

Evaluation of the financial support of Gavi, The Vaccine Alliance, for Health System Strengthening in Chad

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Summary

Mandate

The support of Gavi, the Vaccine Alliance, (Gavi) for health system strengthening (HSS) in Chad was originally planned for the period 2008-2012 but has yet to come to its end. No formal evaluation was conducted to assess the process and outcomes of this HSS support. Thus, in January 2015, Gavi launched a tender for the assessment of HSS in Chad. This assessment is sponsored by Gavi and the Ministry of Public Health (MSP) of Chad. It aims to assess the relevance, effectiveness, efficiency, and results of HSS in Chad.

Methodology

We applied a mixed methodology to conduct this evaluation. This methodology followed a concurrent triangulation strategy of qualitative and quantitative data.

Key results

Planning, design, and implementation

1. The decision to request Gavi's HSS support was based on Chad's national health policy, but the technical and financial aspects of the program were poorly planned. A subsequent delay in the disbursement of funds, combined with the poor planning of the program, led to a cycle of delay in implementation and reprogramming of activities.
2. Expenditures during the first years were perceived as having deviated from forecasts, causing Gavi to suspend the HSS fund on the basis of an inaccurate audit report that lacked solid evidence of a bad management of funds.
3. Following an aide-mémoire signed in 2012 between Chad and Gavi, the HSS was reprogrammed with the addition of activities to strengthen the cold chain. To us, this seems to have been an error, given the limited capacity of the Directorate of Planning (DP), and the country in general, for implementation, especially since the budget remained unchanged.
4. During the period from 2008 to 2012 the health system (HS) bottlenecks remained the same.
5. The activities planned for this first reprogramming are partially completed.
6. With the delay in disbursement of the reprogrammed funds, plus lack of funds to cover the EPI 2014 annual operations plan and the plea of the partners, half of the remaining HSS funds were reprogrammed for the direct benefit of the EPI with almost no implementation up to this date.

7. The new HSS II proposal seems an extended repetition of the HSS I as it targets the same domains of the HS and does not draw any lessons from the first one.

Efficiency

8. From a financial point of view, expenditures incurred to date through the second HSS installment have been managed in accordance with the budget, except that these funds could have been handled more efficiently, such as by investing in activities focusing on human resources and the management of the HS which would have a longer sustainability.

Results

9. The south of the country saw an increase of immunization coverage more accelerated than the north. However, coverage in the HSS targeted health districts (HD) has always been higher than the national average, and evolved at the same rate as the other HD.
10. Unfortunately, HSS has not played a catalytic or supplementary role. Hence, neither the MSP, nor the partners tried to look for funds to complement the ones of HSS. Moreover, given the barriers encountered and the suspension of the program, it remains difficult to measure the results of this HSS.
11. Compared to other forms of financial support, HSS is perceived as having strengthened supervisory activities at the peripheral level and offered better accessibility to vaccination services through advanced strategies. However, besides perceptions, the outputs expected from HSS, i.e., HS management, strengthening the chain of vaccines and medical products, as well as the strengthening of human resources, were weakly achieved.

Sustainability

12. The achievements of HSS have an average sustainability as an exit, or support plan at the end of the program, has yet to be determined.

Key recommendations

Recommendations for the country

1. For a better HSS, the choice of activities should lay the foundation for long-term sustainability, while understanding the catalytic nature of HSS, and therefore the program's interplay of funding and activities.
2. The training of health care personnel, both in terms of quality and quantity, should be a priority for the state and the MSP as a national emergency.
3. Chad should identify and use the positive factors that led to the increase in vaccine coverage in the south of the country to prevent a problem of geographical inequity.

4. The country should seriously consider its programmatic and financial management capacity. This capacity should dictate the rate of activities, their nature, and the time required for implementation.
5. We recommend that the management of HSS capacity be strengthened before the implementation of the program. This recommendation is especially valid for the EPI which is at the center of this new application. If necessary, the country could consider adequate management technical support throughout the program.
6. For a successful implementation of the program, a system of communication and coordination between the different structures of the MSP should be put in place, especially between the EPI and the DP, the two most involved divisions.
7. We recommend a deep respect for the approved plan with all its components, in order to avoid instances similar to those surrounding the suspension of funds.
8. We recommend a focal point – other than the Director of the DP, perhaps through a specific post – be designated to coordinate and monitor the program.
9. For better monitoring, the delegates of the health regions as well as chief medical officers should be trained in the production of analytical reports of health statistics.
10. Finally, we recommend a collaboration between the HSS management and the department of epidemiological surveillance whose services are likely to inform the activities of Gavi.

Recommendations for Gavi

11. We recommend that Gavi contribute to the discussion of the choice of HSS activities, or at least the areas of the HS to target during the development of the HSS application.
12. Gavi should alert countries requesting HSS support to the time needed between the approval and the first disbursement of funds so that the countries take that into account for planning. Likewise, Gavi should clearly reflect the steps to be followed by countries in case of a delay or a division of disbursements in its HSS guidelines and applications.
13. Gavi should reinforce its staff in charge of evaluating countries' HSS proposals to alleviate the decision-making procedures and disbursement of funds.
14. We recommend that Gavi require a monitoring system based on the supervision activities and the use of the peripheral-level reports.

List of acronyms

AR	Annual Report
DCMO	District Chief Medical Officer
DHS	Demographic Health Survey
DP	Directorate of Planning
DR	Documents Review
DTP3	Diphtheria, Tetanus, Pertussis 3 rd dose
EPI	Expanded Program on Immunization
EVCD	EPI Vaccine Coverage Data
FA	Financial analysis
FV	Field Visits
Gavi	Gavi, the Vaccine Alliance
HC	Health Center
HD	Health District
HSS	Health System Strengthening
IACC	Inter-Agency Coordinating Committee
KI	Key Informant
KII	Key Informant Interview
MICS	Multiple Indicators Cluster Survey
MSP	Ministry of Public Health
PNDS	National Health Development Plan
PNS	National Health Policy
RHD	Regional Health Delegation
SAE	Small Area Estimates
SIS	Health Information System
SS	Health system
TC	Technical Committee
TOC	Theory of change
VC	Vaccine Coverage
WHO	World Health Organization

Evaluation of Gavi's health system strengthening support in Chad

Chapter I: Introduction

Rationale

Gavi's support for health system strengthening (HSS) is complex in nature, as it targets different sectors of the health system (HS) and has more requirements than new vaccine introduction support. Specifically in Chad, the HSS was originally planned for the 2008-2012 period but has yet to come to an end. Four annual status reports (ASR) have been produced to date – 2008, 2009, 2013, and 2014 – documenting the implementation of HSS¹⁻⁴. However, no formal evaluation was conducted to evaluate the process and outcomes of this support. Thus, in January 2015, Gavi launched a tender for the assessment of HSS support in Chad. This assessment is sponsored by Gavi and the Ministry of Public Health (MSP) of Chad. It aims to assess the relevance, effectiveness, efficiency and results of Gavi's HSS support to Chad. We hope that the results of this evaluation will enable the country, Gavi, and the different national and international partners to learn lessons from this experience and learn about possible improvements for future support programs.

Health system in Chad

Briefly, Chad HS is a pyramid system consisting of three levels: ^{5,6}

- The central level at the top of the pyramid includes a national health council, a central administration, the subsidized organizations, and national health facilities. The PNS is designed and managed at this level.
- The intermediate level consisting of 23 health regions, each of which includes a regional council of health, a regional health delegation (RHD), regional public hospitals, a regional supply pharmacy, and regional training schools in some regions. It is responsible for the coordination and implementation of PNS by adapting it to the local context.
- The peripheral level composed of 78 functional health districts (HD), each of which has a district health council, a district core team, district public and private hospitals, health centers (HC), and the board of health in each area of responsibility. The districts are the linchpin of the HS and are responsible for the implementation of the PNS by providing the minimum package of activities at the level of health centers and the complementary package of activities at the level of the district hospital.
- Among the important activities of the HS in Chad is the expanded program on immunization (EPI), which occupies a central place in the HSS program.

- The EPI is located within the Directorate of Reproductive Health and Vaccination, one of the three departments of the General Directorate of Health Activities. The main mission of the EPI is to provide technical support to the RHD for implementing the national policy of vaccination in the whole country. Currently, the EPI offers vaccination to prevent morbidity and mortality related to at least nine diseases: tuberculosis, polio, tetanus, pertussis, hepatitis B, infections with *Haemophilus influenzae*, diphtheria, measles, and yellow fever.⁶

Description of the health system strengthening support in Chad

Based on the HS reform initiative and the PNS, Chad submitted a request for HSS financial support to Gavi in March 2008, following a workshop for the identification of bottlenecks affecting vaccine coverage (VC) in July 2007 and several consecutive meetings.⁷⁻⁹ Identified bottlenecks were anchored in four areas: 1) human resources, 2) health information, 3) medical products and essential drug supply, and 4) the organization and management of HD. The HSS request was intended to strengthen the four areas at the three levels of the HS in 10 priority HD and eight RHD. Six indicators were selected to measure the achievement of HSS objectives. The HSS activities and expected results are described in the logic model below.

The HSS application was submitted in March 2008, approved in July, and the first disbursement of funds took place in September of the same year. The difficulties in expenditure programming in the first year and inconsistent implementation with the original plan resulted in the suspension and then reprogramming of HSS activities. At the request of Gavi, the goal, objectives, target HD, and indicators have remained almost the same, with the achievement of the objectives by June 2014 instead of 2012.

We developed a theory of change (TOC) (Figure 1) and a logic model (Figure 2) based on the original proposal and the first HSS reprogramming. While the TOC is a general representation of the various components of the program, the logic model represents the specific details pertaining to the inputs, activities, outputs, and results of the planned HSS. The entries are human, financial, and physical resources, dedicated to the realization of the HSS. Activities are the strategies that the program uses to produce outputs from the inputs and achieve the desired objectives. Outputs are the direct results of activities, or the implementation of HSS. These are the indicators of productivity and early indicators of results. Indicators are the benchmarks, or measures of achievement of HSS objectives. This logic model is originally based on the request

for reprogramming of 2012. However, with the delay in disbursement of funds in 2013, the list of activities has changed. Some activities have remained the same (in black), others have been eliminated (in red), and others have been implemented before the change occurred (in yellow).

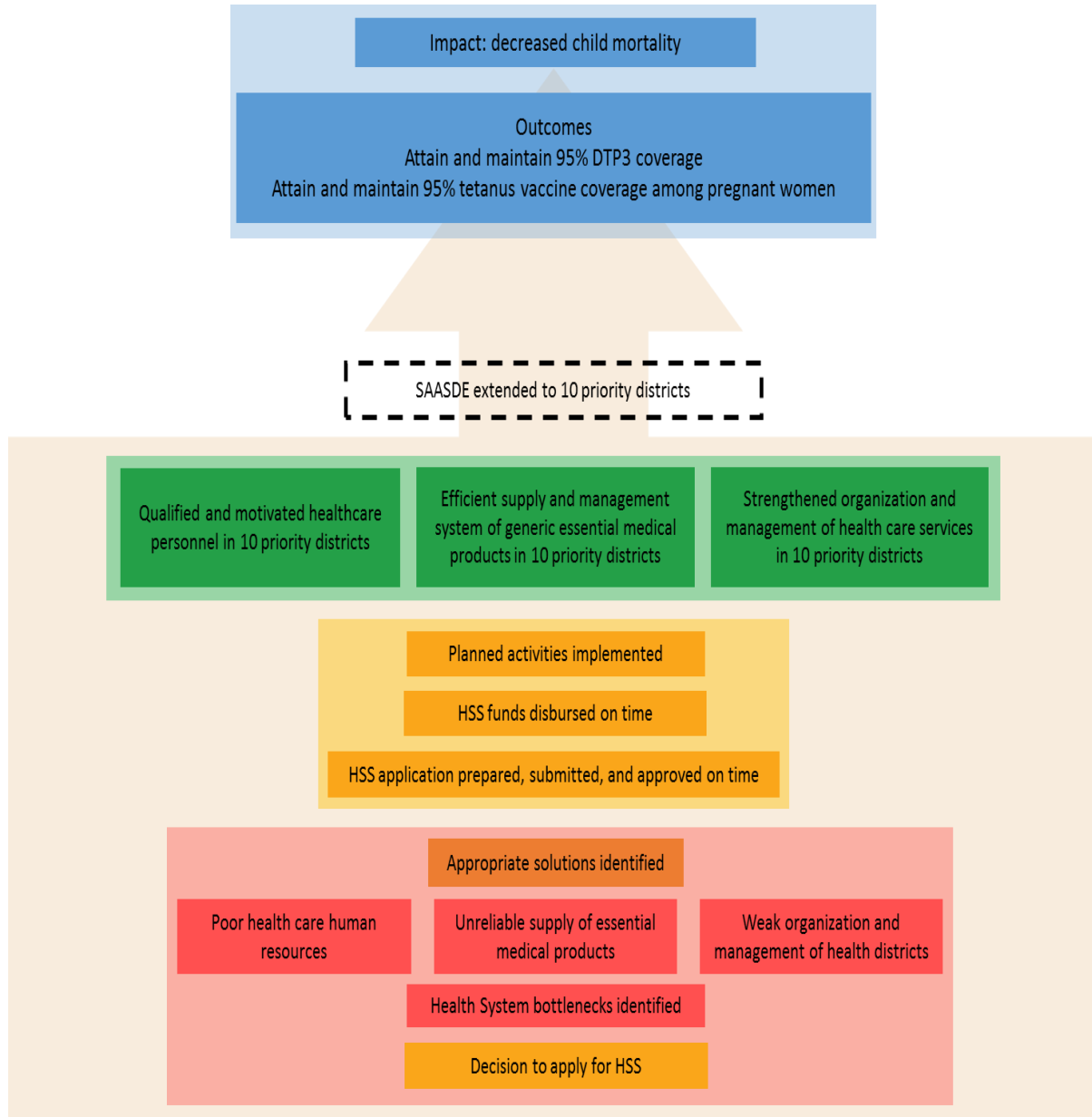


Figure 1: Theory of change of HSS as conceived retrospectively based on the document review

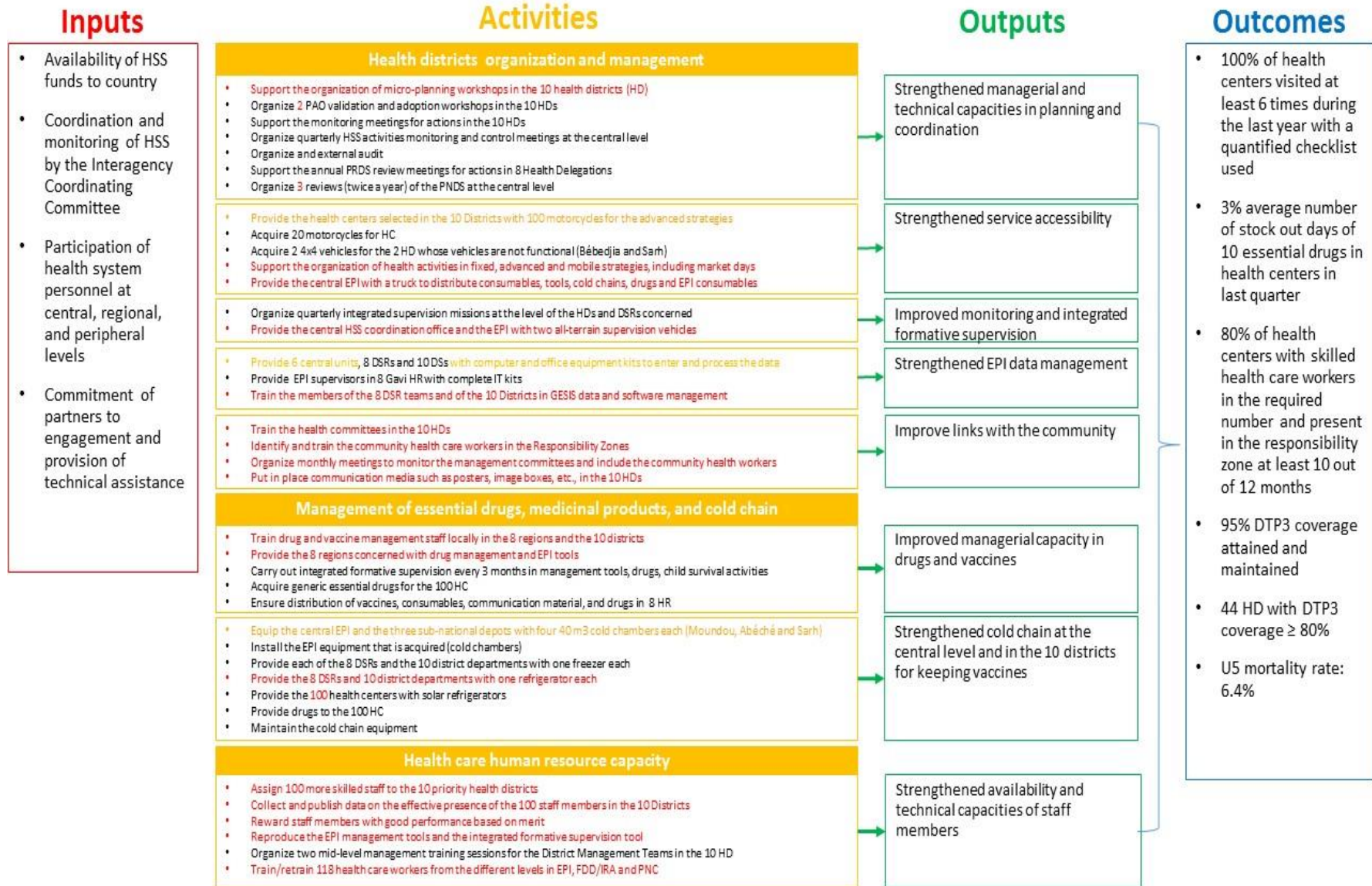


Figure 2: Logic model of HSS as conceived retrospectively based on the review of the proposal for 2012

Chapter II: Detailed methodology

We applied a mixed methodology to conduct this evaluation. This methodology has followed a concurrent triangulation strategy of data from qualitative and quantitative methods and collected simultaneously because of the short duration of the study. This strategy is advantageous because it allowed the triangulation of data investigating the same themes and has increased the robustness of the results.

Qualitative methods

Document review

The document review (DR) has been used to refine the research questions, key informant interviews (KII), topic guides, and quantitative analysis, identify potential stakeholders for interviews, and describe the program^{1-4,6,7,10-31}.

Key informant interviews

Following our DR, our Full Country Evaluation work, and our interaction with Gavi's monitoring and evaluation team, we have developed a dozen KII topic guides that have been used to interview key informants (KI) who informed us on the various HSS components.

Sample

The KII were conducted with stakeholders from the MSP and its various departments, EPI, and local partners involved in the HSS such as the World Health Organization (WHO), UNICEF, non-governmental organizations and bilateral donors. Gavi and other key actors in the HS were also interviewed. The list of informants was developed initially from the DR before being finalized with Gavi and the MSP (Table 1).

Table 1: Sample of key informants maintained during the evaluation of the HSS in Chad

MSP, central level (14)	MSP, operational level (52)	Health partners (8)	Gavi (5)
<ul style="list-style-type: none"> - Directorate of Planning - General Directorate of Health Activities - General Directorate of Human Resources and Planning - Direction of the Health Information System - Expanded program on immunization - Department of Epidemiological Surveillance - Directorate of Reproductive Health and Vaccination - Directorate for public health and fight against diseases - Former HSS stakeholders 	<ul style="list-style-type: none"> - Regional delegates: 3 - District Chief Medical Officers: 9 - Health Center Managers: 40 	<ul style="list-style-type: none"> - UNICEF - World Health Organization - Catholic Relief Services - European External Action Service Delegation - POSVIT - The French Embassy 	

The field visits

Field Visits (FV) targeted the HD having received HSS funds. The aim was to check the activities financed, assess to what extent the objectives have been achieved, and measure the obstacles that oppose sustainability. They were accompanied by KII at the district and the regional levels. Thus, for each level of the HS – central or MSP, regional, and peripheral – we developed a checklist based on the activities proposed in the 2012 HSS application. To ensure a better quality of data collection, these lists have been transformed into questionnaires and were filled out during the FV.

Sample

The FV targeted four priority HSS HD and three additional ones to allow case-control comparison. The three additional HD are in the same areas as the chosen priority districts, but they did not receive HSS funds. The control HD were selected so as to have a size, demographics, and availability of health care facilities comparable to those of the case HD. For this evaluation, we considered four case districts representing the demographic, economic, and cultural variability in Chad. Figure 3 shows the districts visited during the evaluation.

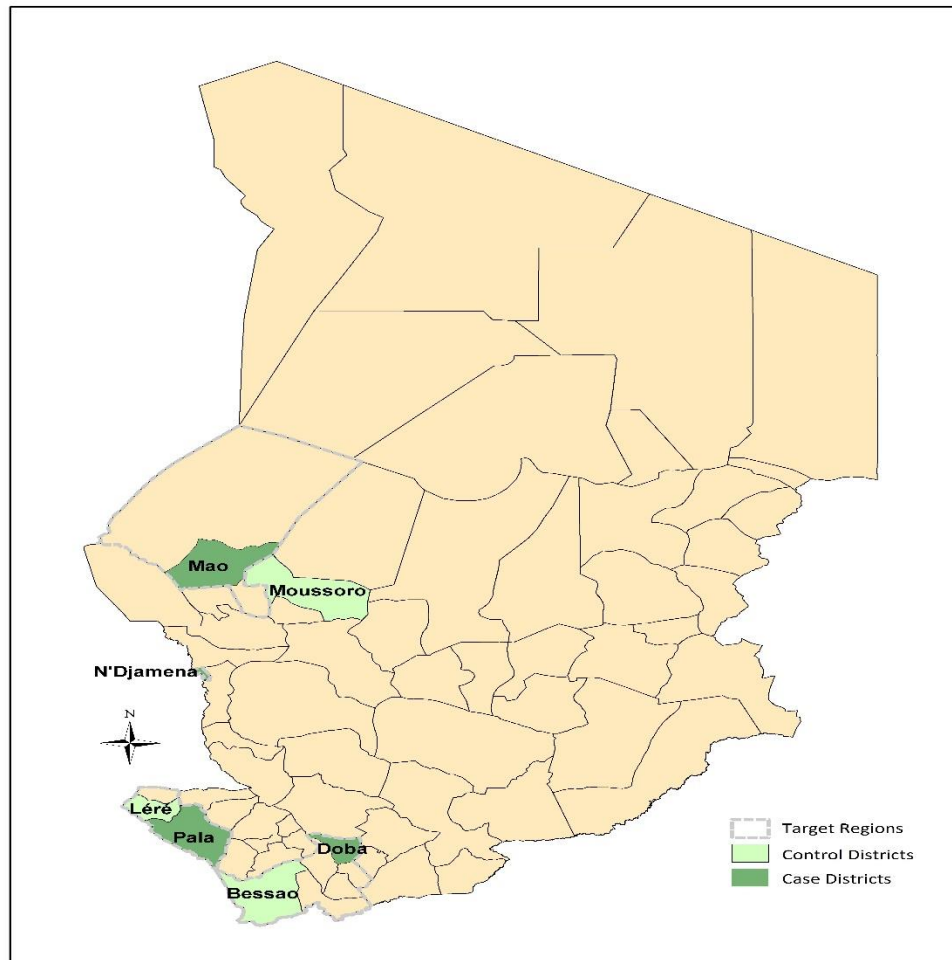


Figure 3: Regions and districts visited during the evaluation of the HSS in Chad

Quantitative methods

Small area estimates

We analyzed data from the Demographic Health Surveys (DHS, 2004), and the Multiple Indicators Cluster Survey (MICS 2000, 2010, 2014) to produce small area estimates (SAEs) of VC trends in Chad. The SAE give us an estimate at the level of the HD of trends in VC from 1995 to 2015 to assess changes over time and geographical inequalities in these indicators within the country. For each survey, we define coverage of DTP3 crude rate as the proportion of children whose mothers or guardians reported that the child received the vaccination, or that the child has documentation of vaccination. Due to the timing of vaccination, we limited our analysis to children aged 12-59 months for DTP3 at the level of the HD, and related in time to the

average date of birth of the children in this group. Estimates of the population under 5 years were derived for the HD for the same period. Then we implemented a model of small areas to estimate VC of DTP3. The small area model integrates data at different geographical levels, which allows us to use all the information available rather than be limited to sources of data with identifiers of the HD. Data available from the DHS surveys (2004) and MICS (2000, 2010, and 2014) indicate the participants' regional level only. We have indicators that link the number of clusters to the HD from the Institut National de la Statistique, des Études Economiques et Démographiques.

EPI vaccine coverage data

We analyzed EPI VC data (EVCD) for the 2008-2014 period. EPI collects VC data at the district level and saves it in a central database. The EVCD covers all vaccines provided in Chad. For our assessment, we analyzed DTP3 VC in children and TT2 in pregnant women. These two indicators are those used by HSS.

Financial analysis

The study of global assistance for health was used as a source to analyze HSS support from all health assistance to Chad^{32,33}. We also compared HSS expenditures against budgets of the proposals and those planned in ASR in order to measure the program's efficiency.

Limitations of the evaluation

The limitations of our evaluation are related to the challenges of the different methods:

- An archiving problem given the weakness of this domain in Chad. Thus, the early planning documents of the HSS were difficult to find. Sometimes even 2015 documents were inaccessible, such as the new structure of the MSP. Financial documents were also affected by this archiving problem.
- A memory bias among the KI, especially that HSS in Chad began in 2008, almost seven years previously, as well as a short duration of exposure to HSS or their position. The DR and the fact that we were able to find a few old relevant HSS stakeholders helped us to partially address these two challenges.
- The unavailability of the data from the MICS 2014 survey completed in April. Currently, only the preliminary report of the investigation MICS 2014 is available. Only vaccination estimates at the regional level have been incorporated into our analysis from this report.

Access to the same data could produce a more refined analysis, specifically for the estimates at the district level.

- The quality of the EVCD criticized even by the MSP and the EPI as described in the new HSS II proposal. The EPI data suffer from precision both at the level of the numerators and the denominators and do not make a reliable source for precisely measuring VC and its trend.

Root Cause Analysis

The root cause analysis is a particularly useful approach in the study of complex interventions such as the HSS. This analysis identifies the causes at the beginning of the chain of events and those that led to the challenge or success observed. Briefly, this analysis took into consideration the failure to achieve the intended results of HSS, which raises the “why?” question. Each identified cause was examined the same way up to the identification of the root cause. The challenges, the intermediate causes, and the root causes are illustrated in a diagram showing the linkages between the various causes and events. The contextual factors identified are also represented on the diagram in order to produce a complete picture of the subject.

We conducted a root cause analysis for two essential components of the HSS in Chad: 1) the suspension of funds, and 2) the weak management of the HS. We found these two components most relevant to analyze. The suspension of funds has had a major effect on the program, both at the level of the process and at the level of results. HSS was supposed to strengthen the HS, which, as we’ll see, has not been the case. Thus, we find it necessary to understand the reasons that led to these two components to better prepare for the new HSS.

Robustness of the results

Our analyses were evaluated by a measure of the robustness of findings. This measure took the form of an alphabetical indicator from A or B. A result is considered:

- A, if the conclusions are supported by multiple data sources which are generally of good quality. If data sources were few, the supporting evidence is more factual than subjective;
- B, if the findings are supported by many data sources of lesser quality, or if the conclusions are supported by fewer sources of data of good quality, but they are based on perceptions more than on facts.

Chapter III: Results

Data collection

The Chad HSS evaluation started on May 13, 2015. A document detailing our methodology was submitted to Gavi on June 1, 2015.

In total, 37 KI were interviewed (Table 1): 14 of the MSP at the central level, eight from health partners, three regional delegates, eight DCMO or representatives of the HD, and five from Gavi. Forty HC managers were also surveyed.

Figure 4 presents, in chronological order, the evaluation's timeline starting from the contract and until the drafting of the first version of the report, including data collection.

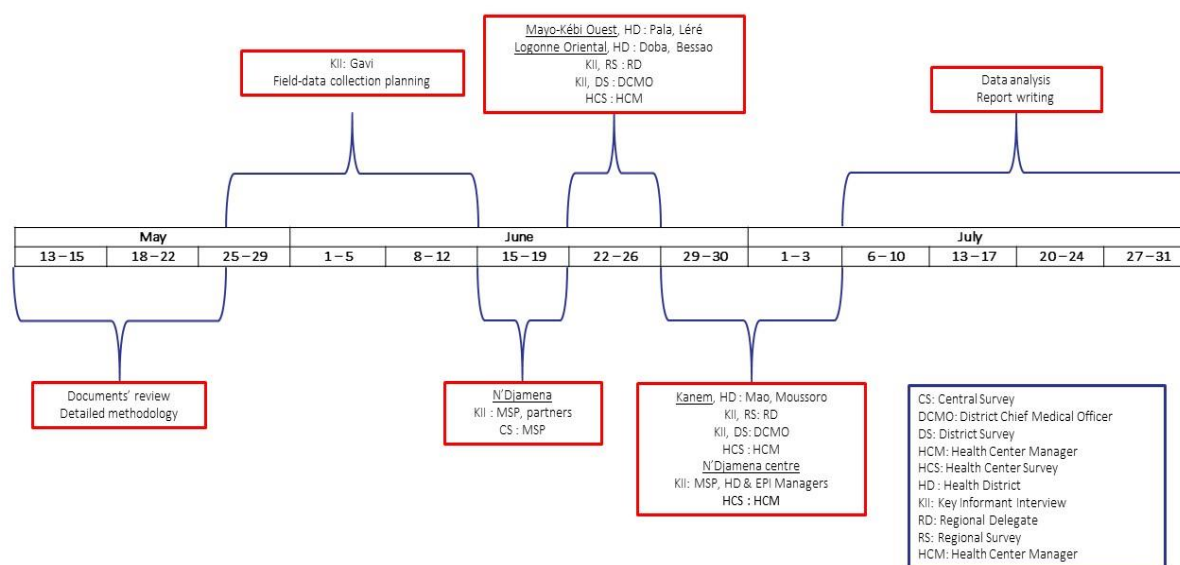


Figure 4: Timeline of the Chad HSS evaluation, May - July 2015

Figure 5 represents, on top, the successive stages of the TOC. In parallel, the actual HSS processes are presented. The first three are parallel to the first three steps of the TOC. However, starting with the fourth step, we observe a deviation from the TOC, reflecting the actual process of HSS. We present our results according to Gavi's evaluation domains and questions. Table 1 of the annex to this report presents, in summary, the answers to all questions of Gavi by evaluation domain.

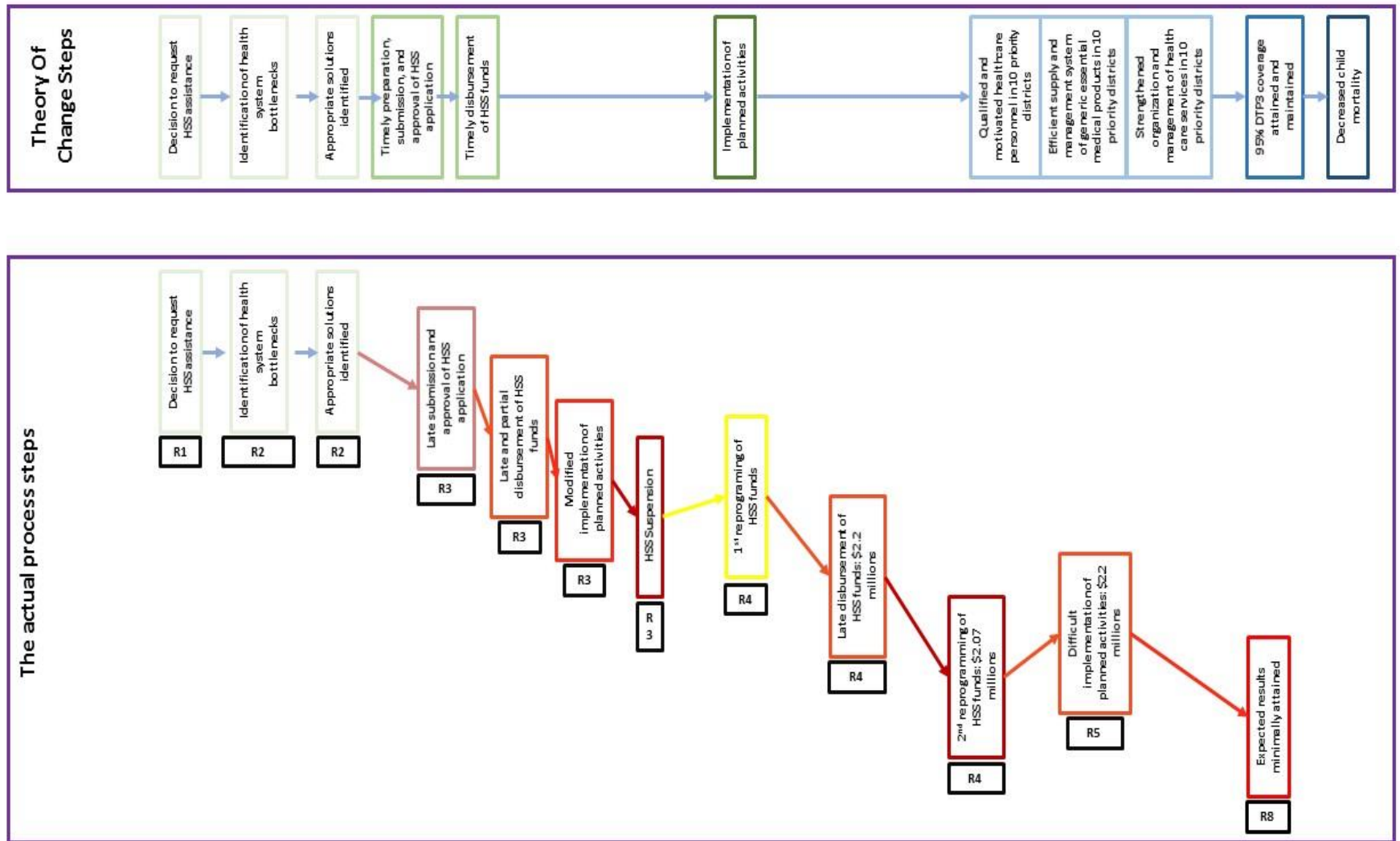


Figure 5: Order of the results of the evaluation and stages of the actual HSS process compared with those of the TOC

Result 1: Decision to request HSS support encouraged by partners

Component	Evaluation domain	Method	Robustness of finding
Decision to apply for HSS	Planning and design	DR, KII	B

Evaluation question:

To what extent was the request for support developed in consultation with the different partners?

From 2006-2007, Chad had analyzed the situation of the HS and developed its PNS with support from WHO. The PNS, based on data from several sources, had considered the HSS as one of the steps to follow to resolve the problems identified in the HS through the situational analysis. In parallel to the PNS, an 18-month emergency plan was created from the same analysis of the system highlighting weakness in governance and communication, and a high rate of maternal and infant mortality. With the identified HS weaknesses or bottlenecks, especially those of human resources, and with information from the WHO on Gavi's HSS support, a collaboration between the DP and WHO was put in place for a better understanding and exploration of the this support. Thus, a decision was made to seek Gavi assistance.

“In 2007, Chad was informed of the support of Gavi, by WHO, and in time we had the health information system affiliated with the DP, and from the statistical data that had we told ourselves this is a go. With WHO we worked a lot and participated in preliminary workshops, which have helped to know what Gavi is. There's this new approach to extend Gavi beyond the strengthening of the vaccines.”

A technical committee (TC), led by the DP, was created for the preparation of the necessary documents. The TC included representatives of the MSP, including the EPI and the Directorate of Reproductive Health and Vaccination, WHO, UNICEF, the United Nations Fund for Population Activities (UNFPA), and non-governmental organizations. However, the regional and peripheral levels were excluded from this TC.

Result 2: Identification of bottlenecks in line with the PNS and necessary solutions identified

Component of the TOC	Evaluation domain	Method	Robustness of finding
Identification of HS bottlenecks and appropriate solutions	Planning and design	DR, KII, EVCD, SAE	A

Evaluation questions:

To what extent was the content of the request for support from Chad to Gavi based on a rigorous assessment of the needs and major bottlenecks of the HS, integrated strategies aimed at addressing bottlenecks, a complementarity of activities funded by the various partners, and a clear TOC with solid links between planned activities and the improvement of the HS?

Specifically for the HSS, a group of experts formed by the DP, the EPI through its technical directorate and its technicians, and the health partners represented by WHO, UNICEF, the Agence française de développement, and UNFPA was created to further reflection on the known difficulties and identify the HS bottlenecks affecting VC. **The participation of representatives of regional and peripheral levels remained limited to some regional delegates close to N'Djamena invited to the validation of the HSS proposal, as MSP technical executives, hence after the development of the proposal.**

The identification of bottlenecks (described above in the logic model) is based on a review of the PNS, the emergency plan, statistical yearbooks, EVCD, and recent studies and evaluations conducted in Chad. However, none of the reviewed studies targeted the HS specifically. This method ensures the alignment of the HSS with the priorities of the country or its PNS, but could not differentiate or prioritize the biggest bottlenecks of the HS. Only a survey targeting all components of the HS could do so.

According to KI from that period: *“We already had an idea about the difficulties of the HS, with the group we have tried to identify bottlenecks, and we had fixed criteria that have allowed us to retain a certain number of regions and districts that suffer the most. It is an analysis of statistical data for the regions. EPI indicators were selected, the maternal and infant mortality, and geographic barriers in terms of distance, or accessibility.”*

Unfortunately, what we are seeing is the lack of observation of the KI on the weak management of the HS, a key finding in this evaluation which will be processed further.

We find the identified strategies and activities necessary to strengthen the HS. Compared to the four HSS models described in the assessment of Gavi HSS in 2009,^{34,35} the HSS in Chad has followed the basic model focused on the improvement of services, with some touches on the improvements of the sector at the national level, instead of a focus on this model, and a model of sector reform, or even a reform of services.

The KI could not provide information on the process of selection of activities beyond that they are routed in the identified HS problems, “*For example purchase of vehicle to curb the problem of lack of means of transport for the supervision.*” While it is still difficult to answer the question of adequacy of these strategies, or if they are the most effective in producing the desired effects, these strategies affect five of six major components of the HS – the governance, human resources, medical products, health information system, and health services – and are thus holistic.

On the complementarity of the activities funded by the various partners, the budget of the original proposal shows several HSS activities planned to be funded by health partners to complement Gavi’s funding. This document is unclear and open to different interpretations. However, as explained by the KI partners and Gavi, **the lack of coordination of activities and dialogue between the partners of the MSP, as well as between the DP and the EPI will result later in a duplication of activities in several HD.**

Regarding the EPI, and as indicated by a KI: “*The EPI had no role in the selection of activities.*” The problem of the selection of solutions to bottlenecks is not limited to the activities but also to targeted HSS geography. As we note in Figure 6, **the HSS HD targets are not the worst-performing ones.** According to a KI: “*As we had to choose HD everyone wanted to bring money into their HD.... People have therefore chosen the DP, WHO, coordination and research office. They went to do an orientation meeting by Gavi. After that they already had the info. So we let them do the job with the directions they have received.*” This has been verified through our SAE analysis. As will be seen below in Figure 15, the VC in the HSS has always been higher, and evolved at the same speed as in other HD not targeted by HSS.

Beyond the question of appropriateness of activities, past and present HSS stakeholders find that the activities are guided by Gavi. However, Gavi's HSS guidelines of 2007 were vague with regard to the design of HSS, limited to indicators of VC, and the alignment of the HSS with the PNS in terms of objectives and duration, and did not ask the country for a clear TOC, as confirmed by the Gavi's KI. According to these same KI, Gavi could have sought clarification with regard to the objectives but had no influence on the choice of activities. This seems to result from a misunderstanding of Gavi's HSS guidelines by the country and weak communication between the country and Gavi during the design of HSS. This misunderstanding and weak communication, as discussed further, will influence several points of HSS.

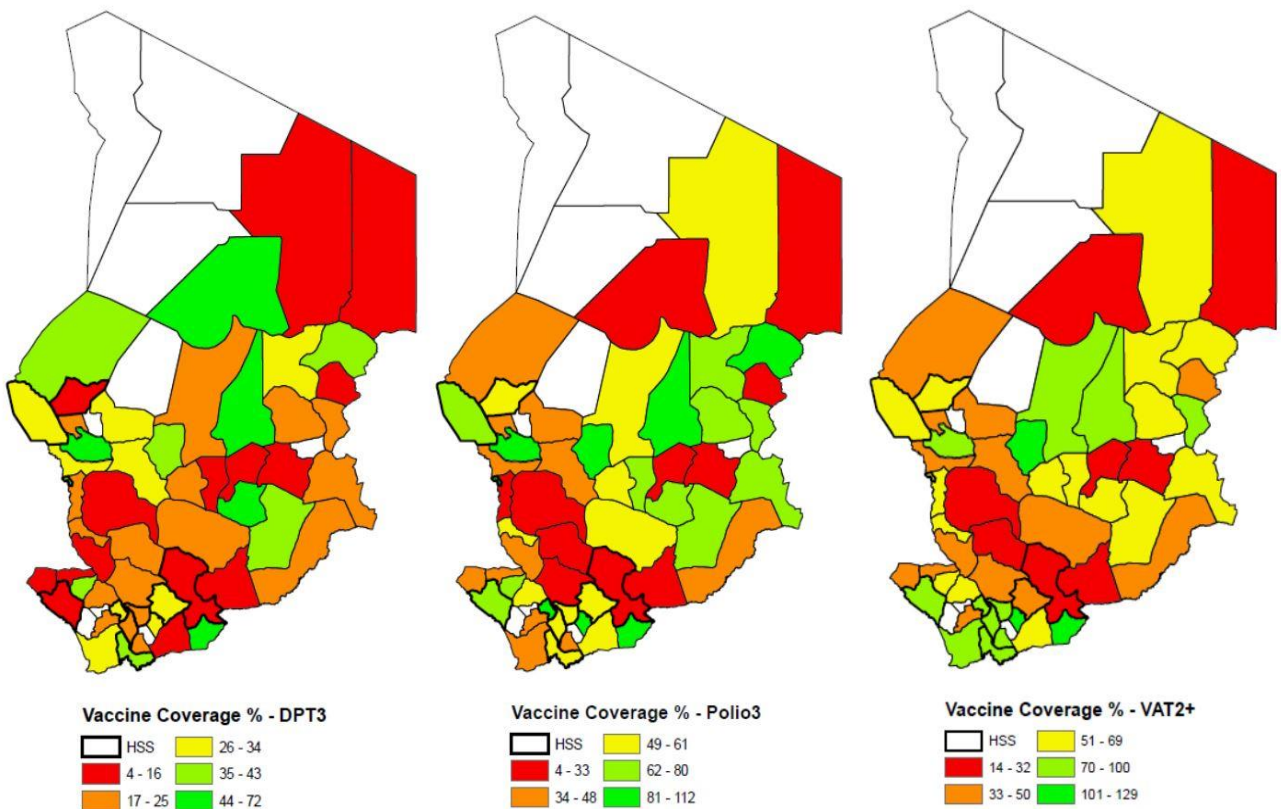


Figure 6: DTP3, Polio 3 and VAT2 coverage, Chad, 2008, EVCD

Result 3: Delayed HSS proposal submission and approval followed by a delayed and partial disbursement of funds, implementation that deviated from the planned activities, and a suspension and reprogramming of the HSS

Component of the TOC	Evaluation domain	Method	Robustness of finding
-HSS proposal prepared, submitted and approved on time -Timely disbursement of HSS funds	Planning and design	DR, KII, FA	A

Evaluation questions:

To what extent was the reprogramming of activities justified, conducted, and relevant? What were the main factors that led to the reprogramming of activities?

Figure 7 summarizes the major stages of the HSS in Chad to the point of suspension.

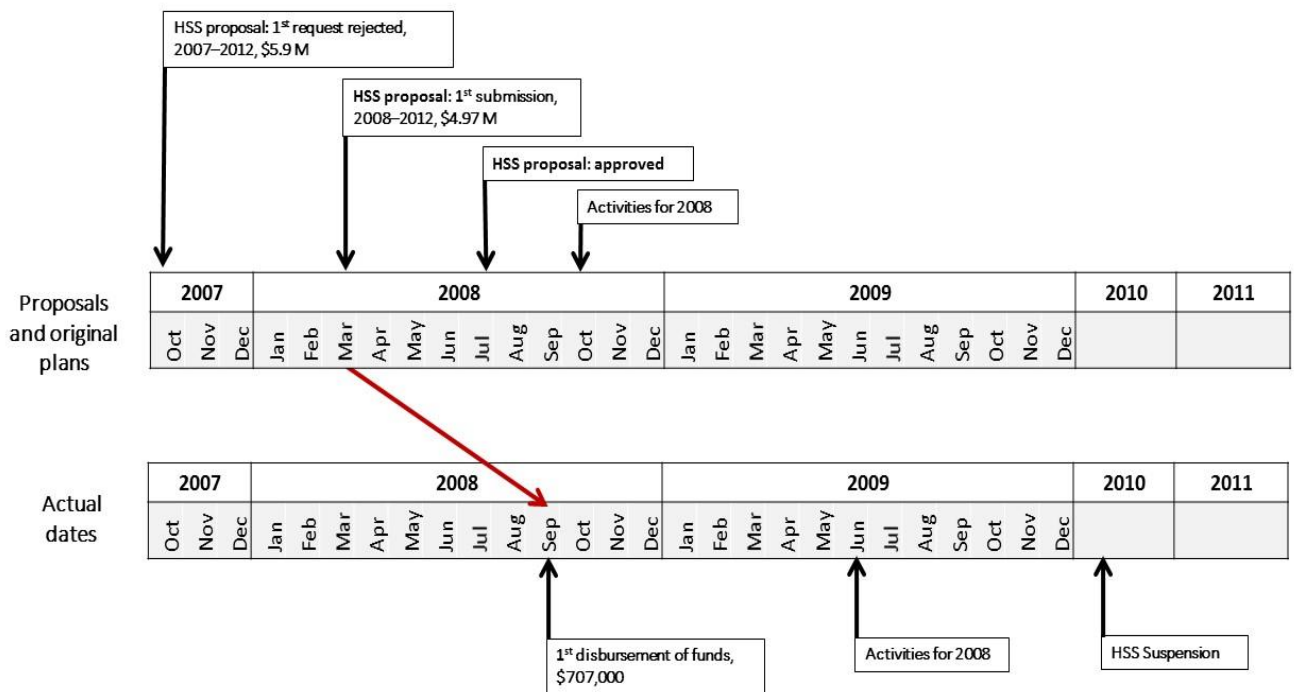


Figure 7: Milestones of the HSS in Chad, 2008-2010

Delayed HSS proposal submission and approval

The first approved HSS request was submitted in March 2008. The rationale for the request as well as the objectives and selected strategies were well written. The TC was assisted by a national consultant who directed the development of the application process and the distribution of tasks between the various members. While some KI emphasized a strong interaction between Gavi and the DP during the development of the application and a strong influence by Gavi on the choice of indicators and activities, others have not recognized such an interaction, and rather emphasized communication between Gavi and WHO during this period.

This application was approved in July of the same year. While the objectives and activities of this application are well detailed, the implementation plan, expenditure, and details of the budget by items are not at the same level. **The distribution of the budget according to the activities and the years of implementation is confusing. This ambiguity, in addition to other factors, led to a deviation of the HSS from the TOC.**

Despite the submission of the request in March, the plan has remained unchanged, claiming the beginning of the implementation from the beginning of the year 2008. Unfortunately, none of the three parties – the country, partners, and Gavi – considered reprogramming the plan on the basis of the delays in this process. **Chad had neither the resources nor the capacity to be able to correct this weakness in planning. It would have been the role of Gavi and partners in health, including WHO, to act at this point.** Recall, weaknesses cited as a reason to request this HSS support are rooted in the areas of human resources and the management and organization of the HS.

Following the approval of the application, a first disbursement of \$707,000 (36.4% of the total of the proposed \$1,941,000) was received by the country on September 12, 2008. However, approval of the application by the Independent Review Committee does not mean the disbursement of funds. Moreover, according to Gavi's KI, the number of personnel managing francophone countries at Gavi was limited at the time. In addition, long financial procedures internal to Gavi, especially related to the assessment of budgets and proposed financial management plans, as well as different hierarchical pillars of signatures and approvals are required. According to the same KI, the slow reaction of the country to provide answers to the requests for clarification from Gavi delayed the disbursement of funds. However, the response from Chad to the sole request for clarification of Gavi was signed two days after the request.

Whether the period between the approval of the proposal and the disbursement of funds is long or not, this disbursement is seen domestically as late in the absence of specific information from Gavi on the various delays that should be expected.

A recent unpublished analysis of Gavi's HSS history, according to a Gavi KI, just like Full Country Evaluation work, shows similar reasons to those that we have found for the delay in disbursements for the period 2007-2011: procedures of the financial management assessment and delays in responses to requests for clarification from Gavi³⁶. Our evaluation will show how **this delay in disbursement will delay planned activities, and will lead to a cycle of delays and reprogramming.**

Controversial implementation of activities

During the period of approval of the application – disbursement of funds, a new Minister of Health is assigned, and with him a new management team, including the DP where HSS is housed. **Thus, a contextual problem in Chad emerges for the first time in this assessment: the lack of institutional memory due to the continuous turnover of personnel.** With each new Minister, individuals in charge of the directorates are almost all replaced without systematic transfer of information. This phenomenon is accentuated by a deep problem of archiving. This phenomenon will intensify even more in the following results, where lack of lessons learned will prove to be a root cause of several challenges. Still on this problem of lack of institutional memory, and according to some national KI, it should be noted that in 2006, Global Fund assistance in Chad was suspended due to deviations from the forecasts of this assistance.

Without a plan B provided in the event of delay in the disbursement funds, without profound knowledge of the activities implementation plan, and with the need to spend the funds received before the end of the year, the new direction has favored supervisory activities, the bottleneck perceived by the MSP as the HS's highest priority, and the supply of health facilities with essential generic medicines and medical products. According to two KI, before spending had occurred, the DP has developed a plan, based on the micro-plans from the HD, for the expenditure of money before the end of the year. This plan was sent to Gavi: *"We made an annual plan for expenses that we sent to Gavi, who did not responded to our request, and hence we perceived the plan as accepted. Once we bought vehicles, [Gavi's representative] came to say that this is not the priority. It is on the basis of the micro-plans made by the HD that*

we prioritized the vehicles.” Thus, a decision was taken jointly by the DP, WHO, and the TC to buy the vehicles.

The misunderstanding of the initial budget was common to the DP, Gavi, and partners.

Individuals who played a key role in the design of the same application were not aware that the purchase of the vehicles was included in the plan: “*In the budget there was not a line saying explicitly purchase of vehicles.*” Yet the purchase of vehicles was programmed in the budget from the first year (see Budget HSS 2007-2012, lines 61-139) and remembered by the KI of that period: “*Gavi said that vehicles purchased was a defrauded case. Yet it was planned.*”

According to this KI, a micro-plan, probably the one to which Gavi had not responded, and to which we have not had access, was developed for spending money before the end of the year. A comparison of expenses proposed in the initial budget, planned, and actual in the 2008 ASR already underlines the deviation of the TOC. Figure 8 compares these expenditures.^{1,37} Note that in reading this figure, one should not confuse the total amount proposed – the original one – and that received and spent. Recall that in the absence of guidelines from Gavi on the approach to be taken in case of delay and division of funds, the country is simply left to assumptions. We cannot prove a bad intention behind deviations from the proposed and planned portions, but rather a non-optimal or incomplete choice in the prioritization of the activities to be implemented.

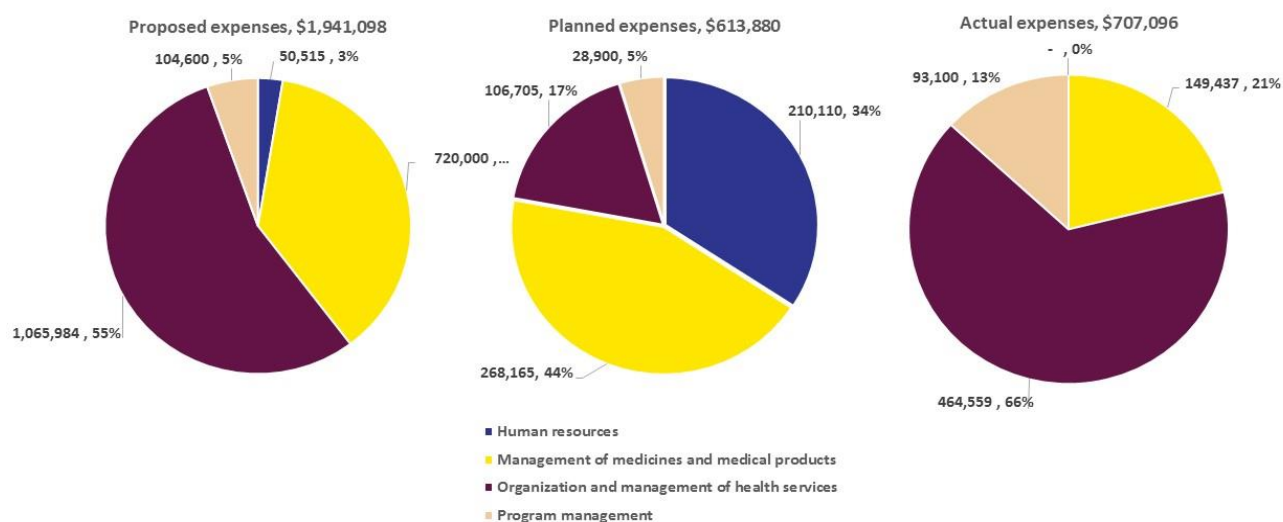


Figure 8: Proposed, planned, and actual expenditures of the first HSS funds

Suspension of HSS funds

At the end of 2009, the request for the second disbursement, including the DCMO's response to the need for fuel, creates a conflict between the DP and Gavi's representative. While for the DP, the purchase of vehicles is totally justified and relevant to strengthen supervisory capacities, for Gavi's representative it's the opposite. This led to a request for audit of financial management of Gavi funds in Chad, and subsequently the suspension of the HSS funds. **While the 2010 audit was considered to be the ultimate reference for judging the financial management of the first HSS installment, this audit does not have adequate information to this end.**

However, this audit was used to suspend the HSS funds in Chad. Taking into account the available documentation, we do not find that this audit provides a valid and sufficient reason for the suspension of HSS.

An assessment mission organized by Gavi followed the suspension of funds. On its end, the DP organized a survey to assess the effect of the HSS in the HD. The evaluation team worked with the DP in order to clarify the situation. However, no conclusion had been sustained against the DP. Discussions took place to determine whether an alternative agency should manage HSS, but these discussions were inconclusive. The situation ended by the transfer of the director of the DP who was not supported by the MSP, the removal of Gavi's representative due to mismanagement of the case, and the appointment of the Assistant Director of the DP as the new Director. Figure 9 presents the root-cause analysis of the suspension of the HSS.

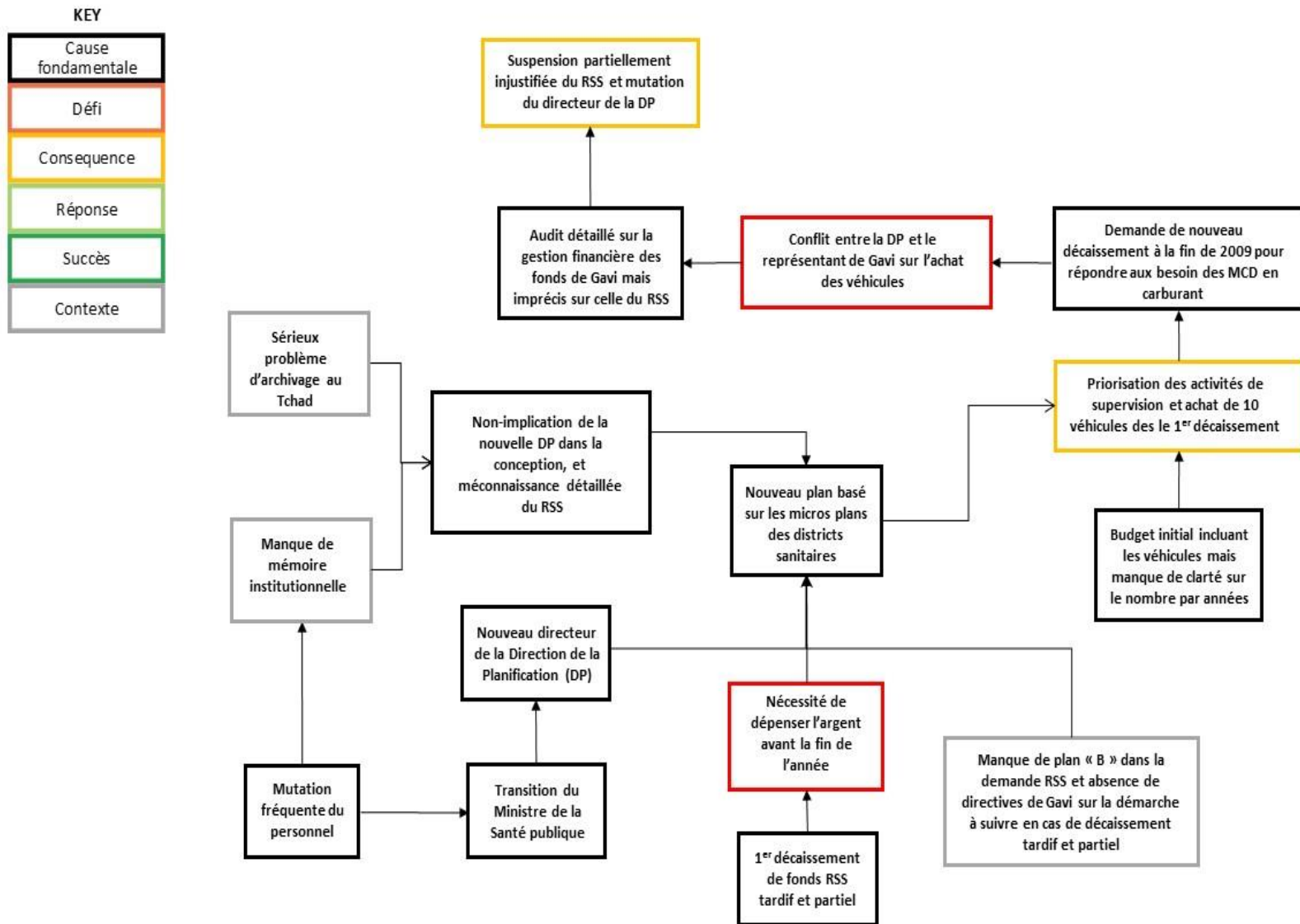


Figure 9: Root-cause analysis of the suspension of HSS in Chad in 2010

Result 4: Two reprogramming followed by two delayed disbursements of funds

Component	Evaluation domain	Method	Robustness of the result
—	Planning and design	DR, KII	B

Evaluation questions:

To what extent was the reprogramming of activities justified, well conducted, and relevant:

- What were the main factors that led to the reprogramming of activities?
- How was the process initiated and led? What was the role of the partners? Was the communication with the Gavi secretariat effective?
- On what basis were the new activities identified?
- Has the reprogramming taken into account the lessons learned from the first phase of implementation?

First HSS reprogramming

Following the explanations provided by Chad on the relevance of the use of funds in 2008, as well as to the changes in the MSP and DP (new director) following the 2008 management and given that Chad is considered a priority country by Gavi, discussions started in 2012 in order to reallocate the HSS funds. An aide-mémoire was signed in February 2012 to revive the reprogramming.

An Inter-Agency Coordinating Committee (IACC) was created to increase the transparency in the management of the program. The IACC was composed of the DP and the health partners. It was responsible for the monitoring and evaluation of the HSS. WHO and UNICEF were the main partners involved in this reprogramming. However, the regional and peripheral levels remained quasi-excluded from the proposal development.

Figure 10 summarizes the major stages of the HSS in Chad after the suspension of 2010.

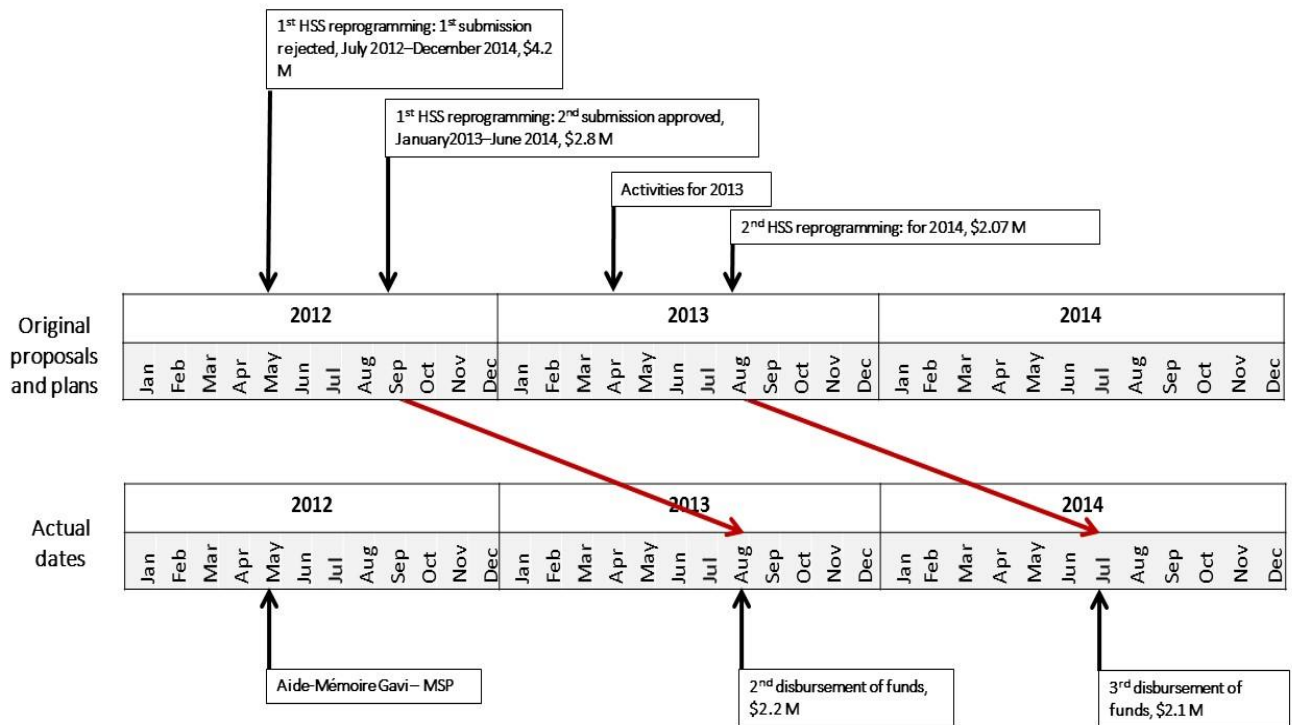


Figure 10: Milestones of the HSS in Chad, 2012-2014

Five years after the first HSS application in 2008, almost no activity has been implemented, and bottlenecks remained the same. According to a KI, “*The problems of the HS in Chad are well known. There is a very low chance of an evolution of indicators or the HS in five years, it is not surprising to find the same problems five years later.*” With an increased involvement of the EPI, the major change in the proposal was the increase of the EPI strengthening strategies, such as improving the cold chain. This involvement could be the result of the assessment of the EPI in March 2012, which had pointed out the weaknesses of the EPI, including management and cold chain. However, the General Directorate of Health Activities, where the EPI is housed, had not been involved in this reprogramming, which seems to have been impertinent.

The inclusion of the cold chain in the reprogramming, although a good strategy for the EPI, seems poorly planned especially since the budget has remained the same. Thus, re-budgeting because of this component was probably at the expense of disposal of other activities

and the addition of activities such as the training of the health committees of health in the HD to strengthen ties with the community.

The country ought rather to prioritize relevant activities. It is clear that the needs are many, but the country's capacity to implement all planned activities should be considered first. Indeed, despite the fact that the first installment was a portion of what was planned, this amount could not be absorbed over 14 months (September 2008 - December 2009).

The delay in the disbursement of funds is explained by Gavi's KC: *"There have been at least two or three meetings of advocacy, interventions of other partners and travel of Gavi to the country to remind the Minister of missing data (clarifications) to be able to disburse."* The explanation for this lack of timely response is the high demand of Chad by the different partners coupled with the lack of human resources, apart from the weak telecommunication network in Chad: *"The big problem with Chad is the internet or even the phone. It is the country that poses more problems to send a report or respond to an email. The communication system is not good, but there is no other options. The problem is technology but people do what they can."* Also, the time between the submission, approval and disbursement *"is extended with the new procedures: financial capacity evaluation, receipt of audit report, consideration of the report and decision following the results of the audit, lack of details provided by the country on the bank account, time between the approval and the disbursement. This period is justified by the search for solution to the problems detected by the audits."* This time too, despite the damage caused by the first delay in disbursements, Chad took no precautions to prevent a similar experience to the first one. This is not a lack of planning at the level of the country, but also at the level of the health partners that are supposed to review the HSS application and offer technical assistance in its development.

Following the delay of HSS funds, the DP asked the DCMO to develop micro-plans to reprogram the activities and the budget of this second HSS installment. Hence the plan and the budget of \$1.41 million – what remained of the \$2.2 million at the end of 2013 – were reprogrammed. Yet, the review of the micro-plans showed no change, but rather copies of the HD activities originally planned in the reprogramming.

Second HSS reprogramming

With the delay of the disbursement of funds of the first reprogramming, and the lack of funds to cover the activities of the 2013 Operational Action Plan, in August 2013 Chad submitted a second request for reprogramming so that the remaining HSS funds, \$2.07 million, would be allocated to the EPI for the implementation of its 2014 Operational Action Plan – a \$29.8 million budget¹⁶ – therefore a major change in activities targeting especially cold chain and mobile and advanced strategies. This request was endorsed by the DP and strongly encouraged by Gavi after the plea of health partners. **Thus, Chad became the first country to benefit from HSS funds through EPI directly, following the tailor-made approach for the fragile country.** These reprogrammed funds were disbursed in July 2014. Here too, we would like to note once again the same error related to the weakness of planning, repeated for the third time, not to consider a plan B in the case of delay of disbursement.

In parallel to this delay, in 2014, all transfers from the central level to the operational level were suspended by the Minister of Public Health, stopping almost any activity, in an attempt to better manage the finances of the MSP. Several advocacy efforts on the part of Gavi and partners were in vain. It took the intervention of the First Lady to resolve this situation. The implementation this reprogramming is close to nothing. According to the IC, and as discussed during the joint meeting of June 2015, the implementation did not exceed 10% of the planned activities. The delay of the disbursement, the weakness of the EPI management, and the decision of the Minister are all factors that contributed to this situation.

Here, a problem should be emphasized. In addition to the HSS, the Reach Every District initiative began in 2013 and has widened to cover 40 HD in 2014, then 50 in 2015. This initiative has targets and activities that resemble those of the HSS, and thus should not be implemented in the same HD. **Unfortunately, due to the weak coordination between the EPI and the DP, eight of the ten HSS HD are now double-funded by the HSS and the Reach Every District initiative.**

Result 5: Difficult implementation of planned activities

Component	Evaluation domain	Method	Robustness of the result
Implementation of activities HSS	Implementation	DR, KII, FA, FV	A

Evaluation questions:

To what extent have the activities contained in the HSS proposal been implemented as planned (quality, quantity, and terms)?

We note that **the implementation focused primarily on purchases of equipment, hence the domains of access to health services – motorcycles and fuel – and medical products and logistics – medicines and cold chain –** but much less on the remaining domains.

Unfortunately, the question of management manuals seemed new to all KI surveyed at the central level. In 2013, with the delay of the disbursement of funds, the DP reprogrammed the majority of activities so that they could be implemented in 2014. Yet despite the money already spent before the end of 2013 from the \$1.4 million reprogrammed to be spent in 2014, only 67% has been spent. The majority of activities have dragged so far and are still not fully implemented. Table 2 shows the various documents that we have tried to find.

Table 2: Availability of management tools at the level of the MSP

Documents	Declared available	Observed
The health information system manual	6	Yes
Supervision missions manual	6	No
The central level staff management manual	6	No
Plan for the strengthening of coordination methods	5	No
Plan for the development of fixed and mobile strategies	5	Yes
Plan for the maintenance of the central level equipment	4	No
Plan for the distribution of vaccines to the RHD	5	Yes

Figure 11 represents the implementation of certain activities over time since the disbursement. Unfortunately, some of the activities have never been implemented since the disbursement. These are placed at the beginning of the line to indicate. An essential element is to note on this

figure. **While the number of control HC visited is smaller than that of cases, there is not really a difference in activities between the two.** The optical illusion of the larger number of activities in the case HC is just due to the difference in the size of the samples. In conclusion, the activities carried out in the HD and HC were similar in the HSS regions and elsewhere.

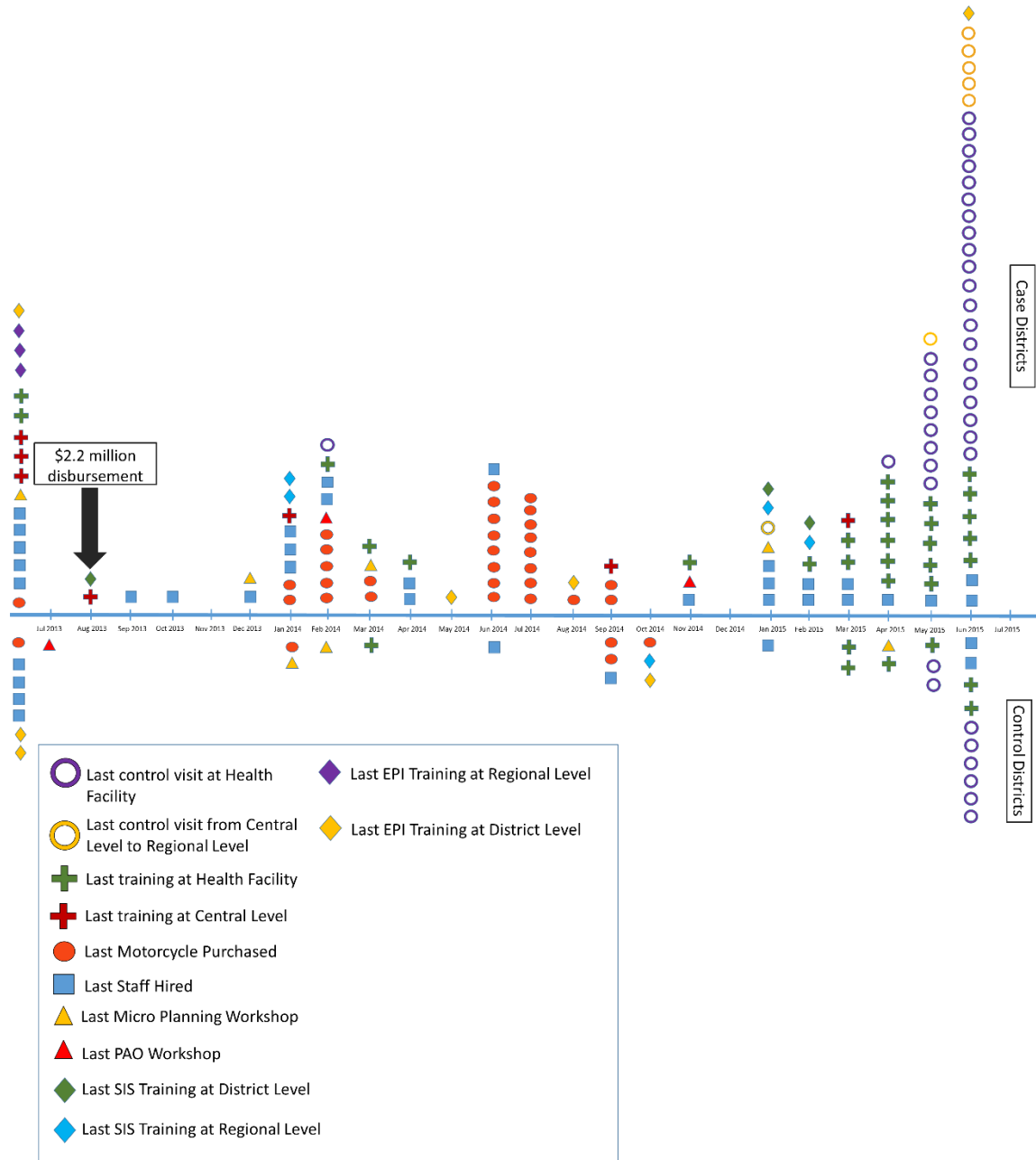


Figure 11: Implementation of the HSS activities since the disbursement of the second installment

Table 3 shows how the planned activities have been implemented. The data were collected through the FV.

Table 2: Activities implemented HSS

Field of the SS	Activities	Question	Central level	Regional level	District (cases)	District (controls)	Health Centers (case)	Health Centers (controls)
Managerial and technical capabilities of planning and coordination	Support the organization of the workshops of the goal in 10 health districts (DS)	Were there a workshop's goal in this district?	—	—	100% (4 of 4)	100% (3 of 3)	—	—
	Organizing 2 workshops for validation and adoption of the annual operational Plan in 10 DS	Were there a validation and adoption of the annual Operations Plan workshop in this district?	—	—	50% (2 of 4)	33% (1 of 3)	—	—
	Support the annual review meetings of the PRDS in 8 health regional delegations (DRS)	Is there a plan for regional health development for this DRS?	—	100% (3 of 3)	—	—	—	—
	Support the organization's health activities in fixed, advanced and mobile strategies	Is there a plan to the district for advanced and mobile strategies in areas B? Hotel conduct immunization services in the community?	—	—	75% (3 of 4)	100% (3 of 3)	93% (29 of 31)	100% (9 of 9)
	Two sessions of training in management of intermediate level for management teams in the DS	Are there any staff who attended training in mid-level management?	—	—	25% (1 of 4)	0% (0 of 3)	—	—
Monitoring and supervision	Provide central coordination office HSS and EPI with two vehicles off-road supervision	How many all-terrain vehicles are there in the office of central level coordination HSS?	2	—	—	—	—	—
	Reproduce the EPI and the tool of integrated formative supervision management tools	During the last supervisory visit, did the supervisor use a checklist on which he noted his comments?	—	—	—	—	87% (27 of 31)	100% (9 of 9)
The EPI data management	Provide 6 CPUs, 8 DSR and 10 DS with hardware kits to capture and process data	Has there been logistical improvements concerning the collection of data (for example, purchase of computers or other computer equipment has there been)?	—	—	100% (4 of 4)	100% (3 of 3)	—	—
	Form 8 teams DRS and the DS 10 members in the SIS data and software management	Was there a staff training at regional level on the collection and analysis of data from SIS?	—	100% (3 of 3)	—	—	—	—
		Is there staff at the district level which was formed on the collection and analysis of data of the health information system? Is there anyone among the staff of this institution that has been trained on the health information system?	—	—	75% (3 of 4)	66% (2 of 3)	51% (16 of 31)	44% (4 of 9)
Manager capacity for drugs and vaccines	Form 8 DRS concerned on the management of medicines and EPI tools	Has the DRS EPI Manager received training?	—	100% (3 of 3)	—	—	—	—
		Has the medicines, vaccines, and medical products supply chain manager of the DRS received training?	—	100% (3 of 3)	—	—	—	—

	Perform integrated formative supervision every 3 months in the management tools and medicines	How many times during the past 3 months has this center received a supervision visit from of the district or regional level?	—	—	—	—	Average number of visits: 3	Average number of visits: 2.5
	Ensure the distribution within 8 DRS in vaccines, consumables, hardware communication and essential generic medicines	Is your DRS regularly supplied with vaccines, essential medicines, and medical products from the central level?	—	100% (3 of 3)	—	—	—	—
Cold chain	Equip the central EPI and the three sub-national deposits with four cold rooms of 40 m3 each (Moundou, Abéché and Sarh)	How many 40 m3 cold room are there at the central level of the EPI?	14	—	—	—	—	—
		How many 40 m3 cold rooms are there at the subnational depots?	11					
	Provide each of the DRS 8 and 10 DS with a freezer each	How many freezers are available at the district level?	—	Mao: 10 Pala: 2	Mao: 2 N'Djamena: 2 Doba: 1	Bessao: 0 1st: 2 Moussoro: 0	—	—
		How many freezers are available at the regional level?						
Provide the health centers with 100 solar refrigerators	Among these refrigerators, how many are solar?	—	—	—	—	3% (1 of 31)	1% (1 of 9)	
	Maintain the cold chain equipment	Does the cold chain receive regular routine maintenance?	—	100% (3 of 3)	100% (4 of 4)	66% (2 of 3)	19% (6 of 31)	11% (1 of 9)
Human resources	Reward the best-performing health staff member / reward the best DRS	Are hotel staff rewarded for their performance?	14% (1 of 7)	33% (1 of 3)	25% (1 of 4)	0%	16% (5 of 31)	0% (0 to 9)
	Form 118 health workers at all levels in EPI, and prenatal care	Has there been a training for the staff on the EPI?	—	100% (3 of 3)	100% (4 of 4)	100% (3 of 3)	87% (27 of 31)	100% (9 of 9)

Regarding the monitoring of activities, the TC members held meetings every month to discuss the status of activities. The MSP and partners also held meetings to monitor the PNDS. Thus, partners are perceived as a reliable source to measure the implementation of the program. According to WHO KI, their primary involvement is at the level of monitoring. Thus, HSS is discussed within the IACC meetings but not within the technical meetings of the EPI. Short meetings of the IACC, TC and the MSP were held regularly according to the partners and the MSP, but, as declared by the partners, monitoring is not done as planned in the reprogramming request.

It seems that the ASR remained the only tool for official monitoring of this program. As for the ASR, this tool is produced once a year and often lacks reliable data on indicators.

As informs the DP, the extent of the achievements of the activities is a non-data-based estimate. In parallel to the ARS, the report of the sectorial reviews includes indicators of the PNDS, and therefore of HSS “this is the annual review, like the meeting that that we just had, where everyone came to present their results, and at the end there is a general report. All the indicators of the PNDS.” On the other hand, the lack of staff at the DP implies less follow-up reports as the Director is the only person available to produce these. This lack of staff also led to the fact that in 2014 only three supervision missions were conducted by the DP to the HD instead of the 12 planned.

A positive aspect in the management of this slice of HSS was the ease of transferring money from the central level to the level of the HD, even during the period where the Minister's decision had blocked any transfer from the central level to the operational level. This allowed the HD to carry out their activities and implement their micro-plans.

As perceived by some KI, the commitment provided by partners is often limited to sending consultants instead of effective participation in the important processes such as the development of requests for support or implementation. According to several KI, partners, such as WHO, despite their role as co-signatories on HSS expenditures, were not aware of what is being signed or implemented.

Result 6: Minimal influence of the HSS I experience on the new HSS II proposal

Component	Evaluation domain	Method	Robustness of the result
—	Planning and design	DR, KII	B

Evaluation questions:

To what extent were the results of other studies/evaluations conducted in the country, comments made by Gavi and partners, and the new rules of Gavi HSS used to better prepare the second proposal to Gavi (2014)?

The HSS II proposal submitted by Chad in January 2015 has already received the comments of Gavi's Independent Review Committee³⁸.

This new proposal seems to us, strategically, a broader repeat of the HSS I proposal. The same HS domains targeted in the HSS I – management and governance, health information, logistics, health services, and human resources – are included in this proposal, in addition to the accentuation of the links with the community, neglected in the first proposal, through the Civil Society Organizations. This proposal takes a holistic approach toward the strengthening of the HS, an approach that would have been ideal for a country with sufficient capacity to implement the strategy. The implementation of a similar program begins first by the capacity of the financial management of funds at the central level. Whatever the reasons, **since August 2013, the DP could absorb less than 83% of the \$2.2 million, while the EPI, from July 2014, could absorb less than 15% of the \$2.07 million.** However, the capabilities of the MSP, including the DP and the EPI, have not suddenly evolved since then. The question we ask is: how will Chad be able to manage this new HSS of \$15.4 million?

The proposal already rejected does not seem to have benefited from recent evaluations or studies such as the 2014 MICS survey that we use in our findings to show VC in 2014, and the change in this coverage since 2008 by HD³⁹. In fact, as can be seen on Figure 12, and based on our SAE, the HD targeted by this new proposal are not the least performing in 2014, but seem to be distributed all over the VC spectrum. Table 2 of the annex presents DTP3 coverage by HD, based on our SAE, for 2014 and 2015.

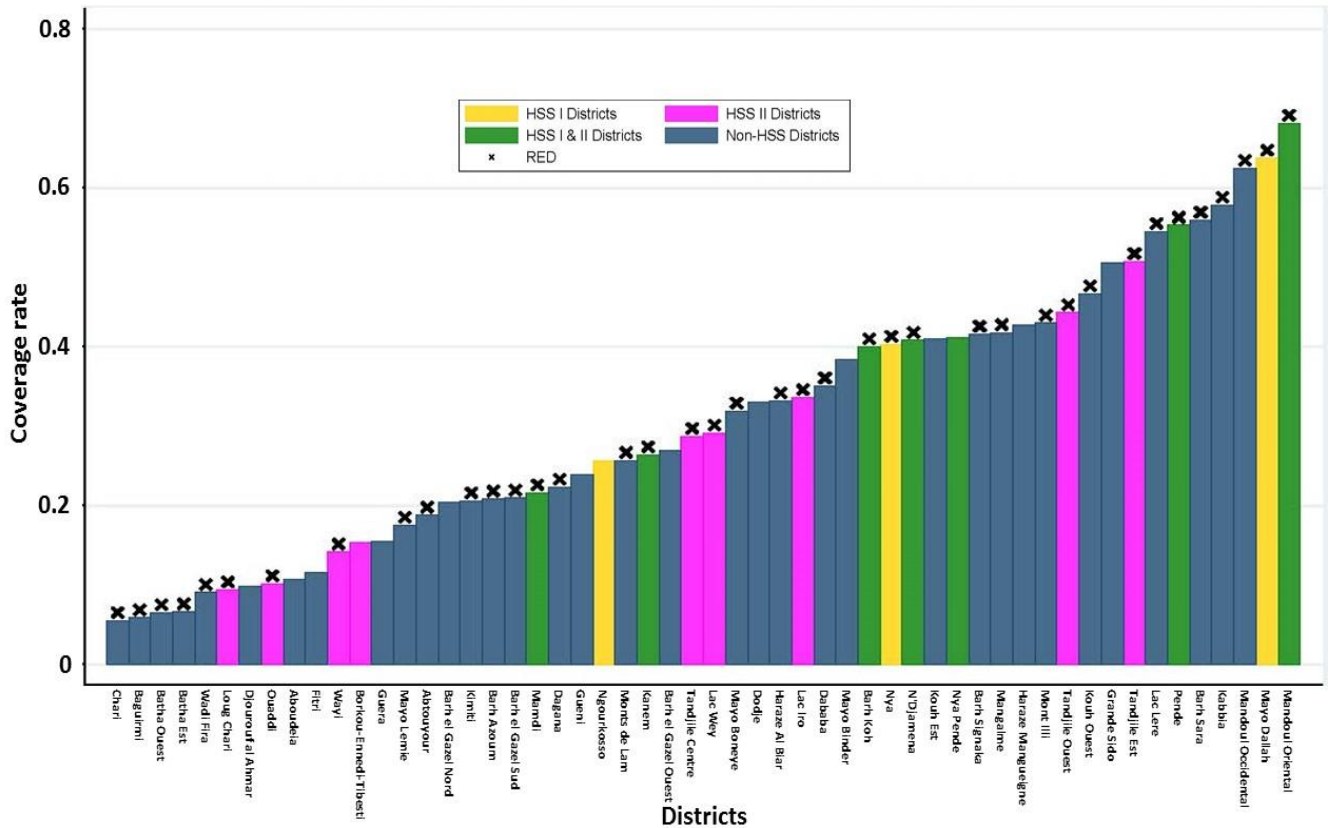


Figure 12: DTP3 coverage rate by HSS and Reach Every District (RED)-targeted HD, Chad, 2014, small area estimates

While the new HSS of Gavi guidelines focus on results-based financing, this application proposes to follow the results-based financing process, as an activity, i.e., as a model of financing of the country to the HD, but not from Gavi to the country. Once again, the country seems to benefit from the Gavi approach tailored to the fragile states. With the poor health information system, we are not certain that the results-based financing approach of Gavi to the country would be realistic at this time.

Also, the new HSS guidelines are that all feeds are now directed to the EPI. However, in this case, the HSS will be housed at the General Directorate of Health Activities. It may be that this is due to the approach tailor-made for Chad, and perhaps the weak EPI management. In any case, the proposed activities aren't all activities targeting the EPI but also affect to the HS in general.

The EPI is clearly involved in the development of this proposal given the role held by its Director within the TC (second reporter). The planned activities are also EPI activities indicating its involvement in the implementation. Regarding monitoring, the proposal seems to limit the role of the EPI at the central level in the coordination meetings.

Equity was not a focus of HSS I but seems at the heart of this new proposal, which we value as a major positive aspect. Here, equity is not the level of gender, but the geo-cultural level. The objective of the program is to reduce disparities between the sedentary population on one hand, and the nomadic population and refugees on the other, through activities that seem correct. The activities listed are required to access these populations. What seems to be missed in this proposal is the strategy to follow to obtain the confidence and involvement of these populations.

This proposal does not include a plan to measure the impact of HSS II, but rests rather on intermediate outcomes and indicators of VC. These measures are undoubtedly necessary but not sufficient. We understand the difficulty of achieving such a measure. Chad is targeted by various interventions targeted at VC and the only measure that could be achieved is a comparison of VC in different HD based on intervention factors.

Result 7: Efficiency in HSS expenditures but not in the selection of activities

Component	Evaluation domain	Method	Robustness of the result
—	Efficiency	RD, ESIC, AF	B

Evaluation questions:

To what extent have the financial resources been used as planned, in accordance with the rules laid down by Gavi and the provisions of the National Manual of Procedures, and efficiently?

According to the DP, Gavi guidelines are met with regard to the implementation of activities. It seems to us that expenditures for the second HSS installment were made, in their majority, efficiently and with due process but with some accounting weaknesses at the central level. However, receipts are not always available for certain activities, which is due to an archiving problem. This problem is even bigger at the peripheral level. Apart from accounting problems, the transfer of DCMO leads to a decreased transparency in activities and finances. Also, at the peripheral level, there are sometimes non-compliance with programs and exaggeration in spending as in the case of fuel.

Figure 12 compares the expenditures proposed in 2012, rescheduled at the end of 2013, and the actual ones^{40,41}.

The major difference between the rescheduled budget following the delay in the disbursement and current expenditure is due in its majority to the expenses already incurred between August and December 2013. These expenses include a sum of \$200,000 made in the form of transfers to the HD. Also, note that among the expenses incurred in 2013, a sum of nearly \$560,000 was made for the benefit of the EPI to acquire motorcycles, solar refrigerators, and cold room equipment. However, solar refrigerators have still not been installed in the HC⁴².

We have not collected data on the financial monitoring at the operational level. However, an audit took place in May 2015 covering the period between October 2013 and December 2014¹⁸. The audit noted that Gavi's accounts "were managed in accordance with the applicable conventions and the withdrawn funds to pay the expenses have been used for the purposes for which they are intended ... procedures for procurement of the Program during the year under

review are consistent in material with respect to Gavi’s directions and the public procurement Code in Chad.”

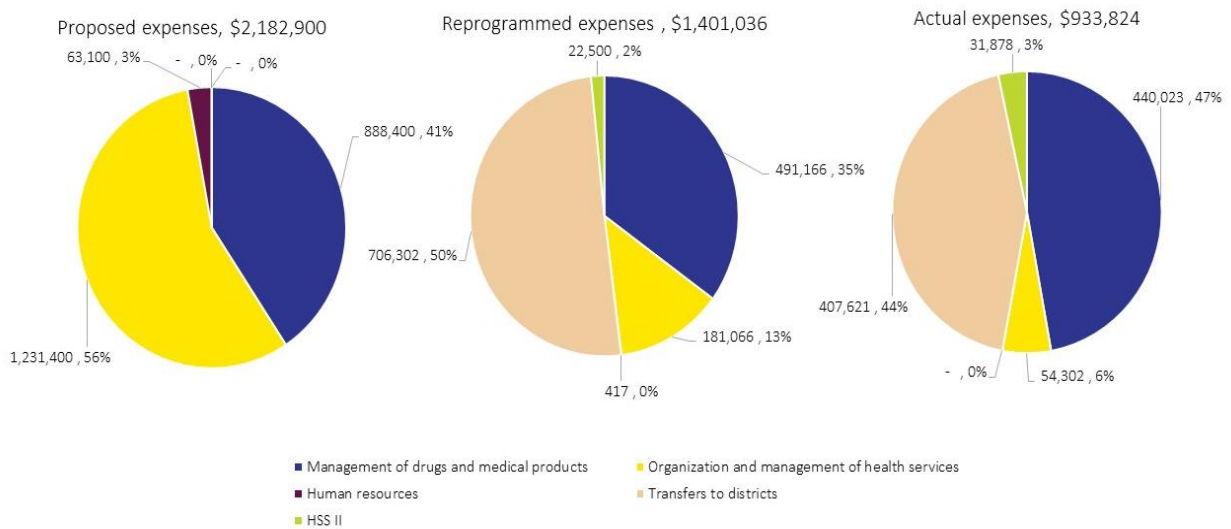


Figure 13: Proposed, rescheduled, and current expenditure of second HSS installment

The efficiency of the HSS is not just a question of spending funds such as planned. It is rather the prioritization of activities which would be the most effective to strengthen the HS and would have more sustainable results. As discussed in the two following results, the majority of HSS funds were used for the purchase of equipment, with less focus on the strengthening of the management of the HS.

Result 8: Minimal achievement of expected outcomes

Component	Evaluation domain	Method	Robustness of the result
Results	Results	RD, ESIC, FV, EPA	A

Evaluation questions:

To what extent have the expected results of the HSS program been achieved: 1) in supported areas, 2) possibly in non-supported areas, and 3) at the national level?

HSS indicators

None of the HSS indicators has been reached, which is not surprising given the obstacles that this program has known since its inception. The results of HSS in regard to the chosen indicators are presented in Table 4.

However, we observe an increase of the VC in Chad since the years 2008 or 2009 (Figure 14). **It should be noted that the VC in the HSS HD has always been higher than nationally (Figure 14), and has experienced an acceleration at the same pace as in the non-HSS HD (Figure 15). What should also be noted, on this figure, is the increase of the VC in the southern part of the country compared to the northern one, as well as in some regions that do not include any HSS HD.** Chad should identify the factors influencing the VC in the south to be used throughout the country. Otherwise, Chad would be lending itself to a problem of geographical inequity if the VC continues to evolve as seen currently. To note that some HSS II districts are targeted by the Reach Every District initiative as well, and are among HD where VC has increased the most (Figure 15).

It should be noted that our SAE at the district level will be refined and might change with access to the 2014 MICS survey data. At this moment, our estimations are only based on the regional-level VC provided in the survey's preliminary report³⁹.

Table 4: Results of the indicators of the HSS in Chad

Indicators *	Results
By 2015, under-5 mortality rate should be reduced to 6.4%	In 2015, under-5 mortality in Chad is estimated at 13.9% the highest rate of neighboring countries ⁴³ . While the data from the MICS 2014 remain inaccessible, these estimates from the unpublished Global burden of disease 2015 study are recognized to be the most reliable. Figure 16 shows the trend in under-5 mortality by our SAE analysis and the global burden of the disease up to 2012.
At the national level, the rate of DTP3 should reach, and must be maintained at, 95%	According to our SAE (Figure 13), national DTP3 coverage rate is at 38.8% in 2015 (32.5% in 2015). No HD has reached the rate of 95%, with Mandoul Oriental having the highest rate at 78.6%
The DTP3 rate should reach or exceed 80% in 44 HD	By 2015, no HD reached 80% of DTP3 coverage.
100% of HC should have been visited at least six times over the previous year, and a checklist has been used during visits	According to the data during our FV, of 31 HC visited in the HSS target HD, 29 were visited at least once during the last quarter. The number of visits received during the last quarter varies from 1 to eleven, with an average of three. Among the 29 HC, 27 confirmed that a checklist was used during the last visit at least. In these 27 HC registers are used to mark the supervisory visits and are signed by the supervisors. Among the nine control HC visited, the number of visits of supervision during the last quarter ranged from one to six, with an average of 2.5. The nine HC confirmed that the supervisor used a checklist during their visit, and all have a registry where the supervisory visits are marked.
80% of the HC have qualified health professionals, with the number required, and present in the responsibility area at least 10 of the 12 months	All visited HC have at least a Manager, who is most often a nurse. A single HC had to be closed due to lack of personnel in Mao in August 2014 for the last time, and for three days. Another HC in Moussoro was forced to close for the same reason in July 2015 for the last time, and for one single day.
The average number of days of stock-out of the ten essential medicines in the HC during the past quarter shall not exceed 3%, then less than 3 days	The availability of generic essential medicines and vaccines is detailed in Table 4.

* Except for under-5 mortality, the five remaining indicators were supposed to be reached by June 2014.

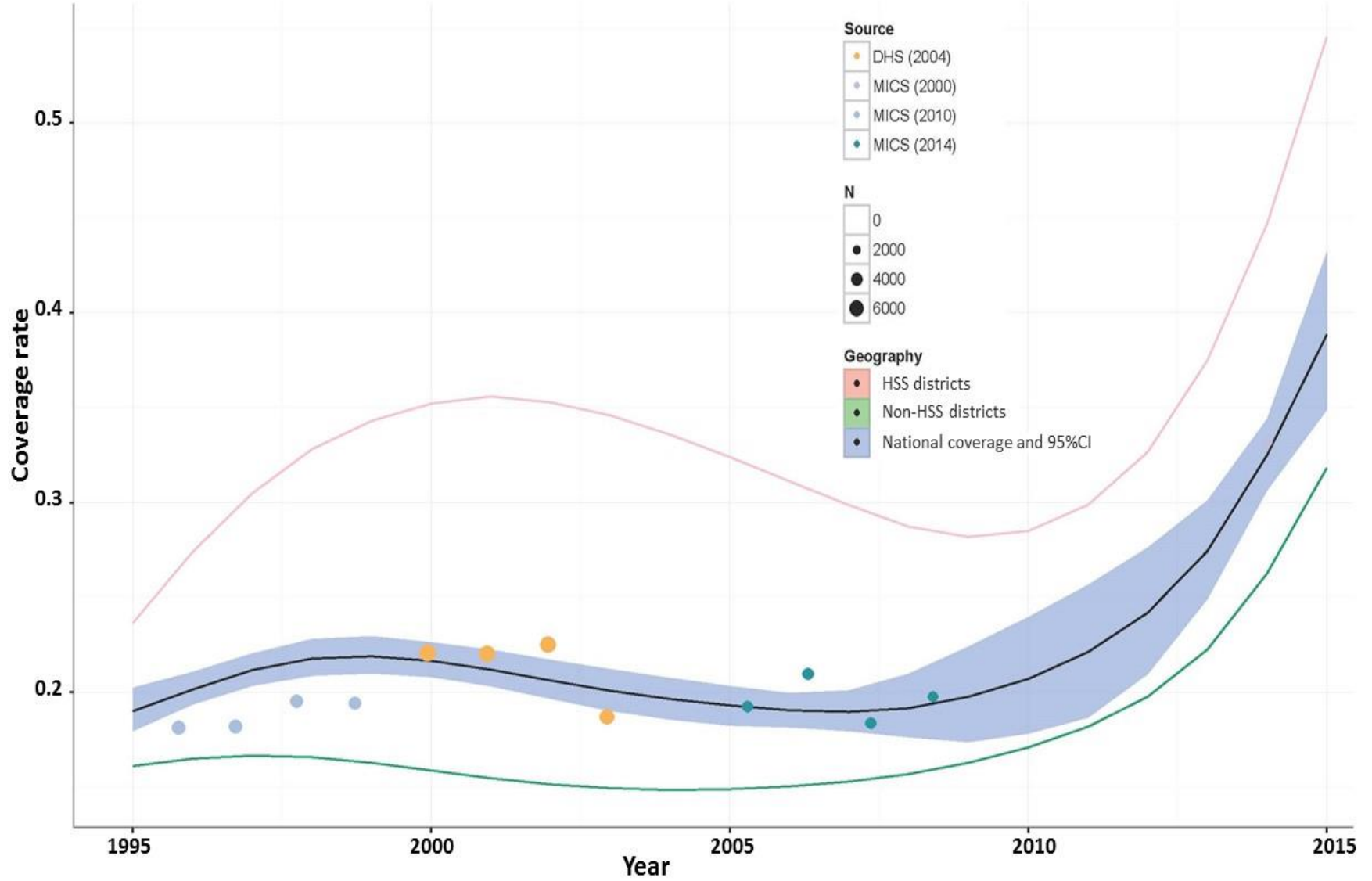


Figure 14: Evolution of DTP3 coverage nationally, in HSS, and non-HSS target HD, in Chad, 1995-2015, according to small area estimates

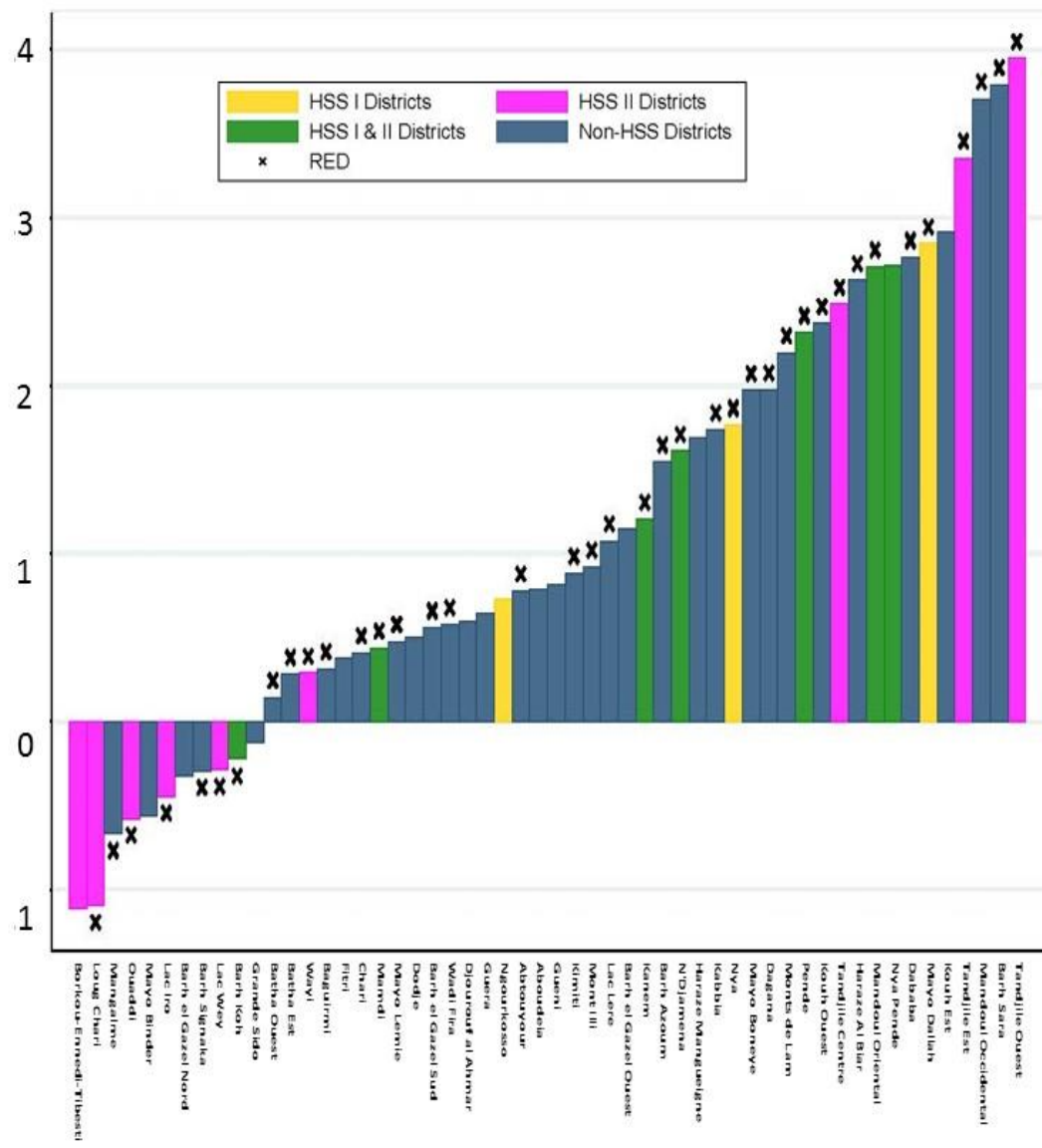
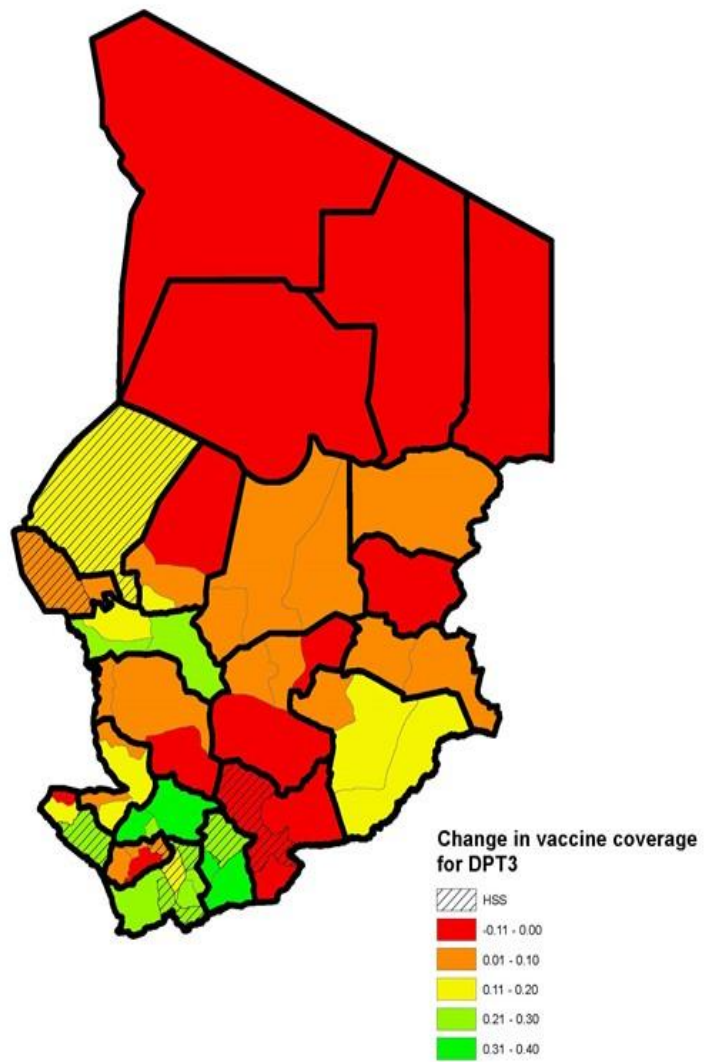


Figure 15: Evolution of DTP3 coverage between 2008 and 2014 by HSS I, II, and Reach Every District (RED) targeted HD in Chad, small area estimates

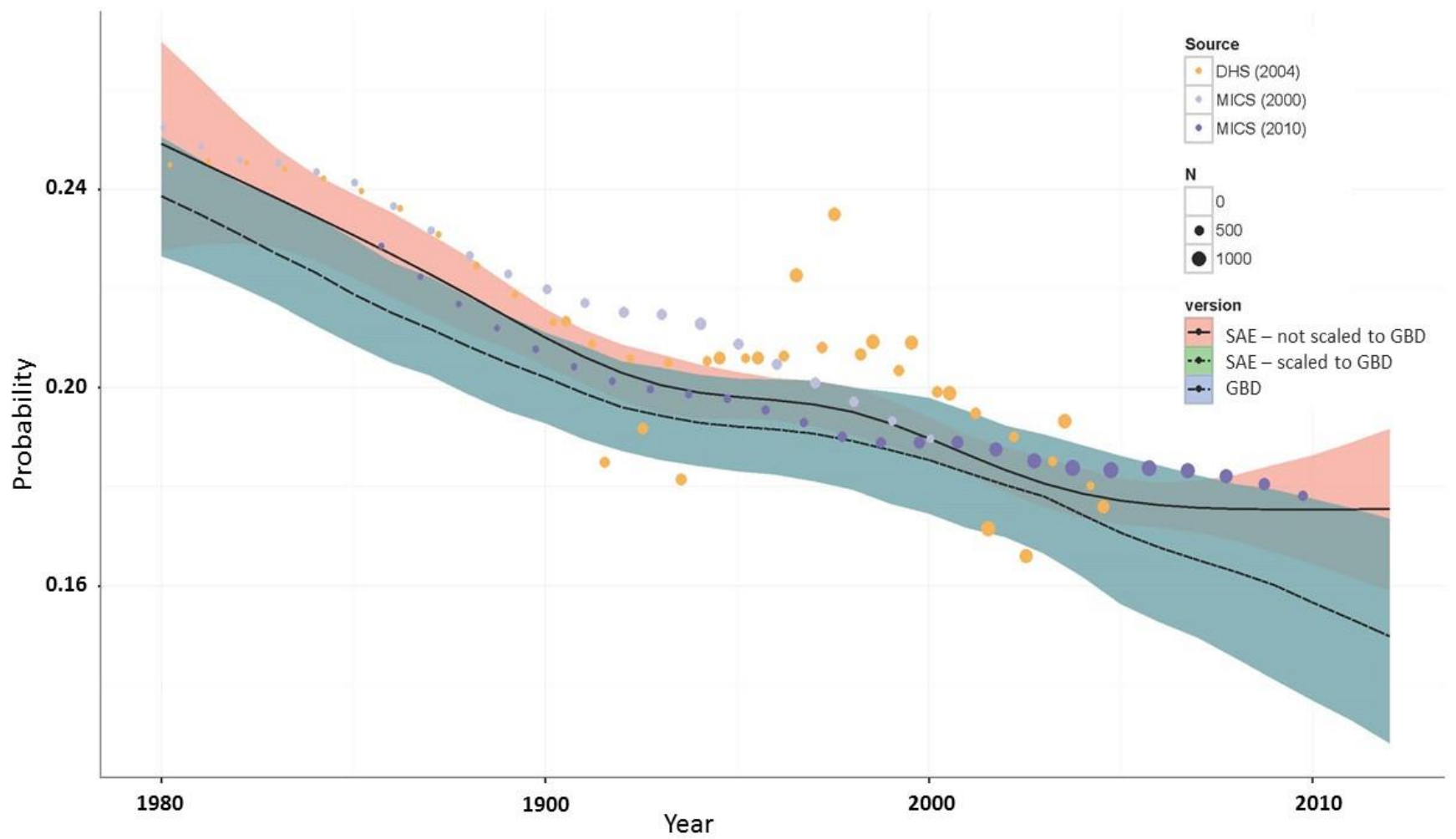


Figure 16: Trend in under-5 mortality in Chad, 1980-2012, according to the analysis of SAE adjusted and unadjusted to the study of the global burden of disease, and according to the Global Burden of Disease study

HSS outputs

Apart from the six chosen indicators, it is essential to present the results of the HSS outputs that reflect the effect of the implementation of the activities.

Health personnel qualified and motivated in the 10 priority HD

The KI at the level of the HD find that HSS contributed to setting new staff in the HC, and training of personnel, which did not seem obvious in visits at the HC. It was difficult for the HC managers to answer questions about personnel training. Unlike the KI of the HD, we believe that the effort to strengthen human resources remained partial.

As we see in Figure 11, the majority of recent trainings are concentrated between March and June 2015, in parallel to this evaluation, despite transfers to the HD since the summer of 2013. The majority of these trainings were on subjects related to vaccination, although trained personnel were often nurses. We thus question the need of this staff to be trained on vaccination despite their education. Still, the micro-plans on which the reprogramming of 2013 is based are full of training activities. Once again, it was not evident during the FV that the staff was as trained as described in these micro-plans.

Aside from training, the reprogramming in 2013 of the second HSS installment eliminated the activities of staff rewards.

Effective supply and management system of vaccines and generic essential medicines in the 10 HD

This objective was also weakly reached. As seen in Table 5, when a drug is discontinued, the number of stock-out days can easily exceed the three days of reference. The majority of stock-outs were in one form of the drug. Most often, it was the liquid form that was missing, and the drug was available in another form. However, **we noticed that the tools of management of vaccines and drugs were present and used in all visited HC**. Also, the reprogramming of 2013 includes a line on the acquisition of generic essential drugs at 100 HC of the HSS in February, March, and July 2014 by the DP itself. The financial report for September 2013 - December 2014, shows no expenditure at this level.

Table 5: Stock-out of generic essential medicines in HC visited during the evaluation of the HSS in Chad

Medical product	CS target HSS		CS witnesses	
	Number of HC with at least one day of stock-out during the last quarter	Average number of days of stock-out	Number of HC with at least one day of stock-out during the last quarter	Average number of days of stock-out
DTP	3	5.6	0	0
TT	2	11	0	0
Paracetamol	4	5	1	30
Amoxicillin	3	2.5	1	20
Metronidazole	2	10	2	40
Mebendazole	2	3.5	0	0
Cotrimoxazole	4	26.5	2	17.5
Artemether	8	34.6	2	45
Quinine	6	10.8	0	0
Folic acid	4	5.7	0	0
Salbutamol	9	54.8	5	16.8
Ibuprofen	2	3	3	41.7

Organization and management of health services in 10 HD and six central divisions

We find this objective to be the most relevant as the quality of the HS management determines its functionality. We present our conclusions on this objective in the form of a root-cause analysis, Figure 17, followed by a text detailing this analysis.

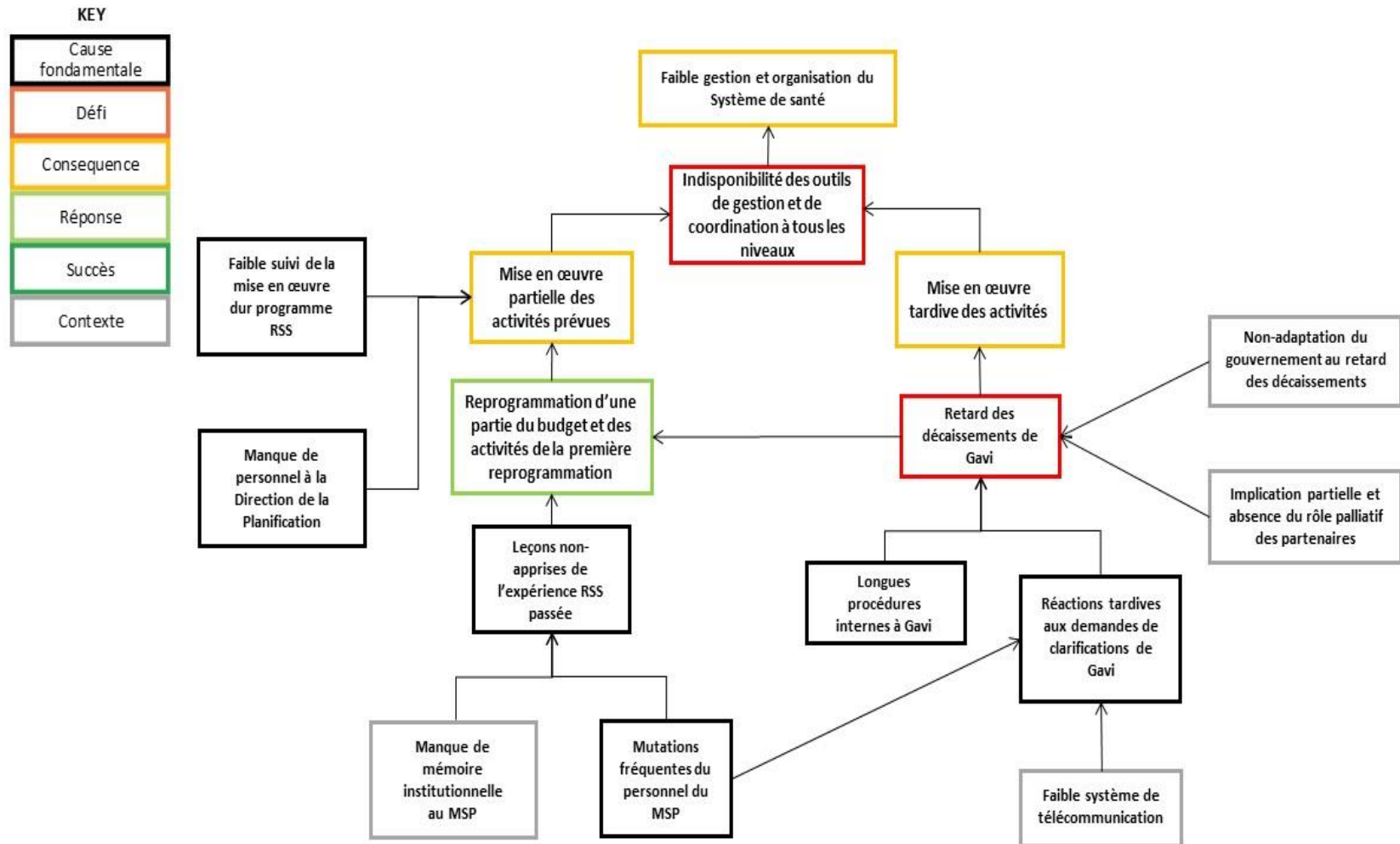


Figure 17: Root-cause analysis of the weak management and organization of the HS

The suspension of HSS in 2010 was not the first suspension of financial assistance due to a deviation from the forecast in Chad. In 2006, Global Fund assistance was suspended for similar reasons. The problem of lack of institutional memory, accompanied by a frequent turnover of the MSP staff, creates an environment that does not promote learning lessons from past experiences. Thus, while the current DP did not commit error in financial management of the funds, it did not consider sufficient time between submission and approval of the reprogrammed application and disbursement of funds. In parallel, the same problems described in the root-cause analysis leading to the suspension of funds were behind the delay in disbursements.

Identically to the delay of the first disbursement, no measures have been taken by the Government nor by the partners to compensate for the delay of funds. Thus, immediately after the arrival of the funds, the DP reprogrammed the activities and budget whose implementation was supposed to start eight months earlier. This reprogramming deflected the strengthening of management activities. **With the lack of personnel in the DP, weak management allowing partial absorption of funds, and weak monitoring of implementation, the program at the central level is focused on the purchase of the equipment, leaving the peripheral level to manage its planned activities without supervision from the central level.** Thus, the production of the various manuals and policy management proposed originally went unrealized. As noted in the result on the implementation, almost no management manual was observed anywhere.

Added value, catalytic role, and complementarity of HSS

In Chad, HSS is seen as a support with an added value, compared to other financial supports of health. The acquisition of vehicles, motorcycles, and cold chain equipment at central and subnational levels are the major reasons behind this last perception. These acquisitions are seen as having strengthened the management of health services through supervision, access to health services through advanced strategies, and vaccine management through the storage capacity. These additions are seen as exclusive to the HSS.

On the other hand, **HSS did not play its catalytic role.** First, the DP and the partners have not sought to request additional funds from other donors to complement the work of HSS such as, for example, financing fuel for the motorcycles acquired through HSS by other funds. Second, the HSS activities should be coordinated with other interventions. Eight of the HSS HD are shared with the Reach Every District initiative. These two interventions may finance quite

different activities, however: the duplication of funding resulted from a weak coordination between the DP and EPI rather than an in-depth knowledge of what is funded by each of the interventions.

Unintended consequences of HSS

The suspension and the reprogramming of the HSS funds were not planned. As a result of these events, the MSP and its partners had to make the effort to assess the management of the first phase, hold meetings to reschedule activities, and provide explanations to Gavi throughout this process. This effort is a waste of time and capabilities needed for the implementation of the activities and therefore an unintended negative consequence.

A second major consequence of HSS is that Chad is the first country to benefit from the HSS Fund to finance the activities of the EPI. This is reflected in a reconciliation and cooperation between the EPI and the DP. It remains to be seen later whether this result was for the better or the worse. So far, we feel pessimistic, given the almost nonexistent implementation of these reprogrammed activities.

Attribution of results to Gavi's HSS

We know that activities implemented, specifically the above-mentioned acquisitions, are due to Gavi HSS. As for the VC, or under-5 mortality, it is difficult to attribute the results to HSS or discern its results from other funds. In effect, and as can be seen in Figure 14, the VC increased, up to 2015, in the HSS HD at the same speed as elsewhere. Also, with the delay, and the minimal implementation of activities, it is early to measure an actual result at this moment. Apart from the factors of delay and incompleteness of the activities, and as pointed out by a KI, "When you set up an HSS with low financing such as Gavi does, do not expect big results. Chad needs big means and it isn't \$2 million that is going to solve its problems."

Problems to measure indicators

The difficulty of measuring results and indicators of HSS is related to an archiving and data management problem in Chad. As admitted in the HSS II application, the EPI data are unreliable, which is mainly due to the collection of data, or the filing of reports at the level of the HC. Some HC managers experience real difficulties in holding registers and filing the monthly activity reports. Thus, the quality of the data is already altered from the base.

In addition, the management of data at the central level is very low. Specifically, we had requested access to the data of the EPI from the MSP for the years 2004-2014 since the start of the evaluation. We were only able to obtain data for the years 2008-2014 after repeated requests with the data manager. Data from the previous years, although computerized, are difficult to access, for reasons that we couldn't understand. In addition to the data problem, and as we see in Figure 18, HSS support in Chad has never exceeded 19% of the total proportion of health assistance, which makes it difficult to discern its results from the results of other funds.^{33,34} On the other hand, it may be early to see a clear impact of the HSS given the delay and incompleteness in the program's implementation.

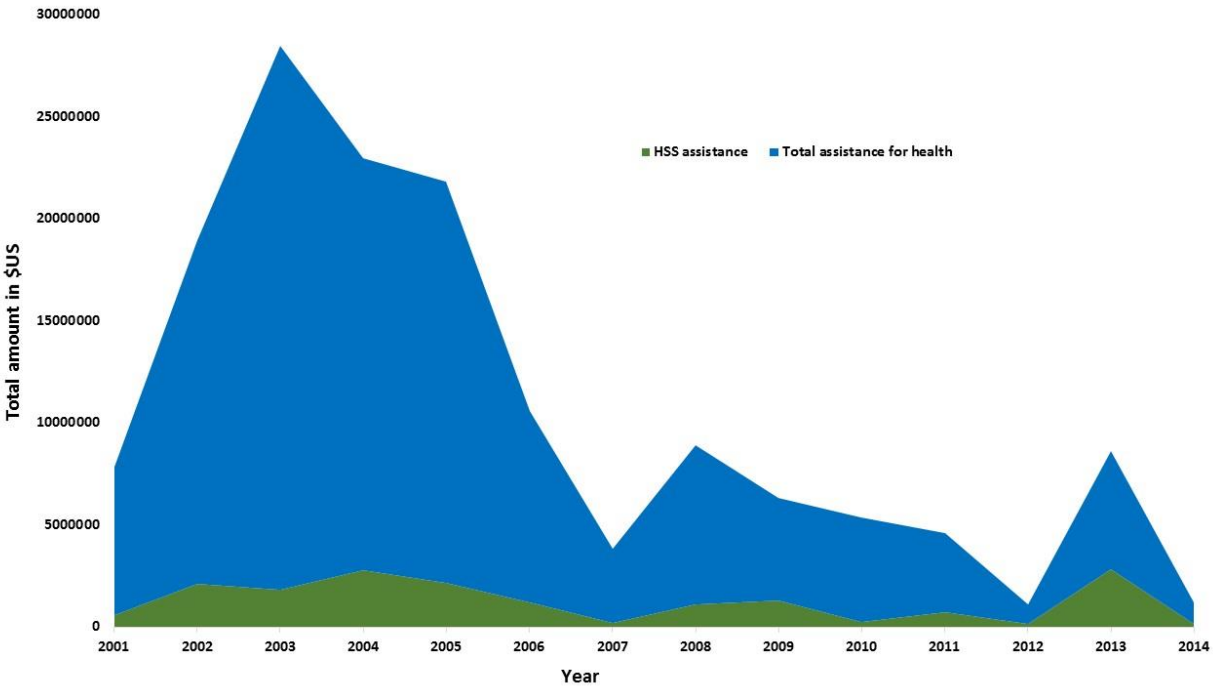


Figure 18: HSS assistance compared with total assistance received for health by Chad, 2001-2014

Measures that could have improved the effectiveness of HSS

The first bottleneck to the HSS resides in weak planning and vision of the DP. The DP sometimes saw that HSS is a program that is easy to manage and requires no more than two or three hours a week, and sometimes the lack of staff affects the production of monitoring reports, supervision to the HD, and accounting. **The first observation we have is the complete separation between the Director and the Deputy Director of the DP. The latter has been entrusted to strengthen the health information system, which should not be his job,** as his position is officially Deputy Director of the Division of Planning. Involving the Deputy Director in the management of the HSS would have helped the program to be more efficient.

During the last period the program was run by the Director alone.

The second problem that we notice is the major investment of HSS in equipment, with minimal investment in the strengthening of human resources and management. The 2013 micro-plans were reported several times as a basis for the reprogramming of 2013. Preparation of micro-plan activities are supported by the HSS. However, the micro-plans in question were only a copy of the original plan by 2012. Thus, when there were activities related to management, they have proved to be poor. A better investment of the MSP should be at the level of management-related activities. If the MSP does not have the needed capacity, perhaps it should seek technical assistance from partners that should also engage more seriously.

Result 9: Uncertain sustainability of the achievements of HSS

Component	Evaluation domain	Method	Robustness of the result
—	Sustainability	RD, ESIC	B

Evaluation questions:

How are the achievements of the HSS program at different levels (national, regional, and operational) sustainable from a financial and programmatic point of view?

HSS has been invested mainly in the acquisition of equipment such as vaccine storage, motorbikes, and HC supply of generic essential drugs. In the absence of funding planned for continuity at the end of the HSS, these gains will not long last. We believe that HSS should be invested in sustainable activities, which could be the case for vehicles or motorcycles, but not for fuel. Such spending should be supported by the State. In this situation, the State reflects an image of total dependence on outside assistance.

On the other hand, **neither the HS management nor human resources benefited enormously from HSS with the focus of the program on purchases. Investing in these two domains would have led to greater sustainability.**

In summary, this HSS investment seems to us a means or a strategy of treating the symptoms instead of the disease.

Result 10: Lessons for the future

Evaluation questions:

What are the important lessons that can be drawn to enable:

- An improvement of the new HSS program submitted and approved for Chad. Special attention must be paid to the monitoring and evaluation framework.
- Better design and implementation of the HSS program in the future.
- A revised design, monitoring, and evaluation of Gavi's HSS programs in general.

The answers to these questions are already addressed in many of the previous results. They are also developed further within recommendations.

Chapter IV: Recommendations

We develop here a list of recommendations based on our observations during data collection, as well as on data collected and analyzed, and our findings. The recommendations shared with the Independent Review Committee are underlined.

Recommendations to the country

Design

- All HSS programs should be part of the package defined in the PNDS to ensure complementarity and synergy with support of other partners including the Government and the community.
- The adequate identification of bottlenecks would be better conducted based on a DR, data collection of data from HC, even in a small sample, and interviews with key stakeholders of the HS and the community, especially isolated, nomadic, and refugee populations. The involvement of regional and peripheral levels would be essential, as they are the linchpin of the HS, and are more knowledgeable about the daily problems faced.
- A differentiation among the bottlenecks that should be targeted by HSS and those which should not be is essential. Decreasing attention could be shifted from 1) management and governance, human resources, and health information, to 2) health services, logistics, and medical products.
- The choice of HSS regions should consider, among other, the SAE presented above to better target the least performing HD.
- We recommend that Chad invest seriously in its archiving system. As we noted earlier, several key documents were not available to consult during the evaluation, as they were not available within the period described above to be used as a reference. This activity would help improve capacity and knowledge transfer during staff turnover and strengthen the institutional memory of the MSP.
- Human resources are the weakest point of the HS in Chad. The biggest need of Chad's HS is at the level of health personnel training, both in quality and quantity. This domain

should be prioritized in Chad, and not just through a \$15 million HSS program. This problem is much bigger than HSS and should be a priority of the State and the MSP as a national emergency.

- Chad should identify the factors that contributed to the larger increase of VC in the south compared to the north. This investigation would be necessary to prevent a problem of inequity that settled already during the past years. Lessons should be drawn and used to improve the worst-performing regions.
- A logic model, based on a well-considered TOC, should be formulated with clear links between the activities chosen and the expected results. The choice of activities that will solve the bottlenecks should take into account the criteria of sustainability and the catalytic nature of HSS. Activities such as supplying health facilities with medicine, while necessary, are not sustainable and do not contribute to strengthening the HS. Discontinuation of drugs should be a bottleneck targeted by a complementary support that the country could seek elsewhere. A second option would be that non-durable but necessary activities such as the latter one could be supported by the Government.
- The country should seriously consider its programmatic and financial capacity to manage the implementation. This capacity should dictate the number of activities, their nature, and the time required to implement. Perhaps specific positions should be created and financed by HSS for its management. It is not desirable that only one person is responsible for all domains of the HSS program as was the situation until now.
- An implementation plan should specify the person responsible for each activity with the exact role of each partner. This plan should be accompanied by a detailed budget of forecast expenditures to avoid any confusion. The budget should also clearly demonstrate activities' complementary funding sources.
- For implementation, the HSS proposal should clearly indicate the planned role of partners and details of the activities to be undertaken. We believe that their role in technical assistance and monitoring should be clearly detailed in the proposal to ensure commitment.

- Planning should take into account two major lessons of the HSS. First, the procedures for submission, approval, and disbursement of funds should be noted at the beginning of the implementation of activities in order to avoid previous mistakes. Another option would be that the country devise a final business plan to be implemented, but in parallel, also develop one or two smaller alternative plans to be implemented in the event of late or partial disbursement funds from HSS. These alternative plans would be based on a prioritization of activities, or elimination of activities planned for the final year of the program. In parallel, the country should have a plan B of financing in the event that, despite planning, disbursements are still delayed. Thus, the government could set up a loan to cover the activities from approval of the request up to the disbursement of funds. If necessary, the country could get commitments from other donors whose role would be to fund activities from approval of the request to the disbursement of funds.
- Here we also recommend that during the period following the submission of the HSS application, the country respond promptly to requests for clarification from Gavi to avoid any additional delays.

Implementation

- We recommend that the management of HSS capacity be strengthened before the implementation of the program. This recommendation is valid for the EPI as well, as it is at the center of this new application. This could be at least through the recruitment of an executive secretary, an accountant, an assistant, and the effective inclusion of the deputy director of the DP. We believe that directors, current or new, of both departments, need intensive training in management. Where appropriate, and given the difficulty of rapid improvement at the level of management capacity, the country could consider adequate technical assistance in management throughout the program.
- A system of communication and coordination between the different divisions or departments of the MSP should be put in place, especially between the EPI and the DP, the two most involved structures.
- We recommend a deep respect of the plan approved by Gavi, at the level of all its components, in order to avoid experiences similar to those that led to the suspension of

funds. Any deviation from the original plan should be adequately communicated to Gavi in order to obtain permission prior to implementation of the changes.

Monitoring and evaluation

- We recommend a focal point other than the Director of the DP, perhaps through a specific position that would be designated to coordinate and ensure monitoring of the program.
- We encourage the monitoring system designed for HSS I, except that the system should be functional. Meetings of the IACC, TC, and the MSP with partners must be regular, at a frequency of at least monthly, with specific objectives developed in advance. At this point, the partners could offer technical assistance in the monitoring and verification of the implementation on the ground. Given the poor telecommunications network, and its use, HSS management could regularly send group text messages to those involved to communicate the details of the meetings.
- We recommend a collaboration between the HSS management and the Department of Epidemiological Surveillance, whose services are likely to inform the activities of Gavi. Also, regional delegates and DCMO should be trained in the production of analytical reports of health statistics.
- Finally, we recommend that indicators are not only based on results, but rather outputs to more closely monitor the implementation. Dashboards with activity indicators could be designed and activated at different levels of the HS. All the same time, we recommend the strengthening of field-integrated supervision and the exploitation of reports from the regional and peripheral levels.

Recommendations to Gavi

Design

- We recommend that Gavi be represented during the development of HSS applications in order to contribute to the discussion of the choice of HSS activities, or at least the HS domains to target. Gavi's contribution would be a technical assistance or additional help to countries working to develop a better program.

- With regard to the identification of HS bottlenecks, Gavi might consider a specific fiscal envelope to allow countries to conduct their situational analysis from the peripheral level up and not only at the central level, based on HS, and other type of surveys. While this approach has previously been followed, it has not been done so uniformly everywhere.
- Gavi and partners should help countries reflect the catalytic role of HSS in their application. Explanations of the integration of activities, complementarity of funds, and the choice of strategies could be included in the guidelines. This area could also be strengthened through Gavi's participation in the applications' design.
- A challenge often encountered during the design of HSS applications is that Gavi requires that the duration of the HSS program fall within the duration of the current PNS. We recommend that Gavi allow a grace period of one year in the event that the end of the proposed program is one year beyond the duration of the PNS.
- Gavi should share the minimum deadlines for each stage of the process with any country claiming HSS support. Following this, Gavi should clearly reflect the approach the countries are to follow in the case of a delay or a division of disbursements in its guidelines and HSS applications.
- Gavi should reinforce the staff in charge of managing HSS proposals to expedite the decision-making procedures and disbursement of funds.

Monitoring and evaluation

- As for the design, we recommend that Gavi require a monitoring system based on output indicators and not only on those results. The idea of the dashboards may even be required in the guidelines of the HSS.

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Annex

Table 3: Key findings of the evaluation of Gavi's Health System Strengthening in Chad by evaluation's domains and questions

Domain	Evaluation questions	Findings
Planning, design, and implementation	To what extent was the request for support developed in consultation with the different partners?	The decision to request Gavi's support for Health System Strengthening (HSS) was founded on the National Health Policy and encouraged by partners and the availability of support.
	To what extent was the content of the request for support from Chad to Gavi based on: -Integrated strategies aimed at addressing bottlenecks. -Complementarity of the activities funded by the various partners. -A clear theory of change with strong links between planned activities and improvement of the health system in general and the Expanded Program on Immunization in particular in its components of introducing new vaccines and improving immunization coverage.	The identification of bottlenecks in the health system (HS) for the original proposal was based on a document review of several recent health studies and evaluations, and in line with the National Health Policy, 2007-2015. This process was carried out in consultation with the partners of the Ministry of Health (MSP) but excluding the regional and peripheral stakeholders, which was a weakness of the proposal. While the identified bottlenecks are in line with the priorities highlighted in the National Health Policy, the process followed was not sufficient to prioritize the bottlenecks or classify them in order of urgency to increase the program's efficiency. The strategies identified as solutions appear necessary to address the bottlenecks and the strengthening of health services but remain limited with regard to strengthening the Expanded Program on immunization (EPI). In the absence of a proper bottlenecks identification exercise, it is difficult to say that the choice of activities was adequate or optimal. The budgeting of activities indicates complementarity on the part of other partners. The identification process was carried out in consultation with health partners but without the involvement of the regional and peripheral levels. The involvement of the EPI was limited to the provision of vaccine coverage (VC) indicators. Yet the choice of the priority health districts (HD) does not seem to be entirely linked to these indicators. Indeed, these HD have always had a higher VC, and have experienced an acceleration of this VC at the same speed, as elsewhere. Finally, various key informants do not agree on the involvement of Gavi in this process. The HSS proposal has been well developed and justified, but the implementation plan and the budget were confusing. Specifically, the distribution of the budget amount over time and by activities, such as the case of supervision vehicles, lacks precision. Similarly, the proposal was submitted during 2008, which was meant to be the first year of implementation, without reprogramming of activities for this year. The late submission was followed by a late approval all the same.
	To what extent was the reprogramming of activities justified, well conducted, and relevant: -What were the main factors that led to the reprogramming of activities?	The first disbursement of funds was partial and delayed by nine months with regard to the plan of implementation as a result of the late application submission and approval. This delay in the disbursement will delay planned activities and will lead to a cycle of delays and reprogramming.

	<p>With the delay and division of the first disbursement, the Directorate of Planning (DP) prioritized the implementation of supervision activities, i.e., the purchase of vehicles and the supply of health centers with essential drugs in the 10 HD. However, expenditures for these activities were perceived by Gavi as deviating from the forecasts.</p> <p>Following a conflict between the representative of Gavi and the DP on the implementation of the activities, an inaccurate audit of the financial management of HSS led to the decision of Gavi to suspend HSS funds in Chad.</p> <p>Following the country's explanations of the events of 2008, and as Chad is considered as a priority country by Gavi, an aide-mémoire was signed in 2012 between the two parties to reallocate funds. Sadly, almost no improvement took place throughout the years 2008-2012, and bottlenecks have remained the same.</p>
<p>To what extent was the reprogramming of activities justified, well conducted, and relevant:</p> <ul style="list-style-type: none"> - How has the process been initiated and led? What has been the role of the partners? Has the communication with the Gavi secretariat been effective? - On what basis have the new activities been identified? - Did the reprogramming take into account lessons learned from the first phase of implementation? 	<p>At Gavi's request, and given the minimal implementation of activities up to this point and the absence of significant improvement of the HS, the reprogramming proposal remained almost unaltered from the original proposal, except for the addition of activities aimed at strengthening the cold chain. The reprogramming proposal shows no lessons learned from the first phase. This proposal did not consider the possibility of a second delay of funds and increased the list of activities under the same budget instead of reducing them, which seems to be an error given the low capacity of the DP to implement. This is not a lack of planning from the country alone, but also from the health partners that are supposed to review the HSS application and offer technical assistance in the development of this application.</p> <p>The second disbursement of \$2.2 million was also delayed by 11 months after the approval of the application and by eight months with regard to the plan of implementation. With this delay, the DP reprogrammed the activities and related budget.</p> <p>With the delay of disbursement, the lack of funds to cover the EPI's 2014 Annual Operation Plan, and the advocacy of the partners, the remaining HSS funds of \$2.07 million were reprogrammed for the direct benefit of the EPU, an approach tailor-made for fragile countries such as Chad. Once again, the disbursement of funds was delayed by 11 months after the submission of the application. In addition, a decision by the Minister to stop any transfer from the central level to the operational level hindered the implementation of almost any activity related to the EPI.</p>
<p>To what extent have the activities contained in the HSS proposal been implemented such as planned (quality, quantity, and terms). Special attention must be paid to the following issues:</p> <ul style="list-style-type: none"> - To what extent were monitoring and evaluation activities conducted, discussed by 	<p>The activities planned for the \$2.2 million have been partially implemented. The monitoring of activities was minimal, without reliable collection of data on implementation. While regular meetings of the Inter-Agency Coordination Committee were held, according to key informants, the partners seem unsure about any monitoring and evaluation activities as planned in the reprogramming proposal. Thus, the Annual Progress Report was the only monitoring document of activities implementation. However, the estimations of the level of implementation were personal estimates provided by the DP. The DP was not seen through this phase as sufficiently able to manage the HSS due to a lack of staff. Faced</p>

the IACC, and used to take corrective action?

- What were the organizational and contextual factors (such as the administrative and financial procedures, accountability of DP for the coordination of the project) that have influenced (positively or negatively) the implementation of activities? Special attention must also be paid to:
 - The impact of the political and social situation in the country on the implementation of activities.
 - The reasons and consequences of the suspension of transfers of Gavi Fund on the implementation.
 - To what extent the program management proved to be responsive to the difficulties encountered.
 - To what extent resources and activities were well coordinated, monitored, and reported to Gavi and partners.
 - To what extent the commitment and the support provided by the Gavi Secretariat and local partners, both during the process of implementation and during the phase of implementation, is appropriate and sensitive to contextual changes?
 - What are the lessons learned? What went well or poorly?

with this situation, Gavi was flexible to different reprogramming of the plan and the related budget.

To what extent were the results of other studies/evaluations conducted in the country comments made by Gavi and partners and the new rules of Gavi HSS used to better prepare the second proposal to Gavi (2014)? Particular attention should be paid to:

- The role and place of the vaccination program in the design, implementation, and monitoring.

The new HSS II proposal seems to be an extended repetition of the HSS I. The activities seem to touch on the same HS domains targeted in HSS I with an emphasis on EPI activities and the development of links with the community. We remain hesitant toward the increase in size of HSS unaccompanied by the increase of DP and EPI management capacity. In our opinion, this proposal does not seem to learn from the previous HSS experience.

	<ul style="list-style-type: none"> - The link between activities and improvement of the immunization program's performance. - The undertaking to achieve equity objectives - The rigor of the methodology to measure the impact of HSS activities. -The relevance of the planned interventions, taking into account the effectiveness and impact of the activities already undertaken (first submission of 2008 and reprogramming). 	
Efficiency	<ul style="list-style-type: none"> - To what extent have the financial resources been used as planned, in accordance with the rules laid down by Gavi and the provisions of the National Manual of Procedures, and efficiently? That is, what could be done differently to improve efficiency? - What are the contextual factors that might explain the rate of use of funds received? - Were there delays and bottlenecks in the availability of funds and financial flows? At what levels? What were the causes and how were they resolved? - Was any financial monitoring carried out at the operational level? What were the risk limitation measurements undertaken and how were they applied? What were the results of these actions (positive or negative) added values or implications? 	<p>In general, and from a financial point of view, the second HSS installment has been spent as planned. Some accounting problems, especially at the operational level, reveal a weakness of the HS management in general and an archiving problem. However, this efficiency has been weakened by the fact that the HSS has been invested mainly in purchases and equipment instead of targeting the most relevant bottlenecks, specifically, human resources and the management of the HS. On the other hand, we believe that the HSS should be invested in sustainable activities, which could be the case of vehicles or motorcycles, but not the case of fuel.</p>
Results	<p>To what extent does this type of support have an added value compared to other means of financing of the health system in Chad? Did it play a catalytic role? Was it complementary?</p> <ul style="list-style-type: none"> - What have been the unintended consequences (positive and negative) of the HSS program? 	<p>The achievement of the indicators for the RSS is minimal:</p> <ul style="list-style-type: none"> -Infant-child mortality to 13.9% in 2015 (objective: 6.4%) -National coverage in DTP3 to 38.8% in 2015 (target: 95%) -No DS 95% DTP3 coverage in 2015 (objective: 44 DS) -Some health centers visited received no visit from supervision during the last quarter -No health center was closed two months or more during the past 12 months due to a lack of staff

<ul style="list-style-type: none"> - To what extent were the expected results of the HSS program achieved? (In areas supported, possibly non-supported areas, and nationwide) - To what extent can the results be attributed to the Gavi funds? - What measures could be taken to improve the effectiveness of the program? - What are the contextual factors that might explain the degree of achievement of results? - What have been the consequences of delays in execution on the achievement of objectives? - What were the problems to measure indicators of HSS and the indicators of coverage and equity in immunization services? 	<p>-The average of stock of one form or another of generic essential drugs often exceeds 3 days during the previous quarter.</p> <p>Note that the VC in the DS of the RSS has always been higher than nationally, and has experienced an acceleration at the same pace as in the non-targeted DS by RSS. What should be also noted is the increase of the VC in the southern part of the country compared to the north.</p> <p>RSS, compared to other financial media, has allowed a strengthening of the supervision and advanced strategies at the peripheral level. However, the data collected do not suggest that RSS has played a catalytic or supplementary role. With all obstacles faced by this program, especially the delay in disbursements, expected outputs were poorly achieved, and it remains difficult to show an achievement of results, or that the results achieved are attributed to Gavi. Finally, the poor collection and management of health data in Chad are the major constraints with regard to the measurement of indicators of RSS.</p>
Sustainability	<p>How sustainable are the achievements of the HSS program at different levels (national, regional, and operational) from a financial and programmatic point of view?</p> <p>The acquisitions of HSS are of an average sustainability as long as an exit plan at the end of the support is not in place. Here, we recall that the effectiveness and sustainability of the investment in equipment is subject to the appropriate human resources investment in order to operate and maintain the material gains. However, these more sustainable investments, i.e., in human resources and management, were not prioritized.</p>
Lessons for the future	<p>What are the important lessons that can be drawn to enable:</p> <ul style="list-style-type: none"> - Improvement of the new HSS program submitted and approved for Chad? Special attention must be paid to the monitoring and evaluation. - Better design and implementation of the HSS program in the future - Review design, monitoring, and evaluation of the RSS of Gavi program in general <p>The original design of HSS included too many activities compared to the capacity of the DP, or even of the MSP, to implement, as well as over the life of the program. The monitoring plan is based on the health information system, whose data are still not reliable, as well as on a partners' meetings system that has not been effective. The design of the new application should consider the real capacity of the country to implement the proposed application and focus on the most essential HS activities/domains, or to be fully devoted to the EPI activities.</p>

Table 4: DTP3 coverage rate by health districts according to the small area estimates, Chad, 2014 - 2015

Region	Districts or districts' aggregate	DTP3%, 2014	95%CI	DTP3%, 2015	95%CI
Borkou	Borkou-Ennedi-Tibetsi	15.26	5.53 – 33.84	12.11	2.21 – 45.47
Wadi Fira	Wadi Fira	9.03	4.25 – 17.61	11.05	2.73 – 37.09
Kanem	Kanem	26.38	18.08 – 36.15	22.14	9.93 – 43.31
Ouaddi	Ouaddi	10.15	6.32 – 16.58	8.56	3.53 – 19.10
Batha	Batha Est	6.59	0.61 – 42.29	8.39	0.24 – 70.04
Batha	Batha Ouest	6.51	0.94 – 34.84	7.37	0.38 – 58.70
Batha	Fitri	11.54	1.04 – 62.58	12.95	0.31 – 86.85
Chari-Baguirmi	Baguirmi	5.88	0.79 – 31.82	4.34	0.25 – 47.79
Chari-Baguirmi	Chari	5.53	0.57 – 37.83	5.91	0.24 – 58.22
Hadjer-Lamis	Dababa	35.05	5.95 – 81.13	37.37	2.83 – 92.72
Hadjer-Lamis	Dagana	22.29	1.75 – 84.61	29.21	0.74 – 96.01
Hadjer-Lamis	Haraze Al Biar	33.15	2.53 – 86.85	36.32	0.73 – 96.35
Chari-Baguirmi	Loug Chari	9.37	1.90 – 33.18	4.30	0.40 – 32.29
Guera	Abtouyour	18.77	2.57 – 69.01	23.53	1.22 – 87.45
Guera	Barh Signaka	41.56	8.62 – 84.60	36.34	2.65 – 92.07
Guera	Guera	15.52	2.10 – 60.58	17.58	1.02 – 84.63
Guera	Mangalme	41.77	5.66 – 90.57	41.27	1.79 – 96.72
Barh El Gazel	Barh el Gazel Nord	20.37	1.69 – 79.74	16.29	0.34 – 90.17
Lac	Mamdi	21.59	4.43 – 60.78	21.31	1.80 – 77.64
Lac	Wayi	14.13	1.75 – 63.93	14.28	0.51 – 82.70
Logone Occidental	Dodje	33.07	3.76 – 89.06	40.49	1.37 – 96.66
Logone Occidental	Gueni	23.93	1.82 – 83.69	32.66	1.04 – 95.09
Logone Occidental	Lac Wey	29.14	6.76 – 71.53	30.09	2.80 – 86.55
Logone Occidental	Ngourkosso	25.61	3.80 – 74.10	30.10	1.63 – 89.96
Logone Oriental	Kouh Est	40.95	2.70 – 94.57	57.48	1.45 – 99.29
Logone Oriental	Kouh Ouest	46.63	3.36 – 95.59	55.23	1.08 – 99.33
Logone Oriental	Monts de Lam	25.68	1.71 – 82.48	49.42	1.51 – 97.90
Logone Oriental	Nya	40.31	5.51 – 89.97	52.25	3.26 – 97.92
Logone Oriental	Nya Pende	41.11	3.06 – 94.22	53.86	1.17 – 98.99
Logone Oriental	Pende	55.28	7.33 – 94.50	61.97	2.88 – 98.74
Mayo Kebbi Est	Kabbia	57.82	11.90 – 93.20	62.98	4.64 – 98.22
Mayo Kebbi Est	Mayo Boneye	31.90	4.57 – 83.41	45.43	2.91 – 95.79
Mayo Kebbi Ouest	Mayo Dallah	63.75	23.64 – 91.87	77.43	15.48 – 97.94
Mayo Kebbi Est	Mayo Lemie	17.53	0.86 – 86.37	16.92	0.18 – 96.72
Mayo Kebbi Est	Mont Illi	42.96	7.99 – 87.87	42.14	3.03 – 95.77
Moyen-Chari	Barh Koh	39.97	12.09 – 77.31	44.59	6.13 – 91.27

Mandoul	Barh Sara	55.94	16.26 – 88.49	77.45	16.26 – 98.28
Moyen-Chari	Grande Sido	50.56	2.60 – 97.31	53.12	0.58 – 99.57
Moyen-Chari	Lac Iro	33.59	2.72 – 90.59	31.19	0.54 – 96.62
Mandoul	Mandoul Oriental	62.46	11.80 – 95.52	78.34	8.16 – 99.33
Mandoul	Mandoul Oriental	68.13	25.93 – 93.41	78.56	19.25 – 98.33
Sila	Djourouf al Ahmar	9.75	0.68 – 64.26	13.68	0.24 – 89.49
Sila	Kimiti	20.60	7.95 – 44.95	33.77	8.38 – 76.04
Salamat	Aboudeia	10.73	0.54 – 76.84	16.16	0.20 – 94.99
Salamat	Barh Azoum	20.80	5.07 – 53.85	33.13	4.17 – 82.36
Salamat	Haraze Manguaigne	42.72	3.65 – 94.77	53.46	1.51 – 99.30
Tandjile	Tandjile Est	50.73	12.79 – 87.46	65.80	8.92 – 97.31
N'Djamena	N'Djamena	40.77	34.07 – 47.55	54.65	40.37 – 69.00
Barh-EI-Gazel	Barh el Gazel Ouest	26.98	2.01 – 86.95	28.38	0.68 – 96.5
Barh-EI-Gazel	Barh el Gazel Sud	20.91	6.14 – 54.45	20.75	2.98 – 70.28
Mayo Kebbi Ouest	Lac Lere	54.51	6.53 – 94.87	52.40	1.63 – 98.87
Mayo Kebbi Ouest	Mayo Binder	38.34	1.49 – 97.04	29.40	0.21 – 99.35
Tandjilé	Tandjile Centre	28.72	1.08 – 94.43	57.93	0.69 – 99.63
Tandjilé	Tandjile Ouest	44.26	12.47 – 80.63	75.61	18.11 – 97.07