The Immunization Quality Audit (DQA) Côte d'Ivoire 2006

English Summary Report for GAVI
by the Swiss Centre for International Health
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*Detailed results can be found in the French version of this report

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1. Background

The Global Alliance for Vaccines and Immunization (GAVI) represents one of the "Global Health Initiatives", emerging from a public-private partnership. It was created in 2000 with the mandate to provide an equitable access of infants to vaccines. A review of the consistency and validity of the reported vaccine data for 2002/2003 conducted in 27 countries revealed inconsistencies and a large number of missing reports. These results showed the necessity to evaluate the estimations of immunization coverage in the selected countries.

A standardised Data Quality Audit (DQA) was developed by the WHO (WHO 2003), as a tool of verification of collected data by the beneficiary countries of GAVI. The DQA aims at evaluating the consistency of reporting systems and the administration management of vaccines. In other words, the proportion of third doses of diphtheria-tetanus-pertussis administered to infants below 12 months reported and actually recounted in written documentation found is verified at three levels of the health system (national, district and health unit). The present Data Quality Audit (DQA) represents a tool to estimate the performance of the EPI in Côte d'Ivoire.

Since 2002, Côte d'Ivoire is one of the beneficiary countries of GAVI allowances in order to systematically support the activities of the national Enlarged Programme on Immunization (EPI). The subsidies of US$ 1'639'000 since 2002 are used to purchase DTP/HepB vaccines and to specifically improve the vaccination services and vaccine safety.

The expanded Programme on Immunization (EPI) of the Ministry of Health and Hygiene (MHH) was launched in 1978 and restructured in 1993. It is in charge of the organization and the pursue of immunization activities in order to reduce the morbidity and mortality of targeted diseases of the EPI. Confronted problems and challenges of the EPI in the context of the DQA are:

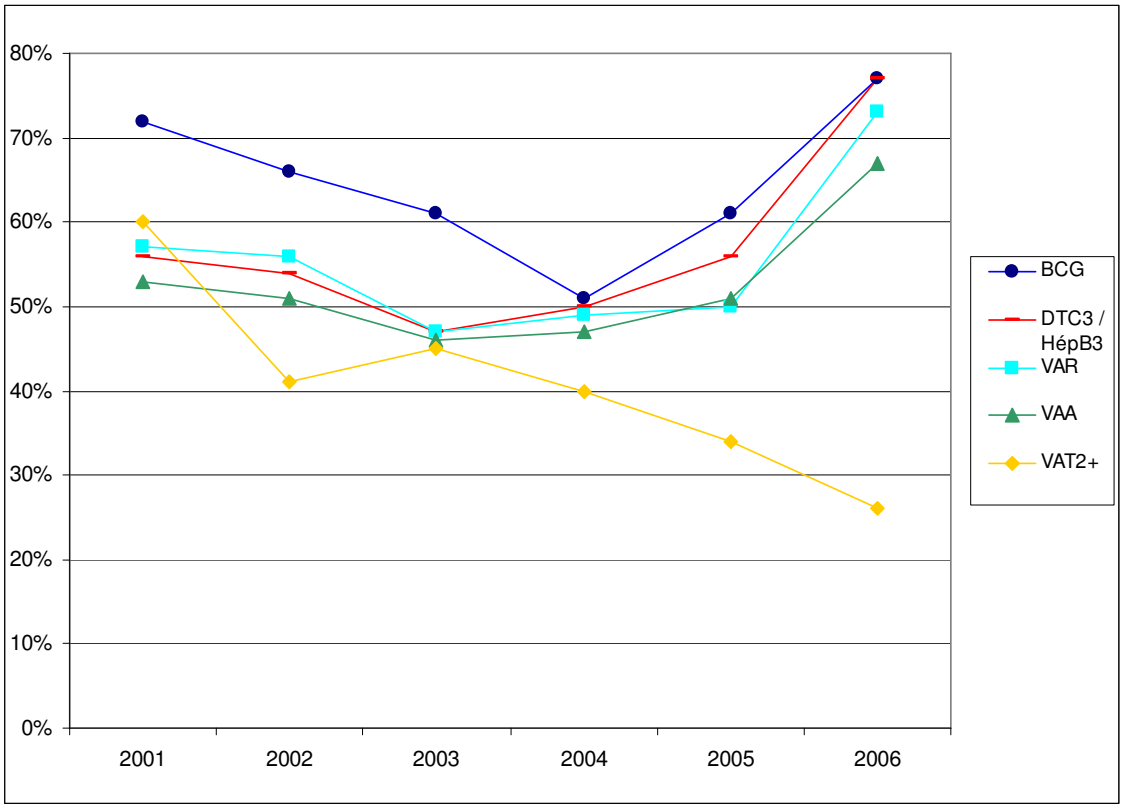
- Difficulties in meeting the emerging demands of infant vaccination and in the control of the target population due to important population movements from the North towards the South related to the socio-political unrest that broke out in September 2002
- Stock disruptions related to difficulties of purchasing vaccines by the state and retardations of supply (particularly between 2002 and 2004)
- Lack and instability of professionals (quantity and quality) at health unit and district level, to ensure the tasks and functions regarding vaccination

These challenges are present in particular in the Northern and Western part of the country and are related to the socio-political crisis.

Other weaknesses of the EPI are:

- irregularity of the outreach and mobile strategies in the majority of the districts (lack of roll material)
- insufficient supervision of the EPI activities at all levels, and insufficient data management

Figure 1 shows the vaccine coverage of the EPI-CI between 2001-2006



2. Objectives of the Data Quality Audit

The specific objectives of the present GAVI DQA conducted in Côte d'Ivoire were to:

- Assess the quality, accuracy, timeliness, and completeness of administrative immunization reporting system;
- Verify the accuracy of reported DTP3 vaccinations in infants below one year in the calendar year 2006;
- Estimate the National Verification Factor (recounted/reported) for use in the allocation of GAVI fund shares;
- Indicate to national authorities and institutions involved in vaccination activities in Côte d'Ivoire potential ways for improving the reporting system

3. Methodological Approach

The Data Quality Audit in Côte d'Ivoire was carried out between June 21st and July 5th 2007 and based on tools and standard procedures for GAVI developed by the WHO. The work focused on three levels: national (1), district (2), and health unit (3).

Four (4) health districts and twenty-four (24) health units were randomly selected in order to assess the quality and accuracy of the immunization and reporting system by verifying the reported and recounted DTP3<1 administered in 2006.

The following four Health Districts and twenty-four Health Units were randomly selected:

- Health District of Bongouanou:
  Health Units Tiemelekro, Bongouanou, Abongoua, Arrah, Ahounienfoutou and Agoua

- Health District of Grand Bassam:
  Health Units of Bonoua, Samo, Vitré 2, Moossou and two Health Units with vaccine services in Grand Bassam

- Health District of Séguéla:
  Health Units of Séguéla town, Kani, Dualla, Massala, Morondo and Ranch Marahoué

- Health District of Abidjan Nord:
  Health Units Abobo Sud, Avocatier, Anonkoua Kouté, PK 18 Carrefour, Brofodoumé and Police Medical Service of Abobo

The audit team used standardized tools that consisted of a log book where all information gathered during daily auditing were recorded, such as answers to quality questions, the number of DTP3<1 vaccinations recounted versus reported, and debriefing notes. A set of national child health cards were used in addition for the Child Health Card Exercise. At the end of each day, the collected data in the logbooks were recorded in a standardised master workbook (Excel).

Two separate teams were formed, each comprising an external auditor and a national expert involved in the EPI Programme. Both national experts already assisted in a former DQA in 2002. The selected Health Districts were informed about the visit of the audit teams by the EPI direction a few days before the start of the audit.

Accordingly to the DQA methodology, a final presentation of the results and outcomes of the conducted DQA was given at the Ministry of Health and Hygiene (MHH) on July 5th 2007. In addition to the directorate of the EPI Programme and the direct representative of the Minister of Health, important representatives of the Public Health Sector (DIPE, DIEM, PSP-CI, DPM) health programmes (PNLP, PNPEC) and other partners (Unicef, HKI, JSI-MMIS, Rotary) were present at the meeting. After the debriefing, the national authorities were invited to comment on the recommendations.

4. Findings and Recommendations

4.1 National level

The DQA in Côte d'Ivoire estimated the **verification factor** (vaccinations recounted/reported for DTC3<1 in 2006) at **99.6%.**

Figure 2 displays the results for reported DTP3<1 and Figure 3 the Quality of the System Index score at national level.

Figure 2. Reported DTP3<1 by source (year 2006)

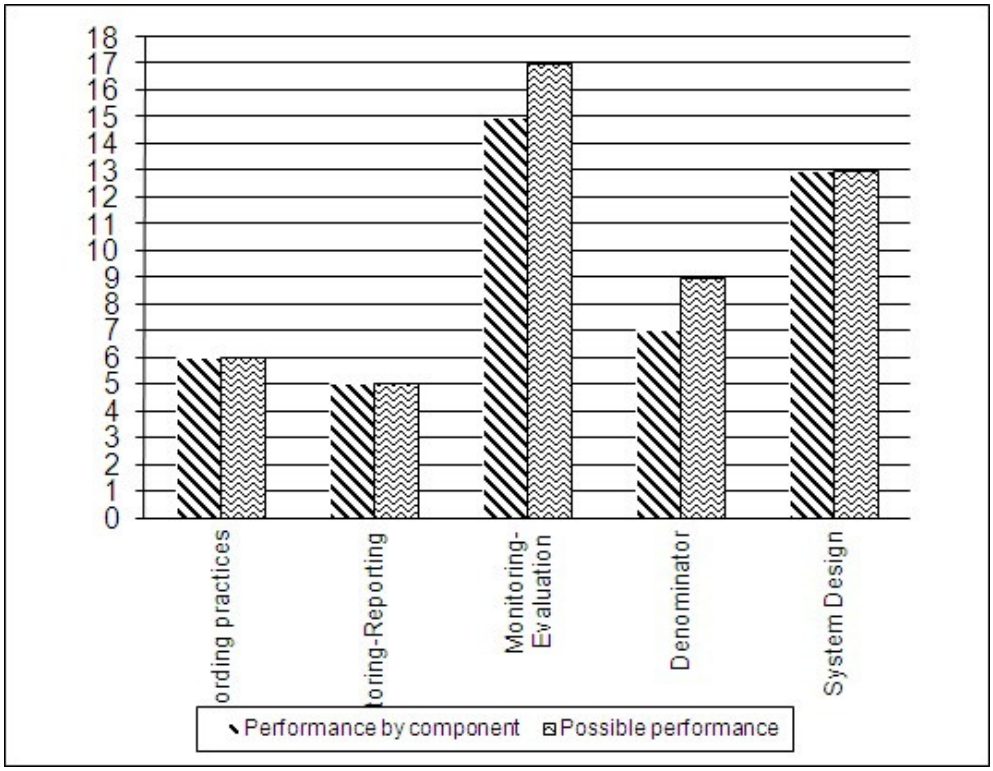
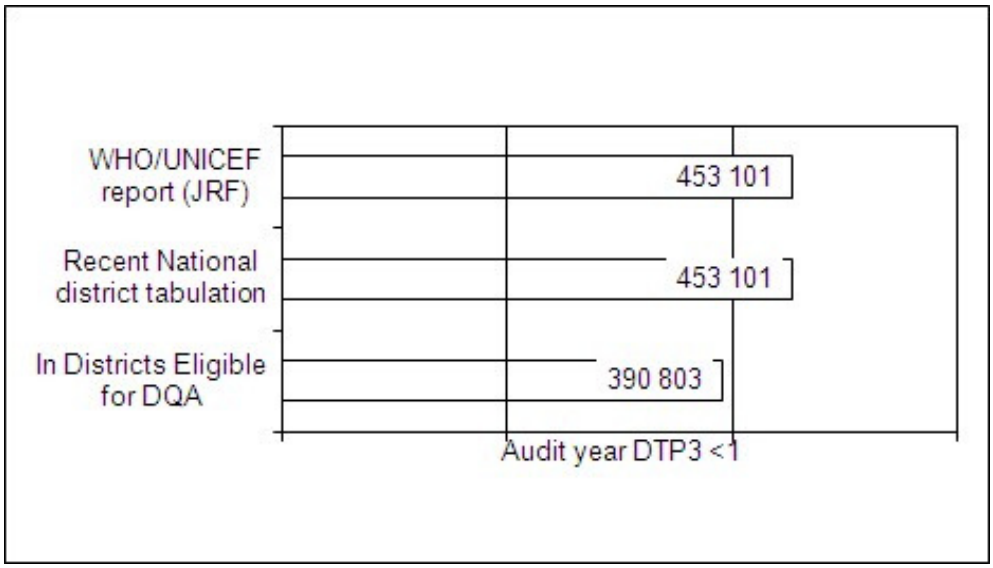


Figure 3. Quality of the System Index by Component



At **national level,** the audit observed that:

- **System design.** The reporting system does not only include the data related to antigens, but also data of the epidemiological surveillance, chaîne de froid, stock management, logistics, and communication and social mobilization. Written instructions (official directives) on the elaboration and transmission of reports and data (completeness, promptness, etc.) exist. The DTP3 and TT2+ vaccinations are reported separately. The forms that are used allow the calculation of vaccine wastage per vaccine type. Ledger books for the stock of syringes and other material used by the EPI exist.
- **Storing and reporting.** The data is saved on a USB memory stick, PC and CD-ROM. The procedures for data saving are explained in the directives for the data quality of the EPI. The data file is updated and memorised at least once a week. The Health district data is available and archived by month and year, but it is not arranged in a chronological order for the year 2006. Some Health District reports are forwarded by Fax which makes their legibility difficult. The audit team also observed the presence of certain reports in form of a sketch, as data is reported by phone.
- **Recording.** All standard reporting forms related to vaccination are sufficiently available in all of the visited Health Districts. The ledger book for DTP is complete for 2006. A ledger book for the management of the stock of the vaccines exists. The batch number and expiry date are recorded in the ledger book. The auditors observed however a shortness of pallets in the stockroom for inputs such as syringes, cotton, etc.. The cartons are not stored away in an orderly manner.
- **Monitoring and evaluation.** The charts showing the coverage and drop-out rates, and a table representing the completeness and promptness of the reports are displayed. All reports are dated (date is written on the report when received from the district), and stamped within the day of the reception. Meeting minutes, containing systematic retro information, exist. The documents highlight the supervision activities and the stock ruptures of vaccines in the districts. The audit team noted nevertheless that no date is written on the diagrams and tables and that they are not signed by the person in charge.
- **Denominator.** The definition of the denominator of vaccinations of infants and pregnant women conform with the WHO definitions. The denominator is coherently adjusted to the changing population. The denominator used in the Health District of Séguéla is different to the one used at national level (national: 6644 / district: 7727). This difference can be explained by the non-adaptation of the new denominators after the division into two Health Districts in 2004.

Recommendations at national level. In consideration of the above-mentioned, the audit team recommends the following:

- Provide new registers for recording individual information about immunizations of infants and pregnant woman at the Health Units
- Use appropriate denominators to calculate coverage rates in the districts
- Improve the completeness of monthly reports
- Replace reports that have been sent by fax or information received by telephone by complete standard reporting forms
- Date and sign all information elaborated on and displayed on the wall.
- Range the reports chronologically per month
- Use sufficient pallets to stock different inputs (syringues, cotton, etc. …) in the magazines

4.2 District level

At **Health District** level, the audit team noticed that:

- **Quality of System Index Score** for the four districts:
  District of Bongouanou: 92.1%
  District of Grand Bassam: 97.4%
  District of Séguéla: 67.6%
  District of Abidjan Nord: 90.0%

- **Demography and planning.** The objectives for vaccination of infants and pregnant women are well fixed. Trimestrial meetings are organized with the responsibles of the Health Units.
- **Monitoring and evaluation.** The vaccine wastage and drop out rates are monitored, as well as the completeness and promptness of monthly reports. The reports are signed and dated when received by the majority of the Health Districts. Written schedules for the supervision of the Health Units (calendars) within the period of a year exist. The audit team also found micro-plans at the Health Units. The cold chains are well maintained and monitored. However, the district map of the catchment area showing the Health Units providing immunization strategies for the current year is not always displayed.
- **Recording.** Individual recording forms (tally sheets), stock forms, and monthly report forms exist in adequate quantity. The stock ruptures are monitored in the majority of the districts. The batch numbers and expiry date are recorded. Certain forms are filled in a fragmented way.
- **Storing and reporting.** The audit team found directives for the data quality of the EPI displayed in most of the districts. The charts and coverage rates were elaborated on and displayed. Nevertheless, the information on the walls were not dated and signed by the responsible person in charge. Not all of the Health Districts had a backup system.

Recommendations at Health District level. With regard to the findings, it would be desirable to implement the following recommendations:

- Establish a data backup system with adequate performance
- Train the Health Unit staff with the aim to correctly and completely fill in the standard EPI forms and to be fully aware of and comply with the vaccine calendar
- Monitor systematically the stock ruptures
- Note down the printing date or creation of the graphics and tabulations on the tables displayed
- Date and sign systematically the reports when received from the Health Units
- Display the map of the catchment area

4.3 Health Unit level

At Health Unit level, the following points were observed:

- **Recording**. Individual recording forms (tally sheets) were found in each Health Unit and they were well maintained and up to date. Stock forms exist for vaccines, syringes and other material related to vaccination. The compilation of data from tally sheets on monthly reports is done in an accurate manner. The vaccination sessions observed were conducted in a correct manner. The batch numbers and expiry dates were not always listed in the stock forms. Most of the Health Units did not have a ledger book to trace the vaccine history of infants and pregnant women.
- **Monitoring and evaluation.** Every Health Unit elaborates its micro-plan. The target number of infants and pregnant woman to vaccinate is fixed. Sensitisation sessions on vaccinations are held before, during and after vaccinations (e.g. CCC-strategy; i.e. "communication pour le changement du comportement "). The vaccine wastage and drop out rates are monitored in most of the Health Units. The staff is aware of the standard operation procedure of AEPI and forms are available. All Health Units are informed on childbirths at home in their catchment area including outreach villages, through help of community health workers. The audit team has noticed the absence of an identification system for lost vaccinations for infants and pregnant women. Also, the vaccination calendar is not always well known by the health agents.
  Storing and reporting. We found monthly reports in each Health Unit. The standard forms and reports are carefully stored away by month and year and archived accordingly. The cold chains are well maintained and monitored by a daily verification of a temperature form fixed on the cold chain. The coverage and drop out rates and the maps of the catchment areas are displayed. However, the printing date or creating date of the diagrams, tables and tabulations are not mentioned.

Recommendations at Health Unit level. Taking into consideration our observations at Health Unit level, we recommend:

- The opening of a ledger for vaccinations of infants and pregnant woman
- The identification of vaccinations for infants and pregnant women that have been missed
- The noting down of the printing date or creation date of graphics, tables and tabulations
- A systematic notification of the batch numbers and expiry dates of the vaccines in the stock forms.

Altogether, we suggest to elaborate a calendar for implementing the recommendations of the audit team at each level (national, districts, and health units).