

A Review of Health Financing and Information Systems: The Role of Devolved Governance

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Abstract

Background: Worldwide health systems are facing an increasing number of challenges, while governments remain dedicated to searching for cost-effective options to enhance the capacity of national health systems to perform well. Although the relationship between devolution and disparities in access to health care is mixed, most studies do not attribute observed disparities in healthcare use to Devolution. This review was performed to synthesize evidence around this issue. Specifically, the objective was to answer the question: “What are the contribution of devolution in health financing, health leadership, and health information systems?”. **Methods:** CrossRef, Google Scholar, Academic keys, Open Academic journals index, MEDLINE, Embase, CINAHL, and PsycINFO were searched with terms related to devolution and health. The search included terms related to health financing, health information systems, and health leadership. Findings were presented within a narrative synthesis. Quality of the evidence was evaluated using the Cochrane risk of bias tool and the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. **Findings:** A few studies, all cross-sectional studies, met the selection criteria for this review. Most studies noted the Healthcare is a major element of national budgets worldwide in as much as all levels vary across countries, systems have come under increased pressure to ensure that resources are spent efficiently. Over the years there has been accelerating progress in medical technology hence offering considerable potential for advancing the delivery and organization of the healthcare, with consequences for health care expenditure. On decentralization, risk-adjusted mechanisms are used to allocate resources from the central level to decentralized health authorities. Internationally the indicators like; population size, demographic composition, levels of ill-health, with mortality rates usually being used as a proxy for morbidity and socioeconomic status including cost factors are used to decide on resource allocation. Unfortunately, families who contribute a larger portion of funds to the health system have a minimal voice in demand for health care services. The situation necessitates the need for partnerships in the health system. Studies also revealed that leadership and governance in a health system cut across all the other 5 health system building blocks and all stakeholders of health including the public, governmental and private sector and all persons who use, provide, fund and monitor health care. In Kenya Devolution of the health sector was aimed at improving health care in the country, focus on the “low potential areas”, reduce corruption especially on procurement, foster efficient health care delivery, improve on the quality of health care delivery. County governments were supposed to manage resources and come up with health strategies that would cater for the specific health needs within the county spearheaded by the elected governor with the help of the deputy governor and the county assembly. With regards to health information systems, Adoption of District Health Information System (DHIS2) in all health facilities was in Kenya was aimed at addressing the shortcomings of lack of reliable data to base decision making which included paper-based data capture which lacked timeliness. However, DHIS2 has not been fully utilized in its analysis and presentation capability. **Conclusions:** Continuous assessment of the impact of components of health systems under devolution is required to the inform enhancement of health service provision in the county. The stakeholders should continuously engage to address the poor performance sectors.

Keywords: Devolution, Kenya, health financing, health leadership, health information systems.

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INTRODUCTION BACKGROUND

Devolution has been defined in several ways by several scholars [1-3]. Essentially, it is conceptualized as the transfer of authority and power in the public planning, management and decision making from a national or higher level of government to sub-national or lower levels [4, 5]. The transfer of power and authority may take several forms giving rise to some categorization of the concept. Although there is little consensus among scholars on the typology [6, 7], a four-part typology of devolution namely decentralization, delegation, de-concentration and privatization is dominant in the literature [5]. In the past three decades, health reform has become commonplace in most countries. Such that reforms decentralized governance of health systems has been adopted in some countries as a subset of broader health reforms or as a preferred management strategy [8, 6, 7].

The rationale for this policy choice varies across countries. A primary objective underpinning this choice is to improve overall health system performance [9]. The expectation is that devolution provides the opportunity for health systems to attain both technical and allocative efficiencies, empower local governments, increase accountability, and make gains in many areas including quality, cost and equity [10, 11]. Furthermore, some of the compelling arguments for decentralized governance of health systems is imperative to make health service responsive to local population needs and to improve access and quality of health care [11]. It is also argued on the other hand that Devolution may result from a broader process of economic, political and technical reform [12], and could also be associated with neo-liberal reforms which were aimed at, among others, introducing austerity measures designed to minimize state expenditure, reduce the role of state in the provision of health care and to introduce competition and cost consciousness in the public sector [13, 14]. Other researchers further posit that these reforms were in response to global pressure on governments by international agencies to re-think their role in service delivery and public management in the light of accumulating evidence of inefficiencies in existing health systems and their failure to deliver good quality health services and to make health care services accessible [15-17]. Due to the disparate objectives under-pinning Devolution reforms, it stands to reason that the impact of these reforms on health-related equity or their contribution to health-related equity may equally vary.

Worldwide health systems are facing an increasing number of challenges, while governments remain dedicated to searching for cost-effective options to enhance the capacity of national health systems to perform well. Although challenges like limited financial resources, rising health care costs, increasing health demands and heightened public expectations are

present, health care workers provide a platform from which one can scale up health interventions to assist in meeting national health targets [18]. In Spain, variations in healthcare use were largely insignificant. This is attributable to policies in place to enhance access to health care because there are neither out of pocket expenses nor insurance premiums [19]. Some significant variations in inter-provincial healthcare use between richer and poorer provinces were found in Canada. These differences were attributed to variations in healthcare use between provinces [20]. In Switzerland, cantons were highly autonomous and independently determined resource allocation to health and social protection for the poor [21]. The resultant heterogeneity created inequitable access to health care between cantons. The study in China reported greater inequities in healthcare access favoring richer jurisdictions (Provinces, Counties, and Cities). Although the relationship between devolution and disparities in access to health care is mixed, most studies do not attribute observed disparities in healthcare use to Devolution [19, 20, 22]. In Chile and Columbia, Devolution was associated with enhanced access to healthcare [23]. It also accounted for increased inter-provincial equity in access to GP, specialist and hospital care as well as intra-provincial access to GP and hospital care in Canada [22]. In Switzerland, Devolution did not guarantee equity in access because of differential cantonal policies [21]. Devolution has however been associated with high inequities in access to health care in China favoring richer jurisdictions [24]. These findings could also suggest that the reported inequities are income related. In the year 1998, the World Health Organization began developing a health system performance assessment framework. Its aim was to promote and restore health [25]. The performance eventually gave rise to the 2000 world report, which attempted to provide a comprehensive assessment of the performance of health systems of the then 191-member states of the WHO [26]. The main hindrance of promoting and restoring health was apparently associated with poverty as most people's health seeking behavior was considered stunted. Unhealthy individuals can neither learn well nor cultivate a piece of land and this, in the actual sense, leads to a negative impact on the economy. In 2000 the world leaders adopted the UN Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets, with a deadline of 2015, hence named the Millennium development goals (MDG's). Kenya happened to have been among the countries that unsuccessfully met the target. Eventually, the post-2015 development Agenda was tabled at the UN General Assembly as continuity towards improving mankind. The outcomes were improvements on the Millennium Development Goals (MDGs) termed Sustainable Development Goals (SDGs). Where the main specific SGD of interest for this study is number 3 'Ensure healthy lives and

promote well-being for all at all ages' though it must be pillared by other SDG's.

To date, Kenya continues to grapple with numerous challenging health problems and issues in the delivery of accessible, affordable and equitable health services despite efforts to improve the health system by devolution. The Devolution of the government since 2013 gave rise to the county government system which currently governs the health systems. Ever since the onset of county government, counties continue to pay salaries for health workers. However, some amount of control on the human resource remained with the National government. These make the counties unable to manage the health workers adequately due to limited information on their discipline, training needs, promotions, and retirement. Health worker supervision has led to delayed salaries and, in some cases, health worker strikes due to such disputes. The national MOH has also been slow to restructure. Without an adequate political will, it is unlikely that MOH headquarters staff will be reassigned to assist County Health Management Teams (CHMTs) or provide health services as originally envisioned [27].

METHODS

For reporting of this review, the standard guidelines by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) were followed.

Search Strategy

The search strategy for this review was designed in consultation with a research librarian at Masinde Muliro University of science and technology to ensure a comprehensive search of the literature. The search included terms related to devolution, health and government, health financing and health information systems. There were no language, location, or publication period restrictions applied. Various electronic bibliographic databases were searched CrossRef, Google Scholar, Academic keys, Open Academic journals index, MEDLINE(R) In-Process & Other Non-Indexed Citations, Embase Classic, Embase, CINAHL (1937 to present), and PsycINFO (1806 to present). Reference lists of included studies were also evaluated to identify any potential studies for inclusion

Inclusion and Exclusion Criteria Studies

There were no restrictions on the study time periods or design types eligible for inclusion

Study Selection and Data Extraction

Two authors independently screened the titles and abstracts, followed by the full texts of potentially eligible studies, for eligibility as per the pre-specified selection criteria. Articles that were not in English (ie, French and Spanish) were translated. Finally, a third author was consulted to resolve any discrepancies between the two reviewers. Results from the screening process were summarized in a flow diagram as per the PRISMA guidelines [28]. Data from the selected studies were extracted by each of the two reviewers independently, including study information and methods, participant characteristics and outcomes.

Assessment of Evidence Quality

Each of the two authors independently assessed the risk of bias for each study using the Cochrane Handbook for Systematic Reviews of Interventions [29]. Although none of the included studies were randomized-controlled trials, the Cochrane risk of bias tool was deemed suitable because both included studies were experimental and controlled [29]. In addition to the standard six criteria for assessing the risk of bias according to the Cochrane Handbook for Systematic Reviews of Interventions, risk of bias from confounding was also examined to account for the fact that participants were not randomized [29].

A narrative synthesis was done of all eligible studies. A meta-analysis and subgroup analyses were not conducted, as there were too few studies identified from the search, without similar outcome measures.

RESULTS

The database search yielded 40 articles, which were narrowed down to 28 articles after duplicates were removed. The results were confined to 20 articles that could potentially meet the inclusion criteria. These remaining articles were assessed in full, with two studies being selected to be included in the systematic review. No additional studies were identified from the reference lists of included studies. This is summarized as a flow diagram in Figure-1.

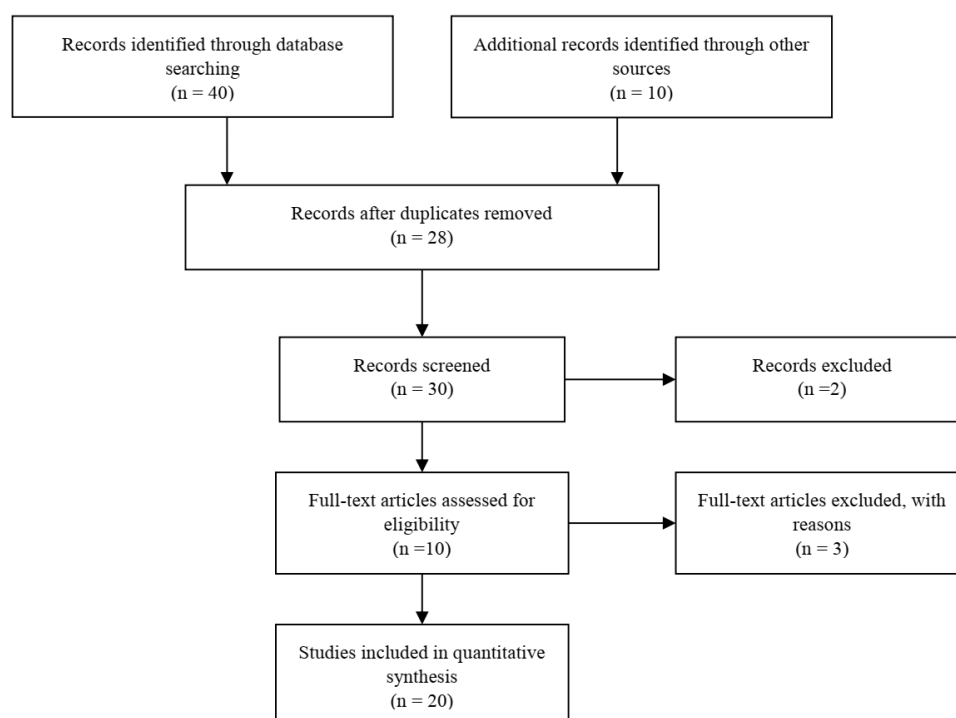


Fig-1: Study Flow diagram

Contribution of devolved governance on Health financing, health leadership and governance, and health information systems

Health Care Financing

Achievement of universal health coverage is based on health financing systems. Health financing consists of raising funds for health, reducing financial barriers to access through prepayment and subsequent pooling of funds excluding direct out of pocket payments plus allocation or utilization of funds in a manner that promotes efficiency and equity [30]. Healthcare is a major element of national budgets worldwide in as much as all levels vary across countries, systems have come under increased pressure to ensure that resources are spent efficiently. Over the years there has been accelerating progress in medical technology hence offering considerable potential for advancing the delivery and organization of the healthcare, with consequences for health care expenditure. Therefore, it is important to be keen on ensuring that healthcare innovations promote health [31]. It is evident that in countries like the United States and Germany, there is the use of new interventions and procedures neglecting patient's benefits. Furthermore, there is underuse and misuse of health services raising concerns over the health care quality [32, 33]. On decentralization, risk-adjusted mechanisms are used to allocate resources from the central level to decentralized health authorities. Internationally the indicators like; population size, demographic composition, levels of ill-health, with mortality rates usually being used as a proxy for morbidity and socioeconomic status including cost factors are used to decide on resource allocation. 52% of Kenyans heavily depends on out-of-pocket payments for Healthcare services just like many other

African countries [34]. These services are complemented with financial assistance from bilateral and multilateral donors, creating a situation where the ministries of health in Africa spend a lot of time attending workshops and responding to donor inquiries and concerns and less time providing service to the households. Unfortunately, families who contribute a larger portion of funds to the health system have a minimal voice in demand for health care services. The situation necessitates the need for partnerships in the health system [34].

Revenue collection and fund pooling are key functions of health sector financing. To ensure that there are universal coverage and even protection against the financial risks associated with using health services, the World Health Assembly called for healthcare financing to spearhead this sector so that services can be easily accessed and utilized by all [35]. Catastrophic costs incurred by households particularly in low-income countries like Kenya when accessing and utilizing health services easily impoverish them. It is clear that funding for health services comes from households or firms; these include tax revenue, health insurance contribution and direct payments [36]. At the community and individual levels, there is a need for information to assess the extent to which services are meeting the demands of the communities [37]. Availability and utilization of information deliver cost savings, reduced systems inefficiencies, and improved health outcomes [38]. The health system should permit the selection of effective and affordable health interventions to address the priority health concerns revealed by the information system. Others have demonstrated the effectiveness of using up-to-date

information for planning and resource allocation in improving health status [39]. In each organization of health care, funding payments have come to be the welcomed tool utilized by health care buyers in many of the developed countries to establish prospective financial plans. The strategy prescription of funding is recognized to mark both fairness objectives (of considerable significance in the publicly financed organization of health care) and effectiveness objectives (the presiding concern in aggressive insurance markets). The inspection of the present state of technique in 20 countries in the outer side of the United States in which health care funding has been executed affirms that funding has presumed central significance within diverse organizations of health care. In execution, however, the situations of funding payments have been deliberately constrained up to now by poor data accessibility and disappointing analytic methodology [40]. The scheme may not automatically need to disburse at the level of financing presumed by the central government. In Scandinavian health care organization, local governments can to some extent vary their funding degrees from those assumed by the central government by changing local taxes or co-payments from the degrees presumed by the national government. In Switzerland, sickness capitals might finance differences from presumed expenditure degrees varying the insurance installments they charge. Majority of low and middle- income states have devolution their public health services in an attempt to upgrade their fairness, organization, and effectiveness [41].

In Italy, devolved health care system has led to the improved health status of the Italians compared to other countries. The National Health Service is lawfully required to warrant the constant supply of comprehensive care all-round the country. Nevertheless, this is complex by the reality that, constitutionally, management for healthcare is divided in the middle of the central government and the other 20 regions. There is big and increasing contrast in the regional health service provision and organization. A comparatively low portion of flagrant domestic product was comprehended by the Public health- care expenditure, in spite of the fact that the last 25 years it has constantly overreached the forecasts of the central government. Adjusts in systems payment, especially for hospital care, have assisted to motivate organizational suitability and may have accorded to containing expenditure. Tax origins used to sponsor the Servizio Sanitario Nazionale (SSN) have grown a little more regressive. The finite proof on vertical fairness proposes that the SSN make sure that uniform access to main care but bottom income groups face barriers to specialist supervision. The health rank and condition of Italians has enhanced and compares approving with that in other countries, in spite of the fact that regional discrepancies persist [42].

In spite of achieving an average life expectancy of 75 years, a lot similar as that of many developed countries, Mexico came into the 21st century having health system ruined by its non-success to provide financial preservation in health to a lot of its citizens, this together was as a consequence and a source of social inequity that have pronounced the evolution process in Mexico. Many structural disadvantages have hindered performance and restricted the progress of the health system. Aware that the absence of financial preservation was the main bottleneck, Mexico has commenced on a structural reshape to upgrade health system production by building the System of Social Protection in Health (SSPH) in the devolved government, which has initiated new financial regulations and incentives. The major change of the reshape has been the *Seguro Popular* (Popular Health Insurance), the insurance-found component of the SSPH, directed at financing health care for every family, majority of the families were poor, who had been formerly disbarred from social health insurance. The reshape has permitted for a considerable growth in public speculation in health while realigning motivation in the direction of superior technical and interpersonal quality. The study described the major features and inceptive outcomes of the Mexican reshape attempt, and acquire lessons for other countries bearing in mind that health-system alteration beneath indistinguishable demanding circumstances [43].

In the Philippines, the devolved governance declined the quality and coverage of health services in some locations specifically in rural and remote areas [44]. 1992-1997 it was found that systems effects included a breakdown in management systems between the level of government. Devolution also brought rapid appraisal of health services in two project services

India's health funding organization is a source of and a worsening component in the problem of health unfairness, insufficient accessibility and reach, different access, and poor-standard and expensive health-care assistance. Little per individual is disbursed on health and inadequate public spending end in one of the highest sections of private out-of-pocket costs in the world. Citizens acquire low value for finance in the private and the public sectors. Funding preservation against medical disbursements is significantly from worldwide with just 10% of citizens having medical cover. The Indian government has made a dedication to enhancing public expenditure on health from as low as 1% to 3% of the obvious domestic invention throughout the preceding few years. Enhanced public finance together with the adaptability of the financial shift from center to state can significantly upgrade the production of state-utilized public systems. Increased public expenditure can be utilized to introduce general medical cover that may assist to considerably reduces the burden of private out-of-pocket spending on health. Enhanced

public expenditures can also participate in standard assurance in the private and public sectors throughout effective rules and oversight. Moreover, to an increase in public spending on health, the India's government will, nevertheless, need to initiate particular methods to include costs, upgrade the systematic of spending, enhance accountability, and observe the influence of spending on health [45].

In Tanzania, decentralization led to insufficiency of the expanded program on immunization (EPI) funding although funding came from basket funds. This led to increased utilization of EPI hence coverage or health insurance [46]. The examination however identified a noticeable decrease in the EPI insurance instantly to post-decentralization, and assigned this condition to decrease quality of EPI services, due to retarded and insufficient financing, poor collaboration between the council and CHMT, discouraged health service providers, decreased supervision and distribution of vaccines and related inputs. Strategies should be put in place to streamline positive stakeholders' alignment. This would facilitate improved relations between CHMTs and District Council, the performance of CHMT and health facilities. It should include training of CHMT and other health service providers to develop skills on planning and implementation of health services, communication, negotiation, accountability, and involvement of communities. In Kenya [47] Decentralization is declared to encourage community an accountability, involvement, equity and technical efficiency in the management of resources, and has been a repeated theme in health system reforms for many decades. In 2010, Kenya progressed a new constitution that initiated 47 county governments, with the considerable transfer of management for health service distribution from the central government to the 47 counties. Focusing on the two key elements of the health system, Human Resources for Health (HRH) and Essential Medicines and Medical Supplies (EMMS) management, the study examined the early execution of experiences of this main governance reshape at county position. It was found that before devolution there were significant delays in procurement which led to long stock-outs of essential drugs in health facilities. However, the devolved government enabled the county to finally manage to procure drugs, the health facilities thereafter reported a better order fill-rate.

Availability and inclusiveness of health services provided at a health resource are disapproving in understanding general health coverage. This nevertheless partially demands an efficient, strong and also well-governed health system, an adequate volume of well-taught, driven health staffs and a system for funding health services [48]. The Kenyan government together with development partners support has above the years commenced various strategies and policies focused at perceiving universal coverage. The

government is perpetrated towards the overall coverage through enhancing revenue administration and also financing in personnel focused at increasing geographical access and health infrastructure. Despite this nevertheless, there is finite solidarity in the funding of health care and that an important portion of the funding is off finance plan and skewed in the direction of one contributor lifting sustainability and fairness concerns [48]. The health sector in Kenya relies on many sources of financing: private firms, public (government), donors and households as well as health insurance schemes [49] purchaser is the biggest donators, representing 15 estimated 35.9 percent, accompanied by the government of Kenya and contributor at 30 percent each. Above the past not many years, government funding as a percentage of GDP has been constant at moderately over four percent. Kenya committed to allocating at least 15 percent of its national budget to health as a signatory to the 2001 Abuja Declaration. Kenya uses the disbursement of funds to public facilities unfairly and also it uses a relatively little amount as a proportion of GDP on health. According to a 2011 Healthy Action detail, 70 percent of the health financial plans have historically been allocated to tertiary and secondary provision. The same detail states that the distribution of finances to main care facilities has been "poor" – this in spite of the remarkable task these facilities take part in as the initial point of exposure in the supply of healthcare services (Compact). The division of government disbursing in the government financial plan portrays general underfunding of publicly supplied for services, even if for some services mostly for the non-communicable diseases, the gap is overpassed by donors [50]. In the Health funding Strategy of 2010, the government highlighted social health defense to all Kenyans by initiating social unity mechanisms established on supportive principles of social health insurance and the tax funding for the reason of funding preservation of the poor and alternative unsafe groups.

The government repeated its dedication to revise the NHIF Act for the grounds of increasing access and widening interest package in succession to attain the set intention. In the recent constitution passed in 2010, the government issued the required legal framework to ensure an inclusive and people managed health care provision targeted at increasing access to standard and the affordable health care [48]. New inventiveness of "Beyond Zero Tolerance" push for the pregnant mothers, breast cancer and children are among the most recent attempts towards UHC. This has enabled the majority of stakeholders to contribute resources in the support of the initiatives in spite of the unreliable statistics of informing strategy dialogue on the pack of the initiatives. Whereas this affirmative move in the correct direction, there is the absence of a strategy to assist the initiative in ensuring sustainability in the occurrences of political government change, which is unquestionably anticipated in a democratic

society [48]. Unluckily, restriction in the execution of general healthcare funding policy has hampered effective arrangements, finance planning, and supply of health services. The health sector has also competed with stagnant or decreasing finance planning for health, system ineffectiveness, perseveringly poor service standards and the absence of equity [51]. Future arrangements needs to note that “reversing the trends” may not be attained by the government health system only. Effectual involvement and partnership with alternative stakeholders in the supply of protection should be escalated. The aim should be a working health system depending on collaboration and cooperation amid all stakeholders, and whose services and policies have an influence on health results. The system has to enclose a sector-broad approach and highlight the flexibility for quick distribution and continuous monitoring of the financial plan of resources. ‘Health Financing: The Case of RH/FP in Kenya’ identifies that the State financial plan is the major solid announcement of the government’s national most important consideration. Budgets convey government dedication to a strategy and specify the amount of preference allocated to it. It is desired that upgraded budget clarity will enhance public commitment in the budget operation. This will increase the pro-poor finance plan strategy, assignment and results [51].

Kenya faces many key challenges in health financing. Firstly, is the approach to services for household and individuals is disintegrated by coverage scheme, while the poor and vulnerable are largely excluded. Second, the disintegration of health funding schemes also conducts inefficiencies in service supply and funding. Third, various set of problems occur that are associated to health sectors and public governance matters; key amid these are the absence of productive standard assurance contraption and unproductive collective governance and accountability contraption, which has resulted to a trust-deficiency in Kenyan health funding institutions. All areas required to be attended to urgently to make important progress regarding Universal Health Coverage (UHC) [50].

Leadership and Governance

In health and development, governance and leadership are critically important for the achievement of the Sustainable Development Goals (SDGs) and other health-related goals. For Africa to attain the set SDGs specifically the one targeting health, improved governance is a critical aspect in as far as to strengthening the health systems is concerned, based on principles of devolution, inclusive representation, defined constituency and mandate, and democratic mechanisms of selection and accountability. Leadership and governance in a health system cut across all the other 5 health system building blocks and all stakeholders of health including the public, governmental and private sector and all persons who

use, provide, fund and monitor health care. Leadership and governance also called stewardship is the management and guiding the whole health system [30].



Primarily, leadership and governance of health care provision is the responsibility of governments of countries [52]. Leadership and governance involve regulations, effective allocation and utilization of resources, accountability, collaboration with all stakeholders involved in health care and flow of provision of health care in the other 5 building blocks [53]. The high need to demonstrate results and finances deployed in the health care sectors demand efficient leadership and governance. Leadership demands high levels of accountability in performance of health care providers in delivery of health care and also reward of performance, regulations such as enforcement in times of sanctions, knowledge on internal and external ways in which healthcare services are delivered, allocation of adequate finances and other resources so as to ensure essential services are provided and also gathering enough relevant information to assess the performance of health the system [53]. Strong leadership and governance are key would ensure quality health care delivery, adequate resources employed and rightfully used in health care and collaboration of all stakeholders in health care. Health governance and leadership indicators include set strategies, regulations and policies which inform the management on priority plans and policies on medicines, various public health issues such as maternal and child health, malaria, HIV/AIDS and Tuberculosis.

According to WHO [53], the proposed leadership and governance indicators are;

Availability of an updated national health strategy which is aligned with the needs of the nation and priorities

The governments are the primary institutions that formulate and implementing health policies. The health policies should state clearly and in detail vision of the future and lays out how objectives would be reached. National health policies should indicate expectations from the various stakeholders and quantify the number of resources necessary to achieve the objectives.

Availability of an updated published national medicines policy which also indicates the year of update

An updated national medicines policy describes the structure for putting in place and monitoring pharmaceutical sectors and ensures; essential medicines are cheap and available, medicines are not likely to cause harm, effective and are of high quality. The policy should also regulate the usage of medicines by consumers and health personnel.

Availability of policies of procurement of medicines which indicate clearly the most cost-effective medicines in their correct amounts, transparent bidding of competitive suppliers of standard commodities

Procurement comprises control of stock, buying, competitive bidding, equitable allocation of resources, analysis of offers, payments, receipt of medical commodities and quality control. Pharmaceuticals are vulnerable to fraud and corruption since the processes are often poorly documented. To curb this vulnerability, transparent procedures and good technical specifications should be put in place.

Availability of national strategic TB plan indicating the six main components of Stop-TB strategy as documented in the Global Plan to stop TB 2006-2015

The Stop-TB strategy by WHO was intended to scale up TB control activities as well as address TB-HIV co-infection and TB (MDR-TB) multidrug resistance. The national TB strategic plan should be in line with the Stop-TB strategy and the components which are; Involving all health care personnel, supporting research, empowering the public on TB via partnership, participating in strengthening the health system through provision of health care, addressing TB-HIV co-infection and TB resistance and needs of vulnerable populations, conducting high quality directly observed treatments (DOTS) improvement.

Availability of a national strategy for malaria that comprises of drug efficacy monitoring, control of vector and monitoring of insecticide resistance

This indicator assesses whether national strategies for malaria are in line with the global malaria policies formulated by WHO which include vector control, monitoring of insecticide resistance, efficacy monitoring.

Availability of an indication of completion of UNGASS National Composite Policy Index HIV/AIDS questionnaires

In 2001, the United Nations General Special Session (UNGSS) came to a consensus on a framework to curb the spread of HIV/AIDS by 2015. This indicator monitors whether national policies and HIV programs are aligned with the global UNGSS declaration.

Availability of detailed policy on reproductive health linked with ICPD action plan

This indicator tracks whether policies put in place on maternal health are detailed and in line with ICPD (International Conference on Population and Development) action plan. The ICPD action plan includes reproductive health and rights, empowerment of women and gender equality.

Availability of Updated Detailed Multiyear Plan of Child Immunization

Interventions on immunization are often based on past initiatives from specific targeted diseases. A detailed multiyear plan for immunization of children would provide expenses and funding options which helps in health care planning and budgeting. This indicator shows the possibility to deliver immunization and childhood health care services.

Availability of systems of receiving feedback from clients on the efficiency of health services

Feedback from patients on their satisfaction is important in acquiring information on the quality of health care delivered. The feedback assesses inputs, procedures and results and consequences. An indicator that informs on patient satisfaction indicates responsiveness of stewardship.

Availability of main documents such as budgets, performance reviews, and health care indicators which are regularly remitted

Publication and dissemination of crucial records and reports indicate openness and accountability in the health sector. Dissemination of these documents also indicates responsiveness of the health system.

Leadership and governance of health in Kenya

In 2010, the new constitution was promulgated which required the health sector to be decentralized from the central government to the county governments. After the March 2013 general election, decentralization of the health sector was ushered in. Decision making, authority and resources, and responsibility in the health care sector were delegated to the governance of 47 counties. Devolution of the health sector was aimed at improving health care in the country, focus on the “low potential areas”, reduce corruption especially on procurement, foster efficient health care delivery, improve on the quality of health care delivery [54]. County governments were supposed to manage resources and come up with health strategies that would cater for the specific health needs within the county spearheaded by the elected governor with the help of the deputy governor and the county assembly. The Ministry of Health and Health Policy Project assisted the county health management teams (CHMTs) are to ensure that priority services would not be neglected in the rush to build facilities. There was a need for accurate and reliable data for the CHMTs to develop strategic plans in response to these challenges. Compiled data from several sources including the Service Availability and Readiness Assessment Mapping (SARAM), County Health Fact Sheets, the Kenya Health Sector Strategic Plan, and the draft Kenya Health Policy were used to inform the strategic plan development at county levels. As a result, the Transition Authority devolved health services to the counties in Gazette Notice No. 137 of August 9, 2013 [55].

Health Policy Project (HPP) partnered with Ministry of Medical Services (MOMS) and the Ministry of Public Health and Sanitation MOPHS on developing a common understanding of the structures, opportunities, and challenges of devolution for health sector actors. The partnership facilitated the ministries of health understand how devolution would divide authority and responsibility between the national and county governments, as outlined in the 2010 constitution and subsequent relevant legislation. It was from this forum that the health managers recognized the need to prepare better for these significant systemic changes by proposing definitions for national and county-level functions [56]. Human dignity, social justice, equality, equity, indiscriminate, human rights, protection of the marginalized and non-discrimination are principles and national values of governance in Article 10 (2) (b) of the Constitution. All these need to be incorporated by the county health sector during exercises like budget planning as a policy requirement.

Health system in Kenya has faced huge challenges which include lack of enough health workers as well as skills to handle the growing demand for specialized care, the conflict between the county governments and the national government [57]. Other

challenges include conflict of interest among politicians and other parties, inadequate resources and lack of capacity to handle the transition [56]. The root cause of the challenges is poor leadership in the process of decentralizing responsibilities from central government to county governments and also the management in the newly created counties. After the 2013 general elections, the elected governors and county assemblies, county politicians with limited legislative experience now controlled resources that they did not have the systems to administer. Additionally, many of them wanted to invest county resources in infrastructure improvements, including constructing new health facilities throughout their counties (Commission for the Implementation of the Constitution, 2014).

Leadership and Governance in Kakamega County

According to Kalava [58], health care in Kakamega has been faced with bureaucracy, the inadequacy of funds, nepotism, conflict of interest among politicians, impeachments and poor working conditions among others which all indicate inefficiencies in leadership and governance. On the other hand, Kakamega County has made huge milestones in the improvement of health care. The government of Kakamega County in collaboration with UNICEF and other institutions initiated “Oparanya care”, an initiative under “Marisha afya ya mama na mtoto” project. The program prioritizes maternal and child health whereby women deliver for free in public health facilities and are offered incentives. The initiative was aimed at mitigating the problem of the high rate of home deliveries due to poverty which contributed to the high maternal and neonatal mortality in the county [59]. Kakamega County has also equipped Kakamega County General Hospital maternity and pediatric wards with modern equipment [60]. Kakamega County alongside Homabay county allocated a stipend to community health volunteers as well as ensuring universal coverage of the CHVs [59]. A stipend is a form of motivation which motivates community health workers in the mobilization of the community units. Kakamega County has gone ahead to initiate a project to build a referral hospital, Kakamega Teaching, and Referral hospital. The project will support the training of medical students, enable research and hugely diagnose, treat and manage noncommunicable diseases. The leadership of Kakamega County has both faced challenges as well as partnered with institutions to improve health in the county.

Health Information Systems

Valid and reliable information forms the evidence base for decision making in the health system. Health information systems comprise four principal functions; data generation, compilation, analyses and synthesis, communication and use [53]. Data is collected (from service delivery, financing, health workforce, and medical commodities and other data that

influences health care), data quality is ensured when it is analyzed and converted to information which is presented, used to identify gaps and used in decision making involving planning, allocation of resources and also in future interventions. The health information system should inform all stakeholders in health care with understandable, reliable, usable, authoritative and comparative data [53];

- Data on patient profile, health needs and treatment form evidence for clinical decision making. Data on patients includes the status of health, outbreaks of diseases, mortality.
- Data on health facilities indicate responsiveness to patient feedback, health worker personnel available, services offered in the various hospitals.
- Population data is on indicators such as behaviors, socioeconomic, environmental, coverage of services help to track health care needs with population growth, mobilization, and allocation of resources, population wellbeing and other public health decision making.
- Information on health surveillance collects data on epidemics and outcome of interventions. It informs on the progress of the interventions done in the communities to control diseases.

Health Information System In Kenya

Kenya adopted the District Health Information System (DHIS2) in 2010 and was later deployed in all 47 counties in Kenya. DHIS2 is a cloud-based software that offers a database where health data on various diseases, health needs, health outcomes of various populations in the regions of a country is collected, compiled and synthesized [61]. Adoption of DHIS2 in all health facilities was in line with the Kenya Health Policy Framework envisioning 2030 [62] whereby it addressed the shortcomings of lack of reliable data to base decision making which include paper-based data capture which lacks timeliness, is difficult to retrieve over the years and also compromises on completeness which poses a challenge during synthesizing for decision making, monitoring and evaluation. However, DHIS2 has not been fully utilized in its analysis and presentation capability [63, 64]. Adequate primary health care capacity is dependent on the number of doctors and nurses available in any given county or county. The Kenya National benchmark is supposed to be three doctors per 10,000 people yet in the 47 counties, the proportion of doctors ranges from 0 to 2. Counties that have low population densities seem to have fewer population densities of nurses, for example, Manderu had 0.9 per 10,000 [63].

According to the 2013 Service Availability Readiness Mapping analysis, there was going to be great variability in the provision of health care services upon the devolved health care system. By then, some Counties had very few numbers of facilities per 10,000

people, and it was feared whether the nine counties would manage or were prepared to provide health care services than other Counties. Increased revenue may improve the Counties' readiness to provide healthcare services. Counties that performed relatively well across the indicators may still have inadequate healthcare inputs according to national or international standards as none of the counties met the national benchmark for the population density of medical practitioners [65].

CONCLUSION

In conclusion, a number of studies report negative or ambiguous effects of Devolution on health care, citing inequity as a major concern [66, 67]. Therefore, while Devolution is generally expected to increase equity, there is little evidence to support this proposition [68]. Some researchers assert that Devolution predisposes health systems to inequity because decentralized autonomy for decision making leads to disparities in approaches to health care between autonomous units [69]. This claim is however disputed by other studies, noting that Devolution does not predispose health systems to inequity [70, 71]. Yet some studies reveal that equity outcomes are further tied to the prevailing political setting and policy choice. The prevailing polarized arguments in the literature demonstrate that there is inadequate empirical evidence to warrant definitive conclusions on the impact of Devolution on health-related equity. In the view of Riutort and Cabarcas [72], there is an imperative for a systematic review of literature on this subject because current evidence is contradictory and ambiguous. Devolution of health care in Kenya since the enactment of the new constitution in 2010 and 2013 national election was aimed at ensuring health care was more improved, more efficient and available for all citizens at an affordable cost. It was envisioned that health services would be timely delivered and closely monitored for proper utilization of health service resources. However, inadequacies in the health system continue to be reported with challenges still existing centralized government regime despite the devolution of health services. Kenya Health Policy 2014-2030 laid emphasis on resource allocation based on technical and allocative efficiency. However, since the inception of the devolved system, there is little published evidence of the performance of health indicators.

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