

Measuring primary health care expenditure under SHA 2011

Technical note, December 2021



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Organization

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Abbreviations

FS	revenues of health care financing schemes
GDP	gross domestic product
GHED	Global Health Expenditure Database
HC	health care functions
HC.RI	health care functions related items
HF	financing schemes
HP	health care providers
ICHA	International Classification for Health Accounts
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PHC	primary health care
SDG	Sustainable Development Goal
SHA	System of Health Accounts
SHA 2011	System of Health Accounts 2011
WHA	World Health Assembly
WHO	World Health Organization

Executive summary

This technical note provides details on the derivation of an internationally comparable measure of primary health care (PHC) expenditure. There is a clear rationale for investing in PHC, underpinned by ample evidence that PHC is among the most equitable and effective strategies for improving the health of populations and enabling universal health coverage. A clear and conceptually accurate measurement of PHC expenditure is essential for tracking investments in, and monitoring the progress of, national-level PHC strategies. International benchmarking of PHC expenditure can also trigger further investigation of the reasons for some countries performing better than others. Spending information, combined with other information on inputs, activities and outcomes, is also a powerful analytical tool for guiding investments and evaluating value for money in health spending.

The best tool available for measuring PHC expenditure is the System of Health Accounts (SHA) 2011 framework – a systematic and internationally recognized method for tracking health care spending that is foundational to the preparation of health accounts. However, SHA 2011 does not include a readymade classification of PHC expenditure. A new measure was therefore established, following a far-reaching and comprehensive expert consultation process with technical stakeholders. It estimates PHC spending using the International Classification for Health Accounts – health care functions (ICHA-HC) in SHA 2011. The focus is on first-contact personal services, population-based services and some other cross-functional characterizations of spending (most notably, governance and medical goods).

Since 2016, the World Health Organization (WHO) has published estimates of PHC expenditure in the Global Health Expenditure Database. These data are already facilitating a new level of understanding of PHC spending, including its level and prioritization within different sources of funding, and how circumstances differ between countries. Notably, however, these data do not measure whether spending is effective, which requires additional country-level data and analysis.

As a proxy for PHC expenditure, the proposed measure makes simplifications and involves compromises, which mean that it is not a complete measure of national PHC expenditure. Accordingly, it should complement, not replace, existing country-level measures of PHC expenditure, which can also be classified in terms of health providers (ICHA-HP). Indeed, countries are highly encouraged to cross-tabulate ICHA-HC and ICHA-HP to better understand their service delivery configuration, improve the precision of ICHA-HC (and thus PHC) spending estimates and monitor policy changes.

Importantly, measurement of PHC expenditure is constantly being improved. The current measure represents a key step change, but further work is required. WHO is consulting and working closely with countries to review estimates of expenditure by function. Ultimately, the quality of PHC expenditure estimates hinges on the quality and granularity of country-level information on health care spending, combined with health accounting capability. Making efforts to improve information collection may initially seem daunting, but investments are likely to have large payoffs.

In the long run, as the understanding of PHC expenditure and the capability for data collection and analysis grow, it could be envisaged that a standalone functional reporting item “Primary health care expenditure” is developed under other reporting items (HC.RI) in SHA 2011. Countries would have the responsibility to apply the definition using primary data sources and assumptions to report expenditure that meets the definition, cross-classified with HP.

1 Introduction

Strong and effective primary health care (PHC) is a clear, enduring and unifying priority of public health across the world. In 1978, the Declaration of Alma-Ata (Box 1) established the principles of PHC. This instigated a global movement that placed effective PHC at the core of achieving “Health for All” – the realization of the World Health Organization’s (WHO’s) constitutional objective of “the attainment by all peoples of the highest possible level of health”, which has become the de facto guiding principle for global health (1).

Box 1. Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978 (Article IV)

“Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of both of the country’s health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work and constitutes the first element of a continuing health care process.”

The central importance of PHC in international, regional and national health strategies has been repeatedly emphasized since Alma-Ata. Strengthening PHC was the central message of the 2008 World Health Report (2), and PHC is firmly embedded within the Sustainable Development Goals (SDGs).¹ More recently, the political commitment to PHC as the cornerstone of sustainable health systems for universal health coverage was reaffirmed and reinvigorated in the Declaration of Astana (4). The political commitment to PHC, and an undertaking to scale up national implementation efforts, was later formalized by Member States at the Seventy-Second World Health Assembly (WHA72). Complementing this, the Member States of the United Nations General Assembly undertook to target additional investments in PHC worth 1% of gross domestic product (GDP) from government and external aid (5).

Essential to the implementation of these commitments is an effective measure of PHC expenditure that can be applied across different settings. Developing such a measure of PHC expenditure, however, is not straightforward. PHC is inherently a multisectoral strategy. Countries also have different approaches to defining and measuring PHC. Moreover, the System of Health Accounts (SHA 2011) – the international accounting standard for health expenditure estimates – does not include a readymade classification of PHC expenditure (6).

A new measure of PHC expenditure, therefore, needs to be created. Important progress has been made in this area in recent years. The Organisation for Economic Co-operation and Development (OECD) had started to work on a methodology to estimate primary care spending in high-income countries (7, 8). WHO has also been developing a proposal for an internationally comparable measure of PHC expenditure, following an extensive consultation process, that is based on the functional

¹ As a cross-cutting feature of the targets in SDG 3 (“Ensure healthy lives and promote well-being for all at all ages”), rather than an explicit goal (3).

classification of health expenditure in the SHA 2011 framework (9). While subject to ongoing improvement, estimates of PHC expenditure using this approach are being published for a majority of the world's countries in WHO's Global Health Expenditure Database (GHED).

This technical note focuses on describing, in detail, the PHC expenditure measure used in the GHED and how countries can implement it in their own settings. It should be of interest to health policy-makers and other observers, such as development partners, international organizations and community service organizations that are involved in calculating and/or analysing PHC expenditure.

Following this introduction, Section 2 examines the rationale for a clear, conceptually accurate and internationally comparable measure of PHC expenditure. Section 3 introduces the global PHC expenditure measure, calculated using only the functional categories in SHA 2011, and examines some of the key methodological issues in its construction. Also explored are the additional benefits for countries of combining information on functions and providers to measure PHC expenditure. Because the functional classification of health spending is not always straightforward, Section 4 provides technical detail on how the global measure can be used to derive estimates of PHC expenditure. This includes advice on how countries can better estimate functional categories in their national health accounting processes. Section 4 also discusses the PHC expenditure estimates that are reported in the GHED – both headline PHC expenditure estimates and a suite of other policy-relevant estimates that are possible when PHC expenditure information is combined with other SHA 2011 classifications. Section 5 then wraps up and looks forward to how further improvements can be made.

Acknowledging that countries are unique and may not necessarily adhere to a single extended approach, country examples are provided throughout this technical note to illustrate the diverse settings and definitions that frame PHC expenditure measurement around the world.

2 The importance of monitoring PHC expenditure

Summary

- The concept of PHC has been reinterpreted and redefined since it was first established in the 1978 Declaration of Alma-Ata; it remains a comprehensive, multidimensional and people-centred concept.
- There is ample evidence that PHC is among the most equitable, efficient and effective strategies for improving the health of populations and enabling universal health coverage.
- Tracking PHC spending is necessary to establish baselines and set future goals around investments. Cross-country comparisons facilitate benchmarking and can trigger further investigation of the reasons that some countries are performing better than others.
- Detailed information on how funds are directed to specific PHC services can help national policy-makers and international partners track the progress of national-level PHC strategies.
- When combined with other information on inputs, activities and outcomes, PHC expenditure information can become a powerful analytical tool for guiding investments and evaluating value for money in health spending.

2.1 The concept of primary health care

PHC, as originally outlined in the 1978 Declaration of Alma-Ata and 40 years later in the Declaration of Astana, and endorsed at the WHA72 (with other notable milestones along the way – Box 2), is a whole-of-government and whole-of-society approach to health that aims to ensure the highest possible level of health and wellbeing and their equitable distribution. It combines three components (10).

- **Integrated health services, with an emphasis on primary care and public health functions.** This involves meeting people's health needs through comprehensive promotive, protective, preventive, curative and palliative care throughout the life course. It also involves strategically prioritizing key health care services aimed at individuals and families (through primary care), and the population. Essential public health functions are the central elements of integrated health services.
- **Multisectoral policy and action.** This involves systematically addressing the broader determinants of health (including social, economic and environmental factors, as well as individual characteristics and behaviour) through evidence-based policies and actions across all sectors.
- **Empowered people and communities.** This involves empowering individuals, families and communities to optimize their health, as advocates of policies that promote and protect health and well-being, as co-developers of health and social services, and as self-carers and caregivers.

This comprehensive vision places people, as individuals and communities, as the central focus of all efforts towards PHC. It draws on notions that PHC is an essential component of human development, being rooted in a commitment to social justice and equity, and the recognition that every human being has the right to enjoyment of the highest attainable standard of health, without distinction.² The emphasis on equity and solidarity also underscores governments' responsibility to make quality essential health services available and accessible, and to implement policies that promote and protect health and well-being.

Notably, the life-course approach embodied in this characterization of PHC is much broader and deeper than simply a set of priority health interventions to prevent and treat diseases with high mortality and morbidity in low-income settings (sometimes referred to as "selective PHC"). Nor is PHC simply a particular administrative or legal classification of providers. Rather, PHC refers to a process in the health system that:

- results in first-contact care that is accessible, continuous, comprehensive, coordinated and patient focused;
- protects people from adverse health outcomes (such as from locally endemic diseases and disease outbreaks) through population-based measures; and
- addresses the broad determinants of health – for example, the social determinants of health and daily life hazards.

This can be seen, for instance, in the case of Chile (11), where inequities in health have been reduced by increasing the accessibility and utilization of PHC services. Specific programmes have been

² This is expressed formally in the Constitution of the World Health Organization and reinforced in the Universal Declaration on Human Rights: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services".

successful in designing and testing new technologies geared towards local initiatives. These address needs associated with the increasing prevalence of noncommunicable diseases, including the Pharmacy Fund programme to address discontinuity of treatment for hypertension, type 2 diabetes and high cholesterol.

Box 2: Global milestones for PHC: the example of the Americas

In 2005, Member States of the Pan American Health Organization (PAHO) endorsed the Montevideo Declaration for the renewal of PHC in the Americas. The renewal process explicitly recognized that PHC is the foundation for health system transformation and that the social determinants of health must be included to ensure health for all.

In 2014, PAHO Member States embedded this vision of PHC within the Strategy for Universal Access to Health and Universal Health Coverage. The strategy notes that efficient allocation of public spending for health should aim to increase equity by increasing access to the first level of care and progressively expand the supply of services for everyone.

In 2018, PAHO Member States approved the Sustainable Health Agenda for the Americas 2018–2030 and reaffirmed their commitment to universal access to health and universal health coverage.

In 2019, PAHO Member States, through the development of the Strategic Plan 2020–2030, defined specific targets for advancing universal health coverage in the region, including the Compact 30-30-30 PHC for Universal Health, and a commitment to transforming health systems based on PHC.

In this comprehensive regional development, an important distinction is made between PHC and the first level of care (primary care). PHC is a strategic approach to the development, organization, management and financing of health systems to promote health and well-being. The first level of care (primary care) refers to a level of care in the provision of health services (12, 13) that provides comprehensive, integrated and continuous care that meets most of the population's needs and demands over time and throughout the life course. It is the level of the health network that develops the closest ties with individuals, families and communities, and with other social sectors, thus facilitating social participation and intersectoral action. The first level of care plays a very important role in coordinating the continuum of services and the flow of information throughout the health network; it is also the most critical level for achieving the operational integration of programmes targeted to specific diseases, risks and populations, and personal and public health services (13).

2.2 Policy issues around measuring PHC expenditure

There is a clear rationale for investing in PHC, underpinned by ample evidence that PHC is among the most equitable and effective strategies for enhancing the health of populations and enabling universal health coverage (10). A PHC-oriented health system facilitates the integration and coordination of service delivery that is well equipped to meet population health challenges. First-contact personal services that are continuous, comprehensive, coordinated and people centred (e.g. a family general practitioner) provide a convenient and accessible “one-stop shop” for people. They bring services closer to the community, reduce barriers to access, and reduce fragmentation and misalignments in

care. Through its emphasis on community-based services, PHC is an important way to ensure access to health services, even in rural, remote and disadvantaged populations. The population-based services embodied within PHC also provide essential public health functions that improve health³ and well-being on a large scale and help strengthen countries' emergency preparedness.⁴

Additionally, PHC helps to improve efficiency in health. PHC provides an essential function as a “gatekeeper” to higher (and costlier) levels of care in the health system; this helps to contain costs and ensure that scarce health resources are allocated to where they are most needed. By locating health services close to communities and helping to address the underlying determinants of health, PHC supports efforts to improve financial protection and decrease out-of-pocket expenditure by reducing the need for individual care and avoiding the escalation of health issues to more complex and costly conditions, including high-cost medicines.

Given the global vision of PHC as a foundation of universal health coverage, in the SDG era and beyond, accurate measurement of PHC expenditure is needed. For some time, WHO has been supporting Member States to generate country-level evidence and technical capacity to improve the design of universal health coverage systems (21). This includes developing an operational framework for PHC. The framework contains four core strategic levers, and a further 10 operational levers, to help Member States translate global commitments into actions and interventions (22). To help implement the framework, WHO and Member States are developing a monitoring framework that has indicators to strengthen countries' capacity to track and monitor progress in improving PHC performance, regardless their level of PHC spending.

Fundamental to these frameworks is an internationally comparable measure of PHC expenditure – “to measure is to know”. At a high level, knowledge of the aggregate amount spent on PHC is necessary for establishing country-level baselines and for setting future goals around investments. Comparisons between countries can also help health system decision-makers and international stakeholders understand where countries stand among their peers. Such benchmarking can provide a trigger for improving within-country monitoring of PHC. It can also lead to further investigation of the reasons that some countries are performing better than others in improving access to health services, providing financial risk protection and achieving universal health coverage. Better-quality evidence can also provide a foundation for countries to coordinate policy actions with development partners and promote better targeting of development assistance.

Detailed information on how funds are directed to specific PHC services can help national policy-makers in ministries of health and international partners track the progress of national-level PHC strategies and monitor the alignment of resources with policy. This can be particularly important in places like Guatemala, where the Ministry of Health has been constitutionally responsible for PHC since 1985 (23). Comparisons can be made between actual allocations and estimated resource

³ In Brazil, evidence of the impacts of expansion of primary care includes effects on avoidable hospitalizations (14, 15), mortality (16) and infant mortality (17). Namibia has succeeded in combating the HIV/AIDS epidemic, and reducing maternal and child mortality, and infectious and chronic diseases; PHC has been the leading strategy through decentralized provision (18). Although there is still a need to fight inequalities, PHC has been a means to progressively achieve better coverage and quality of care.

⁴ During the COVID-19 pandemic, PHC has been instrumental on risk communication and first contact services such as triage and vaccination, as well as informing disease surveillance, as has been extensively documented for countries all over the world, such as Colombia, India, Sri Lanka and Sub-Saharan Africa (19, 20).

requirements to better understand resource gaps at the system level, and for individual services. This can facilitate strategic allocations across the health system, and between services, as required. Information on PHC expenditure by component can also contribute to assessments of the quality of health spending, across the four “Es”: equity; effectiveness, efficiency and empowerment.

When combined with other information on activities and health outcomes, information on spending on PHC can become a powerful analytical instrument for further evaluating the quality of PHC expenditure. Cross-referencing spending on PHC and the location and types of services provided, for example, can help ministries of health monitor resources used and evaluate whether the health system is providing good value for money. Importantly, being able to demonstrate the effective use of the available resources is also a key focus of ministries of finance, and so good-quality evidence can be a key input into the strengthening the health sector’s position during the key budget negotiation process. Both the health accounts and the first level of care (primary care) play important roles in the new essential public health functions framework (24), and the agenda of strengthening stewardship and governance in health systems.

Notable instances of the policy relevance of measuring health expenditures in general, and PHC expenditures in particular, at the country level include the following.

- Health accounts monitoring in Ghana has helped the country plan for the restructuring of its health financing system – involving restructuring national financing schemes and progressively reducing the reliance on external funding sources, largely related to PHC (25).
- In places like Mexico (26), Nigeria (27) and Lao People’s Democratic Republic (28), where specific revenues are earmarked for health (resource-related revenues from oil and hydroelectricity, in these cases), knowledge of PHC expenditure can assist with budget negotiations and facilitate requests for additional funding.
- In a situational analysis of the Malaysian health system undertaken in 1997–2013 (29); it was found that a large share of health expenditure had been shifted from PHC to secondary and tertiary levels. This led to the pilot of enhanced primary care to improve PHC funding – for example, to promote increased screening for noncommunicable diseases.
- In Costa Rica, measurement of PHC expenditure has helped inform discussions on whether the amount of government spending on PHC is appropriate (30). This has led to a focus on the need to refine the measurement of PHC spending to strengthen the capacity to control chronic diseases, especially diabetes and hypertension.
- In Viet Nam, where the government has a medium-term policy focus (2016–2025) on reforming and strengthening the grassroots level of the health system, a measure of PHC spending should be a useful to guide for monitoring progress (31).
- Data on PHC spending are often part of major national health care strategic plans. In Armenia, PHC is at the centre of the government’s medium-term expenditure framework for 2020–2022, which targets PHC as one of its strategic directions. Detailed information on PHC expenditure is in general considered in any plan for strengthening or restructuring the health care system. Since 2006, PHC has been free for the population (32).
- Monitoring resources directed to special population groups and interventions can improve access to PHC for migrants in Chile. Since 2016, specific initiatives have provided coverage for immigrants not yet included in the system and those not able to pay contributions. The focus is on pregnant women, children and emergency care (11).

It is important to understand the limitations of expenditure data. Information on expenditure by itself is not a normative measure. It cannot reveal, for instance, the best way to invest in a PHC system or its effectiveness. Spending data cannot, alone, say anything about the quality of services being delivered. Nor can it help inform judgements on whether PHC services are being delivered at the appropriate level of providers, or whether services are equitably accessible. It cannot even determine what the correct level of PHC spending might be. Each of these considerations is highly context-specific, requiring a country-specific understanding of PHC, as well as additional granular information on inputs, activities and outputs.

In the design of PHC strategies, and the monitoring of policies to adjust health systems based on such strategies, it is therefore important that spending data be considered alongside a suite of other information, including that from outside the conventional boundary of health care. Accordingly, the WHO monitoring framework and others (e.g. the Primary Health Care Performance Initiative, (33)) include PHC spending alongside other indicators of performance.

3 A global measure of PHC expenditure

Summary

- The SHA 2011 framework, which is foundational to the preparation of health accounts, does not include a readymade classification for PHC expenditure.
- Following a far-reaching and comprehensive expert consultation process with technical stakeholders, a measure has been developed that characterizes PHC expenditure in terms of the International Classification for Health Accounts health care functions (ICHA-HC), rather than service providers (ICHA-HP). The functional classification focuses on first-contact personal services, population-based services and some other cross-functional characterizations of spending (administration and medical goods).
- The choice of the HC classification as the relevant framework for estimating PHC expenditure was mainly because it best reflects the PHC concept, and allows cross-country comparisons. Individual countries will have their own definitions of PHC – often classified in terms of health providers. The global PHC expenditure measure is not designed to replace these country-level measures, but rather complement them.
- Precisely defining and measuring PHC expenditure using the HC classification has been supported by a set of standardized estimation procedures that can be used to disaggregate service components and to prevent overestimates or underestimates, depending on circumstances.
- Countries are encouraged to prepare cross-table functions by providers to better understand their service delivery configurations, improve the precision of spending estimates for HC (and thus PHC) and monitor policy changes.

3.1 PHC expenditure and the SHA 2011 accounting framework

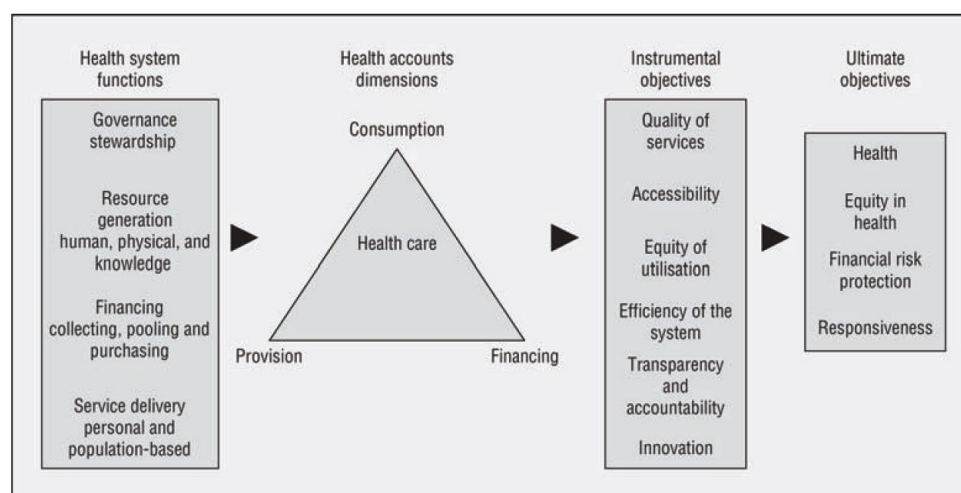
The best tool available for providing an internationally comparable measure of PHC expenditure is the SHA 2011 framework. SHA 2011 is foundational to the preparation of health accounts – it provides a

systematic and internationally recognized methodology for tracking all spending that sits within the boundaries of health care⁵ in a given country over a defined period, regardless of the entity or institution that financed and managed that spending. It ensures comparability of health expenditures across countries and over time.

Given their different nature and features, current and capital expenditure are reported separately. Current health expenditure measures the value of health care goods and services consumed by different actors. Capital health expenditure measures the total value of the assets that providers of health services have acquired during the accounting period (less the value of disposals of assets of the same type) and that are used repeatedly for more than one year in the provision of health services.

SHA 2011 relies on a triaxial framework for recording total current health expenditure, whereby what is consumed has also been provided and financed. Standardized classifications and disaggregation of expenditure exist across the three axes: consumption (health care functions, diseases), provision (providers and factors of provision) and financing (sources of revenue, financing schemes, financing agents). All four core functions of the health system (governance, resource generation, financing and service delivery) can be linked to these three axes, which in turn are linked to the ultimate objective of health care (Fig. 1). In health accounting, health spending information is usually presented in “cross-tables” of two relevant spending classifications between which funds are flowing – for example, provider by function, or financing scheme by source of financing.

Fig. 1. Linkage between the frameworks of health systems and health accounts



Source: Reproduced from OECD, Eurostat & WHO (34).

⁵ These boundaries are defined in SHA 2011 and are delineated by the functional classification of health care (HC). The basic principle for establishing current health expenditure is that spending is on final goods and services (i.e. spending on providing beneficiaries with the health care they need) and that spending is within the health care boundary, which contains “all activities with the primary purpose of improving, maintaining and preventing the deterioration of the health status of persons and mitigating the consequences of ill-health through the application of qualified health knowledge” (p. 52). Education and training of human resources for health and research and development activities, for instance, are not part of the population’s health final consumption and are therefore not included, unless they are performed as part of health system activities to directly improve service provision, such as operational research and hands-on training (p. 104). These inclusions are distributed among the services they aim to support.

Importantly, SHA 2011 does not include a readymade classification for PHC expenditure mapping. Nonetheless, within SHA 2011, the International Classification of Health Accounts (ICHA) designations best suited to estimating PHC expenditure are the classification of health care functions (ICHA-HC) and the classification of health care providers (ICHA-HP).⁶

As per the SHA 2011 manual (34), the functional classification of spending (HC) is used to describe consumption (i.e. excluding capital expenditure) by the population according to the *purpose* of health care services. The basic dividing lines for structuring health care functions are individual versus collective health care goods and services, the basic purposes of care (e.g. curative, rehabilitative, long-term care) and the modes of provision (e.g. inpatient care, outpatient care). The HC classification also includes expenditure on the governance and administration of the health system. The implication is that the functional classification can be used to link health spending to PHC-relevant categories: services that are first contact, coordinated, continuous and comprehensive; and services that are specialized and referral-based.⁷ Box 3 provides more detail on the HC organizing framework, and Annex A provides a complete taxonomy of the health care functions.

Box 3. Classification of health care functions (ICHA-HC) in SHA 2011

The classification of health care functions refers to the type of services provided by the health system and consumed by the beneficiary, regardless of the provider and the financing path. At the highest (first digit) level of classification, health care functions are organized into seven groups of activities, based on the primary purpose of health care or the needs of a consumer of health care. This includes expenditure on services and goods that are part of:

- curative care (HC.1);
- rehabilitative care (HC.2);
- palliative or long-term care for patients with a degree of long-term dependency (HC.3);⁸ and
- preventive care (HC.6).

Embedded within these care-based categories is the consumption of medical goods and services (e.g. medicines and laboratory services) provided to inpatients of a general hospital that are an integral part of a care service package.

In addition:

- Ancillary services (HC.4) and medical goods (HC.5) are reported separately when they correspond to services and goods that the patient purchases and consumes directly as an independent contact with the health system, and that are not an integral part of a care service. HC.4.3 (ambulance and patient transportation) can include a curative care service involving medicines and other medical goods that are registered as part of the package. Also, some

⁶ ICHA-HC and ICHA-HP are simply referred to in this document as HC and HP.

⁷ In many countries (e.g. in the Kingdom of Saudi Arabia), the referral system is not always operational or enforced (35). ⁸

Long-term care (HC.3) is exclusively for patients with a degree of long-term dependency and for whom rehabilitation is not possible. It includes medical or nursing care, and personal care services that provide help with activities of daily living; it is frequently associated with instrumental activities of daily living, which are excluded from health expenditure. See OECD guidelines for long-term expenditure for more details (36).

pharmaceuticals and medical goods provided and consumed during laboratory services are part of HC.4 and not HC.5.

- Health system governance and administration (HC.7) refers to activities at the health system level (e.g. stewardship, regulation, coordination, oversight of the health system, health insurance and funding management).

The second digit level of the classification for curative, rehabilitation and long-term care specifies activities by mode of provision. This allows these functions to be disaggregated into inpatient care (which involves an overnight stay after admission), day care (formal admission to a health care facility, but the patient is discharged on the same day), and outpatient care and home-based care (which do not require formal admission).

Curative services are also further disaggregated at the third digit level, to distinguish between general and specialized care. General care is often the entry point to the health care system, before a referral is made. It covers the more frequent and uncomplicated cases in all medical fields (including basic care provided to people with complex health care needs, if capacities and technology for specialized care are lacking). Specialized services relate to curative care involving a higher level of technology and skills, which are required for some less frequent and more complex health care needs. These are likely to be of higher cost and often accessed through a referral system.

Preventive care refers to primary and secondary prevention, including personal and collective services before a diagnosis is made. The second digit of preventive care is also based on the type of service. It includes activities for healthy population groups (e.g. vaccination; early case detection; healthy condition monitoring; information, education and counselling), as well as surveillance, risk and disease control programmes, and preparing for disaster and emergency response programmes.

The second digit of HC.7 distinguishes administration of the health system and of health financing.

Given that providers receive and execute the funds to be used to deliver PHC activities, and also often have an assigned population receiving PHC services, there is an important link between PHC and providers. The HP classification in SHA 2011 organizes health care spending in a standardized way according to the various actors (organizations and individuals) that deliver health care goods and services. It displays the country-specific health system structure and applied technology. Although there is considerable heterogeneity in the way health systems are organized between countries, and in the technological level of their providers, the HP classification groups health care providers into meaningful, homogeneous groups that are applicable across all settings (e.g. hospitals, residential long-term care facilities, ambulatory care providers, retailers of medical goods, providers of health care system administration and financing).

However, the link between PHC services and providers is not always straightforward. Provider groupings are aligned to the main service category, although most providers offer more than one service category, which makes it hard to align PHC services with an individual provider type. Moreover, the nature of a service (including PHC services) can differ depending on the provider delivering it. For example, a general consultation can be qualitatively different in a tertiary hospital from that in a health post. The type of PHC services may also differ between providers – for example, breast cancer screening able to be performed as ambulatory care in a hospital as well as in a health post (depending

on the availability of relevant medical equipment); this preventive service is to be included in both cases as PHC.

International comparisons of PHC expenditure based on the HP classification framework can be shaped by a host of structural and technological differences – particularly between high-income countries and low- and middle-income countries. Specifying PHC expenditure based on some measure of provider capacity (technological or otherwise) would risk treating countries differently – for example, a highly specialized provider in one country may not be equivalent to the same rank in another country. Additionally, differences in internal standards at country level can result in a given category of providers playing different roles in the delivery of first-point-of-contact care or continuous, comprehensive, patient-centred, coordinated care. For example, in high-income countries, such as in Europe, standards may exist for a facility to be nominated a “hospital”, whereas, in others, such as Myanmar, a certain type of hospital is expected to be an entry point in the health system, via PHC services (see Box 6).

3.2 A measure of PHC expenditure using SHA 2011 functional classifications

Following a far-reaching and comprehensive expert consultation process with technical stakeholders, (Box 4), a measure of PHC expenditure has been developed that approximates the comprehensive concept of PHC expenditure using the functional classification framework of SHA 2011. This global PHC expenditure measure includes the following spending components, incorporating personal services that are first-contact, population-based services and other relevant cross-functional items:

- general outpatient curative care (e.g. visits to a general practitioner or nurse) (HC.1.3.1);
- dental outpatient curative care (e.g. visits for regular control and other oral treatment) (HC.1.3.2);
- curative outpatient care not elsewhere classified (excluding specialized outpatient care) (HC.1.3.n.e.c.);
- home-based curative care (e.g. home visits by a general practitioner or nurse) (HC.1.4);
- outpatient (HC.3.3) and home-based (HC.3.4) long-term health care;
- preventive care (e.g. immunization, health check-ups, health education, disease detection, monitoring and emergency response programmes) (HC.6);
- part of medical goods provided outside health care services (80% of HC.5); and
- part of health system administration and governance expenditure (80% of HC.7).

Box 4: Consultation process – and its outcome

The technical discussions and consultations on how SHA 2011 could be used to effectively monitor PHC expenditure lasted for about a year. They included feedback from health care practitioners, policy-makers and technical experts from countries across the world affiliated with specific health programmes, international organizations and research institutes. The following activities took place.

- Various technical discussions were held with health accounts experts and experts working on PHC.
- To reach a consensus on a working definition, WHO ran comparative and sensitivity analyses on a handful of working definitions resulting from the global consultations. These analyses

were presented and discussed at the 40th PHC anniversary in Astana on October 2018 and published in 2019 (9), after which the working definition was finalized.

- An online consultation was held on the draft methodology.
- A consultation meeting was held in 2021.

The decision was made through the expert consultation process to articulate PHC expenditure in terms of HC and not HP because the functional classification, based on the type of services, is better suited to capturing the essence of the PHC concept. However, the supply of PHC services requires providers. Not always a provider offers exclusively PHC services. And also, PHC can be offered by different types of providers. Moreover, the provider is the center of allocation of resources to PHC, as national and institutional budgets are often channelled via specific providers. Providers are also the link to the population. This is the reason for the understanding and implementation of the PHC approach to be often articulated by policy-makers in terms of providers.

- Countries such as Brazil (37) and Mexico (38) define PHC by type of service, but its provision is related to a specific type of facilities.
- In some cases, PHC services are delivered in dedicated PHC facilities. For example, in Guatemala (23), PHC is offered mainly in health posts and community centres, whereas, in Ethiopia (39), health posts are the foundation of community-based PHC service delivery.
- In Afghanistan, PHC is expanded by dedicated NGO providers, ensuring greater access of the population to PHC (40).
- As budgets are materialized through providers, they become the executors of any PHC service and then report their PHC activities. E.g. In Egypt (41), PHC funding is channeled through the units and centres that are considered the first contact point.

The standardized functional classification is also considered to be better suited for comparisons between countries than provider categories. This reflects the structural reasons described in the previous section, as well as emerging dynamics that are increasingly blurring the distinction between levels of providers as countries reorient their service delivery systems to be more integrated and closer to people.

- Uruguay (42) has a very specific type of health provider. These providers offer all levels of care, with services ranging from outpatient to general and specialized hospitalization, as well as providing pharmaceuticals, laboratory services, imaging, and so on. All these providers of integrated services offer the same benefits package to all users, regardless of their insurance type. The providers can be public or private (i.e. charge user fees for their outpatient services). Their overall spending represents more than 75% of the country's health spending.
- In countries and areas with scattered populations, such as Mongolia (43), with a population density of 2 people per km², many facilities also necessarily offer all types of services.

3.2.1 A measure for international benchmarking – not a replacement for country-level monitoring

Importantly, the internationally comparable measure of PHC expenditure is not designed to supplant national approaches for estimating PHC expenditure. Indeed, WHO explicitly advises that countries retain and use their own definitions based on the structure of country health care and PHC systems.

Individual countries will choose their own paths to estimating PHC expenditure, driven by their unique circumstances and measurement approaches, as seen in the following examples.

- Viet Nam excludes from its estimates of PHC expenditure dental care, and home-based curative and long-term care (31).
- Malaysia's PHC expenditure boundaries exclude medical goods, and health system governance and administration (29).
- Estonia's PHC expenditure measure includes psychologist and social worker services (44) (Box 5).
- Myanmar (45), which is in the process of defining the scope of PHC expenditure, currently has a proposed approach that closely (but not exactly) mirrors the global measure (Box 6). A notable departure is the assumption that PHC-related administration expenditure is worth 15% of the estimated PHC spending.
- Other countries, such as Uruguay (42), do not currently have a specific national definition of PHC expenditure.

Box 5. The scope of PHC expenditure in Estonia

Estonia's health developments 2020 document (46) lists PHC services as a combination of family physician and -nurse services, home nursing services, physiotherapy services, midwifery care services, school health services, pharmacy services, occupational health services, dental care, services by a psychologist or mental health nurse, health services (including the provision of these services by family doctors and nurses) and social worker services. The first four services are considered as the main PHC services.

The services not provided by a family physician or a nurse are considered as an important part of PHC services, even though they are not health care services in the meaning of the law.

Box 6. The scope of PHC expenditure in Myanmar

The Myanmar Ministry of Health and Sports has proposed an approach for estimating PHC expenditure (45). Notable differences with the global measure include the following.

- Expenditure on long-term care, which is negligible, is excluded.
- Preventive care is divided into interventions of epidemiological surveillance, and risk and disease control (which are included), and technical components (which are excluded).
- Spending on emergency preparedness is excluded.
- It has been proposed that the component of stewardship, and management and administration is equivalent to an additional 15% of the estimated PHC spending.
- The scope of providers was selected considering their allocated responsibilities. Following the global definition, all outpatient providers, retailers (including 80% of retail sales) and preventive providers are included. As well, township and stationary hospitals (considered "PHC hospitals") are included because their functions relate to PHC. Notably, the scope of PHC functions remains the same in ambulatory and hospital facilities, as inpatient and specialized care are excluded.

The proposed national measurement results in a somewhat lower estimate for PHC spending in 2017 as a share of current health expenditure (47%), compared with the global measure (54%).

3.3 Key methodological issues with estimating PHC expenditure using the functional classification

3.3.1 Inherent difficulties in precisely defining and estimating PHC expenditure

Some PHC-relevant services are common around the world, whereas some are country-specific. Accordingly, there were inherent difficulties in obtaining absolute consensus among experts on what services precisely capture the essence of PHC. In general, there was strong agreement that one of the key features of PHC is that it includes general health care curative services, as distinct from specialized services. Accordingly, the measure includes outpatient services that are not specialized in nature – curative, home-based and long-term care – as well as preventive care.

There are, however, some grey areas. Some primary care centres provide specialized services. Two elements guide the PHC response capacity in these instances: to be the closest and most continuous contact throughout the life course (associated with access), and to meet the greatest number of health needs and those with the highest epidemiological prevalence (associated with the coverage of services, implying capacity and complexity). These can be differentiated from rehabilitative care, which is considered outside the PHC boundary because it is rarely a first contact, even though it is relatively continuous; the same applies to physiotherapy, psychology, speech therapy, and so on.

Similarly, emergency services (which can be a first contact) are included if the patient is not admitted for an overnight stay. In contrast, there is no consensus on the treatment of hospital emergency departments. A practical reason to exclude these from measurement of PHC expenditure is a lack of detailed records to separate emergency from inpatient care.

Discussions have also been held related to home-based care. Health accounts criteria specify that home-based care is expected to be provided by paid professionals, or somebody under their supervision. It is usually a mix of specialized and family care. In Costa Rica, specialized home care is the home care provided by primary care staff to a household. This can include both curative and preventive care. Another case is specialized treatment provided at home and called “domiciliary hospitalization” to differentiate it from home visits and home care. This applies, for example, to an elderly person with morbidity who is bedridden at home, or to a patient on home peritoneal dialysis – that is, where a health team trains the patient to perform dialysis at home and monitors them, and the primary care provider gives them the dialysis supplies and equipment (47). In principle, supervised specialized home care is not expected to be within the PHC boundary. In high-income countries, home-based long-term care can only be accessed after referrals and therefore, by definition, is never first-contact care.

3.3.2 Measuring expenditure on PHC-related medical goods and administration

Genuine uncertainty surrounds the extent to which medical goods non-specified by function (HC.5) and governance and health system administration (HC.7) should be included in the PHC expenditure measure. Each of these categories clearly touches on PHC, although it is difficult to precisely attribute

them to PHC. In each case, an estimate of 80% is used, based on expert opinion and individual case studies that were judged to be broadly applicable across countries.

For medical goods, the main challenge is to disentangle expenditure on medicines that are solely for PHC from expenditure on other medicines. Broadly, expenditure on medical goods is included across two types of functional modalities. First, it can be part of a service package. Second, it can involve independent purchase from pharmacies, supermarkets or elsewhere. This includes purchases of prescribed and over-the-counter medicines (HC.5.1); other medical goods, such as glasses and hearing aids (HC.5.2.3); and other medical durable goods (HC.5.2.9), such as appliances and external devices, mainly related to orthosis (e.g. wheelchairs, special beds). In principle, medical goods purchased and consumed directly should be included in the definition of PHC expenditure. In contrast, medical goods consumed as part of inpatient, day-care and outpatient services should not be considered as medical goods non-specified by function (HC.5) and therefore not as PHC expenditure. This is even if these goods are purchased by patients separately from the pharmacy but bought for use during treatment in health care facilities.

However, sufficiently disaggregating spending on medical goods to determine PHC expenditure is not always straightforward, or indeed possible (see Box 7). In many instances – particularly in low- and middle-income settings – the lack of detailed data can lead to some bias in the mapping, and the HC.5 category can include medicines that may otherwise have been included in service provision.

It can also be difficult to distinguish between spending on medical goods that are consumed in general treatment from those consumed in specialized treatment, as well as medical goods that relate to first-contact care.

- Specialized medicines for control of chronic diseases are often provided at the primary level of provider. Medication for chronic diseases is generally not related to a first contact.
- Medical durable goods prescribed in medical specialties (e.g. orthopaedics and rehabilitation prescribed in physiotherapy) are often consumed as part of treatment, which means that they are part of specialized care and not part of PHC. However, these appliances, which correct or facilitate activities or movement, are also often linked to long-term care and can be essential to activities of daily living, which means that they should be included as part of PHC expenditure.

The decision to include 80% of medicines remains controversial because PHC relates to first contact. Across almost all countries, the inclusion of the entire HC.5 classification would overestimate PHC spending, while the full exclusion of HC.5 would strongly underestimate PHC spending. The precise share, however, is context-dependent: in some settings, the assumption of 80% of HC.5 will overestimate spending on PHC, while in other countries it will underestimate it. Clearly, there will be considerable country-level diversity around each of these estimates, and evidence of this diversity should ultimately drive further refinement of the methodology over time.

Box 7. Challenge of measuring medical goods to estimate PHC expenditure

Medicines involved in outpatient and inpatient treatments are integrated as a health care package. Expenditure does not separate all service components in the package. Thus, medicines purchased

from retailers (HC.5) are part of the treatment (e.g. prescribed medicines), but not consumed during these services.

However, particularly in low- and middle-income settings, the necessary medicines may not be available in the hospital, and patients must purchase them elsewhere and bring them to health facilities for treatment. It is a considerable challenge to accurately distinguish between independently purchased and consumed medical goods (HC.5) and those purchased by patients separately but used as part of their treatment (consultation and hospitalization).

Peru has measured this gap. Around 59% of pharmacy purchases by households should be part of treatment packages, due to procurement problems in public health facilities. This spending should be excluded from PHC expenditure in pharmacy sales (48). This classification issue, combined with the fact that pharmaceuticals (both prescribed and over-the-counter) represent the single highest component of out-of-pocket (OOP) payments, means that including 80% of HC.5 could result in an overestimation of PHC expenditure. At the same time, most surveys indicate that people consume over-the-counter medicines when they think their diseases are not serious, which can in most cases be considered part of PHC spending.

In Armenia (32), OOP payments are more than 80% of total health expenditure and are mainly HC.5. Accordingly, PHC provision is predominantly concentrated on the consumption of medical goods (HC.5) via household OOP payment. In Malaysia (29), medical goods (HC.5) are not included at all – including these in the measure of expenditure would increase the estimate of PHC 7%.

Furthermore, there are diverse mechanisms for paying for outpatient medicines.

- In some countries, most outpatient medicines are paid for together with consultation fees, when they are jointly provided and the value of medicines cannot be separated from the consultation.
- In areas with scattered populations, doctors frequently offer a consultation and also provide medicines, which makes it difficult to separate the two.
- In countries such as Mexico (49), pharmacies may have a medical service on site, which prescribes medicines delivered in the pharmacy, with a single payment.

Whether medicines are integrated into consultation fees or not will not affect PHC expenditure in total, as long as they can be separated into specialized and general outpatient services. The two options provide a different impression of the expenditure on the medical goods and consultation components of PHC.

For health system governance and administration services (HC.7), it is important to acknowledge that, because PHC is a systemic approach to health care, it requires a high level of coordination (within the health system and between sectors⁹), policy development and implementation. The logic of the 80%

⁹ This is the case in Bangladesh, where several ministries are involved in PHC provision, as well as private and nongovernmental organizations, all of them with an important share of services and population to cover (50). In Malawi PHC relies on the agreement of Ministries of Health with NGO mainly in rural and remote areas (51). Moreover, at every administrative level, specific programs and ad hoc financing require management to increase PHC

assumption for the attribution of governance and administration expenditure to PHC, therefore, is that appropriate stewardship over the design of the PHC strategy and its operation requires resources. Some of the variation in the way that countries apportion administration to PHC expenditure is shown in Table 1.

Specific managerial attention is needed to ensure that the first contact includes the most needed care, involving allocation and priority-setting functions; norms, regulation and control are relevant activities. Management of the system also includes critical interventions such as PHC referral, procurement, price control and purchases. This is exemplified by the Indonesian experience (53). The Jaminan Kesehatan Nasional scheme has introduced a capitated payment system for community health centres providing PHC through a basic package of 144 services. The payment rate is based on facility characteristics (e.g. availability of doctors, 24-hour services), contact rate (proportion of enrolled patients who visit the facility in a month), lower referral rate (proportion of referrals to specialists for primary care diagnoses) and chronic disease management programme measures (proportion of individuals with hypertension or diabetes who participate in a facility's fitness and wellness club), and adjusted for geographic location. PHC experiences have shown the need for detailed monitoring of health spending as well as administrative control to operate the process. The example of Georgia (54) shows the complexity of coordinating a multiplicity of actors at various levels of participation and the various modalities of purchasing PHC, which involves health care and administrative and stewardship functions (e.g. to license providers, regulate inputs and therapeutic practice, and monitor and control evolution). Monitoring of resources will indicate whether these functions are efficiently performed. These arguments support a higher share of HC.7 as PHC. However, in systems with a high level of spending on specialized care, HC.7 spending is also related to these types of services.

However, it is important to note that the spending on governance (mostly for the health ministry and local health authorities, and insurance administration) may also improve the efficiency and effectiveness of the governance of the system. In countries such as Nigeria (27), in spite of the availability of budgetary and oil resources and a National Primary Health Care Development Agency, execution bottlenecks hamper planned performances. National estimation procedures may vary but, for international comparison purposes, the proposal is to include 80% of measured governance and administration expenditure as PHC.

Table 1. Differences in the treatment of governance and administration expenditure when estimating PHC expenditure

Global measure	Myanmar	Malaysia	Mexico	Guatemala	Viet Nam	Brazil
80% of HC.7	An additional 15% of the estimated PHC spending	Administration spending is excluded. If accounted for, an extra 7% of PHC as share of current health	Does not include administrative spending	Accounts for specific institutional administration line items (equivalent to 4–6% of public PHC)	Estimated as government expenditures at grassroots level (district and commune level, 38%) and as share	The share of PHC previously calculated in current health expenditure

coverage. For example, in Makueni County in Kenya, a pooled fund from the central and county governments, along with donor funding (e.g. from the World Bank) and household contributions, was created (51).

		expenditure would be added.			of health human resources of district and commune level (37%); on average, 38% of total spending on health system administration	is applied to HC.7
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3.3.3 Exclusions from the global PHC expenditure measure

Best efforts were made to identify and include appropriate health care services that align with PHC using the functional framework of expenditure in SHA 2011. However, the fact that SHA 2011 does not necessarily divide services into categories ideal for determining PHC services, or for distinguishing PHC from other types of health care services, means that some compromises needed to be made. This includes the exclusion of some services that may initially appear to be PHC related. Notable examples, which may be solved by progressive improvements in detailed documentation of the nature of the services and spending on them, are as follows.

- Laboratory (HC.4.1) and imaging services (HC.4.2) are categories for expenditure on ancillary services that cannot be specified by function. These services can be consumed as part of PHC and specialized care. They can also be an independent contact with the health system, without any referral from a doctor, and can also be quite specialized (e.g. a magnetic resonance imaging scan). Since SHA 2011 does not distinguish between the boundaries of such categories in laboratory and imaging services, they were not included in the measurement of PHC expenditure.
- Ambulance and emergency transportation (HC.4.3) refers to the service of transporting a patient to a facility for medical assistance and is often an initiation of a treatment. Ambulances can be also a “hospital on wheels”, providing the first urgent help. Of course, in an emergency, when transporting the patient is the first step, this is the first contact with the health care system and therefore part of primary care. However, it is not clear when an emergency becomes specialized care. Additionally, it can be difficult to separate the payments related to PHC. Using the SHA 2011 functional classification, it is not possible to disaggregate such details, and therefore they were not included in the global PHC expenditure measure.

Other possible exclusions from the PHC expenditure measure are not the result of a deliberate decision but rather a function of the methodological challenges of trying to achieve an extended approach to measurement across a highly diverse set of country contexts. This is a particular challenge when trying to differentiate between “generalized” and “specialized” services. Two examples help to explain this phenomenon.

- General gynaecology and obstetrics services¹⁰ are, in principle, considered PHC, but ultimately whether such services are included in the calculation of PHC expenditure will reflect a combination of idiosyncratic factors, including the mode of provision (the location and whether the service is provided by a highly trained or generalist medical practitioner/midwife), patients’

¹⁰ Similar issues exist for general surgery, general internal medicine and general paediatrics.

need in the individual circumstance, and the way that countries define and classify gynaecological services.

- For uncomplicated vaginal deliveries, there are also difficulties in distinguishing between PHC and specialized care (see Box 8). Deliveries can be inpatient, outpatient, day care or home-based care. Since the PHC expenditure measure excludes inpatient and day care, some part of spending on uncomplicated vaginal delivery is ordinarily excluded. Difficulties arise, however, from the different ways that countries define normal childbirth: for some countries, this is only specialized assistance, whereas, for others, it is a mix depending on the level and complexity of the service.

In each of these cases, services should be classified according to their level of specialization, not the practitioner. SHA 2011 does not distinguish services by the provider's level of education. The HP classification is based on the country definitions. However, while countries will apply their best interpretation of the nature of the spending to the functional classification, SHA 2011 contains little information to guide countries on the specifics. Accordingly, countries may have different interpretations and practices, which makes direct comparisons difficult. Nonetheless, in the absence of a viable alternative, PHC expenditure estimates are based on country interpretations.

Box 8. Uncomplicated vaginal deliveries and PHC expenditure

In principle, delivery is not a specialized service, unless it is complicated and treated as such. Also, it is unclear how countries map uncomplicated vaginal delivery to SHA 2011 categories. The service can be provided in specialized and non-specialized institutions, depending on the country practice. If a provider is specialized, the process can also be labelled as specialized, so a country-specific approach must be followed.

In many countries, uncomplicated vaginal delivery in an inpatient or day-care setting would be considered PHC. However, SHA 2011 does not provide the ability to make this distinction, and therefore uncomplicated vaginal delivery is not included in the current global PHC expenditure measure based on these data.

On the other hand, home births are counted in the measure because the PHC expenditure definition includes all home-based care services reported by countries. Another question is whether countries can take all the expenditures of home births into account in their health accounts.

3.3.4 Issues arising from insufficient functional disaggregation of expenditure data

The extent to which expenditure data are disaggregated can materially affect the PHC expenditure estimate. Overall, about 11% of global health spending is not elsewhere classified (n.e.c.) by the lowest digit level of function (e.g. HC.1.n.e.c., HC.1.3.n.e.c.), most likely as a result of insufficient information. Within individual countries, this can lead to either an overestimate or an underestimate of PHC expenditure, depending on the nature of spending that remains unclassified.

- **Overestimating PHC expenditure:** If the HC.1.3 category (outpatient curative care) is not disaggregated at the third digit level, this can result in the whole HC.1.3 category being unclassified (HC.1.3.n.e.c.) and thus being included in PHC expenditure (even though it will likely

include specialist outpatient curative care, which should be excluded).¹¹ Indeed, the inability to disaggregate between general and specialized outpatient services was cited as a challenge in numerous countries, including Myanmar (45), where township hospitals are a de facto PHC provider but can also offer specialized care; Uruguay (42), where outpatient curative care expenditure has not been disaggregated to the third digit level in some health providers; and Viet Nam (31), where central and provincial hospitals also provide general outpatient care. In contrast, in Malaysia (29), where outpatient clinics provide PHC within the hospital environment, expenditure can be disaggregated at ministry of health hospitals by type of hospital category. In Armenia (32), the main component of PHC is medical goods, so the overestimation of unclassified services is negligible.

- **Underestimating PHC expenditure:** If the HC.3 category (long-term care) is not disaggregated at the second digit level, this can result in the whole of HC.3 being excluded from the calculation of PHC expenditure since most long-term care corresponds to inpatient care (although it also includes outpatient care, day care and home-based care). As a result of parallel reporting or lack of reporting (e.g. grants from donors are not always reflected in the budget), preventive care in general is often underestimated.

3.4 Combining information on functions and providers for a better country-level understanding of PHC expenditure

As described above, for reasons of precision and comparability, the expert group opted against using provider classifications, or a cross-tabulation of functional spending by provider (i.e. HC × HP), to define the global PHC expenditure measure. HP categories and the composition of provider type for PHC service provision are country-specific, as is the technological level of provider types. Moreover, in SHA 2011, the main activity is the basis for the HP coding: preventive care providers, as well as other types of providers, may perform relevant PHC activities.

Nonetheless, countries can realize considerable benefits from cross-tabulating HC and HP expenditures. Combining the HC and HP classifications in a cross-table permits a much better understanding of service delivery configurations within countries. It can also improve the precision of HC (and thus PHC) expenditure estimates. Each of these is important for evaluating the performance of PHC and the efficiency of spending – revealing, for instance, the extent to which outpatient curative services are provided in hospitals and ambulatory facilities.

Accordingly, countries are strongly encouraged to produce a HC × HP cross-tabulation to calculate PHC expenditure. Indeed, such an approach is already being tested in some places (e.g. Brazil; see Box 9).

Box 9. Example of country-specific PHC expenditure: Brazil (55)

Defining PHC expenditure based on SHA 2011 in Brazil has tested both classifications of functions (HC) and providers (HP), and includes the following items.

- Typical functions of PHC (for all providers): general (HC.1.3.1) and dental (HC.1.3.2) outpatient curative care, home-based curative care (HC.1.4), outpatient rehabilitative

¹¹ A similar challenge arises in some countries as a result of their inability to separate HC.1 and HC.2, which potentially leads to an overestimate of PHC expenditure.

care (HC.2.3), outpatient (HC.3.3) and home-based (HC.3.4) long-term care, preventive care (HC.6, except HC.6.6 – Preparing for disaster and emergency response programmes).

- Related functions for typical PHC providers of the country: laboratory services (HC.4.1), imaging services (HC.4.2), prescribed medicines (HC.5.1.1) and other medical non-durable goods (HC.5.1.2), only for non-specialized ambulatory health care centres (HP.3.4.5), medical and diagnostic laboratories (HP.4.2), and pharmacies (HC.5.1, excluding private pharmacies not accredited to the popular pharmacy programme).
- Part of health system administration and governance costs: the share of PHC previously calculated in current health expenditure is applied to HC.7 (governance, and health system and financing administration).

4 Estimation of PHC expenditure based on the measurement proposal

Summary

- Estimation of PHC expenditure begins with the national-level health accounts, and the accurate mapping and recording of health care expenditure by health function (HC).
- Data to identify the main purpose of the health service or good consumed and disaggregate health expenditure by function can be accessed from various public or private sources. It is sometimes necessary to make estimations in the health accounts production process to split health expenditure data into its relevant functional categories.
- Since 2016, WHO has published internationally comparable estimates of PHC expenditure in the GHED: two key spending estimates and a further five estimates of PHC expenditure by funding source, when these data are also provided. Collectively, the seven PHC spending indicators provide a concise overview of the absolute amounts being spent on PHC, the origin of PHC funding (domestic general government and external) and the relative importance of each funding source, plus the prioritization each funding source gives to PHC.

4.1 Country-level estimates of health expenditure across function and provider

The creation of a credible country-level PHC expenditure estimate begins with the preparation of the health accounts and the accurate recording of health care expenditure by health care function (HC). However, the HC classification is not always simple, and not all countries can consistently report on HC. This section provides technical guidelines on how countries can map and analyse health care expenditure in such a way, and the key data sources required.

4.1.1 Mapping functions and providers

An initial step in the production of health accounts is the analysis and mapping of a country's health system. This analysis – ideally undertaken with health systems experts of the country – is important

for identifying spending by HC. It is also useful for identifying the different providers responsible for delivering each functional category within the national health system (the HC × HP cross-tabulation).¹²

It is important at an early stage to identify the country's definition of PHC and analyse the country's benefits package defined for PHC. Ultimately, the mapping of HC and HP classifications will reflect the idiosyncrasies of each national health system and provider categories. For several categories of providers and functions, this mapping should be relatively straightforward, as there is a general trend across countries for providers to predominantly focus on providing a single main activity. Examples are as follows.¹³

- Residential long-term care facilities (HP.2) provide, as their main activity, long-term care (HC.3).
- Dental practices (HP.3.2) mainly provide dental outpatient curative care (HC.1.3.2).
- Providers of ancillary services (HP.4) tend to provide ancillary services (non-specified by function) (HC.4).
- Retailers and other providers of medical goods (HP.5) predominantly sell medical goods (non-specified by function) (HC.5).
- Providers of preventive care (HP.6) mainly provide preventive care (HC.6).
- Providers of health system administration and financing (HP.7) are mainly responsible for governance and administration services (HC.7).

In contrast, it is common for hospitals (HP.1), and to a lesser extent providers of ambulatory health care (HP.3), to provide a multitude of health care functions, including curative services, rehabilitation services, long-term care, ancillary services and preventive care. Viewed from the other angle, general outpatient curative care (HC.1.3.1) can also be provided by a series of multifunction providers. Medical goods (HC.5) are mainly sold by retailers and other providers¹⁴ but are also sold within hospitals and by different providers of ambulatory care.

Sometimes, the functional and provider classifications by the government or other relevant authorities may differ from the SHA 2011 classification. It is essential to identify where these differences in definitions exist between SHA 2011 and national accounting frameworks so that aggregate and disaggregate national reports are correct. In these instances, production of a table of correspondence between HC as per SHA 2011 and the national functional categories is recommended.

4.1.2 Data sources

Data to identify the main purpose of the health service or good consumed and disaggregate health expenditure by function can be accessed from various public or private sources (see Annex B for a detailed summary of how the various sources are used to map HC categories).¹⁵ As part of the whole health accounts, data can be collected using a top-down approach (aggregated data) or a bottom-up

¹² The initial mapping exercise is also useful for determining what functions include what services and goods (HC × FP), where financing for each HC is sourced from (HC × HF), and through which financing schemes funds flow to PHC (HC × HF).

¹³ Each of these providers can, of course, provide other types of health care with other purposes, but these other types should be marginal. For example, HP.2 can provide HC.2, HC.1.3.1, HC.1.3.2 and HC.6, while HP.4.1 can provide HC.1.4 (curative home-based care).

¹⁴ Pharmaceutical sales in supermarkets may, in fact, be larger than distribution in hospitals.

¹⁵ It is important to note the effort needed for several countries to transfer from paper to electronic data handling. It is expected that this change will result in better quality of the measurement.

approach (disaggregated data at provider or cost-centre level). Data can also contain financial information (e.g. expenditure, costs) used to directly estimate health expenditure, or involve other relevant information (production, coverage, quantities) that is used to split aggregated health expenditure between several health care functions. For example, in Estonia (44), the Estonian Health Insurance Fund is responsible for contracting health care providers, finances their health services according the agreed pricelist, and keeping track of the cost. During the general quality assessment of data sources for a health accounting exercise, the health accounts team should decide which data to use and how to use or adjust the data. Particular attention should be given to the information that will be used to report and estimate the HC classification (and thus the PHC expenditure estimate) and its cross-tabulations with other SHA 2011 classifications.

Depending on the administrative structure of government and the extent to which the governance and financing of health systems are decentralized, it may be important to document subnational spending as well. Examples of where subnational monitoring is important are as follows.

- In Armenia (32), the activities and property rights of the PHC services were transferred to the subnational Administrative–Territorial Units and local autonomous bodies. There are three data sources for PHC expenditures: state and community budgets, donor (international and local) reports, and household budget surveys, as well as the Armenian Integrated Living Conditions Survey.
- In most countries, data collection from decentralized areas is difficult. In Mexico (38), a specific health information system for health expenditure tracking has been developed (SICUMENTAS), which allows monitoring of PHC-specific spending in each of the country's 32 states.
- In Brazil (37), the reporting system by the Health System (SUS) has allowed to establish that the contributions by government level to PHC financing are different: 37% from the federal government, 7% from states and 56% from municipalities.
- The National Health Plan 2011–2020 of Papua New Guinea set an ambitious agenda for PHC including free provision. The monitoring involves not only the content of the Plan but also the reporting, as part of the assessment of performance, which allows to see the improvement of the reporting rates by province and districts (56).
- In many countries a problem is the fragmented health information technology systems, as has been documented in PHC for China (57). A specific effort to improve the information system can improve the quality and easiness of PHC estimates.

4.2 PHC expenditure estimates in the GHED

Information for the GHED is collected and prepared from in-depth country health accounts studies. Information on functions is typically sourced from the Health Accounts Production Tool, Joint Health Account Questionnaires (JHAQ; created by WHO, the OECD and Eurostat) and Health Accounts Questionnaires (HAQ) – WHO's analogue of JHAQ with the addition of some classifications and crosses. This section explains the published PHC expenditure indicators, as well as the various quality control/data validation and adjustment approaches used by WHO.

Table 3. Health care functions (HC) classification published on the GHED (2021 update)

SHA 2011 code	Health care functions
HC.1	Curative care

HC.1.1	Inpatient curative care
HC.1.2	Day curative care
HC.1.3	Outpatient curative care
HC.1.3.1	General outpatient curative care
HC.1.3.2	Dental outpatient curative care
HC.1.3.3	Specialized outpatient curative care
HC.1.3.nec	Unspecified outpatient curative care (n.e.c.)
HC.1.4	Home-based curative care
HC.1.nec	Unspecified curative care (n.e.c.)
HC.2	Rehabilitative care
HC.3	Long-term care (health)
HC.3.1	Inpatient long-term care (health)
HC.3.2	Day long-term care (health)
HC.3.3	Outpatient long-term care (health)
HC.3.4	Home-based long-term care (health)
HC.3.nec	Unspecified long-term care (n.e.c.)
HC.4	Ancillary services (non-specified by function)
HC.5	Medical goods (non-specified by function)
HC.6	Preventive care
HC.6.2	Immunization programs
HC.7	Governance, and health system and financing administration
HC.9	Other health care services not elsewhere classified (n.e.c.)

Note: Shading indicates categories relevant to the PHC expenditure measure.

Based on functional categories of health care spending, and the methodology for calculating PHC expenditure described above, the GHED publishes two key spending estimates that are applicable across countries:

- current PHC expenditure per capita in US\$ – the level of spending; and
- current PHC expenditure as a percentage of current health expenditure, which provides information on prioritization.

Additionally, when information is available on functional expenditure by financing source (HC × FS),¹⁶ an overview of reliance on external funding can be critical. Then a further five estimates of PHC expenditure by funding source can be published:¹⁷

- domestic general government PHC expenditure as a percentage of current PHC expenditure;
- externally funded PHC expenditure as a percentage of current PHC expenditure;
- domestic general government PHC expenditure as a percentage of domestic general government health expenditure (GGHE-D);
- externally funded PHC expenditure as a percentage of externally funded health expenditure (EXT); and
- domestic general government and externally funded PHC expenditure as a percentage of GDP.

Collectively, these seven indicators provide a concise overview of the absolute amounts being spent on PHC, the origin of PHC funding (domestic general government and external) and the relative importance of each revenue source, plus the priority given to PHC expenditure (58). The additional information on revenue sources is key to further interrogating PHC expenditure in ways that would

¹⁶ See Annex C for an example of this cross-table.

¹⁷ For calculation of indicators, see Indicators of the Global Health Expenditure Database (<http://apps.who.int/nha/database/DocumentationCentre/Index/en>).

not be possible with simple headline estimates of expenditure (see Box 10). Currently, PHC expenditure data are available for 102 countries: 93 of these countries have data for 2016, 63 have data for 2017, and 98 have data for 2018 (55 countries have data for all 3 years). In addition, 65 countries have data on PHC expenditure by revenue source for at least 1 year between 2016 and 2018 (with 22 having data for all 3 years).

Box 10. Further interrogating PHC expenditure estimates

Headline estimates of PHC spending, without any information on its composition, may not provide the complete picture of a PHC system within a given country. Accordingly, headline estimates of PHC expenditure should ideally be read in conjunction with information on its components and revenue sources.

For instance, if a country provides free access to PHC services, but makes people pay a lot for treatment (i.e. medicines), a focus on the total value of PHC expenditure may well mask the fact that this includes a large share of medicines purchased out-of-pocket by households. For example, in Armenia in 2019, out-of-pocket spending represented approximately half (46%) of PHC expenditure, most of which was on medical goods non-specified by function (HC.5), such as pharmaceuticals (54%), followed by 48.9% for dental outpatient curative care. Correspondingly, PHC provision is mainly concentrated in retailers (54.1%). This has important implications for the adequacy of financial protection regimes, as PHC is underpinned by a highly regressive financing scheme that risks impoverishing people when they make first contact with the health system.

Additionally, in low- and middle-income countries, development partners such as the Global Fund provide substantial amounts of funding for communicable disease control, most of which is classified as preventive care (HC.6). Accordingly, external aid is more pro-PHC than domestic public sources, even though the external aid is organized into separate verticalized disease control programmes. Understanding the financing source of components of PHC expenditure can therefore permit a more nuanced understanding of the form and function of PHC spending,

One of the key tools of the SHA 2011 methodology is a production of health expenditure by function and by type of financing scheme (HC × HF). This allows identification of “who finances what” and the resource paths to PHC expenditure in total and by components, such as the focus on prevention. This crossover is often underestimated in use, analysis and interpretation. The GHED does not publish such indicators. Hence, looking at the way funds are pooled and expended on PHC (e.g. contributory versus non-contributory schemes, prepayment versus out-of-pocket payments) can allow countries to better evaluate the efficiency, equity and sustainability of PHC expenditure.

4.2.1 Quality checks and data validation

Quality checks and data validation are an inherent part of the production of the health accounts estimates. Data validation should be conducted at the national, regional and global levels, to achieve consistency and improve the quality of health expenditures estimates.

For the GHED, WHO has a vigorous data quality review process after receiving data or corrected entries (Table 2). The main quality check types are for mapping quality, completeness/internal

consistency and time consistency. Country data are also reviewed against relevant macroeconomic and other data to ensure alignment with other sources of information. Overall policy coherence – answering the question “do the results make sense in the context?” – is also an important part of the review. If national health expenditure data are incomplete, a range of estimation methods can be applied to achieve a reasonable picture of the financing of the health sector in each country.¹⁸

Table 2. WHO quality review process

Completeness/internal consistency	External consistency	Policy coherence
<ul style="list-style-type: none"> • Data gap analysis • SHA 2011 boundaries and principle of final consumption • Negative values indication • Atypical entries checks, cross-classification comparison • Consistency checks, (comparing totals, comparing subtotals with totals, comparing dimensions) 	<ul style="list-style-type: none"> • Different data sources, data triangulation • Different estimation methods • Macro indicators, other non-expenditure data 	<ul style="list-style-type: none"> • Time trends vs. policy changes/health reforms • Revisions of historical data and time consistency (between years, growth rates)

5 Challenges and way forward

Summary

- The PHC expenditure measure published by WHO is a proxy estimate of PHC spending using the framework of SHA 2011 functional classification.
- Although the measure makes simplifications and involves compromises, it is an important and emerging descriptive measure of PHC spending that is internationally comparable.
- The global measure of PHC expenditure should complement country-specific measures. International benchmarks of PHC expenditure can trigger deeper exploratory dives into PHC within countries to inform policy.
- Additional investments are required in information systems. Although daunting, these investments can have large payoffs for PHC and health systems more generally.

The PHC expenditure measure described in this technical report is an attempt at developing a useful proxy indicator of PHC expenditure that is entirely based on the functional (HC) classification of health care expenditure in SHA 2011. Of course, applying a unidimensional monetary lens to convey information on a complex and inherently multidimensional concept necessarily results in simplifications, as well as requiring judgements and compromises about what does and does not fit within the boundary of relevant expenditure. The uniformity required to make such a measure

¹⁸ For more information, see World Health Organization (2021). *Methodology for the update of the Global Health Expenditure Database, 2000–2019: technical note (version December 2021)* (<https://apps.who.int/nha/database/DocumentationCentre/Index/en>).

internationally comparable and applicable also means that the measure abstracts from the rich heterogeneity of individual countries.

Accordingly, the operational measure of PHC expenditure reported in the GHED should be viewed for what it is. It is an important and emerging descriptive estimate of PHC spending that can be applied across countries. It is a useful indicator for conveying important strategic information for policy: levels, composition and changes of PHC financing and expenditure over time; country benchmarks; and whether countries are on track to achieving spending goals – such as the additional 1% of GDP committed to PHC by Member States in the 2019 Political Declaration of the High-level Meeting on Universal Health Coverage.

Knowing PHC spending is not an end in itself, nor is increasing it by 1% (or 30%, for example). The ultimate purpose is to ensure that the population has access to health services with sufficient capacity to respond to their needs and keep them healthy.

However, estimates of PHC expenditure within countries and international benchmarking can provide a trigger for deeper exploratory dives into PHC within countries to inform policy that may not have otherwise occurred. It is for this reason that, despite the challenges with measuring PHC expenditure, a single measure is preferred over multiple PHC expenditure totals (e.g. total, including and excluding pharmaceutical spending). Having multiple spending totals risks creating confusion over comparability and undermining the utility of a global PHC expenditure definition.

Rather, for a deeper dive into the configuration of PHC spending, countries are encouraged to examine the composition of PHC expenditure: initially by function and progressively by provider too. This is a key reason for the strong emphasis on mapping both the HC and HP classifications when estimating PHC expenditure. Overlaying PHC expenditure on the unique service delivery structure of individual countries should facilitate a much better understanding of how individual health systems function. Regardless of the classifications used to identify PHC spending (functions, providers or a mix), for comparison purposes or to support decision-making, the results should be consistent and meaningful.

5.1 A call to action

The PHC expenditure estimates described here and published in the GHED are already facilitating a new level of understanding of PHC spending and how circumstances differ between countries. However, measurement of PHC expenditure is in an ongoing state of improvement. WHO is consulting and working closely with countries to review estimates of expenditure by function. This work includes a detailed review of historical data, regional peer meetings, global methodological meetings and technical country-specific visits. Based on these reviews, adjustments may be applied to the 2016 published data, or to results from future health accounts on expenditure by functions (and subsequently PHC expenditure estimates).

Improvements are also required at the country level. Ultimately, the quality of PHC expenditure estimates hinges on the quality and granularity of country-level information on health care spending combined with health accounting capability. Constructing HC × HP cross-tables, for instance, requires good-quality information collection systems that provide clear and fit-for-purpose data, as well as the

technical capability to differentiate spending by both service and provider. Ideally, further cross-classifications could permit even more sophisticated monitoring of PHC expenditure – for example, its role in disease control (DIS classification), its geographic allocation (SNL classification), or even its distribution by income and specific beneficiary population groups. PHC expenditure measurement will therefore benefit immensely from additional investment to overcome enduring challenges in information systems for health accounting purposes. These challenges include the transition to digital systems, increasing oversight over external resources, improving household survey questionnaires, increasing facility-based data collection, and leveraging routine information systems.

Making efforts to improve information collection may initially seem daunting, but investments are likely to have large payoffs in the long run. These include clear benefits in terms of better-quality country-level analysis and policy-making. Detailed country-level work will also help to improve the rigour of the global PHC expenditure measure, which includes some broad assumptions about expenditure on medical goods and administration. As the PHC expenditure measure evolves, so too will the quality of analysis within and across health systems.

In the long run, as understanding of PHC and the capability for data collection and analysis grow, it could be envisaged that a standalone HC.RI reporting item “Primary health care expenditure” is developed. Under this item, countries would have a responsibility to apply the definition using primary data sources and assumptions to report expenditure that meets the definition, cross-classified with HP.

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Annexes

Annex 1. Classification of health care functions (HC), System of Health Accounts (SHA 2011)

SHA 2011 code	Health care functions
HC.1	Curative care
HC.1.1	Inpatient curative care
HC.1.1.1	General inpatient curative care
HC.1.1.2	Specialized inpatient curative care
HC.1.1.nec	Unspecified inpatient curative care (n.e.c. – not elsewhere classified)
HC.1.2	Day curative care
HC.1.2.1	General day curative care
HC.1.2.2	Specialized day curative care
HC.1.2.nec	Unspecified day curative care (n.e.c.)
HC.1.3	Outpatient curative care
HC.1.3.1	General outpatient curative care
HC.1.3.2	Dental outpatient curative care
HC.1.3.3	Specialized outpatient curative care
HC.1.3.9	Other outpatient curative care
HC.1.3.nec	Unspecified outpatient curative care (n.e.c.)
HC.1.4	Home-based curative care
HC.1.nec	Unspecified curative care (n.e.c.)
HC.2	Rehabilitative care
HC.2.1	Inpatient rehabilitative care
HC.2.2	Day rehabilitative care
HC.2.3	Outpatient rehabilitative care
HC.2.4	Home-based rehabilitative care
HC.2.nec	Unspecified rehabilitative care (n.e.c.)
HC.3	Long-term care (health)
HC.3.1	Inpatient long-term care (health)
HC.3.2	Day long-term care (health)
HC.3.3	Outpatient long-term care (health)
HC.3.4	Home-based long-term care (health)
HC.3.nec	Unspecified long-term care (n.e.c.)
HC.4	Ancillary services (non-specified by function)
HC.4.1	Laboratory services
HC.4.2	Imaging services
HC.4.3	Patient transportation
HC.4.nec	Unspecified ancillary services (n.e.c.)
HC.5	Medical goods (non-specified by function)
HC.5.1	Pharmaceuticals and other medical non-durable goods
HC.5.1.1	Prescribed medicines
HC.5.1.2	Over-the-counter medicines
HC.5.1.3	Other medical non-durable goods
HC.5.2	Therapeutic appliances and other medical goods
HC.5.2.1	Glasses and other vision products
HC.5.2.2	Hearing aids
HC.5.2.3	Other orthopedic appliances and prosthetics (excluding glasses and hearing aids)
HC.5.2.9	All other medical durables, including medical technical devices
HC.5.nec	Unspecified medical goods (n.e.c.)
HC.6	Preventive care
HC.6.1	Information, education and counselling (IEC) programs
HC.6.2	Immunization programs
HC.6.3	Early disease detection programs
HC.6.4	Healthy condition monitoring programs
HC.6.5	Epidemiological surveillance and risk and disease control programs
HC.6.6	Preparing for disaster and emergency response programs
HC.6.nec	Unspecified preventive care (n.e.c.)
HC.7	Governance, and health system and financing administration
HC.7.1	Governance and Health system administration

HC.7.2	Administration of health financing
HC.7.nec	Unspecified governance, and health system and financing administration (n.e.c.)
HC.9	Other health care services not elsewhere classified (n.e.c.)

Note: Shading indicates categories relevant to the PHC expenditure measure.

Annex 2. Data sources

General sources of HC data for PHC expenditure

Where	What	How
Executed central ministries (e.g. ministry of finance, treasury) and line ministries (ministry of health, other ministries); provincial, local and other governmental agencies' budgets	Line items can provide partial content of HC functions. For example, ministry of education can have a school health service programme line item. Ministry of defence may have specific health-related line items. See also below for governmental agencies' executed spending reports based on COFOG.	Allocated to HC based on the entity represented in the budget, or the total amount spent. When a specific function is represented, it needs to be considered for the allocation. There may be reports of payments made to health care providers. Spending on the corresponding administration functions needs to be accounted for, depending on the represented entity, or estimated for PHC.
Provider-based budgets (e.g. health care providers, public health or preventive health providers, pharmacies)	Line items can provide partial content of HC functions. Often programme based.	Available details can be used to estimate spending by HC category or to disaggregate a total.
Social security health reports	HC.1–HC.7, depending on detail	When the social security institution owns health care facilities and provides health care, expenditure reports may display HC.1–HC.6. Often, this is needed to ensure a comprehensive accounting of preventive services. Spending on the corresponding administration functions needs to be accounted for, depending on the represented entity, or estimated for PHC. Social security institutions purchasing services can have reports of payments made to health care providers.
Private health insurance survey – claims and premiums; health insurance associations; health insurance supervision units	HC.1–HC.7, depending on detail	Surveys can provide information useful for disaggregating the total amount of insurance health spending. Reports of payments made to health care providers can be used. The corresponding expenditure on administration functions needs to be accounted for or estimated for PHC. The difference between premiums and claims indicates total administrative spending. Patient records database can be used when the payment system is mostly based on payments by item of service.

Reports and surveys from NGOs/NPISHs	HC.1–HC.7, depending on detail	Executed budgets and surveys can provide information on NGOs acting as providers and purchasers; usually, surveys are based on a sample, which can provide a structure for disaggregating totals. Double counting among NGOs needs to be considered. Administration expenses of NGOs acting as a purchaser of services need to be integrated.
Corporation surveys	HC.1–HC.7, depending on detail	Enterprises and employers may provide or finance occupational health, which is part of PHC. Outsourced services need to be searched. Surveys can inform a structure for disaggregation of health payments. Enterprises (e.g. large factories, mines) can have their own health care facilities.
Donor reports and surveys	HC.1–HC.7, depending on detail	May involve earmarked grants (e.g. for treatment, prevention and administration). Need to consider double counting between NGOs and the government.
Umbrella organization reports (e.g. associations for cancer, pharmacists, opticians, doctors)	HC.1–HC.7, depending on detail	Search for data with potential double count, such as information on PHC spending with earmarked grants and reports on related programmes/activities.
Household budget surveys and reports	HC.1–HC.7, depending on detail	Will generally contain information on spending on medical goods, and IP and OP services. Search for distribution keys to estimate general OP if not available. Information on medical goods can be directly taken; verify categories of medical goods. Should be triangulated with national accounts, which is usually underestimated. National accounts data can be used to calculate distribution keys.
National accounts, (government statistics, household expenditure, non-profit institutions using COFOG, COICOP classifications)	HC.1–HC.7, depending on detail	Will generally contain information on spending on medical goods, and IP and OP payments. Search for distribution keys to estimate general OP if not available. Information on medical goods can be directly taken; verify categories of medical goods.
Rest of the world accounts or travel statistics	HC.1–HC.6	Expenditure by residents on private consumption of dental and other services abroad.

COFOG: Classification of the Functions of Government; COICOP: Classification of Individual Consumption by Purpose; IP: inpatient; NGO: nongovernmental organization; NPISH: non-profit institution serving households; OP: outpatient.

Data sources mostly used for distribution keys and estimation of spending

Where	What	How
Utilization data report	HC.1–HC.6	Distribution key for IP, OP and prevention
Provider report – financial	Programme and activity based	Can be used directly or for distribution keys by provider

Provider report – non-financial	HC.1–HC.6	Distribution key for IP, OP and prevention
Service charges/fees, legal tariffs or average prices paid by financing agents for health goods and services (in case of lack of cost data)	HC.1–HC.6, depending on content	Can be used as distribution keys
Creditor Reporting System (CRS) OECD report	HC.1–HC.7, if detailed	To cross-validate donor data
Tax report/data	HC.1–HC.6	For first-line small providers as they may involve general OP and dental care
Central pharmacy report and IQVIA data	HC.5 by entity user	Can provide a general idea of the share of medicines for PHC categories
Business survey/data; central statistical office	HC.1–HC.6	If available, it can provide information on the universe of PHC providers. If detailed, it may provide data on first-line large and small providers that may offer general OP and dental care.
Donors with earmarked data flows (e.g. HIV, vaccines, contraception)	HC.6	Mostly preventive care data can be available; if detailed, can also display general OP spending
Costing studies	HC, depending on detail	Can be used as distribution key for disaggregation
Cost of illness report	HC, depending on detail	Can be used as distribution key for disaggregation
Registers	HC.1–HC.6	Utilization data used for a distribution key for disaggregation expenditure by functions

IP: inpatient; OP: outpatient

Annex 3. HC × FS table for current health expenditure by function and financing source

HC code	Million national currency units	FS.1	FS.2	FS.3	FS.4	FS.5	FS.6	FS.6.1	FS.6.2	FS.6.3	FS.7	FS.nec	TOTAL
HC.1	Curative care												
HC.1.1	Inpatient curative care												
HC.1.2	Day care curative care												
HC.1.3	Outpatient curative care												
HC.1.3.1	General outpatient curative care												
HC.1.3.2	Dental outpatient curative care												
HC.1.3.3	Specialized outpatient curative care												
HC.1.3.nec	Unspecified outpatient curative care (n.e.c.)												
HC.1.4	Home-based curative care												
HC.1.nec	Unspecified curative care (n.e.c.)												
HC.2	Rehabilitative care												
HC.2.1	Inpatient rehabilitative care												
HC.2.2	Day care rehabilitative care												
HC.2.3	Outpatient rehabilitative care												
HC.2.4	Home-based rehabilitative care												
HC.2.nec	Unspecified rehabilitative care (n.e.c.)												
HC.3	Long-term care												
HC.3.1	Inpatient long-term care												
HC.3.2	Day care long-term care												
HC.3.3	Outpatient long-term care												
HC.3.4	Home-based long-term care												
HC.3.nec	Other long-term care												
HC.4	Ancillary services												
HC.5	Medical goods												
HC.6	Preventive care												
HC.7	Health system governance and administration												
HC.9	Other health care services not elsewhere classified (n.e.c.)												
All HC	TOTAL												
PHC TOTAL	HC.1.3.1 + HC.1.3.2 + HC.1.3.nec + HC.1.4 + HC.3.3 + HC.3.4 + HC.6 + 80% of HC.5 + 80% of HC.7												

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