PRICEWATERHOUSECOOPERS

GAVI
THE GLOBAL ALLIANCE FOR
VACCINES & IMMUNIZATION

REPORT ON THE
2003 DATA QUALITY AUDIT (DQA)
OF THE YEAR 2002

LAO P.D.R.

Photo credit Photoroamings

PricewaterhouseCoopers is pleased to submit herewith its report on the 2003 DQA by our office in:

Lao P.D.R.

(Vientiane, 20 October 2003)

Index

Introduction 3

Summary of findings and conclusions 4

National context 5

Acknowledgements 5

Background 6

Objectives of the DQA 6

Our approach 6

Summary of work done 7

Mobilisation 7

National – findings and recommendations 9

Strong points 9

Areas for improvement 9

Information/data flow and organisation of EPI for the country 10

Verification Factor 12

Quality of the System Index 12

Vaccine wastage rates 16

Reporting Adverse Effects Following Immunisation (AEFI) 16

Availability and completeness of reports 17

Province – findings and recommendations 18
Province context 18
Quality of the System Index 18
Reporting Adverse Effects Following Immunisation (AEFI) 23
Availability and completeness of reports 23
Other issues 23

Health Units – findings and recommendations 24
Quality of the System Index 24
Drop-out rates 28
Vaccine wastage rates 29
Reporting Adverse Effects Following Immunisation (AEFI) 29
Availability of reports 29
Coverage/change in DTP3 reported 29

Wrap-up 30

APPENDIX I. CORE INDICATORS – NATIONAL LEVEL 31

APPENDIX II. CORE INDICATORS – PROVINCE LEVEL 36

Introduction

From July 8 to 22, 2003, PricewaterhouseCoopers performed the first GAVI Data Quality Audit in Lao PDR. Together with a team of internal auditors from the national EPI office, we assessed the quality of EPI data and systems and audited the reported number of doses of DTP3<1 administered in the year 2002, through visits to a random sample of health care administrations, including:

- The national EPI office
- Four province level administrations: Phongsaly, Xiengkouang, Savannaketh and Saravanh. These provinces were randomly sampled from the list of sixteen provinces plus the Vientiane Municipality. The special zone of Xaysomboun was deemed non-eligible for this audit because of security concerns.
- Eight district level administrations (two in every selected province): Boun Neua, Boun Tai, Pek, Nonghed, Xeponh, Atsaphone, Saravanh and Khongxedonh. 10 Districts of total 142 Districts with less than three health facilities were deemed non-eligible in the sampling procedure.
- Twenty-three health facilities (three in every district, including hospitals, health units and any other facility where immunizations are administered). One of the selected Health Facilities could not be accessed.

Note: since a majority of the districts in Lao have less than six health units, the decision was taken to sample four provinces instead of four districts. Within each province, 6 health units were sampled through the “sub-district” approach.

The findings of this audit are included in this report and were also discussed on a debriefing meeting with the Technical Working Group of the ICC on August 19, 2003.

Summary of findings and conclusions

The audit of the accuracy of reported DTP3<1 in 2002 was difficult due to the fact that Health Unit tabulations could be found neither at District level, nor at Province level.. Without being able to check the consistency of data between health unit and district / province level, a Verification Factor was calculated based on monthly reports, which could be partially retrieved for only 13 out of 24 Health Units. This Verification Factor was 59%, well below the 80% threshold set by GAVI. The system and the data it produces were therefore deemed unreliable.

As for the quality of the system, our findings indicate that the Quality of the System Index (QSI) is better at the central levels than at the lower levels:

- QSI at the national level: 73%
- Average QSI for 4 provinces: 58%
- Average QSI for 24 health units: 38%

The scores for the 2 Southern provinces were also considerably better than those for the 2 Northern provinces.

No scores were calculated for the districts. It was felt, however, that the districts are a particularly weak part in the system, as no data about Health Units could be retrieved here. Without this data, adequate monitoring and evaluation of health units becomes impossible. The reason for this weakness may be that Lao has many small districts, and that resources are spread thin over these districts.

We believe that a major improvement in terms of data availability will be achieved once the EPI administration has implemented its new reporting system, which will provide Health Unit information to the provincial and national levels.

National context

The national EPI office reports to the direction of Mother and Child Health Care, which forms part of the Ministry of Health. It is a vertical programme within the national health care structure, as reporting and supervision are not integrated at national, province, district nor at health facility level.

The programme is currently overhauling its reporting system to improve the information that reaches the national office. As the new report formats were introduced in 2002, a mix of “old” and “new” reports can be found in the field for the audit year. The number of reported DTP3<1 on the Joint Reporting Form (87,298) was still based on the old system and is different from the latest national tabulations using the new system (86,006).

Denominators for surviving infants and pregnant women are based on a 1995 census. A revised denominator was used in 2002, more accurately reflecting current demographics. This resulted in a reduced estimate of the number of children in the birth cohort (2001 = 188,195, 2002 = 169,773). If both 2001 and 2002 coverages were calculated using the 2002 denominator, coverage would fall from 56% to 51%.

Acknowledgements

We would like to take this opportunity to express our appreciation for the co-operation and courtesy afforded to us during the DQA. We especially would like to thank Dr. Somthana Douangmala, EPI Manager, Dr. Chanthavong Savatchirang, Deputy EPI Manager and internal auditor, Dr. Somvang Bouphaphanh, internal auditor, and all EPI staff at all levels.

Background

Objectives of the DQA

The overall goal of the DQA is to ensure that management of immunisation services and the allocation of GAVI funding are based on sound and accurate data. This goal is met by:

- Assessing the reliability and accuracy of administrative Immunisation Reporting Systems, but not immunisation service delivery.
- Auditing the reported DTP3<1 vaccinations for the audit year 2002 and estimating the national verification factor (ratio of recounted / reported vaccinations) for use in the allocation of GAVI Fund shares.

The above objectives are achieved by examining data and the information system in operation at all levels of administration – from collection of data at the point of vaccination to the periodic compilation of this data at district level and at National headquarters. This is done on the basis of randomly sampled administrative levels.

Furthermore, in practice the DQA is also a capacity-building exercise, and an opportunity for exchange of experience between the external auditors and the national counterparts.

Our approach

Our approach was to apply consistently the DQA methodology developed in 2000 by the World Health Organization (WHO).

The PwC team members were from our local offices, in the interest of cultural and linguistic proximity, acceptance by auditees, ease of travel, and cost-effectiveness. PricewaterhouseCoopers is a federation of partnerships, and we have therefore worked through this network in order to build up our teams.

In preparation for the DQA, we applied country-by-country training, in which the quality assurance manager for each region traveled on-site to train both the PwC teams and the national counterparts appointed by the

government. The training materials that we used for these courses have been provided to GAVI. We used this training option in the spirit of the DQA, so that it not only provides objective results to GAVI and its stakeholders, but also enforces the capacity-building aspect of the DQA.

Summary of work done

Two audit teams were formed, comprising one PwC auditor and one national auditor. The teams worked together at National level and then split up, each visiting two provinces, 4 districts and, respectively, 11 and 12 health units. One of the selected Health Units could not be accessed as its staff was not available.

We carried out the tasks detailed in the DQA methodology, which included among others:

- Random selection of 4 provinces (DQA: districts), 8 districts (DQA: subdistricts) and 24 health units.
- Discussion of the immunisation system in place including system design (national level only), denominator issues (national and district levels only), recording, reporting and storage practices, monitoring and evaluation
- Recount of vaccines administered for DTP3<1 (at least) at health unit level, and comparison of recorded with reported figures at all administrative levels
- Review of the cold chain at all administrative levels
- Review of vaccine supply and stock procedures in place
- Review of the procedure for reporting and investigating Adverse Effects Following Immunisation (AEFI) at all administrative levels
- Performance of the Child Health Card exercise or observation of a vaccination session

Mobilisation

Prior to commencement of the DQA, PwC briefed officers of the Expanded Programme on Immunisation (EPI) and Ministry of Health (MOH) on the objectives, purpose and methodology of the exercise. During the same sessions, the EPI and MOH briefed the PwC auditors on the national context, including major public health and vaccination and immunisation issues and policies.

The team for the Lao DQA was composed of:

Name	Title	Location
MOH Officer		
Dr. Somthana Douangmala	EPI Manager	National level
Dr. Chanthavong Savatchirang	Deputy EPI manager, internal auditor	National level and Districts
Dr. Somvang Bouphaphanh	Internal auditor	National level and Districts
Provincial Officers		
Dr. Somphet Vongphachanh Mr. Khamphao Siyakeo Dr. Sisalout Phansaysy Mr. Chanthanom Soutphothichack	Provincial EPI manager Provincial EPI manager Provincial EPI manager Provincial EPI manager	Xiengkhouang Phongsay Savannakhet Salavanh
External auditors		
Soulivong Chantalasy	PwC, external auditor	National level and Districts
Phetnapa Phousongphouang	PwC, external auditor	National level and Districts
Jan Grevendonk	PWC, trainer and QA manager	Vientiane

The Logbook provides the details of individuals visited during the DQA.

National – findings and recommendations

Strong points

At the central level, there is a good control over the data and reporting: immunization reports are properly recorded, processed and stored in a proper archive system. The reporting chain of provinces to the national level seems to be working well, and there is a good control over the completeness and timeliness of the reports.

Sufficient immunisation forms were available at all levels. Equally strong was the control over vaccine stock and the cold chain in general. These strong points are reflected in perfect Quality of the System Index scores for recording, storing and reporting (see further).

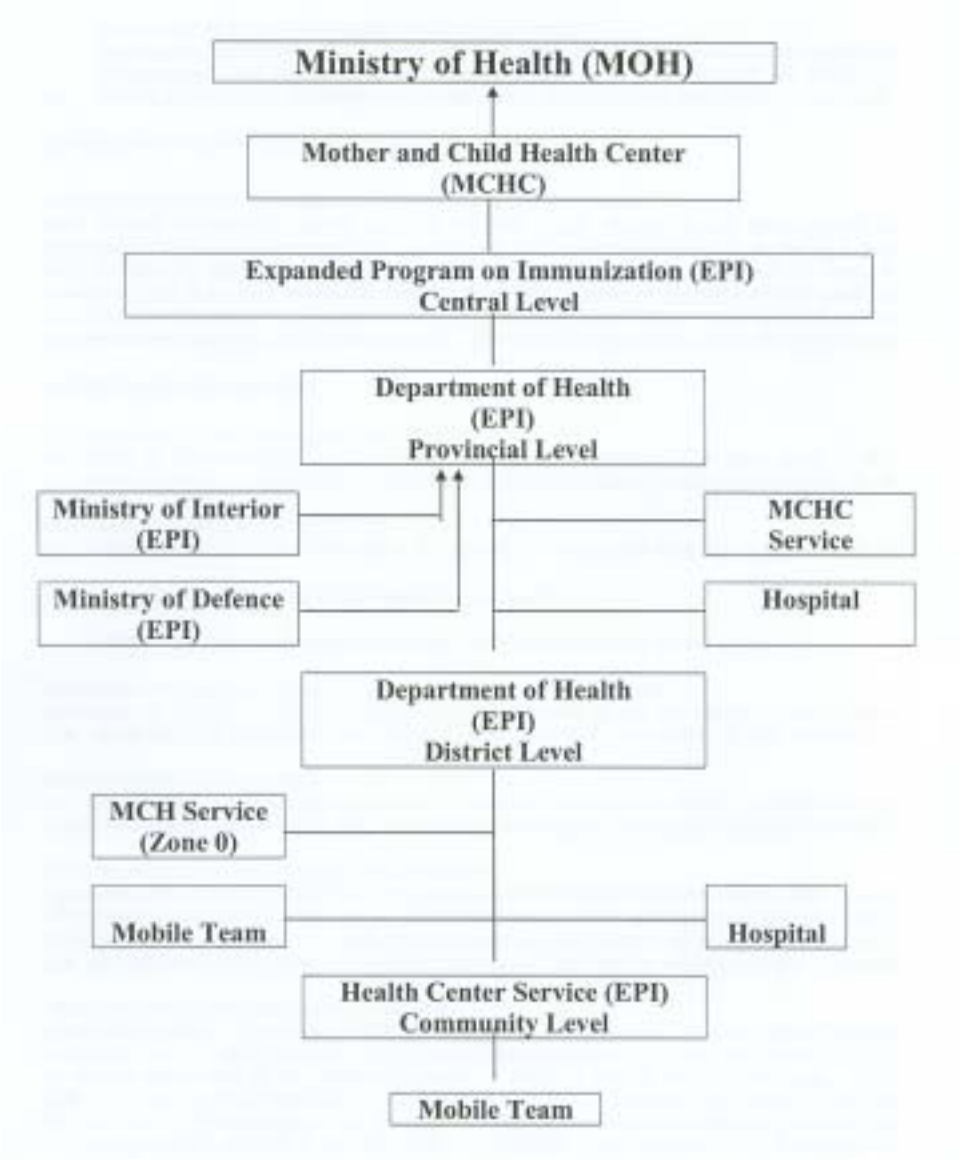
Areas for improvement

Whereas the collection and processing of the data was good, it is our feeling that better use should be given to this data. Key metrics such as immunisation coverage drop out rate and vaccine wastage rate are not routinely calculated, displayed, or monitored. One striking example of this was that, during the mobilisation phase of the DQA, the team calculated the coverage per province, and noticed that there was an abnormally steep drop in 2002 DTP3 coverage for the capital city. The issue was investigated and quickly clarified: this particular administration had not included the central hospital numbers in its overall reports, which led to a material under-reporting. The point of this example is that with a good routine monitoring and evaluation system, these kinds of issues are found and fixed much earlier in the process.

Without good monitoring, the supervision function of the central level also has its problems. Control over timely presentation, compilation, reconciliation and monitoring of immunisation records could be improved, as illustrated with the example above and the fact that District level reports (including EPI 10) for 2002 were incomplete and possibly not submitted by all districts.

Finally, inconsistent vaccination target rates between national and district level were found. All these weaker points are reflected in the lower scores for denominators, monitoring and evaluation and system design (see Quality of System Index later in this report).

Information/data flow and organisation of EPI for the country


Ministry of Health (MOH)
Mother and Child Health Center (MCHC)
Expanded Program on Immunization (EPI) Central Level
Department of Health (EPI) Provincial Level
Ministry of Interior (EPI)
Ministry of Defence (EPI)
MCHC Service
Hospital
Department of Health (EPI) District Level
MCH Service (Zone 0)
Mobile Team
Hospital
Health Center Service (EPI) Community Level
Mobile Team

Verification Factor

The verification factor is calculated based on data collected during the DQA and is a measure to verify the reported performance at national level. It compares the number of doses recounted from the health unit tally sheets to the numbers that were reported to the higher levels.

As far as data consistency over different levels is concerned, some variances were observed in tabulations at national, province and district levels for all selected districts. They show both over reporting and under reporting and may be caused by transcription errors or result from the learning curve as a new reporting system is implemented. More important is that no health unit tabulation could be found at the province or district level, and only some reports from a few health units were retrieved in the districts. It is therefore impossible to comment on the consistency of data at district level, or to establish whether district tabulations fairly represent the totals of Health Unit reports.

For all but 1 health unit, tally sheets or child registers were at least partially available and allowed for a recount of reported data. The reports themselves, however, could only be (partially) retrieved for 13 out of 24 health units. In the case reports were available, there was generally a fairly good match between recounted and reported numbers.

The basic data accuracy problem therefore seems to be caused by missing HU reports and tabulations at district and province level, so that no good basis for comparison existed. Inconsistencies in data between District and National levels also had a negative impact on the verification factor. Overall, a verification factor of **59%** was calculated, be it with a 95% confidence interval from 9% to 109%.

Quality of the System Index

QSI at national level:	73%
Recording practices	5.0 / 5.0
Storing and reporting	5.0 / 5.0

Monitoring and evaluation	3.6 / 5.0
Denominator	3.3 / 5.0
System design	2.7 / 5.0

System design (score: 2.7 / 5.0)

Issue observed	1. The reporting form to the higher level from the districts (Regions/Province) does not allow for calculation of vaccine wastage. 2. There is no integrated reporting from HU to district level, district to province and from province to national level. 3. Adverse Events Following Immunization are only reported on a case by case basis. There is no quarterly, semi annual or annual report on Adverse Events Following Immunization.
Recommendation	1. The report from the district level should provide the information necessary for calculation of the vaccine wastage (doses used versus administered and discarded). 2. In order to make the best use of scarce resources, it is recommendable to integrate EPI reporting into the overall Health Information system. 3. Introduction of AEFI aggregate information in the periodic reports.

EPI management comments	1. You should state what it is that is missing so that the report can be used to try to make improvements. 2. Perhaps in the long run, but not in short run. Generally the Health Information System does not even try to collect all the information needed for good management of immunization activities. 3. It is very rare in Lao PDR that AEFI occurred, and we have cleared the problem case by case as reported. Plus WHO has never recommended to report this periodically. Therefore we did not want to ask our vaccinators or district EPI managers to report this periodically in order to simplify their JOB to the minimum package.

Denominators (score: 3.3 / 5.0)

Issue observed	1. Different numbers of surviving infants denominators are in use, as the National level uses 3.15 % of the total population, while in some provinces/district/HU it was based on 4% of total population or/and actual survey results. 2. There is no known breakdown of infant immunisations according to fixed, outreach or mobile strategy.
Recommendation	1. The number of infants for immunisation should be consistent between national and provincial/district and HU levels. If different numbers exist, a consensus should be found on the right number to use. 2. Knowing the percentage of infant immunisations per strategy would be helpful for the EPI management to focus it resources where they can be most effective.

EPI management comments	1. Both figures are inconsistent with current demographic information. The central level wants to use 3.15 because it will make their coverage look higher. We are in the process to revise it and adopt the same estimated percentage for the whole country except for Vientiane Municipality where the estimate rate surviving infants is only3,6 (refer to National Statistic Center 2003). 2. It should be possible to get a breakdown at the district level. It is available from the EPI 1's. People know which villages are served by fixed facilities and which are not. What is the difference between outreach and mobile strategy? I think EPI management is already targeting resources well. We know that 80-85% of the target children in the country have to be reached by outreach activities. What we need for management purposes is to know the number of target children in each village and then compare that to the number of vaccinations administered. However, as mentioned above, it should be possible to calculate immunization by strategy type simply by accessing all the EPI 1s. Yes, but with new micro-planning mechanism/strategy we will dissolve or eliminate the zoning strategy, no one can identify where it's the performance of the fixed centers or of the mobile or outreach teams.

Monitoring and Evaluation (score: 3.6 / 5.0)

Issue observed	1. There was no up to date monitoring chart or table of the current year's immunisation coverage and drop out rate displayed in the EPI office. 2. Supervision is not monitored properly, and there was, for example, no data on the number of districts supervised in 2002.

Recommendation	1. A chart or table monitoring the current year's immunisation coverage and drop out rate should be made and displayed in the relevant office, room etc. 2. Supervision activities should be planned and monitored. Data received from districts should be thoroughly analyzed and proper feedback should be given.
EPI management comments	1. I personally don't think a chart at the national level for national data would be useful at all. Aggregate data is practically useless for management purposes. Such charts could be useful at the district level, and perhaps in some of the smaller provinces, but if would be better if provinces had charts for each district. 2. What does it mean if a district is "supervised" Just because a "supervisor" has visited a district, does that mean it has been "supervised"? This is purely a numbers game. In fact, what is being called supervision is often little more than someone making a flying visit to an office

Vaccine wastage rates

Overall vaccine wastage rates cannot be calculated because of the lack of information provided through the reporting system. System wastage at central level was reported to be 0.

Reporting Adverse Effects Following Immunisation (AEFI)

No system is in place for the aggregate reporting of AEFI. However, guidelines exist as to what to do on a case-by-case basis.

Availability and completeness of reports

While reports from all provinces are found for the entire year 2002, not all of these reports are based on complete information from the districts.

Province – findings and recommendations

Province context

Lao has 142 relatively small districts, with a majority of the districts covering less than 6 health units. This leads to a situation were the resources seem to be spread thin and staffing and resources in the districts are not adequate for their important responsibilities, as the primary supervisors of the health units.

As explained above, in order to sample 24 health units for this DQA, 4 provinces were selected, rather than 4 districts. In every province, 2 districts were selected and in every district 3 health units. The provinces were treated as DQA districts and consequently the Quality of Systems Index in the following discussion refers to the province level, not to the district level.

Quality of the System Index

Average QSI at province level:	58% (range between 30% and 81%)
Average score recording:	3.5 / 5.0
Average score storing and reporting:	2.8 / 5.0
Average score monitoring and evaluation:	2.6 / 5.0
Average score demographics and planning:	2.8 / 5.0

Recording

Issue observed	1. No date is stamped or written the HU reports as they are received at district level. 2. Not all immunization forms were sufficiently available in all the visited HUs. 3. Inadequate stock ledger maintenance. (E.g. ledger not updated by stock type on receipt and issue of stock or for expired lots)
Recommendation	1. District staff should promptly write the date of report received, which will make it easier to identify the final report version. 2. All forms should be made available in all the HUs, as a minimum requirement for high quality reporting. 3. The stock ledger should be updated for each receipt and issue of stock to record full details including the date of receipt/issue, the type of product, the quantity and lot expiry date. Stock issues should be on a first in first out (FIFO) basis to minimise the existence and related risks of expired stock. Expired lots should be identified by the cold chain staff and sent to the District level for destruction.
EPI management comments	1, 2 and 3. We agree with your recommendations

Storing and Reporting

Issue observed	1. Lack of filing system resulting in an unnecessarily complex and time consuming reporting process (no separate file for each HU at the district level). 2. No date and time of report printing is mentioned.

Recommendation	1. An orderly filing system should be set-up as a matter of priority 2. The date and time of report printing should be noted on the report to allow the user to identify which is the updated report
EPI management comments	1 and 2. We agree with your recommendations

Denominators

Issue observed	1. A static infant denominator was used for period of 5 years (Phongsaly province). 2. Inconsistent vaccination target rates between National and District levels (for example, 3.15% at National level and 4% at District level) 3. The proportion of infant imminisations per strategy type is not computed for the district level. 4. District map of catchment area showing immunisation strategy not displayed in district offices.
Recommendation	1. The denominator number should be calculated every year based on fluctuations in population. 2. A consistent vaccination target rate should be agreed upon for all levels. 3. The percentage of infant immunisations should be known for each type of strategy. 4. The district map of the catchment area should be displayed prominently in all district offices for public information.

EPI management comments	1 . We based on the figures provided by NCS 2. We have changed this estimated rate of 4% to 3.6% more than 2 years ago. But some districts/provinces levels did not know about this. 3. Not all districts have a computer. This recommendation is not appropriate to conditions in Lao. 4 . We agree with your recommendations

Monitoring and Evaluation

Issue observed	1. No regular meetings with health workers to discuss immunisation performance. 2. No annual report is produced at provincial or district level. 3. There was no up to date monitoring chart or table of the current year's immunisation coverage and drop out rate displayed anywhere. 4. No monitoring of completeness of reporting from HU at district level. 5. No monitoring on reporting timeliness for HU immunisation reporting. 6. No monitoring of health unit vaccine stock-outs. 7. No monitoring of health unit vaccine wastage

Recommendation	1. Regular meeting with HU workers should be held to discuss the HU performance and issues facing to solve the problems promptly. 2. Annual reports could be made and distributed among people involved in the provincial health system. 3. Up to date chart/table of the current year's immunisation coverage should be on display in relevant office, room etc for public information. 4. The district level should monitor and follow up on the reports from the HU to ensure that the report send by HU is complete and accurate. 5. The district should monitor timeliness for HU reporting and follow up on the missing ones. 6. The stock at HU level should be properly monitored. 7. Vaccine wastage should be recorded and monitored.
EPI management comments	1, 3, and 6. We agree with your recommendations 2. Some provinces have done it. It was attached with the annual work plan. But we don't have enough funds to print out for all persons (District Commission for Mother and Child). 4 and 5. About completeness and timeliness of report, it is difficult in real Lao conditions. 7. With GAVI funds, we have introduced this calculations due to the vaccine cost to the vaccines, vaccine cost is very expensive (PSL, SRV, XGKH, SVK). Please note that DPT_Hep has not yet been introduce in 2002.

Reporting Adverse Effects Following Immunisation (AEFI)

No aggregate reporting system is in place. Instructions exist as to what to do on a case-by-case basis.

Availability and completeness of reports

Only sporadic health unit reports could be found at district level. No information was available about completeness of reporting.

Other issues

1. Insufficient delegation of immunisation duties to HU staff (especially in Pek distict, Xiengkhouang province)
2. Non-compliance with annual reporting requirements (for example, tabulation of vaccination of statistics).

Health Units – findings and recommendations

Quality of the System Index

Average QSI at health unit level:	38% (range between 00% and 64%)
Average score recording:	1.7 / 5.0
Average score storing and reporting:	2.4 / 5.0
Average score monitoring and evaluation:	2.1 / 5.0

Recording

Issue observed	1. Tally sheets were not used in some HU for recording immunisations, only recorded in Child Register (7/23 HU). 2. Child and mother registers are kept by village offices. However, there is no record of the number of target immunisations of individual villages maintained in the HU office (8/23). 3. Children's vaccination history cannot be easily and rapidly retrieved from the registers (8/23). 4. Lack of immunisation knowledge of HU staff, e.g. HU staff did not know the interval between DTP1 to DTP2 to DTP3 (17/23). 5. Stock ledger was not maintained (23/23).

N° of health units in which observed	23 HUs
Recommendation	1. Tally sheets should be used and archived by HU staff for recording the number of immunisations per period, as this form is the primary source of information for reporting purposes. 2. Child and mother registers should be kept in the HU and properly filed. 3. Children's vaccination history should be recorded and maintained properly for easy and rapid retrieval from the register. 4. HU staff should be properly trained and monitored regularly by the higher level to ensure compliance with standards. 5. Stock ledgers should be maintained at HU level to record the number of vaccine receipts per session and report yearly totals for reconciliation with the records at the district level.
EPI management comments	1, 2. We agree with your recommendation 3. In fact, we have the EPI/09/02 form called Village Immunisation Book for record and reference in the case that immunisation card was lost. But unfortunately this book was not used by vaccinators or it was kept at village level but lost. 4. Yes, this was due to the high rate of staff turn-over, these new replacing staff were not trained due to the shortage of supporting funds. The data was collected in the provinces where the introduction of DPT – HepB has not yet converted in 2002. otherwise fund from GAVI can be used for this purpose. 5. We think that not only the no. of vaccines received should be recorded but in our policy the number of used or dispatched vaccine should be recorded. This policy was applied. We have shortage of fund to conduct the regular supervision or monitoring.

Storing and reporting

Issue observed	1. Not all HU reports were available for the entire audit year (EPI 10) (16/23) 2. No properly organised filing of HU reports (18/23). 3. HU staff was not aware of standard operating procedure and the forms to complete if there is an AEFI case to report (5/23).
N° of health units in which observed	23 HUs
Recommendation	1. All HU reports should be prepared (EPI 10), and one copy should be maintained at HU for the future reference 2. An orderly filing system should be set-up as a matter of priority 3. HU staff should be trained by the higher level and a standard operating procedure and forms for reporting AEFI should be provided by the district/province/national level
EPI management comments	1 and 2. We agreed with your recommendations 3. We have already provided them but they did not use it. The model of this form was included in the training manual on Measles campaign organization edited by the National EPI program. In early of 2001 and 2002 all of vaccinators and Managers at provincial and district levels were trained on how to organized the Measles Campaign.

Monitoring and evaluation

Issue observed	1. There was no target number of infants and pregnant women to be vaccinated against, respectively, DTP and tetanos, during a calendar year or reporting period (9/23). 2. No awareness of new births in the target area and no attempt to follow-up to ensure that all children are immunised (12/23). 3. No vaccine wastage calculated and monitored (23/23). 4. No immunisation coverage and drop-out rates calculated and monitored (20/23). 5. District map of catchment area showing immunisation strategy not displayed in district offices (10/23). 6. No mechanism in place to track defaulters (9/23). 7. No chart/table on display showing the number (or coverage) of child vaccinations by report period for the current year (22/23).
N° of health units in which observed	23 HUs

Recommendation	1. Target number of infants and pregnant women should be screened by HU, consistent with the upper administrative level's targets and national targets. 2. HU staff should update new birth information and establish communication with chief of village / community. 3. Vaccine wastage should be calculated at least once a year and investigated to identify causes and possible methods to reduce wastage 4. Immunisation coverage rates and drop-out rates should be calculated at least once a year to evaluate HU performance and future planning 5. District map and catchment area should be displayed prominently 6. HU should have mechanism / procedure to track defaulters. (Check registers, tickler file etc.) 7. Chart/table of the on display showing the number (or coverage) of child vaccinations by report period for the current year should be displayed at HU.
EPI management comments	1 and 3 to 7. We agree with your recommendations 2. To solve this they have to use the EPI/09/91 book. Policy was adopted but they did not apply it. Therefore supervision is necessary. But we need supporting funds to do this.

Drop-out rates

Information not available at the HU

Vaccine wastage rates

Wastage rates could not be calculated for all but one health unit.

Reporting Adverse Effects Following Immunisation (AEFI)

There was no formal written reporting line for AEFI. In practice, however, HU staff are instructed to fill in the AEFI form on a case-by-case basis. It is then signed by the HU staff and Chief of village, and the HU sends it to District level to investigate through interviews with HU staff and villagers. If the village is not satisfied with the result of District investigation, the procedure is for the National level to perform an investigation. There is no standard format for AEFI investigation reports at either District or National level.

Availability of reports

Copies of monthly reports could be retrieved in only seven health units.

Coverage/change in DTP3 reported

Information not available at the HU

Wrap-up

On completion of the DQA, a debriefing was held on 19 August 2003 for EPI managers, UNICEF and WHO Technical staff to present the preliminary conclusions.

APPENDIX I. CORE INDICATORS – NATIONAL LEVEL

Number of districts in the country:	**JRF: 142**	**Reported at the time of the audit: 142**	**Comments**

Core indicator	**JRF**	**Reported at the time of the audit**	
DISTRICTS WITH DTP3 COVERAGE >=80% N	4	4	Based on 32/142 districts with complete reporting
(ADMIN, DTP3<1) %	12.5%	12.5%	4/32 districts
DISTRICTS WITH MEASLES COVERAGE >=90% N	1	1	
(ADMIN MEASLES<1) %	3.125%	3.125%	1/32 districts
DISTRICTS WITH DOR < 10% N	7	7	
(ADMIN, DOR DPT1 DPT3) %	21.88%	21.88%	7/32 district - two of these districts had negative drop out rates

COMMENTS	JRF figures are based on the 32 districts with complete reporting.		
Type of syringes used in the country*	AD Steril.	AD Steril.	
% of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations (less OPV) during the year	17.6% (25/142)	17.6% (25/142)	For the provincial/district will be introduced AD and non AD disposables in the last quarter of the year 2003.
COMMENTS			

Core indicator	JRF	Reported at the time of the audit	comments
Introduction of Hepatitis B (yes /no when/ partially/ specify presentation)*	October 2002 for central areas	idem	
Introduction of Hib (yes /no when/ partially/ specify presentation)*	Not yet		
Country wastage rate of DTP	-	-	No information available for the calculation
Country Wastage rate of Hep B vaccine	36%	36%	No information available for the calculation
Country Wastage rate of Hib vaccine	-	-	No information available for the calculation
COMMENTS	DPT/Heb B vaccine based on the 2002 performance in one province		
Interruption in vaccine supply (any vaccine) during the audit year at national stock		No	
How many districts had an interruption in vaccine supply (any vaccine) during the audit year	142 districts		
COMMENTS			

% district disease surveillance reports received at national level compared to number of reports expected (routine reporting of VPD)			NA
% of district coverage reports received at national level compared to number of reports expected			NA
% of district coverage reports received on time at national level compared to number of reports expected			NA
COMMENTS			
Number of districts which have been supervised at least once by higher level during the audit year			NA
Number of districts which have supervised all HUs during the audit year			NA
COMMENTS			
Number of districts with microplans Including routine immunization	Non		

COMMENTS	Will be introduced in year 2003

APPENDIX II. CORE INDICATORS – PROVINCE LEVEL

Phongsaly province

Indicator		**Information at the national level**	**Information at the district level**
District DTP3 coverage	N	1,794	1,510
(last tabulation available)	%	35%	30%
District measles coverage	N	1,375	3,104
(last tabulation available)	%	27%	61%
District drop-out (DTP1-3)		Not available	Not available
No syringes supplied in 2002 to the district		No, as only sterilisable syringes are used	No, as only sterilisable syringes are used
Total immunization given in 2002 (less OPV)		42,608	22,676
No district coverage reports received / sent		12 / 12	12 /12
No district coverage reports received on time / sent on time		/ 12 (no monitoring)	/12 (no monitoring)
No district disease reports sent (regular VPD reporting)		/ 12 (no report about it)	/12 (information not available)
No HU coverage reports received / sent			/12

		(no proper control and monitoring at this level)
No HU coverage reports received / sent on time		/12 (no monitoring)
Any district vaccine stock-out in 2002?	No	No,
If yes specify which vaccine and duration		
Has the district been supervised by higher level in 2002	Yes, from the national level, 4 times per year	Yes, from the National level

Xiengkhouang province

Indicator		**Information at the national level**	**Information at the district level**
District DTP3 coverage	N	3,246	3,135
(last tabulation available)	%	46%	51%

District measles coverage N (last tabulation available) %	3,860 54%	3,712 46%
District drop-out (DTP1-3)	Not available	Not available
No syringes supplied in 2002 to the district	No, as only sterilisable syringes are used	No, as only sterilisable syringes are used
Total immunization given in 2002 (less OPV)	58,306	58,392
No district coverage reports received / sent	12 / 12	12 /12
No district coverage reports received on time / sent on time	/ 12 (no monitoring)	/12 (no monitoring)
No district disease reports sent (regular VPD reporting)	/ 12 (no any report about it)	/12 (information not available)
No HU coverage reports received / sent		/12 (no proper control and monitoring at this level)
No HU coverage reports received / sent on time		/12 (no monitoring)
Any district vaccine stock-out in 2002?	No	No,
If yes specify which vaccine and duration		
Has the district been supervised by higher level in 2002	Yes, from the national level, 4 times per year	Yes, from the National level

Has the district been able to supervise all HUs in 2002	Yes, 4 times a year	Yes, 4 times a year, but no evidence of supervision
Did the district have a microplan for 2002		No plan at provincial level in the audit year or the current year

Savannakhet province

Indicator		**Information at the national level**	**Information at the district level**
District DTP3 coverage	N	19,117	18,922
(last tabulation available)	%	81%	63%
District measles coverage	N	16,118	25,952
(last tabulation available)	%	68%	77%
District drop-out (DTP1-3)		Not available	Not available
No syringes supplied in 2002 to the district		Not available	118
Total immunization given in 2002 (less OPV)		297,356	NA
No district coverage reports received / sent		12 / 12	12 /12
No district coverage reports received on time / sent		/ 12 (no	/12

on time	monitoring)	(no monitoring)
No district disease reports sent (regular VPD reporting)	/ 12 (no any report about it)	/12 (information not available)
No HU coverage reports received / sent		/12 (no proper control and monitoring at this level)
No HU coverage reports received / sent on time		/12 (no monitoring)
Any district vaccine stock-out in 2002?	No	No
If yes specify which vaccine and duration		
Has the district been supervised by higher level in 2002	Yes, from the national level, 4 times per year	Yes, from the National level

Salavanh province

Indicator		**Information at the national level**	**Information at the district level**
District DTP3 coverage	N	4,638	4,994
(last tabulation available)	%	49%	41%
District measles coverage	N	3,326	7,421

(last tabulation available) %	49%	54%
District drop-out (DTP1-3)	Not available	Not available
No syringes supplied in 2002 to the district	Not available	26
Total immunization given in 2002 (less OPV)	83,341	NA
No district coverage reports received / sent	12 / 12	12 /12
No district coverage reports received on time / sent on time	/ 12 (no monitoring)	/12 (no monitoring)
No district disease reports sent (regular VPD reporting)	/ 12 (no any report about it)	/12 (information not available)
No HU coverage reports received / sent		/12 (no proper control and monitoring at this level)
No HU coverage reports received / sent on time		/12 (no monitoring)
Any district vaccine stock-out in 2002?	No	No
If yes specify which vaccine and duration		
Has the district been supervised by higher level in 2002	Yes, from the National level 4 times a year	Yes, from the National level
Has the district been able to supervise all HUs in 2002	Yes, 4 times a year	Yes, 4 times a year