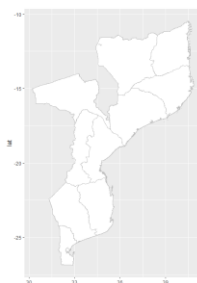


Health care inequalities in Mozambique: needs, access, barriers and quality of care

Technical Report



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Acronyms

CFMP	Medium Term Fiscal Framework
CMAM	Centre of Medicines and Medical Articles
CNCS	National Council for the Fight Against HIV/AIDS
DPS	Provincial Directorate of Health
FRELIMO	Front for the Liberation of Mozambique
GGE	General government expenditure
GTF	Health Financing Strategy Technical Working Group
IMF	International Monetary Fund
LOLE	Law for Local State Bodies
MoH	Ministry of Health (of Mozambique)
MEF	Ministry of Economy and Finance
NGO	Non-governmental organization
NHS	National Health Service
OOP	Out-of-pocket payments
PARP	Poverty Reduction Strategy
PES	Economic and Social Plan
PESS	Health Sector Strategic Plan
PHC	Primary health care
PQG	Five-year government plan
SAP	Structural adjustment programme
SDG	Sustainable development goals
SDSMAS	District Services of Health, Women and Social Affairs
THE	Total health expenditure
UN	United Nations
UHC	Universal Health Coverage
WHO	World Health Organization
WB	World Bank

Executive summary

Access to quality health care services is a key to good and equitable health. The main objective of this report is to provide sound scientific evidence on the access to the health care system in Mozambique and the social inequities affecting such access. To this end, observational cross-sectional data from the Mozambique 2014/15 Household Budget Survey (HBS) containing relevant information on health needs, severity of the illness, use of health care services and reasons for not using them, quality problems in care received and direct payments made have been used. These outcomes have been described overall and according to the main social inequalities axes including: socioeconomic position of the household, maximum educational level attained, sex, age, rural/urban environment, province, time to the healthcare facilities and type of health care services provider.

The initial hypothesis that social inequalities axes would condition health care access has been widely confirmed. One out of three Mozambicans perceiving a health need did not use health care services, and this behaviour is more prevalent among people living in the Northern provinces, rural environment, as well as the less educated and the poorer socioeconomic quintiles. Social inequalities also condition certain aspects concerning the quality of the access, the type of healthcare provider preferred as well as the prevalence and the intensity of health needs.

The analysis of the severity of the illness according to the way people copy their health need suggests that using health care services is a decision partly driven by the severity of the problem. However, almost half of the people not using health care found objective barriers hampering their access (in particular, distance or lack of transport to the health facilities) while suffering a comparatively severe health need. Again, this affects more the socially disadvantaged categories.

Recommendations are made to the government, researchers and civil society stakeholders aimed to recognize the importance of reducing health care access inequalities to improve general health outcomes in Mozambique, and to prioritize actions to guarantee an equal quality access for all the population.

1. Introduction

Equitable access to good quality health care systems remains a major health policy concern for almost all African countries. The 2014 Ebola epidemic in West Africa, the 2016 yellow fever outbreak in Central Africa or the annual emergency of cholera in the majority of Sub-Saharan African countries are few examples that illustrates the worst-case scenario of weakened health systems especially in rural areas and for those worst-off, illustrating the miss-coordination among donors and international aid and the urgent need for universal health coverage (UHC).

Universal health care is one of the major contributors to a country's welfare as it improves health equity by covering the health needs of the entire population (World Health Organization, 2013). Access to quality health care services is a key to good and equitable health. The health care system is a social determinant of health which is itself influenced and influences other social determinants. Social class, gender, ethnicity, and place of residence are all closely linked to people's access to, experiences of, and benefits from health care (CSDH, 2008).

The current focus on UHC of the United Nations' (UN) Sustainable Development Goals (SDG) has potentially given the opportunity to improve the national health care systems, especially to those in worse conditions like Sub-Saharan African countries (United Nations, 2015). However, the selective focus of global agencies has put a narrowed emphasis on the financial protection of a set of basic health services rather than a more comprehensive health system. For example, fighting diseases based on cost-effective interventions and treatments is far from being a comprehensive primary health care (PHC) approach capable to build equitable, stronger and sustainable health systems (Gish, 1982; Starfield, Shi, & Macinko, 2005).

A comprehensive approach is therefore a necessary precondition to achieving a fair health care system for all (Evans, Hsu, & Boerma, 2013) and it must include PHC as the first level of contact of individuals, the family and community with national health systems. Health care systems produce much better health outcomes when built on PHC with an adequate referral to higher levels of care, where prevention and promotion are in balance with investment in curative interventions. Evidence shows that PHC, in contrast to specialized care, is associated with a more equitable distribution of the population's health, a finding which is consistent in both cross-national and within-

national studies (Starfield et al., 2005). This approach also implies other key issues: a health care system that is closer to where people live and work; the focus on long-term integral care to cover most health needs and problems; access to coordinated care within specialized care when this is needed; and health care based on practical, scientifically sound and socially acceptable procedures methods at an economic cost that the whole community and country can afford (World Health Organization, 1978). Furthermore, an additional related yet often neglected issue that African health systems should take into account is that almost half of the population sees traditional medicine as a first option to get health care.

2. Background

2.1. Mozambique: overview of social issues and health needs

Mozambique is a country located in Southeast Africa, roughly oblong in shape and bordered by the Indian Ocean to the East. Its extension is similar to that of Turkey and its climate is tropical, although specific climatic conditions vary according altitude and latitude.

Results of the 2017 Mozambican census yield a total population of 28.9 million people (36.1 /km²), holding a very young age structure: 49% of the population is under 18 years old and only 3% above the age of 60 (Instituto Nacional de Estatística de Moçambique, 2010). From a socioeconomic point of view, it has similar characteristics to other countries in Sub-Saharan Africa. In spite of recent improvement, the country remains one of the poorest and most underdeveloped in the world (GDP per capita is among the 10 lowest ones). Life expectancy at birth is 53.7 years and total fertility rate is 5.08 children born/woman (2017 estimates), while ranks 181th position out of 188 countries in the Human Development Index 2016 (United Nations Development Programme, 2016). About 70% of the population lives in rural areas with a big majority engaged in agriculture (main occupation for 76.3% of the women and 55.9% of men) or working in informal sector trading (10.5% of women and 8.7% of men) (Instituto Nacional de Estatística de Moçambique, 2015).

Administratively, Mozambique is divided into 10 provinces and one capital city with provincial status (Maputo). The provinces are subdivided into 129 districts, which are further divided in 405 Administrative Posts and then into Localities. Maputo together with neighbouring city Matola is the biggest urban area in the country, according to the recent 2017 census (1,101,170 and 1,616,267 inhabitants, respectively, see map below, Figure 1). Ndege (2007) identified significant variation patterns in behavioural and social norms within the country's 16 major ethnic groups regarding marriage structures (monogamy or polygamy), type of descent pattern (matrilineal or patrilineal), and age at marriage. In Mozambique, contrary to other Sub-Saharan African countries, matrilineal societies averaged earlier ages for marriage (15-17 years old) and patrilineal societies had a slightly higher average age at marriage (18-21 years). Education might be a mitigating factor, as matrilineal systems in the rural northern regions had high female illiteracy rates (85%-88%). In the southern provinces, where patrilineal descent is common, lower rates of illiteracy are present (48%-77%), together with a greater access to radio, television,

newspapers and health information (Arnaldo, 2004; Audet et al., 2010). Polygamy and systems of patrilineal descent are commonly practiced throughout the country (Arnaldo, 2004). The majority of people in the southern and central parts of the country are Christian, while the north is populated with a large percentage of Muslims. The most spoken national languages are Emakhuwa (25.4%), Portuguese – the official language (12.8%), Xichangana (10.4%), Cisena (7.1%), Elomwe (6.9%) and Cinyanja (5.8%).



Figure 1. Political map of Mozambique, its provinces, districts and political boundaries.

Currently, communicable diseases are the leading causes of death in Mozambique: malaria (29% of all deaths), HIV/AIDS (27%), perinatal conditions (6%), diarrhoeal diseases (4%) and lower respiratory infections (4%) (World Health Organization, 2016; Instituto Nacional de Estatística de Moçambique, 2012). Differences in mortality also exist across urban and rural locations. Malaria was the leading cause of death in rural areas and HIV/AIDS was the leading cause of death in urban areas (Instituto Nacional de Estatística de Moçambique, 2012). Moreover, chronic malnutrition remains as another common health condition.

The country still has one of the highest maternal and infant mortality rates in the world. Newborns and infant deaths in children under the age of 1 accounted for approximately one-quarter of all deaths, whereas passing of children from 1 to 4 years comprised 19 percent of the total (Instituto Nacional de Estatística de Moçambique, 2012).

2.2. Mozambique health care system: historical background

During the 70s, under the basis of different types of African socialism¹ and economic constraints related both to geopolitics and internal social affairs (Mondlane, 1969), countries as Mozambique struggled to build a comprehensive public health care system based on community health workers, health posts and centres, rural hospitals, and larger provincial hospitals.

The Mozambican public health care system strongly incremented its infrastructure in just ten years, from 326 health care facilities in 1975 to 1,195 in 1985 (Magnus Lindelow, Ward, & Zorzi, 2004), thus becoming a model of PHC, thriving for equity and erasing the colonial medical service that had emphasized curative and urban-based care.

In the 1980s and 1990s, Mozambique went through deep social, economic and political changes. In 1989, twelve years after the beginning of the civil war and after two donor strikes in 1983 and 1986 when food aid was withheld (Hanlon, 2004), the ruling Front for the Liberation of Mozambique (FRELIMO) party formally abandoned Marxism. Under the pressures of the International Monetary Fund (IMF) and the World Bank (WB), in 1987 Mozambique signed a structural adjustment programme (SAP), and, in 1990, a new constitution provided multiparty elections that brought the privatisation of services, reductions in government spending, and a transition to a market oriented economy. The continued increase of foreign aid after SAP turned Mozambique into one of the major recipients of health aid in Africa nowadays (IHME, 2016a) and the wide range of actors in the health sector - multilateral organization, bilateral donors, NGOs, foundations or universities - has led to fragmentation inside the sector through uncoordinated foreign aid flows and competing donor interests.

By the mid-90s, the governability of Mozambique was weak, the State budget on health was very scarce and a significant number of healthcare facilities were destroyed in the

¹ African socialism might be understood for example as the first president of Tanzania (1964-1985) Julius Nyerere's concept of *ujamaa* (meaning "familyhood" or "classless society") (Nyerere, 1973).

context of a civil war, mainly in the rural areas. Also, the prevailing political and economic neoliberal climate introduced major negative changes for the effective functioning of the public system, for example, in 1996 the salaries of the civil servants were only one-third of what they had been in 1991.

During the following years, the big majority of the Mozambicans were using a weakened public health care system (World Health Organization, 2016) with very limited resources. The predominant rhetoric regarding the public welfare, promoted in a context of scarce public funds and high international and often much conditioned aid dependency, has placed additional hurdles on the possibility to develop a minimum comprehensive approach of the public health care system (Mackintosh, 2000).

The current Constitution of Mozambique protects the right of individuals to health. However, although the population may have such right, its access remains restricted to the direct and indirect costs of accessing services, including the physical accessibility, sociocultural factors, or perceived benefits and needs (dos Anjos & Cabral, 2016; Wagenaar et al., 2016).

2.3. The health care system: importance and key features

The current health care system in Mozambique is quite similar to the majority of Sub-Saharan African countries. It is characterized by a primary level with a very poor infrastructure, scarce skilled health personnel and, unfortunately and much more common than it is often imagined, unavailable basic requirements such as running water, reliable power supply, drugs, oxygen, safe transportation or diagnostic and therapeutic equipment. For example, National representative data for Mozambique shows that only 34% of facilities had the three-basic infrastructure equipment: clean water, sanitation and electricity. Also, a limited 42.7% of the health facilities had available the priority drugs (The World Bank, 2015a). The health care system also suffers from having a weak specialized level with an important presence of private providers and a fragmentation between organization and service delivery, a common source of inefficiency.

2.4. Issues on governance

In Mozambique, the health sector is made up of the Ministry of Health of Mozambique (MoH), 11 Provincial Directorates of Health (DPS), 146 District Services of Health and Women and Social Affairs (SDSMAS). Besides, other health institutions receive autonomous budget allocation from the State Budget, these are the following: Centre of Medicines and Medical Articles (CMAM), National Council for the Fight Against HIV/AIDS (CNCS) and also, three Central Hospitals, four General Hospitals, eight Provincial Hospitals, one District Hospital, and one Psychiatric Hospital. DPS and SDSMAS are subordinated to the MoH and the Ministry of Economy and Finance (MEF).

One of the key elements in the governance is the development of health policies and the formulation of strategic plans by the MoH to design the interventions which will be implemented to achieve desirable health outcomes.

Main planning instruments

The health sector has multiple plans, whose alignment is slowly improving over the years. The current main plans can be divided into: 1) multi-sectorial plans, which are, the government's five-year plan (PQG), the Medium Term Fiscal Framework (CFMP) and the Economic and Social Plan (PES); and 2) the health sector plan (PESS). However, as described in detail below, a significant amount of resources in the health sector are channelled outside of the Single Treasury Account (off-budget expenditure) through donor financed projects, thus outside the national planning framework.

Table 1. Indicators to measure progresses in the PQG (2015-2019)

Indicator	Baseline (2014)	Expected (2019)
% of institutional deliveries	71	75
% of fully vaccinated children	82	94
% of cured underweight in children under five years of age	60	80
% of adults and children retained on ART	45/64	80/80
% of HIV+ pregnant women who received ARVs	86	90
Health professionals rate per 100,000 inhabitants	94	113,3
Number of districts with a district hospital	44	60
% of women aged 30-55 years with cervical cancer screening in family planning consultations	1	15

Source: Ministério da Saúde (2015)

The Five-Year Government Plan (Plano Quinquenal do Governo, PQG) is a medium-term plan linked to the electoral cycle and it includes a series of strategic objectives, some of them related to health, to be achieved in the next five years. The current plan is from 2015 to 2019. The priorities can be summarized as it follows: promoting equal access to health services, reducing disease impact, health promotion and disease prevention, improving the sanitation network, improving human resource management and ensuring sustainability and financial management (The World Bank, 2014). The indicators used to measure progresses in the PQG are contained in Table 1.

The Medium Term Fiscal Framework (CFMP) is the medium-term estimation of revenues and expenditures. The current CFMP 2017-2019 is subordinated to the PQG 2015-2019. The resources are budgeted through CFMP, which is negotiated with the Council of Ministers and Ministry of Economy and Finance and approved by the Parliament. The CFMP contains a general description of the projected expenditure in the health sector and points out three actions to reduce maternal and neonatal mortality: to increase the institutional deliveries, to reinforce de intermittent preventive treatment in pregnant women at risk of malaria and the distribution of mosquito nets (Ministério da Saúde, 2015).

The Economic and Social Plan (PES) provides an operational plan for activities to be undertaken under each program in the PQG within a year. The priorities in health for 2018 are: maternal and child health care, improving quality of care, improving medical products logistics, reducing the impact of epidemics and malnutrition, health promotion

and disease prevention and increasing human resource for health. However, while the PES and the health budget are both produced on an annual basis, it is challenging to assess how the budget is linked to policy objectives

The current strategic policy framework of the health care system is the Health Sector Strategic Plan 2014-2019 (PESS in Portuguese), which establishes two pillars. On the one hand, to have more and better health services on the basis of the following general principles: access, utilization, quality, equity and efficiency. On the other hand, a health care reforms agenda based on six general components: health services, health infrastructure, leadership and governance, health financing, human resources, logistics and health technology and, finally, health information, monitoring and evaluation (Ministério da Saúde, 2013b).

Health policies

The current National Health Policy highlights health as a good and essential precondition for a sustainable development. In general terms, it includes access to public health care and the assurance of referral between levels of care. Also, it describes the interaction with the community sector with traditional birth attendants and community health workers, especially in remote areas. However, the policy provides a weak framework for the development of the National Health Service (NHS) and it bestows the private sector with a role in the provision of healthcare to citizens (Ministério da Saúde, Conselho de Ministros, n.d.). In fact, National Health Policy defines health as a 'good' rather than a 'right', an idea that can influence attitudes towards the provision of health services and its privatization.

The NHS was created by law 25/91 and it was defined as the set of health facilities, including those that were nationalized, that depend on the MoH and contribute to the provision of health care to the population. In practice, there is not always a clear differentiation between the NHS and the MoH functions. On paper, the NHS develops preventive actions, assistance actions and rehabilitation actions, using training and research as a means for its continued development.

Since 2001, Mozambique has implemented the process of decentralization of the public services, including the health sector, but it has been poorly developed. The law guiding the process is the Law for Local State Bodies (LOLE) (Law 8/2003) which provides clarification of the administrative roles and responsibilities of deconcentrated bodies (Provincial, Districtal, Administrative Posts, Localities and Population). Moreover, it creates new services at a district level and it grants districts autonomy to plan, budget and implement local initiatives. Besides, it sets up channels for community participation and consultation in local governance.

Furthermore, Ministerial Diploma No 67/2009 of 17th of April approved the guidance on the organization and functioning of Local Advisory Councils (Conselhos Consultivos Locais) to ensure the participation of local communities in the process of planning and implementing district development plans. It also recognizes that the community participation process happens through the Local Councils at the levels of: district, Administrative post, Localities and population. Under this Ministerial Diploma, community involvement in the planning and implementation of district development plans should begin at the grassroots level, i.e. communities should participate by identifying the real collective needs and incorporating them into the plans of each district. This exercise must be guaranteed through the active participation of the citizen in such process.

However, many challenges arise in the formulation and implementation of these policies and strategic plans. Regarding policy formulation, there is a scarce control over policy formulation and planning of vertical programmes, the weak engagement of other stakeholders in policy formulation, the fragmentation between policy and strategic plan development processes and the existence of outdated and obsolete laws. Also, there exist a few drawbacks with regards to strategic planning capacity, such as the existence of many parallel data information systems, a weak investment in evidence generation and the use of this evidence, and the limited collaboration between the MoH and other national bodies (for example, the National Institute of Statistics of Mozambique). Currently, a diagnosis process supported by the WHO is taking place to reformulate health policies in Mozambique.

2.5. Health care financing

The Mozambican Government health expenditure as a percentage of general Government expenditure (GGE) is 9.8% (UNICEF, 2016), still far from reaching the

Abuja Declaration target of 15%. Also, total health expenditure (THE) per capita is US\$42, which is scarce in comparison to the WHO recommendation of US\$60, and heavily dependent on foreign assistance (The World Bank, 2009).

The health sector is financed by the state budget, external funds from donors and, in a small portion, by the contribution of out-of-pocket payments (OOPs). Taxes and public revenues fund the state budget but, it is important to mention the restrictions imposed on public spending through the austerity measures. External funds are contributed by donors through the General Budget Support, the health common fund (ProSaude), the vertical funds and, in a very small proportion, by the donations of medicines and medical equipment.

Financial resources in Mozambique can be reported to the State (on-budget) or not reported (off-budget), also it can be *on* the Government financial system (Conta Única do Tesouro “CUT”) or *off* the system (off-CUT). Spending financed by State budget and ProSaude is on-budget and on-CUT, whereas most of the vertical funding is off-budget and off-CUT, challenging the accountability of the Parliament of Mozambique, public planning, and budgeting of the MoH.

Most of the health spending is external and outside of the boundaries of the Government control. In 2013, the state budget only contributed 29% to health care spending, ProSaude 7% and the vertical funds 64%. It is important to highlight that 62% of the overall health spending in Mozambique, basically the vertical funds, was not managed by the Government, neither recorded in the MEF, nor audited by the Administrative Court (off-budget and off-CUT). THE between 2009 and 2013 has risen in real terms mainly because of the vertical funds, while ProSaude has also declined in its contributions and the state budget seems to compensate the decline, showing a slight rise of three percentage points (The World Bank, 2015b).

Regarding the contribution of out-of-pocket expenditure, it corresponds to 6.4% of THE in 2014 (The World Bank, 2009). In this sense, despite the fact that WHO placed Mozambique as the country with lowest annual out-of-pocket household spending on health in the world (World Health Organization, 2014), the 2014/2015 direct payments on average represent a 312.59% increase in real terms when compared to 2008/09, when the average monthly expenditure per person was 5 meticaís (Instituto Nacional de Estatística de Moçambique, 2015). Also, the OOPs may be largely underestimated since

the data to measure it comes from National surveys and it only counts the self-reported direct payment made during the visit.

According to the PESS, the health sector financing strategy is being developed taking into account four dimensions: collection of funds, pooling of funds, purchasing mechanisms and resource allocation.

Collection of funds

As pointed above, the levels of expenditure in health as percentage of Government expenditure in Mozambique are lower than its peer countries and far from the Abuja target. Annual variation of funds allocation to health reached its highest percentage in 2005 with the 18.24% of Government expenditure and, since then, it maintained a decreasing tendency, reaching the 8.81% of Government expenditure in 2014 (The World Bank, 2009). These figures include external loans, donations, compulsory health insurance funds and the recurrent and capital spending from government budget, but, it is important to mention that 65% of the overall Government budget in 2014 was financed by external sources. Also, it showed a sharp increase in 2015, where 75% of the overall government budget was funded by donors (Health Policy Project, 2016). In fact, Mozambique is one of the major recipients of health aid in Africa (IHME, 2016b).

Achieving an autonomous and sustainable health financing has to be driven by an increase in domestic revenue mobilization. In Mozambique, the Health Financing Strategy Technical Working Group (GTF) (2016) - supported by WHO, EU and the Government of Luxembourg - are considering the following strategies: an increase in the user charge and different financing schemes (social health insurance, community based health insurance and private health insurance), as well as other regulations, and deriving the oil revenues into health expenditure. However, debt relief, as a mechanism to increase public budget, is not under consideration.

Pooling of the funds

Pooling of prepaid revenues (taxation and the various forms of health insurance) have a big impact on financial risk protection and access to care. This includes decisions on benefit coverage and entitlement that, nowadays, are generally guided by neoliberal policies, for example, WB continues to emphasize multi-tiered health care financing:

private health insurance for the rich, social health insurance for the middle and publicly funded “benefit packages” for the poor.

However, there is large evidence that “*multiple pools, each with their own administrations and information systems, are also inefficient and make it difficult to achieve equity. Usually, one of the pools will provide high benefits to relatively wealthy people, who will not want to cross-*” (World Health Organization, 2010). In the case of Mozambique, GTF is considering the definition of a “Benefit Package” and, as said before, the definition of different financing schemes that range from community-based to private health insurance.

This debate around UHC and what should be provided or not, fray social solidarity and weaken political support for single pool payer system

Purchasing mechanisms

The Government of Mozambique is the largest purchaser of health care services, other purchasers are development partners, voluntary schemes of payment and direct payments. Current purchasing mechanisms in the Mozambican NHS are mainly based on line-item budget where salary, supplies, transportation or drugs costs are calculated mainly based on historical budgets defined by MEF. Regarding fee-for-service, few institutions are authorized, for example, the Central Hospital of Maputo (private section). However, it is known that many informal practices occur at the health facility level.

Resource allocation

In 2016, MoH received the highest allocation as a share of total government health funds (45.2%), followed by SDSMAS (14.9%) and DPS (13.5%). The following single institution in receiving funds is Maputo Central Hospital (8.6% of budget allocation) (UNICEF, 2016). The current allocation process of the Government lacks of necessary data and it is characterized by a low quality. Also, the process is patchy, often poor, with regard to off-budget off-CUT funds. For example, the allocation process of the US Government (one of the major donors) in Mozambique does not help to increase efficiency, it has taken the form of “sub-agreements” with health providers, thus linking donor priority activities with funding. These deficiencies become explicit when analysing the inequitable distribution of the per capita sub-national health allocations to provinces, Maputo City receives MT 529 (US\$ 11), while Nampula receives MT 222 (US\$ 5),

Maputo Province receives MT 252 (US\$ 5), and Zambézia receives MT 257 (US\$ 5) (UNICEF, 2016).

Salaries and personnel costs, including funded personnel expenses paying base salaries (8 to 12 month) and new graduates hired by NHS, are paid by the State budget though ProSaude, among other actors. Vertical funds (mostly PEPFAR) contributed a third to personnel expenses, which is not paid by the state budget (The World Bank, 2015b).

2.6. Health infrastructure and workforce

The health care system in Mozambique is predominantly publicly provided (NHS) with some exceptions as the HIV/AIDS program that remains essentially sustained by external assistance² and provided by public and NGOs, its spending showed a 37% increase from 2012 to 2014 (US\$256 million to US\$353 million) (UNAIDS, 2014). Also, some private health care system is growing particularly in large cities (Maputo, Matola among other provincial capitals).

The public health facilities are located in the main towns and villages around the district health facility of reference, which can be a Hospital (district or rural) or a Type I health facility. It is organized into four levels of care (primary, secondary, tertiary and quaternary) where the primary and secondary levels are oriented to the provision of PHC. The definition of the health facilities is based on the size of the catchment areas, but ruled by an outdated Decree 127/2002.

The primary level comprises of 161 health posts and 1,271 health facilities (Rural Type I and II and Urban Type A, B and C) providing basic preventive and curative health services. The secondary level includes 47 basic hospitals such as rural, district and general hospitals, some of them providing surgical services. The 7 provincial hospitals constitute the tertiary level and the 3 central hospitals constitute the quaternary level (Ministério da Saúde, 2013a). However, it is well known that the expansion of the health care system has been slower than the population growth, the current ratio results in 16,739 inhabitants per facility (Ministério da Saúde, 2016) and it is far from the Poverty Reduction Action Plan (PARP) target of 10,000 inhabitants per health unit. If we consider the provinces, Nampula (23,297), Tete (20,805) and Zambézia (20,178) have the worst ratios (Ministério da Saúde, 2016).

² In 2011, international resources represented about 95% of overall expenditure for HIV in the country.

Private healthcare providers are proliferating, especially in large cities, some of which are unregulated, offering fee-for-service health care, however, data on its performance is not publicly available. Weimer (2008) classified the clinics of Mozambique as follows: 1) private clinics whose owners are linked to the elite; 2) private sections in public hospitals (“clínicas especiais”) with preferential access to medical services, physicians and equipment; 3) rooms and special services in public hospitals, negotiated privately with health personnel; 4) the standard public health care services for general population; and 5) informal private doctors and 'service providers' linked to drug supply chains and with basic medical knowledge, also belonging to this group practitioners and suppliers of 'traditional Chinese medicine and Chinese drugs'.

The health care workers are the cornerstone in stimulating, creating and maintaining health care improvement. In Mozambique, according to the Ministério da Saúde (2016), the health professionals have grown 72% between 2007 and 2015. It represents 25,779 health professionals, of whom 12,085 are general nurses or maternal and child health nurses. However, the ratio of medical doctors and nurses is very low (54.8 per 100,000 inhabitants) compared to the 230 per 100,000 inhabitants recommended by the WHO. Furthermore, the distribution is unequal, Zambezia and Tete have the least health professionals and the inequities between provinces worsened in 8 out of 11 provinces between 2007 and 2015. Regarding urban/rural distribution, in rural areas there are 176 health professionals per 100,000 inhabitants compared to 65 in rural areas (Ministério da Saúde, 2016).

Moreover, African health systems do not often take into account that almost half of the population sees traditional medicine as a first option to get health care. For example, almost 70% of the population in Mozambique seeks care in the traditional medicine for physical or psychological concerns, and the estimated ratio is 1 traditional practitioner per 200 inhabitants (Ministério da Saúde, 2012).

3. Research approach

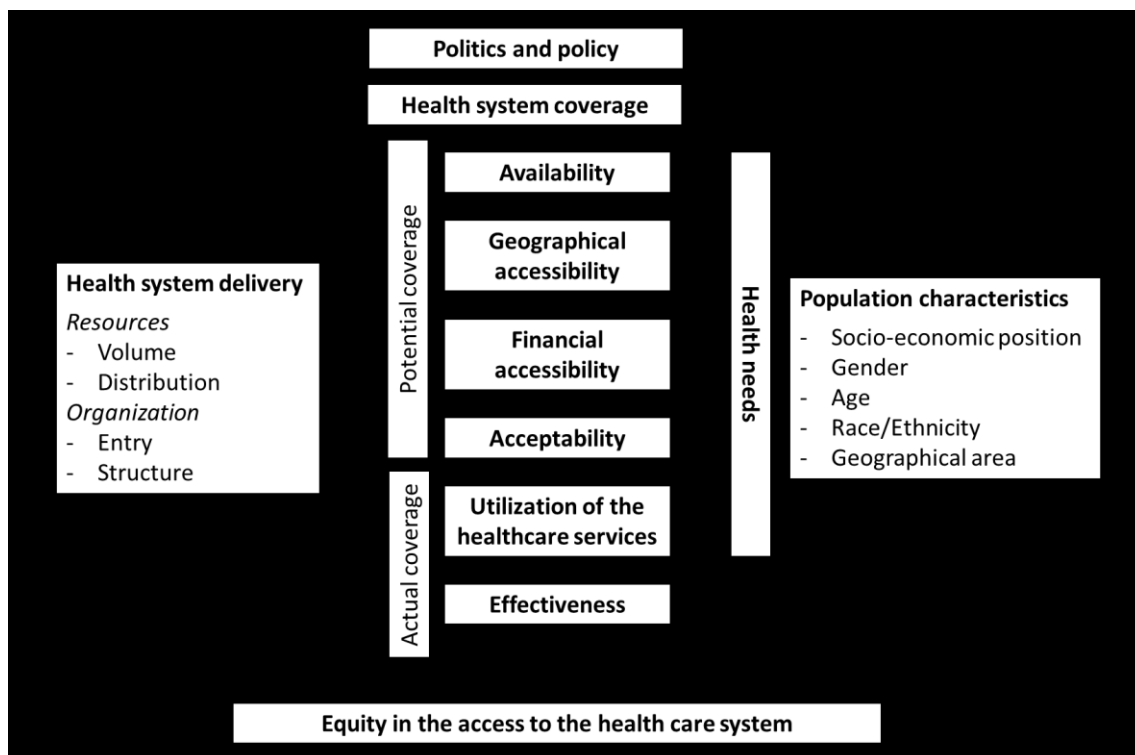
3.1. Objectives

The main objective of this report is to provide sound scientific evidence on the access to the health care system in Mozambique and the inequities present in such access. In addition, it aims to be a key policy tool capable of the improvement of the National Health care System of Mozambique.

3.2. Conceptual framework

The theoretical framework illustrated in the Figure 2 will guide the present research. First, access to the health care system needs to be understood in the historical and current political context of Mozambique, taking into consideration the global currents of macroeconomic policy that in recent decades have strongly influenced the reforms in the health sector in ways that undermine the contribution to a more effective and equitable distribution of health care among the population (Starfield et al., 2005).

Two main elements are also highlighted in the graph regarding the characterization of the healthcare system: resources and organization. The resources are the health personnel, the structure in which the health care is provided and the equipment and materials used in providing care. The organization is understood as the general manner in which the health personnel and facilities are coordinated (Aday & Andersen, 1974).



(Own elaboration based on the existing scientific literature)

Figure 2. Theoretical framework of the access to the health care system in Mozambique.

The *potential coverage* of the healthcare system is expressed by the proportion of the population who have received, or potentially may receive the service (Tanahashi, 1978). The number of people for whom the service can be provided expresses the service capacity. The potential coverage of the health care system is determined by the availability of the health care resources, their geographical and financial accessibility, and whether it is acceptable by the population.

Actual coverage or *access* refers to the number of people who in fact have received the service and indicates the actual performance of the service. However access to health care can be defined in different ways (O'Donnell, 2007). Thus, the mere contact with the provider of the service does not guarantee the use of the service, nor does the use of the service imply a satisfactory or "effective" service.

A fundamental element when evaluating the access to health care, especially relevant in the case of Sub-Saharan African countries, is the appraisal of 'unmet health needs' that are not actually expressed in the use of the health care services (Starfield, 2011). Individuals' subjective assessments of unmet needs described by Allin, Grignon, & Le

Grand (2010) includes, among other things, the following three issues: a) *chosen unmet need*, when an individual perceives a need for care but chooses not to demand the health care services available; b) *not-chosen unmet need*, when an individual does not receive health services because of access barriers beyond their control; and c), *unmet expectations* refer to an individual who perceives a need for care, seeks out care but receives an inadequate treatment according to her or his judgment.

Finally, it should be considered –which is the particular focus of this study- how the population characteristics, such as the socioeconomic level or the gender condition, influences its health needs, as well as the access to health care services. The health system -including public health system-, and population characteristics (e.g. socio-economic position or other dimensions of social stratification) (Aday & Andersen, 1974) interact when trying to respond to health demands in a way that can produce inequalities in the access to health care (Whitehead, 1992) threatening the objective of an effective coverage (Tanahashi, 1978).

From an egalitarian perspective, access to health care has to be equal depending on the health needs and irrespective of other sociodemographic characteristics, while ensuring that the health system decreases, instead of increasing, the *social inequalities in health* (Ruger, 2007). Social inequalities in health are defined as the differences in health which are systematic, socially produced and unfair among population groups defined socially, economically, demographically or geographically (Whitehead & Dahlgren, 2007).

Socioeconomic position (SEP) is one of the main axes of social inequality and refers to the social and economic factors that influence the position that individuals or groups hold within a society. It is an aggregate concept that includes both resource-based and prestige-based measures (Galobardes, Shaw, & Lawlor, 2006). In this sense, consistent general evidence, mainly found in high-income countries, shows that disadvantaged groups have poorer health and well-being, and there are great differences among the population regarding the experience of illness (Whitehead, 1992). There are, however, many other axes of social inequality causing social inequalities in health.

3.3. Research justification

Nowadays, the lack of universal access to the health care system still remains a major public-health challenge in Sub-Saharan African countries. Public health care remain chronically underfinanced, and the system is pervasively inequitable (World Health Organization, 2008). An illustration of this is that out-of-pocket payments have increased in nearly all African countries from US\$15 per capita in 1995 to US\$38 in 2014 (The World Bank, 2016).

On-going debates about health equity in the context of Sustainable Development Goals (SDGs) have re-emphasized the need to put forward the agenda of 'leaving no one behind' (United Nations, 2015), however, in Sub-Saharan Africa it lacks a comprehensive understanding of equity in public health care expansion.

Research has shown that having a comprehensive health care system approach based in PHC is associated with a more equitable distribution of health in populations when compared to specialized care, a finding that holds consistency in both cross-national and within-national studies (Starfield et al., 2005). However, very few articles in Sub-Saharan African countries have focused on this issue. The scientific literature regarding access to health care services in Sub-Saharan African countries is largely focused on the utilization of concrete services, especially maternal health services (Burgard, 2004; Magadi, Agwanda, & Obare, 2007; Mekonnen & Mekonnen, 2003), they are mostly quantitative studies relaying on individual primary data (Duru et al., 2014; Silal, Penn-Kekana, Harris, Birch, & McIntyre, 2012) and only one study analysing the South African health care system described its access from a multidimensional perspective (Harris et al., 2011). Very few studies considered the need for care in the analysis of the access (Mugisha, Bocar, Dong, Chepng'eno, & Sauerborn, 2004) and, despite the relevance of disaggregate analysis of the provinces to generate policy-relevant findings, very few articles use this approach in Sub-Saharan African countries (Ononokpono, Odimegwu, Imasiku, & Adedini, 2014).

In Mozambique, Lindelow (2005) analysed the determinants of services utilization. Other studies have analysed the use of health services in a specific geographical area for children under 5 (Nhampossa et al., 2013), while others have followed up behaviours of health care seeking (Anselmi, Lagarde, & Hanson, 2015; Salvucci, 2014), and yet others have analysed specific aspects of the health care system such as geographical

accessibility (dos Anjos & Cabral, 2016), waiting times (Wagenaar et al., 2016) or medicine stock-outs (Wagenaar et al., 2014). To our knowledge, nevertheless, there are no up-to-date comprehensive epidemiological studies analysing inequalities in the access to, and quality of, health care services derived from population-based surveys.

The current Health Sector Strategic Plan 2014-2019 (PESS in Portuguese) establishes two pillars: on one side, more and better health services having as principles the access, utilization, quality, equity and efficiency; on the other side, structural health care reforms which will have an important impact shaping the access for the next years (Ministério da Saúde, 2013b). This timely research is especially pertinent since the Government of Mozambique is shaping the health care reforms agenda.

3.4. Ethical issues

A universal aim of the research done in social sciences should be to improve public health and health care equity, and more specifically to empower people, from global to local policy levels, with knowledge and evidence useful to make positive public health changes and policy choices. An ethical behaviour is an imperative of any human interaction but, the need for it increases when a research relationship occurs across cultures, especially in the case of low-income countries. This work has the approval of the MoH's ethical committee "Comité Institucional de Bioética do Instituto Nacional de Saúde (CIBS-INS)" reference 046/CIBS-INS/2015. The quantitative work will be based on an analysis of existing data sets on national surveys with all identifier information removed. Additionally, active members of the research project are researchers from MoH, University Eduardo Mondlane (Medical School) and the National Institute of Statistics of Mozambique that will help to supervise and contribute in the case of problems or limitations with regard the data.

4. Methods

4.1. Population study and data source

This study uses an observational cross-sectional design. Population under study are Mozambican citizens of any sex and age. Data are drawn from the Mozambique 2014/15 Household Budget Survey (HBS), a household survey conducted by the National Institute of Statistics of Mozambique. The HBS gathered information from 11,480 households (58,118 individuals) using a three-level multistage stratified probabilistic sampling design: selection of the primary sampling units; selection of the enumeration areas within the primary sampling unit; and selection of the households within the enumeration areas. The HBS sample is representative at a national and provincial level. The person designated for responding to the survey in each unit was the head of the household, and a high response rate was achieved (98.7%).

The HBS questionnaire includes a wide variety of information on socio-economic characteristics of individuals and households such as home consumption, durable assets and housing quality of their dwelling, among others. The HBS also contains a detailed health section on disabilities, recent sickness, the choice of health care providers, and perceived quality of the care received. Moreover, comprehensive information on distance to basic services is available (e.g., distance to health care units).

4.2. Variables

The outcome variables used in the study are detailed in Table 2 and refer to health need, use of health care services and reason of not using health services, unmet expectations in the use of health services, and amount of direct payments in the use of health services. Type of health care provider has also been used, while the number of days unable to work/study was found to be a relevant complementary information to the existence of a health need.

As independent variables, we used maximum educational level attained (illiteracy or basic, primary, secondary or above) and a socio-economic position index (SEP). Both measures are widely accepted indicators of material wealth (Gwatkin, Johnson, Suliman, et al., 2007; Onwujekwe, 2005).

The SEP index was computed by using households' possession of durable assets and the quality of their housing. Subjects were asked about their ownership of the following durable assets: radio set, TV set, refrigerator, bicycle, motorcycle, motorcar and mobile phone. Housing quality was assessed by: the number of rooms in the house, main source of drinking water for household residents, main source of lighting, type of sanitation used and type of material house walls.

Table 2. Outcome variables analysed in the study

<i>Dimension of access</i>	<i>Outcome variable</i>	<i>Values</i>
Health need	Presence of a health condition in the two weeks prior to the survey	<i>HRUQR'</i>
Use of health care	Utilization of health care professional services in the two weeks prior to the survey	<i>HRUQR'</i>
Reason of not using health care services	Reason of not using health care despite having a perceived need	Multiple choice question: not relevant enough health condition, long distance, lack of transport, perception of economic costs, self-medication and other
Unmet expectation	if the respondents reported one or more perceived quality issues during their visits to the health services	Multiple choice question answer: lack of hygiene, long waiting times, lack of qualified health personnel, high cost of services, lack of medicines, unsuccessful treatment and/or corruption. Dichotomized to presence of quality problems/ no quality problems
Direct payments	Direct costs associated to the care received during the month prior to the survey date	Amount in metical

We estimated this definition as preferable to other socioeconomic position index based in monetary information, such as income or expenditure. In Mozambique, 70% of the population lives in rural areas where most of the citizens are engaged in subsistence agriculture or informal sector trading. In this context, non-monetary socio-economic measures would better reflect long-run household wealth and living conditions. Housing and its related characteristics often represent the single largest category of investments in durable assets made by individuals over the course of their lifetimes.

Access to education represents another variable that captures the socio-economic environment of the family. Significant efforts have been made to increase citizen's access to public education, although notorious differences persist between sexes,

provinces or geographical areas, especially concerning the enrolment in secondary education (National Institute of Statistics of Mozambique 2015).

Sociodemographic variables used were sex (female or male) and age (0- 5, 6-14, 15-24, 25-49, 50 or over). Age groups were organized based on the potential health needs for different age groups and the homogenization of the survey data. We have also included geographical area (urban or rural) because many studies found it a crucial variable concerning health care services access. Province could be also a cause of access inequalities reflecting the effect of both regional differences in the health care infrastructure as well as social and cultural construction of health needs. Finally, the time to the health facility (less than 30 minutes or more) was also included thinking it could also condition health care access.

4.3. Statistical analysis

The SEP index was created through a principal components analysis (PCA). This multivariate statistical technique is used to reduce the set of correlated variables (n) into uncorrelated ones, or components, where each component is a linear weighted combination of n . In other words, it can be represented as: $PC_m = a_{m1}X_1 + a_{m2}X_2 + \dots + a_{mn}X_n$ where a set of variables X_1 to X_n , with a_{mn} representing the weight for the m th principal component and the n th variable (Vyas & Kumaranayake, 2006). The first principal component of the PCA was used to derive weights for the SEP index. The highest weight was given to having electricity as a source of lighting (0.88), while not having a latrine had the lowest weight: -0.31. Quintiles were used to distinguish between different wealth groups. The unit of data analysis to generate the SEP was the household.

Univariate descriptives were calculated for all the variables in the study to characterize their distribution and check for possible errors and inconsistencies. Health care access outcomes proportions and means were calculated conditioned on the social inequalities factors and results plotted or tabulated. In addition, we fitted crude and adjusted logistic regression models to estimate the association between the health care utilization variable and independent sociodemographic variables overall and stratified by geographical areas. Data were weighted applying sampling weights provided in the HBS data and the complex sample design of the survey was taken into account when calculating standard errors. Stata 14 was used for the statistical analysis and ggplot2 package within the R statistical software environment was used to program the graphs.

5. Results

The health care service access outcomes have a nested character, and consequently the results of the analysis are organized from the more general outcomes to the more concrete ones.

Initially, people in the survey were asked if they have had a health need in the two weeks previous to the survey. Perceived health need is relevant because it is a proxy of health demand. It is expected that social inequalities will cause differences in health demands and thus condition health care access.

In a second stage, in case a health need had been previously declared, sample members were asked if they have used some kind of health care service. Again, inequalities in the prevalence of NOT using professional health care when a health condition is present were evaluated according to the set of relevant factors.

In a final stage, if the sample members had not used professional health care, the reasons for this behaviour are analysed. If they had used professional health care, presence and type of quality complaints as well as direct payments are investigated.

Figure 3 shows graphically the relative weight in the sample of each of these nested outcomes. Only a small portion of the sample reports a health need, and only about a third of the former reports not having used health care services.

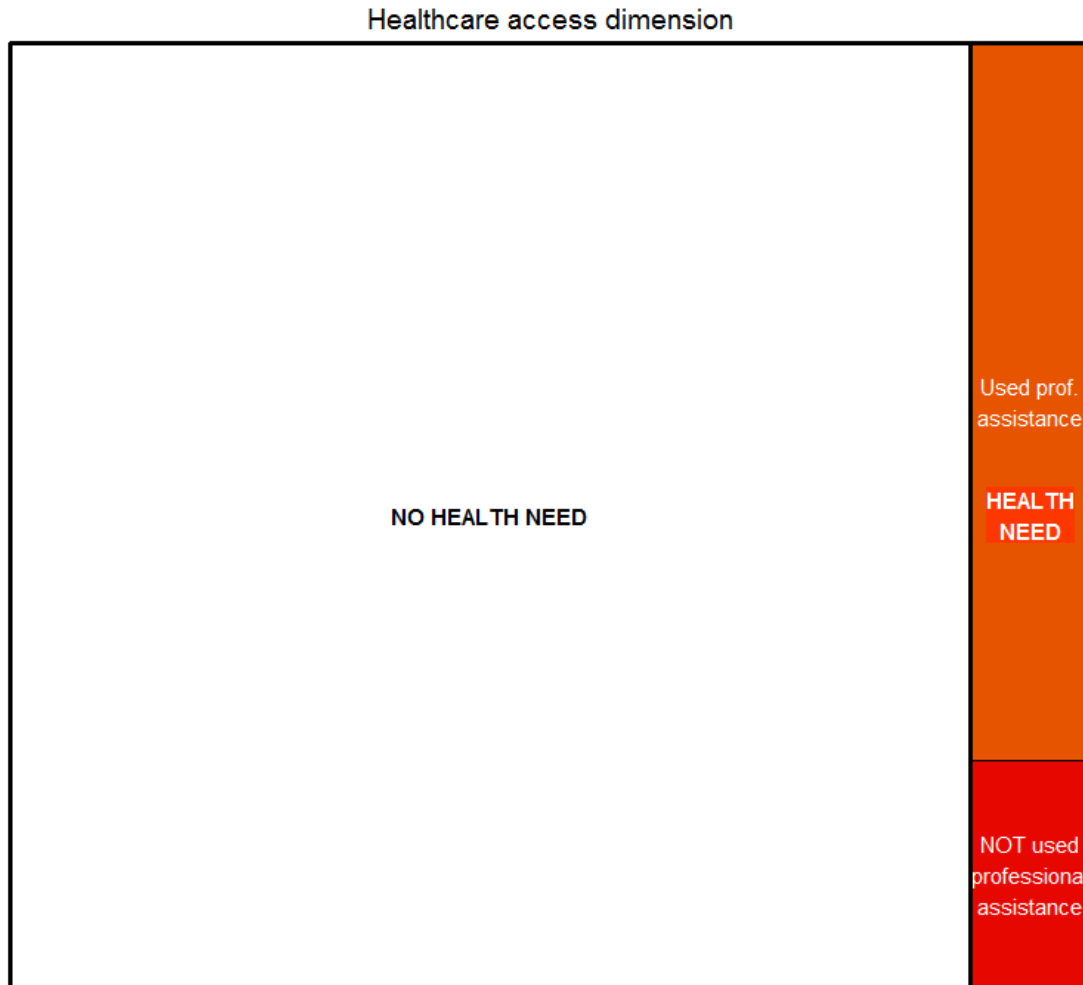


Figure 3. Treemap showing relative weights of the main concepts used in this analysis

5.1. Conditioning factors of perceived health need

A total of 6495 individuals out of the sample of $n=58,118$ reported a perceived health need (12.04%, corrected by sample design), defined as answering 'yes' to the question if the interviewed was ill or suffered an injury in the last two weeks.

If we attend to differences by country provinces, perception of health need was comparatively lower in Maputo city (6.84%) and Maputo province (8.87%), which could suggest a comparatively better basal health state of the population. There is no a clear regional pattern otherwise. The highest country prevalence is to be found in the nearby provinces of Gaza (13.99%) and Inhambene (14.35%), but it is again under the country average in Manica and Sofala, and slightly over the country average in the rest of the provinces (Niassa 11.54%, for example).

Patterns concerning social inequalities in perceived health need are more evident and in line with expectations. Prevalence of perceived health need is significantly greater for women against men, which might be due to reproductive health issues, kids under 5 and people over 50 years of age, those illiterate and those living in rural context. On the contrary, lower prevalence of health needs was expressed by 4th and 5th richest socioeconomic quintiles, while there were not significant differences by time to the health facility (Figure 4).

Severity of the health problem

Number of days being unable to work or study because of an illness is a relevant complementary information to the one provided by the existence of a perceived health need. This variable ranges from 0 to 60 days and it is clearly right skewed, indicating that most people is affected a few days but some cases take much longer to recover. The median days are 3 and the mean days are 4.6.

There are no differences between sexes concerning the severity of the health problem; but significant differences appear in all the remaining inequality axes considered: age, education, socioeconomic quintile, geographical area and time to health facility. Repeatedly appears a social gradient that makes that the more disadvantaged categories also remain more days unable to work (Figure 5). Moreover, there is a positive relationship between the prevalence of perceived health need and mean days unable to work at the province level ($r=0.52$, a value that increases to $r=0.82$ if we exclude the outlier case of Gaza).

We can conclude that, concerning the social inequalities axes, the severity of the health problem positively correlates with the prevalence of perceived health need, and both outcomes point to the fact that the disadvantages categories in each axe have greater health needs.

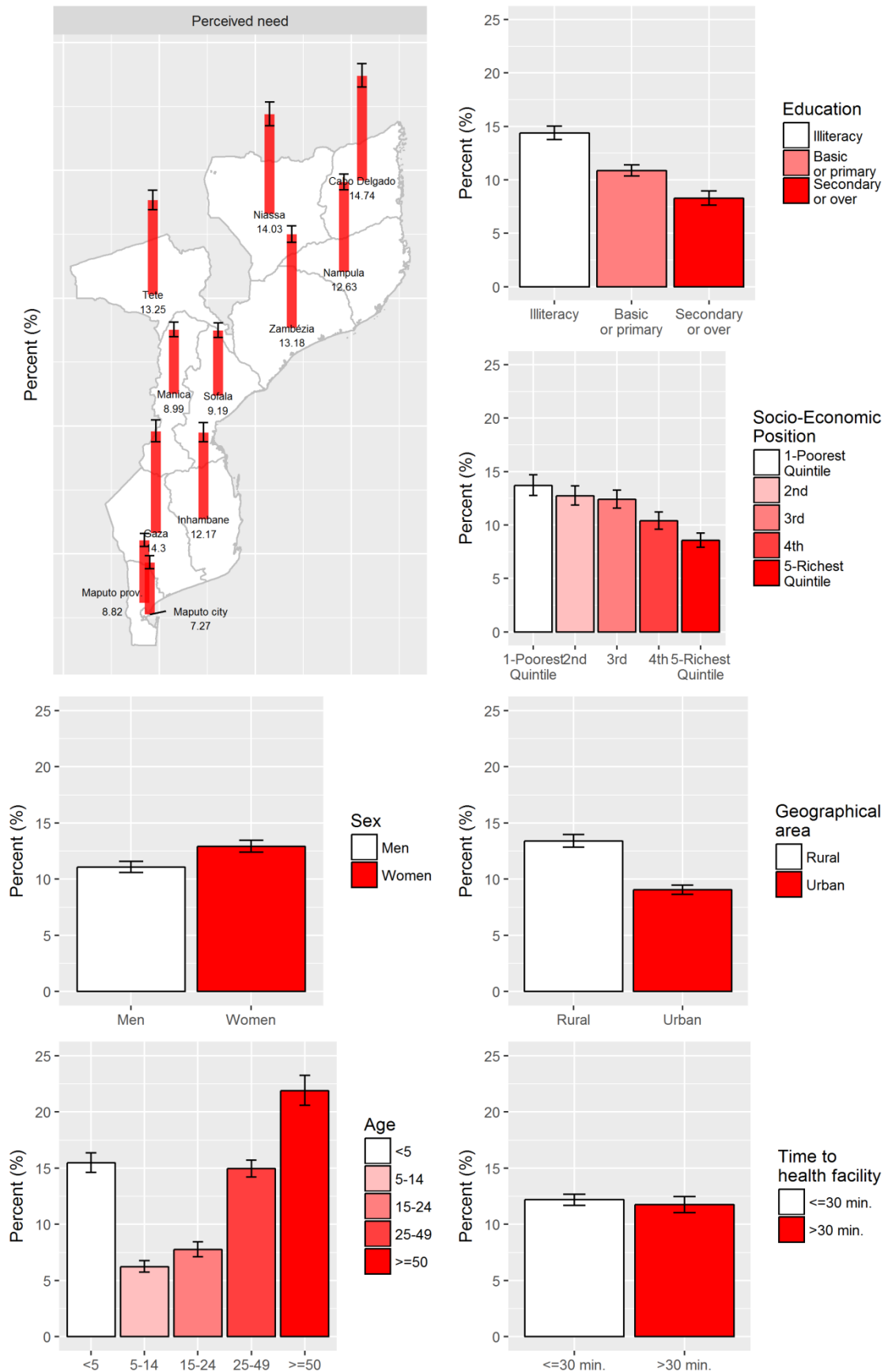


Figure 4. Distribution of perceived health need according to province and social inequalities axes

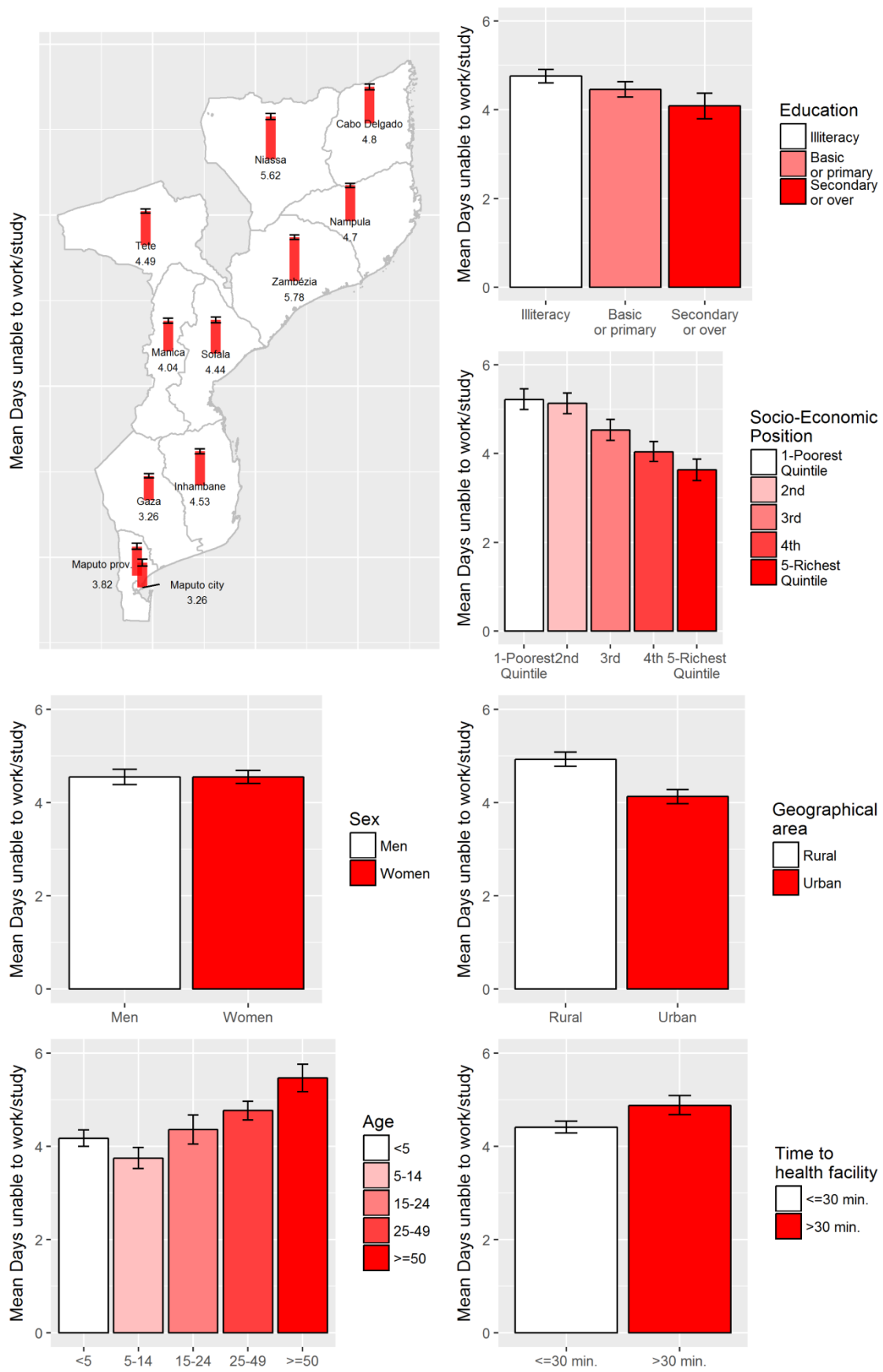


Figure 5. Mean health days unable to work/study according to province and social inequalities axes

5.2. Access to professional health care services

Out of the 6,495 individuals who reported a health need, 1,785 did NOT consult a “health agent, health institution or traditional healer” (32.6%), while the remaining 4,711 (67.4%) declared they used some kind of professional health care service. Thus, there are about one third of the people that, perceiving a health need, is not using health services.

Again, we find clear differences in the social inequalities axes profile of those who did not use for health assistance, compared to those who did. The former are much more prevalent in rural than urban areas, a trend that is also present in the differences between provinces, where Imbahene and Maputo City hold the lower percentages in the country, while the northern provinces hold the higher values (excepting Cabo Delgado). The more educated and the highest socioeconomic quintiles tend significantly more to use professional aid when perceiving a health need. Sex and age, on the other hand, have no significant influence on the decision to look for professional help, with the exception of the child less than 5 years, who are taken to the doctor significantly more when sick. Interestingly, time to the health facility plays not a significant factor when to decide to use or not for health assistance (Figure 6).

Thus, it seems that access to health care reinforces instead that relieves social inequalities in health.

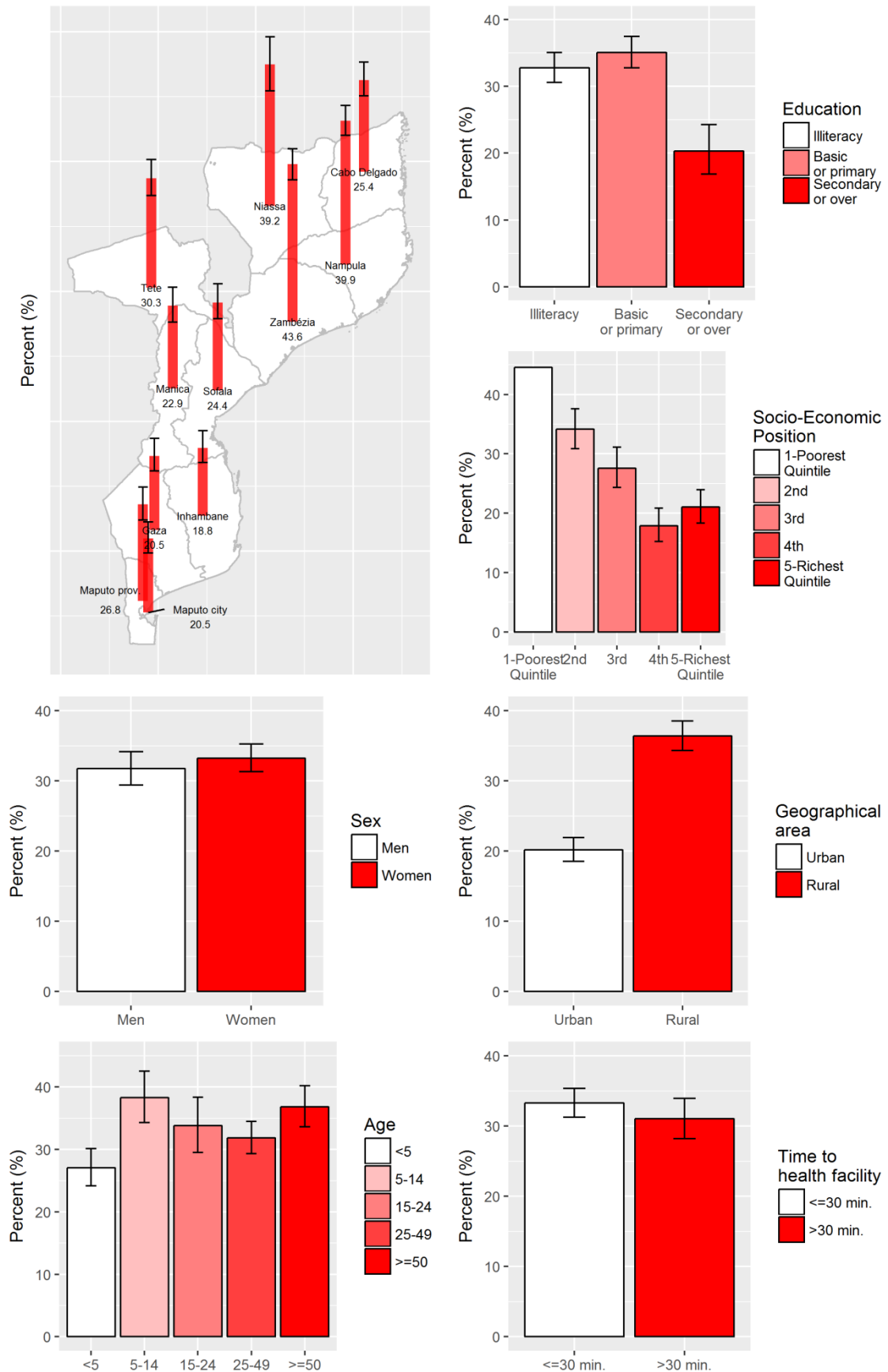


Figure 6. Prevalence of individuals that NOT used professional help, over the population declaring a health need, according to province and social inequalities axes

5.3. Reasons for not using professional health care

Sample members that did not use professional health care (although perceiving a health need) were subsequently asked for the reasons of these behaviour.

They were suggested several possibilities in a multiple choice question, including a) the health problem was not relevant enough to look for professional help, b) economic costs, c) distance to the health services, d) lack of transportation and, finally, e) other reasons, specified in an additional open response variable. Note that, among the former possibilities, economic costs, distance and lack of transportation can be considered clearly “objective” barriers to access, while the self-evaluation of the relevance of a health problem is a much more ambiguous issue. Finally, examination of the open responses to the ‘other’ category showed that the resort to self-medication was a very common option not included among the closed-ended options. Other reasons are much less frequent and include responses such as lack of confidence in the professional treatment, lack of time and logistic problems.

Although we should remember that this is a multiple choice question and individual empirical patterns are complex in some cases, we found a good synthesis to consider that there are five typologies of reasons for not looking for professional help: a) the health problem is evaluated as not relevant enough, b) looking for health care services is too expensive (in some cases, distance and lack of transportation problems are jointly mentioned), c) health resources are too far away or/and lack of transportation; d) self-medication option and e) a residual category of other reasons.

Figure 7 shows the overall distribution of the reasons of not using professional care. A health problem evaluated as mild accounts for almost half of the cases (46.5%), but excessive distance and/or lack of transportation to the health facilities is also very relevant (34.9%). Economic cost, on the contrary, appears as a minor barrier for health access (6.5%), even less relevant than self-medicating (9.7%).

Additional analysis can help us to interpret the underlying mechanisms explaining this situation. Hence, Table 3 shows the mean number of days incapable of working or study because of the health condition

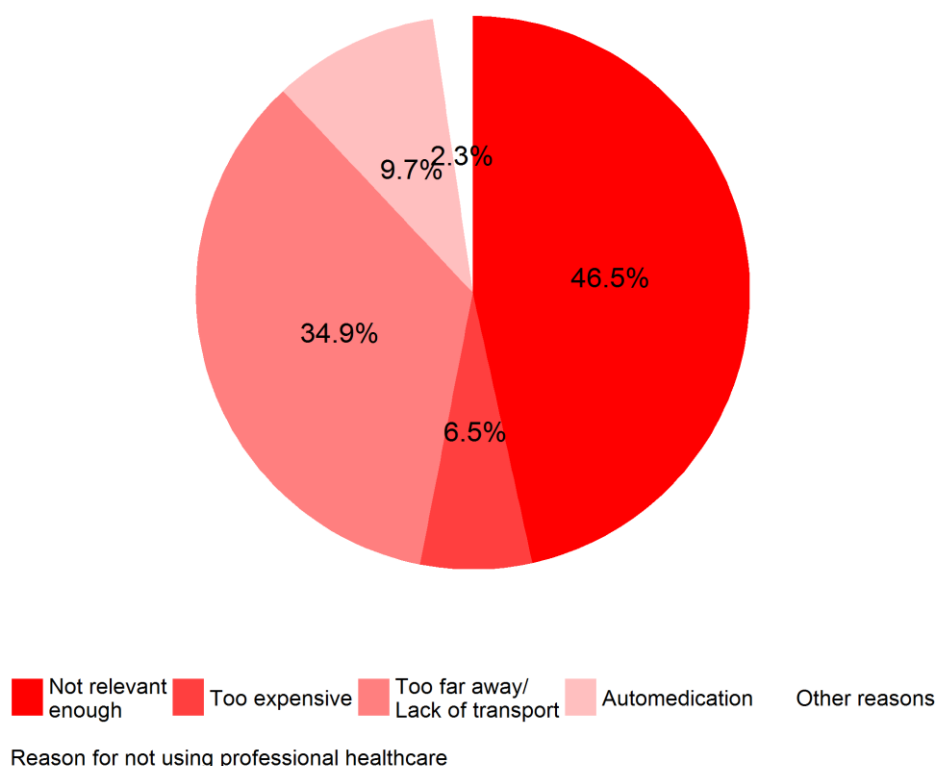


Figure 7. Reasons for not using professional health care

A first analysis is the severity of the illness according to the reasons given for not looking for professional help (Table 3):

Table 3. Mean number of days incapable of working or study because of health condition, by strategies of coping with health need

Health need reaction	n	Mean days	95% CI
Used professional help	4716	5.36	4.87-5.13
Not relevant enough	964	2.58	2.35-2.81
Self-medication	167	3.55	3.00-4.11
Too expensive	111	4.65	3.75- 5.55
Too far away/Lack of transport	493	4.94	4.49- 5.39
Other	47	5.59	3.85-7.33

It appears a clear relationship between the way of copying a health need and the severity of the illness as measured by the mean number of days unable to work or study. Severity of the illness is significantly higher for those who indeed looked for professional care (5.36 days, 4.87-5.13 95% CI) compared to those that considered the problem not relevant enough (2.58 days, 2.35-2.81 95% CI) and those that choose self-medication (3.55 days, 3.00-4.11 95% CI). This suggests that the use of health care services will be

better understood within the conceptual framework of a trade-off between the severity of the health problem and the costs of the different strategies available to cope with it, than as a binary problem of presence/absence of barriers to the health services. Severe problems are a powerful stimulus for looking for professional help, while more low cost strategies such as 'let it pass' or self-medication can be preferred in case of less problematic conditions.

However, and this is very relevant, there are not significant differences in the gravity of the illnesses of those who looked for professional health and those who did not look for it because of economic cost or distance and/or lack of transport. This indicates that those people, while being a comparatively small percentage of people experiencing health needs ($604/6495=9.3\%$), bear unacceptable additional costs in the access to health care services.

The analysis of the reasons why people did not use professional health services, according to province and the social inequalities axes, provides also valuable information. There are relevant differences among provinces. That the health problem was not evaluated as important enough to look for professional help is by far the main explanation in Cabo Delgado, Sofala, Maputo city and Maputo province. We have already seen that this choice is related to a minor severity of the health problem. On the contrary, barriers such as distance/lack of transportation and the economic cost account for about a half of the individuals not using health care services in Niassa, Zambezia and Nampula. We have already seen that this choice is related to a greater severity of the health problem. A second apparently unrelated factor is the frequent recourse to self-medication in Niassa, Tete and Sofala (Figure 8).

Economic barriers and distance/lack of transportation appear as much more frequent reasons for not using health care services in the poorer quintiles, while, on the contrary, the irrelevance of the health problem is the answer more frequently chosen by the richest quintiles. A similar although less pronounced pattern appears when educational level is considered, while great differences favoring the urban area vs. the rural environment appear when this inequality axe is considered (Figure 9).

The interpretation of these results seems straightforward: under equal conditions of illness severity, families belonging to the favoured categories of the social inequalities axes have systematically easier access to health care services and only their mild health conditions remain unattended. This is not the case of their disadvantaged counterparts,

were comparatively severe health conditions face objective barriers to health care services and have no access to them.

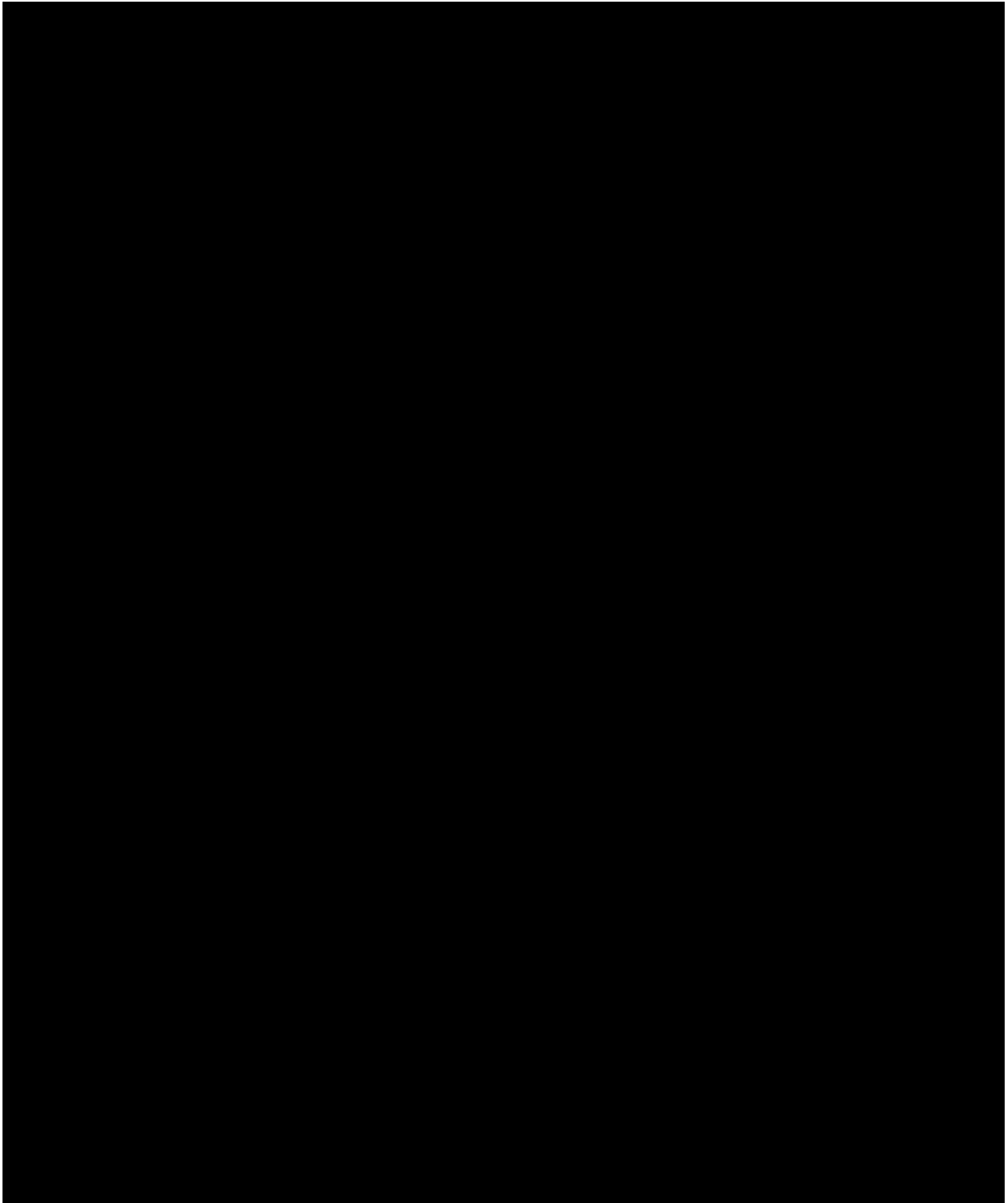


Figure 8. Reasons for not using professional health care, according to province

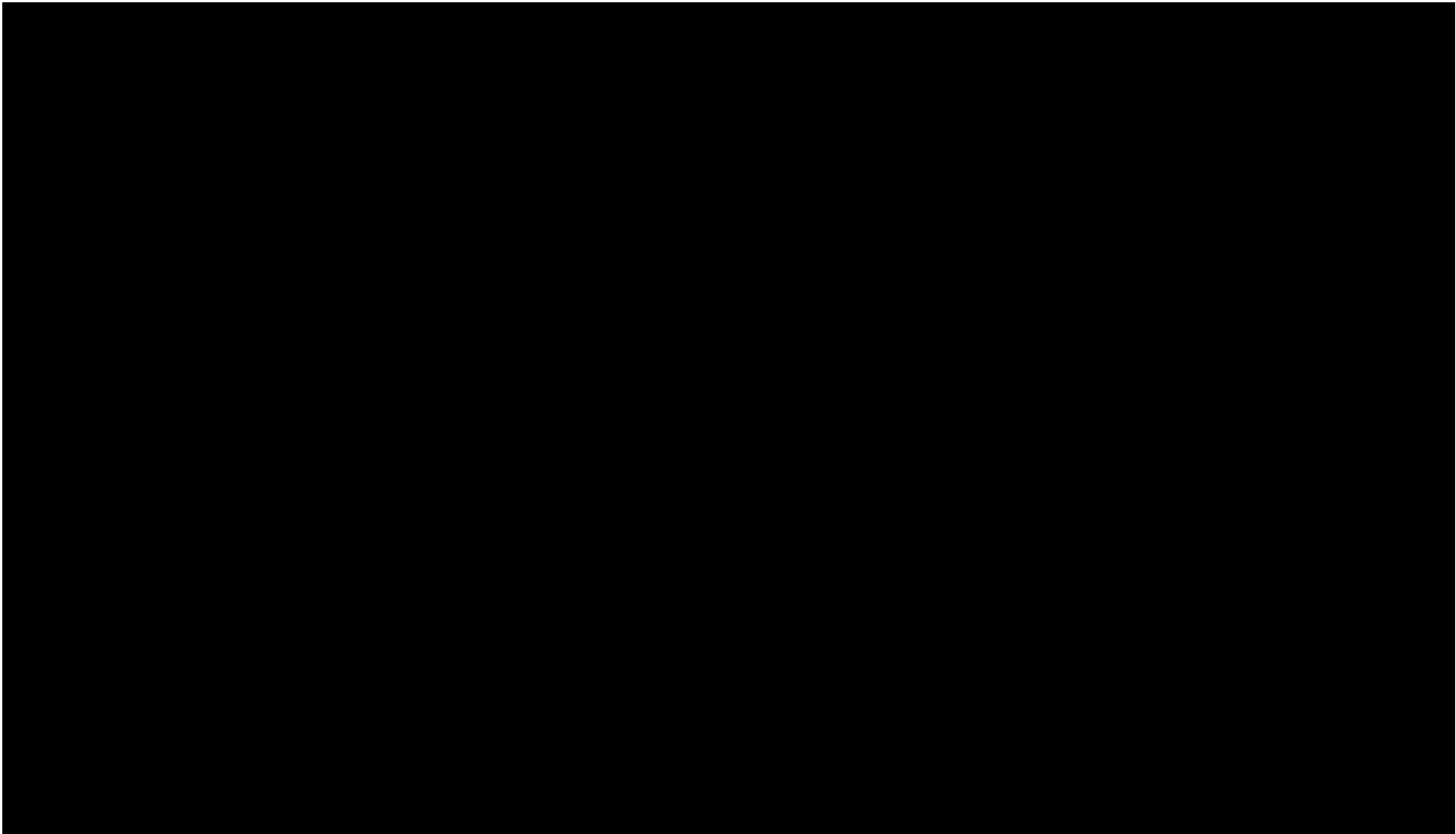


Figure 9. Reasons for not using professional health care, according to social inequalities axes

5.4. The use of health services: reported quality problems

Out of the 4,711 individuals who attended a health facility, 2,228 (47.0%) reported one or more problems during the visit (unmet expectations). A list of possible problems was suggested to the interviewed in a multiple choice question including: lack of hygiene, long waiting time, lack of qualified health personnel, expensive service costs, lack of medicines, unsuccessful treatment and corruption.

The number of problems mentioned by interviewed is low, with a mean of 1.66 and a standard deviation of .89. Long waiting time and lack of medicines are by far the most relevant problems, mentioned by about 30.6% and 23.9% of those who attended health services. Unsuccessful treatment is the third one, mentioned by 9.2% of users (Table 4).

Table 4. Distribution of quality problems encountered (multiple response questions)

Quality problem	n	% of responses	% of individuals
No quality problems	2483	40.13	52.73
Lack of hygiene	184	2.97	3.91
Long waiting time	1443	23.32	30.64
Lack of qualified staff	230	3.72	4.88
Expensive	158	2.55	3.36
Lack of medicines	1124	18.16	23.87
Unsuccessful treatment	434	7.01	9.22
Corruption	132	2.13	2.8
Total	6188	100	131.41

These results are consistent with previous evidence regarding health care users' perceptions, that suggests a widespread view of an unfriendly environment with weak health care centres, plenty of supply stock-outs and long waiting times (Biza et al., 2015).

The prevalence of unmet quality expectations among provinces shows higher prevalence of reported problems along the coast. Zambézia holds the highest prevalence in the country, while the lowest is to be found in Manica. Regarding to the rest of the inequality axes, no one was found to make any statistical difference (Figure 11).

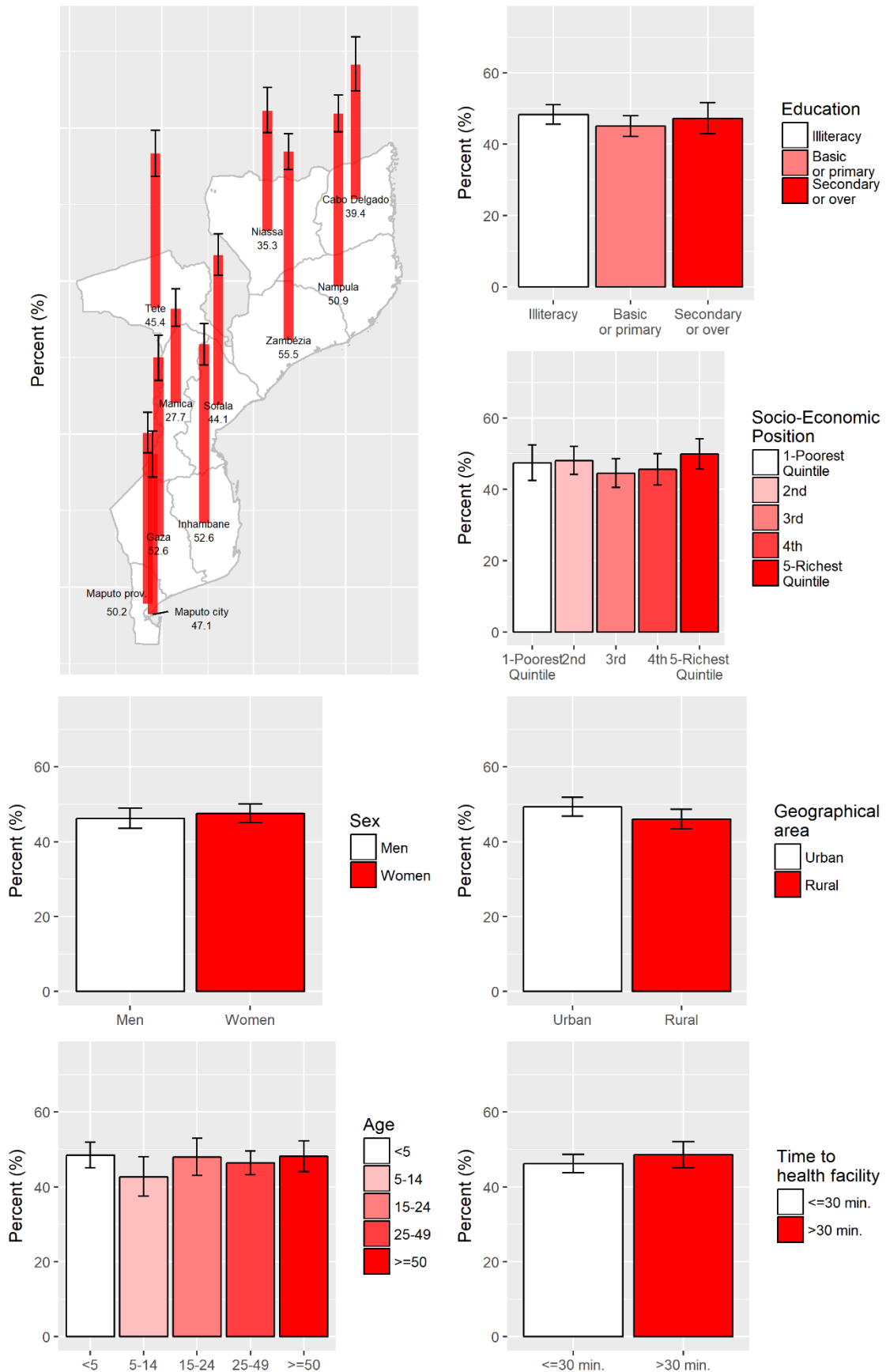


Figure 10. Prevalence of individuals experiencing some kind of quality problem when using health care services, over the population that used health care services

5.5. Type of provider and quality problems

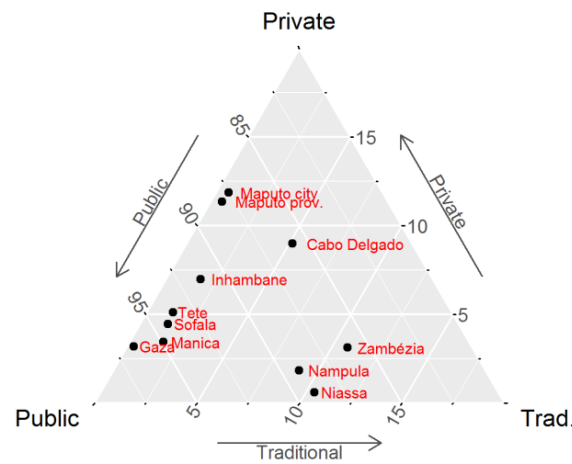
The type of health care services provider consulted, according to province, is shown in Figure 11. The public sector is by far the major supplier of health care services (90.1%), compared to the private sector (4.7%) and traditional healers (5.24%). These figures are inconsistent with the relevance of the ethnomedicine for the Mozambican population found in other studies, something that could be explained by the inadequacy of the survey methodology to capture these practices.

Notwithstanding the above, different patterns of use can be perceived by province. Private providers are comparatively more frequented in the southern region (Maputo province and Maputo city) while the traditional healer user would be located in a major proportion in the centre-northern region (Niassa, Nampula and Zambézia).

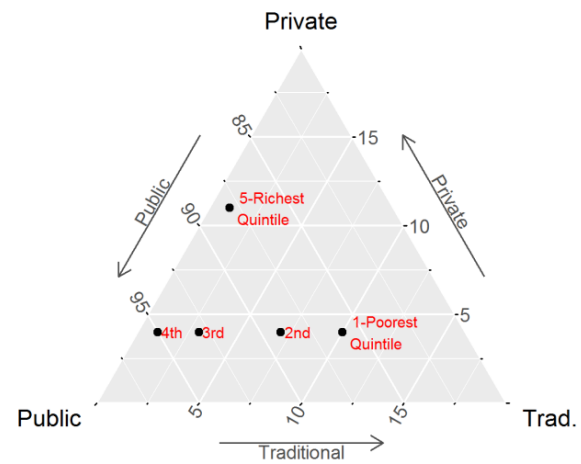


Figure 11. Distribution of health care provider by Province

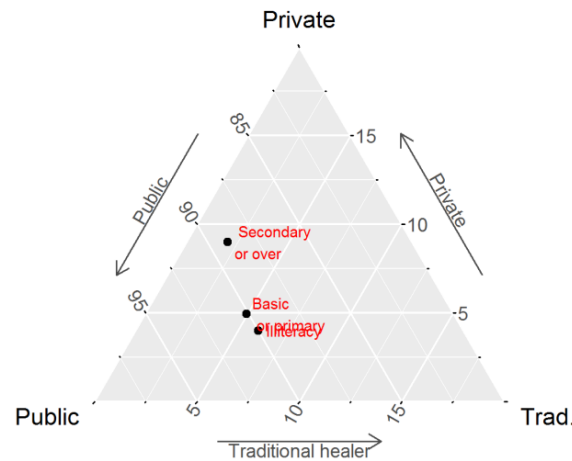
Health care provider by Province (%)



Health care provider by Socio-Economic Position (%)



Health care provider by Educational attainment (%)



Health care provider by Geographical area (%)

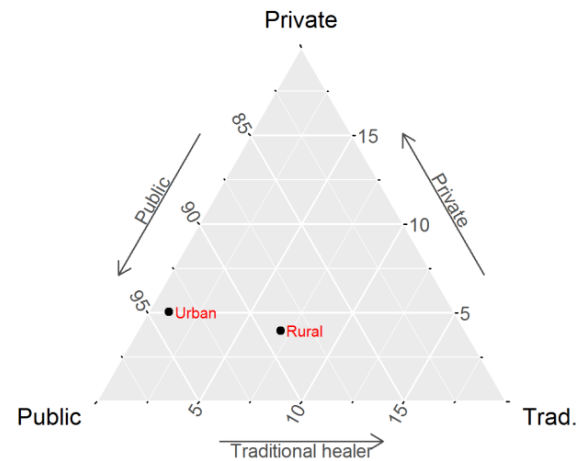


Figure 12. Health care provider by province and social inequalities axes

The more educated, the richer SEP quintile and people living in urban areas tend to use more private providers, while in the opposite dimension pole, the less educated, poorer socioeconomic quintiles and those living in rural areas tend to use more the traditional healers (Figure 12).

There are significant differences in the prevalence of quality problems by type of provider. Prevalence is greater among the users of public sector health care (49.05%, 46.9%-51.22% 95% CI) while there are not significant differences between users in the private sector and traditional healers (32.8%, 26.0%-40.5% 95% CI and 24.1% 17.8%-31-9% 95% CI) respectively (Figure 13).

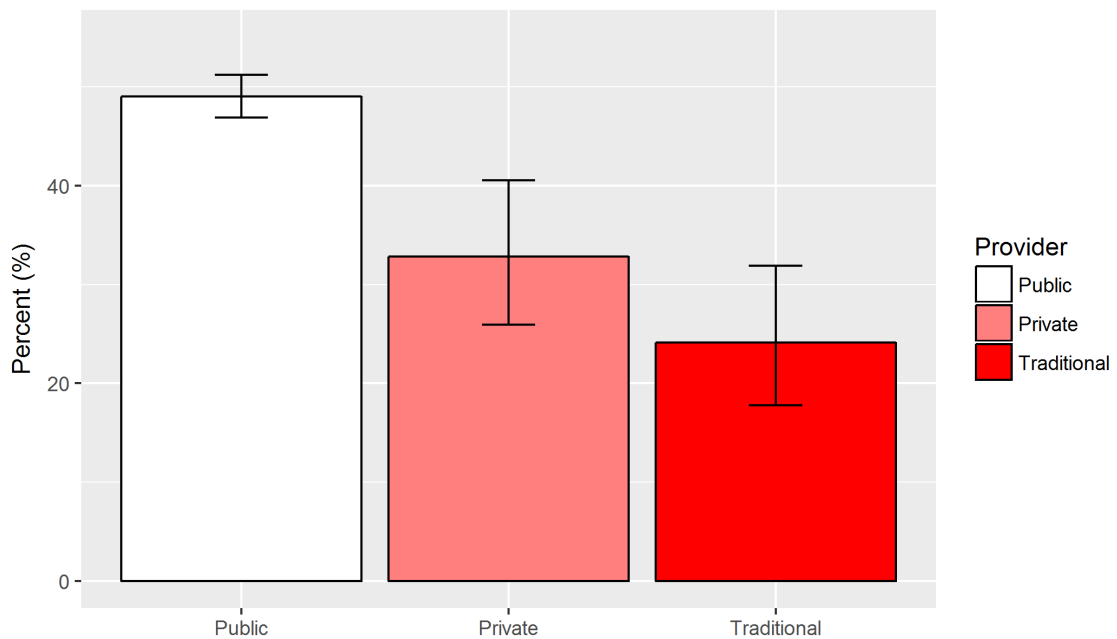


Figure 13. Prevalence of individuals experiencing some kind of quality problem when using health care services, over the population that used health care services, by type of provider

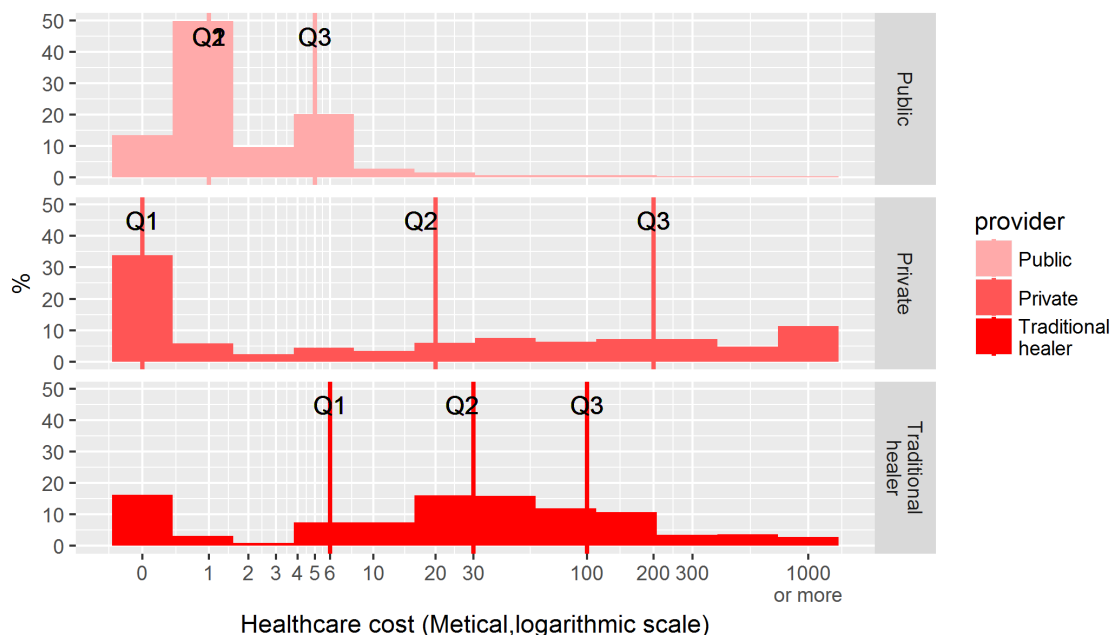
It should be added that the profile of quality problems encountered is also very different according to the type of provider. In the case of the private sector and traditional healer, the main complaint mentioned by the 19.0% and 12.1% of the respondents is “expensive”.

5.6. Direct payments reported

Payment for health care services is generalized in Mozambique, no matter what type of provider we consider. In the public sector, 87.3% of health care users in the last 30 days declared to have paid some amount of money. The same did 66.7% of users in the private sector and 84.3% of people who trusted in traditional healers.

The distribution of the mean quantity paid monthly by consultation is highly asymmetrical, ranging from 0 to thousands of metical (MT)³. There are however great differences according to the type of provider. The median amount paid in the public sector was 1 MT, for 20 MT in the private sector and 30 MT in the case of traditional healers. About 3 out of 4 users of public health care sector paid 5 or less MT, which is considerably less than the same figure for the private sector (200 MT) and traditional healers (100 MT) (Figure 14).

It is somehow surprising that 33.3% of the private health care users declare no paying for consultation. Anyway, the distribution of private sector payments amount is extremely asymmetrical and could merge very different types of providers.



³ The payments are expressed in the Mozambican currency (metical-MT). As a reference point, in 2014/15, the average expenditure per month per capita of food and non-alcoholics drinks was 488 MT (20,7% of the expenditure structure per month) in urban areas and 507 MT (53% of the expenditure structure per month) in rural areas. On the 31 December 2014 one euro was 41.26 MT

Figure 14. Quantity paid by health care services consultation, according to type of provider

Table 5 shows the direct payments associated to the health care received during the previous month in the public sector. Prevalence of direct payments, its median value and the corresponding quartile deviation are shown according SEP quintile and place of residence, stratified by sex. Although there are not relevant differences concerning the amount of MT paid, there is some evidence of significant differences in the prevalence of direct payments according to SEP quintile. Poorer quintiles have significant higher prevalence of direct payments, and the same is also true for urban vs. rural geographical areas.

Table 5. Median payments in the public sector according to SEP and place of residence and stratified by sex

	Female					Male				
	N ^a	n ^b	% ^c	Median ^d	qd	N ^a	n ^b	% ^c	Median ^d	qd
SEP quintile										
1 (Poorest)	638	575	90.1	2	2	513	476	92.6	1	2
2	589	527	89.5	1	2	487	429	88.1	1	2
3	589	481	83.5	1	2	409	363	88.8	1	2
4	641	536	83.6	1	2	447	361	80.8	1	2
5 (Wealthiest)	710	607	85.5	1	2	530	446	84.2	1	2
Place of residence										
Urban										
South	770	640	83.1	1	2	488	390	79.9	1	2
Centre	660	557	84.4	1	0.5	544	462	84.9	1	1
North	324	293	90.4	1	1	230	208	90.4	1	2
Rural										
South	424	353	83.3	1	2	262	217	82.8	1	2
Centre	529	480	90.7	1	2	445	421	94.4	2	2
North	447	403	90.2	1	2	417	377	90.4	1	2

a: number of users

b: number of users who actually paid in the previous month

c: proportion of users who actually paid in the previous month

d: median payment in metical

qd: quartile deviation, calculated as the semi variation between the 75th and the 25th percentiles in the distribution

6. Discussion

This study tackled a fundamental policy concern for health systems of Sub-Saharan Africa: the existence of geographical and social inequalities in the access to the health care system. Using bivariate descriptives, we considered inequalities concerning several access-related dimensions such as: prevalence of health need and (not) health care use in case of health need, as well as reasons for not using health care facilities in order to evaluate their “voluntariness” degree. We also considered quality dimensions in the case of health care use, such as the existence of quality problems, type of provider and health care services costs.

As expected, we found inequalities in many of these dimensions. First, there are significant inequalities at the health need level, both from a geographical and social point of view. Generally speaking, health needs are greater in the north of the country and in rural areas, among the less educated and poorer socioeconomic quintiles, and finally among women compared to men. Moreover, greater health needs prevalence positively correlates with a greater severity of the health problem, in many of these dimensions.

One out of three Mozambicans perceiving a health need did not use health care services. Again, social inequalities appear at the access level that reinforces the ones found at the health need and severity of the problem level. People living in the north provinces, rural environment, as well as the less educated and the poorest socioeconomic quintiles have worse health access. The analysis of the severity of the illness according to the way people coped their health need suggests that using health care services is a decision partly driven by the severity of the problem; however, there is also clear evidence of barriers hampering the access to health care services of about 1/10 of people in clear health care need. Under equal conditions of illness severity, families belonging to the favoured categories in the social inequalities axes have systematically easier access to health care services and only their mild health conditions remain unattended. This is not the case of their disadvantaged counterparts, were comparatively severe health conditions face objective barriers to health care services and having no access to them.

The quality of the health care services is another dimension of access to be taken into account. In this sense, quality problems of long waiting times and lack of medicines seem to be generalized in the public health care sector and no special social inequalities are to be found at this level. According to the survey data, the public sector is by far the major supplier of health care services under any condition, but relevant social differences exist

in the use of the minorities of private providers and traditional healers. From a geographical perspective, the former are more used in Maputo city and province, while the later are to be found in the Northern provinces. The more educated, richer SEP quintile and people living in urban areas tend to use more private providers, while on the opposite dimension, the less educated, poorer socioeconomic quintiles, those living in rural areas and older people tend to use more the traditional healers. The prevalence of quality complaints among the users of these two alternative modalities of health care provision is significantly lower than among the public provision users, while their quality complaints pattern is also very different and it is centred in the cost of the services.

Payment for health care services is generalized in the country, no matter the type of provider considered. However, payment amount is more homogeneous and comparatively much lower in the case of public provision. Generally speaking, health care cost is not a major barrier for access, being much more important the distance and lack of transport to the health care facilities. However, there is some evidence that better-off Mozambicans from a geographical, educational and socioeconomic point of view, are less likely to pay in the context of public health care than their less favoured counterparts, which seems particularly paradoxical.

The initial hypothesis that social inequalities axes would condition health care access has been widely confirmed, not only in the use of health services but also in certain aspects concerning the quality of the access. Social characteristics, in addition, strongly condition the type of provider used. Inequalities in the prevalence and the intensity of health needs pre-existing the health care access have also been detected.

7. Conclusions and recommendations

Inequalities in health care are basically preventable and its reduction depends on specific, meaningful and evidence-based actions. A set of recommendations are shown in this section, these are directed to specific actors.

Governments should:

- Recognize the importance of health care inequalities to improve health outcomes and ensure that the conditions are in place for effective implementation of policy actions.
- Public policies should allocate the resources based in meaningful socioeconomic and small-areas geographic information, if not, who is already better-off tend to be better placed to take advantage of new opportunities.
- Effective actions should be planned and implemented to fill the infrastructure and human resources needs in areas with lower levels of access.
- Effective actions should be implemented in the reduction of direct payments for the most disadvantaged population.
- Continue enhancing the Quality and Humanization of Care Assessment program to address the high level of complaints detected among the users.

Researchers should:

- The scarce information on the health care functioning needs to be filled up with specific information about infrastructure characteristics and unmet needs, including quality of care and spending.
- The need to generate new research for accurate small areas analysis.
- Further information on a broader understanding of health equity is needed to tackle the determinants of health inequalities.
- In the near future, the effect of planned health care reforms on the equity of access to care should be analysed.

Civil society should:

- Prioritize the reduction of health care inequalities in the programme of action in Mozambique.
- Such programme should empower and support the most vulnerable and encourage them to take part of the implementation.
- Monitor health care inequalities and ask for accountabilities will push forward in the reduction of these inequalities.
- Enhance awareness campaigns regarding self-medication, a problem that has been already found in previous studies

7.1. Findings

- *One out of three Mozambicans perceiving a health need did not use health care services*
- *People living in the Northern provinces, rural environment, the less educated and the poorer socioeconomic quintiles have worse health access than their Southern, urban, more educated and wealthier counterparts.*
- *The disadvantaged categories have simultaneously greater prevalence of health needs and more severe health problems*
- *Being severity of the illness equal, the disadvantaged categories experience greater barriers to health care access, in particular distance and/or lack of transport to the health facilities*
- *Quality problems of long waiting times and lack of medicines are highly prevalent in the public health care services*
- *The National Health system is by far the main provider of healthcare services. However, in relative terms the wealthiest, the more educated and those living in urban areas tend to use more private providers, while their disadvantaged counterparts tend to use more traditional healers*
- *Payment for public health care services is generalized in Mozambique, and the most disadvantaged are also more likely to pay for health care access in their visits to public providers*

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