Reinforcing the Health Information System to Step up the Viabilization of Health Districts

Policy brief

July 2010

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Acknowledgements

Funding

Global Health Research Initiative- International Development Research Centre – Ottawa, Canada

The Alliance for Health Policy and Systems Research (AHPSR) – Geneva, Switzerland

Conflicts of Interest

None

Internal Merit Review Process

This policy brief was reviewed by the research team of the Centre for Development of Best Practices in Health: Dr David Yondo, Dr François Colin Nkoa and Mrs Cécile Renée Bonono-Momnougui.

PREAMBLE

The Centre for Development of Best Practices in Health (CDBPH) is a research unit established in June 2008 at the Yaoundé Central Hospital to foster Knowledge Translation and Exchange for Better Health in Africa with the financial support of a Global Health Leadership Award from the Canadian Global Health Research Initiative administered by IDRC - Canada. CDBPH is a knowledge brokerage unit designed to link health researchers with health decision-makers. This initiative serve researchers by collecting, synthesizing, re-packaging, and communicating the relevant evidence in user-friendly terms that stakeholders at many different levels can interact with and understand. CDBPH also intends to serve health decision-makers by providing capacity building opportunities, providing evidence summaries and identifying needs and gaps related to Evidence to Practice.

This policy brief on reinforcing the health information system to step up viabilization of health district in Cameroon is the fourth prepared by CDBPH to synthesize and communicate research evidence backing particular policy options for the consideration of decision-makers. The policy options discussed in this document are not mutually exclusive interventions; that is some or all of the options could be adapted concurrently as they are complementary strategies to strengthen the health information to step up viabilization of health district in Cameroon. We do not intend to recommend any particular option rather than any other. It is left to decision-makers to choose one particular policy option rather any other, or to recommend all the options as a whole according to the actual decision-making process with the relevant stakeholders.

Key Messages

- Following the mid-term evaluation of the 2001-10 health sectoral strategy (HSS), an updating has been decided to tie it down to reaching the Millennium Development Goals (MDGs) by 2015 and the main strategy among others is the viabilization of the health district - a process aiming at reinforcing the district health system towards institutional, technical and economic autonomy. During the midterm evaluation, the quantitative assessment of achievements was feasible only by resorting to studies and surveys because of the poor performance of the routine National Health Information System (NHIS). The routine NHIS is weak, fragmented and not integrated thus failing to timely provide relevant information to the Health Map relative to the actual health needs and the level of satisfaction amongst the health sector' users, the utilization rate of health services, the difficulties of the health technologies procurement and supply chain and the performance of health services. Until now, each priority program disposes of its own data collection strategy for its specific needs. Resorting to the NHIS data for planning or resource allocation is far from being the rule
- The Systemic Quality Improvement Assessment 2006-2007 has revealed that none of the health districts has gone beyond the launching phase of the process paving the way towards autonomy. The "general data" component of this assessment has been the less well informed by District Health Management Teams nationwide notably the epidemiologic profile, the districts' budgets, the mapping of health facilities, the infrastructures, the equipments as well as the human resources. The updated HSS 2001-15 has retained health information as a priority with the general objective to reach evidence informed management in 90% of the health facilities and the specific objectives are among others to well organize the data collection, to improve data analysis and to constantly use these data for improving the quality of services and care. If the document approves the creation in the medium term of an integrated budgetary and health information system, the strategic options for its implementation at the district level are not yet specified justifying the request by the Technical Secretariat of the Steering and Follow-up Committee of the HSS to prepare this policy brief.
- The Health Metric Network analysis of the Cameroonian system according to a five dimension framing - resources, indicators, data management, data production, dissemination and use of information – shows the following weaknesses according to their severity on a 0-100% performance graded scale: data management (28%), civil registration (recording of births and deaths) (18%), access to information on the census (38%), access to information on health map (39%) and access to information on human resources (59%).
- The personnel collecting or analyzing data do not always have the necessary skills to generate relevant information for decision making. Posting as a health information officer is often considered as disciplinary assignments mainly because information officer do not have access to bonuses from user fees in comparison to those in curative services or in vertical disease control programmes. Besides, health personnel have the feeling that the reports sent to the central level are not exploited and useless as they receive any feedback. Amongst consequences are a poor monitoring and evaluation of resources utilization, the inability to monitor the viabilization process in districts and to have an equity-oriented planning.

Options

- Establish one coordinating and steering body for the NHIS.
- Promote demand and utilization of health information through capacity building of health professionals and managers in evidence informed decision making for the viabilization of health districts.
- Enhance the value of Health Information through financial incentives and modernization of the working conditions, tools and methods by resorting to appropriate information technologies

Implementation considerations

- The launching of the SWAp and the implementation of the updated 2001-15 HSS with validated district development plans constitute an opportunity for the adoption of the suggested options.
- There is a need for financial resources to prepare the new policy under a collaborative approach in order to involve the numerous stakeholders and build ownership of the new policy at the very beginning. Information and education for health professionals as well as community actors have proven to be effective in facilitating uptake of this type of reform. In the same line, modernizing working conditions and accompanying it with appropriate training and financial incentives constitute powerful enablers for the uptake of new practices.

Reinforcing the Health Information System to Step up the Viabilization of Health District

Full report

June 2010

Background

Following the mid-term evaluation of the 2001-10 health sectoral strategy (HSS) [1], an updating has been decided to tie it down to reaching the Millennium Development Goals (MDGs) by 2015 and the main strategy among others is the viabilization of the health district - a process aiming at reinforcing the district health system towards institutional, technical and economic autonomy [2]. During the midterm evaluation, the quantitative assessment of achievements was feasible only by resorting to studies and surveys because of the poor performance of the routine National Health Information System (NHIS) [1]. How to timely inform the optimal choice of investments and interventions and substantiate progress of the implementation of the updated HSS and the SWAp mechanism? An effective and comprehensive monitoring and evaluation is seen as a prerequisite for progress reporting in the achievement of the five objectives of the 2001–15 HSS – to enable 80% of the 178 health districts achieving at least the consolidation phase of the viabilization process; to enable 100% of the health facilities at the strategic and intermediary levels to play their role of assistance and guidance; to reduce one third of the burden of diseases among the poor and the most vulnerable populations; to reduce two thirds of the mortality rate among the under 5 years old children; to reduce of 2/5 the maternal mortality rate [2].

What is the problem?

The routine NHIS is weak, fragmented and not integrated thus failing to timely provide relevant information to the Health Map relative to the actual health needs and the level of satisfaction amongst the health sector' users, the utilization rate of health services, the difficulties of the health technologies procurement and supply chain (drugs and commodities) and the performance of health services. Numerous data collection tools and poor traceability of data collection were pointed out during the midterm evaluation of the 2001-10 HSS. Among other things, one can note the inconsistency of the figures given in the documents issued from the central services of the Ministry of Health such as the number of health districts, operational district hospitals, health areas, attendance rate of the services or the health expenditures per capita [1-3] despite the existing Health Information Unit within the Division of Studies and Projects [4]. Until now, each priority program disposes of its own data collection strategy for its specific needs. The capacities of analyzing and making use of the data are not always relevant to different levels of the health pyramid. Resorting to the NHIS data for planning or resource allocation is far from being the rule [1-3, 5]. Monitoring and evaluating the viabilization process of the health district require an up to date information system providing useful and relevant information that are responsive to decision makers needs for the rational use of scarce resources and corrective measures to improve the performance of the districts and the national system as well [6, 7]. The integrated framework for monitoring and evaluation of the implementation of the health SWAp require a reform of the NHIS [2].

How did it come to attention?

The preparatory work to switch health financing towards a SWAp mechanism has revealed the failures of the routine NHIS. The mid-term quantitative evaluation of the 2001-2010 HSS was possible only through studies and surveys data and a consultation was commissioned to develop an integrated monitoring and evaluation (M&E) framework acknowledged as a prerequisite for the health SWAp in conformity with the principles of the Paris Declaration on the effectiveness of the Official Development Assistance [2]. The Systemic Quality Improvement Assessment 2006-2007 has revealed that none of the health districts has gone beyond the launching phase of the process paving the way towards autonomy. The "general data" component of this assessment has been the less well informed by District Health Management Teams nationwide notably the epidemiologic profile, the districts' budgets, the mapping of health facilities, the infrastructures, the equipments as well as the human resources [8]. Besides, the participative approach for the planning of health districts development has exacerbated the needs for an updated health information system that could provide all the stakeholders with relevant information and evidence while preparing the action plans for the implementation of the SWAp [9].

The updated HSS 2001-15 [2] has retained health information as a priority with the general objective to reach evidence informed management in 90% of the health facilities and the specific objectives are among others to

well organize the data collection, to improve data analysis and to constantly use these data for improving the quality of services and care. If the document approves the creation in the medium term of an integrated budgetary and health information system, the strategic options for its implementation at the district level are not yet specified.

What is the magnitude of the problem?

The Health Metric Network analysis of the Cameroonian system according to a five dimension framing - resources, indicators, data management, data production, dissemination and use of information – shows the following weaknesses according to their severity on a 0-100% performance graded scale: data management (28%), civil registration (recording of births and deaths) (18%), access to information on the census (38%), access to information on health map (39%) and access to information on human resources (59%). The current civil status registration is weak notably in the recording of births and deaths. Data exchange between state and private health providers is not the rule. This study equally observes that resource allocation is not based on the processing of the data related to the needs of health facilities and services [5]. The results from the 2005 general census were officially released in 2010.

Periodic health information systems in the regions are largely focused on infectious diseases and health services. If the syndrome approach tampers with the validity of some clinical diagnosis in health centres, health professionals responsible of data collection feel discouraged by the large amount of forms they have to fill - many vertical programs providing each its own collecting and analysis method as well as its own baseline of impact indicators. Very often, these forms do not come along with an explanatory slip [1, 5]. There are two epidemiological surveillance sub systems linked to the Expanded Program for Immunization and the Directorate for Disease Control [4].

The personnel on the field lack data analysis tool and are therefore not very much interested into data collection and processing as there is no direct usefulness for their daily job and integrated planning. Besides, the data circuit leaves little space for analysis and processing of the data at the local health area or the district levels. The feedback is rare in the health pyramid, thus worsening the feeling among the health workers on the field that the data collection is not relevant. Numerous are the health professionals who ask themselves whether the data sent to the central level are ever exploited, and if the answer is yes, for what purpose? Very often, the information is not considered as a resource and, being transferred to a data collection post is considered as a punishment for a great majority of health professionals [1-3, 5].

At the national level, some of the consequences of these weaknesses are the difficulties to monitor and evaluate the use of resources, the poorly equity-oriented planning and the inability to properly assess progress towards the viabilization of health districts. Hence, coverage rate of vaccination activities in many health areas and districts will be beyond 100% because of the inaccuracy of baseline demographic data [1, 2].

Conceptual framework of the health information systems [6, 10-12]

Health information constitutes a building block of the health system as an essential input for planning, resource allocation, advocacy, monitoring and evaluation tool aiming at improving the quality and performance of the health services and care [6]. The NHIS is a core of resources and rules set to process data and information related to the populations' health, its determinants, the action of the health sector nationwide and its subsequent performance and health outcomes and finally its transmission to agencies empowered to take decisions.

Transparency, resource allocation, improvement of programs and decisions in relation with management depend on the quality of health information. The health information systems are based on the data collected from the populations (census, household surveys, civil status registers, public health and epidemiological surveillance) and from health facilities and services (morbidity data, health conditions, information systems for health management on human resources, infrastructures, equipment and financing). The relevant data to collect vary according to the level in the health pyramid. There is a need for a standardized data collection as well as processing to generate health information amenable for dissemination thus allowing comparisons between the populations in space and time.

The key functions of a NHIS comprise data collection to depict the country's health status; the data quality improvement through standardization and definition of each indicator, illness or symptom; data analysis at each level of the health system and informed decision making; ensuring feedback at all levels; ensuring accessibility of data base to all the interested parties for health development within and outside of the Ministry of Health; ensuring the epidemiological surveillance and alerting in case of an epidemic. Critical to any health information system is the link between the production and the use of information. The setting of institutional mechanisms and incentives in order to introduce an evidence informed decision making process is seen by many scholars as a necessity. According to the Health Metrics Network sheltered by the World Health Organization, the six critical components of a NHIS are **resources -** political and institutional framework, infrastructures, human, material and financial resources; the political framework identifies main actors and coordination mechanisms; planning for health information production and utilisation is critical to ensure the availability, exchange, quality and sharing of relevant information-; **indicators** related to health determinants, health system and the populations' health condition; **data sources -** health structures, civil status services, statistics services, censuses and population surveys; **data management -** written procedures and tools ensuring the quality of data during the collection, storage, transmission, analysis, publishing and dissemination; **products of information -** compiling and processing data from different sources in order to use them together constitutes the cornerstone for information generation, the processing of data goes through aggregation, calculation, cleaning, standardization or merging of tables, combination of code values or transposition of values; **dissemination and use -** the use of information at different levels of the health pyramid is an integral part of the planning and functioning of the health information system. **The elements of an effective NHIS** are its **relevance** - how it satisfies clearly defined and quantified public health objectives- ; its **performance -** does it work with efficient methods and tools and competent professionals?-; its **usefulness** – how is it used by the targeted audience (decision makers, health professionals, community stakeholders? ; and its **consistency:** are the various stakeholders and information sources well coordinated?

The concept of health district has emerged from the concept of primary health care (Alma Ata 1978) and after the failure of the implementation of the isolated "in silo" primary health care activities. As a matter of fact, the primary health care entails activities at primary and community levels as well as the first level of reference. The district was created to plan and coordinate the services at these two levels. The district is therefore the operational level that comprises "primary level equipment and community health workers delivering curative and preventive integrated services to a determined population with the active participation of the community under the dual supervision of the district hospital and the district health management team". The concept of the health district system simply adds a new element – the district hospital – to the primary health care framework. It is responsible for the management of the first level of referral, i.e. obstetrical and surgical emergencies and it aims at increasing available resources for an extended assistance to health care within the district [6].

The viabilization of the health district or health district system strengthening is a process to lead health district to become technically, economically and institutionally autonomous. **Technical autonomy** is the capacity of the health system at district level to supply quality health care and services considering the concerns and expectations of the populations and the personnel. **Economic autonomy** is the capacity of the components of the district health system to defray all the costs, individually and collectively, with the generated incomes and other sources of financing. **Institutional autonomy** is the capacity of stakeholders to manage the health district in conformity with the role assigned to each of them. In summary, the viabilization process comprised three interrelated phases the launching, the consolidation and the empowerment; a district can be in the consolidation phase, while some of its activities are still in the launching phase. There are needs for an optimal mobilization of inputs, a mastery of the processes in order to reinforce and improve the supply of healthcare, the partnership and the financing mechanisms, the procurement and supply of drugs, reagents, consumables and medical devices [13].

What are the causes of the problem?

Among systemic causes, poverty and side effects of the windstorm of structural adjustment policies during the 1980-1990 decade, which thus forced the countries to abandon the five years development plans and replace them with the projects approach. The decline of the revenues of health professionals, the devaluation of the CFA Franc, the freezing of recruitments in the public service and the lowering of the mandatory retirement age have deteriorated the human resource motivation. The technical know-how in planning, monitoring-evaluation and supervision has been lost. The efforts made to revitalize the NHIS in the early 1990s did not reach the final stage of reforming data collection tools to cover both intermediary and central levels. The participative planning approach recommended in the framework of primary health care was abandoned in favour an equal distribution of the existing resources among the health districts starting with the central level, but without an allocation grid appropriated to their actual needs. The health sector reform launched by the adoption of the 2001-10 HSS made of 32 programmes including vertical programmes to boost the health sector was not followed by progressive integration beyond the emergency stage [1-3, 14, 15].

The organizational causes: the Health Information Unit within the Division of Studies and Projects is in charge of health information management but there is a lack of a national policy on health information, there is no up to date written rule and regulation on tools, role and responsibilities of actors, data circuit. Many of the actors lack skills to properly manage health data. There are numerous vertical programs, which entails a diversity of methods of collection and analysis of information, thus fragmenting the pre-existing NHIS. There is no administrative policy on data collection and data sharing between different directorates and programmes. There is no operating system of the data collected at the local level. The information and communication technologies (ICT) are not sufficiently developed at the level of districts. The systems of most districts have not been computerized [1-3, 5, 6].

The individuals' related causes: the personnel whose task is to collect or analyze data do not always have the necessary skills to generate relevant information for decision making; the lack of motivation among the personnel has led to conditions where posting as a health information officer is often considered as disciplinary assignments mainly because information officer do not have access to bonuses from user fees. They are expected to do a lot of work without financial compensation in comparison to those in curative services or in vertical disease control programmes. Besides, the health personnel have the feeling that the reports sent to the central level are not exploited. The collection task is thus neglected. The central level does nothing else but sending forms and receiving the data sheets. They rarely check the data provided hence leading to the phenomenon of self reproduction and falsification of figures [14, 15].

In summary, in comparison to theoretical and conceptual frameworks [10-13], the NHIS in Cameroon is fragmented and poor performing because of the lack of an administrative chart to ensure coordination and proper stewardship of the several actors, the lack of mechanisms and culture for evidence informed decision making, the archaic infrastructure for data collection and processing as well as the absence of standards related to the utilization of health information.

Policy Options

1. Establish one coordinating and steering body for the NHIS [12].

The numerous priority vertical health programmes with entrenched administrative and financial procedures have led to a fragmented routine NHIS. Establishing one steering body and one administrative coordinating mechanism body around the Health Information Unit will clarify role and responsibilities, mechanisms for administrative interactions between interested parties within and beyond the Ministry of Health. There is a need for agreed norms and standards of operations for all the actors in terms of data collection, data processing and validation, sharing, exchange and dissemination. Especially, clarity is needed in terms of utilization of the health information as an input for planning, resources allocation, feedback, accountability as well as ensuring open access to health information for all the stakeholders. The Health Information Unit will then interact with other providers of data and information such as the National Institute for Statistics, the Census Bureau and research centres.

2. Promote demand and utilization of health information through capacity building of health professionals and managers in evidence informed decision making for the viabilization of health districts [16, 17].

Without appropriate capacity for evidence informed management of health districts and rules enforcing the utilization of high quality health information for planning, resources allocation and accountability within the health systems, strengthening the NHIS will continuously fail. By supporting the demand side of high quality health information, stakeholders will be motivated by gaining social and moral satisfaction. Amongst interventions proven effective in strengthening health systems and improving performance of healthcare organizations and providers are mixed interventions including training, job aids and financial incentives [20-22].

3. Enhance the value of Health Information through financial incentives and modernizing the working conditions, tools and methods resorting to appropriate information technologies [18, 19, 22].

Due to low wages amongst health civil servants, those posted in district health services and hospitals are entitled to bonuses and benefits related to the user fees and/or achievements from some priority health programmes objectives. The absence of bonuses for those not involved in healthcare provision and cumbersome paper work constitute disincentives for many health workers in charge of data collection and analysis. Training information officer in computer sciences, statistics and data management, reinforcing the IT infrastructure and connectivity are potentially incentives for field workers, district health management teams, and regional and central levels staff.

Implementation considerations

The launching of the SWAp and the implementation of the updated 2001-15 HSS with validated district development plans constitute an opportunity for the adoption of the suggested options.

There is a need for financial resources to prepare the new policy under a collaborative approach in order to involve the numerous stakeholders and build ownership of the new policy at the very beginning. Information and education for health professionals as well as community actors have proven to be effective in facilitating uptake of this type of reform. In the same line, modernizing working conditions and accompanying it with appropriate training and financial incentives constitute powerful enablers for the uptake of new practices [19-22].

Case study: the Tanzanian Essential Health Interventions Project - TEHIP initiative [16]

This collaborative program between the Ministry of Health of Tanzania and the International Development Research Centre (IDRC) from Canada was aiming at assessing the assertion by the World Bank (World Development Report, 1993) that "it is possible to considerably improve the health indicators in countries with limited resources as the developing countries, if budgets are allocated taking in consideration the local burden of diseases, that is to say using local health data". The project was implemented in the districts of Morogoro and Rufiji in Tanzania, one of the world poorest countries whose health indicators were among the worst. The project was build around the setting of Management Teams in districts and the development of tools for population –based data collection and analysis as well as the use the locally generated health information. The main tools were designed for estimating the burden of disease profile, for planning the district health budget, community needs and expectations casebook and data on the cost effectiveness and cost benefits of interventions. TEHIP has demonstrated that health interventions are more efficient when local data are taken into consideration in the decision-making process. It has also made the case that when relevant local information is used as basis for planning, priority setting and resource allocation in a health district, one can achieve a better public health impact as confirmed by the 40% reduction of both the mortality and the morbidity rates in Rufiji and Morogoro. From this experience, reinforcing a health system implies putting an emphasis on its general principles of management, integrating community participation in the interventions, improving health information system, infrastructure and governance. These five elements not only contribute

to improve the quality of the care provided in the system, but also through an efficiency oriented process, they contribute to greater equity within the system.

Information allows optimizing the use of limited financial resources and in this case, health expenditures should respect and further the priorities based on certified local data rather than depend on the purposes of the donors and the "vertical" programs. Before TEHIP, childhood diseases which accounting for 37% of the morbidity burden were allocated only 17% of the funds whereas 50% of the funds were attributed to a multitude of conditions whose cumulated morbidity burden was less than 15%. Finally, health information has opened the way for a better absorption of aid or additional financings. Before TEHIP, these financings could not be used owing to the lack of justifiable expenditure items, either because they were not provided for in the expenditures of the "vertical programs", or the districts did not have the necessary management and administrative capacities to make stock of it. Nevertheless, once the planning made, the additional funds were used by district health planners in order to support critical health interventions such as the rehabilitation of health establishments, training and capacity building, purchasing of indispensable drugs, communication material, computers and software.

Countries whose demographic data are not yet very accurate such as many in sub-Saharan Africa should develop as alternative minimal and cost- efficient solutions, at least two sentinel systems (one in rural areas and one in urban areas) or demographic surveillance systems (DSS). These systems might serve as population, health and poverty observatories. DSS should be drawn upon for an integrated use of the various sources of information (such as health condition, poverty indexes and equity indexes), all of which derive from sentinel monitoring programs. DSS can provide local planners with a considerable quantity of certified data. For health interventions to play their role efficiently and improve the health condition, they should be tailored in such a way that they support the decisions and actions of the health personnel. In conclusion, the TEHIP show us that increasing the financings alone is not sufficient to improve health indicators but associating financing and the use of tools such as DSS could improve planning and resource allocation and achieve health impact.

As far as adaptability is concerned, no costs-efficiency study has been realized during TEHIP. In comparison to the initial district budgets allocated to carry out TEHIP activities, the additional costs have been marginal.

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Summary table of strategic options

The strategic options	1. Establish one coordinating and steering body for the NHIS	2.Promote the demand and utilization of high quality health information through capacity building for evidence informed management and decision making	3.Enhance the value of health information through financial incentives and modernizing working conditions, tools and methods resorting to IT
Benefits or advantages	Defining a coherent health information national policy Clarifying role, responsibilities and contributions within the NHIS. Development of standards	Enables the satisfaction of the actual needs of the population. Enables population and equity-oriented decision making and enhance efficiency	IT improves monitoring and evaluation activities by easing data collection and analysis, processing and dissemination Financial bonuses enable to improve data completeness and swiftness.
Inconveniences/risks	Operating costs and challenges of coordination of several partners with different administrative rules.	Although a key and essential pillar for management and action, information (if alone) is not sufficient to ensure an efficient and appropriate decision making process.	Budgetary constraints Moral hazard Power shortage and poor Internet coverage
Acceptability	Donors and programme managers in quest of visibility might not be delighted by standardization and integrated HIS at the district.		
Applicability		Training improves the skills depending on the methods and content of training.	Financial incentives "alone" cannot constitute an efficient tool to bring change in public health policies, they should be adjusted to the quality and productivity of the system and should concern all the interested parties to avoid competing interests. Incentives scheme should be simple and transparent.
Obstacles to implementation	Financial and budgetary constraints Lack of resources for enforcement of the new policy.	Absence of a culture of evidence informed decision making and poor sense of accountability Resistance to change	Situational obstacles: implementation and financing Users' shortcomings in computer skills Conflicts of interests
Implementation strategies	Building and reinforcement of the stakeholders' capacities - Incentive to use the data and the information produced in any decision making process at the health district level, and within the whole health system - Incentive to produce good quality health information		
	Evidence informed planning. Development of management tools.	Mobilizing resources in order to reinforce the capacities of health information managers and users.	Mobilizing financial, technological and infrastructural resources to improve work quality, completeness and swiftness of the data collected.