

Bulletin of the



World Health
Organization

Volume 98, Issue 2, February 2020, 77–148



Special theme: accelerating universal health coverage

Abstracts in عربي, 中文, Français, Русский and Español

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Editorial office: *Bulletin of the World Health Organization*, 20 avenue Appia, 1211 Geneva 27, Switzerland (fax: +41 22 791 4894; e-mail: bulletin@who.int).

Print sales: enquiries regarding purchase of print copies are handled by WHO Press, at the above address (<http://apps.who.int/bookorders>; fax: +41 22 791 4857; e-mail: bookorders@who.int).

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Printed in France. ISSN 0042-9686



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Front cover photo: health workers walking to measles and rubella vaccination sessions in Arunachal Pradesh, India. (UNICEF/ Biju Boro)

Volume 98, Issue 2, February 2020, 77–148

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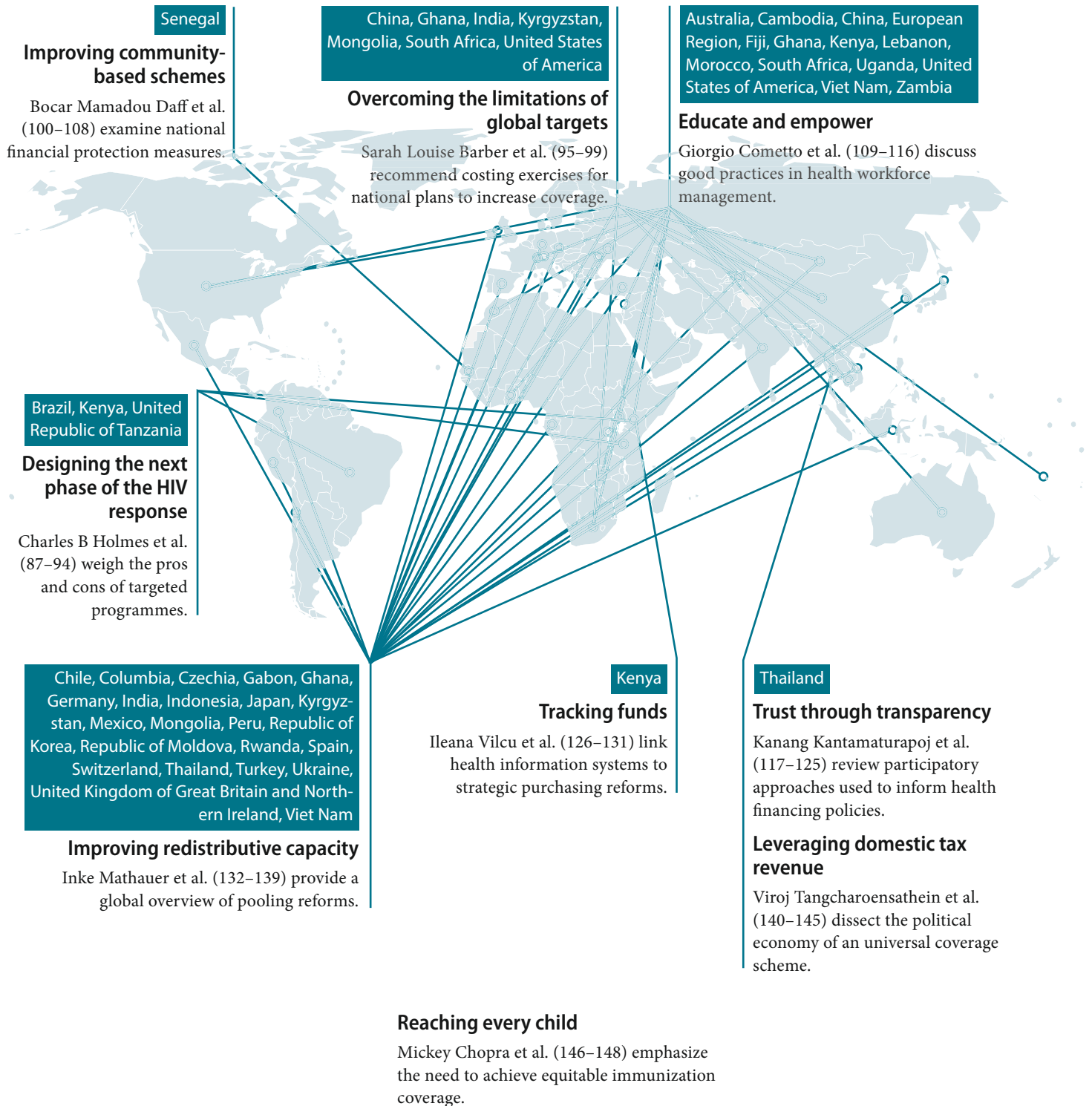


World Health Organization

This month's theme is universal health coverage, linked to the Prince Mahidol Award Conference in Bangkok, Thailand.

In the editorial section, Viroj Tangcharoensathein et al. (78) explain why it is time to deliver on political promises of extending health coverage to all people. Elizabeth Mason et al. (79) focus on the particular needs of women, children and adolescents. Susan P Sparkes and Joseph Kutzin (80) provide a reminder of the need to include HIV prevention and care services.

In the news section, Gary Humphreys (83–84) reports on efforts to coordinate coverage over the geographical expanse of the Caribbean islands. Midori de Habich speaks to Gary Humphreys (85–86) about policies leading to universal health coverage in Peru.



Universal health coverage: time to deliver on political promises

Viroj Tangcharoensathien,^a Anne Mills,^b Walaiporn Patcharanarumol^a & Woranan Witthayapipsakul^a

The United Nations General Assembly Political Declaration of the High-Level Meeting on Universal Health Coverage (UHC)¹ confirmed the Member States' commitment to accelerate progress towards achieving UHC. However, challenges remain on how these commitments can be translated into actions.

Various papers in this theme issue address technical and operational dimensions of UHC implementation: pooling of resources to increase risk sharing;² improving governance of UHC through voice and accountability in UHC legislation;³ understanding the political economy of tax-financed systems;⁴ the roles of immunization and human immunodeficiency virus programmes in relation to UHC;^{5,6} the health workforce;⁷ and resource-tracking tools.⁸ Although the growing volume of scientific evidence contributes to reducing the knowledge gap in relation to UHC, the challenge of stimulating collective actions to move closer to this goal remains.

Moving towards UHC is a political decision. Evidence from several countries that have achieved UHC^{9–11} shows that policy entrepreneurs,¹² who are strategically located in the policy network¹³ and in relatively stable institutional environments, are able to mobilize allies and overcome opposition to shape or achieve a specific policy agenda.¹⁴ In most cases, these policy entrepreneurs take advantage of the opening of policy windows,¹⁵ such as in a crisis context or in a major electoral and political realignment, to promote particular solutions.^{14,16}

In the case of China's reforms towards UHC, barriers to accessing health care and very high out-of-pocket costs have shifted the development agenda from economic growth to social harmony, including improving people's livelihoods through UHC.¹⁰ The favourable fiscal space from sustained and high economic growth has supported UHC in the country.

Thailand's UHC policy was included in the political manifesto of the 2001 general elections. The country was able

to achieve UHC one year later by abolishing voluntary health insurance and making insurance coverage a citizen entitlement. This achievement took place despite the country's weak economy due to the 1997 Asian financial crisis.

In Mexico, more than half of the population was uninsured in the early 2000s.¹¹ This situation triggered a major reform towards UHC.

The experiences from these countries show that the efforts of internal policy actors are important for the achievement of UHC. Domestic capacities are critical in both shaping and implementing UHC.

The 2019 global UHC monitoring report¹⁷ uses two global monitoring indicators of the health-related sustainable development goal, UHC coverage index and incidence of catastrophic health expenditure at thresholds of 10% and 25% of household consumption. Globally, the service coverage index has improved from 45 out of 100 in 2000 to 66 out of 100 in 2017, but countries in conflict and fragile settings generally lag behind. The proportion of households that experience catastrophic health expenditure has increased from an average of 9.4% globally in 2000 to 12.7% in 2015. The African Region has greater challenges in monitoring financial risk protection due to limited data, and most fragile states and countries in conflict do not have these data.

Policy entrepreneurs need evidence to develop specific interventions to fill the UHC implementation gaps. Countries can be categorized in four groups by global averages of coverage and catastrophic expenditure, reflecting different policy needs.

First, countries in the high coverage and low incidence of catastrophic expenditure quadrant are good performers. Monitoring should focus on the sub-national level and on socioeconomic stratification and inequalities.

Second, countries with high coverage, but also high incidence of catastrophic expenditure, need to improve

their financial risk protection through policies, such as more comprehensive benefit packages, inclusion of medicines and other cost-effective interventions, increased cost subsidies and the cessation of balanced billing.

Third, countries with low coverage and high incidence of catastrophic expenditure need to boost service provision and expand financial protection through, for instance, investing in essential infrastructure and, given fiscal constraints, prioritizing poor and vulnerable populations. Policy decisions should prioritize equity, since difficult policy choices may have to be made, between improving service capacity and expanding population coverage.

Finally, countries with low coverage and low incidence of catastrophic expenditure are the worst performers. Poor households that cannot afford health services may forego needed care. The magnitude and profiles of unmet health care needs should be assessed.¹⁸ Countries in this quadrant, often in complex emergency situations, need to accelerate progress on supply-side capacity and financial risk protection for the poorest and most vulnerable groups.

The Prince Mahidol Award Conference 2020 and UHC forum 2020 participants will discuss how to accelerate progress towards the political and operational dimensions of UHC. ■

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Universal health coverage provisions for women, children and adolescents

Elizabeth Mason,^a Gita Sen^b & Alicia Ely Yamin^c on behalf of the United Nations Secretary-General's Independent Accountability Panel for Every Woman, Every Child, Every Adolescent

The United Nations Secretary-General's Independent Accountability Panel for Every Woman, Every Child, Every Adolescent considers universal health coverage (UHC) a political investment and implementation opportunity to advance the health of women, children and adolescents. However, UHC cannot be universal unless everyone is reached, including those in fragile settings.^{1,2}

The United Nations General Assembly Political Declaration of the High-Level Meeting on UHC³ highlighted the central role of primary health care, which comprises community engagement, primary care and multisectoral action.⁴ Primary health care can meet most health needs throughout life through quality, community-based preventive and promotive health services, with referrals when necessary. All countries have an obligation under international law to deliver these services in ways that respect, protect and fulfil human rights, uphold dignity and ensure financial protection; governments must be held accountable for doing so.⁵ Legal accountability based on respect for these rights is needed to prevent and remedy health inequities and the structural injustices that underlie them. For instance, a recent study across Ghana, Guinea, Myanmar and Nigeria revealed that around one third of women in health facilities experience mistreatment and abuse, particularly around childbirth.⁶ The study highlighted the need to understand drivers and structural dimensions of human rights violations, including gender-based inequalities, discrimination and violence.⁶

Child survival, adolescent development and women's health gains are at risk⁷ unless UHC efforts focus on essential health services, quality of care, access to public health goods and on ensuring that legal determinants of health are in place, including for sexual and reproductive health, and rights.⁸⁻¹⁰

The panel is committed to promoting UHC accountability to ensure that all women, children and adolescents can access the quality services they need without financial hardship, allowing them to realize their rights to health and wellbeing.

To achieve this goal, governments need to include essential health services for women, children and adolescents throughout the life course in their national UHC packages. Countries should implement the World Health Organization's guidance on UHC and primary health care governance, financing, health workforce, equity and quality of care, among others.¹¹

Multisectoral engagement should be enabled through legal and policy frameworks, including to address rights violations related to discrimination in health care, restricted sexual and reproductive health and rights, and gender-based violence. Governments should ensure nutrition for women, children and adolescents, and address gendered barriers to water and sanitation, and environmental health.

Through courts, parliamentarians and civil society, governments should support inclusive social, political and legal accountability and meaningful oversight to achieve health and sustainable development goals and human rights. They should ensure legal protections for civic space, freedoms of information and association. Social accountability and feedback from diverse groups, including women, children and adolescents on whether UHC is meeting their needs is also important.⁸

Governments, academia and development partners should collaborate to collect and analyse data across all sectors. Standardized data-collection systems are needed to identify and address data gaps and biases.

Governments and partners, especially civil society, should use rights-, gender- and equity-based approaches to identify patterns of discrimination and marginalization within the health system and beyond resulting from structural injustices based on power, social, economic and political differentials. Appropriate tools should be deployed to analyse gaps, promote equity and reach women, children and adolescents in fragile settings.¹²

The international community needs to address transnational factors that limit countries' capacities to deliver UHC, such as constraints around prioritization, fiscal space and financing, pricing and production of products, inequitable access to global public health goods, insufficient support for fragile states and migrants' health, among other concerns.

Governments and development partners should commit publicly to these actions and to being held accountable for delivering UHC and primary health care in a way that respects, protects and fulfils human rights. All societies and individuals would benefit from these actions because they contribute to health and well-being and to sustainable development, equity and security.¹⁰ ■

Acknowledgements

The members of the United Nations Secretary-General's Independent Accountability Panel for Every Woman, Every Child, Every Adolescent are: Nicholas Kojo Alipui, Dame Carol Kidu, Brenda Killen, Elizabeth Mason, Giorgi Pkhakadze, Jovana Ríos Cisneros, Gita Sen, Alicia Ely Yamin, Kul Chandra Gautam and Joy Phumaphi. We thank Shyama Kuruvilla, Richard Cheeseman, Ilze Kalnina and Narissia Mawad.

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Available at: <http://www.who.int/bulletin/volumes/98/2/19-249474>

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HIV prevention and care as part of universal health coverage

Susan P Sparkes^a & Joseph Kutzin^a

The United Nations General Assembly adopted the Political Declaration of the High-Level Meeting on Universal Health Coverage (UHC) on 10 October 2019, marking the culmination of concerted efforts to bring the global health community together under a single umbrella.¹ The UHC movement is an opportunity to consolidate disease- and intervention-specific agendas, priorities and approaches that have often led to fragmented health systems, particularly in low-income and lower-middle-income countries, where external assistance plays a key role in funding health sectors.^{2,3}

The core UHC concepts of universality, non-discrimination, quality, access and protection from financial hardships are all directly relevant to the entire range of HIV services.

In this issue, Holmes et al.⁴ show the increasing convergence in the understanding of HIV services within the context of the overall UHC agenda. These efforts to show coherence are critical to developing more cohesive and patient-centred approaches to financing and service delivery for health overall and for HIV services more specifically. However, the targets of the sustainable development goals are to be achieved within ten years and therefore, it is time to move from rhetoric and concepts to action. This action should transform global commitments into country-tailored approaches, priorities and support centred on coverage and outcomes.

Concrete actions can be taken to build from the relative strengths of the UHC and HIV movements. First, the principle of universality needs to be consolidated. As countries look towards more integrated models of care, while also transitioning away from external assistance for HIV, they need to sustain and expand the coverage gains that have been made. Given that UHC is about effective coverage of services, not about a particular scheme, programme, benefit package or spending target, efforts towards financial or programmatic integration should focus on ensuring

universal access.⁵ From a health ministry perspective, these efforts can include integration of HIV services into primary health care, mechanisms to contract with nongovernmental organizations to provide services to marginalized and vulnerable groups or coordination with specialized HIV delivery sites.⁶ Effective service coverage requires tailored delivery strategies for different populations and conditions, and microtargeting for HIV provides a good example.

Second, given the public-health importance of HIV and the need to ensure universal access to services, dedicated funding from government or external sources might be required. However, this requirement does not imply a need for separate, parallel subsystems, such as supply chains and information systems, nor for separate inputs such as health workers and health facilities. For countries to make the most efficient use of health-sector resources to sustain increased effective coverage of HIV services, efforts are needed to consolidate these subsystems and inputs.⁷ Countries and the partners that support them will need to engage at the level of the entire health system to leverage and build the areas of convergence.

As Holmes et al. note, these areas include clinical platforms, health-worker performance, information systems, laboratory systems, community delivery systems and supply chain management.³ The focus is first on the services that need to be delivered and then on aligning inputs and financing behind those objectives, rather than letting financing sources determine service delivery organization. In the case of HIV services, the parallel functional inputs are often driven by dedicated financing coming from external assistance.⁸ Recognizing these financial incentives is one step; another is changing systems to strengthen health systems that can support HIV interventions, as well as others needed to improve the health and well-being of populations.^{9,10}

Finally, just as UHC is ultimately a political issue, so too is the agenda

to better align HIV investments within that context.¹¹ Political issues underpin much of the sustainability agenda around HIV interventions, particularly as donor funds decrease in many contexts.¹² Aligning programmatic approaches for HIV services with both UHC and sustainability agendas will require concerted action from global- and country-based decision-makers and organizations. Political action is needed to advocate for the importance of targeted services and interventions for HIV as part of coverage goals, in particular for key populations, as well as against continued investments in parallel inputs and systems that threaten the sustainability and effectiveness of investments in HIV services. ■

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Public health round-up

2020: Year of the Nurse and Midwife



UNICEF/Zahara Abdul

Mary Uwingabire, a midwife at Kawempe Referral Hospital, Uganda, holding the baby of Kabugho Moureen. Nine million more nurses and midwives are needed, if countries are to make progress towards universal health coverage. 2020 is the International Year of the Nurse and the Midwife, the theme of this year's World Health Day on 7 April. <http://bit.ly/2RiRzk1>

New coronavirus

The World Health Organization (WHO) was working with officials in Thailand and China last month, following confirmation of an infection with the novel coronavirus (2019-nCoV) in a person in Thailand.

The person was a traveller from Wuhan, China and was identified by Thai officials on 8 January, and hospitalized that day. The person was recovering from the illness, according to Thai officials.

This is the first exported case of novel coronavirus from Wuhan, China, as of 14 January, after China reported 41 cases with a preliminary diagnosis of 2019-nCoV infection, including 1 death in a person with an underlying medical condition.

Exported cases were expected and this first identified case reinforces WHO's calls for active monitoring and preparedness in other countries. WHO has issued guidance on how to detect and treat infected persons.

The genetic sequencing data shared by China enable more countries to rapidly diagnose patients. WHO reiterated that investigations need to continue in China to identify the source of the outbreak and any animal reservoirs or intermediate hosts.

<http://bit.ly/2TB941Z>

Men's tobacco epidemic turns corner

The number of men using tobacco is declining globally for the first time in spite of population growth, indicating a shift in the global tobacco epidemic, according to the *WHO global report on trends in prevalence of tobacco use 2000-2025* that was released in December.

The number of male tobacco users, which had previously been increasing, turned the corner in 2018 and is projected to decline each year from 2019, if tobacco control efforts are maintained.

Overall global tobacco use has fallen by about 60 million people, from 1.397 billion users in 2000 to 1.337 billion users in 2018.

This drop in tobacco use has been largely driven by reductions in women users: in 2018, 244 million women were using tobacco compared with 346 million women in 2000.

Over the same period, the number of male tobacco users increased by around 40 million, from 1.050 billion in 2000 to 1.093 billion in 2018, representing about 82% of the world's current 1.337 billion tobacco users.

The new report shows, however, that the number of male tobacco users has stopped increasing and is projected to have declined by 2 million to 1.091 billion this year and by 5 million to 1.087 billion in 2025 as compared with the 2018 level.

By 2020, WHO projects there will be 10 million fewer tobacco users, male and female, compared to 2018, and another 27 million fewer by 2025. A total of 130 countries have been experiencing a decline in tobacco use since 2010.

<http://bit.ly/2t8AHod>

Measles in the Democratic Republic of the Congo

WHO called for more funding to stop the measles outbreak in the Democratic Republic of the Congo. As of 5 January, the health ministry had reported a cumulative total of 316 454 cases and 6102 deaths since the beginning of 2019.

During the first week of this year, 4983 new cases were reported and 57 deaths.

A vaccination campaign led by the health ministry reached more than 18 million children under five years of age across the country in 2019 with support from WHO, Gavi, the Vaccine Alliance, and other agencies.

However, in some areas, routine vaccination coverage remains low and about a quarter of the reported measles cases are in children over the age of five.

"We are doing our utmost to bring this epidemic under control. Yet, to be truly successful, we must ensure that no child faces the unnecessary risk of death from a disease that is easily preventable by a vaccine. We urge our donor partners to urgently step up their assistance," said Dr Matshidiso Moeti, WHO Regional Director for Africa.

The epidemic has been fuelled by low vaccination coverage among vulnerable communities, malnutrition, weak public health systems and difficult access to health services. In addition, insecurity has also hampered the measles response in some areas.

Lack of funding is also a major barrier to ending the outbreak. So far, US\$ 27.6 million has been mobilized but a further US\$ 40 million is needed for a six-month plan to extend the vaccination to children

Cover photo

Health workers walking to measles and rubella vaccination sessions in Arunachal Pradesh, India.



between the age of six and 14 years, and to reinforce the outbreak response.

<http://bit.ly/3aeVS8u>

Obesity and undernutrition

Countries need to re-orient their food systems towards healthier nutrition to reduce undernutrition and obesity that are becoming increasingly connected, according to a four-paper report published in *The Lancet* in December 2019 co-authored by WHO researchers.

More than a third of low- and middle-income countries have populations with both undernutrition and obesity. These overlapping forms of malnutrition were found in 45 out of 123 countries in the 1990s and in 48 of 126 countries in the 2010s.

Undernutrition and obesity can lead to effects across generations as both maternal undernutrition and obesity are associated with poor health in offspring. However, because of the speed of change in food systems, more people are being exposed to both forms of malnutrition at different points in their lifetimes, which compounds the harmful health effects.

“We are facing a new nutrition reality,” said WHO author Dr Francesco Branca, Director of the Department of Nutrition for Health and Development at WHO headquarters in Geneva. “We can no longer characterize countries as low income and undernourished, or high income and only concerned with obesity.

“All forms of malnutrition have a common denominator: food systems that fail to provide all people with healthy, safe, affordable and sustainable diets. Changing this will require action across food systems – from production and processing, through trade and distribu-

tion, pricing, marketing, and labelling, to consumption and waste. All relevant policies and investments must be radically re-examined,” Branca said.

The new report explores the trends behind this intersection – known as the double burden of malnutrition – as well as the societal and food system changes that may be causing this problem, the biological explanation and effects, and policy measures that may help address malnutrition in all its forms.

<http://bit.ly/2NtWsFJ>

Breast cancer biosimilar prequalified

WHO announced on 18 December that it had prequalified a biosimilar medicine for the first time, breast cancer drug trastuzumab, in a move that could make this expensive, life-saving treatment more affordable and available to women globally.

Breast cancer is the most common form of cancer in women. About 2.1 million women were diagnosed with breast cancer in 2018, of which 630 000 died from the disease, in many cases because of late diagnosis and lack of access to affordable treatment.

Trastuzumab – a monoclonal antibody – was included in the *WHO Model list of essential medicines* in 2015 as an essential treatment for about 20% of breast cancers. It has shown high efficacy in curing early stage breast cancer and, in some cases, more advanced forms of the disease.

The annual cost of trastuzumab from originator companies can be as high as US\$ 20 000. The biosimilar version of trastuzumab is generally 65% cheaper than the originator. With this WHO listing, and more products expected in the prequalification pipeline, treatment prices should decrease even further.

The biosimilar medicine, supplied by Samsung Bioepis NL B.V. (Netherlands), was assessed by WHO and found comparable to the originator product in terms of efficacy, safety and quality. That means it is eligible for procurement by United Nations agencies and for national tenders.

Biotherapeutic medicines, which are produced from biological sources, such as cells rather than synthesized chemicals, are important treatments for some cancers and other noncommunicable diseases.

Biosimilars, like generic medicines, can be much less expensive versions of innovator biotherapeutics, while keeping the same effectiveness and are usually manufactured by other companies once the patent on the original product has expired.

<http://bit.ly/2TpAeIN>

Pre-exposure prophylaxis against HIV

People who are taking antiretroviral drugs to protect themselves from acquiring HIV infection because they are considered to be at high risk of HIV infection are also at high risk of other sexually transmitted infections.

Pre-exposure prophylaxis (PrEP) is given to HIV-negative people with a higher-than-average risk of contracting HIV, such as men who have sex with men and people who inject drugs, sero-discordant couples, and young adolescents in certain parts of the world.

These services could be an ideal place to test for, prevent and treat HIV, as well as other sexually transmitted infections, according to a global study led by Monash University in Australia and supported by WHO that was published in December 2019.

The Melbourne Sexual Health Centre and WHO worked with a team of researchers to conduct a global systematic review evaluating the prevalence and incidence of sexually transmitted infections among individuals using PrEP.

The review, published in *JAMA Network Open*, highlighted the limited focus and investment in the management of sexually transmitted infections within HIV programmes.

Since 2015, WHO has recommended PrEP for people at substantial HIV risk. It consists of a combination of tenofovir and emtricitabine.

<http://bit.ly/38786yk> ■

Looking ahead

3 – 8 February. WHO Executive Board Meeting, WHO headquarters, Geneva, Switzerland.

24 – 26 February. First Global Technical Partnership Meeting on Antimicrobial Stewardship, Bangkok, Thailand.

Pooling resources for universal health coverage

Progress towards universal health coverage in the Caribbean will require greater collaboration between the island states and territories. Gary Humphreys reports.

Hurricane Dorian hit the Bahamas on 1 September 2019. Two days of intense winds, rain and surf devastated the archipelago's water and communications systems and destroyed many health facilities. Five days later, when the Bahamian authorities were still trying to assess the damage, they received US\$5.5 million, the first of two payments from the Caribbean Catastrophe Risk Insurance Facility (CCRIF).

Created in 2007 and funded by the Caribbean Community or CARICOM, a group of 15 of the 30 states and territories that comprise the Caribbean region, the CCRIF is a testament to the islands' capacity to collaborate.

"The CCRIF is an excellent example of what the Caribbean states can achieve when they come together in the face of a shared challenge," says Dr James Hospedales, adjunct clinical professor at Tulane University School of Public Health & Tropical Medicine in the United States of America.

Until August last year, Hospedales was the executive director of another joint effort in the region to pool resources for the common good: the Caribbean Public Health Agency.

The agency combines activities that were previously undertaken by five separate regional health institutions, providing public health services and

support to its members that some might otherwise struggle to afford.

Since 2013, when the agency was established, it has ramped up disease surveillance and vector control activities in the region, reinforced the Caribbean's public health laboratory network, launched a pan-Caribbean Regulatory System for pharmaceuticals, established a register of clinical trials involving human participants and, in June 2018, it launched a cancer registry hub for CARICOM members.

While the Caribbean Public Health Agency has achieved much in the six years of its existence, it has no mandate to work on regional health system strengthening, although this is now a Caribbean Cooperation in Health priority that is explicitly linked to achieving universal health coverage in the region.

To date, health system strengthening remains the preserve of the individual governments, which are moving towards universal health coverage at different rates.

According to *Primary health care on the road to universal health coverage: 2019*, WHO's most recent universal health coverage monitoring report, coverage of essential health services in the Caribbean ranges from a low of 47% (in Haiti) to 77% (in Barbados), with most of the 15 CARICOM states and territories at or around 70% coverage.

Out-of-pocket payments made by the patient at the point of receiving health care remain relatively high in all states and territories, representing around a third of total health expenditure in the region globally.

"Even where public health service coverage is relatively good, many patients prefer to seek care in the private sector and may incur significant costs because service delivery is not always perceived to be of high quality and there are sometimes long waiting times," says Dr Rufus Ewing, an expert on health systems and services at the Pan-American Health Organization (PAHO) office in Bridgetown, Barbados.

"This happens, for example, in Barbados, where you have a range of health services that are officially free at the point of care, but where out-of-

pocket payment remains around 40%," Ewing adds.

Expanding service coverage and improving health service delivery depends in large part on investing more in public health, which in turn depends on political commitment at the highest level.

Caribbean states have made numerous commitments to developing universal health coverage in recent years, most recently at the United Nations General Assembly high-level meeting on the subject in New York in September 2019, but not everyone is convinced.

Despite all the talk about universal health coverage, it has not been a political priority.

Rudolph Cummings.

"Despite all the talk about universal health coverage, it has not been a political priority," says Dr Rudolph Cummings, the manager of the Health Sector Development Programme at CARICOM headquarters in Georgetown, Guyana.

Increasing resources for health is a challenge for Caribbean states and territories not least because of their low levels of tax collection and relatively large informal economies, in which workers are harder to tax and harder to draw into health insurance schemes.

Despite the challenges, many governments are moving forward with health system financing initiatives. For example, prior to Hurricane Dorian, the Bahamian government had begun financing the primary health care phase of a national insurance programme, and – once normal business resumes – will probably be funding the second phase, at least in part, with mandatory health insurance for employees, supplemented by a tax on sugary drinks.

However, resource pooling in a small country like the Bahamas is challenging, because, put simply, small pools are easily drained, and one or two years of heavy expenditure can break the bank.



PAHO

School children are vaccinated and receive their vaccination certificates in Haiti

According to Cummings there has been some discussion of territories making use of reinsurers, who would themselves create and insure a bigger risk pool, or even of coming together in joint pooling arrangements, but so far no concrete initiatives have emerged.

For Ewing, moving towards universal health coverage in the Caribbean depends not just on increased investment and sustainable financing, but the reorientation of health systems away from curative services towards preventive and primary health care.

Trevor Hassell, president of the Healthy Caribbean Coalition, a civil society organization dedicated to tackling noncommunicable diseases agrees. “We continue to build too many hospitals,” he says, “and we need to rethink service delivery to cover the full continuum of care, including health promotion, disease prevention, and put primary health care at the centre of our health systems.”

“Noncommunicable diseases will impose an increasing burden on the region’s health systems and budgets,” Hassell says.

“People in the Caribbean have always had to travel to receive health care.”

James Hospedales

Estimates vary, but it is widely accepted that, based on current trends, around 25% (11.7 million/47 million) of the total population will be older than 60 by 2050, up from around 14% (6 million/43 million) today, while the incidence of diabetes, ischaemic heart disease and asthma are increasing, along with associated risk factors, such as obesity and hypertension.

While preventive and primary care is the priority, Caribbean health systems also need to develop specialized curative services if the sustainable development goal universal health coverage target is to be achieved. Many Caribbean states and territories lack their own facilities and pay to send patients abroad for care.

“People in the Caribbean have always had to travel to receive health care,”



Pre-natal care in Trinidad and Tobago

says Hospedales. “There are about 129 inhabited islands and it’s obvious you’re not going to have health infrastructure in all of them. So to get specialized care you get on a plane to Nassau or Miami.”

In many cases governments pay for citizens’ travel and treatment, incurring costs which Ewing considers to be one of the two greatest threats to the financial sustainability of the region’s health systems (the other being the rising costs of treatment for noncommunicable diseases).

In the English-speaking Caribbean, Barbados, Jamaica and Trinidad have tended to perform the role of specialist care provider, and more recently Grand Cayman has developed Health City Cayman Islands, a tertiary care facility providing a range of services from adult and paediatric cardiology and surgery, to neurosurgery.

So some capacity is being developed, but accessing it is difficult, especially for the poor and there is no regional entity to match needs for service to payment.

“How to cover the needs of citizens who island hop to seek care has long been a topic of discussion in the Caribbean,” says Jessie Schutt-Aine, PAHO’s sub-regional programme coordinator in the Caribbean.

An important aim of previous development strategy was encouraging the movement of skilled labour between the

islands, and for that to become reality it was understood that individuals who decided to move needed to be able to access education and health services – and that these services were in fact a right.

Work on a protocol of contingent rights started in 2008 and was finally ready for signature in 2018. By February 2019 all CARICOM member states had signed. But so far only Barbados has drawn up national policy that effectively implements the protocol.

For Hassell, the lack of progress towards the integration and collaboration promised by the Caribbean Single Market and Economy is emblematic of inertia in other areas. “Institutional and policy mechanisms are in place that are the basis for moving forward, but there is an implementation deficit,” he says.

PAHO’s Ewing takes heart from recent developments in the Organisation of Eastern Caribbean States, where collaboration on medicines procurement is already a reality. He also considered the development of the Caribbean Regulatory System to be an important step towards universal health coverage in the area of medicines. ■

Midori de Habich: the economist who ran Peru's health ministry

Midori de Habich speaks to Gary Humphreys about Peru's journey towards universal health coverage and the advantages of being an economist in a world of doctors.

Q: You studied economics at university and got your first job at the Central Bank of Peru in 1984. How did you get from there to running the country's health ministry?

A: It's true that my first job was at the central bank, but from the beginning the social sector was the focus of my work, and that included provision of and access to health services. The president of the bank had set up a department, which essentially looked at different social sectors, through an economic lens. This was in the mid-1980s when the bank was trying to get to grips with the aftermath of a structural adjustment plan that had been introduced by the government to deal with the country's economic situation. We were generating poverty maps, trying to measure inequality within the country, and developing analyses based on that data.

Q: What did your work reveal?

A: We could see that the social sectors were really suffering as a result of government spending cuts. This included the health sector, where public health facilities were struggling financially and charging user fees to fund themselves. As a result, significant barriers to accessing public health services were starting to emerge.

“The ability to make the case for investing in health is of vital importance.”

Q: Do central banks usually get involved in analyses of the social sector?

A: No, and the work was innovative for the time. The central bank is basically there to develop and implement monetary policy, and in 1991 I was moved into the mainstream of the bank's core functions working on macroeconomic indicators, work I found very interesting. But, in 1995, when I was invited to join a team advising the Ministry



Courtesy of Midori de Habich

Midori de Habich

Midori de Habich was Peru's health minister from 2012 to 2014 and led a comprehensive reform of the country's health system with a view to achieving universal health coverage. An economist specialized in research, policy design and implementation related to health systems, she worked for the central bank of Peru between 1984 and 1994, some of that time as a technical consultant for the Ministry of Health. She was also senior coordinator of *Unidad Especial del Proyecto 2000*, a health system strengthening initiative focused on bolstering primary health care, and director for the Partners for Health Reform plus project, which provided technical assistance on health sector decentralization and reform. She received a bachelor's degree in economics from the *Pontificia Universidad Católica del Perú*, in 1987 and in 1989 a master's degree in politics and economic planning from the Social Studies Institute of the University of Erasmus in the Netherlands. She is co-chair of the UHC2030 working group on transition and sustainability, and is a member of the WHO technical advisory group focused on financing public goods in health.

of Health as part of a USAID-funded project I accepted.

Q: What were you advising the ministry on?

A: I was asked to develop the financing and management components of the project, which was aimed at reforming the health sector.

Q: That sounds a long way from macro-economic policy.

A: It was, the main difference being that with macroeconomic policy there is basically very little implementation. You enact policy, raising interest rates for example, and the market follows. It is completely different in the social sector, where things start to get difficult after enactment and there are lots of factors at play, and lots of stakeholders. I remember when I was first asked to work on the project I was given four years to deliver. I said, 'Oh, I'll do it in two' (laughing). Well 20 years later they are still struggling to implement reforms. But there has been progress, especially on the health insurance side.

Q: Can you say more about that?

A: When I started working with the health ministry in 1995 only about a quarter of the population had health

insurance and most of them were in the formal sector, and had access to social security. At that time the government was spending about US\$100 per capita on health. The picture started to change with the setting up of the *Seguro Escolar Gratuito* (SEG, Free School Insurance) and *Seguro Materno Infantil* (SMI, Maternal and Child Insurance) schemes in 1997, both schemes financed out of general tax revenues and extended health insurance to groups not covered by social security. Then, in 2002, the government merged the two schemes into the *Seguro Integral de Salud* (SIS, Comprehensive Health Insurance) scheme, which extended coverage mainly to the poor. In 2009, Peru's Universal Health Coverage Act was passed establishing a mandatory health insurance system, which includes a *Plan Esencial de Aseguramiento en Salud* (PEAS, Essential Health Benefit Package) financed by the three pre-existing health insurance schemes. This system is intended to cover the entire population of Peru.

Q: And does it cover the whole population?

A: Not yet, but we are getting closer. Today 87% (approximately 28 of 32 million) of Peruvians have health insurance coverage. But there are still

significant gaps across the health system and further reform is needed for health service delivery and health financing systems. The government is now spending around US\$ 350 per capita, which is still not enough, but an improvement on 1990 levels.

Q: What was required to bring about that change?

A: Simply put, the establishment of a broad consensus around the need for change, a consensus that came out of the transition towards representative democracy after 2002. Achieving that consensus was a complex process requiring agreement and compromise between 18 political parties, and significant inputs from Peru's academic institutions and development partners. The Ministry of Health played a key role in responding to the different stakeholders and eventually arriving at the 2009 legislation that received broad support.

Q: You were health minister from 2012 to 2014. How challenging was that, given that you came from a background in economics?

A: Very. Of course, I'd had time to familiarize myself with the main issues during my time as a consultant to the ministry. Also, I think because I came at it from an overall systems financing perspective I was well placed to fulfil my role. Ministers of health tend to come from a medical background, which does not necessarily prepare them to deal with the financial aspects of a complex system like the health sector. It's challenging for people with medical backgrounds to have a productive dialogue with the finance ministry, where important resource allocation decisions are taken after all.

The ability to make the case for investing in health is of vital importance, especially given the tendency to deprioritize health as a "non-productive" sector compared to, for example, manufacturing or infrastructure. Also, because the return on investment in the health sector as a whole is not easily measured and may only become apparent over time, politicians tend to see health as a black hole offering little that they can hold up to the public come election time.

Q: How did you make the case for health?

A: We tried to link our funding requests to specific results. For ex-

ample, we said we need this amount of money for a specific set of services that we can account for and that will have been provided at the end of a given period. We tended to have that kind of discussion rather than proposing an increase in salaries, which, of course, would also have had a significant impact on the health system, but which would have been difficult to link to specific outputs. So even though the broader objective might be to achieve greater access to medicines, we would ask for specific funding for cold chain infrastructure. Because we focused on specific deliverables, we could also be very clear about the consequences of not committing the resources needed.

Ensuring that the focus of reform is on the needs of the population is the biggest challenge of all.

Q: Can you elaborate?

A: For example, if the finance ministry said we don't have money for that, we'd ask exactly how much they were ready to commit and then say that with that their proposed level of funding, we would achieve the government's objectives in 20 years. Let us take that to the president and see what he says. When we did go to the president we tended to get more money than the finance minister was initially ready to commit. Of course, in some cases it was necessary to take a longer view and understand that needed reforms cannot always be achieved within one electoral cycle. This presents its own challenges, notably with regard to stability of funding.

Essentially, as health minister, you are making long-term plans with a financing mechanism that is short term and volatile. Finance ministers don't like to make long-term commitments because they require discretionary power to adjust fiscal policy in response to external and internal shocks to the economy. We managed to negotiate long-term commitments, especially for

major reforms, making the argument for counter cyclical funding.

Q: Can you explain that for the non-economists?

A: Counter cyclical funding means spending less and saving during periods of economic growth and spending more during periods of economic contraction. There is a very strong link between sound fiscal policy and health system funding in that both need to be sustained through the ups and downs of boom and bust. It's an eminently reasonable approach to fiscal and health system funding, but not one that politicians always espouse. Fortunately for us, the president took the long view.

Q: This was president Ollanta Moisés Humala Tasso.

A: Correct. I remember once saying to him that "for many of the things we are doing now, particularly all the infrastructure planning – building health centres and rural hospitals – you will not see the benefits". Probably the next president will see some, and the next two presidents after him or her will get all the applause. And he said, "Okay, if that's the way it's going to be, go ahead." I give him a lot of credit for that.

Q: I can see how being an economist might help in conversations with the finance minister, but what about doctors and hospital managers, or people developing health technologies?

A: As I said, I had been working with the health ministry for a long time, and so I had a good grasp of the basic issues, but it would be misleading to say that all of the conversations with the stakeholder groups were easy, including conversations with the providers of medical services and technology, and the health system's bureaucrats. I am not singling out anyone for particular criticism, but making the broad point that because of established practices and different interests, not everyone is ready to embrace changes in the way things are done to benefit the population.

In many ways, ensuring that the focus of reform is on the needs of the population is the biggest challenge of all. When undertaking health system reform, you really need to keep in mind the impact of the changes you are implementing on the population. ■

Tailored HIV programmes and universal health coverage

Charles B Holmes,^a Miriam Rabkin,^b Nathan Ford,^c Peter Preko,^b Sydney Rosen,^d Tom Ellman^e & Peter Ehrenkranz^f

Abstract Improvements in geospatial health data and tailored human immunodeficiency virus (HIV) testing, prevention and treatment have led to greater microtargeting of the HIV response, based on location, risk, clinical status and disease burden. These approaches show promise for achieving control of the HIV epidemic. At the same time, United Nations Member States have committed to achieving broader health and development goals by 2030, including universal health coverage (UHC). HIV epidemic control will facilitate UHC by averting the need to commit ever-increasing resources to HIV services. Yet an overly targeted HIV response could also distort health systems, impede integration and potentially threaten broader health goals. We discuss current approaches to achieving both UHC and HIV epidemic control, noting potential areas of friction between disease-specific microtargeting and integrated health systems, and highlighting opportunities for convergence that could enhance both initiatives. Examples of these programmatic elements that could be better aligned include: improved information systems with unique identifiers to track and monitor individuals across health services and the life course; strengthened subnational data use; more accountable supply chains that supply a broad range of services; and strengthened community-based services and workforces. We argue that the response both to HIV and to broader health threats should use these areas of convergence to increase health systems efficiency and mitigate the harm of any potential decrease in health funding. Further investments in implementation and monitoring of these programme elements will be needed to make progress towards both UHC and HIV epidemic control.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

As the global human immunodeficiency virus (HIV) response matures, national programmes in low- and middle-income countries are providing lifesaving treatment for more than 20 million people and reaching millions more each year with prevention interventions.¹ This progress has been achieved with support from donors such as the United States President's Emergency Plan for AIDS Relief and the Global Fund for AIDS, TB and Malaria. These investments have led to huge gains, with HIV-related mortality reduced by half compared with 2005 levels and a declining incidence of new infections in many countries and regions.¹

The next phase of the HIV response is being driven by programmatic and technological innovations. Through improvements in data systems, geospatial mapping technologies and the use of large-scale population-based surveys, epidemiologists are now able to identify mismatches among burden of disease, size of populations most at risk and the availability of HIV testing, treatment and prevention services. These insights have led to programmes focusing more on subnational geographical units and on the HIV-related needs of specific populations, often referred to as microtargeting.² Prevention services are increasingly tailored (or microtargeted) to specific locations and subpopulations based on their risks and through the identification of so-called hotspots where there are higher than usual rates of HIV incidence.³ Similarly, HIV treatment models are being differentiated based on patient characteristics and context to optimize quality and efficiency, while the allocation of HIV-specific funding and the intensity of HIV services have become more deliberately targeted.⁴

While HIV programmes have embraced this greater precision to maximize their impact, the national health systems of which they are a part have simultaneously committed to broader objectives. In ratifying the sustainable development goals (SDGs), United Nations Member States have pledged to achieve a series of ambitious health and development goals.⁵ In addition to ending acquired immune deficiency syndrome (AIDS) as a public health threat, SDG3 includes a 90% reduction in tuberculosis and malaria deaths, a one-third reduction in premature deaths due to noncommunicable diseases and achieving universal health coverage (UHC). UHC is the broadest of these goals, encompassing the other health-related SDGs, and is defined by the World Health Organization (WHO) as a condition in which “all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.”⁶ UHC includes equitable access to quality essential health-care services and to safe, effective and affordable essential medicines and vaccines, and financial risk protection.⁶

In many low- and middle-income countries, efforts to control the HIV epidemic and to achieve UHC are aligned and complementary; only by averting a growing population of citizens in need of HIV services can health systems hope to achieve universal coverage. The HIV response has also built capacity and programme infrastructure that can be used to address other health conditions. The advantages of integrating HIV, tuberculosis, primary care and other health services are becoming increasingly clear.^{7,8} Yet new trends in HIV programmes towards dynamic targeting of specific popula-

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(Submitted: 7 September 2018 – Revised version received: 8 June 2019 – Accepted: 6 September 2019 – Published online: 27 September 2019)

tions and regions, at a time of reductions in vertical funding, may or may not complement broader health goals such as UHC. This potential tension has not been widely explored. Our objective is to discuss these trends, identify potential areas of friction between HIV microtargeting strategies and the advancement of the UHC agenda, and highlight and recommend programme and policy actions to achieve greater convergence and health impact.

Integration to achieve UHC

Major gains over the last two decades against disease-specific health threats have encouraged the global community to revisit the goal of health for all in the form of UHC, a foundational goal of the SDGs. According to the World Bank and WHO, the focus on UHC within the SDGs “provides a platform for an integrated approach within the health sector.”⁶ Central principles of the implementation of UHC are strengthened primary care,⁹ equity⁶ and promotion of service integration, defined by WHO as “the organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money.”¹⁰

Integration of clinical services for diverse health conditions, commonly at the primary health-care level, has generally been associated with positive outcomes for health care and process (e.g. patient satisfaction), without incurring additional costs.¹¹ For instance, as HIV treatment simplified over the last decade (e.g. one pill, once daily), care became increasingly decentralized and delivered by non-physician clinicians,¹² enabling integration with primary-care health services in some settings. Successful outcomes have been achieved via integration of HIV testing, prevention and treatment services with services for antenatal care, maternal and child health, sexual and reproductive health, tuberculosis and primary care at the point of care.^{13–18} Additionally, since HIV is the first chronic disease to be run as a successful national programme in many settings, there is growing interest in using the lessons and resources of its scale-up to strengthen noncommunicable disease programmes and to provide these services to patients enrolled in HIV programmes.^{19,20} The trend towards integration of HIV and other key services at the clinic level is

well established, more responsive to an individual's comprehensive needs (that is, more patient-centred) and strongly recommended by WHO.²¹ Yet more attention is required to determine the best approaches for managing the upstream systems on which provision of high-quality care relies.

The potential unintended risks of service-level integration include a loss of focus on individual disease responses (e.g. HIV, tuberculosis), which in theory could lead to underinvestment in disease-specific service delivery and programme monitoring.²² Nevertheless, service integration is likely a trend that will continue to accelerate to provide more sustainable people-centred services and the broader health benefits of UHC.

Microtargeting responses

Advances in our understanding of HIV have led to the realization that we are dealing with not one, but hundreds of different epidemics. Even in what had previously been considered generalized epidemics, HIV is often distributed in localized clusters. For example, the United Republic of Tanzania's HIV epidemic is driven by urbanization, transport routes, employment prospects and occupational locations (e.g. fishing), and subgroups of key populations.²³ Furthermore, advances in HIV treatment access and greater programme maturity have led to an emphasis on more people-centred approaches that better meet individuals' needs for HIV services, with the goal of increasing patients' retention in programmes and thereby gaining efficiency. These trends have led to increased targeting of prevention and treatment programmes to maximize the public health impact with existing resources in the shortest possible time.

Prevention interventions

Researchers and policy-makers are actively exploring the benefits and risks of targeting prevention interventions. A Kenyan study compared investment approaches based on uniform application of HIV prevention interventions versus a targeted approach.⁴ Projection models that integrate spatial analyses, transmission dynamic modelling of HIV and economic evaluation indicated that combination prevention strategies tailored to the risk behaviours of groups and their location could prevent substantially more infections for the same

investment.²⁴ This targeted approach, which was codified within the Kenya HIV Prevention Revolution Roadmap in 2014, was followed by a decline in HIV incidence.^{25,26}

Treatment interventions

Spatial and subnational data approaches are also being used to target HIV treatment towards areas of the highest disease burden.²⁷ In Brazil, a unique identifier used across the public health system has enabled mapping of the spatial distribution of cumulative numbers of patients with HIV, the incidence of HIV, viral loads and key infected populations. These data showed that most of AIDS cases were in less than 10% of the country's 5570 municipalities, which allowed for better targeting of resources.²⁸

Beyond targeting based on geography, cost-effectiveness and risk groups, better data on patient needs and outcomes have led to differentiated service delivery strategies that further tailor (or micro-adapt) care to subgroups. Examples of such groups include patients considered clinically stable or unstable or those such as adolescents and key populations who benefit from customized service delivery approaches.^{29,30} Early results from programmes have indicated excellent retention results for clinically stable patients opting into less-intensive models of care delivery.³¹ These differentiated service delivery models may have a greater impact using existing resources if the projections of decreased costs (and greater effectiveness) are realized.³²

External resources

Major donors to the HIV response have adopted microtargeting approaches to their funding decisions. The United States President's Emergency Plan for AIDS Relief's strategy calls for United States Government resources to be applied to higher-burden geographical areas and health facilities (the right place), and also stresses the element of fast and efficient timing (the right time).³³ Similarly, the Global Fund strategy emphasizes an operational focus on the highest burden countries and populations.³⁴ These strategies focus on the best value for money for the HIV response from the donor perspective.

Risks of microtargeting

There are potential unintended risks of microtargeting the HIV response. Heat maps that show concentrations

of people on treatment or new HIV diagnoses may accurately highlight the need for additional HIV prevention and treatment services in high-burden areas. However, insufficient funding may mean that programmes are simply transferred away from areas of lower burden that still account for a substantial proportion of HIV infections. This issue was highlighted in the results of a mathematical model that supported targeting of prevention interventions overall, but noted that “75% of HIV seroconversions still occur outside the identified incidence clusters.”³⁵ Focusing programmes based on the geographical concentration of disease may also mask the importance of epidemics within specific subgroups, and over-differentiating care models based on a large number of clinical characteristics could complicate delivery at scale. Furthermore, incomplete surveillance could lead to misleading assessments of the disease burden, which could threaten the degree to which greater equity of services can be achieved. The prerequisites of effective microtargeting therefore include the availability of accurate and complete data on HIV risks and programme outcomes at the subnational regions being considered, and the choice of relevant and unambiguous epidemiological and programme-based metrics or indicators to guide targeting.

There are clear benefits to targeted programmes, but policy-makers and programme managers need to ensure that these efforts are focused on greater equity and effectiveness, and do not undermine the strength of the public health approach, which is characterized by simple, streamlined, evidence-based strategies.³⁶ Microtargeting strategies that include differentiated service delivery may therefore move away from this one-size-fits-all approach, for good reasons. However, unless scalable models can be developed, microtargeting may be difficult to implement widely in lower-resourced health systems, challenging to integrate with simpler primary health-care services and less sustainable from the perspective of domestic financing.

Investing in convergence

Microtargeting for HIV care (whether by geography, population type or service delivery model) and the broader goals inherent in the UHC movement may

Table 1. **Areas of potential divergence between human immunodeficiency virus programme microtargeting and broader goals of universal health coverage**

HIV programme microtargeting	Domain	Integrative strategies for SDGs and UHC
Geographically and risk-focused coverage of specific interventions (e.g. pre-exposure prophylaxis programmes for urban sex workers)	Programme coverage	Broad-based equal access to integrated prevention and treatment services for common illnesses and conditions
Dynamic and potentially frequent shifts in interventions and funding driven by data suggesting changes in geographic and population concentrations of the epidemic and response	Consistency of programming	Regular access to services for all populations and conditions (e.g. for antenatal care, diagnosis and treatment of hypertension, treatment for childhood diarrhoeal disease)
Stigma and discrimination around acknowledging and engaging key populations (e.g. sex workers, individuals who inject drugs)	Level of stigma and discrimination	Services are less targeted and less affected by stigma and discrimination
Strong donor imperative to reach targets and show success	Degree of investment and influence	Generally financed by domestic or out-of-pocket funding with less external accountability
Time pressure to meet coverage targets to achieve well defined goals for controlling the HIV epidemic	Definition and urgency of meeting goals	The urgency around achieving of UHC generally remains less well defined and understood than disease-specific programmes

HIV: human immunodeficiency virus; SDG: sustainable development goals; UHC: universal health coverage.

appear to be in conflict. Yet it seems likely that both are necessary to achieve broader health goals. An improved understanding of potential differences and shared aims between these models can inform our strategies for achieving control of the HIV epidemic and the broader goal of UHC.

Areas of potential divergence

Microtargeting of HIV services and the broader vision of health services that characterizes UHC could appear to diverge in their aims or implementation approaches. For instance, as shown in Table 1, coverage for integrated services is more likely to be driven by concerns for broad equitable access and parity of resources between regions and populations. HIV microtargeting on the other hand encourages differential coverage based on geography, HIV transmission and mortality risk, or severity of illness. Conversely, it could be argued that in some cases targeting may help to enhance the equity of the HIV response, particularly for individuals such as sexual minorities and others marginalized by existing health systems. However, greater equity through microtargeting would depend on local access to data on risks or needs among these subpopulations and prioritization of its use.

Successful microtargeting will require a dynamic environment with rapid

shifts in strategies and resource allocation, analogous to an outbreak response. For example, scaling-up the use of assays that enable identification of recent HIV infections will make it possible to identify and shift HIV programme support to communities or groups experiencing outbreaks of new infections.³⁷ In contrast, systems that deliver primary care for routine acute and chronic diseases (the core of UHC) require consistent support, but generally have far fewer resources for implementation. Provision of basic services may depend on the additional staff, newer data systems or increased attention to supply chains provided by a vertical programme. This reliance leaves those core services vulnerable if a disease-specific programme responds to new data by swiftly pivoting away from a geographical area. Funding for UHC is typically more reliant on domestic government expenditure, national health insurance schemes or out-of-pocket costs, whereas a larger proportion of the HIV response remains externally financed. This arrangement leads to greater external accountability of the HIV programme response, but can also threaten the ability to shift the programmes to local ownership if programmes are not built in a way that can be sustained within the local health system.³⁸

Box 1. Areas of potential convergence between human immunodeficiency virus programme microtargeting and broader goals of universal health coverage

Broader beneficial effects of HIV control

Efficient reductions in new HIV infections will result in less need for lifelong HIV treatment services, thereby reducing the burden on health systems and freeing up resources for other health priorities.

Use of common clinical platforms

Stronger primary health-care systems, if prioritized through national UHC financing strategies, provide additional routes to deliver targeted HIV services to those patients with less intense clinical needs.

Health-care worker performance

Improvements in national systems would support pre-service education and performance management (e.g. systems of incentivizing, mentoring, supervising) for health-care workers.

Information systems and data use

Responsive electronic information systems (e.g. systems that are networked, include unique patient identifiers and promote subnational data use) are fundamental to both targeted HIV interventions and outcome-based programming for noncommunicable diseases, civil registration and vital statistics programmes and other elements of UHC.

Laboratory systems

Improvements in laboratory systems (e.g. equipment, sample transportation systems, staff and information systems) through microtargeting of high-volume sites for HIV service delivery could benefit UHC delivery and management of other noncommunicable diseases throughout a region.

Community delivery systems and civil society

Microtargeting of HIV services as well as integrated disease management and prevention services are highly reliant on well managed community systems to deliver focused messages and interventions into communities, with support from civil society.

Supply-chain management

HIV microtargeting and many UHC goals require strong, yet responsive, supply chains that are held accountable by providers and society. Greater integration of health services and joint performance management could yield substantial health benefits.

Human immunodeficiency virus (HIV); universal health coverage (UHC).

Achieving greater health impact

Closer examination of HIV microtargeting and the movement towards greater integration of services for UHC suggests areas of convergence that could help to mitigate the effects of differing approaches. At the core of this convergence is the basic idea that HIV programmes occur within health systems and must align with national health goals; HIV epidemic control cannot come at the expense of broader health outcomes. The converse is also true; in many countries, desired reductions in population morbidity and mortality cannot be achieved in the absence of HIV epidemic control. Effective HIV microtargeting should lead to faster attainment of HIV-specific goals and less medium- or long-term need for HIV testing, prevention and treatment services. In the long term, at least, these impacts will free-up health systems to support broader UHC goals.

More immediately, the health-system building blocks needed to deliver both HIV microtargeting strategies and broader UHC services have features in common, including quantity, quality

and distribution of health-care workers as well as laboratory, supply chain and information systems (Box 1). While the systems built for one response will not automatically provide benefits more broadly, strategic and intentional investments that promote shared benefits may make this possible. For example, investments in upgraded national information systems to include unique patient identifiers and the ability to track individuals longitudinally are essential for both targeted HIV strategies and for UHC. Systems built initially for a data-driven, targeted HIV response can be used to support services for other diseases and conditions of public health concern. These systems could include tracking changes in demand for sexual and reproductive health services and family planning coverage for high-risk subgroups or responding to an acute disease outbreak like Ebola virus disease.

Major donors have recognized the importance of this strategy and have increased investments in many of the areas that can be considered convergent. For instance, the Global Fund has sponsored several rounds of funding

specifically aimed at improving health systems' resilience, and its 2017–2022 strategy calls for further such investments.³⁴ Similarly, nearly all the grants of the United States President's Emergency Plan for AIDS Relief include cross-cutting health systems investments, which are targeted increasingly towards areas of weakness in the Plan's sustainability index and dashboard.³⁹ This tool includes 90 domains and ranks areas, including commodity security, supply chains and laboratory services. Donors for broader UHC goals, such as Gavi, the Vaccine Alliance and the Global Financing Facility, also make investments in strengthening health systems. However, the currently limited coordination and use of health-systems investments across disease-specific responses could be improved.

In addition to broader financing initiatives and governance strategies, as explored by others,⁷ we believe that more systematic measurement of the functional performance of health system elements is essential for greater impact. The recently launched global Primary Health Care Performance Initiative,⁴⁰ and the related development of primary care vital-signs indicators that are oriented towards systems and outcomes (e.g. a service quality index), may be a step in the right direction, especially if they are collected subnationally and disaggregated by population types. While HIV programme managers may not see the connection between their work and a primary health-care indicator like vaccination coverage, they may see the benefit of leveraging one another's programming to strengthen the overall supply chain. Similarly, global actors such as the World Bank and national governments are using the Vital Statistics Performance Index to monitor national progress in developing the civil registration and vital statistics systems that are fundamental to both disease-specific and broader UHC goals.^{41,42} Such systems monitoring should, in theory, sharpen the tracking and accountability for the effectiveness of investments in these areas, and encourage further investment and policy change.

Similar approaches to measuring performance could be more systematically applied to other areas of convergence shown in Box 1. For example, community-based service delivery systems are important for microtargeting strategies for HIV prevention

and treatment as well as UHC and integration goals.^{21,43} Nevertheless, recent studies have found workforces to be poorly coordinated and integrated across disease-specific responses, and inadequately harmonized with national goals.^{44,45} Recognizing this challenge, WHO intends to develop guidelines on health policy and systems support for community health worker programmes. However, there is no recognized approach to monitoring the performance of community-based care delivery systems across the full range of health responses for which they are deployed. Similarly, there are no routinely used tools for system-wide performance monitoring of national information systems or supply chains for multiple diseases or conditions and similar systems, within or among countries. These are high priority areas for future research.

The value of developing and validating high-quality performance measures would be greater accountability for the effectiveness of health systems investments, which could ultimately reduce the need for parallel disease-specific systems and result in greater impact. A series of commonly accepted indices could also provide a greater incentive for greater cross-donor and disease co-investment in these basic elements of sustainable health responses, even if resources decrease.

Conclusions

Improvements in geospatial data and HIV testing, prevention and treatment services have led to microtargeting within the HIV response, based on location, population risk and illness severity. Although these approaches show great

promise for achieving control of the HIV epidemic, which is fundamental to the achievement of the SDGs, there are potential risks to broader health systems goals unless specific actions are taken. To maximize synergies among programmes, leaders of the HIV and UHC responses should recognize opportunities for programming in areas of convergence. Committing to using each other's programmes and resources would have a greater collective impact on health. Further investment and enhanced approaches to performance measurement of these convergent elements will be critical to achieve both sustainable control of the HIV epidemic and the broader goals of UHC. ■

Competing interests: None declared.

ملخص

برامج مخصصة لفيروس نقص المناعة البشرية (HIV) والتغطية الصحية الشاملة

ومكافحة وباء فيروس نقص المناعة البشرية، مع ملاحظة مجالات التداخل المحتملة بين الاستهداف الدقيق للأمراض المحددة، والنظم الصحية المتكاملة، وتسليط الضوء على فرص التقارب التي يمكن أن تعزز كلتا المبادرتين. من أمثلة هذه العناصر البرمجية التي يمكن تنسيقها بشكل أفضل: أنظمة معلومات محسنة ذات معرفات فريدة لتتبع ومراقبة الأفراد عبر الخدمات الصحية ومسار الحياة؛ وتعزيز استخدام البيانات دون الوطنية؛ وسلاسل إمداد أكثر مساءلة توفر مجموعة واسعة من الخدمات؛ وخدمات مجتمعية وقوى عاملة مدعمة. نحن نزعم أن الاستجابة لكل من فيروس نقص المناعة البشرية، والتهديدات الصحية الأوسع نطاقاً، ينبغي أن تعتمد على هذه المجالات للتقارب من أجل زيادة كفاءة النظم الصحية، وتخفيف ضرر أي انخفاض محتمل في التمويل الصحي. ستكون هناك حاجة إلى مزيد من الاستشارات في تنفيذ ومراقبة عناصر هذه البرنامج، لإحراز تقدم نحو كل من التغطية الصحية الشاملة ومكافحة فيروس نقص المناعة البشرية.

أدت التحسينات في بيانات الصحة الجغرافية المكانية، واختبار فيروس نقص المناعة البشرية (HIV)، والوقاية منه وعلاجه، إلى زيادة الاستهداف الدقيق للاستجابة لفيروس نقص المناعة البشرية، بناءً على الموقع والمخاطر والحالة السريرية وعبء المرض. تمثل هذه الأساليب وعداً بتحقيق السيطرة على وباء فيروس نقص المناعة البشرية. وفي نفس الوقت، التزمت الدول الأعضاء في الأمم المتحدة بتحقيق أهدافاً أوسع للصحة والتنمية بحلول عام 2030، بما يشمل التغطية الصحية الشاملة (UHC). سوف تؤدي مكافحة وباء فيروس نقص المناعة البشرية (HIV) إلى تسهيل التغطية الصحية الشاملة عن طريق تجنب الحاجة إلى تخصيص موارد متزايدة دائماً لخدمات فيروس نقص المناعة البشرية. إلا أن الاستجابة المفرطة المستهدفة لفيروس نقص المناعة البشرية قد تؤدي أيضاً لتشويه الأنظمة الصحية، وتعويق التكامل، ومن المحتمل أن تهدد الأهداف الصحية الأوسع نطاقاً. نحن نناقش الأساليب الحالية لتحقيق كل من التغطية الصحية الشاملة،

摘要

艾滋病病毒专门计划和全民健康覆盖

基于地点、风险、临床特征和疾病负担的地理空间健康数据的改进以及专门的艾滋病 (HIV) 检测、预防和治疗，使得应对艾滋病病毒的工作有了更为微观的目标。这些方法显示对艾滋病疫情的控制有望实现。同时，联合国各成员国已承诺到 2030 年实现更广泛的健康和发展目标，其中包括全民健康覆盖 (UHC)。对艾滋病疫情有所控制将避免对艾滋病服务需求投入资源的不断增加，从而推进全民健康覆盖。然而，过度针对性的艾滋病应对措施也会干扰医疗系统，阻碍一体化并可能危及更广泛健康目标的实现。我们讨论了当前实现全民健康覆盖和艾滋病疫情控制的方法，指明了针对特定疾病的微观目标与整合的医疗系统间可

能会有冲突的领域，并着重强调了促进这两项举措融合的机会。更好地协调这些有关计划要素的示例有：改进的信息系统，具有可在医疗服务和整个生命历程中跟踪并监控个人的唯一标识符；强化对地方数据的使用；用于提供广泛服务的更负责任的供应链；并加强基于社区的服务和员工培养。我们认为，对艾滋病和更广泛的健康威胁的应对措施都应使用此类融合领域，以提高医疗系统的效率并减轻医疗资金可能减少的危害。为了在全民健康覆盖和艾滋病疫情控制方面取得进展，需要在此类计划要素的执行和监测方面进一步投资。

Résumé

Programmes personnalisés de lutte contre le VIH et couverture sanitaire universelle

Les améliorations des données sanitaires géospatiales et la personnalisation du dépistage, de la prévention et du traitement du virus de l'immunodéficience humaine (VIH) ont permis de développer le micro-ciblage de la réponse au VIH, en fonction du lieu, du risque, de la situation clinique et de la charge de morbidité. Ces approches sont prometteuses pour lutter contre l'épidémie de VIH. Dans le même temps, les États membres des Nations Unies se sont engagés à atteindre des objectifs plus larges de santé et de développement d'ici 2030, notamment la couverture sanitaire universelle. Cette dernière sera facilitée par la lutte contre l'épidémie de VIH, qui réduira la nécessité de consacrer toujours plus de ressources aux services liés au VIH. Cependant, une réponse au VIH trop ciblée pourrait également distordre les systèmes de santé, empêcher leur intégration et potentiellement nuire aux objectifs de santé plus vastes. Nous abordons ici les approches actuelles en matière de couverture sanitaire universelle et de lutte contre l'épidémie de VIH, en notant les points de friction potentiels entre un

micro-ciblage spécifique à certaines maladies et des systèmes de santé intégrés, ainsi que les opportunités de convergence qui pourraient être bénéfiques aux deux initiatives. Parmi les éléments de programmes qui pourraient être mieux coordonnés, nous pouvons citer: l'amélioration des systèmes d'information avec des identifiants uniques permettant de suivre les personnes dans leur parcours de soins et tout au long de leur vie; la plus grande utilisation des données infranationales; la responsabilisation des chaînes d'approvisionnement qui fournissent un grand nombre de services; et le renforcement des services et des intervenants communautaires. Nous soutenons que la réponse au VIH et à d'autres menaces sanitaires devrait exploiter ces domaines de convergence pour accroître l'efficacité des systèmes de santé et atténuer le préjudice d'une éventuelle baisse des fonds alloués à la santé. Il sera nécessaire d'investir davantage dans la mise en œuvre et le suivi de ces éléments de programmes pour avancer, aussi bien vers la couverture sanitaire universelle que dans la lutte contre l'épidémie de VIH.

Резюме

Индивидуализированные программы по ВИЧ и всеобщий охват услугами здравоохранения

Совершенствование сбора геопространственных данных о состоянии здоровья населения и индивидуализация процессов тестирования, лечения и профилактики ВИЧ привели к повышению микроадресации мероприятий по борьбе с ВИЧ с учетом местоположения, риска, клинического состояния и бремени заболевания. Эти подходы позволяют надеяться на обеспечение эффективного контроля над эпидемией ВИЧ. В то же время государства-члены ООН взяли на себя обязательства по расширению целей в области здравоохранения и развития к 2030 году, включая обеспечение всеобщего охвата услугами здравоохранения (УЗ). Контроль над эпидемией ВИЧ будет содействовать обеспечению УЗ, поскольку отпадет необходимость направлять постоянно растущее количество ресурсов на борьбу с ВИЧ. Однако слишком целенаправленный характер мероприятий по борьбе с ВИЧ может перекосить системы здравоохранения, замедлить процессы интеграции и несет в себе потенциальную угрозу достижению более широких целей в сфере здравоохранения. Авторы обсуждают существующие подходы к обеспечению УЗ и контроля над эпидемией ВИЧ, отмечая потенциальные области конфликта между микроадресацией для конкретных

заболеваний и объединенными системами здравоохранения, а также выявляя возможности для конвергенции, которые бы содействовали реализации обеих инициатив. Необходимо обеспечить согласованность следующих элементов программы: усовершенствованных информационных систем с уникальными идентификаторами для отслеживания и мониторинга отдельных лиц и оказываемых им медицинских услуг на протяжении всей жизни; более активного использования данных на субнациональном уровне; обеспечения жесткого учета и контроля в цепочках поставок для широкого спектра услуг, а также укрепления системы услуг, оказываемых по месту проживания, и развития соответствующих трудовых ресурсов. Авторы отмечают, что меры по борьбе с ВИЧ и другими угрозами в области здравоохранения должны опираться на эти области конвергенции с целью повышения эффективности систем здравоохранения и уменьшения вреда в результате потенциального сокращения финансирования. Необходимы дальнейшие инвестиции в реализацию и мониторинг этих программных элементов, чтобы добиться прогресса в обеспечении УЗ и контроля над эпидемией ВИЧ.

Resumen

Programas adaptados sobre el VIH y cobertura universal de salud

Las mejoras en los datos geoespaciales de salud y las pruebas, la prevención y el tratamiento adaptados al virus de la inmunodeficiencia humana (VIH) han conducido a una mayor focalización de la respuesta al VIH, basada en la ubicación, el riesgo, el estado clínico y la carga de la enfermedad. Estos enfoques son prometedores para lograr el control de la epidemia del VIH. Al mismo tiempo, los Estados Miembros de las Naciones Unidas se han comprometido a alcanzar objetivos de salud y desarrollo de mayor alcance para 2030, incluida la cobertura universal de salud (universal health coverage, UHC). El control de la epidemia del VIH facilitará la UHC porque evitará la necesidad de comprometer recursos cada vez mayores para los servicios del VIH. Sin embargo, una respuesta al VIH demasiado específica también podría distorsionar los

sistemas de salud, impedir la integración y amenazar potencialmente los objetivos de salud de mayor alcance. Se discuten los enfoques actuales para lograr tanto la atención primaria de salud como el control de la epidemia del VIH, se señalan las posibles áreas de fricción entre la focalización específica de la enfermedad y los sistemas integrados de salud, y se destacan las oportunidades de convergencia que podrían mejorar ambas iniciativas. Entre los ejemplos de estos elementos programáticos que podrían alinearse mejor se incluyen: sistemas de información mejorados con identificadores únicos para hacer un seguimiento y monitoreo de las personas a través de los servicios de salud y el curso de la vida; el fortalecimiento del uso de datos a nivel subnacional; cadenas de suministro más responsables que proveen

una amplia gama de servicios; y el fortalecimiento de los servicios en la comunidad y las fuerzas de trabajo. Se argumenta que la respuesta tanto al VIH como a las amenazas para la salud en general debe utilizar estas áreas de convergencia para aumentar la eficiencia de los sistemas

de salud y mitigar el daño de cualquier posible disminución en la financiación de la salud. Se necesitarán más inversiones en la ejecución y el monitoreo de estos elementos del programa para avanzar tanto en el control de la epidemia de VIH como en la UHC

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Other considerations than: how much will universal health coverage cost?

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Abstract Globally, countries have agreed to pursue the progressive realization of universal health coverage (UHC) and there is now a high level of political commitment to providing universal coverage of essential health services while ensuring that individuals are financially protected against high health spending. The aim of this paper is to help policy-makers think through the progressive realization of UHC. First, the pitfalls of applying global normative expenditure targets in estimating the national revenue required for UHC are discussed. Then, several recommendations on estimating national revenue are made by moving beyond the question of how much UHC will cost and focusing instead on the national health-care reforms and policy choices needed to progress towards UHC. In particular, costing exercises are recommended as a tool for comparing different service delivery options and investment in data infrastructure is recommended for improving the information needed to identify the best policies. These recommendations are intended to assist health policy-makers and international and national agencies who are developing country plans for the progressive realization of UHC.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

In 2015, United Nations' Member States agreed to pursue the progressive realization of universal health coverage (UHC) as part of their commitment to the sustainable development goals. The World Health Organization (WHO) defines UHC as providing all people and communities with the promotive, preventive, curative, rehabilitative and palliative health services they need, of a sufficient quality, while also ensuring that use of these services does not result in financial hardship.¹ Having made the political commitment, policy-makers in national ministries of health and finance are now asking the reasonable question of how much UHC will cost. To help policy-makers think through this question for their own countries, we first discuss the importance of reframing the question such that the focus is less on global normative expenditure targets and more on the national policy choices and reforms needed to expand coverage and provide financial protection to all. Then we make recommendations that may be useful for estimating the national revenue required to move progressively towards UHC in individual countries. These recommendations are intended for health policy-makers and international and national agencies who are developing country plans for the progressive realization of UHC.

The pitfalls of global targets

In answering the question, "How much will UHC cost?," national policy-makers frequently start with a straightforward comparison between current per-capita funding for health in their own country and global targets, which range from 54 to 86 United States dollars (US\$) per person annually.² This approach is problematic for several reasons.

First, one needs to recall that global normative expenditure targets were developed primarily for advocacy purposes. They serve to highlight the importance of health as a contributor to national development and to generate political commitment. Although global targets may be useful for mobilizing donor funds and for identifying countries that need financial

assistance, they were not intended to be used for developing national revenue estimates or for national planning. In situations where health budgets are limited, comparing current spending with global targets can lead to unrealistic estimates. For example, low-income countries, such as Bangladesh, which currently spends less than US\$ 30 per person annually on health,³ would conclude they need to double or triple spending. This conclusion is an unrealistic starting point for discussions between the health ministry and the finance ministry.

Second, focusing on global normative targets can lead to the erroneous assumption that UHC is a target to achieve, a threshold or a single fixed outcome that does not change over time. Instead, UHC is an objective that must be pursued continuously through reform of, and investment in, the health system.⁴ Although targets have been established to monitor service coverage and financial protection, these targets should not be confused with the progressive realization of UHC. Mongolia, for example, has for 15 years implemented reforms that aim to reduce high out-of-pocket expenditure on health.⁵ Similarly, all countries can strive to implement reforms that promote universal access, higher quality and financial protection, regardless of the resources they dedicate to health.⁶

Third, the concept of a global normative target suggests that all countries need to spend a defined amount on health to achieve the same outcomes. There is evidence that high public health spending can result in better service coverage and financial protection.⁴ However, the production of health is influenced by important factors that are specific to individual countries, such as the labour cost of health-care workers, the capital cost of buildings, the price of medical products and health services, and insurance arrangements.⁷ How national resources are managed also matters. In 2016, WHO found that the performance of different countries in improving coverage and financial protection varied widely, regardless of whether their health budget was low or high (i.e. over US\$ 520 per person annually).⁴ For any given level of health spending, countries vary in health performance and achievements. Therefore, all countries have room for progress towards UHC. The question is less about achieving a spending target and

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(Submitted: 9 June 2019 – Revised version received: 29 October 2019 – Accepted: 4 November 2019 – Published online: 22 November 2019)

more about what can be done with the resources available. For example, in 2017 the United States of America spent 18% of its gross domestic product on health, but millions of its citizens were without access to essential health services or financial protection.⁸

Fourth, global normative targets tend to focus attention on the funding gap alone. This focus has led some policy-makers and donors to suggest that private financing could fill the gap left by the limited fiscal capacity of a country's government.⁹ Using private financing to fill funding gaps is problematic if there is no overall vision of how private funding fits with the broader goals for UHC and financial protection. One should note that no country has attained full coverage or financial protection for their inhabitants by relying mainly on private financing or voluntary insurance. Rather countries have made progress through a mix of funding sources, including general government revenue and mandatory insurance.¹⁰ Private financing sources can indeed generate substantial funding but, paradoxically, a high level of spending alone might not help realize UHC; it could even increase inequities.¹¹ In some cases, a high level of private spending on health can divert scarce human resources to the privately insured at the expense of the rest of the population. In South Africa, for example, health expenditure from private voluntary insurance was equivalent to 4% of the country's gross domestic product in 2016.³ However, as the privately insured accounted for only 16% of the population, this high level of expenditure did not benefit everyone equally.¹² In fact, private spending moved South Africa further from UHC by increasing resource inequities between the public and private sectors.

Recommendations

Moving beyond the question of how much UHC will cost enables national policy-makers and health ministries to focus on the policy choices needed to accelerate progress towards UHC. Here, we make several recommendations that may be useful for estimating the national revenue required to move progressively towards UHC in different settings. These recommendations focus on the information needed to engage constructively with national health and finance authorities on the reforms essential for making progress towards UHC.

Cost accounting exercises

In striving to accelerate progress towards UHC, tough policy choices need to be made on how services are provided, which levels of the health-care system should be involved in providing those services, the cost of the services and the prices that need to be paid for them. Here, the relevant question is, "How much progress can we make at different levels of funding?" We must determine what it will take to cover the entire population with a specified package of benefits under different funding and service delivery scenarios. Consequently, we must undergo a shift in thinking, to see UHC as an operational rather than a political construct.

Cost accounting exercises have limitations because cost, like UHC, is not a fixed point but a function. Current health expenditure reflects what has been achieved with the existing health system capacity and level of utilization at a single point in time. Such expenditure embodies inefficiencies within the health system, such as low productivity, excess capacity and an inappropriate mix of inputs into the system. Given that inefficiency is common, adding more resources alone would not be expected to result in a linear improvement in performance. Indeed, relying on historical service unit costs, which are based on existing service delivery models and utilization patterns, can be misleading and can even hamper progress. Moreover, one core objective of UHC is to address underlying inefficiencies and, thereby, accelerate progress.

Nevertheless, cost accounting exercises can be very useful if they provide information about the underlying cost structure of service delivery and illustrate the impact of decisions about how health services can be delivered.¹³ Cost studies can model a range of scenarios that make different assumptions about prices or the impact of incentives or that consider various service delivery configurations and levels of service use.

Recent health-care reforms in China, for example, aimed to strengthen health-care provision at county, township and village levels by encouraging patients to seek essential health services at the primary care level rather than from specialists in referral hospitals.¹⁴ In this instance, a costing exercise could demonstrate that the cost of hospital-based service delivery with fee-for-service payments would be higher than the cost of primary care

service delivery with a payment mechanism that involved a budget cap. Costing different scenarios can identify the policy choices that must be made to attain the broader health systems goals of high coverage, efficiency and good quality. In this way, costing exercises can aid decision-making about policy options. Moreover, costing exercises can help identify the investments in infrastructure, resources and payment mechanisms needed to change the service delivery model such that care shifts from hospitals to primary care facilities. This approach may be particularly useful in evaluating reforms of the health-care workforce, which is a key constraint in many settings. Recruiting and deploying the health-care workforce for the progressive realization of UHC involves long-term investment and a multisectoral strategy that will take many years to implement.¹⁵

Using costing exercises

Many countries have developed health sector plans with detailed benefits packages and have estimated the resources required. In some cases, cost estimates have been unrealistic and the projected gaps in funding could not feasibly be closed over the short or medium term.¹⁶ In Ghana, for example, a costing exercise on the country's Medium-Term Development Plan for 2010 to 2013 identified a funding gap that required a 113% increase in the government's health budget.¹⁶ Politically, such findings can undermine efforts to accelerate progress towards UHC as they imply that large increases in general revenue are needed immediately.

Frequently, costing exercises for health programmes have used a bottom-up approach that has important methodological limitations. For example, aggregating cost estimates for individual services typically leads to a highly inflated estimate of total cost that almost always exceeds the upper bound of the resources available. Moreover, complex modelling that uses weak or inaccurate data can give policy-makers a false impression that the outcomes are more robust than justified.¹³

What to include in a costing exercise and for what purpose need to be well defined. Interpreting the costs of specific health services (e.g. for malaria, maternal health, family planning or human immunodeficiency virus infection) can be difficult, especially at the primary care level, because of the complexity of separating the costs of labour and

supplies in facilities where a few health workers care for all patients.¹³ In addition, costing exercises are also affected by inefficient service delivery structures and unpredictable input prices. Then, there are other complicating factors unrelated to accounting, such as, not knowing where patients will access services, the difficulty of separating costs included or excluded from benefits packages, and variations in treatment between practitioners. Consequently, efforts to cost an entire benefits package can be long, confusing and inaccurate.

In contrast, costing a specific step in, or element of, a broader reform process can be valuable, particularly when directly tied to the sequencing of reforms. For example, cost accounting can be useful for setting provider payment rates and for evaluating investments in service delivery improvements. In determining provider payment rates, cost accounting focuses on the relative cost of different types of service output (e.g. simple malaria treatment versus complex cardiovascular inpatient care) and can produce an average cost per service across a group of facilities by apportioning administrative and ancillary costs to the final service output. These relative costs are generally stable for 3 to 5 years and are not influenced by the total budget available, which is based on an annual political decision and results in a base rate or average payment per service.

In Kyrgyzstan, the approach of costing individual elements of health-care reform contributed to the development of a case-based hospital payment system that drove restructuring and efficiency gains.¹⁷ The approach resulted in policies that allowed facilities to retain savings, matched payments to the services provided and enabled better data collection for the Kyrgyz single-payer system. In this way, cost accounting was used to evaluate specific policy options on the sequencing of reforms. In addition, by improving cost data, this approach also contributed to the development of a benefits package related to the level of service provided by primary care and referral facilities (rather than

to a long list of approved services and procedures). Over time and by using ever-improving cost data, the benefits package was adjusted to achieve minimum standards, this improved equity of access by providing comparable funding in rural and urban areas.

Investing in data infrastructure

Investing in data infrastructure and increasing the availability of good-quality data are critical parts of the health-care reforms needed to move progressively towards UHC. Data can be used to monitor progress in implementing reforms and the availability of accurate data is important for calculating costs and prices. Many countries that have undertaken reforms have also invested in data collection systems to estimate input costs, output volumes and outcomes. In practice, countries can prioritize items that involve large expenditures and data that are feasible to collect; detailed information that is difficult to collect and does not improve the quality of the results can be omitted. Focusing on only essential data can avoid spending time collecting extra information that does not inform a costing analysis.¹³

On the other hand, a lack of data has not prevented countries from implementing reforms in financing. Skeletal data sets can be generated from information that is already available and overall expenditure can be capped through strategic purchasing arrangements. Specifying minimum data sets and putting processes in place will continually improve the information available for decision-making.¹³ One example is the National Health Insurance Scheme in India that was designed for 500 million of the country's poorest people. As the scheme was established in a very short time, the government set reimbursement rates using available information while also putting into place data collection systems with a review mechanism that enabled these systems to be modified and improved over time.¹⁸

Careful sequencing of health-care reform implementation can create a

dynamic in which the first step makes the second inevitable. For example, estimating the cost of a benefits package does not directly lead to more efficient purchasing of health services or to overcoming the barriers presented by public finance management. However, shifting to an output-based payment system tends to strengthen and harmonize both information and operating systems, thereby improving data and the accuracy of costing exercises. Generally, data that are directly linked to a payment system (and therefore to financial management and audit mechanisms) are more reliable.¹⁹ In addition, a comparison with expenditure levels and reforms in other countries with similar income levels or in the same region may be helpful in discussions with policy-makers.

Conclusions

All countries face the ongoing challenge of ensuring that their whole population has access to essential, good-quality health care and is protected against high out-of-pocket spending on health. This paper has highlighted the pitfalls of using global normative targets to produce national revenue estimates. We urge national policy-makers to focus their efforts on the health-care reforms needed rather than on single cost estimates. In practice, the realization of UHC tends to be incremental: service coverage is extended through gradual increases in revenue, health delivery systems are strengthened and efficiency improves. Ultimately, how much UHC will cost depends on the way it is designed and implemented. In reframing the question from "How much?" to "How?," countries can focus on the health-care reforms, service delivery models and investment needed to provide the foundations for better health among the whole population. ■

Competing interests: None declared.

ملخص

اعتبارات أخرى بخلاف: ما هي تكلفة التغطية الصحية الشاملة؟

الصحة. الهدف من هذه الورقة هو مساعدة صناع السياسة على التفكير من خلال التنفيذ التدريجي للتغطية الصحية الشاملة. أولاً، تمت مناقشة مخاطر تطبيق أهداف الإنفاق المعياري العالمي في تقدير الدخل الوطني المطلوب للحصول على التغطية الصحية الشاملة.

واقفت البلدان على مستوى العالم على السعي نحو التنفيذ التدريجي للتغطية الصحية الشاملة (UHC)، وهناك الآن مستوى عالٍ من الالتزام السياسي نحو توفير تغطية شاملة للخدمات الصحية الأساسية، مع ضمان الحماية المالية للأفراد ضد ارتفاع الإنفاق على

بالاستثمار في البيانات بهدف تحسين المعلومات المطلوبة لتحديد أفضل السياسات. الهدف من هذه التوصيات هو مساعدة واضعي السياسات الصحية، والهيئات الدولية والوطنية، الذين يقومون بوضع خطط الدولة للتنفيذ التدريجي للتغطية الصحية الشاملة.

بعد ذلك، يتم تقديم العديد من التوصيات الخاصة بتقدير الدخل الوطني، وذلك عن طريق التحرك لما بعد موضوع تكلفة الرعاية الصحية الشاملة، والتركيز بدلاً من ذلك على إصلاحات الرعاية الصحية الوطنية وخيارات السياسة المطلوبة للتقدم نحو التغطية الصحية الشاملة. ويوصى على وجه الخصوص بتدريبات التكاليف كأداة لمقارنة الخيارات المختلفة لتقديم الخدمات، كما يوصى

摘要

除“全民健康覆盖成本”之外的其他考虑

在全球范围内，各国已同意逐步实现全民健康覆盖 (UHC)，目前，各国在政治上高度致力于提供基本健康服务的全民覆盖范围，同时确保个人免受高额医疗支出的经济负担。本文旨在帮助政策制定者思考如何逐步实现全民健康覆盖 (UHC)。首先，讨论采用全球规范性支出目标来估算实现全民健康覆盖 (UHC) 所需的国家税收的困难。然后，对估算国家税收提出若干

建议，这些建议不仅围绕全民健康覆盖 (UHC) 的成本问题，而且把重点放在推进全民健康覆盖 (UHC) 所需的国家医疗改革和政策选择上。特别是，建议将成本计算工作作为比较不同服务交付选择的工具，并建议对数据基础架构进行投资，以改进确定最佳政策所需的信息。这些建议旨在协助健康政策制定者以及正在制定逐步实现全民健康覆盖计划的国内外机构。

Résumé

Prendre en compte d'autres aspects que le coût de la couverture sanitaire universelle

À l'échelle mondiale, les pays sont convenus de poursuivre la réalisation progressive de la couverture sanitaire universelle, et l'on observe désormais un fort niveau d'engagement politique en faveur de la couverture universelle des services de santé essentiels en veillant à ce que les individus soient financièrement à l'abri de toute dépense de santé élevée. L'objectif de cet article est d'aider les responsables politiques à effectuer un examen minutieux en vue de la réalisation progressive de la couverture sanitaire universelle. Pour commencer, nous examinons les écueils liés à l'application d'objectifs de dépenses normatifs mondiaux au moment d'estimer le revenu national requis pour la couverture sanitaire universelle. Nous formulons ensuite plusieurs recommandations concernant l'estimation du revenu national, en

dépassant la question du coût de la couverture sanitaire universelle pour nous concentrer sur les réformes nationales en matière de soins de santé et sur les choix politiques nécessaires pour faire progresser la couverture sanitaire universelle. Nous recommandons notamment de procéder à des exercices d'établissement des coûts pour comparer différentes options de prestation de services et d'investir dans des infrastructures de données pour améliorer les informations nécessaires à l'identification des meilleures politiques. Ces recommandations visent à aider les responsables des politiques de santé et les organismes internationaux et nationaux qui élaborent des plans nationaux pour la réalisation progressive de la couverture sanitaire universelle.

Резюме

Рассмотрение других факторов, кроме стоимости обеспечения всеобщего охвата услугами здравоохранения

Страны мира пришли к соглашению о продолжении последовательной реализации программы всеобщего охвата услугами здравоохранения (ВОУЗ). В настоящее время обеспечение всеобщего охвата основными услугами здравоохранения с одновременным созданием финансовой защиты отдельных категорий лиц от высоких расходов на медицинское обслуживание получает значительную политическую поддержку. Цель данного документа — помочь лицам, формирующим политику, продумать процесс последовательной реализации программы ВОУЗ. В нем обсуждаются возможные скрытые проблемы внедрения глобальных нормативов целевых расходов при оценке национального дохода, необходимого для обеспечения всеобщего охвата услугами здравоохранения. Документ также содержит несколько рекомендаций по оценке национального дохода посредством не только рассмотрения

вопроса о том, сколько будет стоить обеспечение ВОУЗ, но и заострения внимания на национальных реформах в сфере здравоохранения и изменениях в политике, необходимых для достижения прогресса в обеспечении всеобщего охвата услугами здравоохранения. В частности, рекомендуется использовать расчет стоимости в качестве инструмента сравнения различных вариантов предоставления услуг, а также инвестиции в инфраструктуру анализа данных для повышения качества информации, необходимой для разработки наиболее эффективных политик. Такие рекомендации предназначены для оказания содействия лицам, формирующим политику в сфере здравоохранения, а также международным и национальным ведомствам, разрабатывающим планы последовательной реализации программы ВОУЗ на уровне стран.

Resumen

Otras consideraciones aparte de: ¿Cuánto costará la cobertura sanitaria universal?

A nivel mundial, los países han acordado procurar la realización progresiva de la cobertura sanitaria universal (universal health coverage, UHC) y ahora existe un alto nivel de compromiso político para proporcionar una cobertura universal de los servicios sanitarios esenciales, al tiempo que se garantiza la protección financiera de las personas frente a los elevados gastos sanitarios. El objetivo de este documento es ayudar a los responsables de formular políticas a pensar en la realización progresiva de la UHC. Primero, se discuten las trampas en la aplicación de las metas globales de gastos normativos al estimar los ingresos nacionales requeridos para la UHC. Luego, se hacen varias recomendaciones sobre la estimación de los ingresos nacionales al ir más

allá de la cuestión de cuánto costará la UHC y enfocarse en cambio en las reformas nacionales de salud y en las opciones de políticas necesarias para progresar hacia la UHC. En particular, se recomiendan ejercicios de cálculo de costos como herramienta para comparar diferentes opciones de prestación de servicios y se recomienda invertir en infraestructura de datos para mejorar la información necesaria con el fin de identificar las mejores políticas. Estas recomendaciones tienen por objeto ayudar a los responsables de formular políticas de salud y a los organismos internacionales y nacionales que están elaborando planes nacionales para la realización progresiva de la UHC.

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Reforms for financial protection schemes towards universal health coverage, Senegal

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Abstract Advancing the public health insurance system is one of the key strategies of the Senegalese government for achieving universal health coverage. In 2013, the government launched a universal health financial protection programme, *la Couverture Maladie Universelle*. One of the programme's aims was to establish a community-based health insurance scheme for the people in the informal sector, who were largely uninsured before 2013. The scheme provides coverage through non-profit community-based organizations and by the end of 2016, 676 organizations had been established across the country. However, the organizations are facing challenges, such as low enrolment rates and low portability of the benefit package. To address the challenges and to improve the governance and operations of the community-based health insurance scheme, the government has since 2018 planned and partly implemented two major reforms. The first reform involves a series of institutional reorganizations to raise the risk pool. These reorganizations consist of transferring the risk pooling and part of the insurance management from the individual organizations to the departmental unions, and transferring the operation and financial responsibility of the free health-care initiatives for vulnerable population to the community-based scheme. The second reform is the introduction of an integrated management information system for efficient and effective data management and operations of the scheme. Here we discuss the current progress and plans for future development of the community-based health insurance scheme, as well as discussing the challenges the government should address in striving towards universal health coverage in the country.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

Target 3.8 of the sustainable development goal 3 is to achieve universal health coverage (UHC), including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.¹ In the strive to achieve UHC and target 3.8, many countries are reforming their public health insurance system.^{2–4} For example, the Kenyan government reformed their insurance system and increased enrolment from 8.40 million people in June 2011 to 27.20 million in June 2018.^{5,6} In Senegal, only 2.68 million people (20.0%) of the 13.4 million population were covered by health insurance schemes in 2012, and of those 1.60 million (59.7%) were registered under health financial protection schemes for formal sector employees.^{7–9} Vulnerable populations, such as children younger than 5 years of age and individuals older than 60 years of age, were eligible for one of the free health-care initiatives, which the government fully subsidize. However, people uninsured, including workers in the informal sector, unemployed individuals, and those living in rural areas, were at high risk of catastrophic health expenditure.

This situation led the Senegalese government to refocus their priorities in realizing UHC, by focusing on improving the quality of health-care provision, strengthening the health workforce and protecting its citizens from catastrophic health expenditure. The new priorities considered the strong political commitment made by the president in 2013, setting equity as a fundamental element in improving access to health care and reducing poverty.^{10–13} To increase financial protection, the

Senegalese government launched a programme for universal health financial protection called *Couverture Maladie Universelle*, in 2013. Following national consultations on health and social actions, the government decided that the programme should: (i) develop basic health financial protection through a community-based health insurance scheme; (ii) reform the compulsory health insurance for formal sector employees; and (iii) strengthen and rationalize the free health-care initiatives. In 2015, the government established a national agency, *Agence de la Couverture Maladie Universelle*, which aims to extend health financial protection coverage to all citizens.

In 2018, there were three types of financial protection schemes in the country: schemes for formal sector employees; free health-care initiatives; and the health insurance scheme in which community-based health insurance was chosen as the major approach to reach informal sector and rural areas (Fig. 1). All schemes cover health-care provision in all three levels of the health system (Fig. 2).

To advance UHC in Senegal, the coverage of the community-based health insurance scheme needs to expand, and the efficiency of the scheme's management and procedures needs to improve. Here we discuss the current progress and plans for future development of the community-based health insurance scheme (Fig. 3).

Community-based insurance scheme

To guarantee financial access to health care for those who were not eligible for the existing schemes, *Couverture Maladie Universelle* established a community-based health insurance

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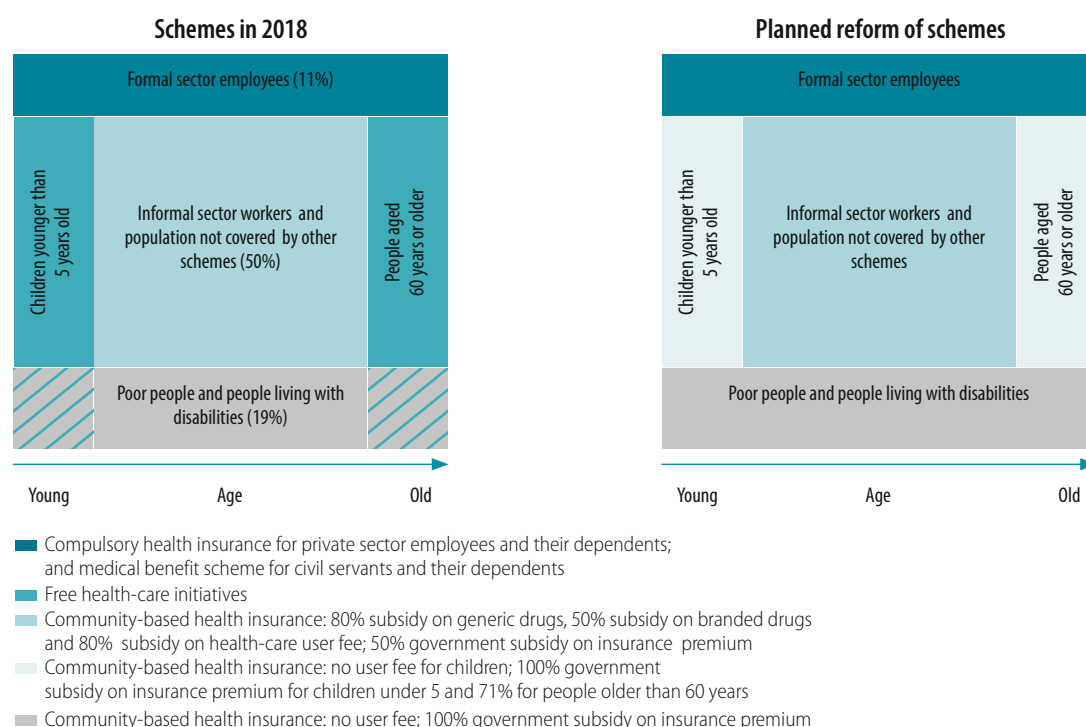
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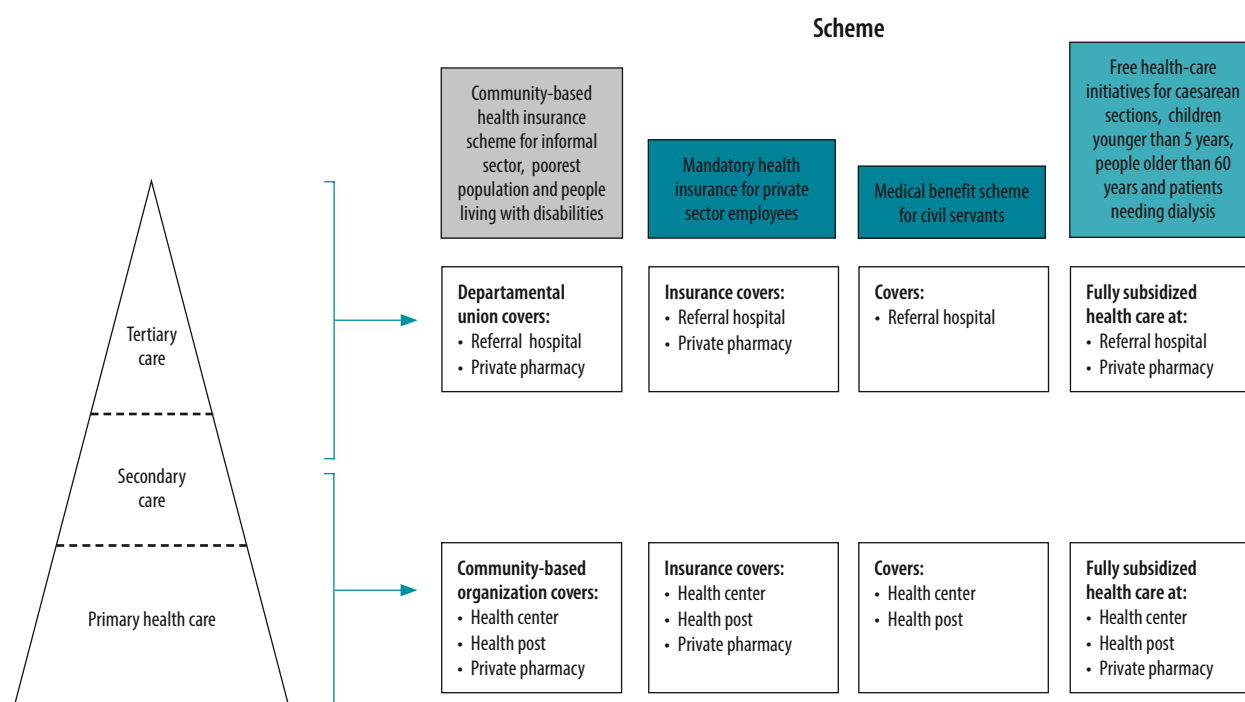
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(Submitted: 15 June 2019 – Revised version received: 4 November 2019 – Accepted: 5 November 2019 – Published online: 5 December 2019)

Fig. 1. **Current and planned financial protection schemes by target population, Senegal**

Notes: The percentage in the panel showing schemes in 2018 represents the estimated target population of each scheme out of total population. In the same panel, children younger under 5 years of age and people 60 years of age or older in the poorest income bracket or if they are living with disabilities, are covered by both community-based organizations and the free health-care initiatives.

Fig. 2. **Health care provision and financial protection schemes, Senegal, 2019**

Notes: For the mandatory health insurance for private sector employees, services are only covered at health facilities, which employers contracted with. Private pharmacy is not covered in the civil servant scheme, civil servants can instead have a voluntary insurance scheme to cover pharmacy costs. For children younger than 5 years of age, only essential health-care services are covered and hence the benefit package is less attractive than the community-based health insurance scheme.

Fig. 3. Timeline of the development and progress of the community-based insurance scheme, Senegal, 2013–2020

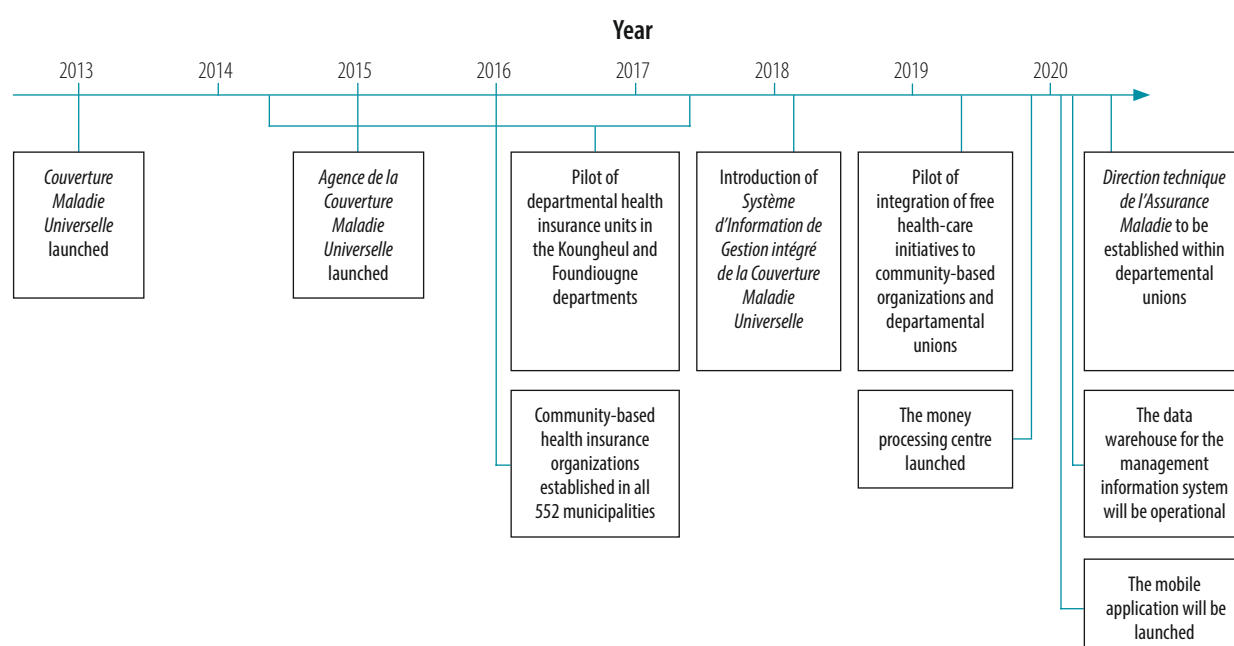


Table 1. Comparison of the Senegalese community-based health insurance and traditional community-based health insurance

Feature	Community-based health insurance in Senegal	Traditional community-based health insurance
Insurers	Non-profit community organizations	Non-profit community organizations
Enrolment	Voluntary	Voluntary
Benefit package	National standard	Not standard
Insurance premium	National standard	Not standard
Regulations	Uniform regulations are set, and the national agency monitor compliance	Not standard
Government subsidy	100% government subsidy to insurance premium of the poor, the persons with disabilities and schoolchildren, and 50% subsidy to all other enrollees	No subsidy by the government
Fund pooling	Two-level pools: a pool for primary and secondary health care benefits managed at community level by community-based organizations, and another pool for hospital care benefits managed at department level by departmental unions of community-based organizations	One pool per community-based health insurance

scheme consisting of community-based organizations. By the end of 2016, the programme had created 676 organizations in all 552 municipalities, covering the entire country.

These non-profit community-based organizations are operated by part-time community volunteers. Examples of the volunteers' task include

registration of beneficiaries, awareness-raising activities about the scheme, reviewing invoices and reimburse health posts, health centres and private pharmacies for services used by members. The organizations are grouped into departmental unions and these unions oversee the financial coverage for services offered in referral-based

hospitals at departmental, regional and national levels (Fig. 2).

Table 1 compares some features of the Senegalese scheme to traditional community-based health insurances in Africa.^{14,15} The Senegalese scheme can be categorized as community-based health insurance because it is managed by non-profit community organizations and its enrolment is voluntary. However, this scheme differs in several aspects from the traditional schemes. First, the benefit package and insurance premium, together with other insurance management rules, are standardized by the national agency. Second, the Senegalese government fully subsidizes the insurance premium for poor households, identified by the National Family Security Grant programme and people living with disabilities. The premium for all the other enrollees are 50% subsidized. Third, in the scheme, the organizations are handling the insurance premium for health services and drugs that are provided or prescribed by health posts and health centres (primary and secondary health care level). The rest of the fund is pooled at departmental unions for health services and drugs that are provided or prescribed by referral hospitals (tertiary health care). As such, at least for tertiary care, larger financial risks can be pooled by larger groups

of people than each community-based organization (Fig. 2).

The health ministry authorizes the community-based organizations to operate under the regulation for social insurance organizations (Regulation no. 07/2009/CM /UEMOA),¹⁶ which was stipulated by the Western African Economic and Monetary Union. The union sets rules for microinsurance, including community-based organizations, in the light of social mutuality within the union. In particular, community-based organizations should be not for profit.

Household heads can enrol in an organization in the community of residence on behalf of his/her household and is responsible for enrolling all the household members in the same organization. The premium contribution is 7000 Western African CFA Francs (about 12 United States dollars) per person and year, of which 3500 Western African CFA Francs is paid by the member. For poor households and people living with disabilities, the government subsidize user-fees in addition to the premium.

Since the launch of the financial protection programme in 2013, the proportion of people covered by an insurance has increased. According to estimates, the population coverage for all schemes increased from 20.0% in 2012 to 49.6% (7 806 797/15 726 037) in 2018. During the same period, the number of beneficiaries covered by a community-based health insurance increased from 421 670 to 3 000 837.¹⁷

Many community-based organizations face challenges in the management and operational capacities. A 2017 survey of community-based organizations in Thiès, Diourbel and Tambacounda regions found that of the 2 084 630 eligible non-poor, informal sector households, only 101 187 households (4.8%) had been enrolled in an organization. This low enrolment implies inadequate risk pooling that could threaten the financial sustainability of the community-based organization, particularly in rural areas.¹⁸ The survey also revealed limitations in the operational capacity, including establishing agreements with local health facilities, reviewing invoices, paying facilities and issues due to the voluntary nature of the work.¹⁸ Low portability of the benefit package is another challenge, because community-based organizations only cover health care that is provided at

local health facilities which they have an agreement with. Finally, the country's financial protection schemes are fragmented, causing duplication of and inefficiency in the operational procedures of the community-based organizations (Fig. 1). For example, the national agency subsidizes the insurance premium under the community-based health insurance scheme, whereas the agency directly transfers the health-care cost to health facilities under the free health-care initiatives.

Addressing the challenges

To overcome the challenges the community-based health insurance scheme is facing and to accelerate UHC in the country, the national agency is adopting two major strategic reforms. The first reform relates to several institutional reorganizations of the existing financial protection systems, such as raising risk pooling from community to departmental level and integrating the free health-care initiatives into the community-based scheme. The second reform is the development and implementation of an integrated management information system for more efficient and effective operations of the community-based organizations, as well as monitoring and evaluation of progress towards universal health coverage.

Institutional changes

Raising the risk pool

A key challenge of the community-based scheme is the limited ability for risk pooling, because a large part of the insurance premium remains to be pooled at community level. In addition, each organization has a limited budget to manage the insurance. By moving some of the community-based organizations' tasks, such as review of invoices, to the departmental union, decision-makers are expecting the scheme to be more efficient through the scale of economy. To ensure sustained community engagement, other functions, such as registration of beneficiaries and awareness campaigns remain at the community level.

Reforming the community-based health insurance scheme by transferring the risk pooling and a part of the management tasks from the community to the department level is necessary for the sustainability of the scheme. Such a reform is planned to follow a pilot

project, which was implemented in Kounghoul and Foundiougne departments from 2014 to 2017, where only one organization was established in each department instead of each community. These departmental health insurance units, called *l'Unité Départementale d'Assurance Maladie*, were developed as part of an official development assistance project by the Belgian government, in partnership with the Senegalese health ministry.^{19,20} When the pilot project started in 2012, the aim was to increase the quality of health services by providing health facilities with training and medical equipment. In 2014, the project team expanded the aim of the project by offering financial protection, therefore, one departmental health insurance unit was established in each department to cover 318 640 people in the departments.¹⁹

The departmental health insurance units are authorized under the same regulations as the community-based organizations. Due to the larger risk pooling, these units are more financially viable to facilitate major interventions in the management and operation of the insurance scheme. First, the units have paid employees, including a director, an accounting manager, a clinical advisor and an administrative assistant. In addition, four staff members are employed to collect premium contributions from the beneficiaries. Second, to increase engagement by local governments, the board of directors includes representatives from the local authority. Third, the units use a special village membership enrolment approach, in which a volunteer is designated by each community to identify all the beneficiaries, to calculate the amount to be collected, so that focal points can collect membership fees and premium contributions based on the information gathered by the volunteer. Fourth, the units apply a discount on the insurance premium for group enrolment. During the implementation of the units, it was estimated that the enrolment rate rose from 2.4% to 25.0%.¹⁹ The departmental health insurance units continue their activities as a professional and viable health insurance schemes after the end of the pilot project in 2017.

Given these findings, the national agency plans to integrate a part of the functions of community-based organizations into their departmental unions. This integration will reinforce the function of the unions, so that the

community-based insurances are controlled and managed at the departmental level. In 2020, the agency plans to set up a directorate, called *Direction Technique de l'Assurance Maladie*, within each departmental union across the country. This directorate will control and manage the operation of the insurance scheme, including invoice review, reimbursement to health facilities, and monitoring of community-based organizations.

Integration of the initiatives

The free health-care initiatives are having issues with financial sustainability and efficient use of resources. For example, the initiatives cannot control if health facilities are double claiming health-care expenses for people who both are eligible for an initiative and are having a health insurance. New reforms are under way to transfer the operation and financial responsibility of the free health-care initiatives for caesarean section and health care for children younger than 5 years of age and adults 60 years of age or older to community-based organizations and departmental unions.

Fig. 1 (right panel) shows the planned coverage scheme. In the new scheme, most of the services under the free health-care initiatives will only be offered free of charge to eligible people if they are also enrolled in the community-based insurance scheme. In partnership with the World Bank and United States Agency for International Development, the national agency has piloted the integration of free health-care initiatives into community-based organizations and departmental unions since the first quarter of 2019 in the Kaffrine health district. Many beneficiaries of the free health-care initiatives have already joined community-based organizations. For example, 74.7% (35 000/46 852) of children younger than 5 years of age have been registered to community-based organizations after a door-to-door children census. During the census, surveyors informed caregivers about the community-based insurance scheme and the reform of the free health-care initiatives.

With the integration of the different schemes, the national agency aims to achieve: (i) defragmentation of health service purchasing mechanisms; (ii) unification of financial flows and pooling resources; (iii) increased coverage of the community-based health

insurance scheme; (iv) improved relations between health service providers and community-based organizations as well as departmental unions; and (v) improved identification of the targeted beneficiaries for awareness campaigns and collection of fees and premium contributions. Furthermore, since the benefit package of the community-based health insurance scheme is generally larger than that of the free health-care initiatives, the new scheme will entail a package that is more complete and attractive than previous package. The new package covers most eligible services at all levels of the health system including medicines from private pharmacies, and neonatal emergencies care in referral hospitals, which is currently covered by the community-based health insurance scheme, but not by the free health-care initiatives.

Integrated information system

Currently, most community-based organizations use paper-based records for enrolment and financial accounts, only a few use computers. To facilitate the monitoring of beneficiaries and to provide online payment options, the national agency introduced an integrated management information system, called *Système d'Information de Gestion Intégré de la Couverture Maladie Universelle*, in 2018. The introduction of the system was supported by the World Bank, *Agence Française de Développement* and Japan International Cooperation Agency. The system has seven modules: (i) biometric identification and management of beneficiaries; (ii) a money processing centre for collection of premiums and other funding; (iii) a data warehouse; (iv) registration and monitoring of the beneficiaries; (v) information management for payments and bills; (vi) information management for insurance operation; and (vii) a mobile phone application for beneficiaries. Here we describe the four main modules.

The money processing centre, also called "SUNUCMU", was launched by the former Prime Minister in April 2019. This module is an electronic platform for collection of subscription fees and premium contributions for community-based organizations, as well as a platform for beneficiary sponsorship and fundraising. Furthermore, the module offers a savings account where the users can save money for their insurance premium.

To reduce the inaccurate data entry and inefficient data processing due to paper-based records, the information system includes a module for registration and monitoring of the beneficiaries called *Système d'Information de Suivi des Mutuelles*. This module enables regular and continuous monitoring of the data entered by community-based organizations, departmental unions and the national agency. The module is now fully synchronized with a module called *Système de Gestion de l'Assurance Maladie*, which manages information relating to the insurance operation, including beneficiaries list, health services used, subsidy from the government and accounting of community-based organizations.

The mobile phone application "SAMACMU", which is planned to be launched in early 2020, provides the public with information about the insurance scheme and general health, and it enables patients to find health facilities, make appointments and settle payments. Community-based organizations can also use the application to run awareness campaigns about the insurance scheme.

Finally, the data warehouse will be one of the major evolutions of this reform, since the warehouse will centralize information from the existing various health financial protection schemes. This centralization of data is expected to enhance the monitoring of the schemes and contribute to defragmentation of those schemes. The data warehouse module will be effective from the first quarter of 2020.

Discussion

The Senegalese government has made a decisive commitment to invest in financial protection through the development of the community-based health insurance scheme. The government foresees that the institutional reforms and the new information management system will improve the insurance management and the efficient use of available resources. However, improvements are still needed, such as increasing the risk pool using a mandatory scheme, reducing fragmentation of schemes, strengthening governance and securing funds to achieve and sustain UHC.

The survey on community-based organizations in three regions revealed that only a modest proportion of informal-sector households were covered by

a community-based health insurance, which is jeopardizing the financial sustainability of the scheme.¹⁸ Studies from several countries have shown that insurances are offered on a voluntary basis. Eligible households can purposefully select their household members to be insured and pay the insurance premium only for them.^{21–25} This adverse selection could lead to the situation that the people insured are more likely to be in need of health care. Therefore, a key target in the *National health financing strategy to move towards universal health coverage* is to make enrolment mandatory and the health financing system more centralized in Senegal.²⁶ In Africa, the governments in Ghana and Rwanda have introduced such mandatory schemes.^{27–29} The Senegalese government has opted for an approach to gradually progress towards a mandatory scheme, for example by requiring new members of professional guilds to enrol in a community-based health organization.³⁰ Another issue is that public sector engagement to expand the insurance coverage is still weak in the country. In Rwanda, achieving a high coverage rate is one of the performance indicators of local governments, incentivizing the public sector to be actively involved in the insurance scheme.^{28,31}

The on-going reform in Senegal of transferring the risk pooling from community level to department level is expected to reduce fragmentation of the health financing system.^{32–35} The integration of the free health-care initiatives into the community-based health in-

surance scheme, should also contribute to reduce fragmentation of the health financial protection schemes. However, in the current health financing system, there is no scheme for risk adjustment beyond the departmental level. The evidence of urban-rural disparity in the financial capacity is potentially threatening the sustainability of the system, particularly in the rural departments.¹⁸ The integrated management information system should help the national agency to efficiently monitor such a disparity across departments as well as health services that are covered by the different health financial protection schemes. The data generated by monitoring the disparities could be used in the discussion towards risk adjustment and pooling at a higher, national level, achieving a more efficient and equitable system. The progress of implementing the integrated management information system in rural areas is of a concern, since these areas often lack the information technology infrastructure needed. Furthermore, the uptake of this system might be hampered among people with inadequate access to smartphones and/or internet.

The intention of the reforms is to maintain the active engagement and ownership of the community-based health insurance at the community level, while transitioning some financial functions of the scheme to the departmental level. Studies have shown the importance of community engagement and ownership in running an insurance scheme.^{27,28,34} In Senegal, the munici-

palities are still responsible for functions such as registration of beneficiaries and awareness-raising activities about the community-based organizations. However, establishing a governance system in which the voice of the community can be heard and reflected in decisions at the departmental level is still needed. For example, by including more community representatives on the board of the departmental unions,

Raising more general revenue and increasing the budget for UHC are key strategies for the Senegalese government to sustain full premium subsidy for the vulnerable populations. The cost of implementation and maintenance of the integrated management information system is also of financial concern. Dialogue between the national agency and the finance ministry has started to explore the fiscal space for the community-based health insurance scheme, including implementing tax on sugar-sweetened beverages and introducing social value added tax earmarked for government health-care expenditure.^{36,37} Such ways of financing UHC may be necessary to overcome the fiscal difficulties to achieve and sustain UHC in Senegal. ■

Funding: YM and RN were supported by the Japan Society for the Promotion of Science KAKENHI Grant Number 18H03634.

Competing interests: None declared.

ملخص

الإصلاحات في مخططات الحماية المالية نحو تحقيق التغطية الصحية الشاملة، السنغال

الرئيسية. يتضمن الإصلاح الأول سلسلة من عمليات إعادة التنظيم المؤسسية لرفع مجموعة المخاطر. تتألف عمليات إعادة التنظيم تلك من نقل جميع المخاطر، وجزء من إدارة التأمين من المؤسسات الفردية إلى اتحادات الإدارات، ونقل التشغيل والمسؤولية المالية لمبادرات الرعاية الصحية المجانية للسكان المعرضين للخطر إلى مخطط مجتمعي. كان الإصلاح الثاني هو إدخال نظام متكامل للمعلومات الإدارية، بهدف تحقيق الكفاءة والفعالية لإدارة لبيانات وعمليات المخطط. نحن نناقش هنا التقدم الحالي وخطط التنمية المستقبلية لمخطط التأمين الصحي المجتمعي، بالإضافة إلى مناقشة التحديات التي يجب أن تواجهها الحكومة في سعيها نحو تحقيق التغطية الصحية الشاملة في البلاد.

إن الارتقاء بنظام التأمين الصحي الشعبي هو أحد الاستراتيجيات الرئيسية للحكومة السنغالية لتحقيق التغطية الصحية الشاملة. أطلقت الحكومة في عام 2013 برنامج الحماية المالية الصحية الشامل، تحت اسم *la Couverture Maladie Universelle*. كان أحد أهداف البرنامج هو تأسيس مخطط مجتمعي للتأمين الصحي للأشخاص في القطاع غير الرسمي، والذين كان يفترقون إلى حد كبير إلى التأمين قبل عام 2013. ويوفر المخطط التغطية من خلال المنظمات المجتمعية غير الهادفة للربح وبحلول نهاية عام 2016، تم إنشاء 676 مؤسسة في أنحاء الدولة. ومع ذلك، فإن المنظمات تواجه تحديات، مثل انخفاض معدلات الالتحاق وانخفاض قابلية نقل حزمة المزايا. لمواجهة التحديات وتحسين الحكومة وعمليات مخطط التأمين الصحي المجتمعي، قامت الحكومة منذ عام 2018 بالتخطيط والتنفيذ الجزئي لاثنتين من الإصلاحات

摘要

塞内加尔改革财政保障计划，实现全民健康覆盖

推进公共医保体系是塞内加尔政府实现全民健康覆盖的关键战略之一。2013 年，政府发起了一项全民医疗财政保障计划，即 *la Couverture Maladie Universelle*。该计划其中的一个目标是为大部分 2013 年以前未投保的非正式部门人口建立一个以社区为基础的医保计划。该计划通过非营利性社区组织进行覆盖，截至 2016 年底，全国已建立 676 个组织。然而，这些组织现在正面临着诸如入学率低和福利方案不可大范围应用等难题。为了解决上述难题，改善社区医保计划的管理和

运作，政府从 2018 年开始就计划并部分实施了两项重大改革。第一项改革包括一系列组织重组，加强风险分担。这些重组包括将风险分担和部分保险管理从个别组织转移到部门工会，并将针对弱势群体的免费医疗计划的运作和财务责任转移到社区计划。第二项改革是引入综合管理信息系统，以实现高效的数据管理和计划运营。在此，我们讨论了当前社区医保计划的进展和未来发展计划，以及政府在全国范围内实现全民健康覆盖可能会应对的挑战。

Résumé

Réformes du régime de protection financière afin d'offrir une couverture maladie universelle au Sénégal

Faire progresser le système public d'assurance maladie est l'une des principales stratégies du gouvernement sénégalais, qui ambitionne de rendre les soins de santé accessibles à tous. En 2013, le gouvernement a lancé un programme de protection financière global en la matière, la Couverture Maladie Universelle. L'un des objectifs de ce programme consistait à établir un régime communautaire d'assurance maladie pour les personnes appartenant au secteur informel, encore largement non assurées auparavant. Ce régime fournit une couverture par le biais d'organismes communautaires sans but lucratif. Fin 2016, 676 organismes de ce type avaient été créés aux quatre coins du pays. Néanmoins, ces organismes sont confrontés à des défis tels que le faible taux d'inscription et la transférabilité réduite de la gamme d'avantages sociaux. Pour y remédier, mais aussi pour améliorer la gouvernance et les opérations du régime communautaire d'assurance maladie, le gouvernement a planifié et partiellement appliqué deux

réformes d'envergure depuis 2018. La première implique une série de réorganisations institutionnelles afin d'accroître la mutualisation des risques. Ces réorganisations consistent à transférer la mutualisation des risques et une partie de la gestion de l'assurance de chacun des organismes vers les unions départementales, et à confier au régime communautaire la responsabilité financière et la mise en œuvre des initiatives destinées à prodiguer des soins de santé aux populations les plus vulnérables. La seconde prévoit l'introduction d'un système de gestion intégrée de l'information afin d'administrer les données et les opérations plus rapidement et avec davantage d'efficacité. Dans ce document, nous évoquons les progrès actuels et les projets de développement futur du régime communautaire d'assurance maladie. Nous traitons également des défis que le gouvernement doit relever, ainsi que des efforts déployés pour offrir une couverture maladie universelle à l'ensemble du territoire.

Резюме

Реформы в области схем финансовой защиты, направленные на достижение всеобщего охвата услугами здравоохранения в Сенегале

Развитие государственной системы медицинского страхования — одна из ключевых стратегий Правительства Сенегала для достижения всеобщего охвата услугами здравоохранения. В 2013 году правительство запустило универсальную программу финансовой защиты в сфере здравоохранения *la Couverture Maladie Universelle*. Одной из целей программы было создание схемы медицинского страхования на уровне общин для населения, занятого в неформальном секторе, которое в основном не было охвачено страхованием до 2013 года. Схема предусматривает обеспечение страхового покрытия за счет некоммерческих организаций на уровне общин, количество которых к концу 2016 года составило 676. Тем не менее эти организации сталкиваются с такими проблемами, как низкий уровень охвата и малая преемственность пакета страховых услуг. Чтобы решить эти проблемы и совершенствовать управление и работу схем медицинского страхования на уровне общин, правительство запланировало и частично осуществило две главные реформы в период с 2018 года. Первая реформа

предусматривает ряд реорганизаций на государственном уровне с целью создания страхового пула. Такая реорганизация предусматривает передачу страхового пула и части управления страхованием от отдельных организаций в объединения на уровне департаментов, а также включение управления и финансовой ответственности за реализацию инициатив по предоставлению услуг бесплатного медицинского обслуживания наиболее уязвимым группам населения в схему медицинского страхования на уровне общин. Вторая реформа представляет собой внедрение единой информационной системы управления для эффективного и действенного управления данными и действиями в рамках данной схемы. В статье обсуждается текущее состояние и планы по дальнейшему развитию схемы медицинского страхования на уровне общин, а также обсуждаются проблемы, которые следует решить правительству для обеспечения всеобщего охвата услугами здравоохранения в стране.

Resumen

Reformas de los sistemas de protección financiera con miras a la cobertura sanitaria universal, Senegal

La promoción del sistema público de seguro médico es una de las estrategias clave del Gobierno senegalés para lograr la cobertura sanitaria universal. En 2013, el gobierno lanzó un programa de protección financiera universal de la salud, la Couverture Maladie Universelle. Uno de los objetivos del programa era establecer un sistema comunitario de seguro médico para las personas del sector informal, que en su mayoría no tenían seguro antes de 2013. El sistema proporciona cobertura a través de organizaciones comunitarias sin fines de lucro y, a finales de 2016, se habían establecido 676 organizaciones en todo el país. Sin embargo, las organizaciones se enfrentan a desafíos, como las bajas tasas de inscripción y la baja portabilidad del paquete de prestaciones. Para hacer frente a los desafíos y mejorar la gobernanza y el funcionamiento del sistema comunitario de seguro médico, desde 2018 el Gobierno ha planificado y aplicado parcialmente dos reformas

importantes. La primera reforma implica una serie de reorganizaciones institucionales para elevar las fuentes de riesgo. Estas reorganizaciones consisten en la transferencia de la mancomunidad de riesgos y parte de la gestión de los seguros de las distintas organizaciones a los sindicatos departamentales, y en la transferencia de la operación y la responsabilidad financiera de las iniciativas de atención gratuita de la salud para la población vulnerable al sistema comunitario. La segunda reforma consiste en la introducción de un sistema integrado de información de gestión para una gestión de datos y un funcionamiento eficientes y efectivos del sistema. Aquí se discuten los avances actuales y los planes para el desarrollo futuro del sistema comunitario de seguro médico, así como los desafíos que el gobierno debe abordar en su lucha por lograr la cobertura sanitaria universal en el país.

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Developing the health workforce for universal health coverage

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Abstract Optimizing the management of the health workforce is necessary for the progressive realization of universal health coverage. Here we discuss the six main action fields in health workforce management as identified by the Human Resources for Health Action Framework: leadership; finance; policy; education; partnership; and human resources management systems. We also identify and describe examples of effective practices in the development of the health workforce, highlighting the breadth of issues that policy-makers and planners should consider. Achieving success in these action fields is not possible by pursuing them in isolation. Rather, they are interlinked functions that depend on a strong capacity for effective stewardship of health workforce policy. This stewardship capacity can be best understood as a pyramid of tools and factors that encompass the individual, organizational, institutional and health system levels, with each level depending on capacity at the level below and enabling actions at the level above. We focus on action fields covered by the organizational or system-wide levels that relate to health workforce development. We consider that an analysis of the policy and governance environment and of mechanisms for health workforce policy development and implementation is required, and should guide the identification of the most relevant and appropriate levels and interventions to strengthen the capacity of health workforce stewardship and leadership. Although these action fields are relevant in all countries, there are no best practices that can simply be replicated across countries and each country must design its own responses to the challenges raised by these fields.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

There is growing recognition that the progressive realization of universal health coverage (UHC) is dependent on a sufficient, equitably distributed and well performing health workforce.¹ Optimizing the management of the health workforce has the potential to improve health outcomes, enhance global health security and contribute to economic growth through the creation of qualified employment opportunities.²

The effective management of the health workforce includes the planning and regulation of the stock of health workers, as well as education, recruitment, employment, performance optimization and retention. Health workforce management is a difficult task for many reasons. For example, there can be skills shortages and funding constraints. Health workers can also form groups (associations, unions and councils) with political and social power; such groups can defend and promote objectives and interests that are not always aligned with national health priorities and objectives. Historically, the health labour market has been highly regulated through barriers to entry and restrictions on tasks that specific health workers can perform; the most highly qualified workers have also secured significant autonomy in performing their work. The health workforce development function is part of, and therefore needs to be integrated with, health system governance and management, health sector policy and legislation, and service delivery strategies and mechanisms.

Here, we discuss the six main action fields in health workforce management identified by the Human Resources for Health Action Framework:³ leadership; finance, policy; education; partnership; and human resources management systems. We have adopted this framework because it is explicitly focused on actions required by policy-makers and planners (all six action fields) and managers (included in the last three

action fields), as opposed to other frameworks that are based on the perspective of the individual health worker or more focused on the labour and finance elements. These six action fields are relevant in countries at all levels of socioeconomic development, including those affected by conflict and chronic complex emergencies. As a result of their intrinsic complexity, and the need to adapt interventions to the specific context and vested interests of a country, these action fields require long-term strategic vision and commitment.

We elucidate the logical hierarchy and links between the six different action fields (Fig. 1). We identify and describe illustrative examples of effective practices in health workforce development according to these six action fields, highlighting the breadth of issues that policy-makers and planners should consider.

Leadership

The effective planning, development, regulation, oversight and management of the health workforce requires more than having a human resources department in a health ministry performing the bureaucratic work of processing recruitment, transfers and retirement. Effective leadership means: identifying needs, priorities and objectives; designing and implementing fitting policies; and managing interactions with other government sectors and regulatory agencies that make decisions impacting on the health workforce. The Islamic Republic of Iran, which has a Ministry of Health and Medical Education, is a rare example of a country that has formalized the coordination between the two sectors.⁴ Other government ministries will also be influential in contexts where health services are primarily delivered in the public sector; the ministries of finance and public services can impose constraints on remuneration and working conditions.

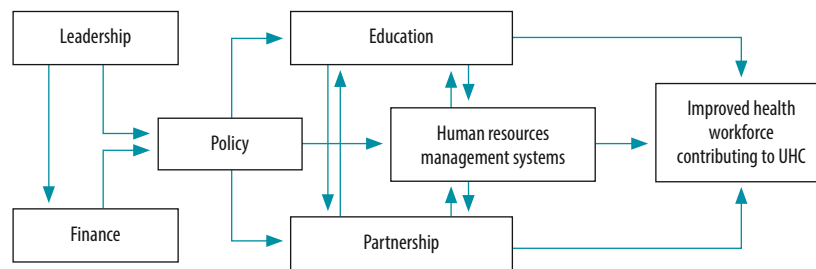
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(Submitted: 2 July 2019 – Revised version received: 7 November 2019 – Accepted: 7 November 2019 – Published online: 4 December 2019)

Fig. 1. **Linking the action fields of the Human Resources for Health Action Framework to improve health workforce management**



UHC: universal health coverage.

Note: Adapted from *Human resources for health action framework*.³

Finance

Mobilizing commitment and support

A critical part of the management of the health workforce is to mobilize political leadership and financial support (to ensure that policies survive leadership changes in government) and build support from stakeholder organizations. Political leadership is required for a whole-of-government approach instrumental to: (i) advocate the business case for strengthening the health workforce and mobilizing stakeholder support; (ii) marshal financial and policy support from ministries of finance, education, labour, civil service commissions, local government and the private sector; (iii) accelerate the adoption of relevant innovations; (iv) mobilize adequate financial resources to meet needs (primarily from domestic resources but, in the case of aid-dependent countries, also from development partners);⁵ and (v) overcome rigidities in public sector regulations.

Targeted funding can support the effective development of human resources for health, but overlapping sources of funds creates the risk of undermining effective coordination.⁶ The evidence suggests that sustained leadership in pursuing policy reforms and in coordinating the targeting of funds is more important than the production of planning and strategic documents; for example, over several political cycles the governments in Brazil⁷ and Thailand⁸ have been relatively successful in maintaining basic policy objectives, such as strengthening primary care, by creating sustained collaboration between min-

istries, national agencies, and state and local authorities.

Policy

Workforce planning for UHC

The planning of the health workforce should address requirements holistically, rather than by occupational groups, and be informed by population and health system current and expected future needs. Such planning should cover education policies, financing requirements, governance and management, and be a continuous process with regular monitoring and adjustment of priorities. Determining today the number and type of health workers that will be needed in 10–20 years is a complex and often inexact exercise; such a process requires both a valid picture of the current situation and a clear vision of the services that will be needed in the future. A good understanding of the dynamics of the health labour market is also a prerequisite; knowing how the participation rates, mobility patterns, aspirations and behaviour of workers will evolve is therefore critical. Certain countries have used this type of information to forecast requirements for skills and competencies in the health and social care workforce (United Kingdom of Great Britain and Northern Ireland),⁹ improve the distribution of pharmacists (Lebanon)¹⁰ and assess the planning implications of demographic change in the nursing workforce (Ghana).¹¹

Countries with a small population face additional challenges as they cannot expect to achieve economies of scale and be totally self-sufficient, for instance in the education of highly specialized

health workers. Educational functions and facilities can be pooled through intercountry collaboration in the form of bilateral or multilateral agreements. Examples of pooling resources include between-country agreements in Europe on sharing the training and development of specialist staff,¹² and a medical school in Fiji being accessible on a cooperative basis to nationals from other Pacific island countries as a primary resource for the training of doctors.¹³

Effective information systems

A recurrent recommendation is to build or strengthen human resources databases that provide policy-makers, planners, researchers and other potential users with valid, reliable, up-to-date and easily accessible data on the health workforce. Major international databases from the World Bank, World Health Organization (WHO) and Organisation for Economic Co-operation and Development (OECD) use data provided by their Member States, but data are provided with varying degrees of quality and completeness between countries. In most countries, there are different sources of potentially useful data (e.g. government ministries, professional councils and training institutes); setting a common definition of required data and coordinating data collection is challenging but important.¹⁴

With a view to standardizing data collection by countries, the WHO Regional Office for Europe, Eurostat and the OECD have combined forces to develop a joint questionnaire¹⁵ that includes sections on health employment and education, and health workforce migration. In addition, WHO provides guidance on a minimum data set for health workforce registry¹⁶ and on the development of National Health Workforce Accounts¹⁷ to improve data availability. Another example is the successful establishment of human resources observatories for health, as in Sudan.¹⁸ Independent organizations that produce research evidence to inform the health workforce policy process operate in Canada (WHO Collaborating Centre on Health Workforce Planning and Research, based at Dalhousie University in Halifax, Nova Scotia), England (Health Education England) and the United States of America (Healthforce Center at University of California, San Francisco).

Education

Appropriate candidates for health professional education

Health workers must have the profile, skills and behaviour that creates trust in the population and promotes demand for quality services. These criteria imply that candidates for training as health professionals must have specific characteristics, such as the ability to communicate, show empathy, be sensitive to cultural differences and work as a team. In most countries the selection of students is by academic grades; although this is a good predictor of future academic performance, it does not reveal anything about future professional performance. The University Clinical Aptitude Test is used in the United Kingdom for the selection of medical and dental applicants to assess mental attitude and behavioural characteristics consistent with the demands of clinical practice.¹⁹ In South Africa, there have been successful examples of more inclusive admission policies coupled with bridging programmes that support students from underprivileged backgrounds.²⁰

Competency-based education

For a decade, calls have been made to transform education programmes and learning strategies to ensure that future health workers have the required competencies for the changing burden of diseases and technological environment.²¹ Desirable competencies must be identified and aligned with population health priorities and any identified skills gaps. In many countries, this means a shift in focus towards education and training that prepares the workforce to deliver effective primary care and meet the increasing challenge of noncommunicable diseases.^{22,23} There are good examples of education for primary care practice in medicine and nursing in Portugal,²⁴ South Africa²⁵ and Thailand.²⁶

Adequate mix of skills

The training and deployment of a sufficient stock of health workers that comprise an optimal mix of skills may entail scaling-up the capacity and staffing of training institutions, and investing in infrastructure. Although there are generally sufficient applicants for medical studies, applicants for training in other health professions, such as nursing are sometimes insufficient. Austria,

Belgium, Denmark, Germany and the Netherlands are some of the countries that have launched targeted campaigns to attract students to nursing and to other occupations with unmet needs, for example, in the fields of radiography and medical laboratory technology.²⁷ An additional challenge is to attract students to less popular (but no less important) medical specialization fields such as family practice, mental health, emergency care or geriatrics. One solution to understaffing in less-popular specialties and geographical areas is to consider alternate providers. In some contexts, community-based and mid-level health workers, adequately supported by the health system, have been effective in expanding coverage and improving health service equity (e.g. in rural areas or for low-income or vulnerable groups).^{28,29}

Regulating education and practice

The development and activation of a regulatory framework that upholds accepted standards of education and practice can include the accreditation of training programmes and institutions, the licensing and certification of health facilities and of individual health workers, and laws defining the scope of practice for each level of worker. Such a framework can also cover the regulation of work in the private sector, including dual practice (where professionals employed in the public sector can undertake work in the private sector)³⁰ and the regulation of private sector education institutions, mechanisms of surveillance of practice by professional councils, and the exercise of discipline in cases of malpractice or unethical behaviour.

In many countries, some of these functions are the responsibility of independent nongovernmental organizations, such as accreditation bodies and professional councils. There is wide variation in educational requirements, regulation and scope of practice between countries and for different professions.³¹ These organizations require continuous funding to function effectively, which explains why they tend to be more developed in high-income countries and in countries with larger professional memberships.³² Right-touch regulation in England entails regulating only what is necessary, monitoring results, checking for unintended consequences and ensuring adherence to explicit policy objective.³³

Partnership

Effective labour relations

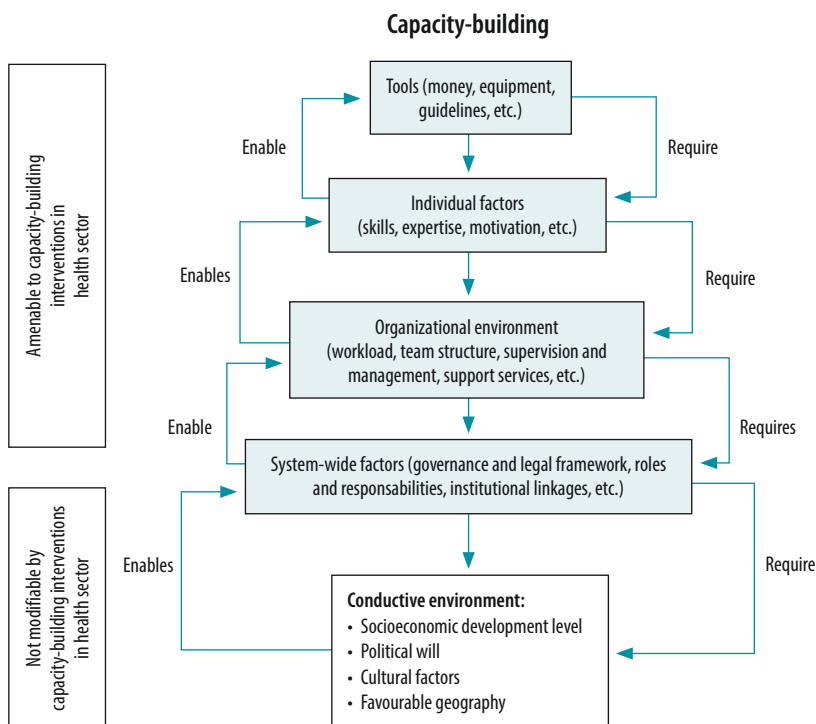
Studies on the adverse effects of poor labour relations (e.g. between management and unions), evidenced by striking health workers, are more abundant than those on good practices in labour relations to limit such disruptions. To identify good practices, studying the experience of countries where conflict management is effective in preventing service disruption is needed, as well as identifying contributing factors to prevention. Context-specific policy recommendations have been developed to guide the management of labour relations in countries that have recently witnessed large-scale industrial action by health workers (e.g. Kenya), emphasizing the importance of mechanisms of dispute resolution.³⁴ Experience from South Africa highlights the need to preserve access by the population to essential services during episodes of industrial action.³⁵

Human resources management systems

Supporting and retaining workers

Decent work can contribute to making health systems effective and resilient, and to achieving equal access to quality health care.³⁶ Decent work may have different meanings depending on the context; a good indicator of its existence is the capacity of provider organizations to recruit the staff they need and to retain them. In the USA, so-called magnet hospitals report higher nurse satisfaction, less staff turnover, higher patient satisfaction and better health outcomes.^{37,38} In Portugal, family health units are self-constituted teams of physicians, nurses and administrative secretaries, which demonstrate better worker and user satisfaction, coverage and health outcomes than traditional health centres that are staffed through public recruitment and where professionals operate in a more rigid administrative environment.³⁶ What these examples from the USA and Portugal have in common is that workers have more autonomy, work in teams and feel respected; management is participative; and innovation is valued. Good practices, such as creating a more family-friendly environment (e.g. offering flexible hours to mothers of young

Fig. 2. **Hierarchy of needs in capacity building for effective stewardship of human resources for health**



Note: Adapted from Potter C & Brough R, 2004, to illustrate relevant health workforce policy levers and external factors.⁵⁰

children and providing access to child day-care services) or adapting working conditions for older workers to prevent early retirement, also show positive results in attracting and retaining workers in health facilities.²³ Deliberate efforts to create a positive practice environment, with a focus on involving staff in decision-making and assessing workplace priorities, has translated into the improved motivation and performance of health workers in several low- and middle-income countries, specifically Morocco, Uganda and Zambia.³⁹

Underserved geographical areas

The attraction of health workers to rural, isolated or otherwise underserved areas, and the retention of these workers once recruited, requires a range of strategies, including: targeted education admission policies to attract candidates from underserved zones; packages of financial, professional (mentorship, networking and continuing education) and quality-of-life incentives; regulatory reforms; and bonding contracts in exchange for educational support costs.⁴⁰ Specific policy interventions include: compulsory service in disadvantaged areas after

the completion of studies, for example in South Africa;⁴¹ development of a role intended to provide care in rural and/or remote areas, for example in aged care nurse practitioner in Australia⁴² and surgical technicians in Zambia;⁴³ an emphasis on rural experience in medical education provision; and the use of financial incentives to retain staff, for example in Cambodia, China and Viet Nam.⁴⁴

Managing emigration

Some high-income countries rely on active international recruitment, which can exacerbate staff shortages in lower-income source countries. Emigration flows can reach high levels from some low- and middle-income countries where working conditions are perceived as poor. These flows can be mitigated by the use of bilateral agreements, which define the conditions under which foreign workers, typically physicians and nurses, will be employed in destination countries, as well as the benefits both countries would gain from the agreement, as recommended by the WHO Global Code of Practice on the International Recruitment of Health

Personnel.⁴⁵ An example of such an agreement is that between Germany and Viet Nam, signed in 2012, in which gaps are addressed in geriatric care nurses in the destination country (Germany), and training and employment opportunities are provided for health personnel of the source country (Viet Nam).⁴⁶ Outflows from higher-income countries can be beneficial during periods of high unemployment or underemployment, which was the case during times of austerity in Greece, Portugal and Spain.⁴⁷

Very few studies in the literature assess good practices to prevent the emigration of health workers. The increase in remuneration of physicians in Ghana in 2008 appeared to reduce the rate of emigration by 10%, principally among physicians younger than 40 years (potential emigrants) but not of older physicians.⁴⁸ Hungary adopted a series of measures such as pay increases and scholarships for specialty training in exchange for 10 years of work in public services, but with only limited success.⁴⁹

Discussion

We have discussed the six different action fields under the purview of health sector policy-makers, planners and managers, focusing on the system-wide or organizational environmental factors that relate to health workforce development. Other factors exist outside the control of policy-makers in the health sector, which in turn have a fundamental role in determining the political, technical and financial feasibility and sustainability of health workforce policies and actions. While recognizing their importance, these factors fall outside the scope of this paper.

Although the evidence base for the six action fields identified by the Human Resources for Health Action Framework is limited, it is still sufficient in each individual action field to warrant a dedicated review. These action fields are not strategies that can be pursued in isolation. Rather, they are interlinked functions that depend on a strong capacity for the effective stewardship of health workforce policy, as illustrated in Fig. 1. This capacity can best be understood as a pyramid of tools and factors, encompassing the individual, organizational, institutional and health system levels, where the success of each level depends on capacity at the level below and enables actions at the level above (Fig. 2).⁵⁰

In chronic and complex emergencies and in countries emerging from conflicts that have severely limited the capacity of pre-existing governance management, priority should arguably be given to essential governance functions and to the mobilization of political commitment. Appropriate governance underpins success in other areas and is required to guarantee the functioning of the system at its most basic level, for example: in establishing (if not already in existence) a mechanism for health workforce policy dialogue and planning, a system to dynamically monitor

health workforce stock and distribution, and a fund pooling mechanism for the sustainable and integrated financing of the health workforce; revamping mechanisms for the execution of agreed health workforce policies by subnational health administrations; and reinstating a functional payroll while removing the records of both ghost workers and health workers who may have been added during the period of crisis, but who are no longer part of the workforce.

An analysis of the policy and governance environment and of mechanisms for health workforce policy development

and implementation is required, and should guide the identification of the most relevant and appropriate levels and interventions to strengthen the capacity of health workforce stewardship and leadership. Remembering that there are no best practices that can simply be replicated across all countries, responses to the challenges raised by these action fields are context-specific and each country must design its own. ■

Competing interests: None declared.

ملخص

تطوير القوى العاملة في القطاع الصحي لأغراض التغطية الصحية الشاملة

يعد تحسين إدارة القوى العاملة في القطاع الصحي أمراً ضرورياً لتنفيذ التغطية الصحية الشاملة بشكل تدريجي. سوف نناقش هنا مجالات العمل الستة الرئيسية في إدارة القوى العاملة في القطاع الصحي وفقاً للتوضيح الوارد في "الموارد البشرية لإطار العمل الصحي": القيادة؛ والشؤون المالية؛ والسياسات؛ والتعليم؛ والشراكة؛ ونظم إدارة الموارد البشرية. كما نقوم كذلك بتوضيح ووصف أمثلة للممارسات الفعالة في تطوير القوى العاملة في القطاع الصحي، مع التركيز على مجموعة القضايا التي يجب أن يضعها واضعو ومخططو السياسات في الاعتبار. من غير الممكن تحقيق النجاح في مجالات العمل هذه من خلال السعي لتحقيقها بمعزل عن غيرها. بل هي وظائف مترابطة تعتمد على قدرة قوية على الإشراف الفعال لسياسة القوى العاملة في القطاع الصحي. يمكن الوصول لأفضل فهم لقدرة الإشراف تلك على أنها هرم من

摘要

全民健康覆盖的卫生人力建设

优化卫生人力管理是逐步实现全民健康覆盖的必然要求。这里我们讨论的是《卫生人力资源行动框架》中确定的卫生人力资源管理的六大行动领域：领导力；财政；政策；教育；伙伴关系；和人力资源管理系统。我们还确立并描述了发展卫生人力中有效做法的例子，强调政策制定者和规划者应注重思考问题时的广度。在这些行动领域取得成功是不可能分开进行的。相反，环环相扣、相互关联才能发挥出它们的价值，而这取决于有效管理卫生人力政策的强大能力。这种管理能力的最佳理解是由工具和因素组成的金字塔，

它包括个人、组织、机构和卫生系统，每一级都取决于下一级的能力，并扶持上一级的行动。我们重点关注与卫生人力资源发展相关的组织或系统等级所涵盖的行动领域。我们认为，需要对政策和治理环境以及制定和执行卫生人力政策的机制进行分析，并应指导确定最相关和最适当的等级和干预措施，以加强卫生人力管理的管理和领导能力。尽管这些行动领域在所有国家都具有相关性，但没有一个可以适用于各个国家的最佳做法，每个国家都必须设计自己的应对措施，克服来自这些领域的挑战。

Résumé

Renforcer le personnel de santé en vue de la couverture sanitaire universelle

Il est nécessaire d'optimiser la gestion du personnel de santé pour parvenir progressivement à la couverture sanitaire universelle. Dans cet article, nous nous intéressons aux six grands domaines d'action en matière de gestion du personnel de santé qui sont définis dans le Cadre d'action concernant les ressources humaines pour la santé: leadership; finances; politiques; éducation; partenariats; et systèmes de gestion des ressources humaines. Nous décrivons également des exemples de

pratiques efficaces pour renforcer le personnel de santé, en mettant en avant l'étendue des questions que les responsables politiques et les planificateurs devraient prendre en compte. Il n'est pas possible de réussir dans ces domaines d'action en les abordant de manière séparée. Ce sont des fonctions étroitement liées qui dépendent d'une forte capacité à gérer efficacement les politiques relatives au personnel de santé. Cette capacité de gestion peut être mieux comprise sous la

forme d'une pyramide d'outils et de facteurs englobant les niveaux des individus, des organisations, des institutions et des systèmes de santé, dans laquelle chaque niveau dépend de la capacité du niveau inférieur et permet d'agir au niveau supérieur. Nous nous intéressons ici aux domaines d'action qui correspondent aux niveaux des organisations ou des systèmes et qui concernent le renforcement du personnel de santé. Selon nous, il est indispensable d'analyser le cadre stratégique et les structures de gouvernance, ainsi que les mécanismes d'élaboration et

de mise en œuvre des politiques relatives au personnel de santé. Cette analyse devrait permettre de déterminer les niveaux et les interventions les plus appropriés pour renforcer la capacité de gestion et de direction du personnel de santé. Bien que ces domaines d'action concernent tous les pays, aucune meilleure pratique ne peut être simplement reproduite dans tous les pays. Chaque pays doit trouver ses propres réponses aux questions soulevées par ces domaines.

Резюме

Развитие кадровых ресурсов здравоохранения для обеспечения всеобщего охвата услугами здравоохранения

Оптимизация управления кадровыми ресурсами в сфере здравоохранения необходима для последовательной реализации программы всеобщего охвата услугами здравоохранения. Авторы обсуждают шесть основных областей деятельности в сфере управления трудовыми ресурсами здравоохранения, которые определены в Рамочной программе действий в области кадровых ресурсов здравоохранения: лидерство, финансирование, политику, образование, партнерство и системы управления кадровыми ресурсами. Авторы также выявляют и описывают примеры эффективных методов по развитию кадровых ресурсов здравоохранения, подчеркивая широкий спектр вопросов, которые следует учитывать лицам, формирующим политику, и специалистам по планированию. Добиться успеха в данных областях деятельности невозможно, если работать над ними изолированно. Напротив, они являются взаимосвязанными функциями, которые зависят от того, существует ли значительный потенциал эффективного руководства политикой кадровых ресурсов здравоохранения. Такой руководящий потенциал легче всего представить как пирамиду инструментов и

факторов, охватывающих индивидуальный, организационный, ведомственный уровни и уровень системы здравоохранения, причем каждый уровень зависит от потенциала нижестоящего уровня и стимулирующих мер на вышестоящем уровне. Авторы уделяют особое внимание областям деятельности на организационном и общесистемном уровнях, которые связаны с развитием кадровых ресурсов здравоохранения. Они считают, что необходим анализ политики и культуры управления, а также механизмов разработки и реализации политики в области кадровых ресурсов здравоохранения, который должен послужить основанием для определения наиболее актуальных и подходящих уровней и мероприятий для укрепления потенциала управления кадрами здравоохранения и их лидерства. Несмотря на то что данные области деятельности актуальны для всех стран, универсальных методов, которые можно применять в разных странах, не существует. Следовательно, каждая страна должна разработать свои собственные решения для проблем, возникающих в указанных областях.

Resumen

Desarrollo de la fuerza laboral sanitaria para la cobertura sanitaria universal

La optimización de la gestión de la fuerza laboral sanitaria es necesaria para la realización progresiva de la cobertura sanitaria universal. La optimización de la gestión de la fuerza laboral sanitaria es necesaria para la realización progresiva de la cobertura sanitaria universal. En este documento se examinan los seis campos de acción principales de la gestión de la fuerza laboral sanitaria identificados en el Marco de Acción de Recursos Humanos para la Salud: liderazgo, finanzas, políticas, educación, asociaciones y sistemas de gestión de los recursos humanos. También se identifican y describen ejemplos de prácticas efectivas en el desarrollo de la fuerza laboral sanitaria, destacando la amplitud de los temas que los responsables de formular políticas y los planificadores deben considerar. No es posible alcanzar el éxito en estos campos de acción si se persiguen de forma aislada. Más bien, se trata de funciones interrelacionadas que dependen de una fuerte capacidad de gestión eficaz de la política de la fuerza laboral sanitaria. Esta capacidad de gestión puede entenderse mejor como una pirámide de herramientas

y factores que abarcan los niveles individual, organizativo, institucional y del sistema de salud, en la que cada nivel depende de la capacidad en el nivel inferior y de las medidas de habilitación en el nivel superior. Se hace énfasis en los campos de acción cubiertos por los niveles de la organización o de todo el sistema que se relacionan con el desarrollo de la fuerza laboral sanitaria. En este contexto, es necesario realizar un análisis del entorno normativo y de gobernanza y de los mecanismos para el desarrollo y la implementación de las políticas de la fuerza laboral sanitaria, y debe guiar la identificación de los niveles e intervenciones más pertinentes y apropiados para fortalecer la capacidad de gestión y liderazgo de la fuerza laboral sanitaria. Aunque estos campos de acción son relevantes en todos los países, no hay mejores prácticas que puedan ser simplemente replicadas a través de los países y cada país debe diseñar sus propias respuestas a los desafíos planteados por estos campos.

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Legislating for public accountability in universal health coverage, Thailand

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Abstract Sustaining universal health coverage requires robust active public participation in policy formation and governance. Thailand's universal coverage scheme was implemented nationwide in 2002, allowing Thailand to achieve full population coverage through three public health insurance schemes and to demonstrate improved health outcomes. Although Thailand's position on the World Bank worldwide governance indicators has deteriorated since 1996, provisions for voice and accountability were embedded in the legislation and design of the universal coverage scheme. We discuss how legislation related to citizens' rights and government accountability has been implemented. Thailand's constitution allowed citizens to submit a draft bill in which provisions on voice and accountability were successfully embedded in the legislative texts and adopted into law. The legislation mandates registration of beneficiaries, a 24/7 helpline, annual public hearings and no-fault financial assistance for patients who have experienced adverse events. Ensuring the right to health services, and that citizens' voices are heard and action taken, requires the institutional capacity to implement legislation. For example, Thailand needed the capacity to register 47 million people and match them with the health-care provider network in the district where they live, and to re-register members who move out of their districts. Annual public hearings need to be inclusive of citizens, health-care providers, civil society organizations and stakeholders such as local governments and patient groups. Subsequent policy and management responses are important for building trust in the process and citizens' ownership of the scheme. Annual public reporting of outcomes and performance of the scheme fosters transparency and increases citizens' trust.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

The World Bank worldwide governance indicators¹ comprise six dimensions of governance: voice and accountability; political stability and absence of violence; government effectiveness; regulatory quality; rule of law; and control of corruption. The indicators relate to national level governance, and none are specifically about health. The voice and accountability indicator “captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and a free media.”² Between 1996 and 2018, Thailand's overall ranking on the indicators deteriorated, affected by the country's protracted political conflicts since 2002.³ From 2002 to 2018, Thailand's global rank has decreased from the 65th to below the 20th percentile for political stability and from the 60th to the 20th percentile for voice and accountability. However, government effectiveness remained relatively stable around the 60th and 70th percentiles (Fig. 1). Public services remain functioning with adequate quality, reflecting a degree of independence from political pressure and a capacity to formulate and implement policies among bureaucrats.

Sustaining universal health coverage (UHC) requires robust active public participation⁵ in policy formation and accountability mechanisms.^{6–8} Participatory governance can improve the performance of the health system.⁹ Partnerships and opportunities for dialogue among multiple stakeholders are therefore important for health-sector governance. In New Zealand, Thailand and Turkey, accountability mechanisms have been shown to support quality and responsiveness of services through ensuring that health professionals respect patients' rights.^{10,11}

Since 2002, Thailand's entire population of 63 million has been entitled to a comprehensive health benefit package with a high level of financial risk protection through one of the three public insurance schemes. The civil servant medical benefit scheme for government employees, pensioners and dependents (spouse, parents and not more than three children younger than 20 years) is managed by the Comptroller General's department of the finance ministry. The social health insurance for private sector employees is managed by the Social Security Office of the labour ministry. The remaining population are covered by the universal coverage scheme, managed by the National Health Security Office, a public body established under the National Health Security Act 2002.¹²

Since its introduction, the universal coverage scheme has contributed to favourable health outcomes. Access to health services by the whole population has improved, with low levels of unmet health care needs,¹³ comparable to Organisation for Economic Co-operation and Development countries.¹⁴ Outpatient and inpatient utilization of public health-care facilities has increased, preferentially benefitting elderly people.¹⁵ Use of annual check-ups has increased, particularly among women,¹⁶ with no evidence of greater consumption of health-care services. The scheme benefits poor households, who are more likely to use public health services than richer people, with pro-poor budget subsidies and services requiring no copayments.¹⁷ Extensive geographical coverage by well-functioning district health systems, developed since before the introduction of the scheme, explains the pro-poor outcomes.¹⁸

In this article we identify the provisions on voice and accountability in Thailand's legislation on UHC and consider

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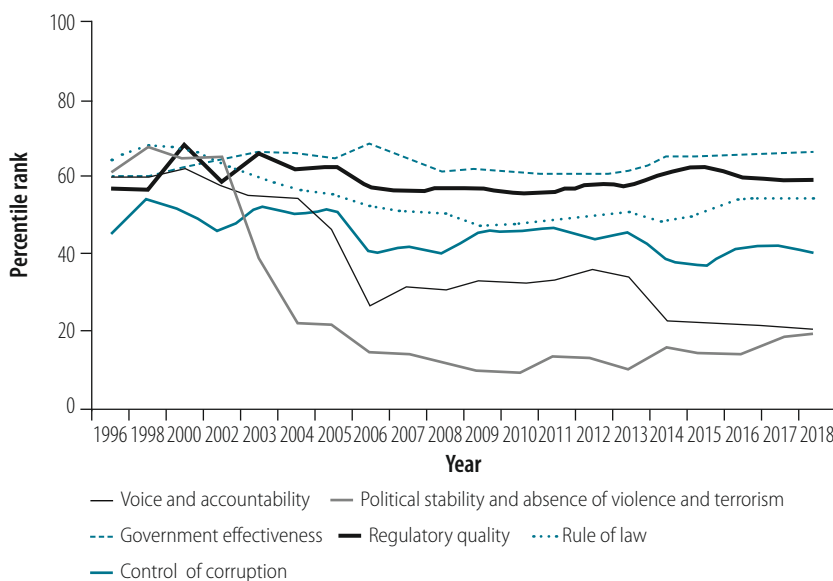
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(Submitted: 14 June 2019 – Revised version received: 8 November 2019 – Accepted: 9 November 2019 – Published online: 4 December 2019)

Fig. 1. Percentile rank of worldwide governance indicators, Thailand 1996–2018



Data source: World Bank worldwide governance indicators.⁴

how the universal coverage scheme is designed to ensure citizen's voices and concerns are heard and taken into consideration. The deliberative process in the scheme provides lessons for low- and middle-income countries and other sectors in Thailand where policy links are weak, such as education, environment and social welfare.

Legislation

Article 56 of the 2017 Constitution of Thailand requires the government to conduct public hearings and environmental and health impact assessments¹⁹ for policies which may have a negative impact on culture, health and the environment.²⁰ The National Health Security Act, however, set up additional processes which foster implementation of voice and accountability. Embedded in the Act are six articles related to citizens' voices and the accountability of the National Health Security Office (Table 1). Article 18(10) and Article 18(13) mandate the office to convene annual public hearings for health-care providers and patients on the challenges faced and to identify gaps for improving the performance of the universal coverage scheme.²¹ Article 26(3) and Article 26(7) mandates the office to register citizens to health-care provider networks and record the information in the national beneficiary database and re-register members to a new network if they relocate. Articles 26(8), 50(5), 57 and 59 further mandate

the office to establish systems for citizens to lodge complaints and for conflicts to be investigated and resolved.²¹ Article 41 mandates the office to earmark up to 1% of the total annual budget of the scheme for no-fault financial assistance to the patients or families affected by adverse events.^{21,22}

From legislation to action

Annual public hearings

The annual public hearings are an integral part of the universal coverage scheme since 2004 (the civil servant medical benefit scheme and social health insurance have no such mechanism). In implementing the legislative mandate, the National Health Security Office strives to create a sense of ownership among members of the scheme and gain broad-based support from other stakeholders.²³ Engagement with health-care providers strengthens the scheme and ensures it benefits its members.²⁴ Although public hearings for providers and beneficiaries are mandatory, the office also creates opportunities for other stakeholders, in particular representatives from local administrative organizations and academia, to express their views and provide recommendations.²⁵ Regional health security offices request provincial health offices to nominate representatives of health-care providers. Provincial coordination centres, managed by civil society organizations,

nominate lay people to attend the hearings and inform attendees about the process.²⁶ To accommodate distinct interests and avoid possible conflict, provider and citizen hearings are convened separately. Reports on the public hearings and the management responses are circulated to affirm that the members' voices were heard.

The office, as a conscious learning organization, has made several modifications to the public hearing process. In the first year, annual public hearings were trialled in the capital city Bangkok and four regions. They were later implemented in all 13 public health regions in 2005 and all provinces in 2006.²⁷ In 2013, seven issues were identified for discussion at annual hearings: type and scope of essential health services; health service standards; office management; national health security fund management; local health security fund management; public participation; and other specific issues relevant to the locality.²⁸ The opinions and suggestions from the 13 regional public hearings are compiled, synthesized and used as inputs for the final national level public hearing. All inputs and responses to proposals from the hearings are considered to identify further actions to be taken: a genuine and meaningful process demonstrating transparency and accountability.²⁵

A few notable changes have stemmed from public hearings and the advocacy efforts of civil society organizations. Access to emergency health services was harmonized across the three public health insurance schemes in 2012, while in 2013 the criteria for no-fault financial assistance were revised. In 2015, the two-child limit on the number of birth deliveries eligible for the universal coverage scheme was abolished.²⁸ Finally, stakeholders (policy-makers, medical experts, academia, research and innovation organizations, private industry, patient groups, civil society organizations and the general public) were able to participate in submissions of topics for consideration and the prioritization of new interventions included in the benefit package.^{29–34}

Registration of members

To ensure citizens' rights to standard health care the National Health Security Office is mandated to register eligible members in the national beneficiary database and to update the database for births, deaths and movement across

insurance schemes and health-care facilities. Citizens must be registered to a primary health-care contractor network in the district where they live and be re-registered to a new network if they relocate. As scheme members are required to use the network they are registered with, prompt re-registration for people seeking job opportunities away from their home district reflects the office's accountability to protect members' right to health services. The beneficiary registration system is publicly accessible via the office's website and the system is updated monthly.

Helpline

Since 2002 the National Health Security Office has managed a 24-hour, 7 days a week telephone helpline for people to obtain information about the universal coverage scheme and its benefit package, to locate the services they require and to lodge complaints. The Social Security Office also operates a 24/7 helpline, while the Comptroller General department's call centre is only active during office hours.

Over the past two decades, the helpline service has evolved to make the universal coverage scheme more responsive to members' needs and has analysed the data gathered to improve the scheme's performance. Initially, only 10 staff members operated the call centre using a paper-based recording system. From 2004, record-keeping as well as information for call-centre workers was computer-based. A patient referral coordination service, facilitating referrals from one hospital to another, was incorporated in 2013. In 2018, Thai sign language services were introduced along with a telecommunication relay service, extending the service to 0.38 million beneficiaries with hearing disabilities, reflecting the office's accountability to disabled users.³⁵ By 2019, there were 78 full-time staff in the call centre, and an additional set of 21 staff managing complaints.

In 2018, 930 302 calls were received, of which 900 984 (96.8%) were enquiries about the benefit package, entitlements and co-payments, how to register for the health-care provider network and how to access health services. Complaints from patients accounted for 0.6% of the total calls (5248 complaints); 3672 of the 4531 resolved complaints (81.0%) were settled within 25 days, while 65 complaints (1.2%) were serious and submit-

Table 1. **Voice and accountability provisions in Thailand's National Health Security Act 2002 and actions taken**

Related articles in the National Health Security Act 2002	Corresponding actions by the National Health Security Office	Implications
<p>Article 18(10): the National Health Security Board shall prescribe rules for hearing opinions of providers and patients to improve the quality and standard of health services.</p> <p>Article 18(13): the National Health Security Board has a duty to conduct annual general public hearings with health-care providers and patients</p>	Annual general public hearings are conducted at regional and national levels	Key stakeholders in the universal coverage scheme, including health-care providers and patients, have a channel to voice their concerns about the scheme. The board is responsible for improving the quality of health services based on the results of public hearings
<p>Article 26(3): the National Health Security Office is responsible for registration and update on the status of the universal coverage scheme members.</p> <p>Article 26(7): a universal coverage scheme member can re-register with health-care networks, on request</p>	A beneficiary registration system is publicly accessible via the office's website. The system is updated monthly	The office is accountable for ensuring the accessibility of universal coverage scheme members to health-care units and ensuring uninterrupted rights to health services among people relocating for work
<p>Article 26(8): the National Health Security Office shall facilitate and manage citizens' complaints.</p> <p>Article 50(5): the National Health Security Office shall provide an independent complaint unit from health-care providers.</p> <p>Article 57: a health-care unit that fails to comply with the prescribed health service standard shall be investigated.</p> <p>Article 59: patients who are not provided with reasonable facilitation shall lodge their complaints to the National Health Security Office for investigation under Article 57</p>	<p>A telephone helpline provides information to patients, scheme members, as well as health workers about the universal coverage scheme and its benefit package, how to locate the required services and how to lodge complaints.</p> <p>Health security service centres in 885 hospitals deal with on-site problem-solving and helps patients to navigate through the health-care system.</p> <p>Civil society organizations manage community-based complaint units, independent from health-care providers</p>	The office is accountable for protecting the rights of universal coverage scheme members to standard health services. Civil society organizations manage community-based complaint units, that are independent from health-care providers, ensure that members' voices are heard and local action is taken
<p>Article 41: the National Health Security Board shall earmark not more than 1% of the National Health Security Fund for initial financial assistance to patients affected by adverse events due to medical services</p>	Initial financial assistance is provided to patients or families affected by an adverse event or death	The office is accountable for prompt responses to adverse events due to medical services

ted for investigation by the Quality and Standards Committee.³⁶ A further 35 complaints concerned "health care units failing to meet the prescribed standard of service," of which 13 were resolved by issuing an order advising health-care units to comply with the standard, three complaints were dismissed and

19 are under investigation. Another 30 complaints were about "health units not providing treatment pursuant to their rights or unduly charging the patients," of which 11 complaints were resolved by requesting the health-care units to return money. Most complaints were resolved through communication

and dialogue between providers and patients.

No-fault financial assistance

Financial assistance for patients or families affected by adverse events, such as disability or death after using medical services, also reflects the high level of accountability in the universal coverage scheme. As mandated, the National Health Security Office earmarked 4.92 Thai baht (THB) per capita (United States dollars, US\$ 0.16) for the 2018 fiscal year budget to no-fault financial assistance for adverse events, a total sum of 236.16 million THB (US\$ 7.56 million). In 2018, 970 patients filed for the assistance and the Quality and Standards Committee, responsible for investigating and granting decisions, approved 755 (77.8%) patients to receive compensation, a total amount of 165.51 million THB (US\$ 5.30 million).³⁶ Additionally, 511 health professionals filed for compensation due to adverse events from providing services to patients, of whom 427 (83.6%) received compensation, totalling 6.31 million THB (US\$ 0.21 million).³⁶

Legislation under the universal coverage scheme has also influenced other government schemes. In 2018, the Social Security Office instituted a similar regulation to compensate social health insurance members for deaths, disability and conditions requiring long-term support. In the same year, the finance ministry has issued regulations to provide compensation to public health-care providers for adverse events, financed by the annual budget.^{37,38}

Governance and capacities

Inclusiveness

The National Health Security Board directs and oversees the performance of the National Health Security Office. The multistakeholder nature of the Board is effective in ensuring accountability in decision-making and representing the views of the taxpaying public and beneficiaries of the universal coverage scheme. Board members include the health minister as chair, eight ex-officio members (permanent secretaries from the relevant ministries, including public health) four local government representatives, five civil society organization representatives, five health professionals including representatives from the private hospital association and seven

experts in the fields of health insurance, medicine and public health, Thai traditional medicine, alternative medicine, health financing, law and social sciences.

Representation by civil society organizations demonstrates the participation and empowerment of citizens. Organizations choose five from nine civil society organizations constituencies whose works are related to: children and adolescents; women; elderly people; disabled people and mentally ill patients; people living with human immunodeficiency virus and chronic diseases; labour issues; slum inhabitants; agriculture; and ethnic minorities. These constituencies reflect the broad-based representation of civil society organizations from throughout the country, whose strong advocacy on the board has helped expand the members' benefit package.³⁹ Another benefit is the greater continuity and institutional memory among civil society representatives than the eight ex-officio board members, owing to the rapid turnover of senior officials at the permanent secretary level. Although each term of office is only four years and civil society representatives are limited to two terms, new civil society representatives on the board always follow-up on issues of concern through their networks and maintain the continuity of their work in the board's discussions.

Article 48 of the National Health Security Act established the Quality and Standards Committee, equivalent to the National Health Security Board. There are 39 committee members, including five civil society representatives, who oversee the quality and standard of health-care providers and approve no-fault financial assistance.

Public accountability and transparency are ensured through the provision in Article 18(12) of the law, which states that the board shall provide annual reports on performance and challenges, including audited financial reports to the Cabinet, the House of Representatives and the Senate within six months of the fiscal year end. There are no such provisions in the Social Security Act or in the Royal Decree of the Civil Servant Medical Benefit Scheme, despite both insurance schemes also being publicly financed. All National Health Security Office annual reports are made publicly available on the organization's website and the board's decisions have been published on its website since 2002.

Institutional capacities

The National Health Security Office's institutional capacity is crucial for ensuring citizens' voices are heard and that office and health-care providers remain accountable to the citizens they serve. Without these capacities, the legislative provisions would be empty promises. In 2018, a total of 893 staff members worked across office headquarters and its 13 regional offices, of which about one-third had a health background.³⁶ Almost all executive positions are held by experienced and highly qualified medical and health professionals.²³ Unlike the Social Security Office which has two functions – collecting payroll tax and purchasing health services – the National Health Security Office's only function is to purchase health services with additional efforts going into ensuring accountability to its members.

Lessons learnt

Voice and accountability in Thailand's universal coverage scheme is a deliberative process through which citizens' voices are heard. The National Health Act 2007 mandates the convening of an annual national health assembly that provides a participatory platform for public policy development⁴⁰ through multisectoral action.⁴¹ The assembly brings together three elements to effect change: evidence from the scientific community; civic movement by civil society organizations; and decision through political engagement.⁴² In Thailand this process is described as the triangle [of actions] that moves the mountain [of change]. Certain resolutions adopted by the assembly are endorsed by the Cabinet, giving implementing agencies within government the power to enforce them. On the other hand, the constitutional mandate for government agencies to conduct public hearings and environmental and health impact assessments is inadequate for responding to the concerns raised and challenges identified. This challenge undermines the objectives of public hearings⁴³ and future participation in environmental and health impact assessments.⁴⁴

We have identified two main factors, which we believe facilitated the effectiveness of voice and accountability in universal coverage scheme governance: legislative provisions and the deliberative process.

Legislative provisions

The provisions in legislative documents are important because they legitimize all concerned agencies to implement the law. In the case of voice and accountability, it was the citizens themselves, through civil society organizations, who led the insertion of these provisions into the National Health Security Act 2002 to ensure that their voice would be heard once the Act was signed into law. Historically, Article 170 of the 1997 Constitution of Thailand⁴⁵ allows 50 000 eligible voters to submit a draft bill for consideration by the National Legislative Assembly. The citizen-led draft UHC bill in 2002 was the first action to test this constitutional right. Through the efforts of civic groups, over 50 000 signatures were collected and the bill was submitted.^{24,46} Six competing draft universal coverage scheme bills were proposed to the government, one by the cabinet, four by political parties and one by citizen groups. After the first reading, which accepted the draft bill in principle, members of civic groups were appointed to the parliamentary committee to consider the second reading (article by article) and the third reading, which endorsed the final text. The key items of each draft bill were negotiated and eventually finalized as the National Health Security Act 2002.⁴⁷ Key provisions proposed by citizens in the draft bill, particularly in relation to accountability and voice, were included in the final text endorsed by the House of Representatives and the Senate. However, legislative provisions, although essential, are not enough on their own; the implementation capacities of the National Health Security Office also matter.

Deliberative process

Representation by civil society organizations in multistakeholder governing bodies is essential to sustain transparency and accountability. Allowing civil society to contribute to health policy decisions demonstrates a strong, connected relationship between the state and society.⁴⁸ In Thailand, the relationship has grown out of several opportunities for building networks and has enabled bureaucrats and civil society organizations to share ideas, tactics and resources.³⁹ Civil society representatives in the National Health Security Board are well educated and the recommendations they present during board deliberations

Box 1. Challenges and lessons from Thailand's universal health coverage scheme

Key challenges

- Continuity

The current civil society organization cohorts that have been actively engaged since the inception of Thailand's universal coverage scheme will soon be retiring. Without well planned knowledge transfer and a careful succession plan, civil society contributions to the scheme may be interrupted.

- Transparency

An increasing number of patient groups are supported by the pharmaceutical industry to voice demands for new medicines and technologies that are not currently in the scheme's benefit package. Although voices from all groups are welcome, the existing transparent process for expanding the benefit package, particularly the use of health technology assessment, must be maintained.

- Accessibility

The platforms to capture citizens' voices require regular review and strengthening to ensure that they are still effective as intended, that is, to be widely accessible by all people. For example, a survey conducted by a university reported that only 2546 out of 7558 (33.7%) citizens were aware of the telephone helpline in 2018. In addition, the call centre reported that only 11 out of 5248 complaints (0.2%) were about unjustifiable charging by providers in 2018, while the satisfaction survey in the same year showed 73 (3.0%) of 2451 surveyed patients reported being charged by providers.⁴ A constantly low level of complaints may reflect that a helpline may not be the preferred channel for people to voice complaints for which the National Health Security Office needs to test other innovative platforms.

Key lessons

- Legislative provisions for voice and accountability

By giving citizens the constitutional right to submit draft bills, the government allowed civil society representatives to insert provisions on voice and accountability into legislative texts that were later adopted under the provisions of the Thailand's National Health Security Act 2002. Civil society representatives in the parliamentary committee at the second reading of the draft bill seized the opportunity to translate these inspirations into legislative provisions.

- Institutional capacity to implement legislation

Ensuring citizens' rights to health services requires the office responsible for the scheme to have the necessary implementation capacity. In Thailand, the National Health Security Office needed the capacity to register all 47 million members of the universal coverage scheme and match them with the health-care provider network in the district where they live, and to re-register members to a new network if they moved districts. The full coverage of citizen registration for births and deaths using 13-digit unique national identification numbers and existing extensive geographical coverage of primary health-care services were key enabling factors.

Establishing, sustaining and strengthening the call centre requires continuity of policy and financial support. Timely responses by management to complaints fosters trust among citizens.

Annual public hearings need to be inclusive of citizens, health-care providers, civil society organizations and stakeholders, such as local governments and patient groups. Subsequent policy and management responses are key for building trust in the process and citizens' ownership of the universal coverage scheme.

Annual public reporting by the office responsible for the scheme (for example, implementation outcomes and performance of the scheme against targets) fosters transparency and increases citizens' trust in the universal coverage scheme and its management.

are based on evidence generated through their networks with research agencies. This evidence-based political culture has evolved gradually since the policy formation phase of the universal coverage scheme.^{49,50} The continued engagement of civil society organizations in the central decision-making processes of the board has ensured that the scheme developed in ways that benefit citizens. Maintaining the universal coverage scheme requires commitment not only from policy-makers, but also from the civil society organizations²⁴ to play active roles in the board.

Box 1 synthesizes challenges and lessons from Thailand's universal coverage scheme for low- and middle-income countries.

Conclusion

The worldwide governance indicators have not yet been developed to capture the progress of sectoral governance for policy interventions. Despite the overall deteriorating trend of voice and accountability in Thailand's indicators, and poorly managed public hearings and environment and health

impact assessments, the health sector is moving in a more promising direction. Legislative provisions, the nature of the governing body, institutional capacities and deliberative processes

have combined to ensure that citizens' voices are heard, action is taken and the body responsible for the scheme is accountable to both citizens and health-care providers. ■

Funding: Funding support was provided by Thailand Science Research and Innovation (TSRI) Contract No. RTA6280007.

Competing interests: None declared.

ملخص

تشريعات للمساءلة العامة في التغطية الصحية الشاملة، تايلند

والمساعدة المالية لتعويض المرضى الذين عانوا من أحداث سلبية. إن ضمان الحق في الحصول على الخدمات الصحية، والاستمتاع لأراء المواطنين واتخاذ الإجراءات اللازمة، يتطلب القدرة المؤسسية على تنفيذ التشريعات. على سبيل المثال، احتاجت تايلند إلى القدرة على تسجيل 47 مليون شخص، ومطابقتهم مع شبكة مقدمي الرعاية الصحية في المنطقة التي يعيشون فيها، وإعادة تسجيل الأعضاء الذين ينتقلون خارج مناطقهم. يجب أن تشمل جلسات الاستماع العامة السنوية على المواطنين، ومقدمي الرعاية الصحية، ومنظمات المجتمع المدني، وأصحاب المصلحة مثل الحكومات المحلية ومجموعات المرضى. تعد الاستجابات التالية للسياسة والإدارة هامة لبناء الثقة في العملية، وفي ملكية المواطنين للخطوة. إن التقارير العامة السنوية حول النتائج وأداء الخطوة، تعزز الشفافية وتزيد من ثقة المواطنين.

يتطلب دعم التغطية الصحية الشاملة مشاركة نشطة وقوية في وضع السياسات والحوكمة. تم تنفيذ خطة التغطية الشاملة في تايلند على مستوى البلاد في عام 2002، مما سمح لتايلند بتحقيق التغطية الكاملة لسكانها من خلال ثلاث خطط للتأمين الصحي الشعبي، واستعراض النتائج الصحية المحسنة. على الرغم من أن موقف تايلاند وفقاً لمؤشرات البنك الدولي للحوكمة العالمية قد تدهور منذ عام 1996، إلا أنه قد تم تضمين أحكام للمساءلة والتعبير عن الرأي في التشريعات، وكذلك في وضع خطة التغطية الشاملة. نحن نناقش كيف تم تنفيذ التشريعات المتعلقة بحقوق المواطنين ومساءلة الحكومة. سمح الدستور التايلاندي للمواطنين بتقديم مشروع قانون، حيث تم في هذا القانون بنجاح تضمين فقرات للمساءلة وحرية الرأي في النصوص التشريعية، وأضيفت في القانون. ينص التشريع على تسجيل المستفيدين، ووجود خط المساعدة على طوال اليوم على مدار الأسبوع، وكذلك جلسات استماع عامة سنوية،

摘要

泰国全民健康覆盖中的公众问责法规

如需维持全民健康覆盖，就需要公众积极参与政策制定和治理。泰国计划于 2002 年在全国范围内实施全民健康覆盖，这将使得泰国通过三项公共健康保险计划实现全民覆盖，并有效改善公民健康状况。尽管自 1996 年以来，泰国在世界银行《全球治理指数》中的地位有所下降，但有关发言权和问责制的条款已纳入全民覆盖计划的立法和设计之中。我们探讨与公民权利和政府问责相关的法规是如何实施的。泰国宪法允许公民提交一项草案，其中关于发言权和问责制的条款已成功纳入法规案文成为法律条文。该立法要求对受益人进行登记，开通一条 24/7 全天候服务的求助热线，每年举行公众听证会，并为经历过不良事件

的患者提供无过错财政援助。相关执法机构需要有能够确保公民享有健康服务的权利，倾听公民的声音并采取行动。例如，泰国需要有对 4700 万人口进行登记，并将他们与居住地区的医疗护理提供者的网络相匹配，并对迁出其居住地区的成员进行重新登记。每年的公众听证会必须包括公民、医疗护理提供者、民间社会组织和利益相关者，如地方政府和患者团体。后续政策和管理对策的好坏将直接影响公民是否信任全民健康覆盖和公民对该计划的所有权。每年公开报告该计划的成果和执行情况有助于提高透明度，提高公民的信任感。

Résumé

Réglementer la reddition de comptes publique en matière de couverture sanitaire universelle, Thaïlande

Maintenir la couverture sanitaire universelle exige une forte participation publique à l'élaboration des politiques et à la gouvernance. En Thaïlande, le régime de couverture universelle a été mis en œuvre dans tout le pays en 2002, permettant de couvrir l'ensemble de la population grâce à trois régimes publics d'assurance maladie et d'améliorer les résultats de santé. Bien que la position de la Thaïlande concernant les Indicateurs de gouvernance mondiaux de la Banque mondiale se soit détériorée depuis 1996, des dispositions en matière d'expression et de reddition de comptes ont été intégrées à la législation et à la structure du régime de couverture universelle. Nous discutons ici de la mise en œuvre de la législation relative aux droits des citoyens et à la reddition de comptes du gouvernement. En vertu de la constitution de la Thaïlande, les citoyens ont pu soumettre un projet de loi dont les dispositions en

matière d'expression et de reddition de comptes ont été intégrées aux textes législatifs et transposées dans la loi. La législation rend obligatoire l'enregistrement des bénéficiaires, une assistance téléphonique 24h/24 et 7j/7, des auditions publiques annuelles et une aide financière systématique pour les patients qui ont été victimes d'événements indésirables. Pour garantir le droit à des services de santé, permettre aux citoyens de faire entendre leur voix et s'assurer que des mesures soient prises, les institutions doivent être en mesure d'appliquer la législation. Par exemple, la Thaïlande devait pouvoir enregistrer 47 millions de personnes et les rattacher au réseau de prestataires de soins du district où elles vivaient, et réenregistrer les personnes qui changeaient de district. Les auditions publiques annuelles doivent faire participer les citoyens, les prestataires de soins, les organisations de la société civile et

les parties prenantes telles que les collectivités locales et les groupes de patients. Les réponses qui en découlent au point de vue des politiques et de la gestion sont importantes pour instaurer la confiance dans le

processus et permettre aux citoyens de se l'approprier. Les rapports annuels publics sur les résultats du régime de couverture permettent d'accroître la transparence et de renforcer la confiance des citoyens.

Резюме

Разработка законодательства о подотчетности общественных органов в сфере обеспечения всеобщего охвата услугами здравоохранения, Таиланд

Поддержание всеобщего охвата услугами здравоохранения требует активного участия общественности в формировании политики и организации управления. Схема всеобщего охвата услугами здравоохранения Таиланда была внедрена на всей территории страны в 2002 году, что позволило Таиланду добиться полного охвата населения услугами здравоохранения с помощью трех схем государственного медицинского страхования и продемонстрировать улучшение результатов мероприятий по охране здоровья. Несмотря на то что позиция Таиланда по Всемирным индикаторам управления Всемирного банка ухудшается с 1996 года, положения о праве голоса и подотчетности были включены в законодательство и схему всеобщего охвата услугами здравоохранения. Авторы обсуждают вопросы реализации законодательства, касающиеся прав граждан и подотчетности правительства. Конституция Таиланда позволяет гражданам вносить законопроекты, с помощью которых положения о праве голоса и подотчетности были успешно включены в законодательные тексты и приняты в закон. Законодательство предписывает регистрацию бенефициаров, обеспечение круглосуточной работы телефонной линии помощи, проведение ежегодных общественных слушаний

и оказание финансовой помощи пациентам, испытывавшим нежелательные явления, независимо от причин, по которым это произошло. Обеспечение права на медицинское обслуживание, а также учета мнения граждан и принятия соответствующих мер требует наличия организационного потенциала для исполнения законодательства. Например, Таиланду нужны были ресурсы, которые позволили бы зарегистрировать 47 миллионов человек и сопоставить их данные с сетью поставщиков медицинских услуг в районе их проживания, а также перерегистрировать участников, меняющих район проживания. В ежегодных общественных слушаниях должны участвовать представители от граждан, поставщиков медицинских услуг, общественных организаций и заинтересованных сторон, таких как местные органы власти и группы пациентов. Последующие политические и управленческие меры реагирования важны для укрепления доверия общественности к процессу и повышения реальной заинтересованности граждан в этой схеме. Ежегодная общедоступная отчетность по результатам мероприятий по охране здоровья и эффективности работы схемы способствует обеспечению прозрачности процесса и повышает доверие граждан.

Resumen

Legislando para la responsabilidad pública en la cobertura sanitaria universal, Tailandia

Para mantener la cobertura sanitaria universal se requiere una sólida participación activa del público en la formulación de políticas y la gobernanza. El plan de cobertura universal de Tailandia se implementó en todo el país en 2002, lo que permitió a Tailandia lograr una cobertura completa de la población a través de tres planes de seguro médico público y demostrar mejores resultados en materia de salud. Aunque la posición de Tailandia respecto de los Indicadores mundiales de gobernanza del Banco Mundial ha disminuido desde 1996, las disposiciones relativas a la voz y la rendición de cuentas estaban incorporadas en la legislación y en el diseño del plan de cobertura universal. Se discute cómo se ha implementado la legislación relacionada con los derechos de los ciudadanos y la rendición de cuentas del gobierno. La Constitución de Tailandia permitía a los ciudadanos presentar un proyecto de ley en el que las disposiciones sobre la voz y la rendición de cuentas se incorporaban con éxito en los textos legislativos y se aprobaban como ley. La legislación exige el registro de los beneficiarios, una línea telefónica de ayuda 24 horas al día los 7 días

de la semana, audiencias públicas anuales y asistencia financiera gratuita para los pacientes que han sufrido eventos adversos. Para garantizar el derecho a los servicios de salud y que se escuche la voz de los ciudadanos y se adopten medidas, es necesario contar con la capacidad institucional para aplicar la legislación. Por ejemplo, Tailandia necesitaba la capacidad de inscribir a 47 millones de personas y ponerlas en contacto con la red de proveedores de servicios de salud del distrito en el que viven, y de volver a inscribir a los miembros que se trasladan fuera de sus distritos. Las audiencias públicas anuales deben incluir a los ciudadanos, los proveedores de servicios de salud, las organizaciones de la sociedad civil y las partes interesadas, como los gobiernos locales y los grupos de pacientes. Las respuestas políticas y de gestión subsiguientes son importantes para generar confianza en el proceso y en la apropiación del plan por parte de los ciudadanos. El informe público anual sobre los resultados y el rendimiento del plan fomenta la transparencia y aumenta la confianza de los ciudadanos.

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Purchasing reforms and tracking health resources, Kenya

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Abstract As low- and middle-income countries undertake health financing reforms to achieve universal health coverage, there is renewed interest in making allocation of pooled funds to health-care providers more strategic. To make purchasing more strategic, countries are testing different provider payment methods. They therefore need comprehensive data on funding flows to health-care providers from different purchasers to inform decision on payment methods. Tracking funding flow is the focus of several health resource tracking tools including the System of Health Accounts and public expenditure tracking surveys. This study explores whether these health resource tracking tools generate the type of information needed to inform strategic purchasing reforms, using Kenya as an example. Our qualitative assessment of three counties in Kenya shows that different public purchasers, that is, county health departments and the national health insurance agency, pay public facilities through a variety of payment methods. Some of these flows are in-kind while others are financial transfers. The nature of flows and financial autonomy of facilities to retain and spend funds varies considerably across counties and levels of care. The government routinely undertakes different health resource tracking activities to inform health policy and planning. However, a good source for comprehensive data on the flow of funds to public facilities is still lacking, because these activities were not originally designed to offer such insights. We therefore argue that the methods could be enhanced to track such information and hence improve strategic purchasing. We also offer suggestions how this enhancement can be achieved.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

As low- and middle-income countries undertake health financing reforms to achieve universal health coverage (UHC), there is renewed interest in making allocation of pooled funds to health-care providers more strategic.^{1–3} Such strategic purchasing is about health ministries, insurance agencies and other purchasers making key decisions about what services to buy, which providers to contract and how to pay providers based on information about provider performance and population health needs.² Making these decisions demands a variety of data. This article focuses on data to inform decisions around payments to health-care providers.

Recent work on provider payment methods has shown that providers in most low- and middle-income countries receive a mix of payments from different purchasers under a variety of arrangements.^{3,4} To explore the extent to which the provider incentives created are aligned with desired outcomes, all flows of funding to a provider must be analysed.¹ Since these tracking analyses need to be populated with information about all funding flows, the information required goes beyond what any individual purchaser possesses from claims data, budget documents or financial reports. Combining this available information from individual purchasers with data about provider behaviour and performance would allow purchasers to assess and improve provider payment methods.

Tracking the flow of funds is the focus of several health resource tracking frameworks and methods.^{5,6} Common methods for tracking the flow of resources, such as: the System of Health Accounts; Public Expenditure Tracking Surveys; Public Expenditure Reviews; Joint Reporting Form for immunization; and the National AIDS Spending Assessment, answer a range of important policy questions about health resource flows.⁶ Here we explore whether these methods provide com-

prehensive information about the flow of funds to health-care providers to inform the purchasing reforms that low- and middle-income countries are undertaking to achieve UHC.

We first describe what type of information is needed, and why, to be able to track financial flows to health-care providers. Then we discuss why the existing health resource tracking tools are not designed to produce the necessary information. We finally suggest how the existing tools could be improved to generate data to inform decisions about provider payments. To make this case, we describe a project we are currently working on, that is, to strengthen strategic health purchasing for primary health care in Kenya.

The purchasing context

Historically, governments in most low- and middle-income countries established a national health service, wherein a government department, typically a health ministry at the national or sub-national level, allocated general revenue through line-item budgets to cover staff salaries, medicines and operating costs for a network of government-owned health facilities. Some governments also had parallel risk pooling arrangements, including social health insurance for formal sector workers, and many governments eventually introduced user fees in public facilities to mobilize more financing for the health sector.⁷

Countries are now undertaking reforms that move them from passively paying facilities based on pre-determined budgets or bills they present to the purchaser, to more strategic forms of purchasing. These forms of purchasing involve decision-making about the benefit package, providers contracted and payment methods.^{1–3} Many governments have initiated government-funded health insurance, wherein a public health insurance fund contracts and pays public and private providers

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(Submitted: 14 June 2019 – Revised version received: 8 November 2019 – Accepted: 11 November 2019 – Published online: 12 December 2019)

to deliver a defined set of services to all citizens.⁸ Several countries, especially in Africa, have either capped or abolished user fees in the public sector, and introduced payments to public facilities to reimburse them for the fees forgone. Some governments have also implemented new performance-based financing programmes that introduce payments to facilities and/or providers that are more explicitly linked to outputs.^{9–12}

In most countries, these reforms have resulted in complex flows of funds. Public sector facilities in many low- and middle-income countries continue to receive input-based budgetary allocations for salaries, drugs, and operating costs from the health ministry, as well as additional payments for delivering certain services from one or more purchasers. Another example of mixed provider payment is when multiple purchasers or the same purchaser implementing multiple schemes pay a provider different rates for the same service.⁴ Having a mix of funding flows raises two questions: are these different flows coherent; and are payments of some incentives difficult to follow if other larger incentives payments mask these payments. There are several guides and manuals for analysing provider payment methods, including a recent guide by the World Health Organization that offers an approach for analysing the full range of funding flows to providers.⁴ These guides and manuals largely employ mixed methods, drawing from available data sources to explore the flow of funds.

Another question is how good are the existing data sources to track the complex flow of funds to providers? Furthermore, for governments that are already undertaking different health resource tracking activities, do they obtain sufficient data of good quality to analyse multiple funding flows? The goal for collecting this type of data would be to provide insights into the flow of funds to providers of different types rather than for tracking flows to individual providers in the country.

Resource tracking methods

The term health resource tracking covers a range of frameworks to collect, analyse and present information about health spending. Some frameworks account for all health spending, while others focus on specific diseases or health areas. Some frameworks focus

on public spending, while others track public, private and donor financing. The System of Health Accounts and Public Expenditure Tracking Surveys are the methods most relevant for tracking the full range of flows to providers, and these methods are commonly used in low- and middle-income countries.⁶

The System of Health Accounts is a framework to measure total health spending in a country at one-time point, and disaggregate the spending along different dimensions, such as source of revenue, financing scheme, health function, type of providers and factors of provision.¹³ This framework uses a range of primary data sources including government budget documents, household surveys and claims data from insurers. The framework has been implemented by 148 countries.⁶ By offering standardized definitions and classifications, health accounts allow for comparison of health expenditure between countries and over time. While the framework has general guidelines on the core dimensions that countries should use, countries can choose which dimensions to use for disaggregating spending data as well as the level of detail to provide for each dimension.

While results of health accounts exercises are an invaluable source of information about health spending patterns in a country, the framework is not designed to provide a granular assessment of revenue and expenditure from a facility perspective because it aggregates spending patterns.⁶ For example, the results can show the total amount of spending at hospitals versus health centres, or how much the health ministry paid for health-care delivery at public hospitals as a whole. The framework is not, however, designed to provide insights into what revenue looks like for the average hospital or health centre, and therefore cannot provide information about the relative strength of different incentives created by payment methods from the perspective of the provider.

Another health resource tracking method, the Public Expenditure Tracking Surveys, is designed to track and quantify flow of funds from the national treasury through various government agencies to the final points of service delivery. Using the method typically entails data collection at the central, sub-national and facility levels, and the method is often implemented alongside the Service Delivery Indicator Survey.⁶ The method

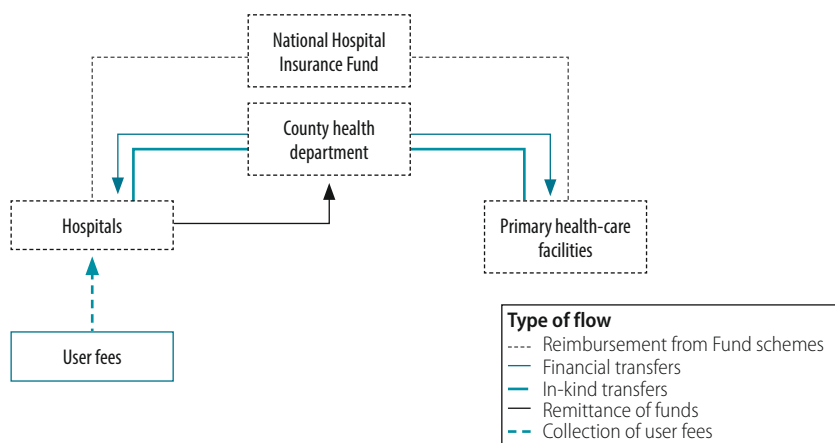
is a useful tool for assessing the links between public financial management and service delivery, and explaining planning and management capacities of various government entities, delays in disbursements and leakage of funds.^{6,14} Since the World Bank first applied the method in 1996, it has been implemented across a range of countries in Africa and Asia. The surveys should have five broad stages: defining objectives; mapping flows; measuring leakages; presenting findings; and informing policy.¹⁵ Beyond these broad stages, countries have the flexibility to modify the survey to reflect the local context and policy priorities. As a result, there is variability across countries' results in terms of whether the survey provides a complete picture of facility financing or focuses only on specific types of funding flows.

A Kenyan perspective

In the post-colonial period, the Kenyan government has financed health-care delivery through a traditional national health service. All services were free until 1988, when user fees were introduced. Public facilities could retain these funds as well as any reimbursement they received from the National Hospital Insurance Fund, Kenya's social health insurance agency. They used the revenue to finance their operating costs, while the health ministry paid for health workers' salaries and centrally procured drugs. While the government introduced waivers for various maternal and child health services during the 1990s, studies showed that overall use of health-care services went down because of the fees.¹⁶

In 2004, the government introduced the 10/20 policy, which replaced user fees at government-owned health centres and dispensaries with a single one-time registration fee of 20 shillings (0.2 United States dollars, US\$) at the health centres and 10 shilling (US\$ 0.01) at the dispensaries.¹⁷ To compensate for the loss in revenues from user fees, the government, with support from donors, set up the Health Sector Services Fund in 2009 to transfer resources directly to these facilities.^{18,19} In the same year, the government established the Hospital Management Support Fund to compensate hospitals.²⁰ The 2012 public expenditure tracking survey found that only 112 (45%) of 249 surveyed dispensaries and health centres complied with the 10/20 policy. The weighted results

Fig. 1. **Flow of funds in Isiolo, Kilifi and Makueni counties, Kenya, 2019**



Notes: Hospitals in Kilifi and Isiolo, but not Makueni, are required to remit all the funds they collect to the county treasury. Only Makueni is making financial transfers from the county health department to the hospitals. An example of a financial transfer is a payment for providing services under an insurance scheme designed and implemented by the county health department. Examples of in-kind transfers are salary payments and drug procurement.

showed that user fees accounted for 53% of the operating budget of these facilities, while the Health Sector Services Fund accounted for 31% of the health centres' budgets and 40% of the dispensaries' budgets. User fees accounted for 70% of the revenue of public hospitals, while the Hospital Management Support Fund and the National Hospital Insurance Fund payments accounted for only 14% and 5%, respectively.²¹

In 2013, Kenya transitioned to a devolved system of government. Under the new arrangements, county governments control all primary and secondary health service delivery. Through line-item budgets, they pay for services that are provided by a network of public facilities. As per the constitution, all funds collected by public facilities are to be remitted to the county government unless the county passes legislation allowing facilities to retain own-source revenue to offset their costs. In 2013, the national government also abolished all user fees at health centres and dispensaries in the public sector, as well as user fees for maternal health services at public hospitals. Instead of compensating facilities for the loss of revenue from user fees, as it had done under the mechanisms of the Health Sector Services Fund and the Hospital Management Support Fund, the national government now started giving the funds to the county governments in the form of intergovernmental transfers. In 2017, the health ministry transferred the free maternity scheme to the National

Hospital Insurance Fund, at which point it was renamed Linda Mama. The National Hospital Insurance Fund now directly contracts and pays both public and private facilities for maternal health services.^{18,22}

Against this background, the project team did a rapid landscaping study in our three project counties (Isiolo, Kilifi and Makueni) between November 2018 and March 2019, to increase the understanding of purchasing at the county level. The exercise yielded several interesting insights. First, the three counties vary considerably in how they handle facility revenues from various sources (Fig. 1). Through an executive order by the county government, Makueni has allowed all public health facilities to retain and spend any funds they collect. Kilifi has enacted a legislation creating a fund where all user fees from hospitals would be remitted and subsequently used to finance facility improvement plans, but the fund has not been established to date. Isiolo has made no provision for facilities to retain funds. Hence, hospitals in both Kilifi and Isiolo are required to remit all the funds they collect from user fees and the National Hospital Insurance Fund payments to the county treasury, and the county government pays directly for any expenses for these health facilities.^{23,24} They have completely lost the financial autonomy they had before devolution. In contrast, hospitals in Makueni control their own budget, which is financed through the user fees and claims reimbursements they collect.

Second, in all three counties, the county governments allow public health centres and dispensaries to retain all funds they collect from the National Hospital Insurance Fund. The county governments also give these facilities funds drawn from specific grants that the county governments receive from the national government. Primary care facilities spend funds according to the investments plans they develop, but only after they receive approval to incur expenditure from the county health department, which happens on a quarterly basis.

Third, primary health facilities in all three counties indicated that reimbursements from the National Hospital Insurance Fund are less than expected and subject to huge delays. Thus, these revenues are not perceived as a reliable source of funding. Public health facilities do not follow-up with the National Hospital Insurance Fund to reconcile claims and reimbursements on a regular basis in Isiolo and Kilifi. Therefore, health facilities are losing funds because they continue to provide service under the *Linda Mama* free maternity scheme without receiving reimbursements. Therefore, measures to strengthen accountability so health facilities at all levels are reimbursed for the services they provide are needed. The National Hospital Insurance Fund reimbursement rates for maternity services under the *Linda Mama* scheme is lower than the rates the National Hospital Insurance Fund offers for the same services under other insurance schemes, which distorts the incentives providers must cater to *Linda Mama* beneficiaries.²⁵

While the study allowed us to describe the flow of funds in each of the three counties, we struggled to quantify or track the full range of funding flows to providers due to the paucity of data. Kenya has implemented five health accounts exercises.^{26,27} The most recent rounds provide aggregates for core health accounts dimensions, specifically source of revenue, financing scheme, provider, and function, but do not provide any cross tabulations. The last round in 2015/2016 included county health accounts, but these again only offer aggregate spending information and do not show how much different providers received from different schemes.

While county budget documents provide aggregate allocations for salaries, commodities and facility

maintenance costs, these are not disaggregated by facilities. Facility budgets are not a reliable source of information about the flow of funds to facility for several reasons. First, hospitals in both counties Isiolo and Kilifi remit all own-source revenue to the county, which incurs expenses on their behalf. Hence, the budgets hospitals prepare and submit to the counties are wish lists and do not track facility revenue and expenditure in a systematic manner. Primary health-care facilities, which retain and spend funds in all three counties, prepare operating budgets, but these do not reflect any of their salary or commodity costs.

The latest Public Expenditure Tracking Surveys, conducted in 2012, offered detailed information about how much revenue facilities generated from different sources like user fees and the National Hospital Insurance Fund reimbursements, but did not consider other in-kind flows to the facility, such as health workers' salaries and drugs paid by the health ministry's budget or donor support. The health ministry is planning health resource tracking exercises in 2020 with support from the World Health Organization and other partners, using the System of Health Accounts framework and the Public Expenditure Tracking Surveys. These exercises represent a promising opportunity to not only collect granular information about the full range of resource flows to providers, but also link to health resource tracking exercises to provide a comprehensive view of health financing in the country.

A call for resource tracking

Our landscaping exercise to explore county purchasing practices in Kenya revealed an information gap on the flow of funds to providers. In the absence of regularly conducted studies that triangulate between different information sources like claims data from the National Hospital Insurance Fund, as well as county and facility budget documents, and financial accounting systems, a complete mapping of financial flows at the facility-level proved to be very difficult. While our study and others²⁵ have collected qualitative information describing the flows, the relative size of any given flow to the facility is not discernible. Understanding how much facilities receive from different sources of revenue, insurance claims, financial and in-kind transfers from the county government, and user fees, as well as how these funds reach the facility, how much autonomy the facilities have to spend the funds, and types of costs they can incur is critical for ongoing policy discussions on UHC reforms in the country.

Many low- and middle-income countries implement the System of Health Accounts, Public Expenditure Tracking Surveys and other health resource tracking activities to analyse health spending. Expanding one or more of these existing platforms to track the flow of funds to providers, rather than introducing a new method, seems desirable from the perspective of both efficiency and capacity. We urge the team

that will undertake the upcoming health resource tracking activities and international agencies supporting them to use the opportunity to explore how the two methods could be enhanced to track the funding flows to health-care providers in a more comprehensive manner. The System of Health Accounts method allows for presentation of data from various perspectives using cross-tabulations between different dimensions; this is one promising way in which the Kenyan government could get more information from health accounts. Second, past Public Expenditure Tracking Surveys have focused on a subset of financial flows and not attempted to measure in-kind transfers to health facilities. We recommend that the upcoming Public Expenditure Tracking Surveys aim to account for all financial and in-kind transfers to facilities from different purchasers. These extensions would allow the next health resource tracking activities to generate valuable information about the flow of funds to providers to guide ongoing discussions about strategic purchasing reforms in the country, and in turn benefit other countries in the African region and beyond. ■

Acknowledgements

We thank Joanne Ondera.

Funding: The landscaping exercise in Kenya was conducted by ThinkWell, with support from the Bill & Melinda Gates Foundation.

Competing interests: None declared.

ملخص

إصلاحات الشراء وتبعية الموارد الصحية، كينيا

أن المشتريين العموميين المختلفين، أي إدارات الصحة بالمقاطعة ووكالة التأمين الصحي الوطنية، تدفع المرافق العامة من خلال مجموعة متنوعة من وسائل الدفع. بعض هذه التدفقات عينية بينما البعض الآخر عبارة عن تحويلات مالية. إن طبيعة التدفقات والاستقلالية المالية للمرافق للاحتفاظ بالأموال وإنفاقها، تتنوع بشكل كبير عبر المقاطعات ومستويات الرعاية. تضطلع الحكومة بشكل روتيني بأنشطة لتتبع الموارد الصحية المختلفة وذلك لتوعية السياسة الصحية والتخطيط الصحي. ومع ذلك، فإنه مازال هناك حاجة لمصدر جيد للبيانات الشاملة عن تدفق الأموال إلى المرافق العامة، لأن هذه الأنشطة لم تكن مصممة في الأساس لتقديم مثل هذه الأفكار. لذلك فإننا نزع أن الأساليب يمكن تعزيزها لتتبع مثل هذه المعلومات، وبالتالي تحسين الشراء الاستراتيجي. كما نقدم اقتراحات حول كيفية تحقيق هذا التحسن.

نظراً لأن البلدان ذات الدخل المنخفض والدخل المتوسط تضطلع بإصلاحات في التمويل الصحي لتحقيق تغطية صحية شاملة، فإن هناك اهتمام متجدد بجعل تخصيص الأموال المجمعة لمقدمي الرعاية الصحية أمراً أكثر استراتيجية. ولجعل الشراء أمراً أكثر استراتيجية، فإن البلدان تختبر يختبرون طرق دفع مختلفة لمقدمي الرعاية. وهم بالتالي يحتاجون إلى بيانات شاملة عن تدفقات التمويل إلى مقدمي الرعاية الصحية من مختلف المشتريين، وذلك لاتخاذ قرار بشأن طرق الدفع عن دراية. تتبع تدفق التمويل هو محور العديد من أدوات تتبع الموارد الصحية التي تشمل نظام الحسابات الصحية ومسوحات تتبع الإنفاق العام. تستكشف هذه الدراسة ما إذا كانت أدوات تتبع الموارد الصحية تلك تولد نوع المعلومات اللازمة لتوعية إصلاحات الشراء الاستراتيجية، مع اتخاذ كينيا كمثال. يوضح تقييمنا النوعي لثلاث مقاطعات في كينيا

摘要

肯尼亚采购改革及卫生资源追踪

随着中低收入国家为实现全民健康覆盖而进行医疗筹资改革，人们对将筹集到的资金分配给医疗护理提供者的战略意义重新产生兴趣。为了促使采购更具战略意义，各国正在检测不同提供者的支付方式。因此，各国需要不同购买者向护理提供者支付的资金流动的全面数据，以了解与支付方法决策有关的信息。追踪资金流是多种卫生资源追踪工具（包括卫生核算系统）和公共支出追踪调查的重点。本项研究以肯尼亚为例，探讨了这些卫生资源追踪工具是否生成了实现战略性采购改革所需的信息类型。根据我们在肯尼亚的三个地区开展的定性评估，不同的公共采购机构（即

地区卫生部门和国家健康保险机构）采用多种不同的支付方式以支付公共设施费用。其中一些采用实物转移作为支付方式，而其他则采用支付资金的方式。在各个地区和医疗机构之间，保留和支出资金导致的设施的流动性质和财政自主权差异很大。政府定期开展各种卫生资源追踪活动，说明卫生政策和计划。但是，仍然缺少有关全面公共设施资金流相关数据的良好来源，因为设计这些活动的目的最初并非是为了提供此类见解信息。因此，我们认为可改进这些方法以追踪此类信息，从而提高战略性采购水平。我们还就如何完成此类改进提供了建议。

Résumé

Réformes d'achat et suivi des ressources de santé au Kenya

Comme les pays à faible et moyen revenu se lancent dans des réformes de financement des soins de santé afin d'offrir une couverture maladie universelle, on constate un regain d'intérêt pour une répartition plus stratégique des fonds communs aux prestataires de soins de santé. Ces pays testent différentes méthodes de paiement des prestataires dans le but d'améliorer la stratégie d'achat. Ils ont donc besoin de données exhaustives sur les flux de financement entre ces prestataires de soins de santé et divers acquéreurs s'ils souhaitent prendre des décisions avisées dans ce domaine. La traçabilité du flux de financement est au cœur de plusieurs outils de suivi des ressources de santé, dont le Système des comptes de la santé et les enquêtes de suivi des dépenses publiques. Cette étude vise à déterminer si ces outils de suivi des ressources de santé génèrent le type d'information requis pour élaborer des stratégies d'achat adéquates, avec le Kenya en guise d'exemple. Notre analyse qualitative de trois comtés kényans démontre que différents acquéreurs publics, à savoir les autorités sanitaires des comtés et l'Agence nationale

de l'assurance maladie, rémunèrent les établissements publics par le biais d'une série de méthodes de paiement. Certains de ces flux sont réglés en nature, tandis que d'autres sont des transferts financiers. La catégorie à laquelle appartiennent les flux ainsi que l'autonomie financière des établissements en termes de conservation et de dépense des fonds varient considérablement selon les comtés et les niveaux de soins. Le gouvernement mène systématiquement diverses activités de suivi des ressources de santé afin de mieux orienter la planification et la politique en la matière. Néanmoins, il manque toujours une source fiable de données exhaustives concernant le flux de financement des établissements publics car à l'origine, ces activités ne sont pas conçues pour livrer de telles observations. Nous affirmons dès lors que ces méthodes pourraient être optimisées pour récupérer ces informations et améliorer ainsi la stratégie d'achat. Nous formulons également des suggestions permettant de procéder à cette optimisation.

Резюме

Реформы системы закупок и отслеживание ресурсов здравоохранения в Кении

Проводимые реформы в области финансирования здравоохранения в странах со средним и низким уровнем дохода с целью достичь всеобщего охвата услугами здравоохранения способствуют выработке стратегии выделения средств поставщикам медицинских услуг из объединенных фондов. Чтобы разработать систему стратегического планирования закупок, страны испытывают различные методы оплаты услуг провайдеров. Поэтому странам необходима исчерпывающая информация о потоках финансирования, получаемых поставщиками медицинских услуг от разных потребителей, для принятия информированных решений о методах оплаты. Отслеживание потоков финансирования осуществляется с использованием нескольких инструментов отслеживания ресурсов в сфере здравоохранения, включая систему счетов здравоохранения и исследования структуры государственных расходов. Исследование рассматривает вопрос о том, предоставляют ли указанные инструменты отслеживания ресурсов здравоохранения информацию, необходимую для информационной поддержки реформ стратегического планирования закупок, на примере Кении. Проведенная авторами качественная оценка трех округов в Кении показывает, что разные государственные закупочные организации, а именно окружные отделы здравоохранения и

национальное агентство медицинского страхования, оплачивают работу государственных организаций самыми разнообразными методами. Некоторые из денежных потоков имеют натуральное выражение, а другие поступают в результате перевода финансовых средств. Характер денежных потоков и уровень финансовой самостоятельности учреждений в части сохранения за собой этих средств и возможности их расходования сильно разнятся от округа к округу и зависят от уровня предоставляемых услуг. Правительство регулярно предпринимает меры по отслеживанию разнообразных ресурсов в сфере здравоохранения, чтобы получить информацию, необходимую для разработки политики и для планирования в этой области. Тем не менее надежный источник исчерпывающей информации о финансовых потоках, поступающих в государственные учреждения, по-прежнему отсутствует, так как подобные виды деятельности изначально не предусматривали получения сведений такого рода. В этой связи авторы считают возможным совершенствовать методы, что позволит отслеживать необходимую информацию и улучшить систему стратегического планирования закупок. Авторы также предлагают способы такого совершенствования.

Resumen

Reformas de compra y seguimiento de los recursos sanitarios, Kenia

A medida que los países de ingresos bajos y medianos emprenden reformas de la financiación de la salud para lograr la cobertura sanitaria universal, se renueva el interés en que la asignación de fondos mancomunados a los proveedores de servicios de salud sea más estratégica. Para que las compras sean más estratégicas, los países están probando diferentes métodos de pago de los proveedores. Por lo tanto, necesitan datos completos sobre los flujos de financiación a los proveedores de servicios de salud de diferentes compradores para fundamentar la decisión sobre los métodos de pago. El seguimiento de los flujos de financiación es el objetivo de varias herramientas de seguimiento de los recursos sanitarios, incluidos el Sistema de Cuentas de Salud y las encuestas de seguimiento del gasto público. Este estudio explora si estas herramientas de seguimiento de recursos sanitarios generan el tipo de información necesaria para fundamentar las reformas de compras estratégicas, utilizando como ejemplo a Kenia. Nuestra evaluación cualitativa de tres condados de Kenia muestra

que los diferentes compradores públicos, es decir, los departamentos de salud de los condados y la agencia nacional de seguro de salud, pagan a las instalaciones públicas a través de una variedad de métodos de pago. Algunos de estos flujos son en especie, mientras que otros son transferencias financieras. La naturaleza de los flujos y la autonomía financiera de los centros para retener y gastar los fondos varía considerablemente entre los condados y los niveles de atención. El gobierno lleva a cabo continuamente diferentes actividades de seguimiento de los recursos sanitarios para fundamentar las políticas y la planificación sanitaria. Sin embargo, sigue faltando una buena fuente de datos completos sobre el flujo de fondos a las instalaciones públicas, ya que estas actividades no se diseñaron originalmente para ofrecer este tipo de información. Por lo tanto, se argumenta que los métodos podrían mejorarse para hacer un seguimiento de dicha información y, en consecuencia, mejorar las compras estratégicas. También se ofrecen sugerencias sobre cómo se puede lograr esta mejora.

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Pooling financial resources for universal health coverage: options for reform

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Abstract Universal health coverage (UHC) means that all people can access health services of good quality without experiencing financial hardship. Three health financing functions – revenue raising, pooling of funds and purchasing health services – are vital for UHC. This article focuses on pooling: the accumulation and management of prepaid financial resources. Pooling creates opportunities for redistribution of resources to support equitable access to needed services and greater financial protection even if additional revenues for UHC cannot be raised. However, in many countries pooling arrangements are very fragmented, which create barriers to redistribution. The purpose of this article is to provide an overview of pooling reform options to support countries who are exploring ways to enhance redistribution of funds. We outline four broad types of pooling reforms and discuss their potential and challenges in addressing fragmentation of health financing: (i) shifting to compulsory or automatic coverage for everybody; (ii) merging different pools to increase the number of pool members and the diversity of pool members' health needs and risks; (iii) cross-subsidization of pools that have members with lower revenues and higher health risks; and (iv) harmonization across pools, such as benefits, payment methods and rates. Countries can combine several reform elements. Whether the potential for redistribution is actually realized through a pooling reform also depends on the alignment of the pooling structure with revenue raising and purchasing arrangements. Finally, the scope for reform is constrained by institutional and political feasibility, and the political economy around pooling reforms needs to be anticipated and managed.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

Universal health coverage (UHC) means that all people can access health services of good quality without experiencing financial hardship, with the objectives of equitable access in line with their needs, and financial protection and fair financing. The way that resources are raised, pooled and used to purchase health services determines whether resources are available at the point of need. Health financing is therefore key to achieving the objectives of UHC. Yet many countries struggle to progress towards UHC due to numerous deficits in raising revenue, pooling funds and purchasing health services. While these three health financing functions are strongly related, this article focuses on the function of pooling.

Pooling is the accumulation and management of prepaid financial resources on behalf of some or all of the population. Out-of-pocket payments are non-prepaid, unpooled funds and thus work against the objectives of UHC.¹ Pooling is an enabling function, creating opportunities for efficient redistribution of resources to support equitable access to needed services, with financial protection from any given level of prepaid funding. However, pooling is fragmented in many countries, which creates barriers to redistribution and results in inefficiencies.^{1–3} A key policy question then is how a country can reform its pooling arrangements to increase redistribution at the system level and across different pools so there is progress towards UHC.

There has been a lack of conceptual work on this subject in the literature since publication of the World Health Report 2010.¹ Readers can consult other sources for a review of pooling reforms in former communist countries⁴ and for a typology

of pooling arrangements.³ However, we have not identified any global overview or discussion of pooling reforms from a system perspective. This gap may be due to insufficient recognition that pooling is a distinct health financing policy instrument that can improve financial protection and equitable access to health care, even if additional revenues cannot be raised.

In this article we provide an overview of various options for pooling reforms and assess their potential to increase countries' capacity to redistribute resources equitably. The aim is to support countries in exploring their pooling options for UHC. We based the article on a review of country experiences in the published and grey literature using the terms “pooling reforms” and “fragmentation in pooling” in a search of the online databases PubMed[®] and Google Scholar. We supplemented the literature review with insights and information gathered from our policy advisory and technical work on health financing in countries around the world.

Objectives of pooling

Pooling serves to spread the financial risk associated with the need to use and pay for health services, so that this risk is not fully borne by an individual who falls ill; this is often referred to as risk pooling.⁵ Importantly, risk pooling can be achieved by more than just health insurance, and there are many ways to structure pooling.^{1,3}

Redistributive capacity refers to the potential to redistribute funds from individuals with lower health needs and lower health risks to individuals with higher health need and risks (health risks meaning the risk of incurring health expenditure). The central objective of pooling is to maximize

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(Submitted: 27 June 2019 – Revised version received: 18 November 2019 – Accepted: 18 November 2019 – Published online: 29 November 2019)

redistributive capacity by de-linking contributions, such as taxes or insurance premiums, from a person's health status or health risks.^{1,6} To achieve these objectives, desirable attributes of a pool of health funds and health risks are size (in terms of the number of people in the pool) and diversity (of health risks within the pool). An important feature of any pool is compulsory or automatic coverage to increase pool size and diversity.¹ Otherwise the problem of adverse selection may arise, that is, the tendency for individuals with greater health needs to join a voluntary scheme, leading to an imbalance of risks in that pool and limited ability to share risks across people with different health needs.⁷ In the case of multiple pools, the average per capita expenditure on health, adjusted for the pool members' health risks, should be equal or similar across pools.

When pooling arrangements are fragmented, however, redistributive capacity becomes limited. Fragmented pooling is characterized by differences in people's health risks across pools, such that the pools with higher health risks need more resources for their pool

members to get the services they need. If not matched by greater revenue, this fragmentation can lead to coverage gaps, inequitable access to services and lower financial protection. Fragmented pooling also contributes to health system inefficiencies, due to duplication of tasks, resulting in higher health system administration costs overall.^{2,6}

Pooling reform options

In this section we outline four principle ways of reforming pooling arrangements. These strategies are not mutually exclusive, and countries can combine several elements of them. Fig. 1 provides a visualization of the pooling options, while Table 1 summarizes their features and effects.

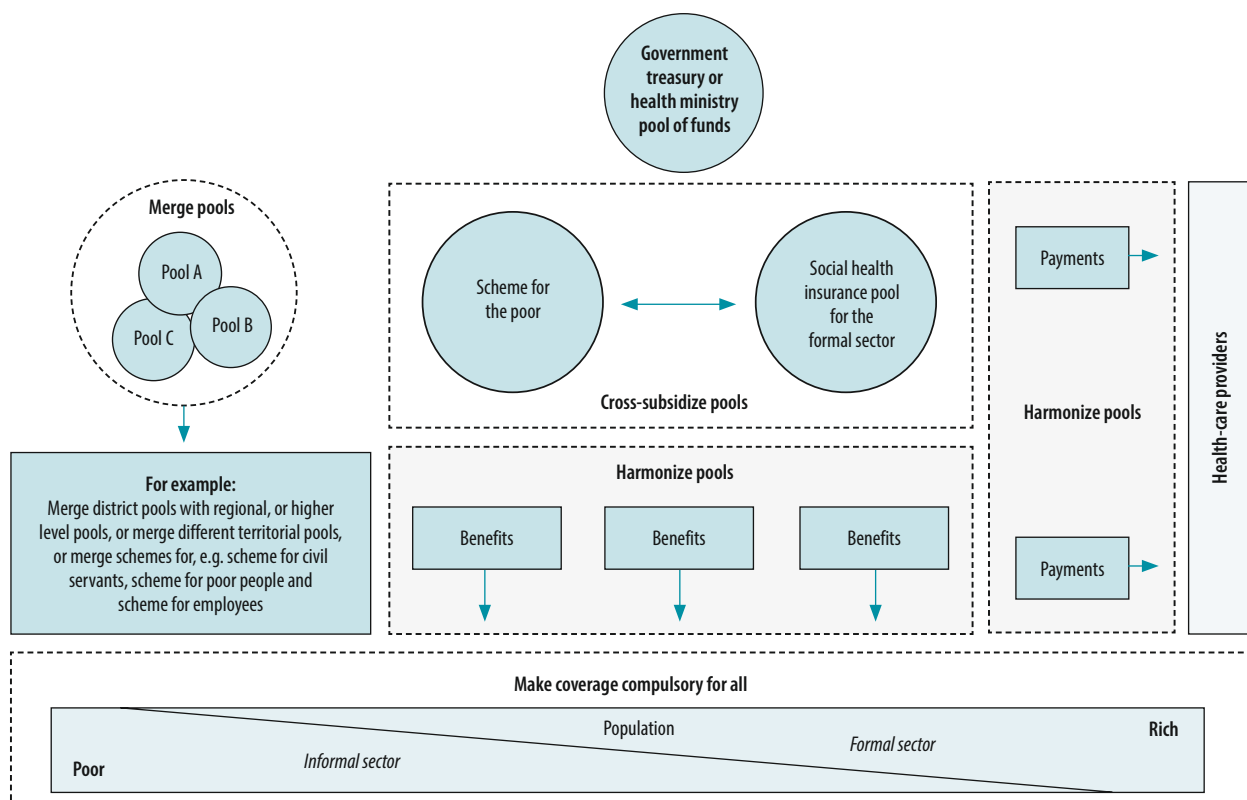
Making coverage compulsory or automatic

Whatever the pooling structure, a fundamental requirement for increasing a country's redistributive capacity is to make coverage compulsory or automatic.¹ Compulsory coverage goes together with contributory-based

entitlement; that is, there must be a specific contribution by or on behalf of the covered person. Automatic coverage means that a person is covered based on her residence or citizenship.⁸ When coverage is compulsory or automatic for all population groups, the pool size increases and the pool(s) have a more diverse mix of health risks among their members, since people at all levels of health risk (high and low) are covered.

Some low- and middle-income countries have introduced contributory compulsory coverage for people in the informal economy. These countries manage to enforce this because contributions are highly subsidized by government funding. Thus, all or a large part of the population has the same coverage, with some population groups being fully subsidized, as is the case in Chile, Mongolia and Rwanda, for example.^{9–11} In other countries, such as Ghana and Viet Nam^{12,13} there remains a missing middle segment of people who are outside the formal sector, but not considered as poor or vulnerable, and are hence ineligible for fully subsidized schemes. In this case, even when enrolment is officially

Fig. 1. Illustration of pooling reforms for universal health coverage



Notes: Circles refer to a pool; dotted lines refer to a specific pooling reform.

Table 1. **Pooling reforms for universal health coverage: effects and requirements**

Type of pooling reform	Effects on the pooling structure	Effects on pooling objectives	Requirements
Making coverage compulsory or automatic	Increases size and diversity of pool	Improves redistributive capacity and efficiency	If contributory: subsidization of those people unable to contribute
Merging pools	Increases size and diversity of pool	Improves redistributive capacity and efficiency	
Cross-subsidization	Maintains the pooling structure	Attempts to equalize available per capita funds across pools	
Harmonization across pools	Maintains the pooling structure	Aligns pool operations and attempts to equalize benefits and conditions at the point-of-service use	

mandatory, enforcing it is difficult, and this missing middle group may not enrol in the contributory scheme, even if contributions are partially subsidized.^{14–16} Gaps in automatic or compulsory coverage mean that population groups who are not covered are likely to have higher out-of-pocket expenditure, with the ensuing financial burden resulting in lower use of services.^{12,17}

In summary, merely introducing compulsory or automatic coverage can be both unfeasible and insufficient on its own, as it needs to be accompanied by subsidies for those who cannot contribute, as discussed below.

Merging pools

One direct way of reducing fragmentation in health financing systems is to decrease the number of pools through merging them. This increases the pool size and the diversity of health risks of the pool(s), thus enhancing redistributive capacity. Moreover, the merging of pools reduces administrative costs because duplication of tasks is reduced. Merging may also enhance the purchasing power of the pool and hence the potential to purchase health services more strategically for gains in efficiency and equity.² Merging can be a solution to various forms of fragmentation.

First, merging can be appropriate when there are too many territorially-based health pools. For example, there may be a pool for each province under general tax financing arrangements where the government administration is decentralized. Merging can occur as part of broader reforms that go beyond the health sector, such as public administration and recentralization reforms. A successful example of such a territorial merger reform is Denmark, which reduced the number of administrative regions from 14 to 5 and of municipi-

palities from 271 to 98, and in doing so lowered the number of health financing pools. This reform helped increase redistributive capacity, strengthen the purchasing power of the pools and save administrative costs.¹⁸ In other instances, decentralized funds and pools for the health sector only are merged. For example, Ukraine reversed previous budget allocations to lower government levels and instead established a general tax-funded national pooling and purchasing agency.⁴

Second, merging may help in such decentralized health-care systems where there is an additional layer of fragmentation due to territorial overlap of pools. This fragmentation happens when lower levels of government pool and allocate resources to their health-care facilities in their own area, such as district governments to district facilities, and regional governments to regional facilities. In this setup, pooling, purchasing and service provision is vertically integrated, and in principle, there are distinctions in the level of health services to be provided by different levels of facilities. In practice, however, there are overlaps, since districts exist within regions or provinces. Overlapping pools can lead to duplication of infrastructure and inefficient networks for health-service delivery. This issue is particularly evident in provincial capitals, as the provincially funded facilities also provide lower-level services. Not only does this duplication affect efficiency directly, but it also reduces redistributive capacity for a given level of available funds.⁴ Various countries, such as Kyrgyzstan, the Republic of Moldova and Ukraine^{4,19} have addressed this fragmentation and overlap issue through vertical merging; that is, elevating the level of pooling to higher levels of government. However, this type of pooling reform also implies

introducing changes to the service delivery organization and public financial management rules.

Third, pools characterised by population segmentation can be merged. As an explicit policy instrument, this is particularly relevant for many low- and middle-income countries. Such horizontal merging can be applied to two or more health coverage schemes, particularly when characterized by population segmentation. Several countries have taken an explicit policy decision to merge different schemes for different population groups. As such a (previously separate) subsidized scheme for lower income and vulnerable people, who tend to have higher health risks, is combined and integrated with a larger existing scheme for contributory members. Instead of calling it merging, policy-makers may also refer to this as adding or integrating new population groups into the existing (contributory) scheme. Either way, this change usually implies a diversification of the sources of funds to be pooled because (additional) budget transfers are required to fund coverage for those unable to contribute. The aim is to provide the same benefit package for everyone.

Better-off population groups may oppose the merging of pools for fear of having to cross-subsidize poorer groups. Nonetheless, several countries have managed to introduce such reforms, including Indonesia (2014),²⁰ the Republic of Korea (2003),²¹ Turkey (2012)²² and Viet Nam (2001).²³ In all countries, the merging of pools significantly increased the risk diversity in the merged pool and was the starting point for reducing inequities in access to health services. In practice, merging of pools and funds can also lead to undesirable effects and increase inequities. In some instances, state budget transfers to finance the

coverage of poor and vulnerable population groups did not benefit these groups, but instead cross-subsidized better-off groups.²⁴ This outcome is because the better-off groups use health-care services more, and use more expensive services, benefiting from better service availability and geographical access in urban and higher-income areas. While such a merger leads to a higher level of risk sharing, it does not automatically lead to increased spending on the poorer population group. The merger may perpetuate pro-rich spending, particularly when purchasing arrangements undermine the redistributive capacity created by the pooling arrangement, as has been the case in Indonesia and Viet Nam for example.^{20,23}

Cross-subsidization

When there are multiple pools, an alternative to merging is explicit cross-subsidization through risk adjustment; that is, adjusting pool funding according to the members' health needs and risks. This option retains the number and structure of multiple pools, and instead redistributes funds with the aim of reaching equal per capita average revenues across pools, adjusted for pool members' health risks. There are various approaches to adjustment, but common to all of them is that a central pool, or a central-level fund holder, exists or is created in a virtual account. Funds from this central pool are allocated among pools, such as territorially distinct health funding pools, based on an allocation formula.¹ This mechanism is used in numerous countries with a decentralized system, such as Spain and England in the United Kingdom of Great Britain and Northern Ireland. In these countries, average per capita spending, when risk-adjusted, is similar across the different territories.^{25,26} The adjustment mechanism may be applied jointly for several sectors, not only for health.¹ Likewise, funds can flow from the central or virtual pool to different health coverage schemes characterized by population segmentation, as is the case in Japan,²⁷ or to competing health insurance funds, such as in Czechia, Germany and Switzerland.^{4,28,29} In fact, it is only through risk adjustment that competition among health insurance funds, and hence patient choice of pools, can be realized, as well as a benefit package that is the same for all across pools.

Adjustment for the pool members' health risks is typically based on assessing the relative health risks of members in that pool, using criteria such as age and sex, employment status, disability and morbidity as well as poverty levels of a region.³⁰ The allocation formula can also consider the revenue-raising capacity of the different pools. Risk adjustment enhances redistribution of funds, but it creates an extra administrative burden compared with having a single pool, potentially leading to higher administrative costs. Risk adjustment also requires data and an effective information management system. Nonetheless, in some contexts, introducing risk adjustment mechanisms may be politically more acceptable than merging pools, especially when the political autonomy of different territories is critical, such as in Spain. Moreover, risk adjustment on its own is not enough. Aligning and adjusting the operation and design features of the different pools is also needed, so that they operate in a uniform or at least similar way.

Another form of cross-subsidization is to introduce and subsidize a new pool, especially when setting up a unified pool for different population groups is unfeasible. The idea is to create an explicit non-contributory coverage scheme for people outside the formal sector. Redistribution is achieved by providing budget transfers and gradually increasing these, with the ultimate aim of achieving equitable access to health services and harmonized benefit packages. Countries that have pursued this pooling reform option include for example Colombia,³¹ Gabon,³² Mexico,³³ Peru⁶ and Thailand.³⁴ In these countries, reforms have substantially reduced the differences in per capita expenditure between different population groups, and thus helped to improve financial protection and equitable access to health services. To be effective, a new scheme for non-contributory population groups must introduce automatic coverage, whereby all people outside employment in the formal sector are covered, although this automatic coverage has not been the case in all countries using this reform approach.

Harmonization across pools

The objectives of pooling can also be achieved through policy instruments that go beyond the realm of pooling. Such reform efforts can focus on har-

monization across pools, which can be considered an as-if-pooling mechanism. Key areas for harmonization and standardization include the benefit package, contracting arrangements, provider payment mechanisms and remuneration rates, as well as information management systems. For example, in Colombia, benefits were effectively harmonized for the contributory and subsidized schemes, although this reform took several years,³¹ since this requires the same (health-risk adjusted) per capita level of funding. Such harmonization attempts are also currently underway in India,³⁵ in addition to its core reform of providing budget transfers to a separate coverage scheme for the poor.

Policy issues and lessons

Reforming the way in which funds for health are pooled primarily addresses the structure and nature of pooling and is essential for enhanced redistributive capacity. When participation in a health coverage scheme is contributory, subsidization will be needed for certain population groups. In determining which pooling reform option is appropriate, countries need to be clear about the multiple causes of fragmentation in their financing system and use this understanding to define their reform goals and directions.

Whether the potential of pooling reforms is actually realized will also depend on alignment of the pooling structure with the other health financing functions of revenue raising and purchasing. Revenue-raising policies determine the prepaid share of health expenditure and whether funds are raised equitably. Likewise, redistribution only succeeds through appropriate arrangements for purchasing health services to achieve efficiency, equity and financial protection objectives. These arrangements include setting suitable and coherent incentives for providers to deliver quality health-care services.³⁶ Importantly, provider payment methods and amounts of payments to health-care providers should be the same for all members of the pool, independent of whether people pay direct contributions or not.

Misalignment of pooling and purchasing arrangements is also common in universal tax-funded systems in which the health budget is the dominant pooling arrangement. Misalignment may

happen when the budget is allocated to providers based on historically set budget lines that are determined by an input logic, that is, how much inputs (such as staff, medicines and supplies) are needed (rather than paying for the output, such as services provided or patient cases treated).³⁷ Budget allocations for vertical disease programmes may also result in misalignment. Addressing these shortcomings will be an important step towards realizing the potential of a health budget as a unified pool. Moreover, pooling reforms may also require changes in public financial management procedures, including how budgets are formulated and implemented.

In many countries, the source of funds for health is still associated with a pooling arrangement. However, there is no inherent link between how resources are raised and how they should be pooled. Diverse sources of revenues can be combined in a pool before these funds are passed on to providers. Therefore, delinking sources of funds from pooling options is important.

The question has been raised whether non-contributory coverage for those outside the formal sector could encourage informalization of the labour force, that is, an increase in the share of people working in the informal economy. Evidence is scarce and mixed. For example, the effect of Mexico's reforms was marginal; the proportion of the population in the formal sector decreased by 0.4–0.7 percentage points within a few years of the programme's introduction.³⁸ In contrast, in Thailand informal-sector employment increased by two percentage points in the year of adopting universal coverage and just under 10 percentage points after three years.³⁹ However, people need access to health services and financial protection immediately. The objective of UHC cannot be traded against the need to expand formal employment, which requires other policy instruments and is a long-term economic policy goal.

Finally, as changes in pooling arrangements are about redistribution of funds, it is important to recognize that

there may be institutional and political constraints on the scope for action to reduce fragmentation in a health financing system or to mitigate its consequences. Reform requires the time and institutional capacity to implement it, as well as the approval of decision-makers and involved stakeholders. Clearly, pooling reforms go beyond the realm of health ministries and require strong support from other government agencies. Despite the complexities of political economy, we urge countries to undertake pooling reforms.

In conclusion, a variety of pooling reform options are available to enhance redistribution of resources for health. For such reforms to realize their potential, however, they must be set within an overall vision of health financing that aligns pooling with other health financing functions. ■

Competing interests: None declared.

ملخص

تجميع الموارد المالية للتغطية الصحية الشاملة: خيارات للإصلاح

أنواع عامة لإصلاح التجميع، ونناقش إمكانياتها والتحديات التي تواجه التعامل مع تجزئة التمويل الصحي: (1) التحول إلى التغطية الإجبارية أو التلقائية للتجميع؛ و(2) دمج وسائل التجميع المختلفة لزيادة عدد أعضاء هذه الوسائل، وكذلك زيادة التنوع في الاحتياجات والمخاطر الصحية لدى أعضاء التجميع؛ و(3) الدعم المتبادل بين وسائل التجميع التي بها أعضاء من ذوي الإيرادات الأقل والمخاطر الصحية الأعلى؛ و(4) التنسيق بين وسائل التجميع، مثل المزايا وطرق الدفع والمعدلات. يمكن للبلدان الجمع بين عدة عناصر للإصلاح. إن إدراك وجود إمكانية لإعادة التوزيع تتحقق بالفعل من خلال إصلاح التجميع، إنها يعتمد أيضا على التنسيق بين نظام التجميع، وترتيبات جمع الإيرادات والشراء. وفي النهاية، فإن نطاق الإصلاح يتقيد بالجدوى المؤسسية والسياسية، كما أن الاقتصاد السياسي المرتبط بإصلاح التجميع يحتاج إلى التوقع والإدارة.

تعني التغطية الصحية الشاملة (UHC) أنه يمكن لجميع الأشخاص الحصول على الخدمات الصحية ذات الجودة الجيدة دون مواجهة أزمات مالية. هناك ثلاث وظائف للتمويل الصحي، تعد من الجوانب الحيوية للتغطية الصحية الشاملة، ألا وهي جمع الإيرادات، وتجميع الأموال، وشراء الخدمات الصحية. يركز هذا المقال على التجميع: وهو يعني تجميع الموارد المالية المدفوعة مقدما وإدارتها. ويؤدي التجميع إلى خلق فرص لإعادة توزيع الموارد لدعم إمكانية الحصول على الخدمات المطلوبة بشكل عادل، مع حماية مالية أكبر حتى لو لم يكن بالإمكان جمع إيرادات إضافية للتغطية الصحية الشاملة. ومع ذلك، فإنه في العديد من البلدان تكون ترتيبات التجميع مجزأة للغاية، وهو ما يؤدي لخلق حواجز في مواجهة إعادة التوزيع. الغرض من هذا المقال هو تقديم نظرة عامة حول خيارات الإصلاح في التجميع، بهدف دعم البلدان التي تستكشف طرقا لتحسين إعادة توزيع الأموال. سوف نوضح أربعة

摘要

统筹资金实现全民健康覆盖：改革方案

全民健康覆盖 (UHC) 意味着所有人都可以享受优质医疗服务，同时不会遇到财务困难。三项医疗融资职能——提高收入、统筹资金和购买医疗服务——对于 UHC 至关重要。本文着重于统筹：积累和管理预付资金。统筹能够创造资源再分配的机会，有助于人人都能公平地享有所需的服务并且得到更大的财务保障。即使无法为 UHC 增加收入，依然会有保障。然而，在许多国家中，统筹安排非常分散，从而对再分

配造成阻碍。本文的目的旨在简要概述统筹改革方案，以支持正在探索加强资金再分配方法的国家。我们概述四种类型的统筹改革并讨论其潜力以及在解决医疗融资分散问题时遇到的挑战：(i) 转为强制性或自主性全民覆盖；(ii) 合并不同的统筹方案以增加参保会员人数，同时提升参保会员的医疗需求和风险多样性；(iii) 对于收入较低和健康风险较高的会员参加的统筹方案进行交叉补贴；(iv) 协调各种统筹方案，例如福利、

支付方式和费率。各国可以结合多种改革要素。是否能够真正通过统筹改革发挥再分配的潜力还取决于协调统筹结构与提高收入和购买安排。最后，改革的范

围因体制和政治上的可行性而受到限制，需要围绕统筹改革进行政治经济学方面的预测和管理。

Résumé

Mettre en commun les ressources financières pour la couverture sanitaire universelle: options de réforme

La couverture sanitaire universelle (CSU) consiste à ce que l'ensemble de la population ait accès à des services de santé de qualité sans encourir de difficultés financières. Pour cela, trois fonctions de financement de la santé sont essentielles: le recouvrement des recettes, la mise en commun des fonds et l'achat de services de santé. Cet article s'intéresse à la mise en commun, à savoir le recueil et la gestion de ressources financières prépayées. La mise en commun permet de redistribuer les ressources afin d'offrir un accès équitable aux services nécessaires et d'améliorer la protection financière même en cas d'impossibilité de lever des recettes supplémentaires pour la CSU. Or, dans de nombreux pays, les mécanismes de mise en commun sont très fragmentés, ce qui fait obstacle à la redistribution. Cet article entend donner un aperçu des possibilités de réforme en ce qui concerne la mise en commun afin d'aider les pays qui cherchent à améliorer la redistribution des fonds. Nous présentons quatre grands types de réforme concernant la mise en commun et analysons le potentiel ainsi que les difficultés qu'ils

présentent pour mettre un terme à la fragmentation du financement de la santé: (i) passage à une couverture obligatoire ou automatique pour tout le monde; (ii) fusion de différentes caisses afin d'augmenter le nombre de membres d'une même caisse ainsi que la diversité de leurs besoins et de leurs risques; (iii) interfinancement des caisses dont les membres ont des revenus faibles et des risques élevés en matière de santé; et (iv) harmonisation entre les caisses concernant, par exemple, les avantages, les modes de paiement et les tarifs. Les pays peuvent combiner plusieurs éléments de réforme. La réalisation du potentiel de redistribution grâce à une réforme de la mise en commun dépend aussi de l'alignement de la structure de mise en commun sur le recouvrement des recettes et les mécanismes d'achat. Enfin, l'étendue de la réforme est limitée par la faisabilité institutionnelle et politique, et l'économie politique relative à cette réforme de la mise en commun doit être anticipée et gérée.

Резюме

Объединение финансовых ресурсов для достижения всеобщего охвата услугами здравоохранения: варианты реформы

Всеобщий охват услугами здравоохранения (ВОУЗ) означает, что все люди могут получить доступ к качественным медицинским услугам, не испытывая финансовых трудностей. Три функции финансирования здравоохранения (сбор доходов, объединение средств и приобретение медицинских услуг) жизненно необходимы для достижения всеобщего охвата услугами здравоохранения. Данная статья посвящена вопросу объединения средств — накоплению предоплаченных финансовых ресурсов и управлению ими. Объединение средств создает возможность перераспределения ресурсов для обеспечения равноправного доступа к необходимым услугам и дополнительной финансовой защиты, даже если дополнительные доходы для достижения всеобщего охвата услугами здравоохранения не могут быть собраны. Однако во многих странах механизмы объединения средств часто разрознены, что создает барьеры для перераспределения. Цель данной статьи — предоставить обзор вариантов реформы объединения средств с целью оказания поддержки странам, которые ищут возможности совершенствования механизмов перераспределения средств. Авторы выделяют четыре

основных типа реформ объединения средств и обсуждают их потенциальные возможности и трудности в решении проблемы разрозненности финансирования здравоохранения: (i) переход на обязательный или автоматический охват услугами для всех категорий населения; (ii) объединение различных финансовых ресурсов для увеличения количества участников пула средств и разнообразия потребностей и рисков для здоровья среди участников пула; (iii) перекрестное субсидирование пулов, участники которых имеют более низкие доходы и более высокие риски для здоровья; (iv) согласование льгот, способов оплаты и ставок во всей системе пулов средств. Страны могут объединять несколько элементов реформ. Реализация потенциальных возможностей перераспределения финансовых средств в результате реформы объединения средств также зависит от согласования структуры пула с механизмами сбора доходов и закупок. Необходимо отметить, что масштабы реформы ограничены институциональными и политическими возможностями, а политико-экономическая ситуация вокруг реформы объединения средств должна быть прогнозируемой и управляемой.

Resumen

Mancomunación de recursos financieros para la cobertura sanitaria universal: opciones para la reforma

La cobertura sanitaria universal (CSU) significa que todas las personas pueden acceder a servicios de salud de buena calidad sin experimentar dificultades financieras. Hay tres funciones de financiamiento de la salud que son fundamentales para la CSU: la recaudación de ingresos, la mancomunación de fondos y la compra de servicios de salud. Este artículo se centra en la mancomunación: la acumulación y gestión de recursos financieros prepagados. La mancomunación crea oportunidades para la redistribución de recursos que apoyan el acceso

equitativo a los servicios necesarios y una mayor protección financiera, incluso si no se pueden recaudar ingresos adicionales para la CSU. Sin embargo, en muchos países los acuerdos de mancomunación están muy fragmentados, lo que crea barreras a la redistribución. El propósito de este artículo es proporcionar una visión general de las opciones de reforma de la mancomunación para apoyar a los países que están explorando formas de mejorar la redistribución de los fondos. Se describen cuatro grandes tipos de reformas de mancomunación y se

discuten sus potencialidades y desafíos para abordar la fragmentación del financiamiento de la salud: (i) pasar a una cobertura obligatoria o automática para todos; (ii) fusionar diferentes fondos para aumentar el número de miembros del fondo y la diversidad de las necesidades y riesgos de salud de los miembros del mismo; (iii) subvención cruzada de fondos que tienen miembros con menores ingresos y mayores riesgos para la salud; y (iv) armonización entre los fondos, tales como beneficios, métodos de pago y tarifas. Los países pueden combinar

varios elementos de reforma. La realización efectiva del potencial de redistribución mediante una reforma de la mancomunación depende también de la alineación de la estructura de la mancomunación con los acuerdos de recaudación de ingresos y compra. Por último, el alcance de la reforma se ve limitado por la viabilidad institucional y política, y es preciso anticipar y gestionar la economía política en torno a la reforma de la mancomunación.

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Political economy of Thailand's tax-financed universal coverage scheme

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Problem The challenge of implementing contributory health insurance among populations in the informal sector was a barrier to achieving universal health coverage (UHC) in Thailand.

Approach UHC was a political manifesto of the 2001 election campaign. A contributory system was not a feasible option to honour the political commitment. Given Thailand's fiscal capacity and the moderate amount of additional resources required, the government legislated to use general taxation as the sole source of financing for the universal coverage scheme.

Local setting Before 2001, four public health insurance schemes covered only 70% (44.5 million) of the 63.5 million population. The health ministry received the budget and provided medical welfare services for low-income households and publicly subsidized voluntary insurance for the informal sector. The budgets for supply-side financing of these schemes were based on historical figures which were inadequate to respond to health needs. The finance ministry used its discretionary power in budget allocation decisions.

Relevant changes Tax became the sole source of financing the universal coverage scheme. Transparency, multistakeholder engagement and use of evidence informed budgetary negotiations. Adequate funding for UHC was achieved, providing access to services and financial protection for vulnerable populations. Out-of-pocket expenditure, medical impoverishment and catastrophic health spending among households decreased between 2000 and 2015.

Lessons learnt Domestic government health expenditure, strong political commitment and historical precedence of the tax-financed medical welfare scheme were key to achieving UHC in Thailand. Using evidence secures adequate resources, promotes transparency and limits discretionary decision-making in budget allocation.

Abstracts in **عربي**, **中文**, **Français**, **Русский** and **Español** at the end of each article.

Introduction

Though there are several approaches to financing universal health coverage (UHC), tax-based schemes have been advocated by the World Health Organization and international development partners. Taxation can be a progressive method of raising government funds for health (when richer people pay more than poorer people) and has lower administrative costs and is more feasible than contributory health insurance schemes.¹ The challenge of enforcing mandatory insurance premiums for health care among populations in the informal sector is a major barrier to achieving UHC.²

Increasing domestic tax revenue is especially important for achieving UHC in countries with low tax bases. For each 100 United States dollars (US\$) per capita annual increase in tax revenue results in a US\$ 9.86 increase (95% confidence interval, CI: 3.92–15.8) in government spending on health.³ Here we report how historical precedence and the political situation in Thailand paved the way for taxation as the sole source of financing for the universal coverage scheme.

Local setting

Thailand's medical welfare scheme for low-income households was launched in 1975 and later extended to cover elderly people, children younger than 12 years and disabled people. The voluntary health card scheme, launched in 1984 for non-poor households in the informal sector, was financed by premium contributions. Aiming to increase coverage, in 1994 the government began subsidizing 50% of the premiums.⁴ In 1980, the government legislated regulation on the civil servant

medical benefit scheme as a non-contributory tax-funded scheme to cover government officers, pensioners and their dependents. Social health insurance, legislated in 1990 for private sector employees, was financed through payroll tax with equal contributions from employers, employees and the government. Financing social health insurance was categorized as public financing.⁴

There were three budgetary challenges to these schemes. First, budget allocation to the medical welfare scheme and voluntary health insurance was based on historical figures with minimal annual increases. The per capita budget support to the medical welfare scheme increased from 225 Thai baht (THB) in 1995⁵ to 273 THB in 2001 (the conversion rate was US\$ 1 at 30.3 THB in 2019). Subsidies to voluntary health insurance were 500 THB per household of four members, equivalent to 125 THB per capita. The budget was inadequate and did not reflect the total cost of health care provision, leaving the shortfalls to be borne by out-of-pocket payments from the members. In 2000, out-of-pocket payments were 34.2% (US\$ 21.2) of the current health expenditure of US\$ 62 per capita. The incidence of medical impoverishment was 2.0% (0.32 million out of 16.1 million households) and of catastrophic health spending (> 10% of total household expenditure) was 5.7% (0.92 million households; Fig. 1).

Second, the finance ministry was responsible for allocating health service budgets to health ministry-owned facilities at sub-district, district and provincial levels. The allocation applied incremental increases, and was often decided by the discretionary powers of the finance ministry, particularly on the capital budget. The finance ministry was responsible for reviewing all competing budget proposals against government

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(Submitted: 15 June 2019 – Revised version received: 14 October 2019 – Accepted: 18 October 2019 – Published online: 18 November 2019)

priorities and submitting budget ceilings for the prime minister's approval. The finance ministry was therefore able to influence final decisions on the ministerial budget ceiling.⁷

Third, these multiple budget flows to health facilities confused accountability among the health facilities (the recipients of funds), the four health insurance funds, the health ministry and the citizens (the taxpayers).

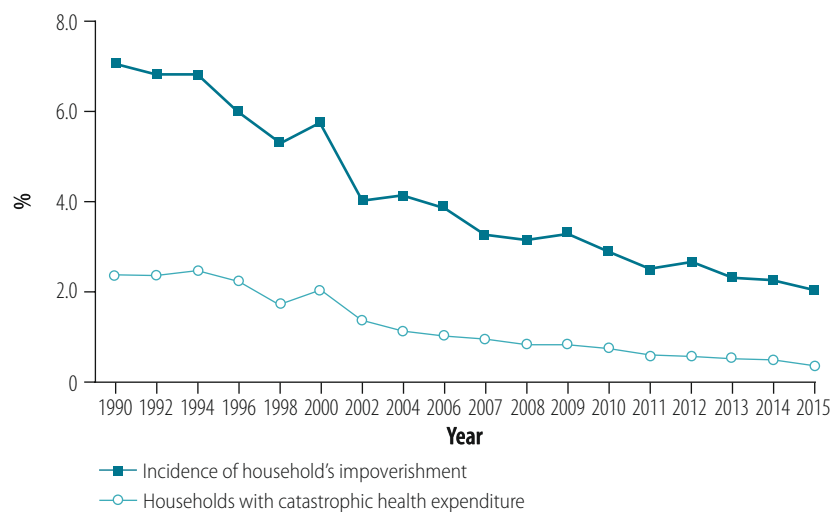
Approaches

UHC was a part of the political manifesto of the *Thai Rak Thai* party, who were able to form a coalition government in 2001.⁸ Prior to the election, discussions within the party were in favour of collecting 100 THB monthly premiums from the uninsured. However, for several reasons, the proposal was withdrawn a few weeks before the election.⁹

First, a financial analysis showed that combining all existing budget streams (health ministry annual budget, medical welfare scheme and voluntary health insurance scheme) would require a moderate additional budget to implement a non-contributory scheme and this amount was within the prime minister's power to mobilize.¹¹ Second, the voluntary health insurance scheme had adverse selection of members, because healthy people did not join and the high proportion of sick members undermined the financial viability of the scheme.¹⁰ Third, collecting and enforcing premium payments among those working in the informal sector with erratic and seasonal incomes was politically and technically difficult. Failure of people to contribute would interrupt their membership and hinder access to care.

Opposition parties in parliament raised concerns that tax revenues for health should not benefit richer people who were able to pay their own medical bills. Civil society organizations rejected this argument by highlighting that an entitlement to public health services, even for the rich, was enshrined by Article 52 of the 1997 Thai Constitution.¹¹ However, some university academics preferred premium contributions, arguing that a tax-financed scheme might be jeopardized by changing government policies and funding interruptions. These criticisms did not change the government's decision to use taxation, an outcome which could be explained

Fig. 1. Incidence of catastrophic health expenditure and household impoverishment, Thailand, 1990–2015



Source: Authors' analysis using socioeconomic surveys conducted by Thailand's National Statistical Office, 1990–2015. Data used for the calculation of catastrophic health expenditure and household impoverishment are available in the authors' data repository.⁶

by stakeholder theory.¹² In this case, the *Thai Rak Thai* party qualified as the dominant stakeholder. The party had constitutional legitimacy because UHC endorses the right to health for everyone. The party also had both legislative power through a majority in parliament and executive power to mobilize additional budgets. The policy on UHC was socially acceptable and a matter of urgency as a political promise to implement within a year. With the combination of power, legitimacy and urgency, the party became the definitive stakeholder and was in position to win over opponent stakeholders. Ultimately, the universal coverage scheme was designed to be financed wholly by general taxation and this was legislated into Article 39(1) of the 2002 National Health Security Act.¹³

An advantage was that health-care providers, one of the key stakeholders, did not oppose the reform. The overall budget for the universal coverage scheme increased substantially from the 273 and 125 THB per capita (total population for medical welfare: 18.4 million) and voluntary health insurance scheme (total population: 14.9 million) in 2001 to 1202 THB per capita universal coverage scheme member in 2002.

In 2001, the budget allocation to the health ministry for publicly-financed health services was 26.5 billion THB. The total resources required for a universal coverage scheme was estimated based on 1202 THB¹⁴ per capita multiplied by

47 million universal coverage scheme members, equivalent to 56.5 billion THB. The additional budget, 30 billion THB (a funding gap of between 56.5 and 26.5 billion THB), was within the capacity of the prime minister to mobilize. To prevent double funding to public health facilities, the supply-side budget was terminated and included in annual budgets of the universal coverage scheme.

The government has adopted the principle of per capita budgeting for the scheme. The annual per capita budget was the product of the related unit cost of services and quantity of services provided as measured by utilization rates. The total budget requested to the government, through the finance ministry, was the product of per capita budget and the total number of universal coverage scheme members. Budgetary process, based on objective evidence, was managed by a multistakeholder subcommittee, which prevented the use of discretionary power by the finance ministry.

Relevant changes

All Thai citizens were entitled to one of three non-competing public schemes. The newly implemented universal coverage scheme covered the population who were not beneficiaries of the existing schemes. Individuals' enrolment into health insurance schemes were automatically switched based on the changes in their eligibility status, such

Table 1. **Relevant changes in health care before and after introduction of the universal coverage scheme in Thailand in 2002**

Relevant changes	Before universal coverage scheme in 2001	After universal coverage scheme in 2016
Population coverage	Only 70% (44.5 out of 63.5 million) of the Thai population were covered by many fragmented health schemes	More than 99% (68.2 out of 68.9 million) of the Thai population were covered by the three main public health schemes. The new scheme covers the majority, about 51.7 million (75%) of the population
Budgetary process	Parallel funding, with annual supply-side budget allocation and funding for the medical welfare and voluntary insurance schemes Historical incremental budget increases Full cost of services for the two schemes was not reflected in government budgets Budget allocation was at the discretion of the finance ministry	Termination of supply-side budget allocation Full cost subsidies to a comprehensive package Evidence-based budget estimates are based on service utilization rates and unit costs Multistakeholder financing subcommittee ensures transparency and limited room for discretion by the finance ministry
Governance and relationships between providers and funding agencies	In a public integrated model whereby the health ministry played both financing- and service-provision roles for the medical welfare and voluntary insurance schemes	Splitting the role of purchaser and provider, the health ministry maintains a service-provision role, National Health Security Office, which manages the new scheme, is responsible for strategic purchasing function
Financial protection		
Current health expenditure, THB millions	161 752.41	547 735.15
General government expenditure, THB millions	801 690.44	2 737 009.17
Out-of-pocket expenditure, THB millions (% of current health expenditure)	54 977.39 (33.9)	62 144.05 (11.3)
Domestic general government health expenditure, THB millions (% of general government expenditure)	88 987.64 (11.1)	416 025.39 (15.2)
Domestic general government health expenditure, THB millions (% of current health expenditure)	88 987.64 (55.0)	416 025.39 (76.0)

THB: Thai baht.

Note: the conversion rate in 2019 was 1 United States dollars at 30.3 THB

Source: Financial protection data are from the National Health Account of Thailand, 2019.¹⁹

as age and employment. For example, children of civil servant medical benefit scheme members would be entitled to the universal coverage scheme as soon as they turned 20 years old; universal coverage scheme members who became

employed by the private sector would be automatically enrolled into payroll-tax financed social health insurance.

The universal coverage scheme offered a comprehensive benefit package inclusive of outpatient, inpatient and

emergency care, high-cost care, dental services, health promotion and disease prevention, and all medicines in the national list of essential medicines. Closed-end provider payments were adopted, notably capitation and diagnostic-related groups, and these methods improved efficiency and contained costs. A primary-care gate-keeping system was also adopted.⁴ Copayments of US\$ 1 per visit or per admission (later copayment was ended in 2008) boosted financial protection. Out-of-pocket payments of health expenditure decreased to 11.3% (US\$ 25.2) of the current per capita health expenditure (US\$ 221.9) in 2016.¹⁵ By 2015, the incidence of household's medical impoverishment had fallen to 0.3% (71 524 of 21.3 million households) when the national poverty line was applied and the incidence of catastrophic health spending also decreased to 2.0% (427 808 of 21.3 million households; Fig. 1).

In addition, the universal coverage scheme had reduced the infant mortality gaps between poorer and richer provinces between 2000 and 2002 because of increased access to health care among the poor.¹⁶

Thailand's UHC index in 2015 was 75 (on a scale of 0–100) with a low level of unmet health care needs, a steady decline in all-cause mortality between 2001–2014, and reduced inequality of adult mortality across geographical areas.^{4,17} Engagement by multistakeholders in the subcommittee promotes transparency of the budgetary process.¹⁸ Table 1 compares relevant changes before and after the introduction of the scheme.

Lesson learnt

Domestic government health expenditure was key towards achieving UHC in Thailand due to the large population working in the informal sector. Political commitment and historical precedence of tax-financed medical welfare scheme were also important. However, a comprehensive benefit package with nominal copayments can significantly reduce out-of-pocket expenditure and improve financial protection. The participatory use of evidence in budgetary processes limits discretionary decisions by ministries and promotes transparency and accountability. Finally, sustained political commitment and civil society engagement are key contributing factors (Box 1). The Thai

universal coverage scheme has survived two decades through rival governments and a climate of political conflict. A network of bureaucrats who mobilized resources in the bureaucracy, political parties, civil society and international organizations helped institutionalize the universal coverage scheme in the face of broader professional dissent and political conflicts.¹⁷ ■

Acknowledgements

We thank Dr Sanguan Nittayaram-phong, all frontline health workers and hospital referral backups and policy-makers in the Ministry of Health and National Health Security Office staff.

Box 1. Summary of main lessons learnt

- Domestic government health expenditure, political commitment and a tax-financed scheme, which promotes greater equity, were essential to achieving universal health coverage in Thailand.
- A shift from supply-side to demand-side budgeting and the use of evidence secures adequate resources, promotes transparency, limits discretionary budget allocation and improves accountability to citizens.
- A comprehensive benefit package can reduce out-of-pocket expenditure and improve financial protection for the population.

Funding: Funding support was provided by Thailand Science Research and Innovation (TSRI) to the International Health Policy Program (IHPP) under the Senior Research Scholar on Health

Policy and System Research [contract no. RTA6280007].

Competing interests: None declared.

ملخص

الاقتصاد السياسي لخطّة التغطية الشاملة الممولة من الضرائب في تايلند

الاحتياجات الصحية. لجأت وزارة المالية لسلطتها التقديرية في قرارات تخصيص الميزانية.

التغيرات ذات الصلة أصبحت الضريبة المصدر الوحيد لتمويل خطة التغطية الشاملة. وأدت الشفافية وإشراك أصحاب المصلحة المتعددين واستخدام الأدلة، إلى توجيه مفاوضات الميزانية. تم تحقيق التمويل الكافي للتغطية الصحية الشاملة، مع إتاحة إمكانية الوصول إلى الخدمات والحماية المالية للسكان من الفئات المعرضة للخطر. انخفض الإنفاق غير المباشر، والإفقار الطبي والإنفاق الصحي في حالات الكوارث بين الأسر، بين عامي 2000 و2015.

الدروس المستفادة إن كل من الإنفاق الحكومي المحلي على الصحة، والالتزام السياسي القوي، والأسس التاريخية لخطّة الرعاية الطبية الممولة من الضرائب، كانت عوامل أساسية نحو تحقيق التغطية الصحية الشاملة في تايلند. إن استخدام الأدلة يضمن تأمين الموارد الكافية، ويعزز الشفافية، ويحد من اتخاذ القرارات التقديرية في تخصيص الميزانية.

المشكلة كان تحدي تنفيذ التأمين الصحي القائم على المساهمة بين السكان في القطاع غير الرسمي، يمثل عائقاً أمام تحقيق التغطية الصحية الشاملة (UHC) في تايلند.

الأسلوب كانت التغطية الصحية الشاملة عبارة عن بيان سياسي للحملة الانتخابية لعام 2001. لم يكن نظام المساهمة خياراً ممكناً لاحترام الالتزام السياسي. في ظل القدرة المالية لتايلند والحجم المعتدل من الموارد الإضافية المطلوبة، وضعت الحكومة تشريعات لاستخدام الضرائب العامة كمصدر وحيد لتمويل خطة التغطية الشاملة.

المواقع المحلية قبل عام 2001، كانت هناك أربع خطط للتأمين الصحي العام غطت 70% فقط (44.5 مليون) من 63.5 مليون نسمة. حصلت وزارة الصحة على الميزانية وقدمت خدمات الرعاية الطبية للأسر ذات الدخل المنخفض، وقدمت كذلك دعماً شعبياً للتأمين التطوعي للقطاع غير الرسمي. اعتمدت ميزانيات تمويل الإمداد لهذه الخطط على أرقام تاريخية لم تكن كافية لتلبية

摘要

依靠税收的泰国全民健康覆盖方案中的政治经济

问题 如何在非正式部门人口中实施自缴型健康保险是泰国实现全民健康保险 (UHC) 的一大障碍。

方法 实现全民健康保险 (UHC) 是 2001 年竞选活动的竞选宣言。自缴制度不是履行竞选宣言的可行方法。鉴于泰国的财政能力和所需有限的其他资源，泰国政府立法规定将普通税收作为全民健康计划的唯一资金来源。

当地状况 2001 年以前，在 6350 万人口中，四大公共健康保险计划只覆盖了 70% (4450 万) 的人口。卫生部收到预算，为低收入家庭提供医疗福利服务，并为非正式部门提供公费补贴的自愿保险。这些计划的供应方融资预算是根据历史数据编制的，而且这些数据不足以满足健康需求。财政部在预算分配决策中使用了它的自由裁量权。

相关变化 税收成为为全民健康计划的唯一资金来源。透明度、多方利益相关方的参与和证据的使用为预算谈判提供了参考信息。为全民健康覆盖提供了充足的资金，为弱势群体提供了服务和财政保护的机会。2000 年至 2015 年期间，自付支出、医疗贫困和家庭灾难性卫生支出有所减少。

经验教训 泰国政府的健康支出、强有力的政治承诺和依靠税收的医疗福利计划的长久惯例是实现全民健康保险的关键。使用证据可以确保充足的资源，提高透明度，并限制预算分配中的自由裁量权。

Résumé

Économie politique du régime de couverture universelle financé par l'impôt en Thaïlande

Problème La difficulté de mettre en œuvre une assurance maladie contributive dans les populations du secteur informel faisait obstacle à la couverture sanitaire universelle (CSU) en Thaïlande.

Approche La CSU était au cœur de la campagne électorale de 2001. Pour respecter les engagements politiques, la mise en place d'un système contributif n'était pas envisageable. Compte tenu de la capacité fiscale du pays et des ressources supplémentaires nécessaires, relativement modérées, le gouvernement a voté le recours à l'imposition générale comme seule source de financement du régime de couverture universelle.

Environnement local Avant 2001, quatre régimes publics d'assurance maladie couvraient seulement 70% (44,5 millions) de la population (63,5 millions d'habitants). Le ministère de la Santé a reçu le budget et a mis en place des services de protection médicale pour les ménages à faible revenu ainsi qu'une assurance facultative subventionnée par l'État dans le secteur informel. Les budgets de financement « côté offre » de ces régimes reposaient sur des chiffres historiques et ne permettaient pas de répondre aux besoins en matière de santé. Le ministère des

Finances a usé de son pouvoir discrétionnaire pour orienter les décisions concernant l'affectation du budget.

Changements significatifs L'impôt est devenu la seule source de financement du régime de couverture universelle. Les négociations budgétaires ont gagné en transparence, en faisant intervenir différentes parties prenantes et en s'appuyant sur des éléments probants. Un financement adéquat a pu être dégagé pour la CSU, ce qui a permis aux populations vulnérables d'accéder à des services et de bénéficier d'une protection financière. Les dépenses directes, l'appauvrissement pour raison médicale et les dépenses de santé exorbitantes des ménages ont diminué entre 2000 et 2015.

Leçons tirées Les dépenses du gouvernement pour la santé, un engagement politique fort ainsi que les précédents historiques du régime de protection médicale financé par l'impôt ont été essentiels pour parvenir à la CSU en Thaïlande. Le recours à des éléments probants permet d'obtenir des ressources adéquates, favorise la transparence et limite la prise de décisions discrétionnaires concernant l'affectation du budget.

Резюме

Политическая экономия финансируемой из налоговых поступлений системы всеобщего охвата услугами здравоохранения в Таиланде

Проблема Сложности внедрения основанной на взносах программы медицинского страхования среди групп населения в неформальном секторе препятствовали достижению всеобщего охвата услугами здравоохранения в Таиланде.

Подход Всеобщий охват услугами здравоохранения входил в политический манифест избирательной кампании 2001 года. Система взносов не была приемлемым вариантом с точки зрения выполнения политических обязательств. Учитывая финансовые возможности Таиланда и небольшой объем необходимых дополнительных ресурсов, правительство приняло закон об использовании общей системы налогообложения в качестве единственного источника финансирования системы всеобщего охвата услугами здравоохранения.

Местные условия До 2001 года четыре существующие программы государственного медицинского страхования охватывали лишь 70% (44,5 млн) из 63,5 млн населения. Министерство здравоохранения получило бюджет и обеспечило медицинское обслуживание и социальную помощь семьям с низким уровнем дохода и субсидируемую государством программу добровольного страхования для неформального сектора. Объем бюджетов для финансирования данных программ основывался на данных за прошлые периоды, финансирование в которые было недостаточным для удовлетворения потребностей здравоохранения. Министерство финансов воспользовалось

своими широкими полномочиями для принятия решений о распределении бюджетных средств.

Осуществленные перемены Единственным источником финансирования системы всеобщего охвата услугами здравоохранения стали налоги. Обсуждения бюджета основывались на информационной открытости, участии многих заинтересованных сторон и использовании фактических данных. Было обеспечено адекватное финансирование системы всеобщего охвата услугами здравоохранения, обеспечивающее доступ к услугам и финансовую защиту наиболее уязвимым группам населения. Расход наличных средств, обнищание из-за расходов на медобслуживание и катастрофические расходы на медицинское обслуживание в семьях сократились в период с 2000 по 2015 год.

Выводы Внутренние государственные расходы на здравоохранение, твердая политическая позиция и наличие исторического прецедента существования финансируемой из налоговых поступлений системы медицинского обслуживания и социальной помощи стали ключевыми факторами для достижения всеобщего охвата услугами здравоохранения в Таиланде. Использование фактической информации обеспечивает выделение адекватных ресурсов, способствует прозрачности и ограничивает принятие дискреционных решений при распределении бюджета.

Resumen

Economía política del plan de cobertura universal financiado por los impuestos de Tailandia

Situación El reto de implementar un seguro de salud contributivo entre las poblaciones del sector informal era un obstáculo para lograr la cobertura sanitaria universal (universal health coverage, UHC) en Tailandia.

Enfoque La UHC fue un manifiesto político de la campaña electoral de 2001. Un sistema contributivo no era una opción viable para cumplir el compromiso político. Dada la capacidad fiscal de Tailandia y la cantidad

moderada de recursos adicionales necesarios, el Gobierno legisló para utilizar los impuestos generales como única fuente de financiación del plan de cobertura universal.

Marco regional Antes de 2001, cuatro planes de seguro de salud públicos cubrían solo el 70 % (44,5 millones) de los 63,5 millones de habitantes. El Ministerio de Salud recibe el presupuesto y presta servicios de asistencia médica a los hogares de bajos ingresos y

subsidió públicamente los seguros voluntarios para el sector informal. Los presupuestos para la financiación de la oferta de estos planes se basaron en cifras históricas que eran insuficientes para responder a las necesidades sanitarias. El Ministerio de Hacienda utilizó su poder discrecional en las decisiones de asignación presupuestaria.

Cambios importantes El impuesto se convirtió en la única fuente de financiación del plan de cobertura universal. La transparencia, la participación de múltiples partes interesadas y el uso de pruebas informaron las negociaciones presupuestarias. Se logró una financiación adecuada para la UHC, proporcionando acceso a los servicios y

protección financiera para las poblaciones vulnerables. Los gastos de bolsillo, el empobrecimiento de los servicios médicos y el gasto catastrófico en salud de los hogares disminuyeron entre 2000 y 2015.

Lecciones aprendidas El gasto sanitario del gobierno nacional, el fuerte compromiso político y la precedencia histórica del plan de bienestar médico financiado por los impuestos fueron fundamentales para lograr la UHC en Tailandia. El uso de pruebas asegura recursos adecuados, promueve la transparencia y limita la toma de decisiones discrecionales en la asignación presupuestaria.

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Addressing the persistent inequities in immunization coverage

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A key focus of the health-related sustainable development goal (SDG) 3 is universal health coverage (UHC), including access to safe, effective, quality, and affordable essential medicines and vaccines. However, the challenges to achieving UHC are substantial, especially with increased demands on the health sector and with most budgets being static or shrinking.¹

Immunization programmes have been successful in reaching children worldwide. For example, 86% of the world's infants had received three doses of diphtheria-tetanus-pertussis (DTP3) vaccine in 2018.² The experiences from such programmes can contribute to UHC, and as these programmes strive to adapt to new global strategic frameworks, such as Gavi, the Vaccine Alliance's strategy Gavi 5.0 and the World Health Organization's (WHO) Immunization Agenda 2030, these efforts can inform the progressive realization of UHC. Immunization programmes that can sustain regular levels of contact between health providers and beneficiaries at the community level have enabled new vaccines to be added to routine immunization schedules and other interventions to be delivered to children and their families. In addition, experiences from both polio campaigns and the child health days strategy show that incorporating additional interventions into campaigns can increase coverage of these interventions as well as of vaccinations.^{3,4}

Improving immunization coverage

Considering how to expand integration efforts and to better focus immunization on the most disadvantaged, including attention to addressing social determinants of health, will be critical for further progress. The Equity Reference Group for Immunization has conducted analyses based on published and unpublished literature, as well as a series of interviews with experts working at global, national and community levels to highlight several related challenges and opportunities. Here we discuss challenges and opportunities related to data quality, vertical immunization programmes, underserved children and gender.

In 2018, 19.4 million children younger than one year of age did not receive DTP3, and approximately 41% of these children live in countries that are polio-endemic, fragile or affected by conflict.² In addition, a growing share of children live in middle-income countries where vulnerability and social exclusion, particularly among the urban poor, prevents many from receiving vaccination. Children living in remote rural areas, although long identified as a target population for immunization programmes, continue to be underserved. Furthermore, immunization programmes often ignore inequities caused by bias and discrimination in

response to the social constructs of ethnicity and gender.

Data quality

There is growing evidence on the reasons these inequities in immunization exist and how to address them. Acting on this evidence is the challenge to increasing coverage, particularly as it will require redistributing resources, prioritizing those who are often subject to discrimination and operating in challenging contexts. Currently, opportunities that are important considerations for immunization decision-makers and implementers exist.

The first opportunity is the improvement of data quality and use of both traditional surveys and new technologies. Approaches such as linking data sets and use of electronic health information systems can facilitate recording and reporting of real-time data. Simple analyses using existing data can also help us better understand key equity issues within countries. For example, in 2018, WHO released an equity analysis of ten countries that Gavi has identified as the highest priority for childhood immunization.⁵ Using Demographic and Health Surveys (DHS), the report presents disaggregated data on, and associations with, DTP3 coverage by key characteristics of children, mothers and households. This type of information can serve as a basis for more detailed explorations at both national and sub-

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(Submitted: 18 July 2019 – Revised version received: 1 December 2019 – Accepted: 2 December 2019 – Published online: 10 January 2019)

national levels, and as a baseline for future efforts to redress equity gaps. New technologies can provide a better user interface and geospatial information gathering, particularly to improve traditional survey methods and tools. Such advances would facilitate new opportunities that big data and artificial intelligence approaches are bringing to public health.

The second opportunity is innovations such as machine learning and use of satellite imagery, which are already improving estimates of how many children live in different geographic areas, and supporting better visualization of data, which health workers can act upon. Polio eradication programming, for example, has shown how the use of granular data through geographic information systems mapping, coupled with surveillance data, can identify children who are hard to reach by the health-care system. Predictive models informed by data across sectors, such as health, protection, transport and telecommunications, could identify pockets of low coverage even where surveys have not been conducted. However, as quality data are only relevant if used at local levels for planning and budgeting, capacity must be built at national and sub-national levels to better use these data to adapt and expand service delivery strategies. These transformative investments will be critical for both immunization programming and UHC, even as discussions of how best to measure UHC continue.

Vertical programmes

The vertical nature of immunization programmes is a challenge. This organizational structure has enabled robust vaccination gains, but has been implemented without enough attention to how immunization assets can be used more broadly. Identifying the right mix of interventions to integrate with immunization services, informed by cost-benefit and cost-effectiveness analyses, is critical to ensure that integration does not overburden health workers or negatively impact coverage and quality.⁴ At the global level, additional research is needed to further develop an evidence base around new service delivery models and innovations to simplify vaccine delivery for all children, particularly

those living in difficult-to-reach areas. Experts point to the success of strategies that use meticulous microplanning to identify the unreached, engage communities and improve reach through public-private partnerships. Indeed, one of the core axes of UHC is that communities own and drive the design and implementation of services. Immunization programmes are well placed to support this, building on the strengths of the WHO's Reaching Every District approach, which includes community engagement as a cornerstone. In addition, needle-free vaccine administration and thermo-stable vaccines are promising innovations to enable the health system to simplify and expand delivery to marginalized children. Adoption of novel strategies, such as optimizing delivery strategies and doses per container, reduced dosages and adapted target age ranges within campaigns may reduce disease burden in displaced and intermittently accessible populations. Furthermore, the rollout of human papillomavirus (HPV) vaccination in many countries presents new opportunities for reaching adolescents with other services, such as screening programmes and treatment or other vaccines, and provision of information and life skills. This increased reach can facilitate access for adolescents and can reduce costs and burdens related to delivering interventions separately.

Underserved children

Developing better approaches for children who may be accessible geographically, but who remain underserved is also a challenge. In some cases, children are underserved by commission, that is, their families deliberately avoid vaccination, while others by omission due to a variety of service delivery and social factors leading to intentional or unintentional exclusion. Incorporating the latest thinking around effective behaviour change approaches into programme and communication strategies may provide new opportunities to reach these children. Reaching these children will also require health systems strengthening, improved quality of care, intersectoral and intragovernmental collaboration, and new emphasis on social justice, non-discrimination, civil society engagement and accountability, among other efforts.⁶

Gender

A final challenge is to ensure that gender is recognized as a critical, cross-cutting, and influencing factor, and ensuring that gender analyses of immunization are not restricted to comparing coverage outcomes between boys and girls. Studies show that maternal education and maternal age are key determinants of whether a child is immunized. As well, the agency and empowerment of women, and women's access to quality services can affect the likelihood of childhood immunization.⁷ We must identify and test ways in which immunization programmes can mitigate gender-related barriers without undermining, but rather ideally contributing to, women's empowerment in different settings. HPV vaccination raises additional gender and equity considerations, particularly as services for adolescents can be quite limited in both availability and quality in many settings.⁸

Addressing inequities

The strategic importance, effectiveness and cost-effectiveness of focusing on the poorest and hardest-to-reach children has been emphasized before.^{9,10} Equity in immunization may also contribute to building solidarity within countries for UHC, as everyone, across all socioeconomic levels and from a variety of backgrounds, will benefit from increased herd immunity. However, building solidarity for social and health programmes can be a key challenge in settings where the more advantaged people question why they should pay taxes to ensure services for the less advantaged.¹¹ Fortunately, immunization programmes are an example of a public good which, when strengthened and expanded, will benefit those same tax-payers, while also benefitting those who have been previously denied this essential intervention. The financial return on investment in vaccines has been found to be up to 44 times their cost.¹²

We must address inequities in immunization not just for the obvious health, financial and political benefits that come from herd immunity and absence of disease, but because without greater achievement in immunization among children living in urban poor, remote rural or conflict settings, it will

be impossible to collectively reach our shared goals for primary health care and UHC.

We have highlighted some of the innovations in the field, as well as the

existing assets that immunization programmes can bring. However, using the full potential of immunization programmes to advance UHC will require strategic changes, such as increased

efforts to integrate with other services and reaching children never reached by the health system. ■

Competing interests: None declared.

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Corrigenda

- In: Davis AC, Hoffman HJ. Hearing loss: rising prevalence and impact. *Bull World Health Organ*. 2019 Oct 1;97(10):646–46A
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- In: Elder K, Saitta B, Ducomble T, Alia M, Close R, et al. Ensuring access to affordable, timely vaccines in emergencies. *Bull World Health Organ*. 2019 Dec 1;97(12):851–53
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