane Winkelmann, Giada Scarpetti, Gemma A Williams, Claudia B Maier*
47. Addressing backlogs and managing waiting lists during and beyond the COVID-19 pandemic *Ewout van Ginneken, Sarah Reed, Luigi Siciliani, Astrid Eriksen, Laura Schleppe, Florian Tille, Tomas Zapata*
48. Does provider competition improve health care quality and efficiency? *Luigi Siciliani, Martin Chalkley, Hugh Gravelle*
49. Health system performance assessment: A primer for policy-makers *Dheepa Rajan, Irene Papanicolas, Marina Karanikolos, Kira Koch, Katja Rohrer-Herold, Josep Figueras*

The European Observatory has an independent programme of policy briefs and summaries which are available here: <https://eurohealthobservatory.who.int/publications/policy-briefs>

World Health Organization
Regional Office for Europe
UN City, Marmorvej 51,
DK-2100 Copenhagen Ø,
Denmark
Tel.: +45 45 33 70 00
Fax: +45 45 33 70 01
E-mail: eurocontact@who.int
Website: www.who.int/europe

The European Observatory on Health Systems and Policies is a partnership that supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of health systems in the European Region. It brings together a wide range of policy-makers, academics and practitioners to analyse trends in health reform, drawing on experience from across Europe to illuminate policy issues. The Observatory's products are available on its website (www.healthobservatory.eu).

Print ISSN
1997-8065

Web ISSN
1997-8073