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Retrospective and prospective of the Algerian healthcare supply: Some obstacles that have become chronic discomforts

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ABSTRACT

The current paper attempts to analyze the causes, which divert the care structures from their fundamental mission, and to evoke the consequences of this situation on the main actors who make up the Algerian health system, to try to prescribe the solutions likely to improve the quality of health care in this country. Although free healthcare has been decreed since 1973 to overcome the financial obstacles, and despite the efforts of successive governments to dismantle the geographical obstacles, unfortunately, the organizational obstacles have not found effective and lasting solutions until now; the majority of experts have pointed out this type of obstacle since the outbreak of the COVID-19 pandemic. This article highlights the growth of national and international scientific research; on the conditions that can improve the quality of health care provision. Nevertheless, current work barely addresses organizational shortcomings, particularly in the unique context of a health system that provides free health care. Through an analysis of the Algerian context, this article proposes avenues of research for the organizational obstacles that can hinder the performance of the health care system, which can constitute future empirical studies. The results of the study indicate that there is a great disparity between the regions ranging from the North to the South of the country in terms of health coverage (hospital beds, specialized care, medical personnel, etc.); a flagrant lack of operational medical equipment, and a shortage of medicines for hospital use; despite the good results recorded over the past three decades, expenditure continues to increase steadily; the private sector does not play its role as a complement to the public sector, it improvises as best it can to provide less risky lucrative care; and the application of obsolete legislation that governs a sick hospital.

1. Introduction

Several determinants influence the state of health of the population, although these determinants change, reappear or mutate because of the plural transitions that shake a country, a region of the world, or the whole world, the fact remains that these epidemiological, social, or environmental factors shape the public health of a population (Alla, 2016; Marmot, 2000).

Since the declaration of Alma-Ata in 1978, the world has changed considerably. On the one hand, additional difficulties have appeared adding to the complexity (economic recession, climate change, emerging diseases, major epidemics, pandemics, etc.); on the other hand, considerable scientific and technological advances are recorded in all fields. Major technological, organizational, and managerial innovations mark the last decades. However neither the functioning of the health system as a whole nor the interpersonal relationships between practitioners and patients are up to the level of scientific advances, in addition to the innovations

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and commitments of the international community in favor of the poorest are insufficient (Akki-Alouani, 2015).

A health system usually combines three actors (demand, supply, and funding) around a single theme which is public health. Despite the disparities between the major philosophical trends that draw this beautiful painting, which represents the guidelines that can gather the interest of key stakeholders, to cover the greatest number of health needs, for the most distant funds and by the best available means (Akki-Alouani, 2015; Durrani, 2016; Aissaoui, 2017b).

Despite the unlimited number of health needs of the population, the supply of care is unfortunately limited by the material resources and the human resources allocated by the government and the other funding agencies that oversee the distribution of care. This paradox is not the work of a single system; it is the same for the majority of health systems in the world (Schiefer and Noll, 2017; Liu et al., 2015; Golding et al., 2017). The Algerian health system is not an exception, its specificity is recurrent malaise expressed by all actors for almost 40 years already (Aissaoui, 2017a; Akki-Alouani, 2015). A change so much hoped for by all stakeholders, can switch the situation towards a system that produces lasting solutions instead of temporary DIY, to avoid the crisis that can undermine our dear health.

Through this paper, we will answer the following questions: what are the different obstacles that face the supply of care in Algeria? And what are the solutions that can improve this situation?

2. Materials and methods

It is a descriptive and analytical study, which addresses the defeat of the care structures towards their mission. So we will expose and describe the current hard situation of the supply of care, as we will expose and describe the various obstacles that feed this discomfort: Ideological, organizational, managerial, financial, etc. focusing on the experiences of the Ministry of Health, Population and Hospital Reform to improve the precarious situation of our supply of care. The time will then come to analyze what is lacking in the various reforms that are undertaken to improve this situation, this constructive criticism will push us to formulate and analyze solutions and suggestions that could improve the situation of the care supply in Algeria.

3. Results

3.1. An old law of health lapses

Already started in the early 70s, the national health policy, which focused on free healthcare, put to remedy a difficult situation at that time: infectious diseases, undernourishment, a derisory purchasing power, the after-war situation according to officials in this period of prosperity: By dismantling financial barriers, we can talk about accessibility to provided care! Despite the reality of financial and geographical accessibility, organizational accessibility is lacking until now.

The old health law which dates from 1985, was introduced to organize a health system, to face the special requirements and constraints of that time, since multiple transitions (social, economic, cultural, and epidemiological) have reshaped the Algerian society since the early 90s. Finally, the old law of 1985 was recently replaced by a new health law N° 18-11 of July 2, 2018; theoretically, it carries profound and evolving reforms. Health planning is essential to obtain adequacy of the health map with that of regional planning. Planning defines a supply of care and prevention, both quantitative and qualitative, in a temporal and geographical space in line with demand (Akki-Alouani, 2015; Aissaoui, 2017b; Sieverding et al., 2018).

Since the 70s, we have been witnessing legislation that is too social, to not say socializing, static, or rather, that goes backward. This law insists on the principle of free healthcare, far from the expectations of care seekers and the reality of multiple transitions. So, to start this reform, where can we start*?*

3.2. A system of care gangrene by the principle of free care

All main actors in the health sector and, above all, researchers, practitioners, and leaders in this sector must be responsible, lucid, and serene to lead courageous debates with a certain critical spirit around principles and outdated questions that divide; especially the famous principle of free care. To animate these debates, many questions must be asked about the fairness and efficiency of our health system from the adoption of this famous principle in the 70s up to now. Among these questions: In the era of free healthcare at the public health care level, all citizens have the right to seek care without financial compensation or a near-derisory contribution (Aissaoui, 2017a). Faced this reality: Who benefits and who is penalized by this free care*?*

Facing a visible development of the private sector since the 90s, the citizen is confronted with a hard reality: The patient has the right to seek care in the public sector, so to draw for himself a course of care that can, unfortunately, be hampered by endless obstacles; or to give in to the dictate of a private, unorganized sector, which provides care of questionable quality and paid especially by the neediest! So: What remains free in a health system like this*?*

National health information systems depend on statistics compiled and reported manually by health personnel. In the case of Algeria, these systems are recorded in registers for outpatient consultations and the patient's file for hospitalized patients. No statistical processing is carried out to transform this data into relevant information for local management and decision-making levels. Periodic reports sent to

higher levels are ignored during decision-making (Mugisha et al., 2002; Akki-Alouani, 2015). The question is: How can we rectify the situation if we do not have the information useful for decision-making?

In the absence of indicators that measure the degree of equity in access to primary or hospital public care, although accessibility has three components: Geographical, financial, and organizational, and despite the figures put forward by officials since the 80s, concerning the existence of the first and second components, the third is a persistent problem, or a crisis, according to researchers, who point it out as the male who gangrenes our health care system. So: What are the causes of the non-organization of the health care system? And what is its impact on the equity and efficiency of this system?

We cannot initiate a reform without a diagnosis, the latter which can inform us about the weak points of the care supply. Although the retrospectives and the prospects are rare and obsolete in their majority, the leaders have an impossible mission without the descriptive statistics on the national accounts of the health, the expenditure of care of the households, the volume and the value of the consumption, the evolution rate of the private sector, the different diseases that affect the health status of Algerians. As well: How can we act with this blatant lack of information?

3.3. Funding health structures continuously increase

Algeria is well below the global average in terms of overall health expenditure, which is valued at more than 11 billion $, which represents only 5.3% of GDP, however, the World Health Organization has a different estimation that is close to 7.2%. The two statistics are less than WHO recommended global expenditure in the health sector; which should not be below 10% of the countries' GDP (Aissaoui, 2018).

During the year 2017, the health budget in Algeria amounts to a total ranging from 1050 billion DZD (9.63 billion USD) to 1150 billion DZD (10.55 billion USD). This budget is divided between the endowments of the State (Ministry of Health) with 400 billion DZD (3.67billion USD), Social Security with about 300 billion DZD (2.75billion USD), the Ministry of Defense, and others: About 100 billion DZD (0.91billion USD), and the Out of Pocket included between 250 billion DZD(2.29billion USD) and 350 billion DZD (3.21billion USD) (Aissaoui, 2018).

Indeed, in 1974, health care establishments operated with only 883 million DA. The budgets allocated to these establishments increased to more than 6 billion DA in 1985. Twenty years after the introduction of the hospital package, the budget devoted to public health establishments rose to more than 30 billion DA in 1994. Currently, these establishments receive more than 400 billion DA (Aissaoui, 2018).

Faced with these figures, we can only place this country in pole position at the Maghreb and African levels. Thus, several questions arise: Are these health expenditures justified? When will Contractualization take the place of the hospital package to stop the bleeding?

We can consider that the Algerian social security system is inspired by two modes of financing: The Bismarck mode, through contributions that are paid on the post salary of the employee. The post salary corresponds to the salary ceiling per type of activity, taking into account the calculation of contributions (the exact name is "salary subject to contributions" as defined by the law 90-11 relating to labor relations (Aissaoui, 2017b); the Beveridge model, about the National Social Security Fund for the Self-employed, the contributions are calculated based on the annual taxable income.

The main source of funding for social security in Algeria is the contributions of employees (salaried workers) and their employers. Thus, several questions resurface: Are these expenses of the structures of care justified? What is the extent of budget mismanagement? When does the contract take the place of the hospital package to slow the evolution of expenses?

Table 1 shows the breakdown of contribution rates.

Table 1: The breakdown of contribution rates (Aissaoui, 2017b)

Kind of insurance	At the expense of the employer	At the expense of the employee	At the expense of the fund of social works	Total
Social Insurance: (sickness, maternity, disability, and death)	11.5 %	1.5 %	-	13 %
Accidents at work and occupational diseases	1.25 %	-	-	1.25 %
Retirement	11 %	6.75 %	-	17.75 %
Unemployment insurance	1 %	0.5 %	-	1.5 %
Early retirement	0.25 %	0.25 %	-	0.5 %
Social housing	-	-	0.50 %	0.5 %
Total	25 %	9 %	0.50 %	34.5 %

3.4. A greedy and venal private sector that serves only itself

At the beginning of the 90s, Algeria experienced simultaneous transitions (economic, social, security, and especially epidemiological) that helped to reshape the population of this young country. This transition in the plural continues to mutate, and consequently, impact the country and its citizens. At the beginning of the last decade of the 20th century,

the International Monetary Fund/IMF requires the state to gradually withdraw from health financing, by giving households the responsibility to finance a part of their needs by their means. In other terms, to involve more the private sector to cover the needs of the population in terms of care, technical services, etc.

The number of private care facilities that have been activated in recent years is increasing from one year to the next: 23 medical clinics, 237 medical-surgical clinics, 32 diagnostics clinics, 145 dialysis centers, 8352 specialist doctors' offices, 6910 general practitioners' offices, 6144 dental surgery offices, 9962 pharmacies (Aissaoui, 2017b). Here also, many questions are resurgent: Is the private sector playing the game of complementary? What are the real goals of the private sector? When can we talk about a mature private sector?

4. Discussion

4.1. Is a new health law alone enough to change mentalities and practices that have lived 38 years?

The WHO recognizes the failure of health systems in most developing countries (Krieger, 2021). A WHO document perfectly expresses the state and causes of the ineffectiveness and inefficiency of the health information system of developing countries, including Algeria (Powell-Jackson et al., 2014).

Although the restructuring and the reform of our health system are welcome, they should not be the work of the politicians, but actors in the Algerian health system. In addition, this management of change must not start from anything, but rather multiple searches, surveys, proposals, etc. as in the case of the health charter of 1998, a National survey on the end of the decade goals (EDG Algérie 2000 MICS2), TAHINA project of 2007; which define more or less the main lines of a hospital reform that can revitalize the significant potential available health to our country.

The major obstacle to the development of a strong health system is the weakness of the primary health services information system: they are not designed from a systemic perspective and they are not integrated into the tactical and strategic management of health policies (Feldhaus and Mathauer, 2018). At the local level, quality information allows better decisions to manage care and prevention activities, resulting in better health for all. At the intermediate level, it is used for control, training, and resource allocation, while at the central level it is mainly necessary for control, planning decision-making, and evaluation of the system as a whole.

A new health bill has been announced in 2014, and since this announcement; many regional and national meetings and working groups have been organized in 2014 and 2015. Finally, this new law was passed in the National Assembly and published on July 2, 2018, to replace law N 85-05 of 16 February 1985 on the protection and promotion of health. To repeal a law and replace it with another, recourse to audit work must be sought, highlight the strengths and weaknesses, enhance the value of the former and remedy multiple flaws and limits. Not enough information has been published or shared by officials, including the results and recommendations of the discussions held around vital points. Such actions undermine a likely consensus on the proposed solutions since unfortunately, many actors will be inhibited.

In addition, discussions and recommendations are most often based on experiences and partial views, because very little national data and credible analysis are available to inform the opinions, actors, and decision-makers on fundamental issues of our health system.

Thus, to initiate an efficient hospital reform, restructuring actions for hospitals can be structured around the following axes: regionalization of care, accessibility of medical information and the improvement of quality, continuous training of the medical staff, and the control of health expenditure.

Health problems are complex, evolving, and multifactorial. The solutions provided do not depend solely on the health sector but on many other social and economic sectors. Effective and efficient management of the health sector, based on a systemic approach and on an efficient information system using information and communication technologies (ICT), which promotes the sharing of information and, consequently, an awareness of everyone's contribution to the well-being of each citizen in their living space (Akki-Alouani, 2015).

4.2. The dilemma; free healthcare vs equity and efficiency of the national health system

Contrary to all expectations, the new law n° 18-11 of July 2018 has maintained the principle of free healthcare for the years to come. According to article 13 of this law: "The State ensures free healthcare and guarantees access to it for all citizens throughout the national territory," according to the same law: "It implements all means of diagnosis, treatment, and hospitalization of patients in all public health structures as well as any action intended to protect and promote their health." This is the will to create a universal system to cover the full range of prevention and care activities. The beneficiaries of the free-of-charge measure are all citizens without exception.

The reality is that the taxpayer is penalized triply: The first time when he pays his social security contributions; a second time, when he pays his taxes, since a part of the Global Income Tax/GIT is intended for the financing of the hospital activity; as for the third penalty, it will be visible when the taxpayer uses the services of the private sector, without social security reimbursing the incurred expenses.

Nowadays, Healthcare facilities whether primary care facilities or hospital facilities are almost deserted either by the health care provider or by

healthcare professionals. Several causes contributed to this medical desert, among these causes: The lack of material resources and of human resources, which are necessary for the structure of care to ensure its mission; many imaging services, in the various hospitals of the country, include a sophisticated material, a few months after installation it is noted that this equipment is stopped for multiple causes. Even if the equipment is in working order, there is a significant lack of medical imaging technicians, who can guarantee the operation of the equipment and the interpretation of the results. While, the new law focused on the role of the public sector to cover all the health needs of the population, and in every corner of our national territory.

The complementary activity was introduced in 1998 without being justified objectively. The complementary activity allows the medical staff of the public sector to double the activity in both the public and private sectors. It was instituted during the period of the International Monetary Fund/IMF imposed Structural Adjustment Program, during which wages were frozen. It was introduced to compensate for the impossibility that the State responding to the salary demands of medical specialists. Its purpose was; to make patients pay the cost of salary increases that the state could not cover. This decision has led to catastrophic results in the function of our hospitals: Diversion of patients, doctors, equipment, and even drugs to the private sector! Because of this decision, our hospitals experienced a slowdown in their activity and even paralysis in the afternoons. The complementary activity that allows the dual function in the public and the private sectors, although officially the lawn 18-11 of July 2018-according to (art.166)-does not authorize this privilege for the doctors and professors activating in the various hospitals of Algeria, unofficially some professionals of health continue to juggle between sectors, they even block the institutes of medicine by recurring strikes for their reinstatement, from which they were satisfied with their claim.

We are witnessing in recent years a bitter reality; patients pay for almost all costs of medical procedures, where the public supply of care has been reduced drastically however private supply has increased exponentially. Of course, this is reflected in an increase in the proportion of people who drop out or become poorer. Victims are, of course mostly poor, where the risk of a child's death is 1.8 times higher than that of a rich child and a child living in the South has the risk of death is 2.3 times higher than a child living in the North.

The analysis of the results of the 2011 household consumption survey shows that out of fictitious rents; 80% of the population devotes more than 50% of their expenses to food. However, specialists agree that as higher the food coefficient of the citizen as lower his purchasing power. For comparison, it should be known that this coefficient is less than 40% in Tunisia and 12% in France (Aissaoui, 2017b).

4.3. The conditions that allow the establishment of strategic management

In several countries that have adopted the lump sum financing, it has turned out that this measure is at the origin of the drifts in the hospital expenses, for cause, "the estimates of the needs are reduced to the elaboration of a list of desires whose total cost is equal to the amount that can be considered as fiscally feasible" (Aissaoui, 2017b). In Algeria, this type of allocation of funds prompted the State and the national fund of the insured persons/NFIP to finance public hospitals "without reference to real activity." The contribution of each is fixed approximately without relation to the volume of the activity of the hospitals (Aissaoui, 2017a). The efficiency of the expenditure is relegated to the background; Managers have become mere spenders of a pre-established and pre-allocated budget according to specific budget lines controlling hospital spending, based on a flat-rate formula, has led, contrary to the expected objectives: A disempowerment of hospital managers, those responsible without accountability, who admits not have the right to take measures to stop the annual increase hospital expenditure.

Faced with this finding, officials have reacted in favor of introducing Contractualization, the latter of which can slow or stop the annual increase in hospital expenditure. It is often presented as a means to redefine the relationships between the main actors of the health system to achieve greater efficiency in the use of available resources (Aissaoui, 2018). So, this project focused on a pricing activity of each health structure struggling to see the daylight and can be sentenced to premature death. Since to initiate this change, management control techniques must be applied, so to set the price of the services provided by the public structures, it will be necessary above all to set up an accounting information system to estimate the cost of each service. A pilot experiment has been undertaken in recent years, to implement a hospital accounting system commonly called Triple Hospital Accounting at each hospital; unfortunately, the results were not satisfactory, because of multiple problems in the relationship between the lack of training and experience in the accounting and finance staff (Aissaoui, 2017a).

4.4. Redefining the relationship between the public and private sector

Many patients seek care directly from the private sector, in most cases this is mainly due to inter-hospital dysfunction. This dysfunction is the result of a lack of communication between public hospitals. This can be interpreted by the attitude of each patient to choose their care path, and consequently, encourage the increase of care expenses. The new low No. 18-11 clearly states the role of the general practitioner, and the role of primary care services and the public sector in organizing the use of care

and referral to specialized care, according to (art. 22) of this law: In the context of the hierarchy of care, all patients have access to the specialized health services after consultation and referral by the referring practitioner, except in cases of emergency and direct access medical cases defined by the Minister of Health. The referring practitioner is the general doctor treating the patient, at the public or private health facility closest to his/her home.

Meanwhile, the private sector is growing in importance from one year to the next, while opting for juicy services that do not carry significant risks. Thus the role of complementary with the public sector is questioned. Another problem that fixes the complementary between the two sectors is the reimbursement rates for private health care and other benefits provided by the social security system that dates back to 1987! They vary from 32 DZD (0.29 USD) to 80 DZD (0.73USD) for a consultation for which the amount disbursed by the patient varies from 800 DZD (7.34USD) to 5,000 DZD(45.87USD). For other medical procedures, the reimbursed amounts are even more derisory (less than 9 DZD or 0.08USD/act). A caesarean section paid 80,000 DZD (734 USD) to 90,000 DZD (825 USD) is reimbursed only up to 800 DZD (7.34 USD)! A stay in a private clinic costs between 10,000 DZD (91.74 USD) and 100,000 DZD (917.43 USD)/day is reimbursed 210 DZD (1.92USD)/day. This is not to mention the private care of heavy pathologies, such as a radiotherapy treatment whose protocol cost varies between 500,000 DZD (4587.16 USD) and one million DZD (9174.31 USD); a cost out of reach for both the patient and the social security (Aissaoui, 2018).

The Algerian hospital cannot survive under the current operating conditions, where it is obliged to provide all hospital and pre-hospital care at unbeatable costs. It can reduce its expenses and disengage from certain activities for the benefit of the private sector: Home-based hospitalization, medical transport, dialysis, etc.

5. Conclusion

Despite a large number of health care facilities and the human resources that characterize the supply of care in Algeria, this later remains disorganized due to several organizational obstacles.

A strategic revision of our health and pharmaceutical policy is urgently needed; funding of public sector care structures must be commensurate with the objectives; implement urgently an information system, which allows the application of Contractualization and funding to the activity of healthcare structures; an objective rationalization of investments in health is more than necessary, by integrating a health map that organizes the supply of care and, by soliciting the material resources and the human resources of the private sector.

With free healthcare leading to a system of care that is characterized by unfairness and inefficiency, citizens should participate in the financing of their health system, to which they would have the right to claim quality care.

The precarious financial situation of the various social insurance funds is mainly due to the informal sector, so the informal economy in Algeria represents more than 45% of the Gross National Product (GNP), and employed more than 3.9 million people in recent years. Many reforms allow long-term and efficient financing of health in Algeria, these reforms must be articulated around: Social security, the generalization of mutual, the implication of private insurance, and encouraging public-private partnership. The implementation of these reforms allows diversification of the sources of funding for our health system.

The Algerian has gained nearly 30 years of additional life expectancy; he is now close to the 77 years of life expectancy after only 56 years of independence. So, it's clear that there are achievements and we can do better, provided strategies and policies, as long as they bring together and involve all stakeholders in our health system.

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Compliance with ethical standards

Conflict of interest

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References

Aissaoui N (2017a). The management of nearby public care facilities in Algeria between equity and efficiency: Case of EPSP in the East sanitary region. Environmental and Water Sciences, Public Health and Territorial Intelligence Journal, 1(1): 42-51.

Aissaoui N (2017b). Financing of the Algerian health system: What future for free care? Environmental and Water Sciences, Public Health and Territorial Intelligence Journal, 1(3): 11-20.

Aissaoui N (2018). Innovation and governance of the Algerian social security system; Reality and challenges facing multiple transitions. Environmental and Water Sciences, Public Health and Territorial Intelligence Journal, 2(1): 24-32.

Akki-Alouani A (2015). Pour un système de santé qui profite à tous: l'Algérie face au défi de l'approche systémique. Pensee plurielle, 2: 93-107. https://doi.org/10.3917/pp.039.0093

Alla F (2016). Les déterminants de la santé. In: Bourdillon F, Brücker G, and Tabuteau D (Eds.), Traité de santé publique: 15-18. Lavoisier, Cachan, France. https://doi.org/10.3917/lav.bourd.2016.01.0040

Durrani H (2016). Healthcare and healthcare systems: Inspiring progress and future prospects. MHealth, 2(2). https://doi.org/10.3978/j.issn.2306-9740.2016.01.03

Feldhaus I and Mathauer I (2018). Effects of mixed provider payment systems and aligned cost sharing practices on expenditure growth management, efficiency, and equity: A structured review of the literature. BMC Health Services

Research, 18(1): 1-14.
https://doi.org/10.1186/s12913-018-3779-1
PMid:30587185 PMCid:PMC6307240

Golding N, Burstein R, Longbottom J, Browne AJ, Fullman N, Osgood-Zimmerman A, and Hay SI (2017). Mapping under-5 and neonatal mortality in Africa, 2000–15: A baseline analysis for the sustainable development goals. The Lancet, 390(10108): 2171-2182.
https://doi.org/10.1016/S0140-6736(17)31758-0

Krieger N (2021). Structural racism, health inequities, and the two-edged sword of data: Structural problems require structural solutions. Frontiers in Public Health, 9: 301.
https://doi.org/10.3389/fpubh.2021.655447
PMid:33937178 PMCid:PMC8082016

Liu L, Oza S, Hogan D, Perin J, Rudan I, Lawn JE, and Black RE (2015). Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: An updated systematic analysis. The Lancet, 385(9966): 430-440. https://doi.org/10.1016/S0140-6736(14)61698-6

Marmot M (2000). Social determinants of health: From observation to policy. The Medical Journal of Australia, 172(8): 379-382.
https://doi.org/10.5694/j.1326-5377.2000.tb124011.x
PMid:10840490

Mugisha F, Kouyate B, Gbangou A, and Sauerborn R (2002). Examining out-of-pocket expenditure on health care in Nouna, Burkina Faso: Implications for health policy. Tropical Medicine and International Health, 7(2): 187-196.
https://doi.org/10.1046/j.1365-3156.2002.00835.x
PMid:11841709

Powell-Jackson T, Hanson K, Whitty CJ, and Ansah EK (2014). Who benefits from free healthcare? Evidence from a randomized experiment in Ghana. Journal of Development Economics, 107: 305-319. https://doi.org/10.1016/j.jdeveco.2013.11.010

Schiefer D and Noll VDJ (2017). The essentials of social cohesion: A literature review. Social Indicators Research, 132(2): 579-603. https://doi.org/10.1007/s11205-016-1314-5

Sieverding M, Onyango C, and Suchman L (2018). Private healthcare provider experiences with social health insurance schemes: Findings from a qualitative study in Ghana and Kenya. PLOS ONE, 13(2): e0192973.
https://doi.org/10.1371/journal.pone.0192973
PMid:29470545 PMCid:PMC5823407