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PLAN OF ACTION FOR MATERNAL AND NEONATAL TETANUS ELIMINATION IN GHANA

2005 - 2009

PROPOSAL SUBMITTED TO JICA FOR SUPPORT TO MNT ELIMINATION PROGRAMME IN GHANA

JUNE 2005

Plan of Action for Maternal and Neonatal Tetanus Elimination in GHANA 2005-2009

I. INTRODUCTION

A case of maternal or neonatal tetanus represents a triple failure of public health in terms of the routine immunization, antenatal care, and cleans delivery/cord care services. The goal of neonatal tetanus (NT) elimination was adopted by the World Health Organization in 1988 and by the World Summit for Children in 1990. The goal of maternal and neonatal tetanus (MNT) elimination by 2005 has been declared jointly by UNICEF, WHO, and UNFPA, along with the establishment of a global fund for MNT elimination. All this has resulted in renewed momentum to achieve MNT elimination in the 57 countries, which have not yet done so.

NT elimination is defined as the achievement of <1 NT case per 1000 live births in every district of every country, and is operationally defined by an algorithm assessing four major indicators: the reported incidence of NT, the reliability of NT surveillance, the proportion of women reached with at least two doses of tetanus toxoid (TT2+), and the estimated clean delivery rate.

The three WHO/UNICEF/UNFPA recommended strategies for achieving MNT elimination are:

1. Provision of at least two doses of tetanus toxoid (TT) to all pregnant women, and in high-risk areas, three TT doses to all childbearing aged women;
1. Promotion of clean delivery services to all pregnant women; and,
2. Ensuring effective surveillance for MNT.

Although there is no operational definition for the elimination of maternal tetanus (MT), it is assumed that a country has achieved MT elimination when it has achieved NT elimination.

This plan outlines strategies, activities, and resource needs for MNT elimination in the republic of Ghana, with the initial focus on the achievement of elimination status in all high-risk districts. The 2005-2009 plan is aimed at completing the activities initiated during the implementation of the 2001–2005 MNT elimination plan.

II. SITUATION ANALYSIS

A. Background

Ghana is situated on the West Coast of Africa and is bordered by Togo, Burkina Faso & Côte d' Ivoire. The surface area is 238,540 sq. Km with tropical climate along the coast and hot and dry in the far north. The population for 2005 is 20,831,767 (projected from 2000 census) with growth rate of 2.5%, with life expectancy at birth of 57 years and an Infant Mortality rate of 64/1,000 live births. The estimated GNP per capita is US $390.00.

Approximately 100 cases of Neonatal Tetanus are reported each year although this is only a fraction of the true number of cases, estimated at over 2,500 for 1999. There are currently estimated to be 3-4 cases per 1000 live births (compared with a survey finding of 9/1000 LB in 1989) and mortality of 2/1,000 live births. The 2003 Ghana Demographic and Health Survey

(GDHS) indicated that between 1998 and 2003 tetanus toxoid immunisation coverage (TT2+) among pregnant women was 50% of mothers of firstborns received no TT during pregnancy. The same survey indicated a prevalence of 46% for medically-assisted delivery.

In 1998 an assessment was commissioned by the Ministry of Health to assess the situation of Maternal and neonatal tetanus in the country. The main findings were:

A reduction in the Neonatal Tetanus mortality rate from 20/1,000 live births in 1989 to 2/1,000 live births in 1992 *(check?)*
Only 5-8% of Neonatal Tetanus cases were reported
Completeness of morbidity reporting rate was above 95% by region and above 80% by district but completeness of reporting by health facilities and accuracy of content of reports need to be improved
Neonatal Tetanus cases are not investigated except in the context of special hospital studies
TT2 Coverage in pregnant women is around 64% and may be higher according to survey results
Only 15% of pregnant women do not have access to Antenatal Care (ANC)
Only 56% of deliveries are supervised
Women in Fertile Age Group (WIFA) are not routinely immunized
Maternal deaths in institutions are reported without cause of deaths

In 1999 The Ministry of Health did an initial assessment of high-risk districts. Site visits were conducted in six out of the ten administrative regions and the rest filled in a questionnaire. The indicators used were Antenatal Coverage, Supervised Delivery, TT immunization, and Neonatal Tetanus case reporting. Data from all 110 districts were used. The criteria for labeling districts as high risk were:

Supervised delivery coverage $\leq$ 70%
TT2+ Coverage< 80%
NNT rate of > 1/1000 live births

The assessment identified more than 77 districts as being at risk, with 7 of these most at risk

The Ministry of Health adopted the schedule of provision of five doses of TT vaccine in 1988, and since then efforts have focused on increasing TT coverage in pregnant women. Reported TT2+ coverage has risen from 35% in 1992 to 62% in 2004 and the reported supervised delivery rate has increased from 37% in 1992 to 50% in 2004. Reported antenatal care coverage has increased from 83% in 1992 to 99% in 2004. Reported DTP3 coverage is currently (2004) 80%.

B. Reasons why MNT is not eliminated in the country

The major constraints to achieving MNT elimination are low TT2+ coverage in many districts, apparently many missed TT opportunities during antenatal care, low supervised delivery and weaknesses in the surveillance system. In some hard to reach districts sick infants do not go to health facilities and die at home, and not all facilities report even those NT cases that are admitted. Patients who are seen by traditional healers are not captured by the reporting system.

C. Information on NT incidence

1. Community surveys on neonatal tetanus

Geographic area surveyed	Year of survey	Source (i.e. who conducted the survey?)	Sample size	NT Incidence Rate	NT Mortality Rate
	1989	*	2694	9.5/1000 LB	7.4/1000 LB
	1992	*	2700		2/1000 LB

2. Reported NT cases nationally during the last three calendar years

Year	Reported # of NT cases	Rate of reported NT cases /1000 live births
1998	100	0.33
1999	105	*
2000	80	0.22

Note: estimated 4% of actual are reported, giving estimated 2,500+ cases 1999
i.e. 3-4 cases/1000 live births

3. NT situation by district

Indicator	Value	Year
a. Total # of districts in the country	110	2000
b. # of districts with a reported NT rate of >1/1000 live births	60	2000
c. % of districts with a reported NT rate of > 1/1000 live births (b/a)	55%	2000

D. Information on Risk/Protection

1. National information

Indicator	*Value*	*Year*	*Method**
a. % TT2+ COVERAGE *a.* Among pregnant women	*73%* *58%-81%*	*2000* *1998*	***Institutional* **GDH Survey*
b. among child-bearing aged women	*21%*	*1999*	*Institutional*
b. Antenatal care coverage	*99%* *89%*	*2000* *1999*	*Institutional* *(GDHS)*
c. Delivery by unskilled attendants	*48%* *44%*	*2000* *(1998)*	*Institutional* *(GDH Survey)*

*GDHS Ghana Demographic Health Survey
**E.g. Institutional reports, cluster survey

2. Reported immunization coverage by district

		% of total districts	
Coverage	*Year*	*TT2+ among pregnant women*	*DPT3 among infants**
>80%	2000	*44/110=40%*	*76/110=69%*
50-79%	2000	*56/110=51%*	*32/110=29%*
<50%	2000	*10/110=9%*	*2/110=2%*

* *Target population used for DPT3 and TT calculation is based on year 2000 census*

E. Information on activities

1. Activities implemented in the past 5 years to achieve MNT elimination

Immunization: The target group for TT immunisation is women of fertile age (WIFA) 15-49 years but most effort has been given to immunization of women in pregnancy. Although reported routine coverage of TT2+ has increased from 37% to 73% among pregnant women there have not been any supplementary TT immunization activities over the past five years in Ghana. An initial assessment of high-risk districts was conducted in 1999. Using the High-risk approach, fifty-nine (59) high-risk districts were selected throughout the country for TT SIAs.

Supervised delivery/cord care activities have included health workers training in life saving skills and infection prevention, training of traditional birth attendants and refresher training for TBAs including infection prevention.

Surveillance: There is a Community Based Surveillance (CBS) system in place in Ghana but at different stages of implementation among the Regions; this should be a rich source of information regarding reporting of NT cases. Training of Community Based Surveillance workers on case reporting has been conducted in some regions.
Case based surveillance had been initiated from 1999 although reporting is incomplete.

A 5year (2001-2005) plan of action and implementation plan for accelerating the control of Maternal Neonatal Tetanus towards elimination in Ghana was developed with technical assistance from WHO country office, WHO AFRO and UNICEF Ghana. The plan was finalized by June 2001 and was endorsed by the ICC in August 2001.
The total number of districts identified as High risk districts are 59/110 which are targeted in phases over three year period, for the supplemental Immunization activities (TT SIAs) targeted at women 12-49 years for three doses of TT vaccination.

The selection of districts as high risk was based on the critical indicators or surrogate indicators combined with major indicators using the WHO AFRO field guideline. The indicators used were Neonatal tetanus incidence, clean delivery rate (using supervised delivery as proxy), TT2+ coverage, Hard to reach populations (multiplying factors used).

EPI coverage, Ghana 1994 – 2003

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
BCG	61%	67%	65%	70%	77%	85%	94.5%	91.3%	96.6%	93%
DPT3/Penta 3	48%	52%	51%	56%	68%	73%	83.8%	76.2%	79.1%	76%
Measles	49%	51%	53%	57%	67%	71%	83.8%	81.9%	84.7%	80%
Yellow fever	22%	25%	28%	41%	41%	64%	73.7%	76%	71.4%	73%
TT2+WBCA	18%	20%	14%	17%	18%	21%	73%	61%	68%	66%

Source: Administrative data, EPI Programme, 2003

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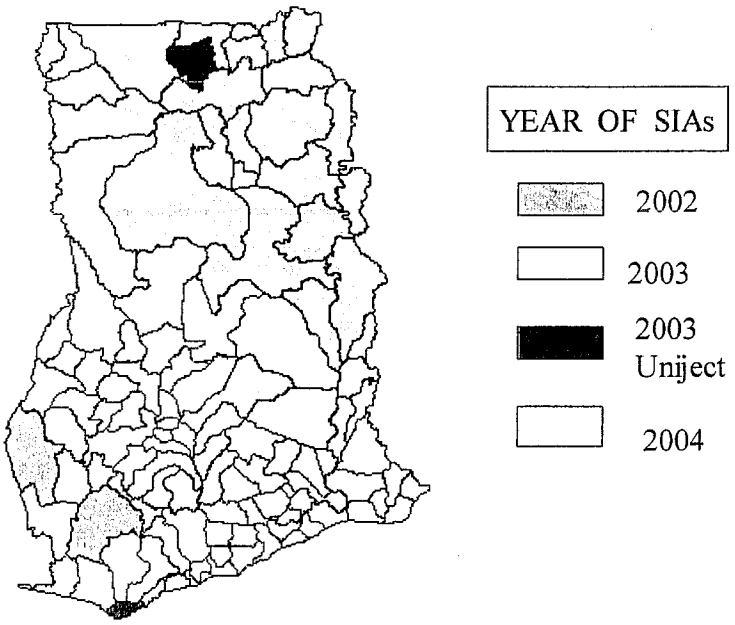
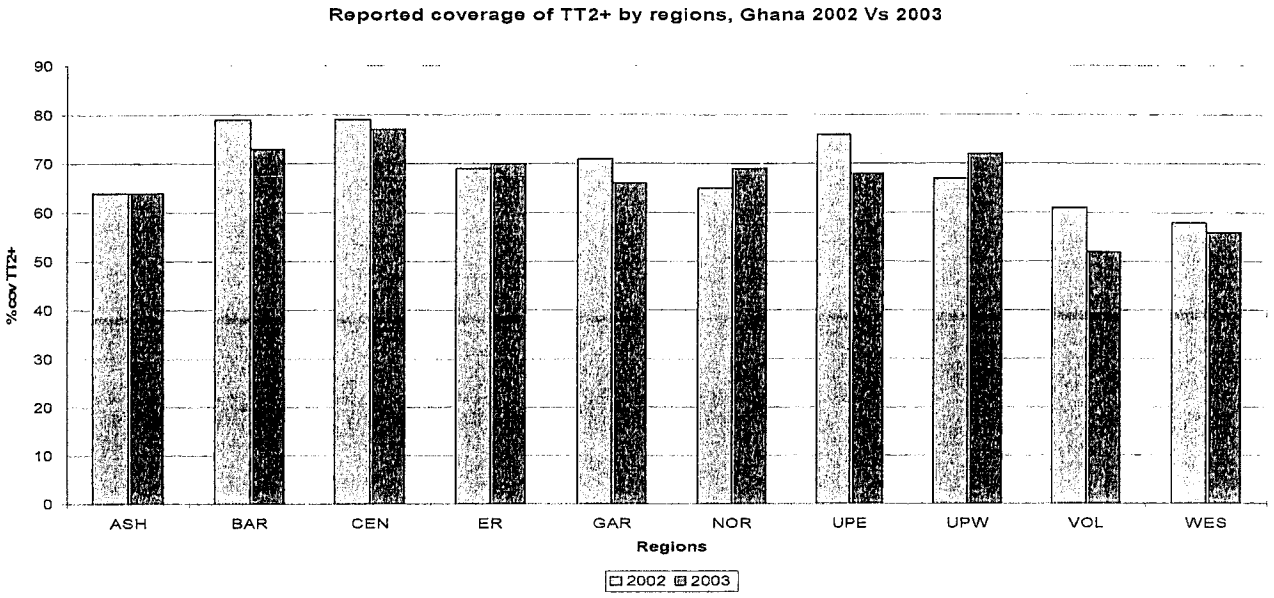
GHANA HIGH RISK MNT DISTRICTS




Reported coverage of TT2+ by regions, Ghana 2002 Vs 2003
90
80
70
60
50
40
30
20
10
0
%cov TT2+
ASH
BAR
CEN
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GAR
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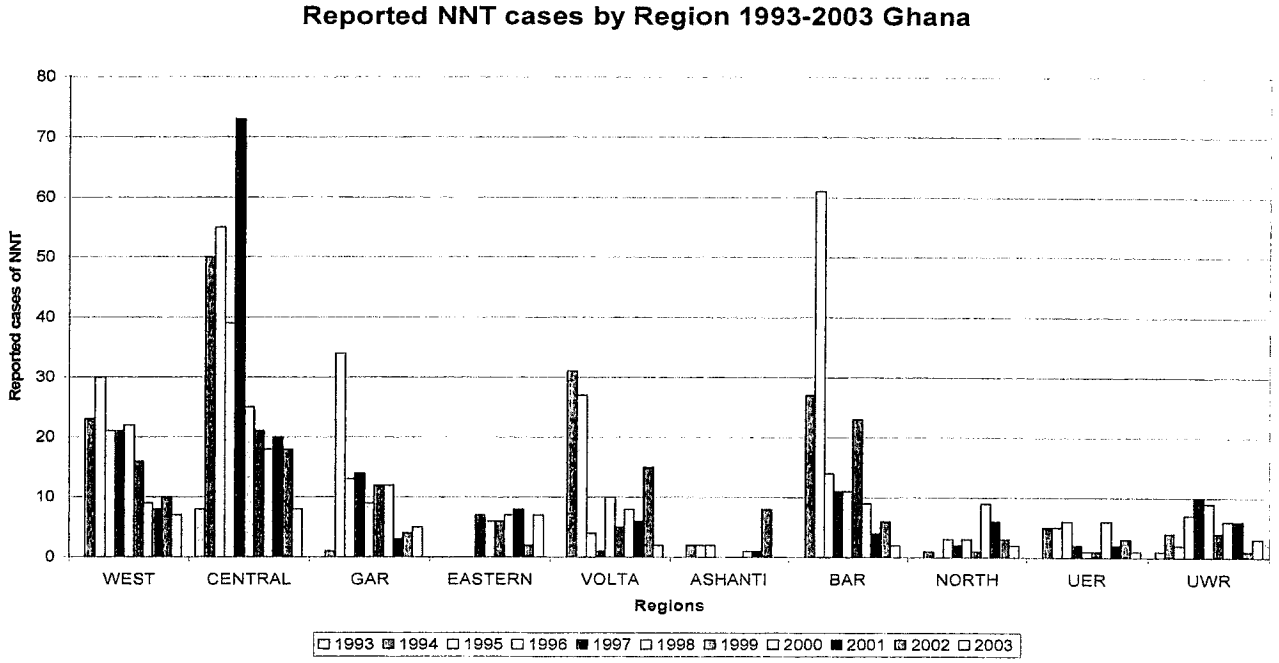
Regions
2002
2003



Tetanus Toxoid Supplemental Immunization Activities (TT SIA) aim at improving the immunity of Women in the Child Bearing Age and to reduce morbidity and mortality of maternal and neonatal tetanus in the districts.

The National level decided to implement phase I in 2 HRDs of Western Region to learn the lessons and scale up later to other districts as follows, 17 in 2002 and 40 districts in 2004. But due to financial constraints implementation had to be postponed to 2003 for the 17 districts and to year 2005 for the rest of the 40 districts even thinking of re- prioritization as the HRD identification may pick others at risk due to delayed intervention. The estimated target population for CBWA was 22% of the total population. Up to date 32 out of the 59 high-risk districts have conducted three rounds of TT SIAs. The 2005 -2009 MNT elimination plan is aimed at competing the activities initiated during the past four years as contained in the 2001-2005 MNT plan. During the 5 year period (2005-2009) SIAs will conducted in the remaining 27 districts while maintaining routine vaccination nation-wide.

III. GOAL

The goal of this plan is to eliminate maternal and neonatal tetanus (MNT) as a public health problem in every district of Ghana by the year 2009 (i.e., less than 1 case of NT per 1000 live births) and to maintain elimination status thereafter.

IV. OBJECTIVES

A. Immunization

1st Phase: Achieve elimination

Eliminate MNT in high-risk districts and subdistricts by vaccinating (at least 90 % of) all women of fertile age (WIFA) with three doses of tetanus toxoid through targeted supplemental immunization activities (SIA).

2nd Phase: *Maintain* elimination

Strengthen and sustain at least 80% coverage (TT2+, DTP3, and measles vaccine) in all districts particularly those considered at high risk by:

1. Screening and offering TT or Td to all women/mothers who visit a health facility for any reason, to improve TT2+ protection of women, and "protection at birth" (PAB) of the newborn, to 90% in every district.

2. Reducing the dropout (from BCG/DPTI to DPT3/OPV3 and measles vaccine) to less than 10% points in every district. (Noting that this will also contribute to sustaining polio eradication activities (high OPV3 coverage) after the country has reached 0 polio cases, but before certification)

3. Improving access to immunisation (i.e. BCG/DTP1 coverage of at least 90%) in every district

4. Introducing school-age immunisation with Td where possible and appropriate

5. Special emphasis on safe injection practices. (The introduction of auto-disable syringes into EPI in 1992 has greatly reduced the risk of injury to the client. On the other hand, surveys have showed that 60% of health workers are still recapping used needles. Some health facilities do not discard used syringes properly, leaving the community at risk. Plans are under way to address these issues.

B. Clean delivery

Strengthen clean delivery and cord care practices by focusing on the "three cleans" and reduction of harmful practices related to deliveries and cord care

1. Ensure training/follow-up of birth attendants and midwives. Regions will identify areas in need and national level will provide support for training and follow up activities.
2. Conduct social mobilisation/community and women's awareness. Formative research will be done in the two ecological zones (coastal/forest and northern savannah). The critical

information obtained will be used in developing messages for the MNT elimination campaign. The information will be adapted for use in other districts.
3. Distribution of clean delivery supplies, where appropriate"

C. Surveillance

Establish and maintain effective case based surveillance for NT

1. Achieve at least 80% NT reporting completeness from designated reporting sites in every district
2. Investigate at least 80% of suspected cases in districts with ≤80% TT2+ coverage (N.B. In districts already known to be high risk, the priority is to vaccinate and *not* investigate every case)
3. In rural areas with TT2+ coverage ≤ 80% cases and in all urban areas, follow up all detected NT cases with local case response (i.e. immunization) activities.

V. STRATEGIES & PLANNED ACTIVITIES:

The Ministry of health in the current plan intends to carry out phased implementation of Supplemental Immunization Activities in high-risk districts over a 5-year period. The SIAs will be carried out concurrently with the ongoing routine immunization, which will be strengthened over the years. This year, 2005, 19 districts which started SIAs in 2004 will conduct their 3rd round of TT SIAs in order to complete the recommended schedule. This will bring to 32 the number of high-risk districts that have had all three SIAs out of the 59 districts reported to be at high risk of neonatal tetanus. Out of the remaining 27 districts, 10 will commence SIAs in 2006 and complete all three rounds in 2007. Subsequently the remaining 17 will also start SIAs in 2008 and complete in 2009. Surveillance and clean delivery practices will also receive support.

A. Immunization

1st phase: Achieving elimination with targeted supplemental immunization activities (SIAs)

1. Target age group

Women of fertile age (WIFA)	15-49

2. Criteria used for selecting high-risk districts/areas

Neonatal Incidence rate >1 per 1000 live births; Completeness of reporting; Clean delivery rate; TT2+coverage among pregnant women; DTP1 and DTP3 coverage; Antenatal care coverage; Preparedness of region to supervise SIAs; No other competing health activities.

3. High risk districts, based on criteria described

a. Total # of districts in the country considered at high risk for NT (see Annex 1 list by region)	59
b. Total # of women to be targeted for SIAs in these high risk districts	(About 42%)

2nd phase: Sustaining elimination through high levels of routine immunization coverage particularly in high-risk areas

Every district will make a detailed micro-plan based on an assessment of its situation.
A micro-planning workshop will be held to focus on the following:

a. Reducing drop out
   i. Identify the main causes of high drop out.
   ii. Identify the most cost effective means to reduce it
   iii. Monitor progress at every level

b. Increasing access to immunization services by redesigning outreach, deciding on the minimum package of outreach services appropriate for the local situation, and then closely monitoring progress through DTP1 coverage.

c. Introducing school-aged immunization where appropriate.

Clean delivery

Strengthening of clean delivery/cord care practices will be emphasized in high-risk districts. The following activities will be conducted:

a. Training/supervision of birth attendants and midwives
b. Provision of appropriate supplies
c. Social mobilization of the community

NT surveillance/monitoring

NT surveillance and monitoring will be strengthened through the following activities:

Development of written national standards and policies for NT surveillance (including case definitions, case investigation, case response, making NT a reportable disease, conduct of active surveillance for NT)

a. Integration with other disease surveillance activities, particularly active surveillance.
b. Designation, training, and supervision of staff on NT surveillance (reporting procedures and channels), case investigation, and case response.
c. Ensuring the necessary surveillance logistics (e.g. transport, per diem, availability of investigation forms)
d. Retraining on tetanus toxoid coverage monitoring (for both routine immunizations and SIAs), including the possible introduction of supplementary methods where appropriate (i.e. community surveillance, protection at birth monitoring)

VI. WORK DONE SO FAR

Guide lines for Maternal and Neonatal Tetanus Elimination supplementary immunization activity was drawn for the Country. Using the High-risk approach, fifty-nine (59) high-risk districts were selected throughout the country for TT SIAs. In the different regions sub-districts with High risk communities were targeted for the intervention.

Planning and Coordination

The planning at District and Sub district level was done on estimation of Women in Child Bearing Age in the sub districts which took into consideration the size of the Population density, terrain and geographic accessibility. Maps for the immunization posts indicating the posts of teams in the communities with movement plan were developed by sub district levels to simplify coordination and supervision, including any survey and assessment

Social Mobilization

Social mobilization is a very important part of the SIA implementation. The traditional mobilization and communication methods, which are evident to be effective, were used mainly gong-gong beating and community meetings led by traditional chiefs to mobilize the communities. The purpose was to enhance the acceptance of tetanus immunization. The community leaders or chiefs assisted during the SIAs to convince refusals and also promote maintenance phase of MNT elimination. High School girls in the communities were also targeted for the SIA to ensure dissemination of the messages for MNT.

Training

High quality training was seen as the backbone for the success of the SIAs. All the workers and volunteers were trained in order to successfully carry out the activities. The Training was done in two components- technical skills and interpersonal communication. The theory part was implemented in the form of discussions detailed by the trainers and for the practical training first, the trainees practiced on a dummy and when they were proficient in filling the syringes and handling the injection then they should were allowed to inject under supervision

Micro planning

The following are basic information, which were identified as necessary for quality preparation.

- Identification of the high-risk sub districts,
- The number of Women in Child bearing age group, & the character of women in the age group (school entry, farming, trading, market days occupation to plan for the best time)
- Geographic barriers or ease of access should be indicated (Health facility, River, lake, mosque etc)
- The number of Health workers, volunteers, supervisors, and Sub district coordinators required (design strategy on how to reach hard to access communities)
- Identification of Injection waste disposal site per sub district (digging pits to burn and bury)
- Required amount of vaccine, cold chain need, and location of cold chain by type, syringes, safety boxes, transport, tools (tally sheet, summary sheet, check list for supervision, vaccination recording card)

Roles of the teams:
At district level the teams developed sketch map of vaccination posts, or list of communities, indicating the teams to ensure that every community is covered during the SIAs.
And if they have to move to another community and be stationed then the movement plan should be indicated to simplify supervision and coordination

Roles of the Team Supervisors
The team supervisors were involved in dispatch of teams daily to their immunization posts as indicated on the movement-plan. They supervised the vaccination team by requesting for previous immunization card or history of previous immunization, remind mothers to bring their children for routine immunization. They also monitored that safe injection is administered to the target population and injection waste is safely collected and processed for safe disposal as well as ensure that recording of tally sheet was done properly, collection and compilation of daily summary sheets & the expected target population has come for the vaccination and all communities have been reached with the vaccine.

Any refusals or missed communities (absentees) in the target group, was noticed and attempt was made to convince them using the traditional or local chiefs or adjust the timing of vaccination for the target age group according to their conveniences. This has been a major draw back as the weakness in social mobilization has not dealt with informing the WIFA on the post injection pain to be anticipated. Later on the target group refuses to come for subsequent rounds and needs to be focused on to reach the planned target with the vaccine. The supervisory teams also coordinated and provided solution if any shortage of logistic supply was identified. They also made sure that planned strategies are implemented to ensure hard to access communities have received the TT vaccine

District level coordination was responsible for coordination of supplies and operations according to plans, maintenance of achieved TT coverage should be part of the SIAs plan of the District

Training for field Workers/Vaccinators for TT SIA was done as follows

3.1.5.1 Training of Trainers

- The trainers preferably part of the DHMT were the DDHS, Disease Control officer, Public Health Nurse who are trained at Regional level
- They trained the Supervisors and the Vaccinators/Volunteers
- One batch of training should be not more than 15-20 participants
- All team members received training prior to the SIAs

The trainer was to ensure the following points before training:

- All the trainers have been informed of the training dates at least three days before the training
- There was adequate space available for conducting training
- There was adequate seating arrangement for all expected trainees

- Auto disable syringe and distilled water was available in sufficient quantity for practicing including safety box for revising on how to use it for injection waste disposal
- Either a dummy or plastic bottle of the Intravenous infusion set is available for practice of injections
- Necessary teaching aids are available (Flip chart or blackboard)
- Required number of training manuals for the trainees are available at the training site

Training schedule

Time	Topic/Session	Trainer
15 minutes	MNT elimination (Background of MNT, Global, Ghana, Region, District)	
15 minutes	Epidemiology of Tetanus (Disease, Spread, Control)	
10 minutes	Strategies for MNT Elimination (Immunization, Clean delivery, Surveillance)	
15 minutes	Cold Chain for field work	
30 Minutes	Preparation of Sketch Maps for field work (importance, minimum requirements, line list of villages)	
30Minutes	Social mobilization Activities for MNT	
30 Minutes	Tally sheets (Introduction and filling) practical exercise	
10 Minutes	Maintenance of TT coverage after SIA	
20 Minutes	Expected Problems in field (Strategies for missed CBA Women, refusal, Re-supply, etc)	
Two Hours	Practical work (Parts of Syringe, filling of syringes, Safe disposal of used syringes and Injections)	

- Micro plan- helps to have realistic estimate of resources need development at implementation level detailed to community by settlement, ***who does what when (Planning forms)***

- Training of Health workers and volunteers - in preparation for quality service provision

- Logistics supply- to address the estimated and required need by communities, or settlement to be deployed at the right time (Additional tools- tally sheet, yellow card, summary sheet, training guide, check lists)

- Safety of intervention towards the consumer and the service provider /Injection safety and waste disposal

- Social mobilization- to ensure achieving the objective by the consumers, they have to be mobilized, get the right message and the benefits of the intervention

- Coordination- In order to ensure demand is well addressed for adequate service delivery, ensuring the right amount of logistics supply wherever it is needed should be available

- Supervision; to ensure planned procedures to achieve the objective are met (Check list for Supervision)
- Missed communities identified (Refusal, no time, site is very distant for them etc)
- Pre SIAs (To see preparation and put measures of correction)
- During (Opportunity to adjust)

RESULTS

Out of the 59 high risk districts identified 32 will e covered fully with TT SIA 1, 2 and 3 by end of June 2005. The results from 19 districts, including the 2 who started with the pilot can be found in Tables 1 and 2 below. These districts have completed the 3rd round of TT-SIAs. The results from the 13 districts who have undertaken two rounds of NIDs are also presented in Table 3.

TABLE 1: TT SIA PHASE ONE- RESULTS (2 DISTRICTS)

DISTRICT	TARGET POP	ROUND 1		ROUND 2		ROUND 3	
		ACHIEVED	%	ACHIEVED	%	ACHIEVED	%
Juabeso Bia	88,368	75,777	85.8%	69,682	79.8	56,874	66.0
Wassa Amenfi	76,434	43,685	57.2	35,813	47.0	46,454	61.0
Total	164,802	119,462	72.5	105,495	64.6	103,328	63.6

TABLE 2: TT SIA PHASE TWO – RESULTS (17 DISTRICTS)

DISTRICT	Target Population	ROUND 1		ROUND 2		ROUND 3	
		Achieved	%	Achieved	%	Achieved	%
TWIFU HEMAN LOWER DENKYIRA	28.118	22,799	81.1	25,768	94.0	17,653	64.8
ASSIN	50,183	32,761	65.3	36,467	72.7	21,560	43.0
ABURA ASEBU KWAMANKESE	22,021	21,644	98.3	13,312	62.8	10,259	47.3
KOMMENDA EDINA EGUAFO ABIREM	28,891	21,644	74.9	20,547	71.9	9,626	33.8
ASUNAFO	41,229	42,005	101.9	31,060	77.4	23,595	58.7
ATEBUBU	38,697	35,247	91.1	35,239	98.3	23,162	63.5
SENE	21,236	16,956	79.8	18,076	85.2	7,348	35.0
TECHIMAN	41,366	45,488	110.0	48,695	1,194	27,542	67.5
WENCHI	39,905	40,019	100.0	41,022	102.9	33,746	84.6
BUILSA*	17,625	12,005	68.1	9,546	56.1	4,505	26

BOLGATANGA	56,748	38,3336	67.6	46,332	82.5	27,910	49
AHANTA WEST*	24.098	20,948	83.5	18,067	72.8	9,790	42.7
WASSA WEST	61,383	64,270	104.7	41,475	68.3	34,128	56.3
AMANSIE WEST	28,847	23,150	80.3	22,505	78 .0	14,204	50.9
EJURA SEKODUMASE	21,522	22,503	104.6	22,397	107.2	15,071	71.4
ASANTE AKIM NORTH	33,557	32,186	95.9	28,047	83.8	24,588	75.0
DANGBE EAST	25,428	29,682	116.7	26,088	103.0	11,726	46.2
TOTAL	580,854	521,669	89.7	484,671	84.7	316413	55

**** Districts which used TT Uniject for their campaigns***

TABLE 3: TT SIA PHASE 3 – RESULTS (13 DISTRICTS)

DISTRICT	TARGET POP	ROUND 1		ROUND 2		ROUND 3	
		ACHIEVED	%	ACHIEVED	%	ACHIEVED	%
NADOWLI	20,882	20,313	97	17,664	84.8		
SISSALA	21,570	20,994	97	15,663	72.8		
WA	56,565	54,940	97	39,410	69.7		
AFRAM PLAINS	34,492	33,815	98	31,207	90.5		
FANTEAKWA	21,859	23,721	109	16,918	77.4		
BIRIM NORTH	31,325	34,108	109	33,318	106.4		
ASUOGYAMAN	19,314	20,315	105	16,183	83.8		
NEW JUABEN	34,701	48,597	140	30,219	87.1		
YILO KROBO	21,831	24,534	112	19,610	89.9		
BAWKU EAST	77,835	39,398	51	21,420	28.7		
BAWKU WEST	20,211	11,313	56	7,816	40.4		
BONGO	19,316	13,837	72	9,152	48.9		
KASENA-NANKANA	37,483	27,023	72	17,694	64		
TOTAL	417,384	372,908	89	276,274	67		

PROGRAMME MONITORING

National level and Regional teams were constituted to monitor the implementation activities in all the districts. A post implementation review meeting was held before the second phase of the TT SIA for the districts and the regions to review the programme's performance and strategize on methods of improvement for the third round.

Evaluation

To measure achievement and compare the target, regions were encouraged to prepare a review meeting and provide feedback to districts. But other best practices were conducting of the Rapid assessment/during last 2 days of the SIAs where if any group has been missed during the vaccination a mop up was organized to provide the vaccination prior to completion of the SIAs.

CONSTRAINTS

The most important constraints were:

- ✓ Drop out of the target group for subsequent rounds due to complaints of sore at injection site or swelling which needs strict focus group discussions or better communication strategy of informing the target group on what to expect following the vaccination.
- ✓ Inadequate transport for effective supervision from National and Regional levels. Districts and sub-districts will require more motorbikes for the movement of the teams.
- ✓ Funds allocated for fuel was inadequate as repeatedly reported from regions
- ✓ Exclusion of men led to opposition in some areas and rumours of anti-fertility drugs in others

CHALLENGES

- ✓ **Sustaining the high coverage achieved and strengthening the NNT surveillance is seen as a challenge in most of the districts to achieve the MNT elimination phase.**
- ✓ **Providing clean delivery and cord care services**
- ✓ **Districts incorporating follow-up activities into their District plan of action**
- ✓ **Keeping of vaccination cards by the mothers**

RECOMMENDATIONS

It is recommended that adequate funds be released for the remaining two rounds. Special funds must be provided to cater for the Hard to Reach populations.

Intense social mobilization to reinforce and sustain high coverage of TT vaccine, up to the 3rd dose by SIA.

We need to strenghthen the routine MNT immunization.

Streghthen supervision

We need stronger 4-wheel drives to be able to provide support to teams in hard-to-reach areas during the campaigns.

FUTURE PLAN OF ACTIVITIES AND BUDGET

Additional operational funds ($730,960) are required in-order to complete the third round of TT-SIAs for the 13 high risk districts and to initiate three rounds of vaccination in the remaining 27 districts. As of September 2004, 32 out of 59 identified high risk districts in the country had undertaken TT-SIAs vaccination, of which 19 districts had completed three rounds of TT- SIAs, and 13 districts had initiated two rounds. **The remaining 27 districts** are yet to be phased into the project

in 2005 subject to availability of funds from the donor (US Fund for UNICEF). To date, total operational funds utilized for the implementation of the project is US$434,305.46,

We hope JICA will continue to support with vaccines and other logistics.

VII. ESTIMATED BUDGET (Phase 4 - Achieving Elimination)

Budget Projections

Projections have been made to give cost estimates of vaccines, injection safety materials and field operations of SIAs for MNT elimination in the 2005 –2009 plan of action. Cost estimates for activities that will be carried out under the maintenance phase are part of budgets drawn for the entire routine programme. The planning basis for budget projections for SIA needs is the subdistrict, as it is for the SIA field operations. Using an average subdistrict population of 25,000 (5,000 women in child bearing age) and 3 rounds of TT SIA, the following budget estimates are made for a) vaccines and injection materials (Table 1) b) operational cost (Table 2). Table 3 then provides projections of overall needs for Years 1,2,3,4 and 5 taking into consideration the planned number of districts and subdistricts to be operational in those years.

Table 1: TT vaccine, Auto-Disable (AD) syringes, Safety Boxes required for 5,000 women

	Wastage (factor)	**Quantity**	**Unit cost****	**Total cost + freight cost**	**Total**
TT rounds 1,2 ,3 (WIFA 5,000)	25% (1.33)	19,950 doses , say 20,000, or 1,000 vials (20d)	$0.57/vial	$ 570 + $ 170 for F and OE (30%)	$ 740
Auto-Disable (AD) syringes	10% (1.11)	16,650, or 167 packs of 100 units	$7.41 per 100 *(check price, Zambia showed $3.8/100)*	$ 1238 + $ 371 F and OE (30%)	$ 1609
Safety Boxes (SB)	20% extra	200 boxes, or 8 packs of 25	$13.32 per 25	$ 138 inc F and OE (30%)	$ 138
Sub-total					**$ 2487**

** Unit costs from supply section UNICEF Accra, May 2005

Table 2. Operational and other costs for one sub-district (3 rounds)

	$ per sub-district
(1) Planning/microplanning and training workshops for district, sub-district health staff, supervisors, vaccinators etc	$ 5450
(2) Social Mobilisation/Communications (a) Printing of IEC materials on MNT/TT and training materials	$ 1350
(b) Community sensitisation activities	$ 500
(3) Logistics: (a) Fuel/transport costs for distribution of vaccine, syringes, safety boxes, other supplies	$ 400
(b) Fuel/transport costs for health personnel on TT days and supervisors	$ 1200

(c) Cotton wool , distilled water	$ 150
(d) Tally sheets, other stationery items	$ 100
(e) Carrying bag, raingear etc	$ 500
(f) StopWatch /Freezewatch indicators	$ 100
(4) Personnel allowances	$ 4,125
(5) National, Regional level support activities including training, monitoring, evaluation	$ 1,000
Sub-total	**$ 14,875**

Projections of overall needs for Years 2005 to 2009

Year 2005 to Year 2009 budget projections have been compiled using the number of districts and subdistricts that will be conducting SIAs and the unit cost of doing an SIAs per subdistrict, as stated above. SIAs will be conducted in 27 districts while maintaining routine vaccination in all districts in the country. Each district conducting an SIA will give three doses of Tetanus toxoid vaccine to women in the child bearing age group. On average each district has 5 subdistricts each and each subdistrict has an average population of 20,000. Women of child bearing age constitute about 24% of the population hence the number of women eligible for TT vaccination during the SIAs is 5,000 per subdistrict. Thus the number of subdistricts that will be conducting 3 rounds of TT SIAs in the 27 districts is 135.

Table 3: Projections of Support Required from JICA for 2005-2009

NO	DESCRIPTION	2005	2006	2007	2008	2009
1	Number of Districts slated for MNT SIAs	13 in the Northern Region	7 districts in the Volta and Eastern Regions	7 districts in the G/Accra, Eastern and Western Regions	MAINTENANCE FOR ALL 59 HIGH RISK DISTRICTS	MAINTENANCE FOR ALL 59 HIGH RISK DISTRICTS
2	Vaccines	68,986	42,701	69,347	29,566	29,566
3	AD Syringes	149,695	92,658	150,477	64,156	64,156
4	Safety box	12,916	7,995	12,984	5,536	5,536
5	Cold Chain Equipment & motorbikes	51,591	116,072	116,072	228,922	228,922
6	Computers-Unit cost $2000	8,000	28,000	0	18,000	18,000
7	4-wheel vehicle (Land-cruiser)	55,000	55,000	0	0	0
8	Cotton wool	3,811	7,574	1,120	3,820	3,820
9						
	TOTAL	350,000	350,000	350,000	350,000	350,000
	AMOUNT AVAILABLE	350000	350000	350000	350000	350000

BALANCE	0	-0	0	-0	-0

- The cold chain equipment is for the storage of vaccines for the entire EPI and not just MNT.

Details of budget can be found in Appendices 1 to 7

JUSTIFICATION

1. The vaccines, syringes and safety boxes are required to carry our MNT campaign in 27 districts and maintain coverages after the campaigns
2. The cold chain equipment is for maintaining the potency of the vaccines
3. The motor bikes are meant for the districts and sub-districts to reduce the difficulties in transportation by the teams during the campaigns. They will also be used for service delivery in the routine EPI.
4. The 4-wheel drive is to address the constraints faced by the National and Regional teams during the campaigns. They will also strengthen supervision and support to districts and sub-districts during the campaign to ensure quality of care. One will be located at the EPI National Office for supervision of the Southern sector of the country whilst the second will be located at Tamale for the supervision of the Northern sector of the country. Supervision is key to the success of the programme. After the campaign we shall use the vehicles fo4 supervision and monitoring visits to the Regions and districts. All vehicles will be licenced with Government registration numbers and will belong to the Ghana Health Service pool of vehicles.

   It is worth noting that the national level has one land-cruiser and one double cabin pick-up vehicle for its activities. Though the land-cruiser is 3 years old it has already covered 148,000 kilometres as at 24th June, 2005, and the engine is showing signs of weakness – indeed it had to be overhauled recently. The Northern sector has no vehicle as the concept is still in its infancy. The provision of the vehicle would facilitate supportive supervision and technical support to districts in the four regions in the northern sector namely Brong Ahafo, Northern, Upper East and Upper West, during the MNT campaign and for routine immunization as well.

5. Data management is critical for the planning and smooth implementation of programmes. Provision of the computer would strengthen the capacity of the National and Regional levels to analyse data from districts during the MNT campaign and also for the routine EPI.

We acknowledge the support from the JICA during the phase 1-3 of the MNT campaign and count on JICA's support for the phase 4 to enable the Ghana Health Service carry out a successful Maternal and Neonatal Tetanus campaign towards attaining Goals 4 and 5 of the Millemeum Development Goals, which aims at reducing Child and Maternal Mortality. The Ghana Health Service, UNICEF and other partners would provide funds for operational costs.

PROPOSAL FOR LABORATORY SUPPPORT FOR SCALING UP OF CONTINUUM OF CARE INCLUDING ANTIRETROVIRAL THERAPY FOR PEOPLE LIVING WITH HIV/AIDS 2004-2008

PRESENTED TO JAPAN INTERNATIONAL COOPERATION AGENCY

OCTOBER 2004

BY
NATIONAL AIDS/STI CONTROL PROGRAMME/
MINISTRY OF HEALTH
GHANA

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2. ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral Drugs
DfID	Department for International Development
HIV	Human Immuno-Deficiency Virus
JICA	Japan International Cooperation Agency
MOIS	Management of Opportunistic Infections
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

3. INTRODUCTION

Out of the over 38 million people living with HIV/AIDS (PLWHA), 67% live in Africa. However only 2% of these have access to life saving drugs which turn HIV/AIDS from a fatal stigmatising disease, to a chronic illness that needs life long treatment. To remedy this imbalance between need for care and treatment and the access to it, WHO with its UN partners has outlined strategies to expand access to ART and to provide ongoing management of HIV/AIDS as a chronic disease.

In Ghana, A five year Health Sector Strategic Plan (2001-2005) defines the national vision for access to care including scaling up of Comprehensive care for PLWHA. It outlines the strategies to provide comprehensive care including Voluntary Counselling and Testing (VCT), Prevention of mother to Child transmission (PMTCT) Management of Opportunistic Infections and Antiretroviral Therapy among others. These services are provided within the health sector and will be effective only with the presence of a functioning health system including the provision of quality laboratory support for the diagnosis and management of opportunistic infections and also provision of Antiretroviral therapy.

4. SITUATIONAL ANALYSIS

A. Background

Ghana is located within sub-Saharan Africa on the west coast of Africa and occupies a total land area of 238,537 sq. km. It is bordered by the Côte d'Ivoire in the west, Burkina Faso in the north, Togo in the east and the Atlantic Ocean in the south. The main stay of the economy is agriculture but the country is also rich in mineral deposits such as gold, diamond, bauxite and manganese. Cocoa and gold constitute the main export commodities in the country.

Ghana has a Gross Domestic Product (GDP) of $390, with an average growth of 5.3% per annum. One third of the population is reported to be living below the poverty line. Ghana ranked 129 out of 175 in the 2001, United Nations Human Development Indicators.[i]

Ghana's 20.3 million population has grown at a rate of 2.9 % per annum.[ii] Forty-six percent of Ghana's population is under the age of 15. This population has an in-built momentum for further growth. The population aged 65 years and above accounts for only 5% of the total population. Young people between the ages of 10–24 years currently represent more than one third of the population. There is therefore a large youthful population vulnerable and at risk to HIV/AIDS and other STIs.

The health indicators of the country reveal, an infant morality rate of 64 per 1000 live births in 2003,[iii] a Maternal Mortality rate of 214 per 100,000 live births,[iv] an under five mortality rate of 111 per 1000, a total fertility rate of 4.4 in 2003 and a contraceptive prevalence rate for all methods of 25%.[iii] The health of Ghanaians is improving; however various preventable diseases such as malaria and respiratory tract infections still represent the greater burden of disease. Contributory factors to this state of affairs include poor environmental sanitation, poverty, and low educational status. Some equally important problems that have hampered health care delivery include; limited geographical and financial access to health services, poor quality of the services provided from technical and client perspectives, significant wastage and inadequate resources, poor collaboration with partners, and inadequate funding and inequitable allocation of resources.

The number of annual reported AIDS cases has increased over the years, from 42 in 1986 to 11,548 in 2003. This has important repercussions on the health outcomes of the country as a whole. Some health institutions have already ranked AIDS as the "number one cause of death" in their facilities.[v, vi]

To address these problems Ghana initiated health sector reforms, which were characterised by organisational and resource management changes involving decentralisation, integration and the Sector Wide Approach (SWAp). The Ministry of Health in its Five-Year Programme of Work seeks to improve quality health delivery by increasing access to health services; improving efficiency of health delivery; fostering partnerships in improving health and; improving financing of the health sector.

B. HIV/AIDS in Ghana

AIDS was first reported in Ghana in 1986 and the number of AIDS cases has rapidly increased from 42 reported cases in 1986 to a cumulative 76,139 reported cases in December 2003.[vii] It is estimated that cumulative cases of AIDS may be over 3,200,000 cases. The peak age group was 35 to 39 years for males and 30 to 34 years for females. Children and young adolescent (0 to 14 years) age group account for 5.1% of AIDS cases.[viii] The male to female ratio in 2002, 1:1.4 can be compared with a ratio of 1:6 in 1987. This suggests that there is a gradual move towards parity indicating that both sexes are at risk.

In Ghana the main mode of transmission is through sexual contact, which accounts for 75-80% of cases. Other transmission modes include mother-to-child transmission accounting for 15 % and blood and blood products accounts for 5% of the transmissions.

According to UNAIDS classification, the Epidemic in Ghana is a generalised, (with a prevalence consistently more than 1% in the antenatal population.) The prevalence was derived from the sentinel surveillance of antenatal attendants in 29 selected sites in 2003. According to the National AIDS Control Programme (NACP) of the Ghana Health Service (GHS) /Ministry of Health (MoH) the median prevalence of HIV was increased gradually from 2.7 in 1994 to 3.6 % in 2003. This indicates an increase of over 50% from 2000 to 2002.

Though the median prevalence was 3.6% in 2003, variations in the prevalence occur with differing geographic locations, population subgroups and risk behaviour. HIV sentinel site prevalence in 2003 ranged from 0.6% in Nalerigu to 9.2% in Agomanya. The mean regional prevalence ranged from 2.1% in the Northern region to 6.1% in the Eastern Region. Ashanti and Greater Accra, the most populous regions had prevalence of 4.7% and 4.3% respectively. In all eight sentinel sites had prevalence higher than 5%. Prevalences among other population groups are varied, 4% among blood donors, 17% among STI patients and 75.9% and 82% among sex workers in Accra-Tema and Kumasi respectively.[ix] It has been estimated that over 400,000 individuals may be infected with HIV in Ghana.

Awareness of HIV/AIDS is high but in-depth knowledge about HIV and other STIs, risk perception and behaviour change is low.[ii] Since one third of the population live below the poverty line, individuals so affected are likely to supplement their earnings with occupations that may put them at risk to HIV such as sex work. Other factors such as migration and urbanisation, poor parental supervision and some cultural practices have contributed to high-risk behaviour.

C. National Response

The Coordination of the HIV/AIDS response has been led by the Ghana AIDS Commission since 2000. Its mandate is to coordinate the multisectoral response for HIV/AIDS in Ghana lead advocacy and develop policy. The National Strategic Framework, which was developed in collaboration with stakeholders in 2000 for the period 2001 to 2005, provides guidance at the national level for implementation of HIV/AIDS related activities.

The key thrusts of Ghana's response outlined in the strategic framework include

- Promotion of safe sex behaviour among risk groups (youth, uniformed services, vulnerable women, commercial sex workers and mobile populations)
- Blood safety
- Increased access of PLWHA to care and support services within a human rights framework
- Support to developing an enabling political, legal, economic and social environment

- Expansion of VCT and PMTCT services
- Support for treatment of Opportunistic infections and ART.
- Strengthening of national HIV and STI surveillance system
- Support for orphans and vulnerable children.

The GAC has supports over 2,500 NGOs and CBOs to undertake HIV/AIDS activities at the community level. The World Bank Multi-country HIV/AIDS Programme provided the funds for Ghana AIDS Response fund (GARfund), which provides funds for NGOS including CBOs HIV activities especially in the area of prevention.

The Ministry of Health is the key technical Ministry supporting the Ghana AIDS Commission involved in the HIV interventions in Ghana. Under the National AIDS/Control Programme the HIV/AIDS strategic Framework for the health sector is being implemented and coordinated within the sector. In 2003, through the Global Fund for AIDS, TB and Malaria the MoH/GHS has been supported to improve care and support for PLWHA in Ghana. PMTCT, VCT, and ART sites have been set up within the country (see MoH section). Surveillance has been improved through the support of various partners especially DfID.

D. Care and support in Ghana

The Health sector in its Health Sector Strategic plan and the scale up plan have highlighted the plan for the introduction of comprehensive care for the people living with HIV/AIDS in all regions of Ghana. This includes the provision of comprehensive care package (VCT, PMTCT, MOIS and ART) in all Regional Hospitals. This comprehensive care package will include ART in District Hospitals in places where HIV/AIDS prevalence is high or PLWHA are highly concentrated.

Since 2002, The Ministry of Health (NACP) through the collaboration with stakeholders such as Family Health International (FHI), WHO, UNICEF and others started providing a comprehensive care package, which included VCT, PMTCT, MOIS and ART. Four initial sites are two Teaching Hospitals and two pilot sites which provided 1,032 PLWHA with ART by June 2004. Under WHO's 3 by 5 initiative, Ghana hopes to provide ART for over 30,000 individuals within the next two years.

The following constraints militating against accelerating access for comprehensive care for PLWHA in Ghana are to be addressed in the HIV/AIDS scaling up plan during a five year programme of work.

- Lack of adequate information in the general public and PLWHA on the available clinical and health related services for PLWHA
- Lack of adequately trained staff to provide VCT, PMTCT, MOIS and ARV in the all regions
- Lack of adequate capacity in the laboratory to support VCT, PMTCT, MOIS and ARVs
- Lack of adequate Monitoring, supervision, evaluation and coordination of new services.

For the purpose of this proposal, the JICA's contribution will complement towards building the capacity and the laboratory in terms of equipment.

5. JUSTIFICATION

The cost of first generation Antiretroviral Drugs have reduced by 95% over time and continue to reduce. However one key challenge to success of the ART and comprehensive care programme is the provision of effective and quality laboratory services to facilitate initiation of therapy, monitor the administration of ART and help in the prevention and management of Opportunistic Infections. To this end there will be the need for the training of laboratory staff, provision of laboratory equipment and refurbishment of laboratory facilities.

6. GOAL

The Goal of the Comprehensive care programme as part of the Health sector plan is to provide ART to 50% of Individuals needing ART (30,000) individuals in 2 years.

7. OBJECTIVES

The objective of this proposal is to complement the laboratory support for the comprehensive care programme for PLWHA in the regions providing ART in Ghana.

8. ACTIVITIES

Laboratory monitoring as part of the clinical management of HIV patients is of major importance not only to clinicians, but also to policy makers. Laboratory monitoring is useful for reviewing clinical progress and efficacy of antiretroviral therapy as well as monitoring the side effects and toxicities of these medications. Ghana's Guidelines for Antiretroviral Therapy recommends the following laboratory tests as essential for ART Therapy.

1. Confirmation of HIV test (or evidence of HIV tests)
2. CD 4 count or Total lymphocyte count
3. Full blood count and platelets
4. Blood Urea and Electrolytes
5. Liver Function tests
6. Fasting Blood Sugar
7. Cholesterol and lipid
8. Urinalysis
9. Hepatitis B surface Antigen
10. Chest X-ray
11. Sputum for AFBs
12. Supplementary test- Screening for STIs
13. Pregnancy test
14. Abdominal Ultrasound

The laboratory Monitoring Regimen is as follows:

- CD4 monthly 0, 6, 12 and 6 monthly intervals
- Chest X-ray Month 0, Sputum for AFBs
- Ancillary tests at least 3 monthly intervals.
- Full Blood count
- Urine R/E
- Fasting Blood Sugar
- BUE and Creatinine
- Liver Function tests

As part of the country wide scaling up programme of comprehensive care for PLWHA, laboratory and radiological staff at the regional and district level will be trained to update their knowledge on, the diagnosis of opportunistic infections, and the monitoring of person on antiretroviral therapy logistics management and use of new equipment such as CD4 machines as they become available. The content will include training and building capacity for test needed to monitor the patient on ARV. In addition, laboratory equipment will be provided to each regional and district laboratories as appropriate. Appendix indicates the requirements for regional and district hospitals.

In the scaling up plan each region will be equipped with CD4 FACS count machines and chemical and haematological analysers and these will be provided with funding from DfID, Global fund and other donors. In line with WHO's 3 by 5 initiative, access to care should go beyond the regional level and thus access to care will be provided at the district level where districts with high HIV

prevalence and or a large number of PLWHA clients will provide comprehensive care including ART. These districts will be supported by JICA to provide the necessary laboratory support.

The JICA project will provide equipment for 10 districts within the five-year period. Equipment support will be in the form of FACS count machines, Biochemical Analysers, Haematological analysers and consumables and reagents for this equipment. The placement sites for JICA's equipment will be decided by National AIDS Control Program (NACP) on the basis of the clinical expansion plans and other donors' contributions.

In the locations where JICA procures the equipment and Academy for Educational Development (AED), contracted by USAID, and its clinical partners: Liverpool Associates in Tropical Health (LATH) and the AIDS Healthcare Foundation (AHF) are operating, they will coordinate their care and treatment programs to maximize utilization of these equipment. AED will also conduct periodical monitoring to see the level of equipment utilization.

The trainings needed for the use and maintenance of the new equipments especially at the district level are going to be provided by procurement agents or Biomedical Engineering Unit of Ghana Health Service. Funding for the trainings and refurbishment of the laboratories will be provided by either JICA or other donors.

Each year, two districts will be provided with the above equipment. For the first two years of the project, this will be fixed. However, for the subsequent years, while the funding will be provided preferably with the same equipment, the choice of equipment will be subject to the laboratory at the time (i.e. other equipment can be requested if needs assessment suggests otherwise.)

9. BUDGET

PROPOSED BUDGET

	Item	Unit Cost	Number	Total cost
Year 1	FACS count Machine	30,000	2	60000
	Chemical Analyser	10,500	2	21000
	Haematological Analyser	10,500	2	21000
	Consumables and reagents and handling costs	100	680	68000
				170000
Year 2	FACS count Machine	30,000	2	60000
	Chemical Analyser	10,500	2	21000
	Haematological Analyser	10,500	2	21000
	Consumables and reagents and handling costs	100	680	68000
				170000
Year 3	FACS count Machine	30,000	2	60000
	Chemical Analyser	10,500	2	21000
	Haematological Analyser	10,500	2	21000
	Consumables and reagents and handling costs	100	680	68000
				170000
Year 4	FACS count Machine	30,000	2	60000
	Chemical Analyser	10,500	2	21000
	Haematological Analyser	10,500	2	21000
	Consumables and reagents and handling costs	100	680	68000
				170000
Year 5	FACS count Machine	30,000	2	60000
	Chemical Analyser	10,500	2	21000
	Haematological Analyser	10,500	2	21000

Consumables and reagents and handling costs	100	680	68000
			170000
Grand Total			**850000**

8. SOURCES OF FUNDS

The Ministry of Health of Ghana is soliciting from the government of Japan/ JICA a sum of US$850,000 as its contribution to the provision of laboratory support to the comprehensive care for PLWHA in Ghana. The government of Ghana's own resources and those of other donors (Global Fund for AIDS TB and Malaria, World Bank through the Treatment Acceleration Programme Initiative and GTZ through the Back up Initiative) shall be used to cover the remaining cost. The JICA contribution will be used to purchase CD4 machines and other laboratory equipment over the 5 year period (see table)

9. MANAGEMENT ARRANGEMENTS

Timing
This project will commence from span from October 2004 to September 2008

Inputs
JICA financial inputs are estimated at $170,000 per year over a five-year period.

Contracting and procurement
This will be in accordance with JICA and Ministry of Health/Ghana Health Service Guidelines.

Technical assistance and monitoring
The Academy for Educational Development (AED), USAID's contractor, will provide technical assistance in the area of program facilitation and management to maximize utilization of the equipment. AED will also periodically monitor the level of the equipment utilization. NACP will make periodical reports to JICA.

Accounting and Auditing
The management of the above project shall be the responsibility of the Programme Manager of the NACP. A Memorandum of Understanding (MOU) will be signed between the Ghana Health Service/Ministry of Health and JICA by the following parties.

The Programme Manager shall present implementation and expenditure reports to the Health Advisor JICA every six months.

APPENDIX 1
Standardised equipment requirements for regional and district hospitals, MOH/GHS

Number	Department	Equipment	Quantity
		Clinical Chemistry	
1.1	Laboratory	Biochemistry Analyser	1
1.2	Laboratory	Electrolyte analyser (ISE) - Na^+, K^+, CA^{++} option	1
1.3	Laboratory	Electrophoresis Tank with power pack	1
1.4	Laboratory	Water bath	1
1.5	Laboratory	Bilirubinometer	1
1.6	Laboratory	Centrifuge Bench type electric with graduated tubes	3
1.7	Laboratory	Distilling plant	1
1.8	Laboratory	Glucometer	1
1.9	Laboratory	Blood gas analyser	1
2	Laboratory	Deep Freezer	1
2.1	Laboratory	VIDAS - For Hormonal Assay	1
2.2	Laboratory	Water bath	1
2.3	Laboratory	Incubator	1
2.4	Laboratory	Hot air oven	1
2.5	Laboratory	Electrophoresis Tank with power pack	1
2.6	Laboratory	Interval timer	1
2.7	Laboratory	Densitometer	1
2.8	Laboratory	Spectrophotometer, uv / visible range	1
			1
2.9	Laboratory	**Haematology**	1
3	Laboratory	Haematology analyser 5part differential	1
3.1	Laboratory	Electrophoresis tank with power pack	1
3.2	Laboratory	Water bath	1
3.3	Laboratory	Coagulometer	1
3.4	Laboratory	Microscope binocular with mechanical stage	5
3.5	Laboratory	Centrifuge Bench type electric with graduated tubes	1
3.6	Laboratory	ESR set (westergreen)	1
3.7	Laboratory	Distilling plant	1
3.8	Laboratory	Weighing scale	1
3.9	Laboratory	Interval timer	3
4	Laboratory	Staining jar (coupling glass for 10 slides)	5
4.1	Laboratory	Microscopic glass slides with frosted end	100 packs
4.2	Laboratory	Blood roller (mixer)	1
4.3	Laboratory	Improved Neubeur counting chamber	5
4.4	Laboratory	Differential Tally counter	2
4.5	Laboratory	Microhaematocrit centrifuge with Reader	1
		Blood transfusion	1
4.6	Laboratory	Diamed Centrifuge	1
4.7	Laboratory	Diamed Incubator	1
4.8	Laboratory	ELISA microplate washer	1
4.9	Laboratory	ELISA microplate reader	1
5	Laboratory	Microplate centrifuge	1

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Number	Department	Equipment	Quantity
5.1	Laboratory	Microplate shaker	2
5.2	Laboratory	Distilling plant	1
5.3	Laboratory	Blood Bank Refrigerator	2
5.4	Laboratory	Deep Freezer	2
5.5	Laboratory	Ice packs	50
5.6	Laboratory	Ice Chest	5
5.7	Laboratory	Weighing scale	1
5.8	Laboratory	Water bath	2
5.9	Laboratory	Domestic Refrigerator (sample)	2
6	Laboratory	Domestic Refrigerator (reagents)	
6.1	Laboratory	Interval timer	3
6.2	Laboratory	Blood typing set	10
6.3	Laboratory	refrigerated centrifuge	1
6.4	Laboratory	Microscope binocular with mechanical stage	1
6.5	Laboratory	Plasma extractor (manual / electronic)	2
6.6	Laboratory	Hot air oven	2
6.7	Laboratory	Incubator	1
		Parasitology	1
6.8	Laboratory	Microscope binocular with mechanical stage	5
6.9	Laboratory	Centrifuge	2
7	Laboratory	Hot air oven	1
		Microbiology / Bacteriology	1
7.1	Laboratory	Microscope binocular with mechanical stage	2
7.2	Laboratory	Incubator	3
7.3	Laboratory	Safety cabinet	1
7.4	Laboratory	Weighing scale	1
7.5	Laboratory	Anaerobic Jar	3
7.6	Laboratory	Bensen Burner	5
7.7	Laboratory	Steam autoclave	2
7.8	Laboratory	Distilling plant	1
7.9	Laboratory	Hot air oven	2
8	Laboratory	Water bath	1
8.1	Laboratory	Domestic fridge (sample fridge)	1
8.2	Laboratory	Domestic fridge (reagent fridge)	1
8.3	Laboratory	**Cytology**	1
8.4	Laboratory	Centrifuge	1
8.5	Laboratory	Cytospin	1
8.6	Laboratory	Fridge	1
8.7	Laboratory	Microscope binocular with mechanical stage	2
8.8	Laboratory	Staining jar (coupling glass for 10 slides)	10
		Miscellaneous	
8.9	Laboratory	Spare microscope objectives 10x, 40x, 100x	2 sets

Number	Department	Equipment	Quantity
9	Laboratory	Spare microscope oculars 7x, 10x, 15x	2 sets
9.1	Laboratory	Spare lamps for microscope	2
9.2	Laboratory	Glass cover slips	100packs
9.3	Laboratory	Test tubes - assorted	100
9.4	Laboratory	Test tube holders	5 each
9.5	Laboratory	Rack for test tubes - coated wire	1 shelf pk
9.6	Laboratory	Automatic pipettes - 5ul (fixed)	10
9.7	Laboratory	Automatic pipettes - 10ul (fixed)	10
9.8	Laboratory	Automatic pipettes - 20 - 100ul (variable)	5
9.9	Laboratory	Automatic pipettes - 100 - 1000ul (variable)	5
10	Laboratory	Automatic pipettes - 1 - 5 ml (variable)	2
10.1	Laboratory	Automatic pipette Tips (blue & yellow)	1 shelf pk
10.2	Laboratory	Pastuer pipettes	40
10.3	Laboratory	Hot Plate	1
10.4	Laboratory	wash bottles, assorted sizes, polythene	1 Packet each
10.5	Laboratory	Glass cover slips	2 pkts of 100
10.6	Laboratory	Petri dishes (glass pyrex)	50
10.7	Laboratory	Slid racks	5
10.8	Laboratory	Wire loops with holders	3
10.9	Laboratory	Culture media bottles	10
11	Laboratory	Pedal dustbin	3
11.1	Laboratory	PVC apron, acid resistant, industrial quality	4
11.2	Laboratory	Gloves rubber, acid resistant, gauntlet length size 9	4 pairs
11.3	Laboratory	Magnifier, hand held lens 2x, 3x, 4x	1 each
11.4	Laboratory	Thermometer - 10 to 110°C	5

[i] UN Development report 2001

[ii] Ghana Statistical Service, Population and Housing Census 2000, provisional results (projected from).

[iii] Ghana Statistical Service, Noguchi Memorial Institute for Medical research Ghana Demographical and Health Survey 2003, Preliminary Report Demographic and Health Surveys Macro International Inc. February 2004.

[iv] Ghana Statistical Service Demographical and Health Survey 1993, Demographic and Health Surveys Macro International Inc. February 1994

[v] National AIDS Control Programme, Ministry of Health, Reported AIDS Cases in Ghana 2002, December 2002

[vi] Annual Report St. Martin de Porres Hospital, Agomanya, 1999

[vii] Ministry of Health, Ghana Health Service NACP, Overview of HIV/AIDS in Ghana, February 2004

[viii] Ghana Health Service, National AIDS/STI Control Programme, Reported AIDS cases in Ghana 2002, December 2003

[ix] Mingle JAA, Asamoah-Adu, Bekoe V. Trends in HIV infection in sexually active Ghanaian women Abstracts on Disk (23593), 12th world AIDS Conference, Geneva June 28-July.

５．要請機材リスト（英文）

EPI

No.	機材名（和）	数量	（単位）	仕様	価格	（単位）	調達方法
1	TT vaccine （破傷風トキソイドワクチン）	115,400	vials バイアル	10 doses/vial with VVM	0.580	US$	UNICEF
2	AD Syringe （オートディスエーブル注射器）	4,800	boxes 箱	0.5ml 200 pcs./box	10.634	US$	UNICEF
3	Safety Box （セーフティ・ボックス）	17	cartons カートン	5L 25 boxes/carton	18.908	US$	UNICEF
4	Icelined Refrigerator （アイスライン冷蔵庫）	13	units 台	Vaccine storage capacity 37.5L	1,622.430	US$	UNICEF
5	Fridge Thermometer （冷蔵庫用温度計）	1,000	pcs. 個	Bi-metal	3.120	US$	UNICEF

HIV/AIDS

No.	機材名（和）	数量	（単位）	仕様	価格	（単位）	調達方法
1	CD4 Counter（CD4陽性T細胞自動測定器）	2	units 台	FACSCount System CE	27,000	US$	第三国調達
2	FACS Count Reagent kit （試薬キット）	6	kits キット	50 kits/Box	360	US$	第三国調達
3	FACS Count Control kit （コントロールキット）	6	kits キット	20 kits/Box	200	US$	第三国調達
4	FACS Rinse（洗浄液）	4	bottles 本	5 L/bottle	26	US$	第三国調達
5	FACS Clean（洗浄液）	4	bottles 本	5 L/bottle	26	US$	第三国調達
6	FACS Flow（シース液）	6	bottles 本	20 L/bottle	30	US$	第三国調達
7	Thermal Printer （感熱式プリンター）	4	units 台		20	US$	第三国調達
8	Hematological Analyzer （自動血球計測器）	2	units 台	Sysmex Fully Automated Hematology Analyzer 19 parameters with printer KX-21N	10,500	US$	現地調達
9	Consumable & Reagents （試薬キット）	2,000	kits キット		0.3881	US$	現地調達
10	Eightcheck （コントロールキット）	2	kits キット		208.7	US$	現地調達
11	Cellclean （自動血球計測器用洗浄液）	2	bottles 本		67.4	US$	現地調達
12	Thermal Printer （感熱式プリンター）	2	units 台		195.7	US$	現地調達
13	Chemical Analyzer （生化学自動分析器）	2	units 台	icro-Lab 300 mi Automated inical Chemistry nalyzer	10,500	US$	現地調達
14	Basic unit and accessory kits （基本キット一式）	6	kits キット		1995.65	US$	現地調達

６．主要保健指標

基本統計	
総人口（1,000人）	20,922
出生時平均余命（年）	58
人口年増加率（%）	2.4
粗死亡率	10（人口1,000人あたり）
粗出生率	32（人口1,000人あたり）
保健指標	
乳児死亡率（1才未満）	59（出生1,000人あたり）
5才未満時死亡率	95（出生1,000人あたり）
低出生体重児出生率（%）	11
完全に予防接種を受けた比率（%）（１才児）	
結核	92
DPT3	80
ポリオ	80
麻疹	80
B型肝炎	80
妊婦破傷風	70
HIV/エイズ指標	
成人の有病率（推定値）	3.1
HIV/エイズとともに生きる人の推定値（1,000人）	
成人と子ども（０～49才）	350
子ども（０～14才）	24
女性（15～49才）	180
首都に住む妊娠した若い女性（15～24才）のHIV有病率	3.9
女性指標	
合計特殊出生率	4.1
避妊法の普及率（%）	25
出産前のケアが行われている率（%）	92
専門技能者が付き添う出産の比率（%）	44
妊産婦死亡率（調整価）	540（出生10万人あたり）

7．医療特別機材供与実績

EPI

実施年度	案件名	予算額(千円)	主な供与機材	調達方法
1988 年	感染症対策特別機材	n/a	n/a	本邦調達
1989 年	感染症対策特別機材	n/a	n/a	本邦調達
1990 年	感染症対策特別機材	n/a	n/a	本邦調達
1991 年	感染症対策特別機材	43,000	冷蔵庫、車輌等	本邦調達
1992 年	感染症対策特別機材	69,000	BCG、麻疹ワクチン等	本邦調達
1993 年	感染症対策特別機材	58,000	冷蔵庫、注射器等	n/a
1994 年	感染症対策特別機材	53,000	B 型肝炎ワクチン、注射器等	本邦調達
1995 年	感染症対策特別機材	40,000	B 型肝炎ワクチン等	n/a
1996 年	感染症対策特別機材	59,000	BCG、破傷風トキソイド(TT)等	現地調達
1997 年	医療特別機材	n/a	n/a	現地調達
1998 年	医療特別機材	n/a	ポリオラボ機材	n/a
2000 年	感染症対策特別機材	40,255	TT 230,000 vials(10doses) TT 115,000 vials(20doses) 冷蔵庫・アイスパック冷凍庫 74 台 スペアパーツ 7 セット	UNICEF
2001 年	感染症対策特別機材	42,409	TT 48,000 vials(20doses) 冷蔵庫 136 台 AD 注射器(100 本入)8,100 箱 セーフティボックス (25 個入)384 箱	UNICEF
2002 年	感染症対策特別機材	34,790	TT 45,000 vials(20doses) AD 注射器(100 本入) 7,515 箱 セーフティボックス (25 個入)360 箱 テント 40 式 キャンプベッド 50 式 太陽光手提げランプ 54 式 ゴム長靴 51 足 レインコート 110 枚 救急箱 60 式 ~~自転車 100 台~~ ※供与取り消し ~~自動二輪車 60 台~~ ※供与取り消し	UNICEF 現地調達
2003 年	感染症対策特別機材	15,981	TT 90,000 vials(10doses) AD 注射器(200 本入) 7,515 箱 セーフティボックス (25 個入)360 箱	UNICEF
2004 年	医療特別機材	39,501	TT 200,000 vials(20doses) AD 注射器(200 本入) 16,000 箱 セーフティボックス (25 個入)500 箱	UNICEF

HIV/AIDS

実施年度	案件名	予算額(千円)	主な供与機材	調達方法
1996 年	エイズ対策・血液検査特別機材	14,000	マイクロプレートリーダー等	現地調達
2002 年	エイズ対策・血液検査特別機材	5,932	HIV-1 核酸同腹定量精密検査(24 入) 5 キット リンパ球サブセット検査(50 入) 10 キット HIV 簡易迅速検査(100 入) 8 キット HIV 抗体鑑別用キット(10 入) 20 キット 組織培養用ウシ胎児血清 500ml 10 本 HIV 抗原精密測定キット(96 入) 5 キット SIV 抗原精密測定キット(96 入) 5 キット リンパ球分離溶液 500ml 10 本 凍結用管(1,800 本) 3 箱 凍結用管収納容器(24 本) 5 箱 リンパ球分離管 14ml(50 本) 20 包 リンパ球分離管 50ml(25 本) 20 包 マルチメディアプロジェクター 1 台 冷蔵庫 1 台	現地調達
2003 年	エイズ対策・血液検査特別機材	5,999	CyFlow PB 1 台 CyFlow PB 用試薬 1,000 テスト ソフトウェア 1 個 HIV 逆転写酵素測定キット 10 キット プリンター 1 台 PCR 試薬 5 テスト HIV 抗体鑑別用試薬 100 テスト HIV 抗体価測定用試薬 480 テスト 振動式攪拌器 1 台 FACS Count コアリングステーション 1 台 冷蔵庫 1 台 リンパ球分離管 500 本	現地調達
2004 年	エイズ対策・血液検査特別機材	12,322	FACS Count Machine 2 台 FACS Count 用消耗品・試薬 化学分析機 2 台 化学分析機用消耗品・試薬 血液分析機 2 台 血液分析機消耗品・試薬	現地調達