

**GOVERNMENT OF SOUTHERN SUDAN  
MINISTRY OF HEALTH**



**Southern Sudan Integrated  
Disease Surveillance and  
Response Assessment Report**

**2007**



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Surveillance and Response Assessment  
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**Under Secretary**  
**Ministry of Health-GOSS**

## Acronyms

<b>AFP</b>	Acute Flaccid Paralysis
<b>AFRO</b>	African Regional Office
<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CHW</b>	Community Health Worker
<b>DFID</b>	Department for International Development
<b>EMRO</b>	Eastern Mediterranean Regional Office
<b>FELTP</b>	Field Epidemiology & Laboratory Management Training Program
<b>GOS</b>	Government of Sudan
<b>GOSS</b>	Government of Southern Sudan
<b>HIV</b>	Human Immunodeficiency Virus
<b>HQ</b>	World Health Organization Headquarters
<b>IDSR</b>	Integrated Disease Surveillance & Response
<b>KEMRI</b>	Kenya Medical Research Institute
<b>MOH</b>	Ministry of Health
<b>NGO</b>	Non-Governmental Organization
<b>OLS</b>	Operation Lifeline Sudan
<b>PoA</b>	Plan of Action
<b>WHORO</b>	World Health Organization Regional Office
<b>SPLA</b>	Sudan People Liberation Army
<b>SPLM</b>	Sudanese People's Liberation Movement
<b>TB</b>	Tuberculosis
<b>UN</b>	United Nations
<b>UNAIDS</b>	United Nations Program on HIV/AIDS
<b>UNDP</b>	United Nations Development Program
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization
<b>WHO/AFRO</b>	World Health Organization Regional Office for Africa

# Introduction

A well functioning disease surveillance system is critical to the health system in providing evidence-based information for planning, implementation, monitoring and evaluation of public health intervention programmes. In most developing countries, surveillance systems are often weak or have developed in an uneven fashion, with various surveillance activities funded and managed by different control programmes or organizations resulting in duplication of efforts and inefficient use of resources and systems. Considering the need for a synergistic and coordinated method in disease surveillance and to strengthen its role in control of communicable diseases, the World Health Organization, African Regional Office (WHO/AFRO), developed a strategy that is promoting an integrated approach<sup>1</sup>.

Since its adoption in 1998, the strategy on Integrated Disease Surveillance (IDS) has been implemented with encouraging success in many countries in the African Region. The IDS strategy calls for a coordinated approach to data collection, analyses, interpretation, use, and dissemination of surveillance information for decision making and implementation of public health interventions with the goal to control and prevent communicable diseases. Strengthening national disease surveillance and response systems using the integrated approach involves:

- a. Intensifying training (in- and pre-service) targeting in particular the district health teams
- b. Establishing focal points and mechanisms for co-ordination of surveillance activities
- c. Strengthening data management at central , intermediate, and peripheral levels
- d. Establishing efficient communication networks within the country for prompt reporting and
- e. Building laboratory capacity including networking at national and regional levels to support surveillance activities.

Through this strategy, integration and synergy of existing surveillance systems is envisaged as applicable at all levels of the health system, particularly at the district level.

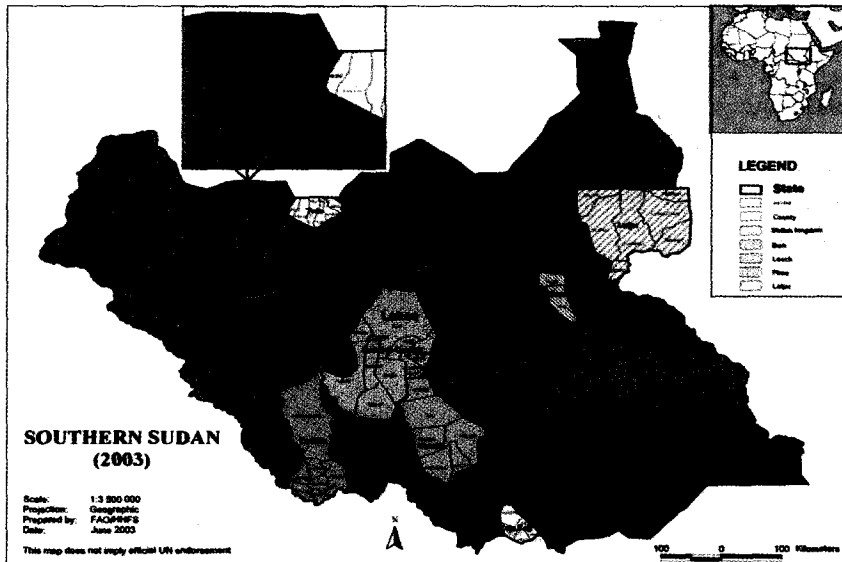
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<sup>1</sup>. World Health Organization, Regional Office for Africa. Integrated Disease Surveillance Strategy, A Regional strategy for communicable diseases 199-2003. Harare: World Health Organization Regional Office for Africa, 1999

The Centres for Disease Control and Prevention (CDC) has been engaged as a technical partner with WHO and ministries of health to support countries in the process of design, implementation, monitoring and evaluation of infectious disease surveillance systems using this strategy.

## Background

Southern Sudan covers an area of 610,175 km<sup>2</sup>, and is bordered by Kenya, Uganda, Ethiopia, the Democratic Republic of Congo and CAR. The population is estimated at about 12,000,000 with a rapid increasing trend due to post conflict returnees. The country had been engaged in one of the longest civil wars in Africa with devastating outcome of massive displacement, depletion of assets, and limited access to social services and arrest of development in a country which was already one of the most underdeveloped in the world. According to the Joint Assessment Mission (JAM) it is estimated that 90% of the population are living on less than \$1 a day income.<sup>2</sup> The civil war was brought to an end on January 9, 2005, with the signing of the Comprehensive Peace Agreement (CPA) between the Sudanese Government and the Sudanese People's Liberation Army/Movement (SPLM).<sup>3</sup>



Since the peace agreement, the Government of Southern Sudan has embarked on addressing the challenges of establishment and reconstruction of the much needed social services including health services as one of the priority areas. Data from the Sudan Household Health Survey (2006) indicates infant Mortality rate as 102/1000 live

<sup>2</sup> Joint Assessment Mission, South Sudan , MARCH 18, 2005

<sup>3</sup> Government of National Unity and Government of Southern Sudan , Framework for Sustained Peace, Development and Poverty Eradication Progress Monitoring Note, February

births, under-five mortality rate as 135/100 live births and maternal mortality rate as 2037/100,000 live births, the highest in the world.

Communicable diseases remain a major concern in Southern Sudan. The main causes of morbidity and mortality are infectious and parasitic diseases including tuberculosis (TB), Diarrhea, Malaria, Measles and Acute Respiratory Infections (ARI). Southern Sudan shares the largest (80%) burden of the total guinea-worm cases world wide. Other epidemic diseases like Sleeping Sickness and Leishmaniasis are endemic in certain parts of the country while the prevalence of HIV/AIDS was found to be low. However there is an observation of an increasing trend of HIV/AIDS in some parts of the country. Except for the excellent progress in the eradication of Poliomyelitis, the coverage of the Expanded Program of Immunization (EPI) has remained low for many years with variation between the different states<sup>4</sup>.

In recognition of the urgent need to build surveillance functions for the control of communicable diseases, the Ministry of Health (MOH) made a decision to adopt and implement the Integrated Disease Surveillance and Response (IDSR) approach in Southern Sudan. Initial activities included sensitization of MOH staff and partners on IDSR and establishment of IDSR. In order to accelerate the implementation process of IDSR, the MOH requested CDC for technical assistance to assist in the assessment of the national communicable disease surveillance and development of the Plan of Action (PoA) for Southern Sudan.

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<sup>4</sup> WHO Consolidated Appeal 2006 based on the UN work plan 2006:  
[http://www.who.int/hac/donorinfo/Sudan\\_Workplan\\_Nov05.pdf](http://www.who.int/hac/donorinfo/Sudan_Workplan_Nov05.pdf)

# **Objectives and Expected Outputs**

## **3.1 Objectives**

- a. To conduct assessment of the status of existing communicable disease surveillance system and determine the strengths, weaknesses and opportunities for strengthening surveillance in South Sudan
- b. To develop consensus on recommendations and priority activities for implementation of IDSR
- c. To develop a Plan-of-Action (PoA) with goals and process-type activities objectives, time-lines, and a preliminary budget.

## **3.2 Expected outputs**

- a. Findings and recommendations of the IDS assessment reviewed
- b. Consensus reached on recommendations and priority activities
- c. A one year national plan of action with goals, objectives and activities prepared.

## Methods

Under the leadership of the Director General, Preventive Health Services and in collaboration with WHO, a desk reviews team was established to facilitate the process of assessment and documentation by the CDC consultant. (Annex 1) The WHO-AFRO generic assessment protocol was adapted to suit the specific situation of South Sudan.<sup>5</sup> Relevant documents were reviewed and individual interview and group discussions were held as appropriate. (Annex 2). The findings of the review were initially discussed at the desk review team meeting and later presented to the Consultative Group for Health and Nutrition (CGHN) representing programs at Ministry of Health (MOH), WHO, Global Fund (GF), UNICEF and other partners. Following the discussions and consensus, recommendations were developed and major priority action areas were identified for IDSR implementation in the country. During the planning workshop, the detailed activities, objectives, timelines and resources were identified and a plan of action (POA) developed for the year 2007-08 implementation of IDSR in Southern Sudan (Annex 3 & 4).

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<sup>5</sup> World Health Organization, Regional Office for Africa. Assessment Protocol for National Communicable Disease Surveillance Systems and Epidemic Preparedness and Response. February 2000

# **Scope of the Assessment**

In order to determine the strengths and weaknesses of the existing communicable diseases surveillance systems in the country, the assessment covered the main and supportive functions of communicable disease surveillance with a focus on the following main elements and areas:

## **5.1 Elements Assessed**

### **5.1.1 Structure**

At central, State, County, Payam and peripheral levels, the existence of surveillance units or focal points was checked. The representation of surveillance units or focal points was assessed in comparison to the overall organizational structure of the particular level.

### **5.1.2 Process**

The following activities in the surveillance process were assessed: case detection, registration, case confirmation, data analysis and reporting, feed back, supervision, out break investigation, epidemic preparedness and response at all levels of the health system.

### **5.1.3 Output**

The assessment examined out puts from the different surveillance systems at different levels including the presence of weekly, monthly, quarterly as well as annual reports/plans. Analysis in terms of person, time and place were also checked.

## **5.2 Areas Assessed**

### **5.2.1 Priority diseases**

Based on the epidemiologic profile of communicable diseases in Southern Sudan the working group recommended 24 diseases as priority for IDSR. Thus, this assessment considered the 24 diseases selected for surveillance, as shown in the table overleaf.

**Table 1: Priority diseases for IDSR**

1. Cholera	13. HIV/AIDS
2. Bloody diarrhoea	14. STIs
3. Measles	15. Malaria
4. Yellow fever	16. Trypanosomiasis
5. Meningococcal meningitis	17. TB
6. Viral haemorrhagic fevers	18. Onchocerciasis
7. Guinea worm	19. Rabies
8. AFP	20. Lymphatic Filariasis
9. Neonatal tetanus (NNT)	21. Kala Azar
10. Leprosy	22. Schistosomiasis
11. Diarrhoea in under 5 yr	23. Acute jaundice syndrome
12. Acute respiratory illness (ARI) Under 5 yr	24. Avian Influenza (AI)

### **5.2.2 Capacity**

In assessing capacity, the review looked into availability and number of trained human resources for communicable disease surveillance at each level, the type and number of training conducted. In addition, availability of budget for surveillance and epidemic preparedness and response (EPR) was checked. Other elements considered were material resources for surveillance including communication equipment, transport facility and logistics, emergency stocks of drugs and medical supplies for epidemics, data management instruments and IEC materials

### **5.2.3. Integration**

Various data collection, analysis and reporting formats were reviewed in order to identify possible areas of integration/synergism

### **5.2.4. Laboratories**

One major area of assessment was laboratory function at central, state, county and Payam level where present. The structure, capacity and linkage of laboratory services to the surveillance system were assessed.

The contribution and role of laboratory services in communicable disease surveillance and epidemic response was also assessed. Various activities of laboratory functions including types of tests available, collection and transportation of specimens for referral, availability of reagents, chemicals, equipment and skilled human resources were also reviewed.

## Findings

The following section describes the results of the assessment in accordance with the elements and areas described above.

### 6.1 Health Delivery Systems in Southern Sudan

The health system in Southern Sudan has suffered immensely during the period of the conflict and efforts are ongoing to revive what is left and establish new ones as appropriate. A statement within the Health Policy Indicates that the the Government will focus on strengthening the primary health care system which was introduced in the 1970s but which has now deteriorated to almost non-existence. This will be accompanied by intensive control programs for endemic diseases like Malaria, TB and HIV/AIDS. Regular campaigns to combat other debilitating diseases like Sleeping Sickness, Kalazar, River Blindness, Guinea-Worm and Leprosy will also be carried out, focusing on areas where they are endemic<sup>6</sup>.

The long standing war has left Southern Sudan with major destruction of health facilities requiring massive effort in rebuilding the various domains of the health systems. Currently, the MOH-GOSS is still in the process of organization and the various levels of health delivery packages are yet to be defined. The overall level of health service coverage is estimated to be approximately 25% and nearly all health delivery is done through Non Governmental Organizations (NGOs). There are few functional health facilities and efforts are being made by the MOH-GOSS to conduct a comprehensive health facility mapping exercise to provide data that will identify gaps in the health system. However it is recognized that most of the health facilities are in poor state of function and need major input in terms of rebuilding infrastructure, provision of equipments and supplies and staffing with skilled health workers. In addition, the deplorable state of roads and scarcity of communication facilities has resulted in limited access to health facilities at all levels contributing to the low utilization of health services.

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<sup>6</sup> The Government policy statement delivered by the president of the Government of Southern Sudan, H.E. Lt. Gen. Salva Kiir Mayardit, at the opening of the Second Session of the Southern Sudan Legislative Assembly, Juba, 10th April 2006.

**Table 2: Southern Sudan Health Service Utilization indicators**

<b>Indicator</b>	<b>SHHS</b>
Fully Immunized Children	17.03%
Births attended by trained personnel (percent)	6%
Institutional deliveries by trained health personnel	13.9%
HH availability of ITN	11.6%
Use of sanitary means of excreta disposal	6.4%
Anti malarial treatment	46.99%

Communicable diseases remain the major causes for morbidity and mortality at all levels of the health delivery and various epidemics continue to occur in different parts of the country. Evaluation of the health systems at different sites in the country identified numerous challenges <sup>7-12</sup>. Among the constraints observed during the evaluations are:

### **Organizational structure**

- a. Challenges within the transition period following the comprehensive peace agreement
- b. Lack of effective coordination with NGOs delivering health services
- c. Lack of adequate budget to support social services and health systems

### **Infrastructure**

- a. Most health facilities are in serious need of reconstruction and renovation while those that are functioning are lacking maintenance services

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<sup>7</sup> Health System Assessment in former Garrison Towns, Report of Missions to Malakal, Renk, Nasir, Bentu and Pibor Located in the Greater Upper Nile Region of South Sudan, SOH/FMOH GOSS WHO – USAID – UNICEF 18 – 25 September 2005

- b. Underdeveloped roads and mine risks
- c. Power outage and lack of electricity in some areas
- d. Shortage of clean water supply
- e. Lack of appropriate waste disposal systems

**Human resources**

- a. Lack of skilled manpower in the area of leadership, management, finances and health service delivery at various levels
- b. Lack of motivation due to irregular salary payment, lack of training, supervision, and feedback

**Supplies**

- a. Lack of appropriate equipment and supplies including medications
- b. Lack of appropriate protective wears and waste disposal systems resulting in breach of infection safety protocols

## **6.2 Existing Surveillance Systems in Southern Sudan**

### **6.2.1 Epidemic-prone and vaccine-preventable diseases**

Surveillance activities are among the functions that were seriously disrupted in regards to the health system. Surveillance officers are available at the different levels. However, the distribution of these officers is uneven and there is no mechanism for coordination and structure for data flow between the different levels.

Recognizing the need for strengthening surveillance activity for prevention and control of communicable diseases, the MOH adopted the IDSR strategy and organized a Task Force. The IDSR task force has specific Terms of Reference (TOR) which is currently under revision (Annex 5). The establishment of the Task Force has facilitated the process in IDSR with activities including selection of priority disease and adaptation of case definitions. However synchronization between the different case definitions (e.g. EWARN) and WHO case definitions remains to be addressed (Annex 6).

According to the WHO evaluation report, most confirmed outbreaks in Southern Sudan concerned Measles, Meningitis, Malaria and whooping cough. The proportion of outbreaks responded to timely (within one week from reported onset) showed an improvement from 14% in 2000 to 41% in 2004. The response from time of reporting has also improved from 85% in 2000 to 97% in 2004<sup>8</sup>.

However, due to multiple reporting formats used by the multiple partners engaged in health care delivery, there is lack of integrated report for priority diseases. Data is often incomplete and at times inaccurate. There is no continuity and consistency in supplying reporting formats, training, supervision and feedback. There is also poor communication between the different levels contributing to delay in information flow and thus delay in response to epidemics. The current structure of the MOH indicates the designation of a staff at the national level to strengthen integrated surveillance and response (IDSR).

The WHO has also expanded its support for strengthening surveillance and response for epidemic-prone and vaccine-preventable through recruitment of staff. Currently, in addition to AFP/poliomyelitis and EWARN, programmes for Malaria control, onchocerciasis control, tuberculosis, and HIV/AIDS are being supported. The integration of

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<sup>8</sup> Strengthening surveillance and response for epidemic-prone and vaccine-preventable diseases in selected African and Eastern Mediterranean countries WHO/CDS/CSR/LYO/2005.23

EWARN and surveillance activities for AFP/poliomyelitis is taking place gradually.

#### **6.2.1.1 Acute Flaccid Paralysis (AFP) surveillance**

The Acute Flaccid Paralysis (AFP) surveillance system began in 1998 and receives support from the WHO Country Office, the WHO Regional Office of the Eastern Mediterranean (EMRO), UNICEF, several NGOs, and other partners. The WHO Polio Eradication activity in South Sudan began in 1998 and is implemented under the umbrella of Operation Lifeline Sudan (OLS) in collaboration with other NGOs. Operation Lifeline Sudan coordinates activities between the Government of Sudan, humanitarian wings of the rebel forces, UN Agencies, and NGOs while WHO and UNICEF provide technical support and assist the coordination of logistical and financial support for the program.

Despite many challenges, the program has covered all areas in the south under SPLM control and also supported activities in Nuba Mountains and Southern Blue Nile. Active surveillance visits are conducted by field assistants (FA) in 341 sentinel sites and 1523 other reporting sites through out Southern Sudan. Case notification and arrangement for stool specimens are communicated immediately through radio and email. Stool specimens are frozen and shipped to Loki from where they are transferred to the Polio Reference Laboratory at Kenya Medical Research Institute (KEMRI) in Nairobi-Kenya for viral isolation. Subsequently, isolates requiring Intra-Typic Differentiation (ITD) are sent to the WHO/AFRO Regional Reference Laboratory in South Africa.

AFP data are managed by a data manager who receives hard copies of the AFP initial and detailed case investigation forms from the field and lab result from KEMRI. In collaboration with the Program Coordinator, data is cleaned, edited while data entry and analysis is centralized under the Technical Officer in Nairobi. Zero reports and work plans are submitted monthly. The Polio Eradication Program in South Sudan is one of the well developed programs in the region. It is noted that Southern Sudan achieved the polio certification level surveillance targets of all indicators in 2002 and has maintained it since then. However, due to on-going security risk, inaccessibility of some areas, logistical and infrastructural constrains it is of concern that wild polio cases could be missed in some regions, particularly in Upper Nile, Lakes, Baher El-Ghazal and Eastern Equatoria<sup>9</sup>. Other challenges for the program include long interval between case detection and mop up campaign, high turnover of trained staff, slow response to field needs of

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<sup>9</sup> AFP Surveillance Review South Sudan September 6 – 16, 2005

operation materials including communication equipments, weak feedback and incomplete monthly zero reporting from Payams<sup>10</sup>. Since 2003, Measles Surveillance System was integrated into AFP surveillance.

### **6.2.2 Surveillance of Guinea worm**

The Sudan Guinea Worm Eradication Program (SGWEP) -Southern Sudan Project is managed by a MOH-GOSS designated Project Coordinator, who is accountable to the Director of Preventive Health Services. The Carter Centre, which provides technical, financial and logistic support for SGWEP, is a collaborating partner, along with UNICEF, WHO, CDC, and international and local agencies.

Southern Sudan carries the largest burden (80%) of all the cases of Guinea worm in the world. The Program covers most of States in Southern Sudan with exception areas in Upper Nile and Eastern Equatoria states, due to the vastness of areas to be covered and poor road access. The program has a well organized system of surveillance including the use of community health workers with documented success. The Guinea Worm Surveillance covers 7.5 millions people in 9 States in South Sudan with over 1085 endemic villages and 1115 villages under surveillance from January - December 2005. Some of the constraints for the program include:<sup>11 12</sup>

- a. Poor documentation – only 8.2% (454/5565) of all cases reported in Southern Sudan had accompanying patient forms and dates verifying that the case containment process had been followed. Of those with forms, only 5.71% (38/5565) were correctly filled and only 61% (194/318) of these were properly documented as “Contained”.
- b. Poor supervision – there were virtually no supervisory structures in most counties and Payams during 2005. This not only hampered the case confirmation aspect of the process, but also creates concern regarding reliability of data and timely supply and guidance on-the-job training to volunteers.

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<sup>10</sup> AFP surveillance system evaluation report , South Sudan ,June –August 2006 .Dr. Lucy, FELTP, JKUAT

<sup>11</sup> Evaluation of Guinea Worm Community- based Surveillance, South Sudan, June-August, 2006, Dr. Mounri Christo Lado, FELTP, JKUAT

<sup>12</sup> Technical Report on Guinea Worm eradication activities in South Sudan. Jan-Apr 2006.Makoy Samule Yibi

- c. Surveillance structures too weak to detect cases within 24 hours
  - insufficient numbers of volunteers to ensure that every village had 1+ trained volunteer.
- d. Inefficient logistics– the lack of on-site supervisory, logistics, and communications presence largely inhibited re-supply.
- e. Sub-optimal experience with, and understanding of, case containment.
- f. Lack of standardized approach to, and understanding, of international standards for case containment.

### **6.2.3 Early Warning and Response Network (EWARN)**

Because of the complex nature of the emergency, frequent epidemics and lack of systems for case identification and appropriate response in Southern Sudan, United Nations Children’s Fund (UNICEF), Operation Life Line Sudan (OLS) and WHO identified an early warning response network (EWARN) as a high priority. EWARN implementation was also part of the joint WHO and CDC team recommendation following the successful control of the 1998–99 relapsing fever outbreaks and similar various recommendations prior to the epidemic. The presence of OLS to negotiate access to humanitarian services and the existence of over 70 health partners provided the opportunity for EWARN.

EWARN is funded from various sources and has wide participation of health care programs supported by multiple organizations. The agencies and organizations that participate in EWARN include 24 NGOs with health programmes, two local counterpart organizations, two health training schools, the International Committee of the Red Cross (ICRC) at Lopiding and Norwegian Church Aid (NCA) at Yei, County Health Departments and WHO. There is high-level awareness of partners in EWARN with growing collaboration from technical partners including the Kenya Medical Research Institute (KEMRI) and AMREF. EWARN is building upon the AFP programme infrastructure and the AFP/Polio staff.

Weekly surveillance data are received from eight sentinel sites, including three newly added ones. Updates are provided to all partners through a monthly update on EWARN issued electronically.

Between 2000- 2006, over 280 rumours of outbreaks were reported and responded to by EWARN. The diseases investigated include:

- a. Suspected VHF in Yambio-Jan 2001 and Feb 2002
- b. Nodding Syndrome/disease in Lui-Aug 2001
- c. Buruli Ulcer in Tambura-July 2002
- d. Viral Encephalitis in Nuba Mountains-2003
- e. Yellow Fever in Imotong in May 2003
- f. Ebola outbreak in Yambio in May-Aug, 2004
- g. Acute Jaundice Syndrome in Tonj & Wadaga Aug-Sept, 2005.
- h. Suspected Monkey Pox In Bentiu Jan 2006.
- i. Cholera in Equatorial, Upper Nile & Bhar El Ghazal, Feb, 2006.
- j. Acute Jaundice Syndrome in Malakal (HEV) , March ,2006
- k. Meningitis in Greater Bahr El Ghazal in March , 2006

Despite the progress made in EWARD, poor communication network for outbreak reporting, poor data quality, lack of timely analysis and interpretation at the health facility and limited capacity for response pose significant constraints. Other challenges include; the coping up with high turnover of trained personnel, strengthening the weak logistical support, and making resources available to implement EWARD.

#### **6.2.4 Epidemic preparedness and response**

There is no specific budget line or structure for epidemic preparedness and response activities at national or lower levels. However due to the complex emergencies, the country had been using the EWARD system which responds to epidemics. According to the **Policy Statement on Emergency Preparedness** "The Federal Ministry of Health, Government of South Sudan is committed to develop and institutionalize a comprehensive health preparedness plan at federal and local levels and to allocate appropriate resources in order to be able to respond to natural and man-made emergencies in an effective and timely manner. This work will be undertaken in close collaboration with other ministries". In line with this policy, a positive experience is emerging with the recent epidemic threat with Avian Influenza (AI).

#### **6.2.4.1 Avian Influenza**

The Avian Influenza Task Force was set up in April, 2006 in Southern Sudan. It is chaired by the Ministry of Animal Resources and Fisheries (MARF) with the Ministry of Health (MOH) as co-chair. Membership includes the Ministry of Animal Resources and Fisheries, Ministry of Health, Ministry of Information, law enforcement and security arms of the Government, FAO, WHO, UNICEF, CDC, and NGO partners.

Control efforts are being supported by the Government of Southern Sudan, the Government of Sudan and their partners. Support to the control efforts included materials, funding and personnel. Since the announcement of the isolation of Avian Influenza's virus from chicken samples collected on August 04, 2006, the Task Force has initiated many control activities including public awareness campaigns, intensified surveillance, poultry movement restrictions, and training of both animal and human health personnel. Essential supplies have also been stockpiled. The MOH-GOSS has a rapid response team and an isolation room at the Juba Teaching Hospital.

While the current efforts have mainly been limited to Juba, there are plans to roll out similar preparedness activities to other parts of Southern Sudan in the coming months. Plans include de-stocking and active surveillance.

### **6.3 Laboratory**

Southern Sudan has a central referral laboratory with structures for coordinating the laboratories at the different levels. However most of these laboratories have not yet resumed function and activities including training of laboratory staff have been disrupted during the conflict. Thus, laboratory personnel with bench training and little formal education are operating many of the health services. The Central Referral Laboratory is non-functional and there is no focal point for coordinating laboratory services at the central level (MOH). Standard Operating Procedures (SOP) and minimum laboratory packages for the different levels are not yet defined. There is no system for internal or external quality control and quality assurance of laboratories in South Sudan. The laboratories are poorly equipped and supplied, and methods are inefficient. Currently, as the national level is planning to rebuild and restructure, collaboration with partners has continued with encouraging progress in some areas<sup>13</sup>;

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<sup>13</sup> Strengthening surveillance and response for epidemic-prone and vaccine-preventable diseases in selected African and Eastern Mediterranean countries WHO/CDS/CSR/LYO/2005.23

- In collaboration with AMREF, Laboratory training materials were developed for improving clinical and laboratory skills, enhancing reporting and data use, laboratory-based data management, collecting, preserving and transporting specimens to the reference laboratory, bio-safety measures, and interpreting laboratory results.
- Establishment of 4 mobile laboratory kits (AMREF) with the capacity to conduct up to 500 different tests in the field and media to transport specimens that cannot be tested in the field. An additional 11 kits were prepared by the EWARN team from the UNFIP budget.
- In collaboration with WHO and KEMRI and AMREF laboratory confirmation of suspected outbreaks of Ebola, yellow fever, Kala-azar and meningitis.
- On-the-job training of laboratory staff, with particular emphasis on methods of sample collection, shipping and safety by staff from KEMRI.

## **6.4 Core Functions of Surveillance**

### **6.3.1 Case Detection and registration**

The IDSR Task Force has adopted the WHO case definitions for most of the selected priority diseases in South Sudan. However there is a need to synchronize these case definitions with existing ones and fill the gap for those diseases not listed on the WHO generic list of priority diseases. It appears that not all health facilities have Standard Case Definitions (SCDs) at their levels. There are no standard tools for registration at the facility level in all parts of Southern Sudan. This is largely due to the fact; most facilities are run by NGOs/partners who use independent tools for registration, and reporting. Disease programs like the Guinea Worm Eradication Program (GWEP) and Acute Flaccid Paralysis (AFP) have specific data collection tools for those particular diseases. The EWARN system also have such tools but these may not capture all that are required to be contained in the tools for the priority diseases adapted for southern Sudan.

### **6.3.2 Case confirmation**

In assessing the case confirmation mechanisms, it is recognized that structural systems and standards at different levels may be different for

different levels of central, state, county and health unit laboratories. Shortage of human resource, equipment and reagents were the main reasons mentioned for the limited or weak capacity of these laboratories at all levels. In addition, the linkage between different levels of the surveillance system and the laboratory is found to be very weak or non-existent. Most laboratories lack the capacity to transport various types of specimens to the next higher level, and there is no defined referral system for laboratory services. In specific situations where confirmation is required for suspected outbreak conditions, the MOH-GOSS and State Ministries of Health (SMOH) utilize the laboratory services located at KEMRI in Kenya.

### **6.3.3 Data reporting**

Generally, there is lack of consistent system for weekly, monthly, quarterly and annual reporting for communicable disease surveillance except for the few programs with established systems. Though summary forms for weekly, monthly and quarterly reports were available for review, verification of timeliness and completeness of these reports was not possible. This is due to lack of monitoring of completeness and timeliness at all levels except for AFP surveillance. The assessment also revealed that vertical programs have surveillance systems and use their own data collection, compilation and reporting formats. The monitoring and evaluation team at the MOH-GOSS is currently working on this area and this provides an opportunity for synchronization of the different forms and tools.

### **6.3.4 Data analysis**

There is very little or no data analysis at health facility level. Line graphs for major communicable diseases and for epidemic prone diseases are not evident and description of data in terms of person, place and time is not available. The main reasons for these limitations are lack of trained personnel, simplified reporting formats, supervision, and feedback.

### **6.3.6 Feedback and supervision**

Although supervisions are usually planned at various levels, the implementation is very limited. Supervisory feedback books and feedback reports from the supervising body were not available for the desk review. Among the factors identified for weak supervision and feedback are: lack of standard checklist, skill, transport, incentive,

coordination, low awareness on the importance of supervision, and motivation. As a result, supervision and feed back are irregular and ineffective.

### **6.3.7 Communication and Resources**

In general, there is scarcity of electricity, vehicles, telephone, radio, e-mail, and computer services with Internet connections. The health facilities particularly at the periphery have no road transport communications. In addition, shortage of budget, difficult terrain, and rainy seasons present a significant challenge for communication between rural facilities and county health facilities. As a result, reporting is delayed, with late response to epidemics and lack of timely provision of essential drugs and supplies.

### **6.3.8 Coordination**

The MOH-GOSS has established a structure named Consultative Group for Health and Nutrition (CGHN) to provide the mechanism by which it can coordinate activities of development partners including donors, UN agencies and NGOs. The objective of CGHN is to increase the effectiveness and efficiency of the health sector in support of the attainment of South Sudanese health policy goals and strategies. The IDSR working group is closely linked with CGHN and constantly updates its members on the progress regarding IDSR activities.

The IDSR Task Force was established with representatives from programs at the MOH and partners. The working group has introduced IDSR to CGHN, selected priority diseases and had been instrumental to the planning and execution of this assessment process. The Terms of Reference for the IDSR working group have been reviewed pending final approval (Annex 5).

# Conclusions and Recommendations

## 7.1 Conclusion

From the above findings, it is concluded that apart from the few vertical programs, integrated disease surveillance system in South Sudan is not developed and there is significant gap in both the core and support activities of communicable disease surveillance at all levels of the health system. The commitment of the Government, existence of supporting policies, and the initiative of the Director General, Preventive Health Services to implement the IDSR strategy is a timely response to address these challenges and strengthen the effort in controlling communicable diseases in Southern Sudan. The following recommendations are forwarded for the implementation and strengthening of IDSR:

## 7.2 Recommendations

### MOH-GOSS

- a. Establish focal points for IDSR at National, State, County and Payam levels.
- b. Establish Epidemic Preparedness and response team at National, state, county and Payam levels
- c. Strengthen IDSR working group through representation of all major stake holders including NGOs
- d. Conduct IDSR orientation meetings for representatives of health systems at national and state levels including partners.
- e. Develop a Human Resource strategy for IDSR implementation through organizing workshops for assessment need and planning at all levels
- f. Adapt IDSR guidelines and tools for training on various aspects of surveillance at all levels
- g. Review case definitions, reporting formats & data collection tools for all levels
- h. Establish thresholds for epidemics & allocate resources for prompt response

- i. Strengthen the national central laboratory to improve case detection, ensure quality control and quality assurance of laboratories at all levels through networking including with regional and international laboratories
- j. Ensure timeliness and completeness of reports through training, support supervision and improved communication
- k. Enhance data analysis and use through training of data managers and health workers, and providing essential equipment and supplies
- l. Promote effective feedback and supervision by maintaining regularity of activity, using checklists and written feedback, training, review meetings, and publication of Bulletins
- m. Develop communication capacity and avail essential resources through proper planning and shared use of resources (efficiency), and provision of critical supplies
- n. Develop/adapt indicators for monitoring and evaluation of IDSR implementation and conduct evaluation at least once by the end of one year.
- o. Organize a study tour to gain experience on IDSR from implementing countries.

### **WHO/CDC**

- a. Continue technical assistance
- b. Support advocacy and mobilization of additional resources

## **ANNEXES**

- Annex 1:** Agenda
- Annex 2:** List of documents reviewed
- Annex 3:** SWOT analysis table
- Annex 4:** List of participants
- Annex 5:** IDSR Task Force terms of reference
- Annex 6:** Case definitions

## Annex 1

### Agenda

Assessment and plan of Action for IDSR-Southern Sudan  
19- 27, Oct 2006

<b>Thursday Oct 19, 2006</b>	
1.00 Pm	Meeting with Director General, Preventive Health Services
2:00 – 3:00 Pm	Lunch
3:00- 4:00 Pm	Meeting with WHO team
4:00-5:30 Pm	Meeting with FELTP residents
<b>Friday Oct 20, 2006</b>	
9:00-11:30	IDSR task force meeting
12:00-1:30	Desk review team meeting
1:30-2:00pm	Lunch
2:00-5:00	Desk review
<b>Saturday Oct 21, 2006</b>	
9:00-13:00	Desk review
13:00-14:00	Lunch
14:00-17:30	Desk review + small group discussion
<b>Sunday Oct 22, 2006</b>	
9:00-1:00	Desk review
1:00-2:00	Lunch
2:00-5:30	Desk review + small group discussion
<b>Monday Oct 23, 2006</b>	
8:00- 1:00	Group discussion on assessment findings

1:00-2:00	Lunch
2:00- 3:00	Group discussion on assessment findings& recommendations
<b>Tuesday Oct 24, 2006</b>	
08:00- 12:00	Group discussion on Plan of action (POA) for IDSR
12:00-13:00	Lunch
13:15- 15:30	Group discussion on POA
15:30-16:00	Coffee break
16:00-17:30	Group discussion and finalization of POA
<b>Wednesday Oct 25, 2006</b>	
Meeting with the health and nutrition consultative group (HNCG)	
09:00-09:30	Presentation of finding of the desk review of surveillance and response systems
09:30 -10:30	Plenary and recommendation
10:30 -10:45	Break
10:45 - 11:15	Review of the POA for IDSR implementation 2007-08
11:15 - 13:00	Plenary
13:00 - 14:00	Lunch
15:00 - 17:00	Review of feedback
<b>Thursday, Oct 26, 2006</b>	
am and pm	Finalization of interview and draft report
<b>Friday, October, 27, 2007</b>	
09:00-10:00	Debriefing MOH/IDSR working group

## **Annex 2**

### **List of documents reviewed**

1. World Health Organization, Regional Office for Africa. Integrated Disease Surveillance Strategy, A Regional strategy for communicable diseases 199-2003. Harare: World Health Organization Regional Office for Africa, 1999
2. Joint Assessment Mission, Southern Sudan , MARCH 18, 2005
3. Government of National Unity and Government of Southern Sudan , Framework for Sustained Peace, Development and Poverty Eradication Progress Monitoring Note, February
4. Southern Sudan centre for statistics 2003
5. WHO Consolidated Appeal 2006 based on the UN work plan 2006  
[http://www.who.int/hac/donorinfo/Sudan\\_Workplan\\_Nov05.pdf](http://www.who.int/hac/donorinfo/Sudan_Workplan_Nov05.pdf)
6. World Health Organization, Regional Office for Africa. Assessment Protocol for National Communicable Disease Surveillance Systems and Epidemic Preparedness and Response. February 2000
7. The Government policy statement delivered by the president of the Government of Southern Sudan, H.E. Lt. Gen. Salva Kiir Mayardit, at the opening of the Second Session of the Southern Sudan Legislative Assembly, Juba, 10th April 2006.
8. Reports. [WWW.MOHGOSS.sd](http://www.mohgoss.sd)
9. Health System Assessment in former Garrison Towns, Report of Missions to Malakal, Renk, Nasir, Bentu and Pibor Located in the Greater Upper Nile Region of South Sudan, SOH/FMOH GOSS WHO - USAID - UNICEF 18 - 25 September 2005
10. Bor Town, Jonglei State Rapid Assessment 19 - 22 December, 2005, GOSS FMOH +
11. Health System Assessment in former Garrison Towns, Report of a Mission to Wau, Aweil, Gogrial, Raja, Draft October 28<sup>th</sup> 2005

12. Health System Assessment in former Garrison Towns.  
Report of a Mission to Juba Final DraftSOH/FMOH GOSS –  
WHO – USAID – UNICEF 5 – 10 September 2005
13. Strengthening surveillance and response for epidemic-prone  
and vaccine-preventable diseases in selected African and  
Eastern Mediterranean countries  
WHO/CDS/CSR/LYO/2005.23
14. AFP Surveillance Review Southern Sudan September 6 – 16,  
2005
15. Dr. Mounri Christo Lado, FELTP, JKUAT. Evaluation of  
Guinea Worm Community- based Surveillance, Southern  
Sudan, June-August, 2006,
16. Makoy Samule Yibi. Technical Report on Guinea Worm  
eradication activities in Southern Sudan. Jan-Apr 2006.
17. Strengthening surveillance and response for epidemic-prone  
and vaccine-preventable diseases in selected African and  
Eastern Mediterranean countries  
WHO/CDS/CSR/LYO/2005.23
18. Dr. Lucy, FELTP, JKUAT. AFP surveillance system  
evaluation report , Southern Sudan, June –August 2006

## Annex 3

### SWOT Analysis

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"><li>• Government leadership and commitment.</li><li>• Multiple partners supporting the health sector</li><li>• A lot of experience from other countries implementing IDSR</li><li>• Positive experience from Polio Eradication, Guinea Worm Eradication and EWARIN</li><li>• Recognition of the relevance of IDSR to South Sudan situation.</li></ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"><li>• Lack of skilled human resources.</li><li>• Weak Laboratory capacity.</li><li>• Weak communication system and infrastructure.</li><li>• Diversity of data collecting tools.</li><li>• Lack of regular supervision and feedback mechanisms.</li></ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"><li>• Early stage of establishing MOH structures and systems</li><li>• Supportive policies</li><li>• International good will towards southern Sudan.</li><li>• Comprehensive peace agreement (CPA)</li></ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"><li>• Weak County Health Departments (CHD).</li><li>• Insecurity</li><li>• Low health coverage (25%).</li><li>• Rapidly changing population dynamics</li></ul>

## Annex 4

### List of Participants in the IDSR Desk Review, 23, Oct, 2006

#	Name	Designation	Telephone #	E-mail
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**List of Participants in the IDSR Plan of Action Development, 24,  
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## **Annex 5**

### **Ministry of Health, Government of Southern Sudan**

#### **Integrated Diseases Surveillance and Response**

*(Draft 2.0, Tuesday, August 22, 2006)*

#### **Working Group Terms of Reference**

The Integrated Diseases Surveillance Working Group (IDSWG) is formed under the broader mandate of the Health and Nutrition Consultative Group (HNCG) of the Ministry of Health, Government of South Sudan (MOH, GOSS)

The IDSWG will work under the direction of the Director General, Preventive Medicine, MOH, GOSS.

The broad purpose of the IDSWG is to provide Technical Assistance (TA) to the MOH in developing an integrated diseases surveillance system for South Sudan.

In achieving the broad purpose, the terms of reference (ToR) for the TA IDSWG will be as follows:

- Develop a strategic plan and plan of action with realistic timeline and milestones to guide the work of the IDSWG
- Conduct a review of the existing surveillance systems in South Sudan
- Review and recommend resources required (funds, personnel, materials and supplies, and commitment) for an integrated diseases surveillance system for South Sudan at all levels; community, Boma, Payam, county, state and national
- Identify priority infectious diseases for surveillance.
- Recommend a structure(s) for an integrated diseases surveillance taking into consideration the different levels and existing systems
- Develop and recommend a roll-out plan for the wider implementation of an integrated diseases surveillance in Southern Sudan

- Recommend and develop tools for the specific training needs to build capacity at community, Boma, Payam, county, state and national levels
- Review and recommend mechanisms for developing and strengthening links between community, Boma, Payam, county, state and national levels
- Develop a monitoring and evaluation plan for the integrated diseases surveillance system and recommend mechanisms for its implementation
- Recommend on-going training for data analysis and usage at the different levels
- Recommend ways to assist in the establishment and support of national IDS coordination and implementation mechanisms.
- Provide technical assistance in developing appropriate information dissemination mechanisms within and outside of the MOH including feedback.
- Provide technical assistance in adaptation of IDSR technical guidelines including development and use of formats and guidelines for IDSR implementation.

### **Composition of the IDS WG**

- The IDS WG membership includes
- MOH
- UN agencies
- Bilateral/Multilateral donor agencies
- NGOs
- Other agencies/institutions/organizations that may be co-opted ad-hoc or permanently to fill identified gaps

## Annex 6

### Cased Definitions

#### Case Definitions of Selected Epidemic-Prone Diseases Adapted by WHO/Sudan-southern Sudan; for Use at Health Facilities

*Drafted June 2000, Updated July 2001*

**Acute Flaccid Paralysis (AFP):** Any case of weakness or flopping (paralysis) of sudden onset not due to injury, in a child less than 15 years of age or any case of any age if a clinician suspects polio. Report even if a single case.

**Acute (Viral) Haemorrhagic Fever Syndrome:** Illness with onset of fever and at least one of the following signs of bleeding: bloody diarrhoea (melena), bleeding from gums, bleeding into skin (purpura), bleeding into eyes and blood in urine. Suspect for Ebola. Report even if a single case.

**Acute Bloody Diarrhoea (Dysentery; Shigellosis):** Three or more loose stools in 24 hours with visible blood in the stool.

**Acute Watery Diarrhoea (Cholera):** Sudden onset of severe, profuse (much amount) and frequent (more than 3 times a day) watery and also rice-color diarrhoea, with sunken eyes with/without vomiting among five years of age or more patient. Report even if you suspect a single cholera case.

**Malaria:** Fever with chills, shivering, sweats, headache, joint pain, nausea and vomiting. Suspect an outbreak if unusually high number of cases/deaths observed.

**Measles:** Fever and generalized body rash (non-vesicular- no fluid inside), and at least one of the following: cough, runny nose (discharging fluids), or red eyes (conjunctivitis).

**Meningococcal Meningitis:** Sudden onset of fever ( $\geq 38.5^{\circ}$  c rectal OR  $> 38^{\circ}$  c axillary) and one of the following signs: stiff neck, altered consciousness or purpurial skin rash.

Suspect meningitis in a patient under one year of age: fever with bulging fontanel.

Suspect an outbreak: 15 cases per 100,000 population per week (if population estimate is known). Or; Doubling of cases from one week to the next for a period of three weeks.

**Relapsing Fever:** Any person with febrile illness with alternative afebrile period in between; with or without headache, petechial skin and mucous membrane rashes.

**Yellow Fever:** Acute onset of fever, followed by jaundice (e.g. yellowish discoloration of the eyes) within two weeks of onset of the first symptoms.

*When you suspect an outbreak, investigate and also report to your NGO, authorities and WHO*

**Case Definitions of Selected Epidemic-Prone Diseases**  
**Adapted by WHO/Sudan-southern Sudan;**  
**To Assist Communities' Reporting (Use at Community Level)**  
*Drafted June 2000, Updated July 2001*

**Acute Flaccid Paralysis (AFP):** Any young person who was earlier healthy and with sudden difficulty to move and use legs and arms with no history of known injury.

**Acute (Viral) Haemorrhagic Fever Syndrome:** Any person with fever and bleeding or a sudden death from high body heat ..“fever” ..and bleeding from the nose or mouth, and/or a large amount of blood stool, red urine.

**Acute Bloody Diarrhoea (Dysentery):** A person with frequent loose stool (Diarrhoea) who has or tells that s/he has blood in the stool.

**Acute Watery Diarrhoea (Cholera):** Any person aged 5 years or more with very much amount watery and frequent stool.

**Malaria:** High body heat ... followed with “feeling of coldness” and shivering.

**Measles:** A child with heat, widespread body rash, red eyes, nasal fluid or cough .

**Meningitis:** A person with high body heat ..and neck stiffness.

**Relapsing Fever:** A person with high body heat...then no fever... followed by fever.

**Yellow Fever:** A person with high body heat, yellow eyes or yellow urine.

*If you suspect any of the above diseases, inform a health worker or an NGO in your area*



## ***Part II***

## **Introduction**

As a follow up from the IDSR assessment findings, the Ministry of Health, Government of Southern Sudan in collaboration with CDC, WHO, and representatives of other partners, held a planning workshop on 24 October, 2006.

### **Justifications for Implementation of IDSR**

As described in the assessment section, communicable diseases continue to be the major threat to the health development in South Sudan. The complex and recurrent epidemics coupled with devastation from the conflict is claiming thousands of lives every year. The economic and development impact of these epidemics is evident through analysis of various indicators including health. Despite efforts to contain and control communicable diseases, the activities for control and response are met with various challenges. Among these are lack of skilled human resources, inadequate and poorly equipped health facilities, and poor communication capacity. As described in the findings, data from health services are often incomplete, untimely, and are not analysed and used to guide interventions. The multiple reporting formats, non-uniform methods of reporting, unclear guidelines, and lack of coordination pose an obstacle for effective surveillance function which is a critical component in strengthening the health system. As a result, epidemic detection, reporting, forecasting, preparedness and response in South Sudan are inadequate, and in most places almost non-existent.

Integration of disease surveillance refers to coordination of the surveillance activities and supporting functions common to all control programs (e.g., resources, training and supervision) recognizing the need for specific follow up actions by the different specific intervention programs to continue as planned. The core activities and supporting functions in surveillance for most communicable diseases are similar and therefore provide opportunities for integration and efficient use of resources. The level of integration at the national surveillance system can determine the performance, cost and sustainability of activities. The challenge for South Sudan is to identify and exploit areas for integration, while at the same time recognizing the special needs of some programs for supplementary information or alternative methods of surveillance. It is recognized that in some situations, surveillance that is well developed in one program may act as a "driving force" leading to improvement and strengthening of other surveillance activities. The assessment of the surveillance system in South Sudan indicates that the Polio surveillance, EWAR and Guinea worm

eradication activities present opportunities for areas of integration for surveillance of the selected priority diseases.

In recognition of the urgent need to forecast and contain outbreaks through better program and resource planning, the MOH has adopted the IDSR approach as an important component of the health services. Integrated disease surveillance is expected to improve resource mobilization and utilization, motivate health personnel, promote partnership, and improve data compilation, flow, and timely use.

## **Objectives**

### **3.1 General objective**

Ensure better preparedness and response to epidemics with the aim of reducing illnesses, disability and death from leading communicable diseases.

### **3.2 Specific objectives**

- Integrate communicable disease surveillance for priority diseases
- Improve capacity for integrated communicable disease surveillance at all levels with focus at Payam level
- Strengthen epidemic preparedness and response
- Establish trend analysis for major communicable diseases and targeted diseases for elimination and eradication

## **Strategies**

Reviewing existing national surveillance activities: This provides opportunities to identify gaps and potentials for enhancing IDSR; this is carried out as part of the assessment and planning process. Activities are identified based on the findings of this review;

- Establishing coordinating mechanisms: involves setting effective facilitating focal points at central, state, county and payam levels;
- Promoting IDSR partnership through advocacy: to implement IDSR effectively and smoothly, various stake holders-activities need to be synchronized for synergetic effect; To this end, partnership is critical;

- Strengthening training of health personnel on IDSR: this is essential for various categories of health workers at different levels, including central, state, county and payam level staffs;
  - Enhancing data management: involves building capacity for data collection, analysis and use for intervention on a timely and complete fashion;
  - Facilitating communication: Building capacity for communication at all levels is critical for timely response in IDSR implementation;
  - Building capacities of laboratories to support case confirmation: the gaps in this area are enormous requiring urgent intervention in improving the critical role of laboratory in IDSR;
  - Strengthening epidemic prediction and response: this strategy involves using various activities that require institutional, human, financial and technical support.
- **4.1 Targets for the Year 2007-2008**
1. Detection and registration:
    - Standardized Case Definitions (SCDs) available in 80% of health facilities
  2. Case confirmation:
    - Laboratory coordinators appointed at national and district levels
    - Basic laboratory equipments and reagents available at national, state, and county and payam levels
    - Minimum laboratory package defined for all levels
    - Standard operating procedures (SOP) developed for all levels
    - Ensure that the logistics for laboratory function including supervision and involvement in outbreak investigation is available
  3. Reporting and feedback:
    - Review of available forms and synchronization of data collection and reporting format completed
    - Integrated reporting forms are available at 80% of health facilities
    - A regular bulletin for surveillance is established at national level
  4. Data analysis and utilization:
    - Data analysis modules available at 80% of districts
  5. Epidemic preparedness and response(EPR):

- Action thresholds available at all districts and in use by the end of the year
  - National Epidemic response team established
  - Functional rapid response teams set up in all states and EPR plans developed by the end of the year
  - 65% of Payams have Epidemic Preparedness and Response (EPR) kits
6. Training, supervision and communication:
- Adaptation of WHO/AFRO technical guidelines completed
  - Training needs assessment carried out at national level
  - Training of trainers conducted at national and state level
  - Supervisory checklist reviewed and disseminated to all districts
  - Existing communication network constraints identified and rectified.
7. Monitoring and evaluation
- All states and Payams(districts) have monitoring tools by the end of the year
  - Internal evaluation carried out

## **Implementation Framework**

### **5.1 Role of the Ministry of Health**

Ministry of Health with support from its partners will be responsible for overall coordination and guidance for implementation of IDSR. This will be carried out during technical supervision and support to Directors of state and county Health Departments. This will be in addition to the establishment of standards and regulations affecting the program. The Director General of Preventive Health Services will ensure that adequate funds and resources are available for the national and state levels.

- The IDSR Unit /MOH will be responsible for the following:
- Coordination and follow up of the day to day activities of the unit
- Periodic review of health related data to determine the frequency and trends of occurrence of communicable diseases. This should be done in liaison with other stakeholders of disease surveillance.
- Provision to states, counties and payams the necessary technical support supervision for disease surveillance.

- Building of payam level capacity for disease surveillance by organizing training on disease surveillance.
- Provision of feed back on communicable diseases through preparation of quarterly surveillance reports.

## **5.2 Role of the State/County Health Department**

The State/County health department is responsible for the planning, management, monitoring and co-ordination of IDSR with all agencies working within the state/county. Activities and required skills at counties and Payams in the detection and response to priority diseases are presented below:

### **5.2.1 Detection and Reporting**

- Ensure that personnel know how to use Standard Case Definitions (SCD)
- In charge of health units know when and how to notify
- Review records of reported outbreaks
- Collect routine surveillance data timely
- Promptly notify next level
- Conduct special surveys as necessary

### **5.2.2 Data Analysis and Interpretation**

- Define denominators
- Collect and aggregate data from health units
- Analyze data by person, place and time
- Calculate rates and establish thresholds
- Compare current data with previous data
- Prepare and regularly update graphs, tables, and charts
- Decide if action thresholds have been reached
- Make conclusions based on trends and analysed data
- Describe risk factors
- Report immediately and routinely to higher levels

### **5.2.3 Investigation and Confirmation**

- Arrange and lead investigation of reported cases or outbreaks
- Assist health facility in safe collection and transport of specimens for confirmation
- Receive and interpret laboratory results
- Decide if a reported outbreak is confirmed
- Report confirmed outbreak to next level
- Define laboratory network in district and monitor laboratory quality and accessibility

#### **5.2.4 Response and Provision of Feedback**

- a. Convene epidemic response committee
- b. Conduct training for emergency activities
- c. Select and implement appropriate public health response
- d. Prepare and update spot maps and line lists during response activity
- e. Plan timely community information and education
- f. Alert nearby areas and payams about confirmed outbreaks
- g. Provide feedback to health facilities
- h. Monitor routine prevention activities and modify them as needed

#### **5.2.5 Evaluation and Actions taken**

- a. Monitor timeliness and completeness of routine reports
- b. Monitor indicators of quality of surveillance for priority diseases
- c. Evaluate the effectiveness of and preparedness for response and recommend improvements
- d. Take action to improve on-going case management and prevention activities for priority diseases or conditions

### **Monitoring and Evaluation**

Annual internal and bi-annual external evaluations will be conducted to monitor the implementation of the plan of action. Progress will be measured against the targets. Re-direction of the implementation, if necessary will be done after the evaluations.

**SOUTH SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

<b>1. DETECTION AND REGISTRATION</b>									
<b>Goal</b>	<b>Objectives</b>	<b>Activity</b>	<b>Quarter</b>				<b>Resources US dollar</b>	<b>Implementers</b>	<b>Indicators</b>
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>			
To improve early detection and registration	1.1. To harmonize and avail standard case definitions at all Health Facilities	1.1.1 Review, harmonize, print and distribute standard case definitions	X	X	X	X	\$ 28,000	MOH, WHO & CDC	SCD available at 80% of Health facilities
	1.2 To standardize and ensure correct filling of one OPD and In-patient register	1.2.1 Standardize the one OPD/ In-patient register	X	X			\$ 10,000	MOH, WHO & CDC	One OPD and In-patient register available in all Health facilities
<b>Sub-total</b>							<b>\$ 38,000</b>		

**SOUTHERN SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

<b>2. LABORATORY CASE CONFIRMATION</b>													
To improve the capacity to confirm the IDSR priority diseases	2.1 To improve the capacity to confirm the priority diseases for IDSR at payam health units using microscopy	2.1.1 Procure and supply basic reagents and laboratory supplies to all labs with basic equipment	X	X	X	X	X	\$ 32,000	MOH, WHO	Availability of basic reagents and supply in all health unit labs			
		2.1.2 Procure and supply basic equipment in areas which are lacking	X	X	X	X	X	\$ 200,000	MOH, USAID, WHO, UNICEF	Presence of basic equipment in all labs			
		2.1.3 Review, standardize and distribute guidelines to all HU with lab services	X	X	X	X	X	\$ 5,000	MOH & WHO	Presence of standard guidelines in the labs			
		2.2.1 Strengthen liaison using existing Laboratory network	X	X	X	X	X	\$ 10,000	MOH, CDC	Established lab network			
	2.3 To improve lab coordination at central, state and payam levels	2.3.1 Establish coordination mechanisms at central, state and payam levels	X	X	X	X	X	\$ 20,000	MOH & WHO	National Lab Coordinator Payam Lab coordinator Lab participation in IDSR activities			
<b>Sub-total</b>								<b>\$ 267,000</b>					

**SOUTHERN SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

<b>3. REPORTING and FEEDBACK</b>									
<b>Goal</b>	<b>Objectives</b>	<b>Activity</b>	<b>Quarter</b>				<b>Resources US dollar</b>	<b>Implementers</b>	<b>Indicators</b>
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>			
To improve reporting for prompt action	3.1 To provide integrated reporting forms for priority diseases at all levels	3.1.1 Review, update and integrate and disseminate the integrated reporting forms 3.1.2 Standardize, harmonize the integrated reporting forms	X	X			\$ 30,000	MOH, WHO	Available integrated forms at Health Units
	3.2 To increase completeness and timeliness up to 50%	3.2.1 To include in integrated reporting forms completeness and timeliness at central, state, county, and payam levels	X	X	X	X	---	MOH, WHO	Available integrated forms at Health Unit
	3.3 To achieve 100% completeness and 80% timeliness of payam reporting at 50% of health units by 2011		X	X	X	X	---		% of completeness and timeliness achieved
	3.4 To develop capacity for regular feedback and	3.4.1 Review and strengthen existing feedback mechanism	X	X	X	X	\$ 20,000	MOH, WHO	Feedback mechanisms established

all levels	dissemination of information at all levels	3.4.2 Develop and distribute guidelines on feedback at all levels	X	X			Feedback guidelines available at all levels
		3.4.3 conduct review meetings bi-annual, quarterly, and monthly at state, county, and payam levels respectively	X	X	\$ 60,000	MOH, WHO, CDC, UNICEF	Number of review meetings at each level organized per year
		3.4.4 Annual review meetings		X	\$ 50,000	MOH and All partners.	Annual review meeting organized
<b>Sub-total</b>					<b>\$170,000</b>		

**SOUTHERN SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

<b>4. DATA ANALYSIS AND UTILIZATION</b>										
To strengthen the use of data for decision making at different levels of health care	4.1 By 2011, 60% of HW should have capacity to manage and utilize data for decision making	4.1.1 Training (refer to 6.1.2)							% of HWs trained in data utilization for action	
		X	X	X	X					
<b>Sub-total</b>					---					
<b>5. EPIDEMIC PREPAREDNESS AND RESPONSE</b>										
Goal	Objectives	Activity	Quarter				Resources US dollar	Implementers	Indicators	
To ensure early detection and prompt response to epidemics within 48 hours	5.1 Improve capacity of epidemic preparedness and response (EPR) at all levels	5.1.1 Review, update, print and distribute action thresholds at all levels	1	2	3	4	\$5,000	MOH, WHO	Availability and use of action thresholds at all levels	
			X	X	X	X				
		5.1.2 Establish functional EPR committees at central, state, county, and payam levels		X	X	X	\$ 10,000	MOH	Functional committees at all levels	
		5.1.3 Develop/update plans and budgets for EPR at all levels		X	X	X	\$ 25,000	MOH, WHO	EPR plans in use at all levels	



**SOUTHERN SUDAN IDSR PLAN OF ACTION  
LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

6. TRAINING, SUPERVISION AND COMMUNICATION	Objectives	Activity	Quarter				Resources	Implementers	Indicators
			1	2	3	4			
To enhance knowledge and skills of HWS in IDSR at all levels through training	6.1 Train HWS responsible for surveillance at all levels in IDSR	6.1.1.1 Training Needs assessment, review of data management and analysis guidelines for all levels	X	X			MOH, WHO	Training needs assessed	
		6.1.2 Develop capacity at all levels on data analysis and management	X	X	X	X	MOH, WHO, CDC	No. of trainings held for different levels (based on needs assessment)	
		6.1.3 Continuous on job training of HWS in data analysis and management at all levels	X	X	X	X	MOH, WHO	Supervisory reports from all levels	
		6.1.4 In-service training of records assistants and information officers at all levels		X	X	X	MOH, WHO	Number of record assistants trained	
		6.1.5 Ongoing training of HWS in use of LANs				X	MOH, WHO, UNICEF	No. of HWS trained in use of LANs	
		6.1.6 Review pre-service training curriculum in schools of medicine, public health, and Nursing					MOH, WHO	Curriculum reviewed Workshop reports	



**SOUTHERN SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

**6. TRAINING, SUPERVISION AND COMMUNICATION**

(continued)

Goal	Objectives	Activity	Quarter				Resources US dollar	Implementers	Indicators	
			1	2	3	4				
To strengthen the rapid transmission of information for appropriate action	6.2. To improve communication facilities at all levels	6.1.10 Train health workers on development of feedback bulletins			X	X		MOH, WHO	Proportion of HWs trained at various levels	
		6.1.11 To train health workers on the use of checklists and reporting deadlines		X	X	X	\$ 60,000	MOH, WHO	Proportion of HWs trained at various levels	
		6.1.12 Build capacity for pre-service training				X	\$ 40,000	MOH, WHO	Number of tutors trained on IDSR	
		6.2.1 map existing communication capacity and identify gaps at all levels		X			\$ 20,000	MOH, UNICEF	Mapping done for communication capacity at all levels	
		6.2.2 Provide appropriate communication equipment by levels and locations (modems, VHF radio, cell phones, cycles, vehicles, etc.)			X	X	X	\$ 300,000	MOH, WHO, UNICEF, USAID	Communication Equipment installed and functioning at the identified levels (as per mapping findings)
		6.2.3. Monitoring of communication		X	X	X	X	\$ 20,000	MOH, WHO,	Monitoring Reports

To improve the quality of surveillance performance	6.3 To improve the quality of supervision	capacity at all levels	X							UNICEF.	Supervision checklist reviewed and adopted
	6.3.1 Review the supervision checklist								\$15,000	MOH, WHO	Reports of supervision
	6.3.2 Conduct regular supervision at all levels			X	X	X			\$ 75,000	MOH, WHO	
<b>Sub-total</b>									<b>\$980,000</b>		

**SOUTHERN SUDAN IDSR PLAN OF ACTION**  
**LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTH SUDAN**

<b>7. MONITORING AND EVALUATION</b>									
Goal	Objectives	Activity	Quarter				Resources US dollar	Implementers	Indicators
			1	2	3	4			
To ensure effective implementation of IDSR activities	7.1 To monitor the correct implementation of IDSR activities at all levels	7.1.1 Review, update and distribute monitoring tools (checklists)	X				\$ 15,000	MOH, WHO, CDC	Monitoring tools available
		7.1.2 Conduct periodic monitoring of IDSR activities at all levels			X				
To assess the achievement of early detection and control of epidemics	7.2 To evaluate the achievement of IDSR PoA	7.2.1 Conduct an internal evaluation at national level to measure the achievements of IDSR				X	\$ 15,000	MOH, WHO, CDC	Reports
		7.2.2 Adjust programs according to results of internal evaluation			X				
<b>Sub-total</b>							<b>\$ 30,000</b>		

## Southern Sudan IDSR Plan of Action

### LOGFRAME FOR 2007-08 PLAN OF ACTION FOR IDSR IMPLEMENTATION IN SOUTHern SUDAN

#### SUMMARY:

<b>Areas /Functions</b>	<b>Amount in USD</b>
1. DETECTION and REGISTRATION	\$ 38,000.00
2. LABORATORY CASE CONFIRMATION	\$ 267,000.00
3. REPORTING AND FEEDBACK.	\$ 170,000.00
4. DATA ANALYSIS AND UTILIZATION	---
5. EPIDEMIC PREPAREDNESS AND RESPONSE (EPR).	\$ 240,000.00
6. TRAINING, SUPERVISION AND COMMUNICATION.	\$ 980,000.00
7. MONITORING AND EVALUATION.	\$ 30,000
<b>Grand TOTAL (US Dollars)</b>	<b>\$ 1,725,000.00</b>