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Universal health coverage with equity: what we know, don't know and need to know

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This is a background paper for the First Global Symposium on Health Systems Research held 16-19 November, 2010, in Montreux, Switzerland. The goal of this paper is to initiate a dialogue on the critical issues in health systems research. The opinions expressed in these papers are those of the authors and do not necessarily reflect those of the symposium organizers.

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ABSTRACT

The pursuit of equity of access to health care is inherent to the health system objective of universal health coverage (UHC). Policies aimed at UHC, from wider health systems approaches to focalized programs and interventions, must be assessed in terms of their effect on equity of access, which requires that their design and management specifically facilitate and enable access across the social gradient, particularly by disadvantaged groups.

This background paper reviews the extensive theoretical literature and evidence generated through health systems research (HSR) on equity of access as it relates to UHC. By integrating common elements from diverse disciplinary perspectives discussed in the vast conceptual literature, we set forth an analytical framework to assess equity of access in UHC policies. Key studies from all regions of the world are examined using this framework to identify the issues addressed, methods and specific findings.

Most of the studies interpret equitable access as equal utilization for equal need across socioeconomic groups and report that poorer social groups experience less health care than their needs require. However, a comprehensive picture of the access process is missing and there is little evidence on the causes and specific barriers to access faced by specific groups. Only a few studies evaluated the impact of specific policies or interventions on equitable access, but their methodological limitations make it difficult to reach firm conclusions. The overall strength of the evidence is rather weak since study designs tend to be cross-sectional and skewed towards the descriptive. For these reasons, there is limited usable evidence to inform action aimed at expanding health care coverage with equity.

These findings suggest a need to strengthen policy relevant research, which goes beyond just reporting inequities in health care utilization to assessing equity in the overall process of access and explaining the causes of differential access. The development and use of a diversity of methodological approaches, including mixed methods, which integrate qualitative and quantitative techniques, are required to disentangle the influences on population and health systems interactions at each stage of the access process. Our framework is a useful reference scheme for research of this nature, providing guidance on the critical areas and critical methodological approaches.

“However beautiful the strategy, you should occasionally look at the results.”

Winston Churchill (1874-1965)

1. INTRODUCTION

Universal Health Coverage (UHC) for all is a long sought-after public health and developmental objective, embodying shared global values and egalitarian principles, as expressed in international human rights law and underlying theories of justice (1).

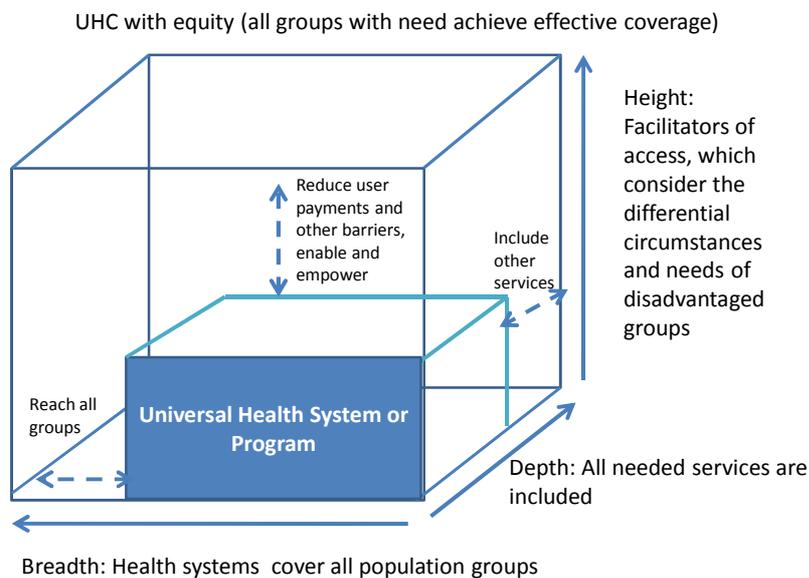
The idea of UHC loses its meaning, however, if it is not accompanied by equity. Equity of access recognizes that everyone has a right to health care, but that health needs are shaped by biological interaction with social processes, and thus vary according to demographic and socioeconomic circumstances, being generally greater for women, at the extremes of the life cycle and for the less well-off. Inequitable access means that less advantaged groups use and experience less health care than their needs require, resulting in personal, community and societal health losses (2). Lamentably, it has been shown over and over that the better-off tend to receive more and higher-quality health services even though the worst-off have greater need for care; so consistently has this been demonstrated that it was elucidated as a “law”, the inverse care law (3).

The causes of differential health needs and inequitable access are found in wider social inequities, originating in the socioeconomic and political structure of society (2). Health systems can be powerful equalizers to fully realize the right to health, to the extent that they create universal and equitable access to health care with special consideration for socially disadvantaged and marginalized populations, and positively influence the broader socioeconomic and political determinants of health and health equity. According to the World Health Organization’s (WHO) Knowledge Network on Health Systems report for the Commission on Social Determinants of Health, a key health system’s goal is to move towards UHC with equity. Equitable universal coverage means creating access and providing effective coverage for the entire population (“breadth”), for all necessary care (“depth”), at affordable costs and under conditions that are not burdensome, as well as offering particular benefits to address the differential needs of the least well-off (“height”) (4,5).

“Health systems **promote health equity** when their design and management specifically consider the circumstances and needs of socially disadvantaged and marginalized populations, including women, the poor and groups who experience stigma and discrimination, enabling social action by these groups and the civil society organisations supporting them.” (5:v).

Unpacking the objective of equitable universal health care is problematic because it implies commonly accepted and specific definitions of “universal”, “access”, “need” and “effective-coverage”; evading the heated policy debates around these concepts. Without clear definitions and reference points against which to assess the performance and consistency of health policies, governments are left without guidance to turn this goal into reality. Furthermore, the objective focuses on ideal outcomes rather than on practical policy options to achieve equity-enhancing universal health development. As a result, even though most countries espouse universality of health services and declare equity principles, the stark reality falls short of 100% breadth, depth and height to widely varying degree (figure 1).

Figure 1: Dimensions of universal health coverage with equity



Source: Adapted from www.be-causehealth.be

Many low and middle income countries are currently undertaking or strengthening efforts to expand universal access to health care and are confronted with multiple policy options (6,7). Some countries are committed to extending universality of health system coverage (“breadth”), while at the same time increasing the types of services available (“depth”) (8).

Several countries, encouraged and supported by the World Bank, have attempted to implement a priority health services package based on burden of disease (“breadth with limited “depth”), in pursuit of greater efficiency and effectiveness within budgetary constraints (9, 10). Others are attempting to scale-up through universal programs, which address conditions that are especially important for disadvantaged groups, such as maternal and child health programs, preventive public health and population-based interventions (“breadth” and strategic “depth”) (11).

All of these approaches assume that as universal coverage is reached, equity follows. However, even systems which aim to be truly universal, comprehensive and provided on the basis of need and not the ability to pay, have found that overcoming the inverse care law is not a consequence that always accompanies the commitment to UHC (12). A recent review supports this idea, finding systematic and unnecessary differences in access to specialist care in high-income countries which claim to have achieved 100% or near 100% UHC (13).

Ultimately, the paths to UHC -whether systemic or program specific- must be assessed in terms of their effect on equitable access across socioeconomic groups, especially for disadvantaged and marginalized groups. Against a background of wider inequities in health and health care, approaches to expand coverage must tap opportunities to strengthen equity in the provision of quality health services, while taking care not to aggravate inequalities in utilization and health gains. This requires a specific commitment to UHC with equity, minimally agreed-upon definitions of access and need, a better understanding of the social, political and economic factors that enable or impede access, viable and effective policy options, and methods for monitoring and evaluation. The quality and quantity of evidence available to support these requirements is important to advance an equitable health development perspective.

The scope of this background paper, prepared for the First Global Symposium on Health Systems Research, is to present an overview of current knowledge, generated through health systems research (HSR) on equity of access as it relates to the health systems objective of UHC. Of particular interest is evidence on the success of specific equity-oriented policy approaches, programs and interventions. A first step is to articulate an operative, analytical framework to assess equity of access in UHC policies, ranging from wider universal systemic approaches to focalized programs and interventions. Secondly, current HSR is analyzed with respect to theoretical scope and methods, based on the analytical framework. The issues covered and specific findings of key articles are

summarized, identifying the gaps in knowledge. Finally, the paper includes recommendations to strengthen research on UHC and equity in order to expand the evidence base and evidence-to-policy linkages.

2. METHOD

We conducted a scoping review (14) to “map” and summarize the literature on UHC and equity of access. The review drew upon a broad range of published literature in an attempt to elicit what is known and not known on the topic and through these findings to outline guidance for policy analysis and to strengthen future research in this area.

We developed search strategies in two stages to identify relevant articles that provide information on equitable access and universal health coverage, ranging from conceptual definitions, frameworks, methods and empirical studies. Firstly, a broader capture using MeSH terms “delivery of healthcare”, “health systems accessibility” and “health care disparities” and “universal coverage”, supplemented with key words in titles or abstracts for which no appropriate MeSH terms exist (“equity” and “equitable access” or “equity of access”) was carried out. This was followed by searches combining terms and adding others, such as “social justice” and “qualitative studies”. We searched the following electronic databases: PubMed, Medline, EconLit, the Cochrane Library (Effective Practice and Organization of Care Group), Scielo, and BIREME. Websites of organizations such as the World Health Organization, World Bank, ECUITY Project, Global Forum for Health Research, and Equinet were also explored. Manual searching of reference lists of relevant articles and key author searches was also undertaken.

Study selection criteria

1. Conceptual definitions, frameworks and methods for analyzing health equity and equity in access
2. Policy analysis of issues relating to equity of access to health services
3. Country case studies on specific policy action to improve equitable access
4. Studies of any design and reviews that provide empirical information about the relationship between UHC and equity of access, including the effectiveness of explicitly equity-oriented policy reforms and specific program interventions. For empirical research, focusing on the period 2000 - 2010.

Exclusion criteria

The focus of the review was equity of access to health care services as related to UHC. Publications centered on equity in resource allocation and health systems financing or on general policy recommendations for health systems and equity were excluded, as these issues are addressed in other background papers. Notwithstanding, studies that considered the impact on equity of access of financial and policy arrangements for UHC were included.

Selection process

From the worldwide literature over 5159 documents were retrieved and assessed for relevance by both authors, using the title and abstract. From a first selection, 640 full texts of English, Spanish, and Portuguese articles were retrieved and scrutinized. A total of 221 texts were selected as relevant: 98 elaborated on concepts or referred to measurement, methods or policy themes and 123 were based on empirical investigations carried out in specific country contexts, including country comparisons, case studies and review articles.

Information was extracted from selected empirical studies, relating to country, type of UHC strategy, equity of access dimension, population (group and measures of socioeconomic position), study design and methods, measure of need, and key findings.

3. RESULTS

3.1 Analytical framework for assessing equity of access and universal coverage

The literature on definitions, dimensions and conceptual frameworks often emphasizes that there is no agreement on the concept of equitable access, even though the term is frequently used. Accordingly its meaning is referred to as unclear, elusive, fuzzy, confusing, or at best, pluralistic and context-specific (15, 16, 17,18).

In our view, part of the divergence in understanding is explained by different disciplinary perspectives working separately. Much of the discussion on conceptual development has been shaped by economists; thus, the concept is grounded in the logic of achieving a fair distribution of scarce financial resources in order to respond to differential health needs (15,16,18,19,20). A disciplinary emphasis on measurement approaches that focus on aspects susceptible to quantification, has further constrained theory since, ultimately, what is measured circumscribes the concept (21, 22). Parallel but usually unrelated work from the fields of sociology, philosophy, bioethics, public health and human rights, has generated a vast body of literature that explores the understanding and definitions on societal goals regarding equity, as well as the social dimensions and influences of the process of equitable access (23, 24, 25,26,27,28, 29, 30).

Instead of describing the conflicting or contradictory notions, we draw upon commonly cited elements in the extensive and diverse literature on conceptual issues to set out a framework for analyzing equity of access as an operative policy objective related to universal coverage. We share the idea that equity entails assessing inequalities from the standpoint of a theory of justice (16, 24, 29, 30).

In relation to UHC and equity of access, an agreed-upon theory can be found in the conceptualization of the right to health, as enshrined in several binding international treaties, which set out standards to assess universality and equity (28, 29). In 2000, the UN Committee on Economic, Social and Cultural Rights (UNCESCR) adopted General Comment 14, which states that the right to the highest attainable standard of health encompasses universal access to health care as well as the underlying social determinants of health, freedom from discrimination, participation and accountability. It specifies that availability, accessibility (including non-discrimination, physical accessibility, affordability and information accessibility), acceptability and quality are all essential elements inherent to

all forms and levels of the right to health (31). Thus, universality and the dimensions of equitable access to health care are specific and intrinsic components of the right to health: “Health is a basic human right, and, as such, equity should have pride of place” (32:43).

However, UNCESCR pragmatically points out that the goal of universalizing the right to health is an ongoing commitment and depends on available resources; even though it imposes core obligations of immediate effect on States parties to take action as “expeditiously and effectively” as possible, with the full use of maximum available resources, “to ensure the right of access to health facilities, goods and services on a non-discriminatory basis, especially for vulnerable or marginalized groups” (31). The difficulty with this pragmatism is the lack of specific reference points to guide policy decisions on the path to universal and equitable health care, which aligns health care services with health needs. Without guidance, efforts to expand coverage may inadvertently widen inequities in access to health services for the people with the greatest need for care. Insufficient counsel might explain, in part, the results of a recent assessment of health systems using right-to-health indicators. Even though all of the 194 countries monitored were parties to at least one treaty with right-to-health obligations and 159 (82%) had ratified the International Covenant on Economic, Social and Cultural Rights, only 63 (32%) had established the right to health in national constitutions (28). Even less encouraging, the assessment found that only 15 countries (8%) had a national health plan with an explicit State commitment to universal access to health services (indicator 22)¹. Moreover, none of the 72 indicators specifically measures equitable access, although several are related to program coverage, for example maternal care and immunization rates, and it is noted in general that indicators should be disaggregated by social groups (28).

Equity of access: the just distribution of health care according to need

Equity is an ethical and value-based concept, grounded in principles of fairness and distributive justice. The most commonly cited and influential definition of health equity, which in fact is defined in negative terms, was proposed by Whitehead, as systematic “differences in health that are not only unnecessary and avoidable but, in addition, are considered unfair and unjust”, across populations or population subgroups who occupy different positions in the social hierarchy (33:430,27). It reflects social power relationships

¹ It should be noted that the assessment used global data sources and for most countries information was not available.

and, as such, is a measure of the extent to which social groups have power to claim and use entitlements and opportunities (34).

In an equity perspective, fairness rather than equality of distribution is the central concept, although justice generally entails some notion of equality (16). Much of discussion on equity as it relates to health care looks towards equal health across population subgroups as the ultimate goal. Therefore, an equitable distribution is “simply one which gives rise to an equal distribution of health” (19).

The general equity principle is that health care should meet health needs, thus those with greater needs should access more care (vertical equity), but there should be equal access for equal need (horizontal equity). In other words, need is the relevant factor for fairness in health care distribution and differences in access explained by socioeconomic factors not related to need are inequitable (16, 19, 20). Some viewpoints emphasize that differences due to informed, free choices not to access services are compatible with equity (25), although we would point out that this explanation might hide problems of accessibility or acceptability, especially where socially disadvantaged groups are concerned.

Understanding equitable access, in order to formulate, implement and measure the fulfillment of policy objectives, requires precise definitions of the terms “access” and “need”. However, these expressions have been the object of debate for at least 40 years.

The concept of access

The earliest approaches considered access to health care as the “degree of fit” between the health system and the population it serves. Thus, access is a process where, as Donabedian observed, “the proof of access is use of service, not simply the presence of a facility” (26, 35). From this viewpoint, service availability is a necessary step for potential access in a process of interactions, influenced by financial, organizational and contextual facilitators and barriers and population characteristics, but the objective is realized access (24, 36, 37). Accordingly, issues related to health systems equity, such as financing, insurance coverage and the combination of public-private provision on which much of the literature is focused, are means to achieve the objective of equitable realized access, but not the goal.

Although there is general agreement that equity of access is a multidimensional concept, most commonly the aspect that is studied is equity of utilization, mainly because it is easier to measure. Inequality of utilization, adjusted by need, is considered to be a proxy of inequity of access, and in and of itself inequitable (38, 39, 40). However, the limitations of this approach are underscored in Tanahashi's idea of "effective coverage":

"Health service coverage is a concept expressing the extent of interaction between the service and the people for whom it is intended, this interaction not being limited to a particular aspect of service provision, but ranging over the whole process from resource allocation to the achievement of the desired objective." (41: 295).

Tanahashi's model of health service access encompasses different domains or dimensions, including availability, accessibility, acceptability, contact or utilization and effective coverage. The objective is effective coverage, defined as the proportion of the population in need of an intervention that receives an effective intervention; a definition that is posed in equity terms since its denominator is need. This model is especially useful for an equity analysis, because it facilitates the identification of groups with unmet needs. Services may not be available, may be difficult to access or be unacceptable for certain groups, who will never contact the health system or do so infrequently. Since they are socially excluded from health services, these groups are "missing" or "hidden" from the system and are not included in routine statistics on utilization. These hidden groups also represent the inequity of the system.

An additional step in the conceptualization of access is the notion of empowerment, as expounded by Sen (42). In this perspective, access comprises the capacities of individuals to interact with the health system in order to seek, use and benefit from health care when needed, capacities which vary across the social hierarchy. Therefore, the health system is obligated not just to make services available, but to actively empower people in their use (43).

Increasingly, a sociological perspective has been emphasized as essential for understanding the dynamics of the access process and the capabilities individuals must possess to successfully traverse it (44, 45). Constructs such as "candidacy" view access as a process where individuals present themselves as eligible for services, must continually "negotiate" with health care providers and "navigate" the health care system in order to obtain the care they need. Systems are described in terms of their "permeability" to gain entry and to sustain engagement, recognizing that they also continually seek to define the

appropriate subjects and objects of interventions (45). These notions explain how barriers to access may arise at different levels of access for specific population groups.

In synthesis, recent conceptualizations have re-invigorated older understandings of access as a multidimensional process of interaction between health care systems, individuals, families and communities, influenced by diverse factors and dependent on empowerment and capabilities. A strong case is made for the comprehensive analysis of all dimensions of access to identify the causes of access constraints for the purpose of informing policies aimed at reaching UHC with equity (37, 43, 44, 45, 46, 47, 48). The use of participatory and qualitative research approaches is especially strategic for policy insight, by exploring and understanding barriers and facilitators that affect access from the perspective of different population groups, particularly poor and marginalized women and men (45, 48).

Need for health care

There are two very different approaches to the definition of need for health care. The older of the two was first described by Donabedian as “some disturbance in health and well being” that is likely to “make demands” on the health care system (49). Need is defined, therefore, in terms of phenomena of health status disturbance that require medical health services. It follows that the goal of equal health care for equal need is to equalize health in the population as has been pointed out by some authors (16).

Another approach suggests that need can only be recognized when it can be met with an intervention that has positive impact on the illness condition at a reasonable cost (50, 51, 52, 53). This benefit-cost approach implies that, in order to provide care according to need, two additional judgments should be taken into account on top of the health status of the population: a) Can the condition be improved?, and b) Is the cost of meeting the health need reasonable? In other words, the starting point is availability of resources, in contrast to the view that identifies need based on population characteristics, independently of whether or not the need can be affordably met with existing interventions.

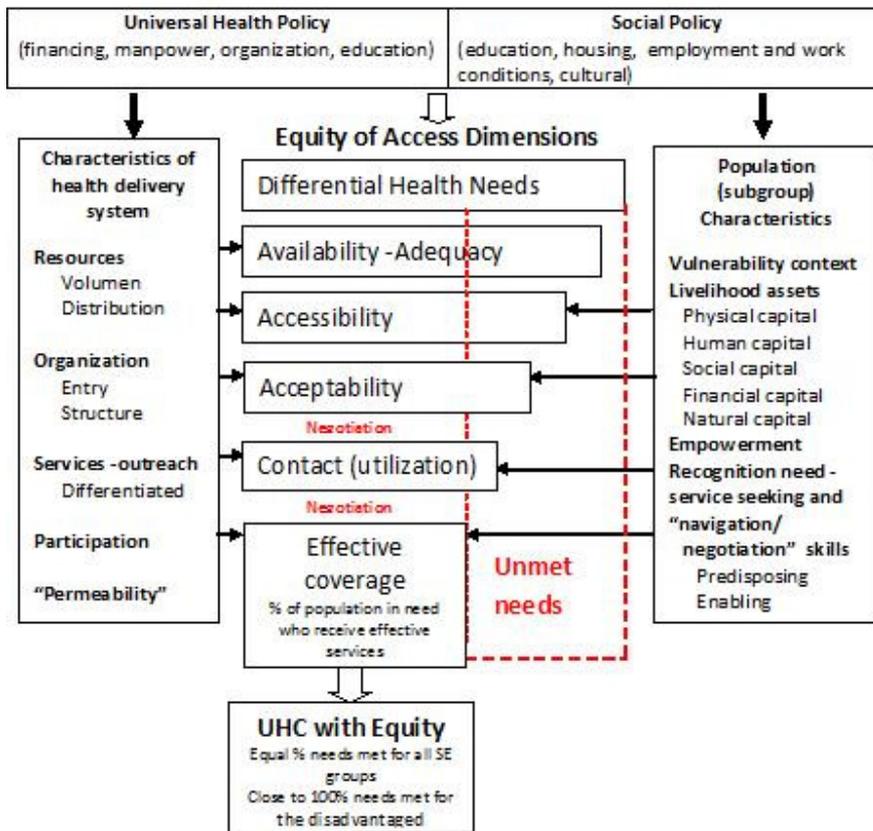
Underlying the definition of need based on population characteristics are four types of health risks: a) the risk of disturbance to a healthy quality of life, b) the risk of morbidity, c) the risk of disability, and d) the risk of mortality. It follows then that the social conditions that increase these health risks are in fact factors that define higher needs. There is abundant literature that shows this association (2, 4, 16, 17, 39, 40, 43, 44). In

general terms, the factors associated with health needs can be divided into two types: biological and social. Some authors call them predisposing and enabling factors (43). The biological factors include genes, age, sex, and history of illness, among others. The social factors include those that increase an individual's exposure to risk factors and vulnerability to disease. Most of the social factors are related to living and working conditions and determined by the social structure, which are called "the social determinants of health", including income, education, occupation, or belonging to a minority group (ethnicity or religion, for example), among others.

Analytical framework to assess UHC with equity

Drawing on the broader understanding that equity of access is the result of the interaction between supply and demand issues at various levels and that equity demands particular concern for groups with greater needs, figure 2 presents an analytical framework to assess UHC with equity. The framework attempts to integrate the seminal work of Donabedian, Tanahashi, Aday, Andersen and, more recently Gilson among others, highlighting the complexity of the multi-stage process by which individuals recognize the need for health care, find available and acceptable services, make contact and ultimately receive an appropriate intervention; a path along which many obstacles may occur (26, 35, 36, 41, 45, 46, 47, 48, 54).

Figure 2: UHC and Equity of Access. Effective coverage for all health needs as a result of supply and demand “fit”



Source: Adapted from Tanahashi (1978), Aday and Andersen (1981), Gilson (2007), Dixon-Woods et al (2006), Obrist et al (2007) and Solar et al (2005)

According to this framework, equitable access is seen as the health services experiences across socioeconomic groups, especially the socially disadvantaged; set within a broader policy context of redressing the structural inequities that define the social hierarchy and determine differential health needs. At each stage of the access process, a social group’s interaction with the health care system is influenced by the system’s characteristics and the group’s resources and capabilities to recognize need, seek, “navigate” and “negotiate” care. Along the path, potential barriers may arise that impede progress to effective coverage, especially for the more deprived groups. Health systems can ease or obstruct access for groups with fewer resources or capabilities, thus being more or less “permeable” or “navigable” for these groups.

Appropriately, the indicator of UHC with equity is the proportion of effective coverage achieved by the socially disadvantaged, measured as the percent of those in need who complete the intervention. If the access process is equitable, at a minimum effective coverage should be equal for all socioeconomic groups. Many, however, are placing a greater priority on the needs of disadvantaged social groups and as such, weighting disproportionately the short-falls from 100% coverage amongst the worst-off, who generally have greater needs (55).

Creating equitable access requires a wide range of policy interventions to address specific barriers, beyond increasing availability by expanding health care facilities to underserved areas. This framework serves as a reference scheme to measure, explain and evaluate equitable access in UHC policies. In this paper current empirical research on equity of access, as it relates to systems and programs aimed at universal coverage, is assessed using the framework to identify gaps in scope, underlying theory, and study methods.

3.2 Assessing the evidence on UHC and equity

Our scoping review examines the extent, range and nature of research activity and the strength of the evidence available related to equity of access in UHC systems and programs; a complex HSR area which had not been reviewed comprehensively beforehand.

We identified a large number of studies published in the past decade from all regions of the world, which compare experiences in health services access across socioeconomic groups, implicitly -but usually not explicitly- related to UHC objectives. This large body of material was assessed in two aspects:

- Using the analytical framework on UHC and equity of access, presented in figure 2, research findings were mapped to identify the areas addressed and gaps in the knowledge base.
- The overall strength of the evidence was examined, although in contrast to a systematic review, quality assessment or the weight of evidence of specific studies is not part of the scoping study objective. The elements considered include study design, methods, outcome variables and measurement issues.

A narrative account of the existing literature cogent to these two aspects follows.

3.2.1 Research findings on UHC and equity

In general, the research lacks explicit theoretical underpinnings for understanding universal coverage and equity of access. In regard to UHC, a few of the studies expressly refer to equity of access relative to universal coverage goals, usually to monitor the impact of health reforms (13, 38, 39, 56, 57, 58, 59, 60,61, 62, 63,64).

1. The theoretical scope of HSR concentrates on equity in utilization

Most of the studies interpret equity of access as equal utilization for equal need, measuring the use of groups of health services or of specific services across socioeconomic groups, defined by income, ethnicity or regions, adjusted by health needs. Thus, in terms of the analytical framework presented in this paper, the access dimension measured is contact and the outcome is needs-adjusted utilization.

A decade ago, Goddard and Smith concluded that the focus on utilization as a proxy for access can be explained by methodological ease, but it limits the production of useable evidence to inform policies to improve equitable access:

“The most important methodological difficulties are associated with measuring and allowing for variations in need, and the use of utilisation rates as a proxy for access. To some extent, the complexity of these issues has driven research down a path where the main focus has been on services and interventions for which there exist readily available data and where methodological problems are fewer. The result is that evidence is patchy.” (17:1159).

This picture has not changed substantially. Generally, the studies report relative differences in health services use by socioeconomic groups, considering their differential needs, but provide very limited information on the supply or demand side features associated with inequities. Findings from several recent studies focused on inequities in service utilization are presented in the next section.

With respect to other domains of access, some studies analyzed availability or geographic access to services based on the density of providers or services in deprived areas or distance to the closest facility. For example, Bixby-Rosero (2004) assessed equity in spatial access to health care by Costa Ricans, with geographic information system methods based on distance to the closest facility, using an indicator that weighted size and proximity of

the health center with population characteristics (65). He estimated that 12 -14% of the population were underserved. Geographic access measured by the estimated walking time to condom sources by asset group using data from representative samples of a) men and women in households in urban Zambia, and b) providers at retail outlets in urban Zambia, was studied by Agha (2003) (66). The continuing and regular analysis of equity in the availability of services is also important in high-income countries with universal health systems. Goddard et al (2010) found that geographical equity in the total supply of general practitioners in England rose between 1974 and 1994 but then decreased, and in 2006 it was below the 1974 level (67).

We found little work related to the acceptability layer, the few studies directly addressing this dimension consider access for indigenous people or ethnic groups (68). Other studies refer to mistreatment or poor attitudes in past health services experiences as causes of acceptability problems (69). Surprisingly, this dimension has also been dismissed as “related to personal preferences or circumstances of individuals. Because these reasons are not related to characteristics of healthcare services (with the possible exception of language), their implication for healthcare planning is unclear.” (70:3).

More encouraging, are recent studies in developing country contexts that have applied more comprehensive frameworks, including the affordability, availability and accessibility framework or the affordability ladder tool (54, 69, 71), to examine from the population’s perspective the experiences of poor households in accessing care. Their findings provide a more in-depth understanding of the interaction between supply and demand factors to inform efforts to achieve more productive interaction aimed at more equitable access: “Productive interactions, although important to all those who are ill, are most important for the poorest because their limited resources and vulnerable livelihoods often prevent them from persisting in their search for illness understanding and relief from symptoms from the health system.” (69:16).

2. Findings show consistent patterns of inequities in utilization

The findings of a large number of studies show consistent patterns of inequities in utilization of different types of health services by disadvantaged social groups in relation to their health care needs (usually adjusting for age, sex and health status), which affect countries with UHC systems but especially developing countries in the process of scaling-up coverage through universal programs.

- a) With respect to UHC systems, a large group of studies generally based on household survey data provides a broad overview of inequities in the utilization of a wide range of general health services, such as primary and specialist care and curative and preventive care, related to the overall architecture of the health system at national or large aggregate levels. Many of the studies are country comparisons. The national studies often have the purpose of monitoring the impact of health reform changes, especially changes in financing. These studies show very consistent patterns of the inverse care law regarding the utilization of specialized, curative services and a mixed picture of inequities for utilization of primary care and GP services, in different country settings.
- A systematic review by Hanratty et al (2007), which identified 26 studies from 12 individual countries and several country comparisons that had examined equity in the distribution of curative services in universal health systems, found a pro-rich bias in specialist hospital services and reasonably equitable access to primary care across social groups, adjusted for health needs (13).
 - Van Doorslaer et al (2006), compared 21 OECD countries, finding the highest inequities for need-adjusted use of total physician services in the US and Mexico, followed by Finland, Portugal and Sweden. In all countries where data was available, specialist care had a pro-rich distribution, considering need (72).
 - Recent studies in Canada, Australia and various European countries, confirm findings on general equity for GP visits and inequity for specialist care, adjusted for need: Allin et al (2010) (73), Allin (2008) (74), van Doorslaer et al (2008) (75), Bago d’Uva et al (2009) (76), Allin and Mossialos (2005) (77) Bourke et al (2009) (78), Layte and Nolan (2004) (56).
 - Halldorsson et al (2002) found little difference in the use of GP services according to socioeconomic factors in children stratified by parental income and education in 5 Nordic countries with a long history of public universal health care coverage. But children of lower socioeconomic groups were seen less often by specialists. The reverse was true for hospitalization. The differential use of all types of services was more marked in Denmark, Finland and Norway than in Iceland and Sweden. Maternal education was a more important determinant than the family’s financial situation (63).
 - In Spain, Regidor et al (2008) found a pro-poor distribution of GP visits and hospitalizations and equity in the use of the specialist physician in the public system, considering need. However, individuals from high socioeconomic positions also use private health services (79). Thus, Borrell et al (2001) (80) showed that

although social inequalities in the utilization of National Health Service care in Catalonia had decreased, inequities persisted for services provided only partially by the public service. Subjects who paid for private insurance had greater access to these services and shorter waiting times.

- Habicht et al (2009) (61) explored the utilization of primary, out-patient and hospital care, as well as financial barriers by education, income and residence in 3 Baltic countries (Estonia, Latvia and Lithuania) after transition from socialist universal health systems to insurance schemes. After 8 years of reforms, important pro-rich inequalities in the use of health services, adjusted for health-related needs, existed. These inequalities were largest in Latvia, possibly explained by higher co-payments.
- Perlman et al (2009) discovered that in Russia despite high population insurance coverage, a multiply disadvantaged, uninsured minority remains with low utilization of health services, adjusting for need variables (62).
- Lu et al (2007) described a more mixed picture of horizontal inequity in a study of three high-income countries in Asia, using survey data (58). In general South Korea conforms to the principle of equal use for equal need, except for outpatient care visits which have a strong pro-rich bias. Physician and dental services visits in Hong Kong show important pro-rich differences. Whereas in Taiwan, the rich are marginally more likely to use outpatient services, but western doctor and dental visits are evenly distributed. Emergency visits and inpatient admissions are either proportional or slightly pro-poor (57).
- Somoktra et al (2010) (58) revealed that after the UHC policy was implemented in Thailand health insurance coverage was nearly universal and needs-adjusted utilization tended to favor the poor in particular at public facilities, especially at the primary care level. These results were confirmed in a study which compared horizontal inequity indices between 2001 and 2005 (59). However, pro-rich inequalities in oral healthcare utilization persisted (60).
- Gao et al (2001) studied the impact of the reform of public institutions and state-owned enterprises on utilization of health services in China, analyzing national household surveys from 1993-1997. Insurance coverage and utilization of health services, particularly for the lowest and lower income groups with self-reported needs, had worsened and become more inequitable in this period (81).
- In Latin America, the use of preventive services, medical visits and hospital care for the elderly across socioeconomic groups in four capitals, analyzing the 2000 WHO Health, Well-being and Aging Survey, was studied, by Balsa et al (2009) (82), using the horizontal inequity index, and Wallace (2005) (83), using logistic regression

methods. Socioeconomic inequities favored the rich in the use of services in all of the studied cities. The inequities in preventive services at least doubled the inequities found in other services. In most cases, the cities with the highest inequities also presented the lowest levels of access.

- In Colombia, Cespedes-Londono et al (2008) analyzed the impact of the new national health insurance system on access to, and use of, health services, adjusting for need. Although insurance coverage increased, especially among the poorest segments of the population, equity in utilization of health care services did not vary significantly (84). Similarly, a pro-rich bias in breast cancer screening persisted (85).
 - In Africa, Zere et al (2003, 2007) showed consistent trends in equity of utilization through three waves of household surveys in South Africa and Malawi (86,87). For South Africa, overall there were higher levels of use of doctor and hospital services by the rich, relative to their levels of reported illness. In contrast, there was greater use of public-sector facilities by the poor. The time taken to reach a health facility also had a pro-rich bias. Although there were some favorable trends in the levels of inequities in the three time periods, considerable inequities remained, favoring the rich in self-reported adult illness and use of health services. In Malawi, most of the selected indicators showed widening pro-rich inequities. Vertical inequities were observed for the treatment of diarrhea and acute respiratory infections among under-five and for publicly provided services for some selected interventions (child delivery).
- b) Similarly, recent studies that analyzed health system statistics, focusing on the utilization of specific procedures or elective services, confirm consistent patterns of pro-rich bias in UHC systems:
- Judge et al (2010) (88), found evidence of inequity in geographic access by ward for total hip and total knee replacement in England, considering predicted need. Compared with the least deprived, residents in the most deprived areas got less provision relative to need for total hip and knee replacement, differences that were not explained by hospital provider characteristics.
 - Raine et al (2010) showed that social factors including deprivation, gender and age still strongly influence access to and provision of emergency and elective care for colorectal, breast and lung cancer in the NHS. Patients from deprived areas, older people and women were more likely to be admitted as emergencies and those from poorer areas were less-likely to receive preferred procedures (89).

- In Australia, Korda (2009) concluded that Australia's universal health care system does not guarantee equity in the receipt of high technology health care for patients with ischemic heart disease. Although there appeared to be equity for patients with acute myocardial infarction, this was not the case for angina patients, where health care may be less urgent and more discretionary, showing a pro-rich bias (90).
- c) Other studies, examining equity in the utilization of specific priority public health programs aimed at universal coverage, repeatedly find a pro-rich bias. Most of these studies analyzed data arising from developing countries:
- In relation to Millennium Development Goals, Houweling et al (2007) used Demographic and Health Survey (DHS) data from 45 developing countries, describing poor-rich inequalities by wealth quintiles in maternity care (professional delivery care and antenatal care), full childhood immunization coverage and medical treatment for diarrhea and acute respiratory infections. Poor-rich inequalities in maternity care in general, and professional delivery care in particular, were much greater than those in immunization coverage or treatment for childhood illnesses (91).
 - Maternal care was also the focus of two studies in Brazil. Almeida and Barros (2005) found that lower-income women initiated antenatal controls later and attended fewer controls. However, some indicators of quality of care, such as routine exams, HIV-screening, cesarean rates and contact with the newborn, were better in the lower income women (92). Gonçalves et al (2009) assessed utilization of specific services of the Program for Humanization of Prenatal and Delivery Care (PHPN), which increased proportionally with family income; quality of care for women in the lowest income quartile was inferior to that of women in the highest quartile (93).
 - Immunization coverage for measles in 21 developing countries was assessed over time by Meheus and van Doorslaer (2008). In all countries, the standard concentration index was positive, indicating inequalities favoring the higher wealth groups. In general, countries where coverage was higher also had lower inequality. Most countries experienced an increase in overall coverage with few changes in pro-rich differences of immunization coverage (94).
 - In China, Zhang et al (2007) found persistent inequities in the utilization of tuberculosis control programs by TB suspects living in rural communities, in an analysis of the 2003 Chinese National Household Health Survey. Lower income

rural TB suspects were less likely to seek care, complete treatment and had higher financial burdens (95).

- Efforts to scale up malaria intervention coverage across socioeconomic and gender groups, including insecticide treated nets (ITNs), treatment for febrile under-5 children and preventive treatment of pregnant women, was studied by Skeketee and Eisele in 27 African countries (2009) (96). Equity was achieved in some countries (especially for ITNs), but delivery methods in other countries were not addressing the populations most at-risk, showing higher coverage rates in urban and the richest quintile households.
- Antiretroviral therapy (ART) roll-out in four African countries, Zimbabwe, Malawi, Salud Africa and Zambia was reviewed by Makwiza (2006), showing urban bias and financial barriers to access care (97).

3. Incomplete on the pathways to reaching UHC with equity

Mapping the studies according to our framework shows many gaps in the understanding of the process and the pathways to attaining UHC with equity. The research describes clear patterns of inequities in utilization for many types of services, in different health system arrangements, but the evidence on the barriers or facilitators of access and how they arise in universal coverage systems or programs is rather limited. Most commonly, differences in use are explained by problems of availability or financial barriers (65, 66, 61, 62, 95, 97). With respect to population characteristics, socioeconomic aspects such as income or assets, education and distance from health facilities are the most studied features (61, 62, 63,, 84, 89, 65, 66).

In contrast, a study by Cataldo (2008), using anthropological research methods, stands out since it expressly investigated how universal access to a public health HIV treatment program was being implemented within a favela (shanty town) (66). He found that in this marginalized setting, the universal character of the program was challenged by a number of issues, including local definitions of illness, problems related to the understanding of and adherence to treatment, structural violence, political alienation, and the lack of perspectives about the future (66). On the other hand, universal health interventions were shown to contribute to the promotion of novel attitudes towards individual notions of socio-political participation, such as therapeutic citizenship, which in this deprived context translated into a new set of concerns around free access to and availability of treatment, the right to health care and the sustainability of public health policies.

Other studies have applied multi-dimensional frameworks to understand the health services experiences of poor households. Using the affordability, availability and accessibility framework, Grouge et al (2009) combined household survey data with qualitative longitudinal research that followed 30 case study households over 10 months to describe in depth the experiences of poor households attempting to access chronic care in a rural area of South Africa (69). Low livelihood assets, including low income, and limited social networks prevented consultation by patients with chronic conditions. On the other hand, supply factors such as interrupted drug supplies, insufficient clinical services at the clinic level necessitating referral, and a lack of ambulances further hampered access to care.

Dahlgren and Whitehead propose using the Affordability Ladder Program (ALPS) as a tool for analyzing health systems from the public's perspective in order to understand how social inequities in health care are experienced by people in different segments of society. Their argument is that this step-by-step approach to examining the many aspects of a health care system from a household/patient perspective can more accurately pinpoint where and why a country's health system is working and where it is breaking down, to identify the critical points that need to be addressed by reconsidering present policies and initiating new ones to promote efficient, equitable health care systems (54). Applying this framework, Luong et al (2007) conducted a tracer study of people with diarrheal illness to examine equity of access to and use of health care and financial burdens, particularly for poor families in Vietnam, using data from the Vietnam National Health Survey. The study found that children, the elderly, and the poorly educated were more likely to suffer from diarrhea; poor people often did not seek any care regardless of severity of illness, largely because they could not afford it (71).

Schoen (2000), studied the relationship between diverse types of health system organizations and financing with several indicators of access to services, including failure to receive needed care, difficulty getting care, waiting time for elective surgery, problems paying medical bills, failure to fill prescriptions due to cost, perceived quality of medical care received and of most recent doctor visit. In all indicators, care experiences were more unequal in US, Australia and New Zealand where systems have relatively greater reliance on private health insurance and markets (98).

These studies highlight the policy potential of comprehensive evidence on the specific supply and demand-side interactions that explain socioeconomic differences in access to care.

4. Scarce evidence on the effectiveness of policies and interventions to improve equity of access in UHC reforms and programs

The findings confirm that equity of access does not naturally follow the commitment to UHC, but requires specific consideration and policy interventions. Victora et al (99,100) provide valuable guidance on the challenges of scaling-up to achieve universal coverage with equity by “building on known, effective interventions” (11, 99,100). One of the resources mentioned is a group of 36 case studies covering more than 100 programs, from which many promising lessons emerge (101). The group argues that UHC interventions must be carefully selected, considering the epidemiological profile of the population. Additionally, effectively going to scale, requires innovative context-specific delivery mechanisms, which contribute to strengthening health systems and move incrementally as systems gain in service provision capacity. Sufficient funding is essential, but multiple factors affect the intervention delivery process.

Our review identified only a few studies that report or evaluate the impact of specific policies or interventions on reaching universal coverage with equity of access, mainly from countries which are scaling-up. Most of these studies consider interventions related to financial mechanisms and service delivery. Moreover, these studies recognize their methodological limitations which make it hard to separate the impact of the intervention from other confounding factors.

Nevertheless, the evidence that emerges from the research on interventions, which concentrates on improving economic affordability, suggests that free care at the point of delivery is one of the most effective facilitators for improving equity in utilization of services (4, 102, 103, 104, 105, 106). Reliance on market competition, based on patient out-of-pocket costs, appears to incur social costs and may explain persisting differences in access and utilization by social groups (58, 79, 80, 88). Cost-sharing, even at relatively low levels appears to result in financial barriers and access problems for lower-income families. Substantial evidence shows that lower-income families are more likely to bear the burden of constraints on resources (95). User fees create cost barriers and do not really increase resources to improve availability (102, 103, 104, 105, 106). Even when mechanisms such as fee exemptions exist, they are not always taken up by the target groups (102, 103, 106). Nevertheless, there is some evidence that a combination of vouchers and carefully designed and implemented Health Equity funds may have potential for reducing financial barriers (107). However, these demand-side financing schemes do

not address the many other non-financial barriers, including geographic access and socio-cultural constraints.

Some evidence exists regarding the positive effect on access and utilization of innovative service delivery strategies, such as social marketing, catch-up campaigns, clinic-based social marketing for routine keep-up and integration of priority public health programs such as chronic and maternal and child care (108, 109, 110). For example, making condoms available in non-traditional outlet types that are commonly found in low-income areas (such as kiosks and groceries) in Zambia, reduced socioeconomic inequities in condom access (66).

There is scant knowledge on which policy interventions are most effective in reducing observed inequities in access to health care, even in systems with strong commitments to UHC.

Goddard (2009) reviewed the evidence on the impact of four interventions aimed at improving equity in access to care, implemented in the UK, which focused on improving health system supply, organization of services and population choice. She concluded that promising policies to increase access may not work as well as expected because they fail to recognize and address the sources of the barriers faced by specific population groups (111). Goddard et al (2010) also explored the effect on geographical equity of increases in the total supply of general practitioners overtime in England, finding that equity rose between 1974 and 1994 but then decreased, and in 2006 it was below the 1974 level. They concluded that reducing geographical inequity in the provision of GPs requires targeted area level policies (67).

Goyder et al (2005) evaluated the impact of locally developed action research projects with an explicit objective of reducing inequalities in access in 8 different health care services in the Yorkshire and Humber regions of the UK. They found that interventions to improve access must be sensitive to local settings and require both practical and managerial support to succeed (112). Key elements for successful interventions included effective local leadership, identification of interventions that are both evidence-based and locally practicable, and mobilization of additional resources to support increased activity.

While evidence suggests that demand-side barriers are probably as important as supply side factors in influencing access, interventions have focus on the latter. Ensor and Cooper (2004) described interventions such as staff outreach, information on providers and

choice, education, and culturally sensitive health care delivery, which are being implemented to reduce demand-side barriers, but with limited evidence as to their effectiveness. They argue that robust evidence would potentially yield high returns (113).

In summary, the research findings related to the themes of the UHC and equity framework describe consistent patterns of inequities in the utilization of services. Thus, the general relationship between social factors and realized access to health care is well established: even when there is a commitment to universal coverage, the better-off almost always benefit disproportionately. However, the causal pathways that explain the inequities in access are not precisely understood. Health service factors relating to financing, including insurance coverage, user fees, and out-of-pocket payments, as well as the organization of service provision and delivery strategies are the most studied aspects. On the population side, the explanations are usually limited to describing financial burdens, socioeconomic circumstances or resources, rather than analyzing how empowerment, agency and capacities to “navigate” and “negotiate” operate. The dynamics of interplay and interaction throughout the multiple stages leading to effective coverage is even less well understood. There is little evidence on the success of specific policies or interventions to improve equity of access related to UHC. Given the partial understanding of the obstacles and facilitators of access that explain the reported inequalities, it is difficult to infer many policy implications from the findings in order to guide decisions to reconsider current policies and to initiate new interventions aimed at reaching universal coverage with equity.

Consequently, while policy imperatives to act are clear and many actions to improve equity have been undertaken, greater policy effectiveness entails developing more robust evidence on the causal pathways: “The causes and the dynamics whereby different groups respond differentially to health initiatives and the ways in which health damaging effects operate need to be specified in any intervention.” (110: 16, citing NICE 2007).

3.2.2 The overall strength of the evidence

In this review we did not exclude from our appraisal studies due to quality. However, in this section we provide an overview of the strength of the research, using as a guide the orientations provided by the Commission on Social Determinants of Health’s Knowledge Network on Measurement and Evidence (114,115). The Knowledge Network set out eight principles to guide the development of an evidence base for action on social determinants of health and equity:

Principle 1: A commitment to the value of equity. The explicit value underpinning methodologies for work in this area is that the health inequities that exist within and between societies are unfair and unjust and addressing health inequalities will sooner or later involve trade-offs with those in positions of power.

Principle 2: Taking an evidence-based approach. What constitutes good evidence arises from different quantitative and qualitative paradigms but, ultimately, can be appraised on the basis of empirical testability, internal logic and fit with evidence and observation from other sources.

Principle 3: Methodological diversity. No single approach to the generation of evidence or data is to be favored over others.

Principle 4: Gradients and gaps. The whole of the gradient in health equity in a society should be the starting point for an analysis of the structure of health inequities in that society, although in some circumstances targeting policy or interventions towards the most disadvantaged groups may be the best and most appropriate action.

Principle 5: Causes: determinants and outcomes. Although all the parts of the causal pathways cannot be identified with complete certainty, any analysis should seek to help to explain them.

Principles 6 and 7: Social structure and social dynamics. These principles encompass and link the imperative of describing social structures adequately, acknowledging their dynamic nature. This means considering the extent to which the evidence is sensitive to the relations between groups and individuals and in particular the social variations and differences in the population

Principle 8: Explicating bias. Forms of bias stemming from the particular methodologies used or from the political value position of the writer will be more or less present in all data and evidence, should be explicated.

Additionally the KNME set out some questions that can guide the examination of the diverse types of relevant evidence in this area:

“The level, or levels of analysis, need to be identified (Kelly et al 1993). This means examining the evidence, and regardless of its disciplinary provenance, assessing whether the dynamics of what is described could plausibly work at a physical, societal, organizational, community or individual level. In other words, to what degree is the supposed action based on biological, social or technical plausibility? To what extent is it possible to ascertain time periods and the chronology in the evidence? Are the purported relationships logically possible in chronological terms? Do certain events precede others? What dynamic processes are described in terms of the component parts of social systems? This is particularly important in

multi-factorial explanations, where the sequencing of events may be hidden or at least difficult to discern, and where multi-factorial explanations are often no explanations at all (Brownson et al 2003)” (114:16-17).

Using these orientations our conclusions on the strength of the evidence are contained in the following points. We illustrate our analysis with examples from studies that highlight the direction that research should take in order to generate a robust evidence base for action towards UHC with equity.

1. Study designs are cross-sectional and descriptive (principles 3, 5, 8)

Our first conclusion regarding the strength of the evidence is that most of the studies are descriptive and use cross-sectional designs, based on survey data where the directionality of outcomes and explanatory variables is uncertain. Longitudinal study designs are better suited to uncover causal relationships. Only a few studies apply time-trend and even fewer prospective designs. Thus, in general research designs are weak.

However, the research provides examples of design innovation. A recent study introduces panel data methods, using “latent class hurdle models”, exploiting the potential of annual waves of survey data to strength time-trend analysis (76). A different approach shows that a qualitative longitudinal follow-up of case study households can provide an in-depth analysis of the access process from the population perspective (69).

The skew is towards descriptive analysis and away from intervention testing. Just a few studies evaluate the effect on equity of access of specific interventions; but often the findings are inconclusive due to study designs that make it difficult to attribute changes to the interventions. Some policy interventions have designed implementation and evaluation strategies that attempt to mirror experimental designs in order to provide stronger tradition evidence on effectiveness (104, 116).

2. Little use of mixed methods and an aversion to qualitative studies (principles 3, 5, 6, and 7)

As was highlighted by the KNME, no single methodological approach to the generation of evidence should be favored over others. The current literature is dominated by quantitative studies with a few studies based on qualitative methods, and only a handful that use mixed methods. Nonetheless, much of the knowledge on barriers and facilitators to equity in access is derived from qualitative research. Qualitative methods can help

understand the relevance of different factors, how the factors interact with one another, particularly in relation to population's perceptions, understandings and practices, as well as provider attitudes. These approaches help to identify local needs and priorities, place issues in the context of people's lives and give direction to program development and service provision.

The complementary nature of quantitative and qualitative research and the usefulness of mixed methods to comprehensively analyze the access process is illustrated by a group of recent studies; interestingly several of these studies come from countries in the developing world. Two examples are:

Yu et al (2010) conducted a cross-sectional household survey-based study including 6,147 rural households and 22,636 individuals, in six counties of Shandong and Ningxia Provinces, China to assess the utilization of outpatient and inpatient services among different income groups and provinces in rural China. Qualitative methods, including individual interviews and focus group discussions, were also carried out to explain and complement the findings from the household survey (117). Grouge et al (2009) combined household survey from 1446 individuals with qualitative longitudinal research that followed 30 case study households over 10 months to describe in depth the experience of poor households attempting to access chronic care in a rural area of South Africa (69). Other studies have also applied this type of integrative approach (118, 119, 120, 121, 122, 123).

3. Location of studies (OECD, Middle-income, Low-income countries) and problems of generalizability (principles 6, 7)

Much of the research is country or locality specific, which raises questions about the generalization or transferability of results to other contexts or settings, or to a wider scale. The external validity, replicability and the degree to which concepts are culturally biased are important aspects to consider.

For example, much of the literature on the conceptual framework for equity of access and the empirical research has been generated in the UK, deriving from a social class interest. On the other hand, many of the qualitative studies come from the United States, focusing on racial or income group barriers to health care (124, 125). Nevertheless, a few studies have attempted a meta-analysis of qualitative findings across contexts or countries; one of these synthesized findings on barriers to antenatal care for marginalized women in the

UK, US, Canada and Australia (126). On the other hand, concepts that originate in high-income countries do not necessarily transfer to other societies. For example, survey questions on self-reported health status, may require adjustment to local understandings of health.

Considering the evidence discussed in the previous section, certain streams of research on UHC and equity of access are widespread but other types of studies are more commonly used in specific contexts:

- Cross – sectional designs studying the distribution of health service utilization, based on household surveys are used around the world.
- Countries in transition from centralized economies to market models have focused on monitoring the impact of health reforms, especially reforms of financing systems, on access or utilization of services.
- Utilization studies for specific procedures, especially elective procedures, are more common in developed countries with universal health systems.
- Studies on utilization of public health programs are concentrated in developing countries.
- Research to elucidate pathways and barriers of access generally comes from developing countries, although the UK also provides many examples of local level studies of this nature.
- Researchers from developed countries skew towards quantitative methods rather than qualitative studies, although much qualitative research comes from the US.
- Increasingly, investigators in developing countries are applying and combining a diversity of methods and information sources.

We point out that a growing body of studies is originating in middle and lower income countries, notably those applying more comprehensive frameworks and using mixed methods. These innovations provide valuable lessons for greater understanding of the access process, which are also relevant for higher-income settings.

4. Outcome variables of study (intervention access, systems access, geographic access) (principle 5)

As we have consistently underlined, the most common outcome studied is service utilization, across socioeconomic groups adjusting for need, as a proxy of equity of access. In high-income and some middle-income countries, utilization is used to measure systems

access, whereas in countries which are strategically scaling up through priority health programs the focus is on intervention access.

Density of health facilities or health care providers or distance to the nearest center are outcome variables applied in a few studies on geographic access, which provide easily interpretable information that is often mapped.

Fewer studies aim to identify the barriers that arise at different stages of the access process, which impede effective coverage of services; concentrating on financial and geographic barriers, and less frequently on cultural difficulties. Factors and processes relating to empowerment have been neglected. Evaluation and intervention-testing is another underdeveloped research area.

5. Measurement issues (measures of equitable access and need) (principles 5 and 8)

Many of the methodologies currently used to measure equitable access were pioneered in the ECuity project (21, 22, 50, 56, 127, 128) which has generated and inspired a number of national and comparative cross-country studies. Many of these studies applied concentration index methods to calculate summary measures of inequity in health care utilization for the specified services across the socioeconomic ranking, adjusting for differential need, based on national or city-level survey data. Other studies use epidemiological methods, such as odds ratios estimated with logistic regression methods or prevalence ratios, also commonly using survey data, obtaining a measure of effect, which compares the health care experiences of social extremes (61, 63). Both types of measures are estimates of relative differences in access or use of services.

Usually these measures are applied at the aggregate level and as such are measures of the average level of inequities nationally. Analysis at the local level can give a very different picture of inequities, as well as of barriers and facilitators (39). Local level monitoring often uses health statistics, which provide a more objective measure of health status, but probably only includes the population that have contacted the health system and not the marginalized groups, who do no contact but often have the greatest needs. However, health service and program managers at the local level should monitor equity of access, and some approaches have been developed for this purpose (129).

The importance of the need measure

The way need is measured is crucial to determine whether access to health care is reasonable according to differential need. Only after controlling for need factors can equal access for equal need be assessed; studies which do not adjust for different rates of need in socioeconomic groups “are describing the health needs that have been met and can say nothing about those that have not been met” (13:90). Failure to fully measure health needs can distort the direction and the size of the estimation of inequities in health care distribution (13, 17, 19, 39, 40). Self-reported health status is the preferred proxy for need in most of the macro studies which use household survey data (13,17, 39). Some studies have highlighted the importance of including a diversity of measures, such as health status, chronic illness and limiting illness (17, 39, 130). Other studies assume that for preventive services, need is equal for subgroups of the target population, proportionate to the population share of each group, which should be reflected in the equal levels of effective coverage if there is equity (82, 91, 94). It should be noted that a number of studies that do not adjust for need look at those who have used a service, focusing on differences by socioeconomic groups in specific aspects of the process of attention after contact, such as waiting times (89, 131).

Measuring need in equity studies is especially challenging, in part because poorer groups may report fewer health problems than the richer groups (52). Some studies have found that reporting of illness increases as income increases. Thus, an appropriate measure will probably entail “a social definition of illness, because people in poor rural settings have their own cultural explanations for health conditions that do not neatly fit into biomedical categories” (132:540), as well as more objective measures that do not depend on perceptions.

The search for greater rigor in health needs measurement has led to innovations in the conventional method based on needs-adjusted utilization, including adjustment for variables related to subjective unmet needs, such as waiting times, other barriers and reasons of personal choice (73). Another recent publication includes panel data methods to partition the time-invariant part of unobserved heterogeneity into the need-standardization procedure (76).

We point out that the common approach to measuring health needs considers biomedical factors, including age, sex and some measure of health status or illness, which is usually self-reported and thus may reflect differing social perceptions, but does not include objective social factors, such as income, occupation, education or ethnic group. For

example, the horizontal inequity index, based on the concentration index and decomposition methods distinguishes between “need” (health status, age and sex) and “non-need” (socioeconomic factors such as capacity to pay and/or to navigate the system) components associated with utilization, with the latter being inequitable. The well-documented association between social factors and poor health, must be picked up by the health status measures; if they do not do so completely, the health needs for these groups are probably underestimated. Even if we accept the common distinction for measurement purposes, when it comes to policy insight for equitable health systems the social factors of need should hold center stage.

4. RECOMMENDATIONS TO STRENGTHEN HSR ON UHC AND EQUITY

Our framework proposes that the achievement of UHC with equity should be assessed from a population perspective in terms of equity of access, whose goal is to provide effective coverage to care for all, considering the social and need gradient. Our review identified a substantial body of conceptual literature from diverse disciplines converging on the interpretation of equity of access as fairness in the distribution of health care, according to need and independent from socioeconomic factors. Current thinking has reinvigorated earlier conceptions, which view access as a complex process of interaction between the health system and the population it serves, by emphasizing that empowerment is pivotal.

The framework lays out the health system features and population characteristics which influence equitable access. The starting-point is assessment of the population's health needs, by social group. Following each stage of the access process, the proportion of people whose health needs are met, by social group, is measured to construct effective coverage curves. Commonly, as social groups navigate the access process and interact with the health system an increasing proportion of people with needs are left behind, especially the less well-off: services are not available, are not accessible or acceptable, care is not sought, contact is difficult, utilization is not achieved, treatment is not followed-through or quality is poor. Characterizing these groups and identifying the barriers, obstacles, enablers, and facilitators they face on the path to effectively obtaining quality care is crucial for designing and implementing effective interventions, directed at expanding coverage with equity.

Looking at current HSR through this framework shows important gaps in knowledge about why health needs for some groups are not being met by UHC systems or programs and on the critical elements in the process of achieving equitable access. Research has mainly focused on measuring socioeconomic patterns in utilization adjusted for need (realized access) or availability of services (potential access), from a supply-side prism where explanations are related to health system features or financial barriers. However, the review also identified a growing body of research moving towards a more comprehensive understanding of equitable care, which integrates a sociological perspective and uses

mixed quantitative and qualitative methodologies. Unfortunately, there is a clear imbalance in the number of publications (and most likely in funding, as well), with much less evidence that furthers understanding of the processes that could lead to universal health care with equity of access.

Building on existing work, we argue that our framework offers guidance in two aspects: a) the critical areas where more research is needed, and b) the critical methodological approaches for future research, aimed at understanding the access process and identifying the sources of barriers and facilitators by taking into account both supply and demand factors.

a) Critical areas for future research

Box 1: Suggestions to operationalize the framework in future research on UHC and equity of access

- **Study the overall process.** Assessing equity of access for all population groups with health needs must look at the overall process of access and connect the different stages. Construction of effective coverage curves to measure the proportion of needs met for specific social groups helps identify differential losses (unmet needs) at each step of the access process. Most critically, research must identify the barriers and facilitators which emerge at each stage and explain differential access.
- **Start by estimating health needs.** The starting-point is estimating the universe of population health needs across the social gradient, using population-based surveys and studies. Health system registers alone are insufficient since they do not provide information on the needs or access of groups who never contact health services.
- **Understand health system factors that interplay with population characteristics.** Identify the health system features which influence access at each stage of the access process, utilizing traditional quantitative methods which analyze health system data and surveys, complemented by qualitative methods to study the perceptions and attitudes of health professionals and staff.
- **Understand population factors that interplay with health system features.** Expand research on the population characteristics that influence equitable access at each stage of the access process, integrating population-based surveys, qualitative methods and follow-up designs. Specific efforts should be taken to include disadvantaged and marginalized groups.
- **Availability.** At the availability level, health system information and registers should be connected with geographic and population social inequities, such as deprivation indices, and health needs estimates. Mapping and GIS systems are useful to visualize geographic differences in service availability, by need and socioeconomic level.
- **Accessibility and affordability.** These dimensions should be studied by integrating population survey data and qualitative studies.
- **Contact/utilization** should be analyzed by combining data from health system registers, population

surveys and qualitative methods involving population groups and providers to understand interactions between supply and demand-side factors, influencing the use of services.

- **Effective coverage** – should also use mixed methods, including follow-up studies, to study variables relating to quality, continuity of care, and health outcomes.

b) Critical methodological approaches for future investigation

Completing the picture on UHC and equity of access, by understanding the ways in which interactions between people and health providers affect access and the key barriers to equitable access to care, is a substantial task. The barriers and influencing factors are likely to vary according to social context, health system architecture, social group, and type of service; thus requiring numerous, well-designed and articulated studies, integrating a diversity of methodological approaches, both qualitative and quantitative. Generating this type of evidence requires the commitment of research institutions, whose backbone is a financial commitment.

Shifting the focus of research to filling in the gaps in the framework means endorsing the development of an agenda for Research on UHC with Equity, which addresses unanswered questions and unresolved issues related to the access process from a population perspective and considers the complex interactions between demand and supply factors that influence the achievement of effective coverage with equity. Funders interested in generating robust evidence on specific policy options to advance UHC with equity in countries should promote the development of medium term programs to finance research of this nature, aimed at disentangling specific pathways to equitable, universal care and whose methodological approaches must necessarily cross current disciplinary divides.

Our review highlights that the demands of understanding the complex process of access to health care and equity call for methodological diversity, innovation and articulation. The integration of qualitative research methods is a valuable and necessary component of research aimed at improving UHC with equity. In-depth studies of patient interactions with health services, which explore from the population's perspective the factors that prevent them from accessing care, are essential. Moreover, these methods allow for the inclusion of contextual factors in the analysis. Contextual factors are generally described in the literature as effect modifiers instead of as causal factors, making it difficult to infer why particular interventions directed at improving equity in access are effective in some countries but not in others or in some programs and not in others. A better description and understanding of relevant contextual factors that promote equitable access to health

care in specific settings should be included, as a norm, in the design of studies exploring access to care with equity.

To drive forward a new research agenda on UHC with Equity we propose some specific actions:

1. Promote collaboration among established research networks with different methodological expertise to advance knowledge, though the use of mixed research methods

Networks that articulate academic research units, civil society organizations, and other multilateral entities with relevant expertise in research support and advocacy are crucial for pursuing new research goals focused on UHC and health equity. It is important to develop and strengthen the capacities of research communities to apply and articulate a diversity of methods and to foster integrated, interdisciplinary teams of investigators. Funding should be accommodated accordingly.

To overcome publication bias towards evidence arising from developing countries, collaborative networks between researchers from developed and developing countries must be fostered to improve methodological approaches and strengthen research capacities around the world. We emphasize that knowledge exchange benefits all researchers, as innovative work is happening in many different settings.

2. Develop more systematic reviews

Although more primary research is clearly needed to fill in the knowledge areas that are highlighted in the framework, it is also crucial to map out the specific relevant research that has already been developed for each one of the dimensions in the framework in order to move forward without duplicating existing work. One strategy might be to define as a priority the generation of systematic reviews in specific dimensions of equity relating to UHC, in particular in the areas where gaps need to be filled, for example the interplay between demand side, supply side and contextual factors. The development of systematic reviews in specific areas that draw on a wide array of primary sources, particularly from developing countries whose research is seldom published in the international literature, can more firmly establish the strength of existing evidence and gaps in knowledge.

3. Promote more debate and consensus-building on the type and scope of research is needed to advance in the achievement of UHC with equity

In our framework we attempted to integrate common elements that emerge from various disciplinary streams, particularly the economic and sociological perspectives. We believe that much more discussion and debate is needed, which brings together leading thinkers from the range of disciplines currently working in parallel to develop a common understanding and consensus on a medium term research agenda on UHC with equity. The purpose is to build a strong evidence base for effective policy interventions on equitable access, by working to understand both the supply and demand side of health care interactions. Constructive debate can forge an agreed-upon theory, precise conceptual definitions, improved methods and foster more collaborative work, all of which are necessary both for research and policy development. Finally, the participation of civil society organizations in this process is essential, because achieving a fair distribution of health and health care for all is built on social transformation and strong health and social policy.

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