Implementing a routine health management information system in South Sudan

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Abstract

South Sudan has recently acquired statehood. Planning and management of the health care system, based on evidence, requires a constant flow of information from health services. The Division of Monitoring and Evaluation (M&E) of the Ministry of Health developed the framework for the health sector of the country in 2008. At that time data were collected through surveys and assessments.

Two health system assessments conducted in 2007 (1) and 2009 (2) highlighted the absence of a working routine Health Management Information System (HMIS). An M&E Scoping Mission conducted in March 2010 (3) noted the lack of tools and procedures for data collection, the inconsistent data flow and the limited capacity for analysis and use of data for action at all levels of the system. A plan to develop the system based on the '3-ones' strategy (one database, one monitoring system, one leadership) was put in place under the leadership of the Ministry of Health (MOH). The MOH has since developed, tested and refined the tools and procedures for the routine HMIS, produced a comprehensive roll out plan and started the integration of health programmes into the system.

The design of the routine HMIS tools was followed by their pre-test in Jonglei and Upper Nile States. In these two states, the combination of appropriate tools, training and support resulted in health facilities, counties and states officers able to provide consistent and quality routine reports. While this happened in the two states, at central level tools were refined and explained to MOH programmes staff and partners staff; consensus was built on the need for collecting only the relevant data for action and the database for the South Sudan information system was developed in the District Health Information Software (DHIS). This joint approach provided the needed impulse for the health agencies to adhere to the MOH system. From February 2011, a flurry of activities happened to support M&E in states and counties including provision of equipment, printing and distribution of registers and manuals and training in HMIS and DHIS of MOH officers, partners and programmes staff.

This approach has started to pay off and the routine information system is progressing. This paper presents the path followed, challenges met, advances made, and the way forward in establishing an integrated routine HMIS in South Sudan.

Background

South Sudan is a country coming out of more than two decades of civil war and has a history of marginalisation and under-development. Since Sudan's independence little happened to develop the health care system or services in the South. During the conflict years health care was provided by Non-Governmental Organisations (NGOs) and Faith Based Organisations with access estimated at 20-25%. The health status of inhabitants was one of the worst in Africa. For the major part of the war, the health information system was non-existent and reduced to surveys conducted by humanitarian organizations and development partners usually for their own purposes.

The signing of the Comprehensive Peace Agreement in 2005, which led to a referendum in 2010 and the creation of a new country in 2011, represented the start of South Sudan developing a health service again and building this from almost nothing. However, the development of a Health Management Information System (HMIS) could not happen overnight. With the MOH in its infancy there was not a coordinated approach to collect and report information from health services. Stakeholders 'did their own thing', created their own tools and procedures to collect, transmit and analyze data from health services to their head offices or donors.

The newly formed MOH set about developing the health care system in line with the health policy of the Government of South Sudan, 2006-2011. Accordingly, the health care system was to be based on evidence and monitored by regular information from health services so as to guide planning and management. In line with these principles, the MOH started the long process of developing an efficient and relevant HMIS, to provide information to each management level – health facilities, counties, states and central MOH. The M&E framework was published in 2008 (4), but still most of the data were generated from surveys starting with the Household Survey (5) and also periodic data from health facilities, NGOs, international agencies and donors or through the

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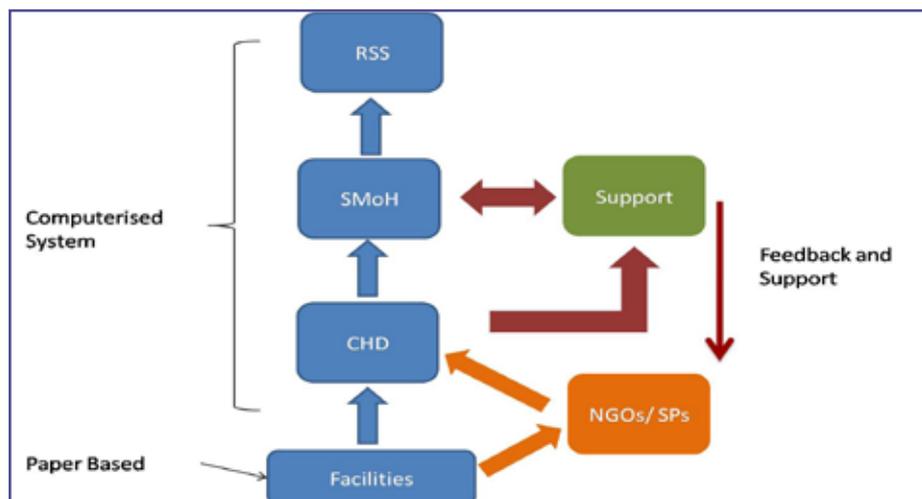   World Health

Figure 1. Data flow of the routine HMIS

limitations for data collection in health services and low capacity for analysis and interpretation at higher levels. Based on the M&E framework of the health sector and the capacity of health facilities staff to calculate and use the data elements, a list of indicators was defined and a simple data flow put forward. The data flow (Figure 1) follows the management lines of the health care system:

• Health facilities collect numerical indicators on paper for the County Health Department

• Counties enter data into the DHIS, calculate coverage indicators and send reports to the SMOH

• SMOH aggregate counties results and send State indicators to the central level.

NGOs operating at county level report to Counties; if operating at State level they send reports to the SMOH M&E Department. Feedback follows an inverse path: from MOH to SMOH, County Health Departments and health facilities.

The implementation milestones were:

• The priority list of indicators, a sample one page monthly report and the quantified supervisory checklist with guidelines were developed, discussed, pretested and refined.

• Registers for all health facilities (Antenatal Care, Delivery, Outpatient Department for Adults and Children, and Expanded Programme of Immunization) were fine-tuned, so that registers contained all the information needed for the routine monthly report. Requirements for each category of health services were calculated based on activity recorded by the health mapping of 2009-2011 (7). MOH and health partners then started printing and distributing the registers.

• Training in HMIS and DHIS started at central, state and county levels, with very fast achievement of computer literacy and knowledge by MOH, state and county officers (Figure 2).

• Programmes' staff and information were progressively integrated into the system: Malaria and Tuberculosis were the first, followed by the Expanded Programme of Immunization,

MOH, using the Federal Ministry of Health (Khartoum government) procedures and indicators.

In March 2010 (6) a rapid assessment took place to assess the status of the routine HMIS – the conclusions were sobering: there was not a system in place – data collection was piecemeal and in various formats; the list of indicators for collection was not defined or not relevant; reports (when available) were often incomplete and, when completed, were not understood by the health staff. Perhaps more importantly, there was a lack of understanding by health workers of the basic concepts of data collection, analysis and feedback. To compound matters NGOs and donors collected their indicators more to serve their own individual purposes of reporting to donors than to reinforce the management based on evidence principle. As providers of services, and while the government was strengthening its management capabilities of the health care system, the NGO community established their information systems based on their own information needs.

Process

As a result of the evidence of the rapid assessment the consensus was that to establish a working routine HMIS two principles were essential: simplicity and relevance. The first, simplicity, required development of uncomplicated tools to be understood and used by health staff and managers at all levels. The second principle, relevance, required understanding and responding to the information needs of health care services staff, counties and states officers, programmes, health partners, donors and the MOH.

The first step was to define what information should be collected by the routine and the non routine systems, particularly the routine system, taking into account

Integrated Disease Surveillance and Response, and HIV.

Six months after the start of activities, the MOH organized a review meeting (8). State and counties representatives, NGOs, UN Agencies and donors contributed their experience and helped finalise tools and discuss strategies. The main achievement was an agreed reformed list of indicators with programme data elements and the first integrated routine monthly report for all health facilities. The report had two sections. Part 1 included all routine service indicators to measure performance of high impact services; Part 2 incorporated information on communicable diseases relevant for the

Figure 2. County Health Officers practice their skills in HMIS and DHID during training conducted in Bor, Jonglei State in 2010, organized by IMA and the State Ministry of Health.

Integrated Disease Surveillance and Response division, on drugs for the pharmaceuticals directorate and of vaccinations and vaccines for the Expanded Programme of Immunization.

Major organizational challenges were discussed to look for solutions:

- How to improve data flow and ensure that counties and states were not bypassed.

- How to integrate *all* reports (programmes, NGOs, donors) into the MOH system to reduce duplication and workload to health facilities and counties' staff and still get all information needed for action.

- How to improve the deficit of equipment and tools in rural areas and capacity of and support

Box 1. *"Some programmes have funds, human resources and tools but they say their mission is to collect their own report ... They do not inform us or help us and we don't have the same means they have. They bypass us but we are responsible for the M&E in each state. Now that we understand the tools they may have to consider us as part of the team"* (comment shared by M&E officers during September 2011 meeting).

for the M &E officers in states and counties.

Adopted Solutions

1. Participants agreed that to maintain the flow of information without bypassing the lower management levels of the public health system (Figure 1), state and county officers had to be perceived as leaders and decision makers in HMIS/DHIS. To achieve this proficiency, an intensive training programme was prepared and implemented: MOH, state and county officers were trained by experts in HMIS and DHIS while other health partners trained programmes, health facilities and NGOs staff[a] . HMIS and DHIS manuals were finalized and shared (9). Preliminary training materials have been developed and a basic training curriculum agreed with the SMOH officers. Feedback and performance reports have been defined. The result is best expressed by the comments of one of the SMOH M&E Directors quoted in Box 1.

2. M&E activities have incorporated programmes staff and SMOH M&E Directors reinforce links between them and progress towards the establishment of a national M&E Team (Figure 3); in September 2011 training addressed to M&E officers included participation of staff from programmes and contributed to sharing of knowledge and experiences.

3. The MOH and partners have purchased and distributed equipment to reach all counties. IT equipment has been sent and installed to state capitals and most are

a Liverpool Associates for Tropical Health (LATH)- Health Information Systems Programme (HISP) and Inter-Church Medical Assistance (IMA) World Health trained MOH and SMOH officers, South Sudan AIDs commission and programmes staff; IMA World Health focused on Upper Nile and Jonglei states staff; WHO supported training of the Epidemiological Surveillance Officers; Basic Services Fund (BSF) of NGO staff and counties where they operate; Norwegian People's Aid (NPA) is assisting Central and Eastern Equatoria; Warrap State has trained county staff with support from UNICEF and WHO.

Figure 3. John Mading, Director of M&E of Lakes States installs DHIS in his laptop with the support of the M&E Directors of Warrap, Western Bahr El Ghazal, Unity and Upper Nile states, September 2011.

operative, although the budget for recurrent expenses in M&E still needs to be addressed, to ensure autonomy of the M&E Department in each state.

Conclusion

The implementing of a routine HMIS from scratch is challenging but possible. The system requires tools and procedures but also an enthusiastic, motivated and proficient team who understands the value of data for planners and managers. South Sudan has professionals in the public health care system who are working to make the routine HMIS a reality and to implement the mandate of the Government of a system based on evidence. While there are still challenges ahead there is also measurable progress. This is a joint effort between stakeholders in which negotiation and pragmatism are key concepts.

What's next?

1. Complete the printing and distribution of registers so that all health facilities have data collection tools.

2. Provide a small allocation of funds to M&E departments in states and counties for printing essentials (toner and paper), fuel for the generator and/or visits to the counties to collect reports.

3. Continue delivering training to SMOH officers so they can in turn start training their fellow colleagues in states and counties.

4. Proceed with integration of programmes into the system and with the integration of staff into the South Sudan M&E Team.

5. Support the central HMIS Unit in Juba to undertake a country wide monitoring function.

6. Ensure that the information collected is used to improve service provision and the health of the people of South Sudan.

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Nodding syndrome in Uganada According to recent reports (1,2) Nodding Syndrome (see SSMJ 4/1) has hit Kitgum, Pader and Gulu districts in northern Uganda. More than 1000 cases were diagnosed between August and mid-December. It has now reached Yumbe, which borders South Sudan – where cases have also been reported.

1.Mysterious nodding syndrome spreading through Uganda. New Scientist Health 23 December 2011.

2. Daily Monitor. Kampala. 20 January 2011.