

Annual Report



2007

Foreword

The year 2007 marked the beginning of the third 5 Year Programme of Work based on the new health policy developed by the Health Sector. ‘Strengthening Health Systems for effective and efficient delivery of services to households and communities with a focus on improving maternal and child health outcomes’ is the theme of the Ghana Health Service Strategic Framework. This framework which drives the work of the Service for the next five years is based on the belief that the desired rapid progress cannot be made without a strong functioning health system.

At our first Senior Managers Meeting for 2007, which was attended by the Ghana Health Service Council, I used the occasion of the meeting to highlight the Vision for the Service. We recognized lack of leadership and management skills, team building and teamwork as key factors affecting performance within the GHS. We therefore set out to identify issues and challenges in working together within the Ghana Health Service and to prioritize key areas for developing strategies and actions for the short, medium and long term. In essence, we declared that the “*GHS should relate as one corporate body with shared common vision, mandate and core values*”.

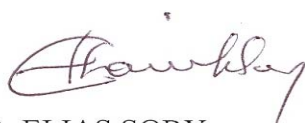
We used the year 2007 to consolidate the management change over and put due processes in place to ensure that the appointment of the top hierarchy (the Regional and Headquarters Managers) of the Service happens as soon as possible. Whilst putting these structures in place to ensure smooth administration of the Service, there were still many challenges facing the Service at various levels.

Even though the human resource for service provision has stabilized and even improved for some cadres it is still not optimum. For example, the doctor to population ratio has improved from 1:14,731 to 1:13,683; however, in the Northern region there is still only one doctor to over 92,000 population. The nurse population ratio of 1:1,415 is very impressive but the number of midwives is inadequate. Bold measures will have to be taken to redistribute staff equitably. It is expected that the situation of midwives will improve in about a year or two when those undergoing the straight midwifery training pass out.

The demand for transport is increasing at a rate that is difficult for the supply to keep pace with, as more facilities are being built, more districts created and more CHPS zones established. A significant number of vehicles are over aged, and this is taking a toll on the budget of BMCs as more funds are devoted for maintenance and repairs. The escalating cost of fuel and lubricants also puts limits on the availability of vehicles.

The funding for service delivery is still inadequate and the flow of funds is rather unpredictable. Activities had to be re-scheduled and some cancelled altogether. The inadequacy of funds also affected service through its negative impact on planned preventive maintenance schedule of vehicles and vehicle availability.

These numerous challenges notwithstanding, the Service has discharged its mandate well and will continue to contribute to the wellbeing and development of all people resident in Ghana. I wish to congratulate and encourage all staff in our various health facilities, who in the midst of these challenges are working hard to make patients more comfortable and healthcare more accessible.



DR. ELIAS SORY
DIRECTOR GENERAL
GHANA HEALTH SERVICE

Executive Summary

The vision of the health sector is to create wealth through health and to contribute to the national vision of attaining middle income status by 2015. The Ghana Health Service has the mandate to implement approved health sector policies in such a manner as to ensure access to priority health interventions and to manage prudently resources available for provision of health services.

2007 marks the beginning of the third 5 Year Programme of Work (III 5YPOW) based on the new health policy developed by the Ministry of Health. The new policy defines a new paradigm for health delivery that emphasises disease prevention through lifestyle and behavioural changes. This is based upon the premise that the actions of individuals, households and communities contribute to the prevalence of diseases, accidents and injuries and appropriate behaviour modification can lead to reduction in the prevalence.

The theme of the III 5YPOW is 'Strengthening Health Systems for effective and efficient delivery of services to households and communities with a focus to improve maternal and child health outcomes'. This is based on the universal realisation that adequate coverage cannot be achieved without a strong functioning health system.

The Service chalked modest success in the implementation of the Programme of Work in the face of serious challenges. This is due not only to the dedication of majority of the staff but also through the strong linkages with other sectors and partners. The utilisation of both clinical and public health services has improved. One important contributory factor to the significant improvement to clinical care services is the increased enrolment in District Mutual Health Insurance Schemes across the country. The implementation of the NHIS has reduced financial barriers to health care. While the target for CHPS zone was not achieved there was still a substantial increase in the number of functioning CHPS zones from 277 to 345.

On the disease control front the positive trends have continued. Even though the overall number of cases of malaria increased the mortality associated with it, for instance malaria case fatality among children under 5 years of age, has continued to decline. The tuberculosis treatment success rates increased from 72.6% to 76.6% and both the death and defaulter rates have continued to decline. During the year there was a successful change over from using individual drugs to using fixed dose combination drugs. This fixed dose combination drugs all contain rifampicin, one of the most potent anti-tuberculosis drugs. The duration of treatment has been reduced to 6 months. It is expected to further reduce defaulter rates.

The prevalence of HIV infection among pregnant women attending antenatal clinics declined from 3.2% in 2006 to 2.6%. It is estimated that the prevalence in the general population is now down to 1.9%. Access to anti-retroviral therapy has improved. The number of districts providing ART rose from 32 in 2006 to 69 in 2007 while the number of hospitals with capacity to provide ART increased from 46 to 95 within the same period. The number of new cases put on ART increased from 3,278 in 2006 to 6,085 in 2007. With the enrolment of these additional cases, the cumulative number of people who have initiated ART rose to 13,249.

Five regions, Central, Greater Accra, Eastern, Upper East and Western, have interrupted transmission of guinea worm infection. Only imported cases have been reported by these regions for the last 3 years. The number of guinea worm cases reached the lowest level since the inception of the programme. The number cases reported decreased by 19% from 4,129 in 2006 to 3,358 in 2007. The uncontained cases are the ones likely to lead to contamination of drinking water sources

and give rise to cases the following year. The case containment rate increased from 74.8% to 84.5%. The geographical area from where cases are reported also continues to shrink. The performance of the Guinea Worm Eradication Programme in 2007 indicates that the programme is back on track after been derailed by the events in Tamale and Savelegu/Nanton districts. There is however no room for complacency and efforts must be sustained.

2007 was the fourth consecutive year in which no AFP due to wild polio virus was reported. Documents for certification as polio-free have been submitted to the World Health Organisation (WHO). Surveillance will continue in all districts and communities since many countries in the West African sub-region are still reporting cases of AFP due to wild polio virus.

Five districts in four regions reported cases of cholera in 2007. These are Amansie East in Ashanti; Cape Coast Municipality in Central; Nzema East and Sefwi-Wiaso in Western and Tamale Metropolis in the Northern region. Even though this was not on the scale seen in 2006, it is still a cause for great concern. Poor sanitation, a big risk factor for cholera outbreaks, is so widespread and unless steps are taken to address this, there will be an epidemic on an unprecedented scale sooner rather than later. Case fatality of 10.1% during these outbreaks was unacceptably high and is a reflection of poor case management. Sporadic meningitis outbreaks occurred in some districts (Bawku Municipality, Wa West and West Mamprussi) in the three Northern regions. These too, had high case fatality rates. Surveillance for meningitis has to be strengthened and the capacity of staff to manage cases improved through training. It is almost 12 years since the last major outbreak of epidemic meningococcal disease. Since it tends to occur at intervals of 10-15 years the Service has to be well prepared to cope with any outbreak. In deed this is becoming more likely as some of our neighbouring countries such as Burkina Faso have had epidemics in recent times.

Outbreak of avian influenza among poultry was reported in three locations, Tema in the Greater Accra region; Sunyani in the Brong-Ahafo region; and Aflao in the Volta region. There were no human cases. In response to these events Influenza Surveillance Guidelines were circulated to all regions and districts. Tamiflu tablets and Personal Protective Equipment (PPE) were procured and distributed to all regions. District and Regional Teams have also been trained on surveillance and management of AI cases.

All evidence points to the fact that Ghana is experiencing a “double burden of disease” with a high burden of both communicable and non-communicable diseases. Hypertension now features among the top 10 causes of morbidity at the OPD level in all regions. This is a serious deterioration on the picture in 2006 when it featured among the top 10 causes of OPD attendance among adults in four regions. More females are affected than males in all regions and overall there are nearly two females for every male with the disease. Hypertension, heart failure, chronic liver disease and diabetes mellitus are among the top 10 causes of mortality with hypertension alone accounting for 4.7% of deaths.

The progress towards the attainment of the health related MDGs is slow though all the cost effective interventions are available. Antenatal care coverage has been sustained at a high level of about 85% but deliveries by skilled personnel have declined from 44.5% in 2006 to 34.9% in 2007. Maternal deaths and maternal mortality ratio have increased from 957 to 995 and from 187.2/100,000 to 229.9/100,000 live births respectively. The decrease in the skilled delivery is related to the fact that many facilities stopped providing the free delivery services as they had not been re-imbursed for previous services and had started facing problems with procuring essential consumables. Elsewhere women in distressed labour face challenges getting to a health facility and even where they are able to reach a facility, they do so in a poor state.

Immunisation coverage has been sustained at about 90% nationally and more and more districts are achieving their set targets. Incidence of some of the childhood vaccine preventable diseases such as measles and the mortality associated with them continues to decline. Unfortunately institutional infant deaths have increased and this is mainly due to increase deaths among neonates. There are genuine concerns whether Ghana can achieve MDGs 4 and 5. All regions have adopted the HIRD Approach to scale up all essential interventions to ensure that the country gets on course to achieve the MDGs. In the coming year urgent attention will be given to maternal and new born care with the provision of equipment and training of staff in safe mother hood and management of common neonatal conditions.

The overall funding for service delivery has increased. However, this increase has largely been due to the increased wage bill which increased from GH¢99,883,106.41 in 2005 to 218,232,057.00. This has severely compromised the investment to strengthen support systems.



Cross Section of Participants at the First Senior Managers meeting in Swedru in the Central Region

Table 1: Summary of Key Achievements

Indicator	2005 Actual	2006 Actual	2007 Actual
Number of Infants deaths – Institution	4,618	5,291	5,811
Number of under five deaths – Institutional	7,615	6,057	5,287
Number of under five admissions – Institutional	171,332	172,411	113,792
Maternal Mortality ratio – Institutional (per 100,000 LBs)	197	187	230
% Under five years who are underweight - Institutional	5.0	4.5	8.6
Number of outpatient visits	11,650,188	12,241,163	15,712,070
Outpatient visits per capita	0.54	0.55	0.69
Number of admissions	800,437	748,136	891,747
Hospital Admission rate	36.9	33.6	38.9
Disease Surveillance			
TB cure rate	67.6	71	N/A
TB Treatment success rate	72.6	76.6	N/A
HIV prevalence (among pregnant women)	2.7	3.2	2.6
No. of guinea worm cases reported	3,958	4,129	3,981
Reproductive Health			
Number of Family planning Acceptors	1,189,221	1,419,998	1,317,755
% of WIFA accepting FP	23	26.8	23.9
% of ANC coverage	88.7	88.4	89.5
% ANC registrants given IPT2	N/A	25.2%	36.8
% PNC coverage	55	55.9	55.3
% of Deliveries by skilled Personnel	46	44.5	35.1
Total number of maternal deaths	912	951	995
Number of maternal deaths audited	755	557	679
% maternal death audits	91.9	58.6	75.6
Child Health			
EPI coverage Penta 3 (%)	85	84	88
EPI coverage Measles (%)	83	85	89
Total number of Under five deaths due to malaria	2469	2089	1,506
Under five malaria case fatality rate	2.8	2.7	2.4
AFP Non-Polio AFP rate (/100,000) population under 15 years	1.6	1.65	1.55

Acknowledgement

This Annual Report has been compiled for the Ghana Health Service by the Policy Planning Monitoring and Evaluation Division from the data and information provided from all levels of the Service specifically from the following sources:

1. Regional Offices of the Ghana Health Service

- Ashanti
- Brong-Ahafo
- Central
- Eastern
- Greater Accra
- Northern
- Upper East
- Upper West
- Volta
- Western

2. Headquarters Divisions of Ghana Health Service

- Finance
- Human Resource Development
- Public Health
- Policy, Planning, Monitoring and Evaluation
- Health Administration and Support Services
- Institutional Care
- Internal Audit

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List of acronyms and abbreviations

ACSD	Accelerated Child Survival and Development
ACT	Artemisinin-based Combination Therapy
AFP	Acute Flaccid Paralysis
AI	Avian Influenza
AIDS	Acquired Immune Deficiency Syndrome
ALOS	Average Length of Stay
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
BCC	Behaviour Change Communication
BEOC	Basic Essential Obstetric Care
BMC	Budget Management Centre
CHPS	Community based Health Planning and Services
CSR	Cataract Surgical Rate
CT	Counselling and Testing
CYP	Couple Years of Protection
DISHOP	District Health Systems Operations
DfID	Department for International Development
DOTS	Directly Observed Therapy- Short Course
EOC	Essential Obstetric Care
FP	Family Planning
G-6-PD	Glucose-6-Phosphate Dehydrogenase
HAART	Highly Active Anti-Retroviral Therapy
HIRD	High Impact Rapid Delivery
HIV	Human Immuno-deficiency Virus
HRDD	Human Resource Development Division
IMCHC	Integrated Maternal and Child Health Campaign
IDD	Iodine Deficiency Disorders
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
IPTi	Intermittent Preventive Treatment in Infants
IPTp	Intermittent Preventive Treatment in Pregnancy
ITN	Insecticide Treated Net
KAPB	Knowledge, Attitude, Practices and Behaviour
LLN	Long Lasting Insecticide Treated Net
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
NACP	National AIDS Control Programme
NMCP	National Malaria Control Programme
NTP	National Tuberculosis Control Programme
OPD	Outpatient Department
PEI	Polio Eradication Initiative
PMTCT	Prevention of Mother-to-Child Transmission
PNC	Post natal care
PPE	Personal Protection Equipment
SP	Sulphadoxine-Pyrimethamine
TBAs	Traditional Birth Attendant
U5MR	Under 5 Mortality Rate
UNICEF	United Nations Children's Fund
WHO	World Health Organisation

Introduction

This review covers 2007 which marks the beginning of the implementation of third 5-Year Programme of Work of the Health Sector. This programme of work shows a paradigm shift from curative health care to health promotion and disease prevention. The year was also significant for the Ghana Health Service as a new Director and Deputy Director General were appointed to steer the affairs of the service for the next four years.

The Ghana Health Service, being one of the agencies of the Ministry of Health shares in the vision of the Ministry which is articulated in the Health sector policy document. The vision of the Ministry as captured in this document is to “Create wealth through health and contribute to the national vision of attaining middle income status by 2015”. Within this framework of the MOH vision, the vision of Ghana Health Service is for people living in Ghana to live longer, healthier, and happier lives. The Ghana Health Service by her mandate is expected to contribute to Ghanaian society in which all people living in Ghana have access to quality-driven, results-oriented, client focused and affordable services and preventable diseases and avoidable deaths are kept to the barest minimum.

The goal is to ensure a healthy and productive population that reproduces itself safely. This goal can be attained through pursuing three inter-related and mutually reinforcing objectives. They are to:

- ensure that people live long, healthy and productive lives and reproduce without risk of injuries or death
- reduce the excess risk and burden of morbidity, mortality and disability especially in the poor and marginalised groups
- reduce inequalities in access to health, population and nutrition services and health outcomes

The strategic objectives are:

- Healthy Lifestyle and Healthy Environment to reduce risk factors
- Increased coverage of high quality Health Reproduction and Nutrition Services
- General Health System Strengthening and especially strengthening capacity for service delivery
- Governance, Partnerships and Sustainable Financing

Key Priorities for 2007

In line with the health sector policy and objectives, the key priorities of Ghana Health Service during the year were to:

- Scale up delivery of priority public health programmes and disease interventions for Malaria, Tuberculosis, HIV/AIDS, Guinea Worm, Buruli Ulcer, Immunisation, Reproductive and Child Health and Nutrition.
- Expand High Impact and Rapid Delivery interventions nationwide by strengthening the delivery of comprehensive and integrated health services
- Scale up community based health planning and services in the deprived districts and communities

- Improve clinical management of priority diseases including scaling up anti-retroviral therapy
- Provide a defined and cost-effective package of preventive, diagnostic, therapeutic and rehabilitative services
- Increase demand for health care services by focusing and addressing demand side barriers
- Promote and protect health through the provision of appropriate health information to communities and individuals
- Design and implement health education and promotion programmes that take on board the concerns and roles of households and communities
- Collaborate with all stakeholders including education and sports, water and sanitation, environment, food and agriculture, and district assemblies to promote health and protect against injury and diseases in settings where people live, work and school.

Health, Reproduction and Nutrition Services

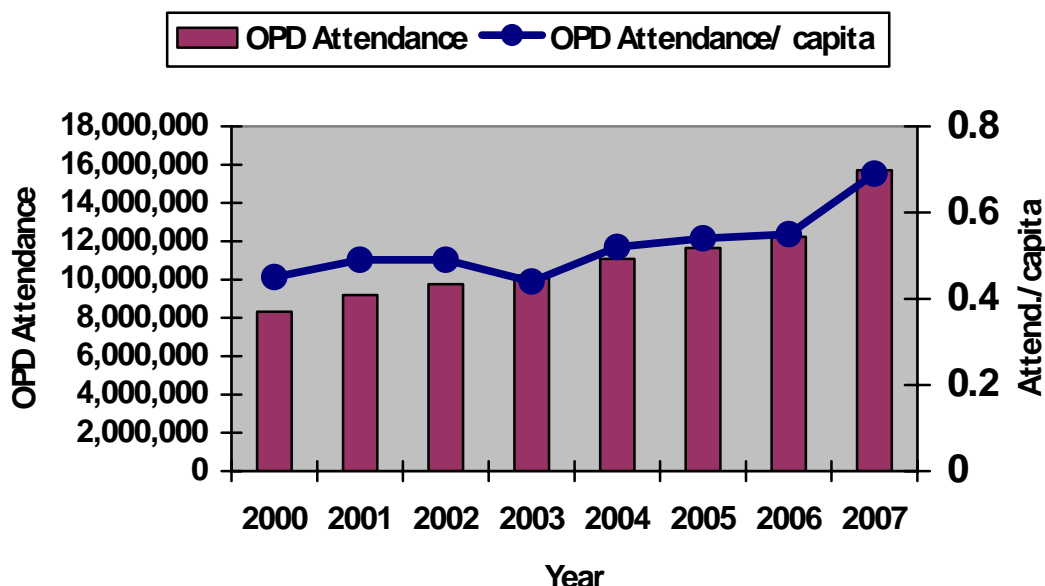
Institutional Care

Utilisation of OPD Services

Utilisation of health services is one of the measures of both geographical and financial access to these services. During the past eight years the utilization of OPD services has been increasing as shown by the total OPD attendance as well as the attendance per capita (**Figure 1**). Total OPD attendance rose from 12,233,527 in 2006 to 15,712,070 in 2007. This amounts to a 28.4% increase over the 2006 performance. During this period the attendance per capita rose from 0.55 to 0.69, representing a 25.5% increase. This represents the highest annual increase ever experienced.

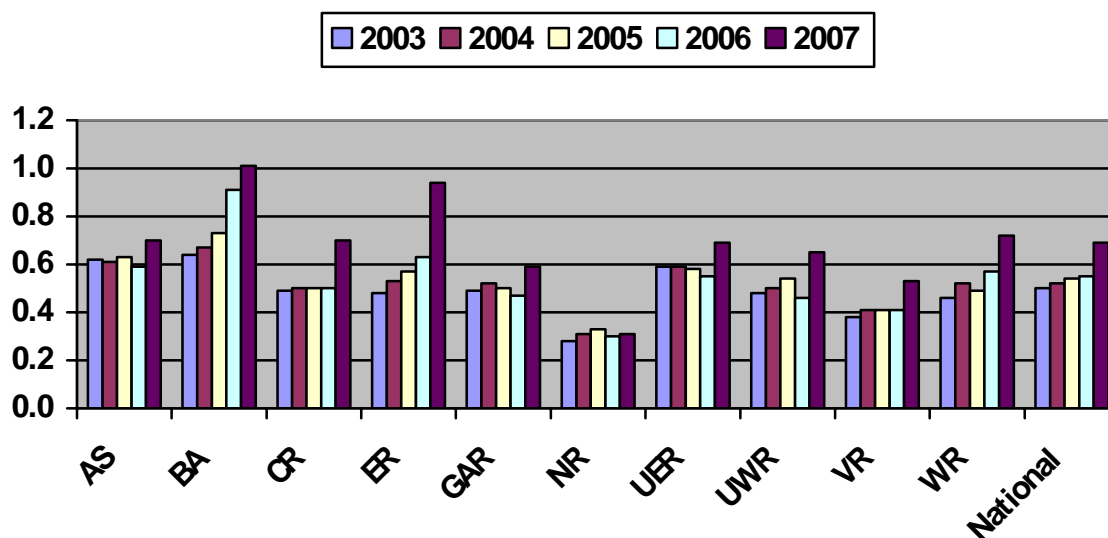
Much of this remarkable achievement is attributable to the National Health Insurance. The implementation of the National Insurance has removed a significant financial barrier to access to services.

Figure 1: Total OPD Attendance And Attendance Per Capita, 2000-2007



Analysis of Regional performance shows wide variations. While the Brong-Ahafo region attained attendance per capita above 1.0, the performance in the Northern is just above 0.3. In deed the Northern region is the only region that has shown very little progress in the utilisation of OPD services during the last 5 years. During this period attendance per capita in this region has not risen above 3.3 (**Figure 2**). There are still significant barriers to utilisation of health services in the Northern Region. Occupying about 30% of the land area of the country, many of the over 5000 settlements in the region are simply too far from health facilities. This situation is not helped by the poor road network within the region. The Community based Health Services (CHPS) strategy is one that the Health Sector in the region should vigorously promote to address the issue of inadequate geographical access while the other sectors including the District Assemblies address the challenges facing implementation of the Health Insurance and improvement in the road network.

Figure 2: Trend in Per Capita OPD Attendance by Region, 2003-2007.



Outpatient Morbidity

The top ten causes of OPD attendance in 2007 include malaria, acute respiratory infections diarrhoea, skin infections and ulcers, acute eye infections and pregnancy related complications. Others are hypertension, rheumatism and joint disorders, intestinal worms, and home and occupational accidents. This is virtually the same picture as in 2006. Malaria accounted for over 38% of total new cases at the OPD level which is a reduction compared to 43.7% in 2006.

The picture among children under 5 years of age is very different. All, but one of the top 10 causes of morbidity are due to communicable diseases. In the Ghanaian environment, anaemia in this age group is mostly due to malaria and nutritional disorders. Malaria accounts for 55.4%, pneumonia and other respiratory tract infections for 12.3% and diarrhoea diseases for 6.9%. The management of these diseases is adequately covered by clinical or facility based component of Integrated Management of Childhood Illness (IMCI). However, the coverage of this intervention is still very low. Currently, community level management of malaria is taking place in the Northern, Upper East and Upper West using Artemisinin-based Combination Therapy (ACT). This will be expanded to the other regions. The Revised Child Health Policy will permit community level management of acute respiratory infections.

Table 2: Top 10 Causes Of Morbidity Among Children Under 5 Years of Age

DISEASE	M A L E			F E M A L E			Total
	<1	1-4	Total	<1	1-4	Total	
Malaria	197,138	447,080	644,218	180,666	414,490	595,156	1,239,374
Other ARI	38,311	68,108	106,419	32,506	63,966	96,472	202,891
Diarrhoea Diseases	32,355	50,664	83,019	27,725	44,000	71,725	154,744
Skin Diseases & Ulcers	19,409	41,215	60,624	18,104	36,776	54,880	115,504
Anaemia	10,430	20,721	31,151	8,672	17,792	26,464	57,615

Pneumonia	8,684	11,595	20,279	7,261	10,467	17,728	38,007
RTI	6,281	12,194	18,475	4,598	10,914	15,512	33,987
Acute Eye infection	5,632	10,813	16,445	4,871	9,332	14,203	30,648
Intestinal Worms	1,953	12,357	14,310	1,842	11,006	12,848	27,158
Acute Ear infection	2,990	8,443	11,433	2,772	7,115	9,887	21,320
All Other Diseases	57,898	109,562	167,460	50,692	96,069	146,761	314,221
Total	381,081	792,752	1,173,833	339,709	721,927	1,061,636	2,235,469

Increasingly, non-communicable diseases are becoming significant causes of both morbidity and mortality. In 2007 hypertension featured among the top 10 causes of morbidity at the OPD level. The increase in the proportion of cases due to hypertension is not spurious as the number of cases of some communicable diseases such as malaria has actually increased. This is a serious deterioration from the picture in 2006 when it featured among the top 10 causes of OPD attendance among adults in four regions. The proportion ranged from 1.4% in the Northern and Upper East regions to 6.0% in the Volta region. More females are affected than males in all regions and overall there are nearly two females for every male with hypertension. Hypertension, heart failure, chronic liver disease and diabetes mellitus are among the top 10 causes of mortality with hypertension alone accounting for 4.7% of deaths.

A baseline study to determine the prevalence of some non-communicable diseases such as hypertension and their underlying risk factors has been carried out in the Greater Accra region. There is a need to extend this study to other region or at least some of the other ecological zones of the country. It is also important to determine the knowledge and behaviour of those living with this disease so as to design effective messages for public education.

Table 3: Total and Proportion of OPD Cases Due to Hypertension by Region, 2007

Region	Male	Female	Total	% of OPD	M/F Ratio
Ashanti	9,994	20,408	30,402	2.8	0.49
Brong-Ahafo	2,470	5,136	7,606	2.2	0.48
Central	21,569	26,846	48,415	4.0	0.80
Eastern	31,354	76,347	107,701	5.4	0.41
Greater Accra	18,373	32,037	50,410	4.3	0.57
Northern	3,717	6,733	10,450	1.4	0.55
Upper East	971	1,845	2,816	1.4	0.53
Upper West	705	815	1,520	2.3	0.87
Volta	6,746	14,838	21,584	6.0	0.45
Western	11,024	17,507	28,531	2.5	0.63
National	106,923	202,512	309,435	3.7	0.53

A number of studies have shown similar results. A study by Amoah (2003) found the prevalence of hypertension in females in some parts of Greater Accra to be 1.5 times the prevalence in males.¹ Addo *et al* (2006) also reported that after the age of 45 years, females had higher blood pressures than males.² Urgent action is required if the rising trend of non-communicable diseases is to be halted and eventually reversed.

Specialist Outreach Programme

Specialist outreach visits were embarked upon as part of the overall strategy of increasing access to health services. The specialised areas covered during the year are dermatology, ENT, ophthalmology, urology, trauma & orthopaedics, and obstetrics & gynaecology. Apart from service provision, the visits are also opportunities for the specialist doctors to transfer skills to general practitioners and other junior colleagues.

Table 4: Specialist Outreach Visits and Output

Specialised Area	No. of visits	OPD Cases seen	Surgeries performed
Dermatology	6	327	-
ENT	15	818	19
General Medicine	18	608	-
General Surgery	1	46	46
Obstetrics and Gynaecology	1	31	-
Ophthalmology	12	204	77
Trauma/Orthopaedics	3	153	4
Total	55	2187	146

In 2006 a total of 144 visits were made and 5348 cases were seen at the OPD and 568 operations were performed. The decrease in the number of visits in 2007 was due to inadequate funds.

Utilisation of Inpatient Services

The total number of admissions has increased by 11.4% from 769,971 in 2006 to 857,848 in 2007. This increased admission may be due to increased utilisation as a result of improved financial access resulting from implementation of the National Health Insurance Scheme. The total deaths increased by about 14% between 2006 and 2007. Four regions, Central, Eastern, Greater Accra and Northern, recorded an increase in death rate in 2007 compared to 2006. However, overall, the death rate, which is the probability of any person who goes on admission dying, remained almost the same being 4.2% in 2006 and 4.3% in 2007. This is not surprising as the causes of admission have not changed significantly during the period.

¹ A G Amoah, 'Hypertension in Ghana: a cross-sectional community prevalence study in greater Accra' *Ethnicity & Disease* **13** (2003): 310-5.

² Juliet Addo, Albert G. B. Amoah, and Kwadwo A. Koram, 'The Changing patterns of hypertension in Ghana: A study of four rural communities in the Ga District' *Ethnicity & Disease* **16** (2006): 894-899.

Table 5: Admissions, Deaths and Death Rates in Public Hospitals, 2005-2007

Region	2005			2006			2007		
	Admissions	Deaths	Death Rate	Admissions	Deaths	Death Rate	Admissions	Deaths	Death Rate
Ashanti	151,719	6,944	4.6	155,602	6,016	3.9	65,056	6,404	3.9
B/Ahafo	75,886	3,222	4.2	82,624	3,125	3.8	109,087	4,010	3.7
Central	64,576	3,166	4.9	62,985	3,053	4.8	66,763	3,615	5.4
Eastern	99,391	4,431	4.5	102,159	4,246	4.2	104,312	4,621	4.4
GAR	100,670	5,718	5.7	89,013	4,994	5.6	97,924	6,308	6.4
Northern	74,500	2,706	3.6	58,045	2,492	4.3	71,907	3,162	4.4
U/ East	42,971	1,519	3.5	41,166	1,332	3.2	46,210	1,377	3.0
U/West	38,588	1,070	2.8	29,819	921	3.1	36,721	938	2.6
Volta	66,147	3,186	4.8	67,358	3,017	4.5	70,162	3,185	4.5
Western	82,284	3,004	3.7	81,200	2,941	3.6	89,706	3,056	3.4
Total	796,732	34,966	4.4	769,971	32,137	4.2	857,848	36,676	4.3

The Bed Occupancy Rate (BOR) in any hospital, within a specified time frame, represents the proportion of the beds available in the facility that were occupied by patients during that period. It is a measure of efficiency of the hospital's operations. The Average Length of Stay (ALOS) on the other hand is affected by the disease pattern as well as the quality of interventions. A bed occupancy rate of below 80% is an indication that the available beds are being under-utilised. The Greater Accra reported 73.4% occupancy while the Brong-Ahafo Region reported 66.5%. The other regions all reported below 60% occupancy. In the comparison in **Table 6** below, the Teaching and Psychiatric Hospitals have been excluded. The Teaching Hospitals tend to handle more complicated cases referred from other facilities and this increases duration of hospitalisation while the Psychiatric Hospitals and other specialised hospitals also deal with cases that tend to stay on admission for longer periods. For example, in 2007 if data from the Teaching Hospitals and Psychiatric Hospitals are included, the ALOS for the Ashanti region increases from 3.7 to 4.8 days, that of the Greater Accra increases from 4.7 to 11.2 days while the national figure moves from 4.1 to 5.2 days.

Table 6: Bed Occupancy Rates and Average Length of Stay in Public Hospitals (excluding Teaching and Psychiatric Hospitals), 2005-2007.

Region	2005		2006		2007	
	Bed Occupancy Rate	ALOS	Bed Occupancy Rate	ALOS	Bed Occupancy Rate	ALOS
Ashanti	47.6	3.7	44.3	3.4	52.1	3.7
B/Ahafo	57.5	4.5	55.3	4.0	66.5	3.9
Central	50.2	4.0	46.2	3.8	50.7	3.9
Eastern	50.3	4.7	50.7	4.9	54.3	5.0
GAR	54.7	4.0	57.6	4.2	73.4	4.7
Northern	60.8	3.1	49.0	3.5	55.1	3.0

U/ East	45.9	3.0	41.1	3.1	45.9	3.0
U/West	52.1	3.4	43.2	3.6	53.5	3.7
Volta	45.3	5.6	46.3	5.6	50.6	5.7
Western	51.9	4.2	49.4	4.1	48.7	3.9
Total	50.9	4.1	48.4	4.1	54.4	4.1

Focus on Eye Care Services

In 2003, the Ghana Health Service developed a 5-year strategic plan for Eye Care services dubbed “Imagine Ghana Free of Avoidable Blindness: Framework For Action 2004-2008”. The aim of the programme is to eliminate avoidable blindness in Ghana by 2020. This is in consonance with the international initiative VISION 2020: THE RIGHT TO SIGHT which has set a target of date of 2020 to eliminate avoidable blindness.

Cataract is a leading cause of avoidable blindness in Ghana and worldwide. Other causes of preventable blindness in Ghana include trachoma and onchocerciasis. It is estimated that in Ghana, cataract is responsible for between 45-50% of blindness. The incidence of new cases of cataract blindness is unknown, however, a figure of 1000 new blind people from cataract per million population per year is used for planning purposes in developing countries.³ In order to reduce the backlog of cataract blindness and operable cataract it is necessary to operate each year on at least as many eyes as develop cataract.

Table 7: Cataract Operations and Cataract Surgical Rate (CSR) by Region, 2005 and 2007

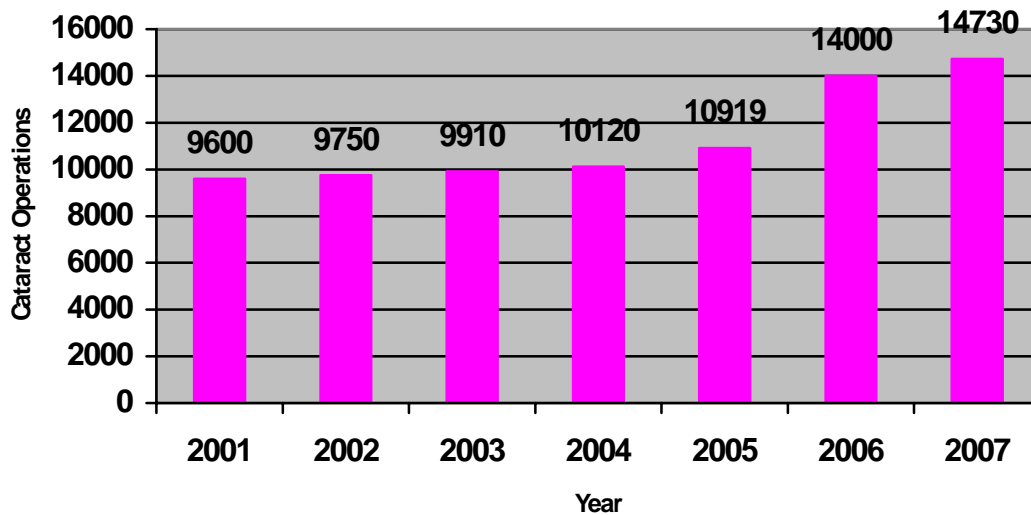
Region	2005		2007	
	Total Cataract Operations	CSR	Total Cataract Operations	CSR
Ashanti	1,022	255	3,657	801
Brong Ahafo	901	450	647	299
Central	1,359	849	2,054	1,114
Eastern	886	443	781	336
Greater Accra	2,716	799	2,909	740
Northern	559	274	1,078	488
Upper East	1,910	1,989	2,511	2,528
Upper West	377	608	255	393
Volta	1,016	564	353	189
Western	172	86	486	203
Total	10,919	524	14,730	642

The total number of cataract operations performed has been increasing gradually since 2001. The Greater Accra, Ashanti, Central, Eastern and Upper East regions are the highest contributors to the total cataract surgical output. In 2007 the number of surgeries in some of the high output regions declined due to non-availability of ophthalmic surgeons for various reasons including study leave, long periods of illness and death. Regions such as Upper East and Central that provide cataract surgical services on outreach basis tend to report high

³ Allen Foster : Journal Community Eye Health 2000;13(34): 17-19

figures. This is a strong indication that geographical access to cataract services is one of the major challenges to increasing uptake of this service and other regions are encouraged to adopt the outreach strategy.

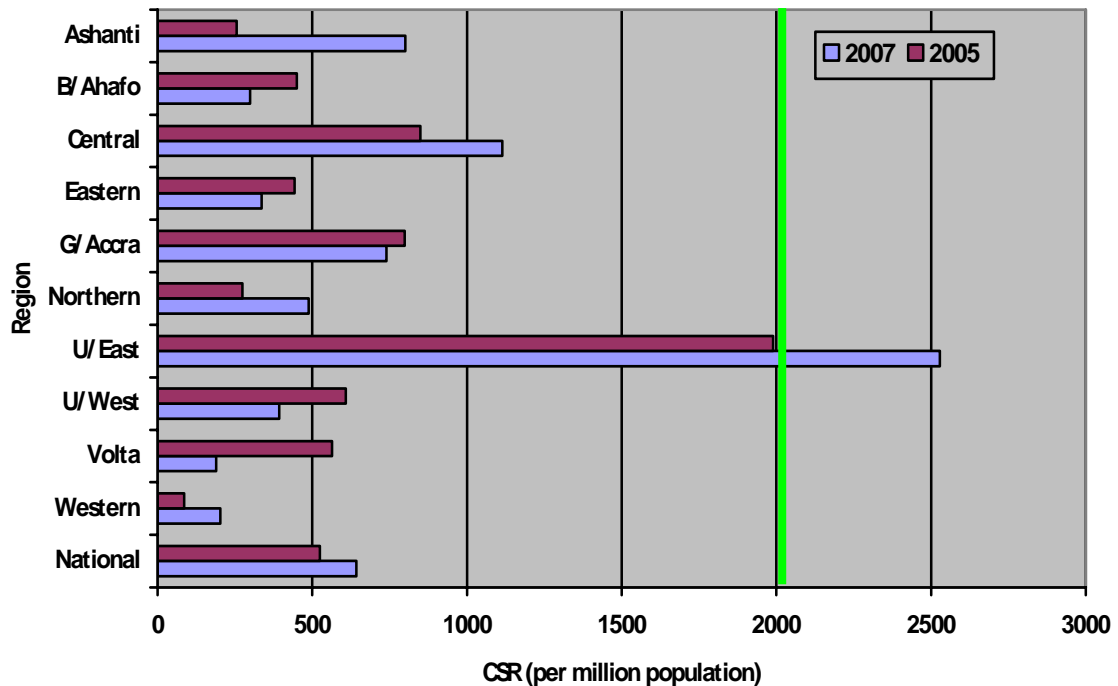
Figure 3: Total Cataract Operations By Year, 2001-2007



The number of cataract operations performed per year, per million population is called the Cataract Surgical Rate (CSR). In order to achieve the Vision 2020: The Right to Sight target, Ghana needs to achieve a CSR of at least 2,000. The CSR is a measure of access to cataract surgical services as well as other advanced eye care services.

Nationally the CSR stands at just over 600. It is only the Upper East Region that has attained the CSR target. The major reasons for low cataract surgical rates include, low demand from poor people because of high cost of surgery, lack and inequitable distribution of ophthalmic surgeons and inadequate resources. The cost of cataract surgery is covered under the National Health Insurance. This means that the surgery is free of charge at the point of delivery. Unfortunately, for poor people living in remote and hard to reach locations, the cost of transportation to the fixed facility service delivery points constitutes a big obstacle. Moreover, some people who cannot afford to pay the premium for NHIS are usually also unable to pay for the cost of cataract extraction.

Figure 4: Cataract Surgical Rate By Region, 2005 and 2007.



The Central and Northern regions organised eye camps for cataract surgery during the year. The camp in the Central region was supported by the Rotary Club of Accra West, Ghana, and Rotary Club of Madras, India while that of the Northern Region was organised by the Eye Care Unit of the Ghana Health Service. Ophthalmic surgeons in some regions also undertook regular outreach visits to other hospitals within their regions to provide services.

High Impact Rapid Delivery Approach

The High-Impact Rapid-Delivery (HIRD) approach is a strategy to reduce maternal and child mortality. The HIRD approach combines the key principles of vision and data-driven methods to develop a plan for rapid scale up to attain universal (at least 90%) coverage of key priority cost effective interventions, which have been proven to have a high impact on maternal and child mortality. The HIRD initiative became necessary following the success of the Accelerated Child Survival and Development (ACSD) strategy in the Upper East region and the realization that unless there is accelerated pace in the reduction of maternal and mortality rate, Ghana will not achieve MDG 4 and 5.

The HIRD approach seeks to ensure that these interventions (services) are available and utilized by all those who need them. Ten simple steps were outlined to guide regions and districts to state their vision for maternal and child health (MCH), assess the situation regarding the availability and utilization of key reproductive and child health interventions that will lead to the realization of the vision. They identify bottlenecks hampering the achievement of universal coverage, formulate strategies and develop plans for overcoming the bottlenecks, and estimate the additional funds required to implement the plan.

HIRD planning started during the last quarter of 2005 with four most deprived regions (UWR, NR, UER and CR) that had poor maternal and child health indicators. By the last quarter of 2007, planning workshops were held in the last two regions.

Box 1: Interventions Being Implemented as Part of the HIRD Package in Ghana

A: Intervention to improve child survival and development

- ✚ Exclusive breastfeeding for the first 6 months
- ✚ Appropriate complimentary feeding from 7 – 23 months
- ✚ Immunisation against vaccine preventable diseases
- ✚ Oral Rehydration Therapy for children with diarrhoea
- ✚ Vitamin A supplementation for children 6-59 Months
- ✚ Regular deworming of children 24-59 months
- ✚ Promotion of the use of insecticide treated nets for children under 5 years of age
- ✚ Growth promotion and monitoring from birth to 59 months
- ✚ Integrated management of childhood illness

B: Interventions to improve maternal health

- ✚ Focused antenatal care
 - Promotion of the use of insecticide treated nets
 - Intermittent preventive treatment of malaria
 - Iron supplementation
 - Folate supplementation
 - Deworming
 - Early detection and appropriate management of anaemia
 - Tetanus toxoid vaccination
 - VCT and nevarapine treatment for those who need it
- ✚ Skilled attendance during labour and delivery
- ✚ Postnatal care
- ✚ Vitamin A supplementation within 8 weeks post-partum
- ✚ Promotion and provision of family planning services

To ensure effective implementation of plans and judicious use of resources, programme and financial monitoring by teams from the Ghana Health Service and MOH was carried out in some of the regions that were first to adopt this strategy. Experiences from some of these regions indicate that district supervision of the sub-districts is weak. There is also the risk of perceiving the approach/strategy as a programme. There is the need to deal with this as soon as possible. A comprehensive monitoring plan has been developed to cover the remaining regions and to involve more people from the regional and national level.

Communicable Diseases

Communicable diseases continue to be a major cause of morbidity and mortality despite the significant progress in controlling some vaccine preventable diseases. Twenty-three diseases have been identified for priority action. These include epidemic prone diseases such as cholera and yellow fever; diseases earmarked for elimination or eradication such as leprosy, guinea worm and poliomyelitis. Also included in this list are diseases of public health importance such as malaria, tuberculosis and AIDS.

Malaria Control

Malaria is hyper endemic in Ghana and continues to be a leading cause of morbidity and mortality. In 2007, malaria was responsible for 38.6% of outpatient attendances compared to 43.7% in 2006. It was the highest cause of mortality, accounting for over 18% of deaths reported at health facilities.

As part of the millennium declaration, countries have enjoined themselves to have halted and begun to reverse, the incidence of malaria and other diseases by 2015. In order to achieve this target, Ghana is implementing a malaria control strategy that involves multi and inter-sectoral partnerships working together on an agreed plan to reduce death and illness due to malaria by 50% by the year 2010. The strategies for malaria control include prevention through the use of insecticide treated nets (ITNs), early detection and appropriate prompt treatment.

These targets include:

- At least 60% of children under five years and pregnant women sleep under Insecticide Treated Nets (ITNs);
- 60% of pregnant women would be on appropriate and effective chemo prophylaxis or Intermittent Preventive Treatment (IPT)
- 60% of the population will have access to prompt, affordable and appropriate treatment of uncomplicated malaria using effective anti malarial drug within 24 hours of onset of symptoms by the year 2007.

Table 8: Selected Malaria Control Programme Indicators

Indicator	2006	2007
OPD malaria cases	3,511,452	3,603,911
% OPD cases due to malaria	43.7%	38.6%
Under 5 malaria admissions	78,464	62,072
Under 5 Malaria Deaths	2,089	1,506
Under 5 Malaria case fatality	2.7%	2.4%
Pregnant women put on IPT1	361,786	423,524
IPTp1 Coverage	40.4%	50.5%
Pregnant women put on IPT2	230,269	293,349
IPTp2 Coverage	25.7%	35.0%
Pregnant women put on IPT3	140,666	190,894
IPTp3 Coverage	15.7%	22.8%
Proportion of Children U5 who slept under ITN	35.6%	55.3%
Proportion of Pregnant women who slept under ITN	46.3%	52.5%

Long lasting insecticide treated nets (LLNs) were procured with Global Fund and distributed throughout the country. Various methods are used for the distribution of the ITNS. The distribution in the Ashanti, Brong Ahafo, Greater Accra, and Volta regions is done via a

voucher scheme sponsored by Global Fund. Under this scheme, every one who attends ante-natal clinic for the first time receives a voucher. When she presents this voucher at any of the designated commercial outlets selling ITNs, she is given a Gh¢4.00 discount on the cost of any ITN of her choice. Apart from the Global Fund, other partners such as UNICEF and Plan Ghana also supported some regions directly with ITNs. About 42,820 nets were retreated at various facilities.

About 1.2 million nets were provided by UNICEF, Department for International Development (DfID), United States Agency for International Development (USAID) and other partners and distributed free of charge to pregnant women and infants in all regions during the integrated maternal and child health campaign.

During the year implementation of the new Anti Malaria Drug Policy was continued throughout the country. Artesunate-Amodiaquine tablets were procured and distributed throughout the country. Monitoring of usage and side effects of the new drug has been instituted as an integral part of the new policy and implemented at all levels.

As can be seen in **Table 9**, the compliance with the national policy is not very good. Just over 50% of all malaria cases were placed on Artemisinin-based Combination Therapy (ACT). In the Ashanti region the proportion is less than 30%. This is particularly worrying as some clinicians are using monotherapy which carries the risk of early emergence of resistance of the malaria parasite to the drugs so used. Others are reported to still be using chloroquine which carries a significant risk of treatment failure due to the high level of resistance to this drug.

Table 9: Malaria Cases By Region, Number And Proportion Placed On ACTs in 2007

Region	Reported Cases	Cases on ACT	% on ACT
Ashanti	750,450	185,950	24.8
Brong-Ahafo	725,057	369,010	50.9
Central	312,279	217,533	69.7
Eastern	251,140	175,262	69.8
Greater Accra	427,888	251,416	58.8
Northern	195,531	149,172	76.3
Upper East	225,380	107,229	47.6
Upper West	105,135	71,595	68.1
Volta	239,529	197,759	82.6
Western	398,522	154,857	38.9
National	3,630,911	1,879,783	51.8

The Intermittent Preventive Treatment of pregnant women with sulfadoxine and pyrimethamine (SP) was extended countrywide. **Table 10** below shows the performance of each region. The number of pregnant women who received IPTp1, IPTp2 and IPTp3 were 423,524; 293,349 and 190,894 respectively. The total antenatal registrants during the year were 838,219. This gives IPTp1 coverage of 50.5% and that of IPTp3 of 22.8%. These figures are much higher than those for the corresponding period of 2006 which were 40.4% and 15.7% respectively. This increase in coverage is due to improved drug availability and education of pregnant women.

Table 10: IPTp Coverage 2006 and 2007

Region	2006 ANC Regist.	2006 Coverage			2007 ANC Regist.	2007 Coverage		
		IPT1	IPT2	IPT3		IPT1	IPT2	IPT3
Ashanti	176,622	28.9	17.1	9.6	139,068	51.7	35.5	23.5
B/Ahafo	84,214	49.1	33.9	22.7	87,870	64.2	47.6	33.1
Central	72,220	59.1	36.0	20.0	80,155	57.6	36.7	20.7
Eastern	91,169	41.0	26.9	16.5	80,930	54.2	36.1	23.2
G/Accra	149,646	21.1	15.7	10.8	121,234	20.5	14.2	8.2
Northern	86,908	69.7	41.7	24.1	106,362	56.5	41.1	29.2
U/East	25,518	94.3	72.6	52.7	44,370	56.8	47.8	37.5
U/West	39,300	37.9	29.2	21.4	25,004	62.4	50.3	38.5
Volta	76,731	30.3	16.3	8.5	65,251	62.2	38.9	20.3
Western	93,083	37.5	20.3	10.4	87,975	44.0	26.7	15.3
National	895,411	40.4	25.7	15.7	838,219	50.5	35.0	22.8

In 2007, piloting of a new and promising malaria prevention strategy known as Intermittent Preventive Treatment in infants (IPTi) was started in collaboration with UNICEF in the Upper East region. This strategy involves the provision of curative doses of sulfadoxine and pyrimethamine (SP) to infants as they come for routine childhood immunisation.⁴ It is believed to be highly effective in reducing malaria infection and anaemia.⁵

Monitoring of adverse monitoring of adverse events which has being instituted as part of this intervention is continuing in collaboration with the National Centre for Pharmarco-vigillance. So far very few major adverse effects have been reported. Studies on G-6-PD among women were carried out at 3 sentinel centres located in the three ecological zones (Northern, Middle and Southern) of the country.

The three northern regions started the distribution of artemisinin-based combination treatment (ACT) through community based volunteers as a key home based management of malaria strategy. Prompt access to ACT can drastically reduce malaria mortality especially among children under 5 years of age.

The trend of increasing malaria cases in spite of massive increases in preventive interventions is worrying indeed. Many patients presenting with fever are often diagnosed as having malaria. This may not necessarily be the case as many communicable diseases have fever as part of their symptoms. Accurate statistics on malaria are necessary to be able to target resources and to evaluate their impact. Efforts have been made to improve diagnosis through the provision of microscopes to hospitals and rapid diagnostic test kits to health centres. The reporting on malaria cases should be disaggregated into presumptive and confirmed.

In order to continue implementing evidence based best practices a number of studies are being conducted by the National Malaria Control Programme (NMCP). These include Knowledge, Attitude, Perceptions and Behaviour (KAPB) studies on Artesunate-

⁴ Munday, Sally: Review of intermittent preventive treatment for malaria in infants and children. Journal of Paediatrics and Child Health 2007;43(6):424-428.

⁵ Mockenhaupt et al: Intermittent preventive treatment in infants as a means of malaria control: A randomised, double-blind, placebo-controlled trial in northern Ghana. Antimicrobial Agents Chemotherapy 2007 Sep;51(9):3273-81.

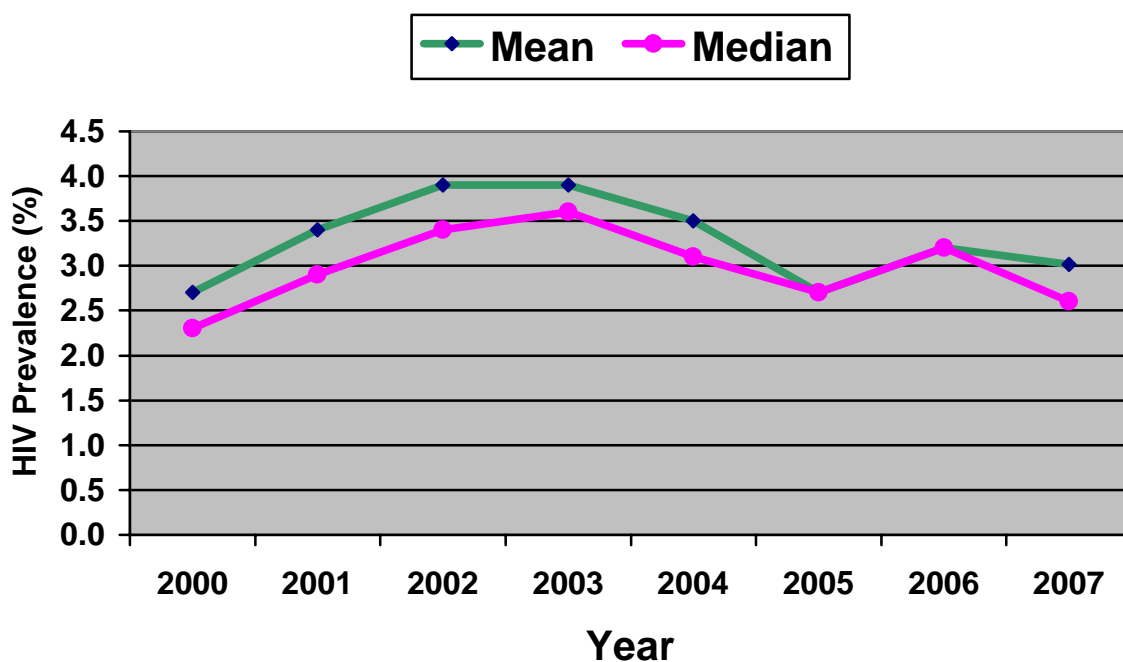
Amodiaquine utilization; the use of Artesunate-Amodiaquin for Home Based Care, Vector Resistance monitoring and the efficacy of Artesunate-Amodiaquin.

HIV/AIDS

The National AIDS Control Programme (NACP) has been monitoring the prevalence of HIV since 1992. The number of sentinel surveillance sites has increased steadily to 40 in 2005 and has since remained at this level. This is made up of 23 urban and 17 rural sites. Sentinel Surveillance data seems to show that HIV sero-prevalence in the country during the past few years has been fairly stable in the range of 2.6 to 4% of the pregnant women aged 15-49. In 2007 the median prevalence declined to 2.6% from 3.2% in 2006 while the mean prevalence declined to 3.0% from 3.2% during the same period (**Figure 5**).

The sero-prevalence among STI clients in the two sites where testing is done showed a worrying increase from 4.1% in 2006 to 5.1%. By age group, the highest prevalence of 15.6% was in the 35-39 years age group. The Adabraka site in Greater Accra recorded 8.0%, an increase over the figure of 4.1% in 2006. The prevalence in the Kumasi site was 4.1%.

Figure 5: Mean and Median HIV Prevalence among Pregnant Women, 2000-2007



As in other years, the 2007 Sentinel Surveillance results showed wide regional variations. The lowest prevalence of 1.7% was recorded in the Northern region while the highest prevalence of 4.3% was reported in the Eastern Region (**Figure 6**). Six regions showed increase in prevalence in 2007 compared with 2006 with the Northern region showing the highest percentage increase (36%) from 1.3% to 1.7%. However, since the prevalence in these regions was relatively low, the overall national prevalence actually declined. In spite of the decline in prevalence from 4.9% in 2006 to 4.2% in 2007, the Eastern region retains the position of the region with the highest prevalence in the country.

Figure 6: Mean HIV Prevalence by region, 2004-2006

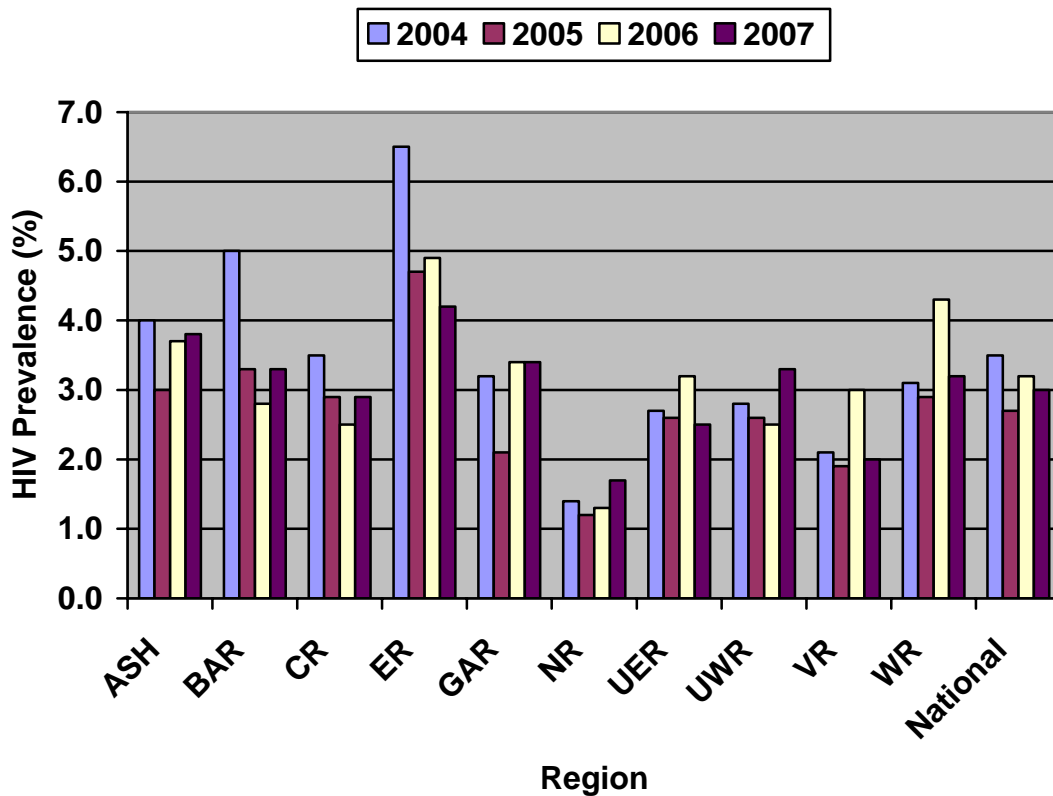
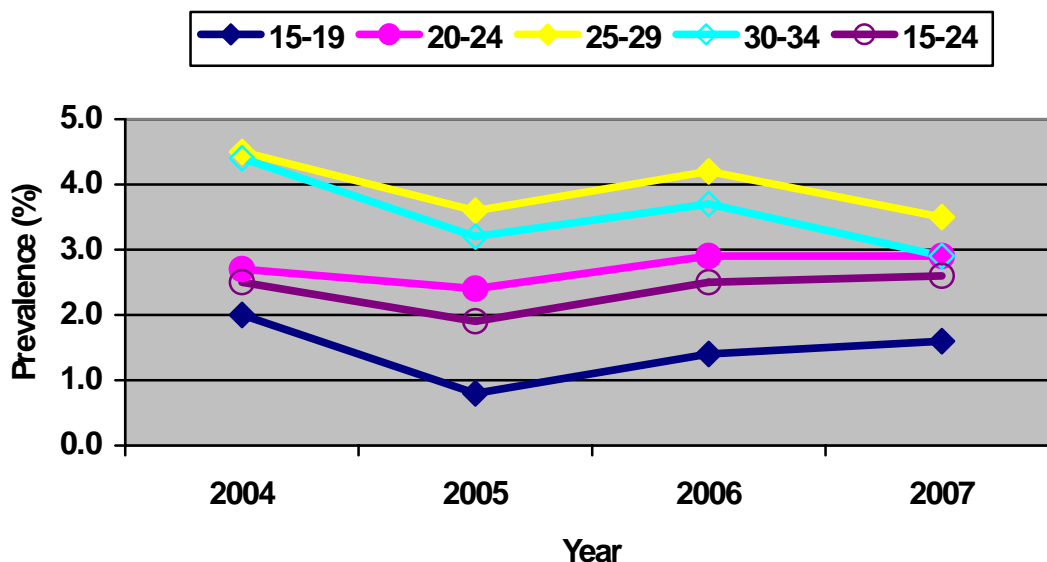


Figure 7: Trend in Prevalence by Age Group, 2004-2007



Even though the HIV prevalence in 15-19 years group is still the lowest, it is showing an increasing trend. Prevalence among this age group is a proxy for new infections and therefore an increasing trend is a cause for concern. The prevalence in the 20-24 year age groups also showed an increase while the prevalence in the 25-29 and 30-34 years age group decreased.

Counselling and Testing

Over the years various strategies have been implemented to reduce the spread of HIV in Ghana. These include Behaviour Change Communication (BCC) and Prevention of Mother to Child transmission (PMTCT) of HIV to prevent new infections; and the provision of treatment, care and support including Highly Active Anti-Retroviral Therapy.

The number of clients who benefited from CT/PMTCT services during the year under review was 182,115. The figures for 2006 and 2005 were 36,155 and 30,046 respectively. The increase was due to the increase in the number of counselling and testing sites from 341 sites in 2006 to 387 in 2007. This has greatly improved geographical access to this service. While these increases have been very impressive there is still room for improvement. For the general population, seven regions performed less than 20 tests per site per month while 5 regions performed less than 20 tests per site per month for women attending ante-natal clinics (**Table 11**). Three regions tested 50% or more of antenatal clinic registrants. For pregnant women to benefit from PMTCT it is imperative for them to know their status. Health workers must redouble their efforts to counsel all women as part of focused antenatal care. Counselling should be integrated into the general clinical services especially clients seeking treatment for STIs.

Table 11: Counselling and Testing- General Population and ANC Registrants

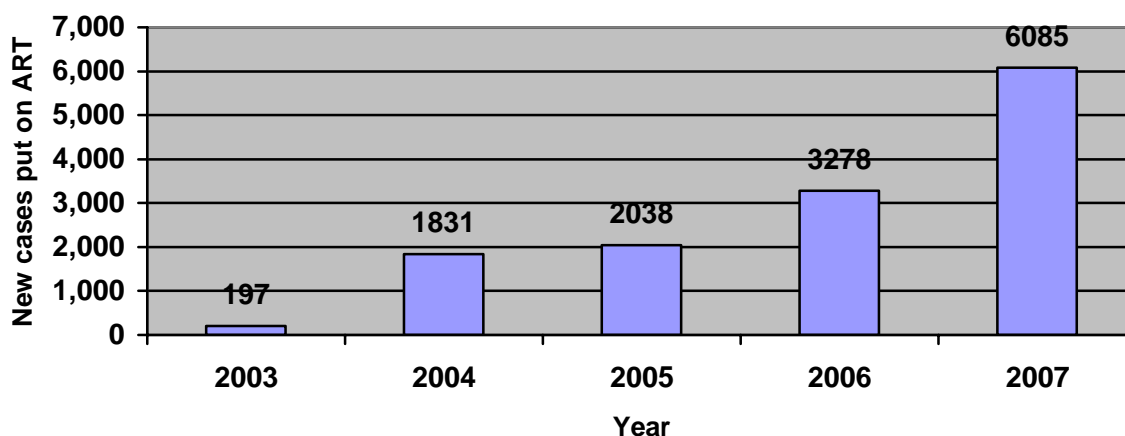
Region	General Population			ANC Registrants and number tested				
	# sites	Tests	Tests/ site / month	ANC Registrants	Tests	% ANC Reg. Tested	# sites	Tests/ site /month
Ashanti	57	11,123	16	59,991	28,099	46.8	57	41
B/Ahafo	37	5,872	13	18,106	7,821	43.2	37	18
Central	19	5,058	22	42,543	5,911	13.9	19	26
Eastern	50	12,563	21	44,763	16,539	36.9	50	28
G/ Accra	53	10,961	17	46,325	24,993	54.0	53	39
Northern	61	2,999	4	42,708	7,922	18.5	61	11
Upper East	46	2,017	4	26,210	10,186	38.9	46	18
Upper West	33	1,742	4	8,644	5,434	62.9	33	14
Volta	15	3,102	17	9,858	5,596	56.8	15	31
Western	16	12,192	64	9,181	1,985	21.6	16	10
Total	387	67,629	15	308,329	114,486	37.1	387	25

Anti-Retroviral Therapy

Anti-retroviral drugs have been shown not only to prolong the lives of people living with HIV infection but also to improve the quality of life of such people. In 2007, 6085 people were placed on anti-retroviral therapy. This represents almost 100% increase over the 2006 figure of 3278. This performance was a result of increase in the number of ART service delivery points. The number of districts providing ART rose from 32 in 2006 to 69 in 2007 while the number of hospitals with capacity to provide ART increased from 46 to 95 within the same period. During the same period the number of laboratories with capacity to monitor ARV combination therapy according to national guidelines increased from 23 to 80. Other services provided alongside Highly Active Anti-Retroviral Therapy (HAART) include

treatment of opportunistic infections, provision of food aid, and home and community based care.

Figure 8: Number of People started on Anti-Retroviral Therapy Annually 2003-2007



With the enrolment of 6,085 new cases on ART, the cumulative number of people who have initiated ART rose to 13,249. The cumulative number of deaths among those placed on ART is 511 or 3.8%. At the end of 2007 the number of people still on treatment stood at 12,315 or 91.7% of the number who initiated treatment. This number is made up of 11,777 adults and 538 children.

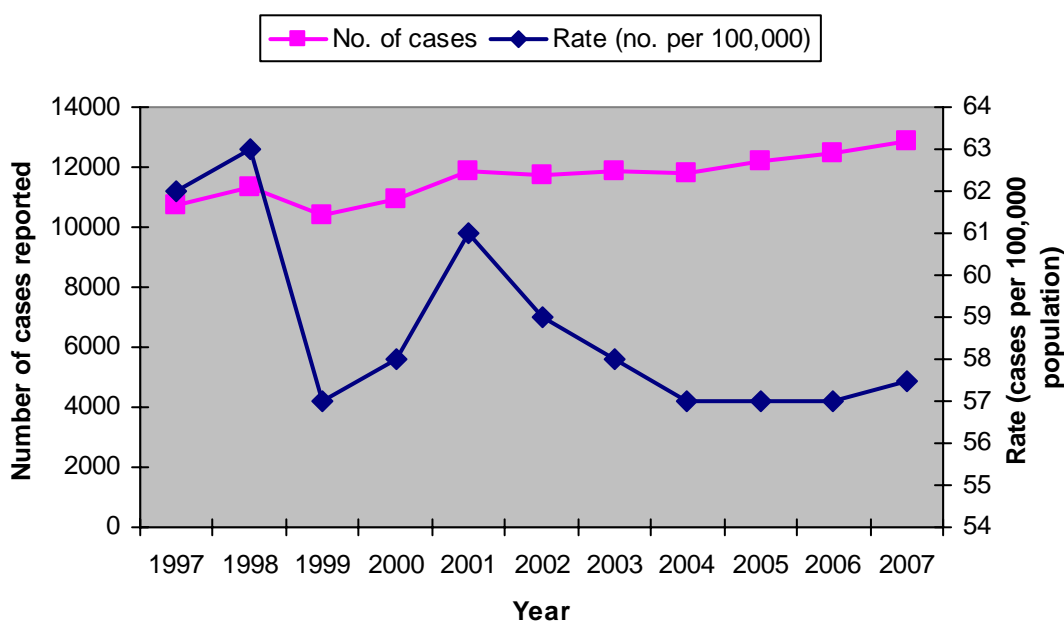
Although there has been a rapid increase in the number of people who have now been placed on ART, this number still represents a very small percentage (19.5%) of people living with HIV who need treatment which is estimated at 69,000. Access to ART services has improved greatly since the inception of the pilot phase in the Eastern region about five years ago. However, education coupled with counselling and testing must be vigorously promoted to improve service utilisation and thus improve the quality of life of those in need of treatment.

Tuberculosis Control

The National Tuberculosis Control Programme has continued to record moderate success over the years. The cure and treatment success rates have been increasing steadily while other adverse outcomes such as defaulter and death rates have been declining. There is an increasing trend in the reported number of cases in the last seven years. Case detection rate, however, (cases detected per 100,000 population) has remained low. Ghana is six percentage points short of attaining the Global treatment success target of 85%.

The present case detection rate for new smear positive Ghana is 37% as compared to the global target of 70%. Since the improvements in the cure and treatment success rates have been sustained, it is time to make efforts to improve case detection. The scale up of community based DOTS is one strategy that can improve tuberculosis case detection.

Figure 9: Trend in reported TB cases and Rate (cases per 100,000 population), 1997-2007



The male to female sex ratio of TB among children under 15 years is 1:1. The ratio shifts in favour of males in adults. Out of the 12,656 tuberculosis cases detected in 2007, 64% were male and the remainder female, giving a male to female ratio of 1.8. In Ghana, AIDS cases among females outnumber those among males. It seems that the HIV/AIDS epidemic in the country has not significantly changed the epidemiology of tuberculosis by increasing the number of cases of the latter.

Of all the TB cases reported in 2007 (**Table 12**), 91% were pulmonary tuberculosis with new sputum smear positive cases accounting for 57.9%. This is the lowest proportion of smear positive cases during the last 7 years. The proportion of extra-pulmonary cases has also increased. Indeed this proportion has increased steadily from 6.4% in 2003 to the current level of 8.9% in 2007. The issue of TB/HIV co-infection needs to be critically examined to explain some of these observations.

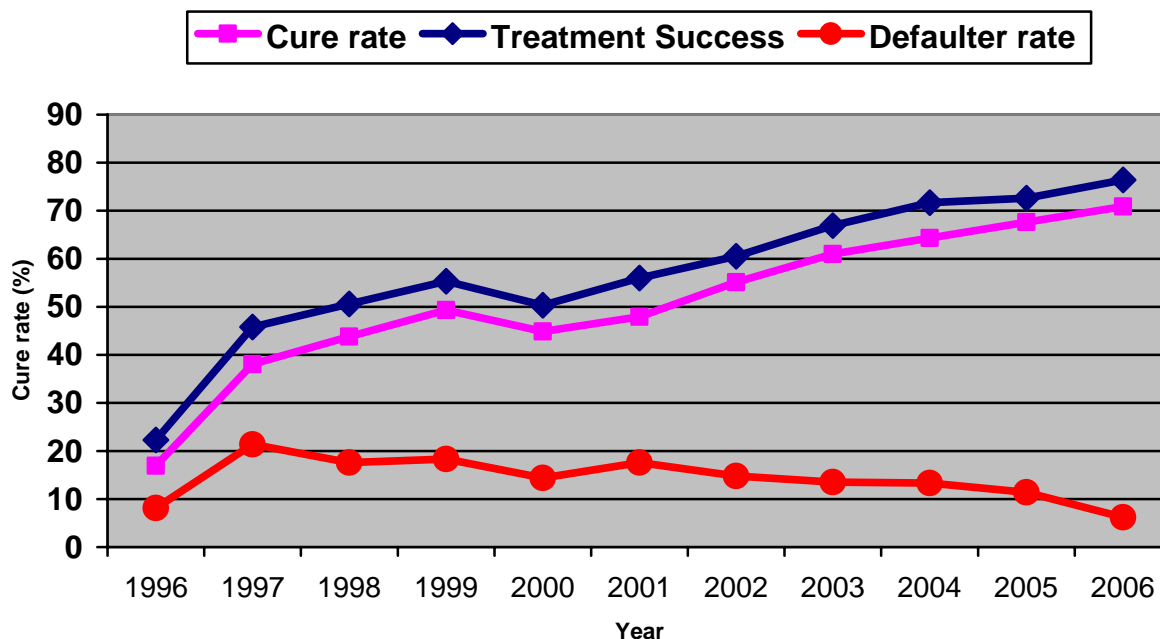
Table 12: Cases Detected by Sex and Category, 2002-2007

Category	SEX	YEAR					
		2002	2003	2004	2005	2006	2007
New Smear Positive	M	,960	5,023	4821	5024	5171	4,845
	F	2,772	2,691	2438	2560	2607	2,477
	Sub-Total	7,732	7,714	7,259	7,584	7,778	7,322
Relapses (Smear Positive)	M	334	388	375	376	374	339
	F	170	170	167	164	123	129
	Sub-	504	558	542	540	497	468

	Total						
Smear Negative	M	1,648	1732	1922	1775	1974	2,292
	F	1,046	1132	1200	1301	1165	1,449
	Sub- Total	2,694	2,864	3,122	3,076	3,139	3,741
Extra- Pulmonary	M	449	429	523	591	590	597
	F	344	331	381	429	459	528
	Sub- Total	793	760	904	1,020	1,049	1,125
All Categories	M	7,391	7,572	7,641	7,766	8,109	8,073
	F	4,332	4,324	4,186	4,454	4,354	4,583
	Grand- Total	11,723	11,896	11,827	12,220	12,463	12,656

In 2007, the cure rate among patients placed on treatment in 2006 was 72.6% compared with 67.6% for the 2005 cohort (**Figure 10**). The treatment success rate was 76.4% and 70.9% in the 2006 and 2005 cohorts respectively. The Ashanti region achieved the highest cure rate of 80.5% while, for the second year running, the Upper West attained the lowest cure rate. The programme in the Upper West needs to be revamped with the re-training of various cadre of staff in the diagnosis and management of cases. To increase access and promote early reporting Community-based DOTS should be rolled out as a matter of urgency. The Municipal and District Health Directorates should play a coordinating role and ensure that they form strong link between the health centres and hospitals. This will ensure that cases referred from the health centres to the hospitals are given priority attention and that defaulter prevention mechanisms are put in place.

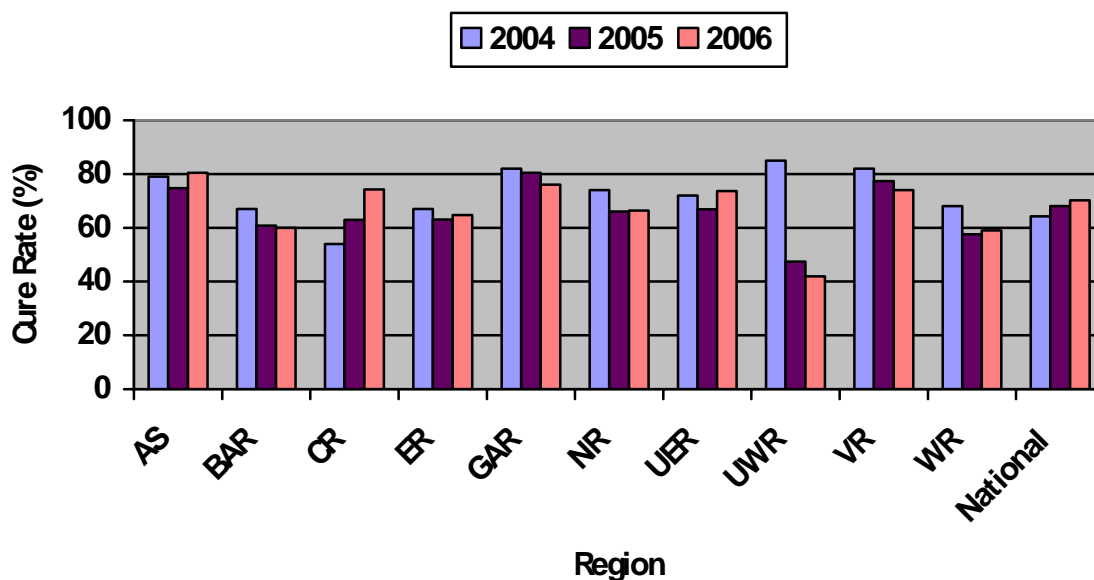
Figure 10: Trend in TB Cure, Treatment Success and Defaulter rates, 1996-2006.



For the first time in several years the defaulter rate has fallen below 10%, thanks to an innovation intervention currently being implemented (Enablers Package). This is an indication of improved case holding. Only one region, Brong Ahafo, reported defaulter rate over 10%. It is recommended that defaulter rates should not be more than 10% as high defaulter rates give rise to drug resistance and ultimately to treatment failures. The death rate has not changed, still standing at 8.8% compared with the 2005 figure of 8.9%. The Brong-Ahafo, Upper East and Upper West regions reported death rates in excess of 10%.

Though the death rates reported by the two Teaching Hospitals are down from the level recorded in 2005 they are still very high. The Komfo Anokye Teaching Hospital again recorded the worse death rate of 22.0% compared to 28.8% in 2005. Korle-Bu Teaching Hospital reported the second highest death rate 17.8% in 2006. One possible reason for this may be the fact that these tertiary institutions manage many complicated cases referred from other treatment centres. Some factors contributing to high death rates include late initiation of treatment due to late reporting and late diagnosis. HIV infection is known to contribute to death among TB cases and vice versa. It is important for those managing patients with tuberculosis to offer them counselling and testing services and place those found to be HIV positive on anti-retroviral treatment.

Figure 11: Tuberculosis Cure Rate By Region, 2004-2006



Change to Fixed Dose Combination Therapy

During the third quarter of the year under review the National Tuberculosis Programme switched over to the use of Fixed Dose Combination drugs. The features of the new treatment regimen include the use of fixed dose combination (FDC) drugs and cessation of the use of streptomycin injection for new cases (reserved for use in re-treatment cases only). Since rifampicin is used throughout the duration of treatment, the period of treatment has been shortened to six months. This also means that patients must take their drugs under supervision throughout the entire treatment period. It is hoped that all these measures will improve compliance, decrease default rates and ultimately increase cure and treatment success rates.

Community Based DOTS or Community Based TB Care

The Community Based DOTS is a strategy to increase access to tuberculosis care. With the switch to the fixed dose combination drugs and non-use of injections for new cases it is no longer necessary for all tuberculosis patients to take their treatment at a health facility. Under the Community Based DOTS strategy, community based volunteers and treatment supporters are identified and trained to support tuberculosis patients to take their treatment within their communities. By the end of the year, 80 districts had adopted this strategy.

TB/ HIV Collaborative activities

It is a known fact that HIV drives TB incidence and mortality. In high HIV prevalence areas, between 11% and 50% of HIV/AIDS patients die of tuberculosis and DOTS alone is insufficient to control TB in these areas. Joint TB/HIV interventions, jointly delivered, are needed to control HIV-associated TB, expand DOTS, and to control HIV. These activities are also beneficial to the patients suffering from these diseases.

Table 13: Outputs Of Collaborative Activities Of The National AIDS Control And National Tuberculosis Control Programmes

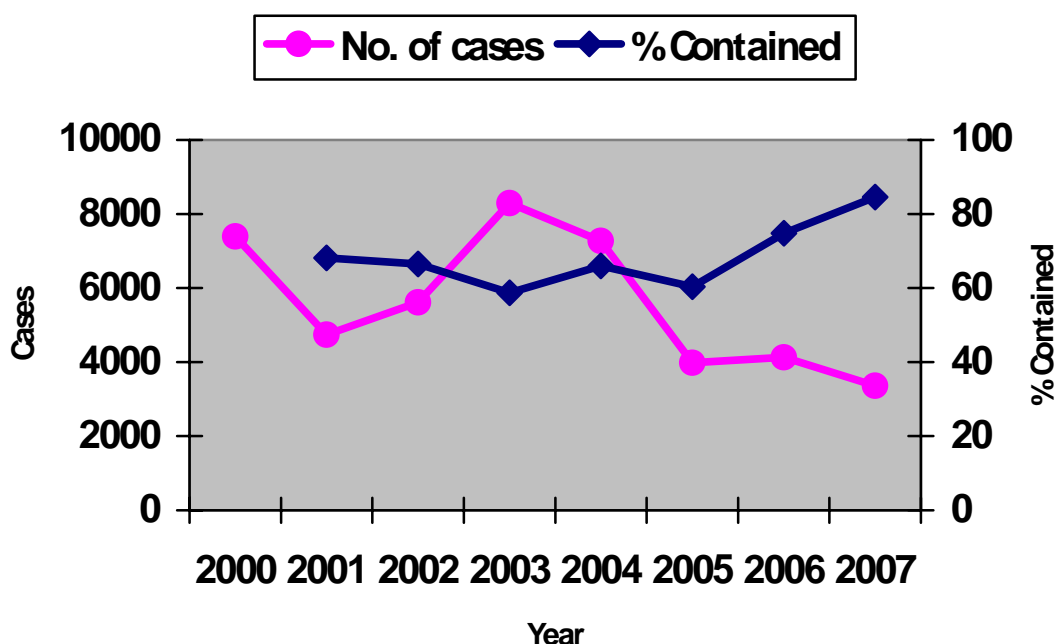
TB/HIV	2007 Target	2007 Achievement
Number of TB patients who receive HIV counseling and testing at collaborating sites	2,500	5,903
Number of registered TB patients at collaborating sites who are HIV positive	500	1771
Number of DOTS service providers trained in HIV counseling	174	215
Number of PLWHA on HIV treatment and care services who were screened for TB symptoms	10,400	3,971
No of new cases of TB identified through screening of PLWHA	1200	505
Number of HIV-positive TB patients who have begun or are continuing HAART, during or at end of TB treatment	520	544

Guinea Worm

The Guinea Worm Eradication Programme has chalked some modest success in 2007. There was a 19% decline in the number of cases reported in 2007 compared with 2006. The number of cases reported reached its lowest level since the inception of the programme. This result is a reflection of the efforts put in place in 2006 especially improvement in surveillance and case containment. The uncontained cases are the ones likely to lead to contamination of drinking water sources and give rise to cases the following year. The case containment rate increased from 74.8% to 84.5%.

While the performance in 2007 indicates that the programme is back on track after been derailed by the events in Tamale and Savelegu/Nanton districts, no one can be complacent as it takes just a few uncontained cases to pollute drinking water sources and reverse all the gains made so far.

Figure 12: Trend in Reported Guinea Worm Cases and Case Containment Rate, 2000-2007



As shown in **Table 14** below, the Central region has not reported any case of guinea worm for three consecutive years. Four other regions; Greater Accra, Eastern, Upper East and Western have reported only imported cases during the last three years. These regions have all successfully interrupted guinea worm transmission. The cases reported in the Upper West and Volta regions have also been decreasing steadily. Analysis of the regional distribution of cases in 2007 further shows that the Northern Region accounted for over 96% of cases. In deed the Northern region has been the least successful in the eradication efforts and its share of the national burden of the disease has grown steadily from 74.9%% in 2005; 89.1% in 2006 and to its current of 96.4% in 2007.

Table 14: Regional Distribution of Guinea Worm Cases, 2005-2007

Region	2005		2006		2007	
	No. of cases	% of Total	No. of cases	% of Total	No. of cases	% of Total
Ashanti	59	1.5	53	1.3	18	0.5
B/Ahafo	293	7.4	204	4.9	42	1.3
Central	0	0.0	0	0.0	0	0.0
Eastern	17	0.4	8	0.2	7	0.2
G/Accra	3	0.1	3	0.1	2	0.1
Northern	2,981	74.9	3,679	89.1	3,237	96.4
U/East	7	0.2	6	0.1	5	0.1
U/West	333	8.4	90	2.2	23	0.7
Volta	286	7.2	86	2.1	22	0.7
Western	2	0.1	2	0.0	2	0.1
Total	3,981	100.0	4,129	100.0	3,358	100.0

Trachoma Control

Trachoma is a leading cause of preventable blindness in Ghana accounting for up to 15% of blindness. The Trachoma Control Programme which started in the Northern and Upper West regions in 2001 has the objective of eliminating blinding trachoma from Ghana by 2010. Trachoma is the leading cause of preventable blindness in Ghana. Trachoma control activities are based on a strategy known by the acronym **SAFE**. Surgery (**S**) is used to correct trichomatous trichiasis which is a chronic complication of the disease that can lead to blindness if uncorrected. The Antibiotics (**A**) azithromycin and 1% tetracycline eye ointment are used to treat people with active disease. Apart from preventing future complications, this also helps reduce the pool of infectious people. Face washing (**F**) and Environmental Improvements (**E**) components aim to improve personal hygiene and environmental sanitation and reduce the risk of disease transmission.

Over 4,000 people suffering from trichiasis have had corrective surgery to prevent further deterioration and eventual loss of vision. Over 2 million doses of azithromycin have been distributed to residents in endemic communities.

A recent evaluation conducted in the two regions showed that the prevalence of active trachoma in children aged 1-9 years, measured by the presence of follicles (TF) in the tarsal conjunctiva, has decreased by up to 80%. Out of the 26 districts, antibiotics will be distributed in 7 districts as the prevalence (TF) in the others has declined below 5%. Surveillance will however, be maintained in all communities so as to detect any signs of recrudescence and take remedial action.

Communicable Disease Surveillance

Poliomyelitis Eradication Initiative (PEI)

Activities under the Poliomyelitis Eradication Initiative (PEI) include routine polio vaccination including mop-up, supplemental immunization and Acute Flaccid Paralysis (AFP) surveillance. Routine Immunisation against polio is done as part of the Expanded Programme on Immunisation. One round of supplemental immunisation was conducted as part of the Integrated Maternal and Child Health Campaign.

AFP surveillance serves as the litmus test for the Polio eradication efforts. During the year a total of 167 cases of AFP were detected out of which 154 were discarded as Non-Polio while 13 were classified as being clinically compatible with polio though no wild polio virus was isolated meaning the laboratory results could be false negative resulting from inadequacy of stool specimens. The 154 cases discarded as non-polio gave a non-polio AFP rate of 1.60 per 100,000 population under 15 years of age.

The Ashanti and Greater Accra regions failed to achieve the target for non-polio AFP rate of at least 1.0. The performance of the Eastern, Greater Accra and Volta regions has been declining for the last three years (**Table 15**). There is a need to sustain high level of performance through capacity building for clinicians, District Directors and disease control officers. Regular sensitisation of herbalists, traditional healers and spiritualists is essential as some cases of AFP may seek care from such people. With respect to adequacy of stool specimen, only three out of the ten regions - Volta, Ashanti and Central regions performed well. All the others performed poorly with respect to stool adequacy. Efforts have to be made

to improve the quality of the stool specimens collected. Maintaining the stool with frozen ice-packs is essential to ensure that any polio virus present remains in state in which it can be detected by the test methods being used.

Table 15: AFP Cases Detected and Non-Polio AFP Rate by Region, 2005-2007

Region	2005		2006		2007	
	Non-Polio AFP Cases	Non-Polio AFP Rate	Non-Polio AFP Cases	Non-Polio AFP Rate	Non-Polio AFP Cases	Non-Polio AFP Rate
Ashanti	29	1.61	24	1.26	17	0.89
Brong Ahafo	15	1.67	19	2.11	13	1.44
Central	13	1.86	9	1.13	25	3.13
Eastern	17	1.89	17	1.70	13	1.30
Greater Accra	10	0.67	11	0.69	8	0.50
Northern	17	1.89	12	1.33	19	2.11
Upper East	8	2.00	14	3.50	8	2.00
Upper West	7	2.33	6	2.00	9	3.00
Volta	19	2.38	17	2.13	14	1.75
Western	25	2.78	26	2.60	28	2.80
Ghana	160	1.76	155	1.65	154	1.60

During the last four years there has not been any case of AFP due to polio. Documents for certification as polio-free have been submitted to and accepted by the World Health Organisation (WHO). Surveillance must continue in all districts and communities as many countries in the West African sub-region are still reporting cases of AFP due to wild polio virus.

Avian Influenza

Since 2003 when human cases of avian influenza were reported in Asia there have been fears that it is just a matter of time before cases appear in Africa. A National Avian Influenza Working Group was set up to develop a plan to prevent, contain and control AI outbreaks and to coordinate the overall response to a possible Influenza pandemic. As part of preparedness to the avian and pandemic influenza threat Influenza surveillance guidelines were prepared and circulated to the regions. Personal Protective Equipment (PPE) were procured and distributed to the regions. In addition Tamiflu capsules were also procured. In the West African sub-region outbreaks of Avian influenza among domestic birds had prior to April 2007 r been reported in Nigeria, Niger, La Cote d'Ivoire, Burkina Faso and Togo. In April 2007 the first confirmed cases of AI were reported in poultry in Tema in the Greater Accra

Region and in Sunyani in the Brong-Ahafo Region in May. Later in June a third outbreak was reported on a poultry farm in Aflao in the Volta region.

In response to these events Tamiflu tablets were distributed to all regions. District and Regional Teams have also been trained on surveillance and management of AI cases. Communication and surveillance activities have been strengthened especially in outbreak areas.

Cholera

Outbreaks of cholera were reported in the Ashanti (Amansie East), Central (Cape Coast Municipality), Western (Nzema East and Sefwi-Wiaso) and Northern (Tamale Metro) regions. A total of 179 cases and 18 deaths were reported. The outbreak in Tamale had the highest case fatality rate of 18%. Case management needs to be improved through training in order to achieve a case fatality of 1.0% or less as recommended by the WHO.

The current response to cholera outbreaks tends to be reactive, in the form of an emergency response. Emphasis must be placed on improving sanitation and sewage disposal by appropriate agencies and departments as a long term measure. Sustained health education aimed at behaviour change is an important component of cholera control and prevention. It should start just before the rainy season and continue throughout the rainy period.

Ultimately, a multi-sectoral and coordinated approach is paramount in order to efficiently control a cholera outbreak. Ministries such as Local Government represented by agencies such as the Environmental Health Division and the Water and Sanitation Agencies; and the Ministry of Works, Housing and Water Resources as well as the National Disaster Management Organisation are key players when it comes to cholera prevention and control. Apart from public education and case management, the Ghana Health Service will continue to play an advocacy role to improve sanitation and the availability of potable water.

Food Poisoning

In May of 2007 there was an outbreak of food poisoning among school children in Madina in the Ga East district of Greater Accra. The outbreak occurred among a cluster of schools which were served by the same Caterer under the School Feeding Programme.

The symptoms ranged from mild to severe forms of diarrhoea, vomiting, abdominal pains and fever. A total of 1,348 children were affected but fortunately there were no deaths. There should be periodic examination of all caterers and cooks engaged in the Programme. There should also be regular inspection of the premises where food is prepared.

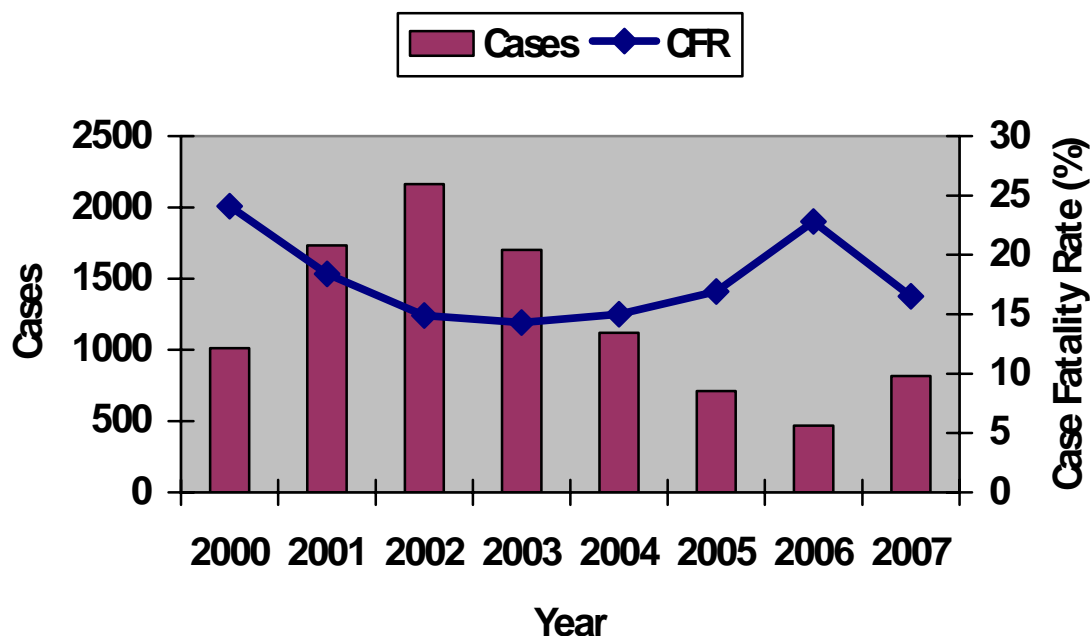
Meningitis

There was an outbreak of meningitis in Bawku Municipal of Upper East region. Widana and Pusiga sub-districts were the main two sub-districts affected. A total of 212 cases and 11 deaths (Case Fatality Rate of 5.2%) were recorded during the outbreak.

Other districts and regions recorded sporadic cases of meningitis. 816 cases with 135 deaths (Case Fatality Rate of 16.5%) were reported during the year, compared to 469 cases and

107 deaths in 2006 (case fatality rate of 22.8%) and 712 cases with 120 deaths (case fatality rate of 16.9%) recorded in 2005.

Figure 13: Cases Of Meningitis and Case Fatality Rate, 2000-2007



The case fatality rate is well above the international target of 10%. During the dry season when outbreaks occur in the northern regions public education should be intensified to promote early reporting. At the same time facilities should stock medicines and logistics for case management. Case management guidelines should be circulated by the Regional Directorates and if necessary, remedial training on case management should be organised. As major epidemics of Epidemic Meningococcal Disease (EMD) tend to occur every 8-10 years the probability of a major epidemic of meningitis occurring in 2008 are high as the last major outbreak of meningitis in the country was in 1996/97. This is more so as a neighbouring country, Burkina Faso has been having epidemics annually since 2003. All district and regions, especially those in the savannah areas, as well as the national level must have up to date epidemic preparedness plans.

Reproductive Health

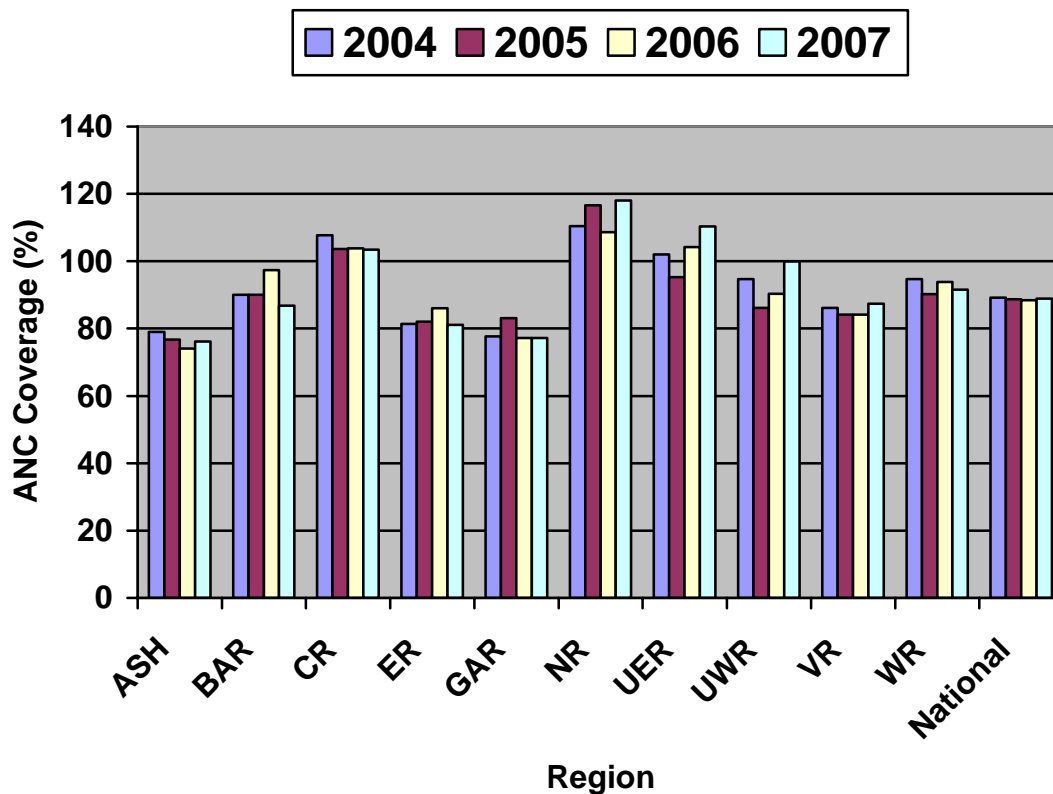
Antenatal Care Coverage

The objective of antenatal care is to promote the health and maintain the health of pregnant women. It aims to establish contact with pregnant women in order to detect and manage current health problems. During this period women and their care givers can develop delivery plans based on their needs, resources and circumstances. The package of antenatal services includes clinical care, iron and folate supplementation, nutrition education, and malaria prevention through intermittent preventive treatment and promotion of the use of insecticide treated nets. Other components of the package are education on breast feeding and family planning, counselling and testing for HIV, and care of the newborn.

The current strategy for delivering ANC services is focused antenatal care services. This strategy is geared toward promoting individualised, client centred and comprehensive services. One important component of focused antenatal care is improvement in the skills of service providers so they can deliver quality services.

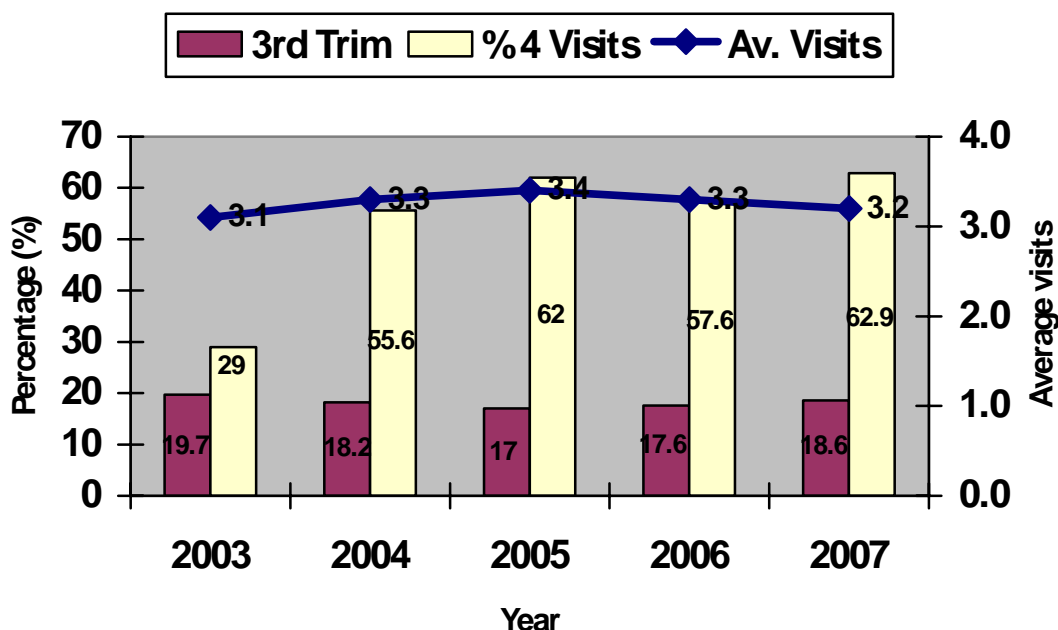
The coverage of antenatal care has been stagnant for the past four years. A look at the regional performance shows that the Northern, Central, Upper East and Upper West have been consistently attaining high coverage (**Figure 14**).

Figure 14: Antenatal Care Coverage by Region, 2004-2007



In order for a particular woman to derive maximum benefit from antenatal care, it essential for her to start utilising the service early in pregnancy and to attain a minimum number of contacts with the service. For instance to benefit fully from malaria prevention through Intermittent Preventive Treatment a pregnant woman must make at least three contacts with services between 20 and 36 weeks of gestation. The figure below indicates the average number of visits has been stagnant at about 3 visits per registrant for the last 5 years. After increasing sharply from 29% in 2003 to 55% in 2004, the percentage of women making at least 4 visits has also stagnated at about 60%. The proportion of pregnant women who seek care during the third trimester has been about 20% for last 5 years. All these are indications that in spite of the high antenatal coverage some registrants may not be deriving maximum benefits from the service.

Figure 15: 3rd Trimester Registration, Average visits per Registrant and Proportion Making At Least 4 visits, 2003-2007



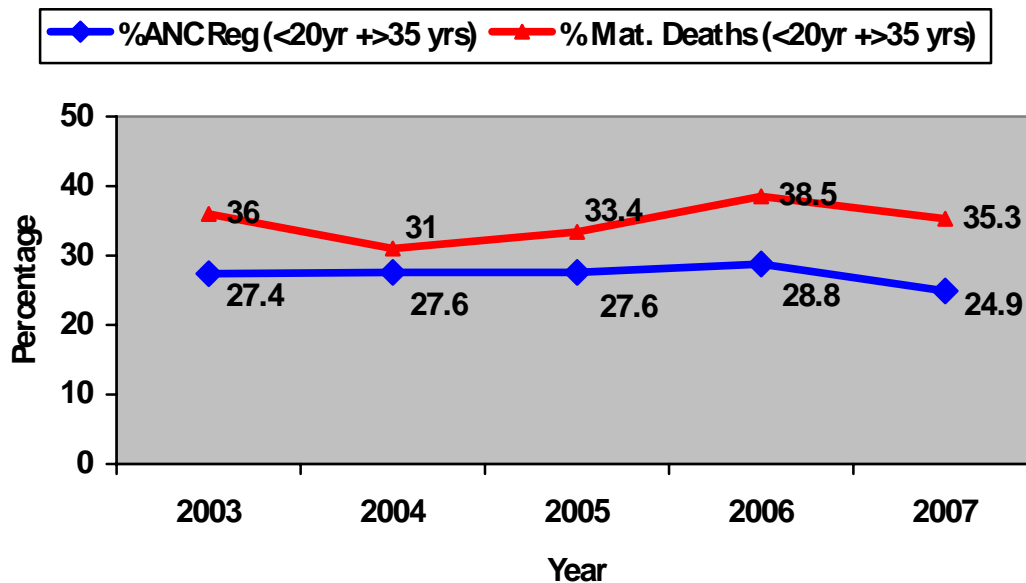
Pregnancy is particularly risky to certain groups of women - very young women, older women, women who have had more than four deliveries, and women with existing health problems. Very young, adolescent women who become pregnant face serious health risks because their bodies may not be physically mature enough to handle the stress of pregnancy and childbirth. Women aged 15-19 have up to three times the maternal death rate as those aged 20-24. They are especially likely to suffer from pre-eclampsia and eclampsia, obstructed labour, and iron deficiency anaemia.

The risks of childbearing also are greater in older women as their bodies may be less able to deal with the physical stresses of pregnancy and childbirth. The risk of giving birth to babies with low birth weight or disabilities also increases in older women.

As shown in **Figure 16** below, women younger than 20 years and those older than 35 years have had a disproportionate share of maternal mortality over the years. In 2006, this group constituted 28.8% of antenatal registrants but they accounted for 38.5% of maternal deaths; in 2007 the group accounted for 24.8% and 35.3% of antenatal registrants and maternal deaths respectively.

The proportion of antenatal care registrants who are teenagers was 12.4%. The lowest proportion of 8.8% was reported in the Greater Accra region while Central region reported the highest proportion of 16.8%. The Central, Brong-Ahafo, Volta and Western regions have reported persistently high figures during the last 5 years. Service providers have been urged to make their facilities adolescent friendly to promote utilisation by this group. Education on the dangers of unprotected sex and teenage pregnancy should be intensified.

Figure 16: Proportion of ANC Registrants and Maternal Deaths in the Age Groups less Than 20 years and older than 35 years, 2003-2007.

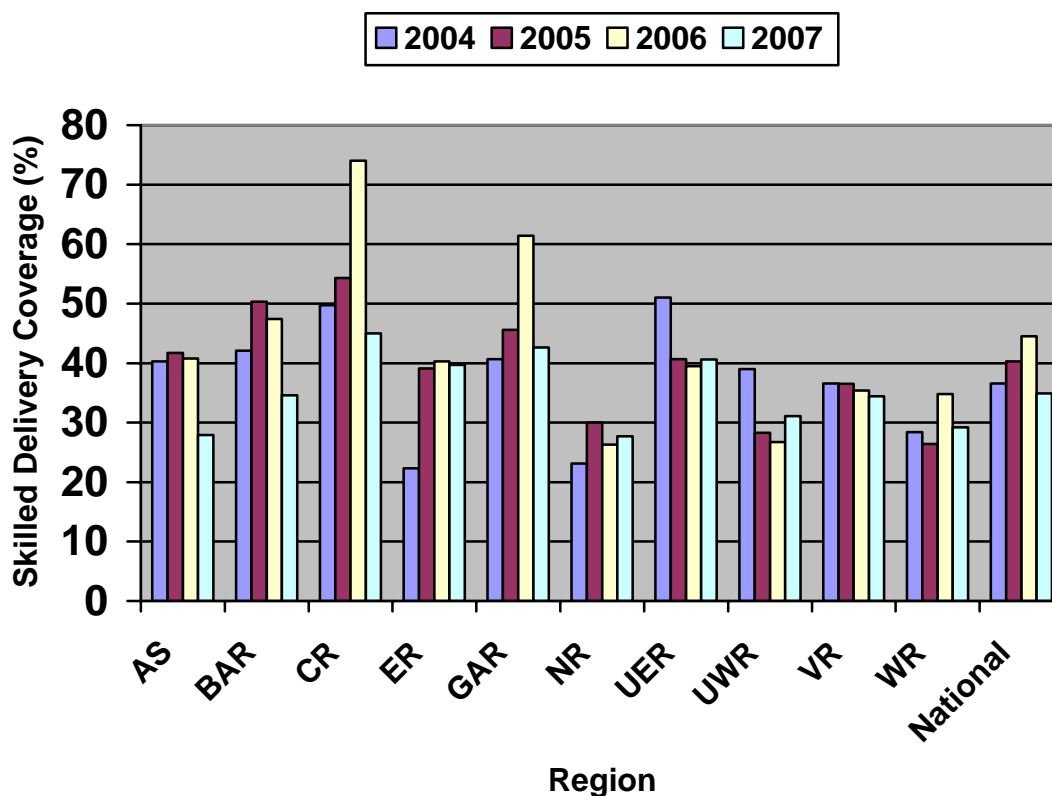


Deliveries By Skilled Personnel

Proper management of labour is critical in the efforts to reduce maternal mortality. Deliveries by midwives, general medical practitioners and obstetricians are classified as skilled deliveries. The specific objective of skilled attendance during labour is to ensure proper management of labour, early identification and proper management of complications.

Analysis (**Figure 17**) shows that the proportion of deliveries conducted by skilled personnel after increasing each year from 2004-2006 declined in 2007. The performance declined from 44.5% in 2006 to 34.9% in 2007. Three out of 10 regions (Northern, Upper East, Upper West) showed marginal improvement while the rest recorded significant declines in performance. Innovations reported by some districts within these three regions include paying premiums of some pregnant women, provision of incentives for TBAs to accompany women in labour. They also provided facilities and incentives for midwives and CHOs conduct home deliveries (domiciliary midwifery).

Figure 17: Percentage Of Deliveries By Skilled Attendants By Region, 2004-2007



The reasons for the poor performance include the cessation of fee-free delivery at public health facilities. The exemption was to be replaced by Health Insurance but many pregnant women have not registered. The industrial unrest in the health sector in 2007 also a possible contributory factor. Once a woman goes into labour she must be delivered within a certain time. Catch-up campaigns or mop-up can be conducted to vaccinate children who are not vaccinated during the period of the industrial action but no remedial action can be taken for women who had to be delivered by unskilled personnel.

Other factors include inadequate number of practicing midwives and difficulties in getting to health facilities while in labour. Cultural and other barriers, including the attitude of health workers, have to also be addressed in order to make the desired impact on skilled deliveries.

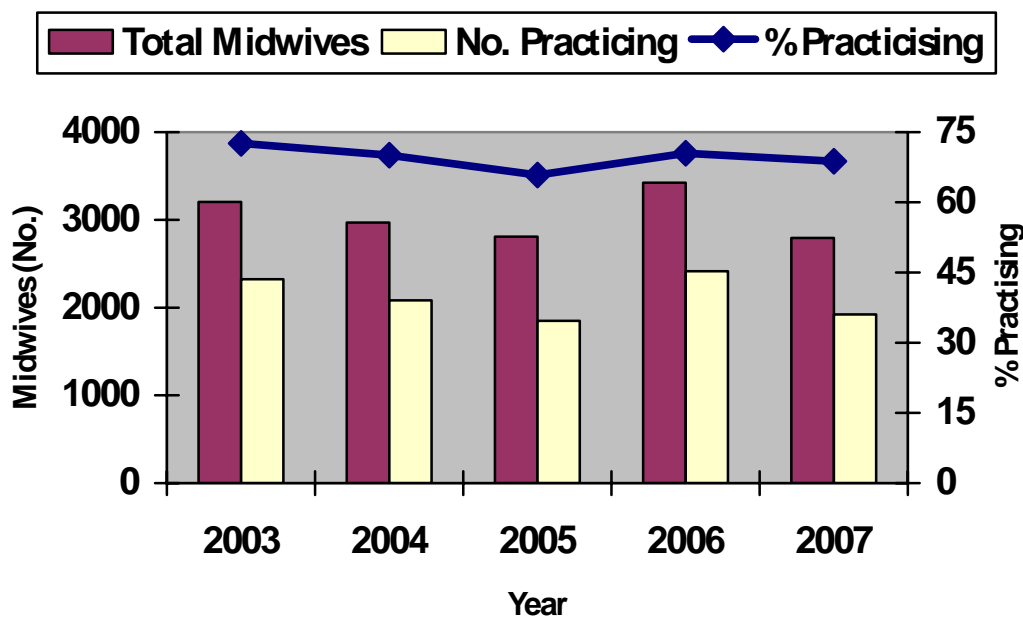
Basic and Comprehensive Essential Obstetric Care

The reduction of maternal morbidity and mortality depends on women's access to Essential Obstetric Care (EOC). Basic Essential Obstetric Care (BEOC) is the minimum package of services provided at the health centre level, without the need for an operating theatre, to manage complications during pregnancy, labour and delivery and post delivery. This package of services includes intravenous or intramuscular administration of antibiotics and anticonvulsants, assisted vaginal delivery and removal of retained products. Comprehensive Essential Obstetric Care includes the Basic Essential Obstetric care package in addition to facilities for caesarean sections and safe blood transfusions. This is the minimum package at the district hospital level

This package of services can not be provided without the appropriate infrastructure and equipment. The availability of skilled human resources (midwives and obstetricians) is even

more important as it is these skilled personnel who provide the services and take the critical decisions. Two regions, the Upper East and Upper West, have not had an obstetrician for many years. In terms of midwives, not only is the total number of midwives decreasing but the proportion actually practising as midwives is also declining. Even among those practising a significant proportion are near retiring age. During the five year period, 2003-2007, less than 75% of the midwives within the Service at any time practised midwifery. This situation will adversely affect access by pregnant women to quality obstetrical services.

Figure 18: Number of Midwives and Percentage Practising Midwifery, 2003-2007



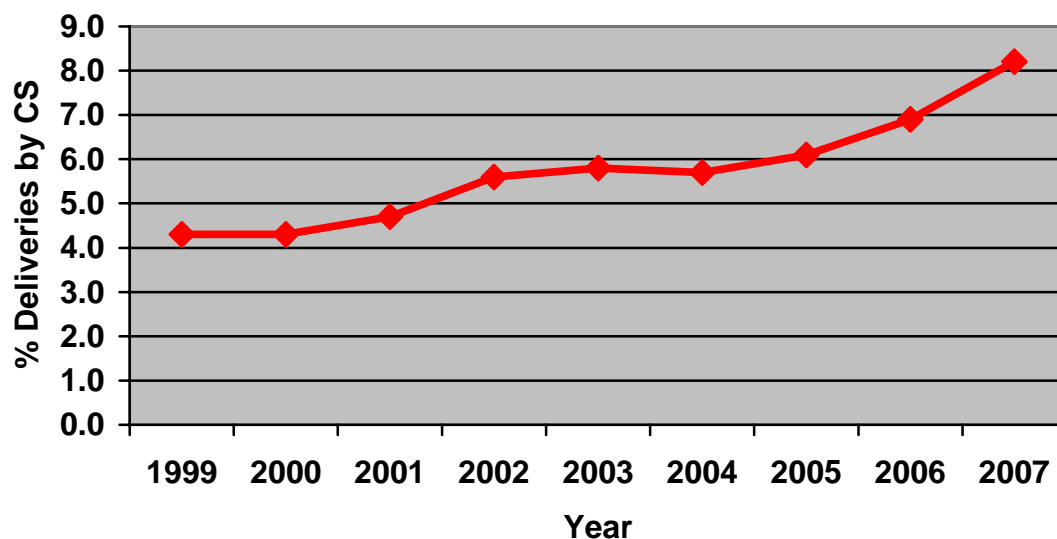
Since midwifery is a specialised area, managers at the regional, district and facility levels must ensure that all midwives are deployed in locations where they can continue practising. Where midwives have been deployed in places where they are not practising it is essential they are given some form of re-orientation when they are to start practising as midwives again.

It is also known that even for some of the practicing midwives their case load is low that it is difficult for them to maintain their skill after serving in these places for a couple of years. Domiciliary midwifery should be promoted especially in areas where geographical access is still a major problem. The Straight Midwifery programme should be rolled out as a long term strategy to produce midwives to fill the gaps. In the medium term, Community Health Officers to be deployed in the CHPS zones should be equipped with basic midwifery skills.

Caesarean Section Deliveries

The percentage of births by caesarean section is an indicator of access to and utilisation of care during child birth. It is estimated that between 5% and 10% of all births in a population will involve a complication that requires an intervention such as caesarean section. Caesarean sections are lifesaving procedures and it is generally agreed that rates lower than 5% may mean that women do not have access to these lifesaving operations. Without this service many pregnant women with complications will die or develop disabilities.

Figure 19: Percentage of deliveries by Caesarean section, 1999-2007

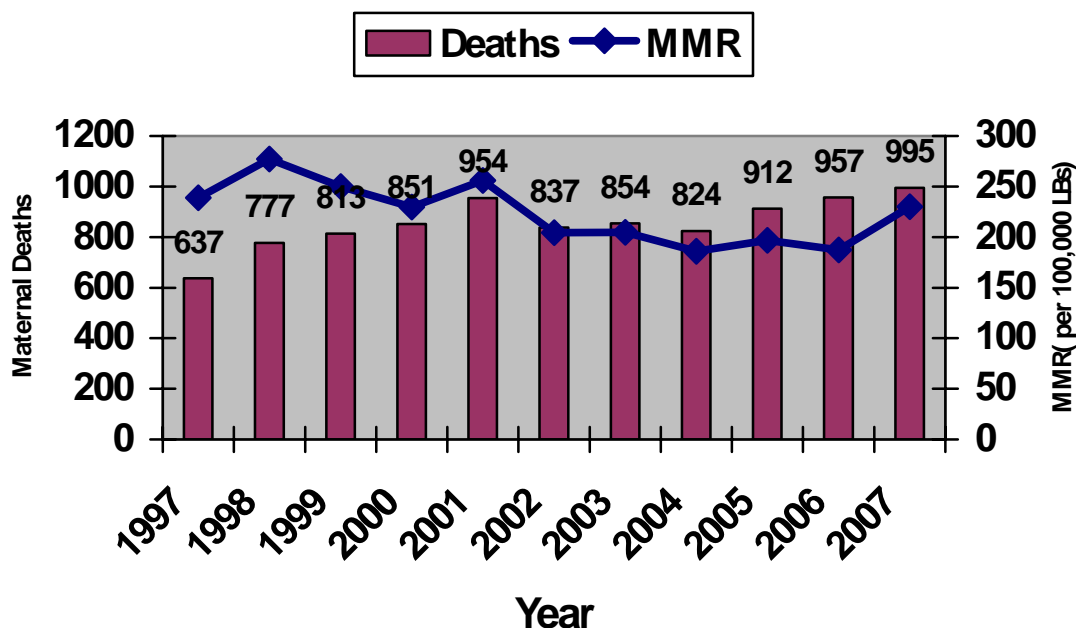


Generally there is an increasing trend in the proportion of deliveries by caesarean section. During the last five years the minimum of 5% has been reached. However, as with many indicators, there are very wide regional variations. While Greater Accra has exceeded 15% , the Northern, Upper East and Upper West are all below 4%.

Maternal Mortality

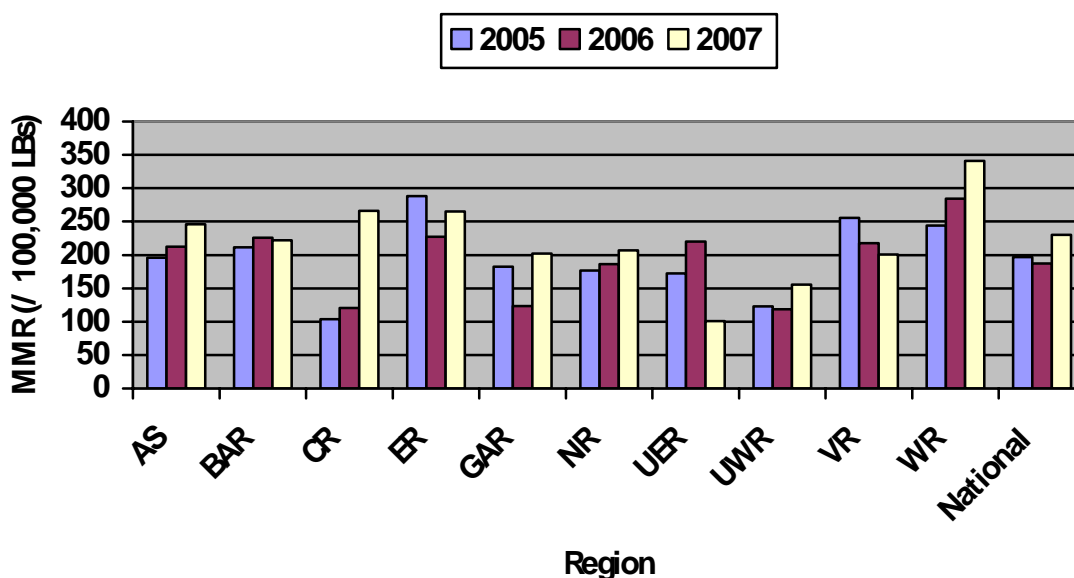
Complications during pregnancy and child birth are leading causes of death and disability among women of reproductive age in many developing countries. A total of 995 institutional maternal deaths were recorded in 2007. This represents a 4.0% increase over the 957 maternal deaths reported in 2006. The institutional maternal mortality ratio has increased from 187 per 100,000 live births in 2006 to 229.9 live births. During the last 10 years the lowest maternal mortality ratio has been fluctuating between 186 /100,000 live births and the 277.1/100,000 live births.

Figure 20: Institutional Maternal Deaths and Mortality Ratio in Ghana, 1997-2007.



There are wide regional variations, from 140.7/100000 live births in the Upper West Region to 341.9/100000 live births in the Western Region. Three regions, Brong-Ahafo, Upper East and Volta showed improvement in their performance (decreased maternal mortality ratio). The Central Region showed the worse deterioration in performance going from 121/100,000 live births in 2006 to 266/100,000 live births to 2007.

Figure 21: Maternal Mortality Ratio by Region, 2005-2007



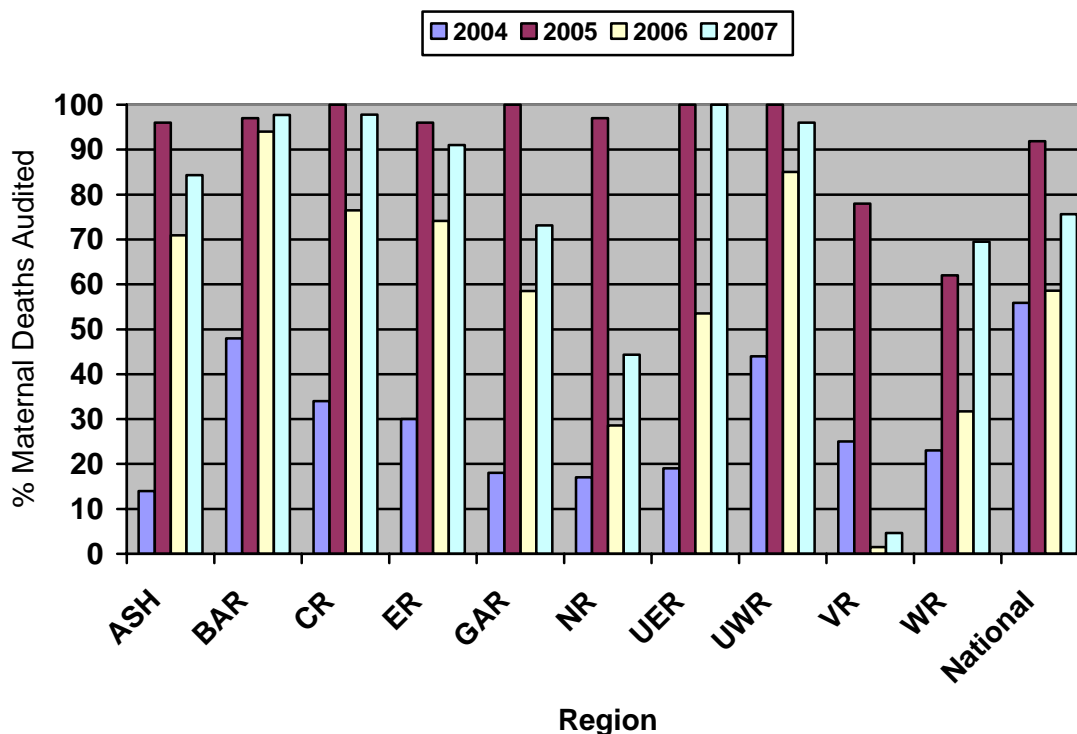
Maternal Death Audits

The proportion of maternal deaths has shown a remarkable improvement in 2007. Out of the 995 maternal deaths that were reported, 752 (75.6%) were audited. Only the Upper East region audited all maternal deaths reported. Four other regions, Brong-Ahafo, Central, Eastern, and Upper West audited above 90% of the maternal deaths they reported. The Northern region audit less than 50% while the Volta region, for the second year in succession, audited less than 5% of the deaths. The wide fluctuations in the proportion of maternal deaths audited from one year to the next are probably an indication that maternal death auditing has not yet been institutionalised. Regular reminders may have to be sent to all facilities that maternal deaths are still notifiable events.

The audits show that the major direct causes of maternal death remain haemorrhage, pregnancy induced hypertension, obstructed labour and sepsis. Underlying factors include delay in seeking care, non-availability of key staff at facility to take decision to intervene and non-availability of blood.

A confidential inquiry into hospital based maternal deaths found that care provides to women in labour was below expectation.⁶ The report indicated that in some cases there was poor management of labour, poor recognition and management of complications such as bleeding and sepsis. It also found that unacceptable attitude of health workers, especially doctors, was common. The training on safe motherhood for staff providing obstetric care is to be improved and basic equipment for provided.

Figure 22: Percentage of Maternal Deaths Audited By Region, 2004-2007

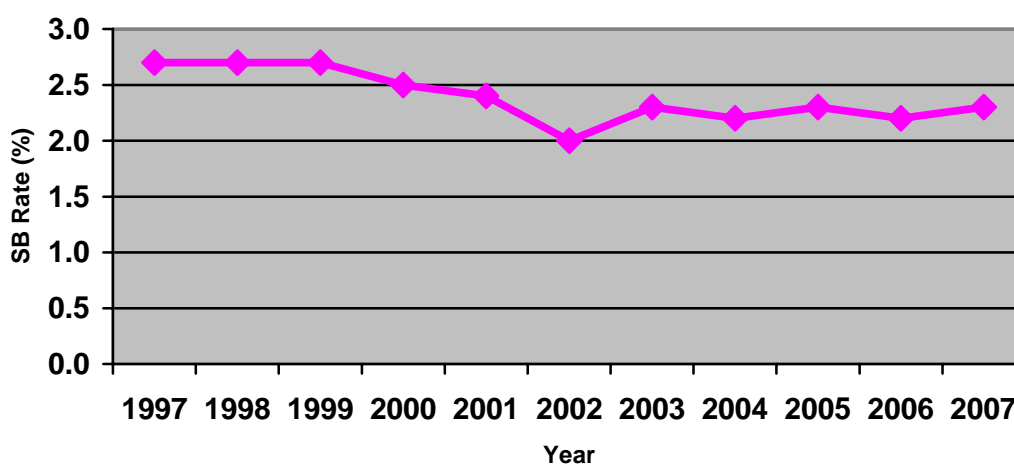


⁶ Janet Asong-Tornui *et al.* Hospital based maternity care in Ghana- Findings of a confidential enquiry into maternal deaths. Ghana Medical Journal 200; 41(3):125-132.

Still Births

The still birth rate is an indirect measure of the management of pregnancy, labour and delivery. A total of 11,387 still births were reported giving a still birth rate of 2.2%. Fifty percent (5,644) of these were fresh still births. During the last 10 years the still birth rate has not fallen below 2%. It is possible that fresh stillbirths are under reported as it may be more convenient to label many still births as macerated as this absolves the facilities of any blame. As part of the strategy to reduce neonatal and peri-natal deaths, all such deaths occurring in institutions should be audited.

Figure 23: Institutional Still Birth Rate, 1997-2007



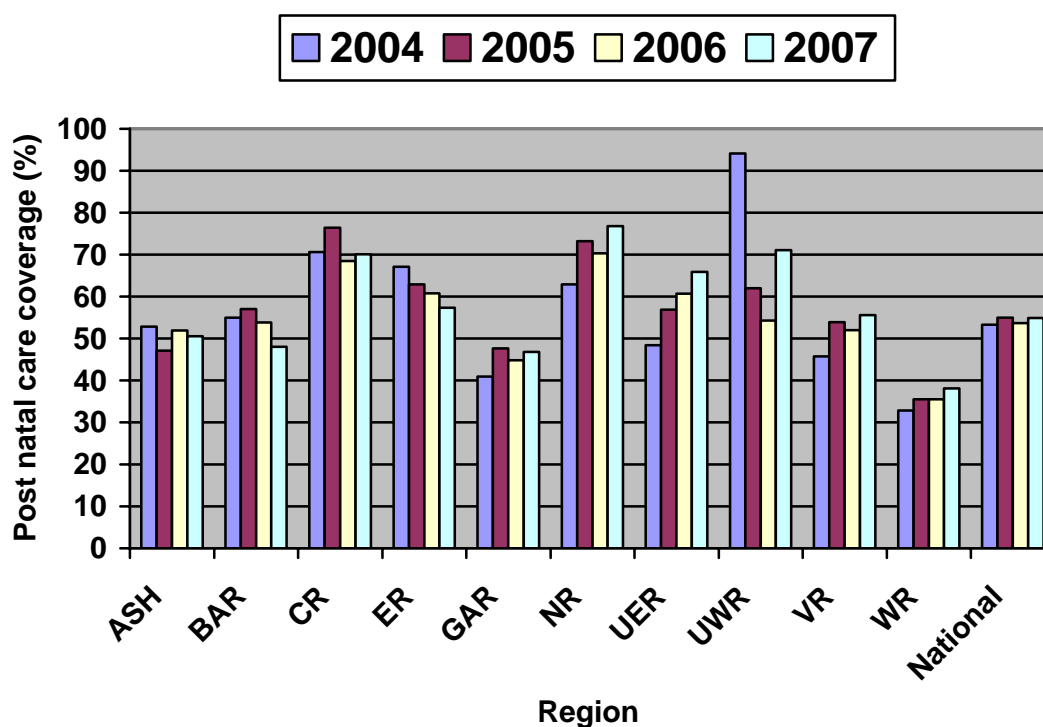
Post Natal Care

The objectives of post natal care are to maintain the physical and psychological wellbeing of the baby and mother; perform comprehensive screening for the detection and management of complications in both the mother and the baby; and provide education on nutrition (including breastfeeding), infant immunisation and family planning.

After increasing from 53.3% in 2004 to 55.0% in 2005, post-natal coverage in 2006 dropped to 53.7%, which is far below the target of 60% set for the period. The regional distribution shows the Northern region as the highest performing region with a coverage rate of 70.3%. The other regions which achieved the annual target are Central, Eastern and Upper East. During the last three years, the Western region has recorded the lowest performance, below 40% each year.

The big difference between antenatal care coverage on the one hand and skilled delivery and postnatal care coverage on the other is a cause for concern. The high “drop-out” rate is probably an indication that people who make contact with service providers are unwilling to continue for reasons which might possibly include dissatisfaction with the service. Operational research is necessary to find the contributory causes of this high drop-out rate

Figure 24: Post Natal Care Coverage By Region, 2004-2007



Family Planning

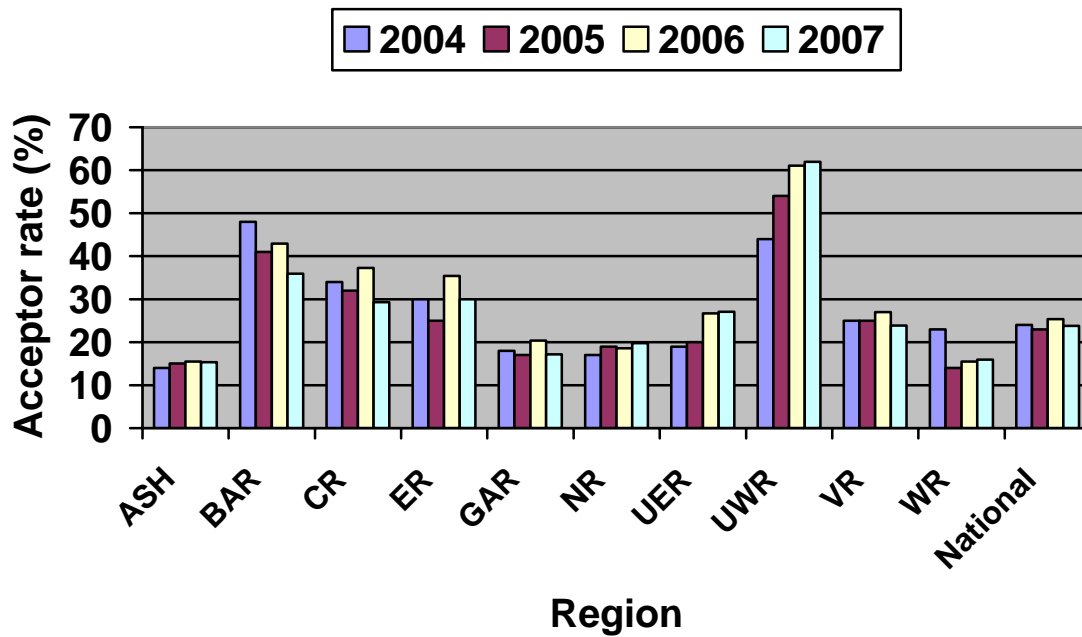
Family Planning services include methods and practices to space births, prevent unwanted pregnancies and limit family size. The goal of family planning is to assist couples and individuals to achieve their reproductive health goals and improve their general reproductive health. Family planning services are a link to other reproductive health services including the management of reproductive tract infections.

The family planning acceptor rate decreased from 25.4% in 2006 to 23.8% in 2007. The performance in three regions (Northern, Upper East and Upper West) in 2007 improved compared with their performance in 2006. The performance of the remaining regions declined. Some regions reported shortages in the supply of family planning commodities but this was not widespread.

Contraceptive use reduces maternal mortality and improves women's health by preventing unwanted and high-risk pregnancies and reducing the need for unsafe abortions. Some contraceptives also improve women's health by reducing the likelihood of transmissions of infections such as HIV.

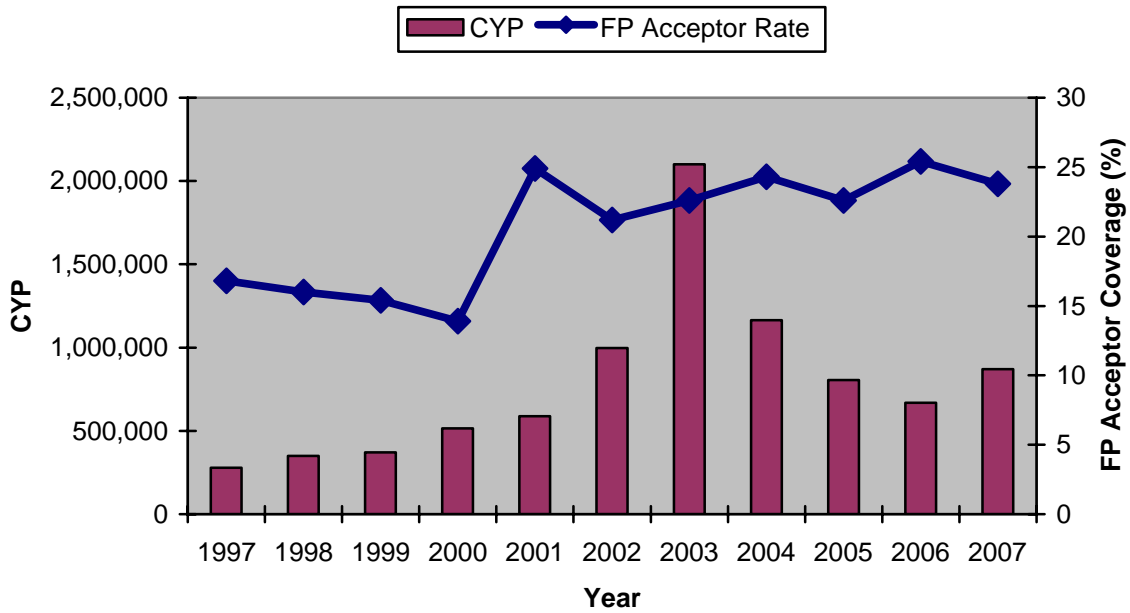
Child survival is improved through adequate birth spacing, prevention of births among very young women, and prevention of births among women with four or more children. Having too many children also places children's health at risk. Using contraception to end childbearing after four births helps reduce infant mortality rates.

Figure 25: Family Planning Acceptor Rate by Region, 2004-2007.



The Couple Years of Protection is measure of couples that have been protected against unwanted/ unplanned pregnancy. Analysis of the (CYP) shows that during the last decade it reached its highest level of 2,100,000 in 2003. Since then it has been decreasing steadily although during the same period the family planning acceptor rate has been steady or even increasing. This is mainly because most of the acceptors use short-term methods which contribute low CYP values rather than the permanent or long term methods which contribute high CYP values. In 2006, short-term methods contributed 497,906.3 (74.5%) of the total CYP while the figure for 2005 was 655,579.3 (81.5%). The Health Promotion Unit has started a programme to promote vasectomy and this will be pursued vigorously in the coming years.

Figure 26: Trend of Family Planning Acceptor Rate and Couple Years Protection (CYP)



Child Health

Expanded Programme on Immunisation

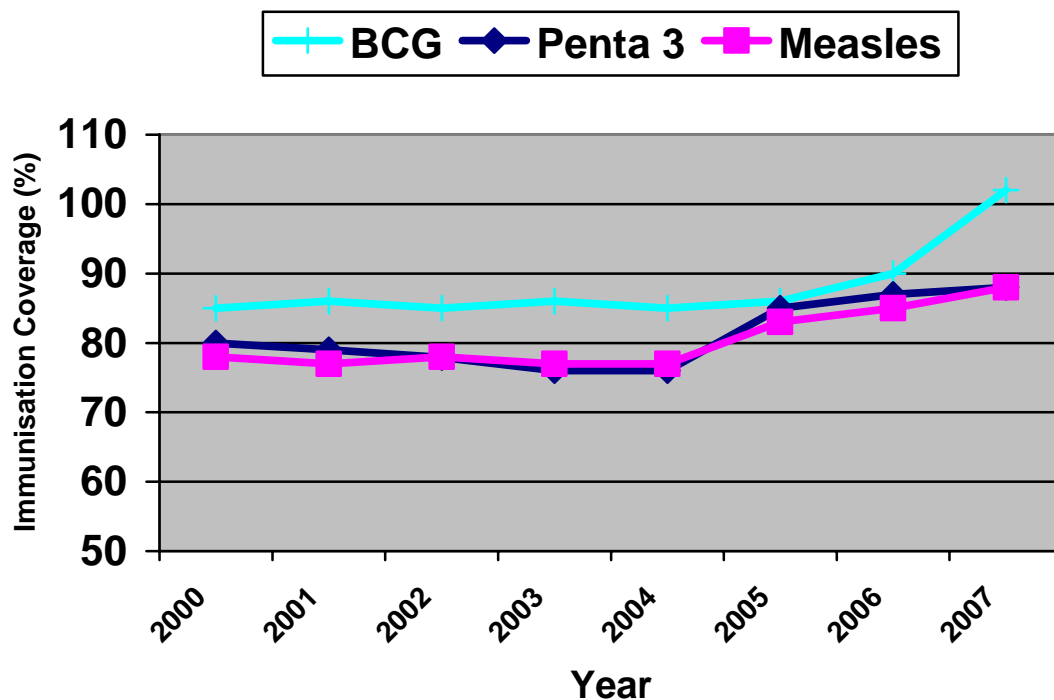
The Expanded Programme on Immunisation aims at improving child survival by protecting every child living in Ghana from nine of the vaccine preventable diseases. In order to achieve the desired impact, Ghana must achieve and sustain immunisation coverage of at least 80%. The strategies to reach every child with immunisation services include the provision of regular outreach services to underserved or hard to reach populations, supplemental immunisation and mop-ups, strengthening of supportive supervision with on-site training, establishment of linkages between service providers and communities through regular meetings and monitoring of performance.



Children being vaccinated by health workers

There has been consistent improvement in immunisation coverage (**Figure 27**). Penta 3 coverage, as a proxy indicator for EPI Coverage, Penta 3 coverage increased from 87% in 2006 to 88% in 2007. The drop-out rate between Penta 1 and Penta 3, a measure of the quality and utilisation immunisation services, remained below the 10% threshold but further decreased marginally from 3.0% in 2006 to 2.7% 2007.

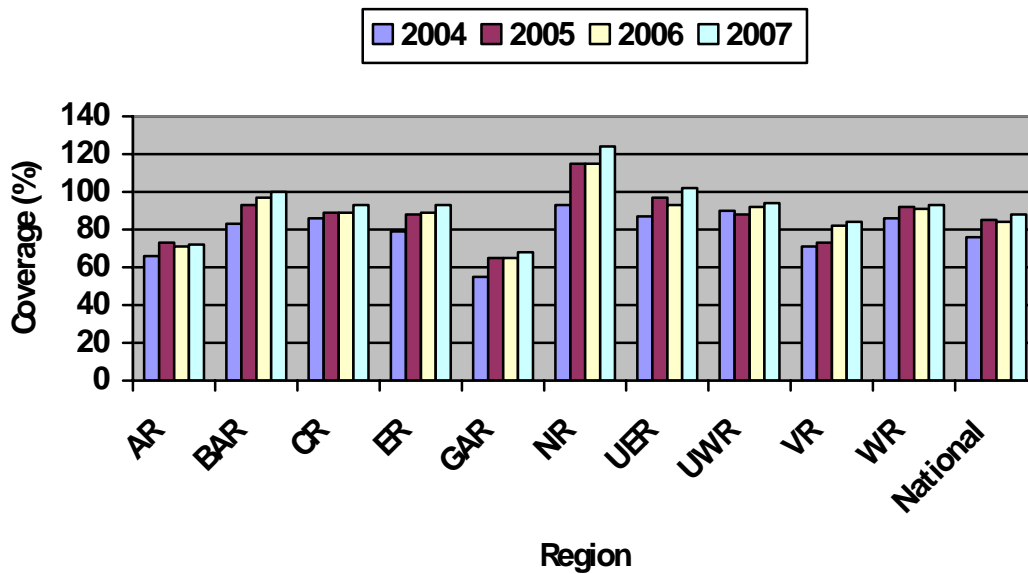
Figure 27: Trend in BCG, Penta 3 and Measles Immunisation Coverage 1997-2007



In 2007, the performance of the EPI as measured by Penta 3 coverage improved in all regions. The regional coverage figures range from 68% in Greater Accra to about 100% in the Northern Region. The most populous regions in the country, Ashanti and Greater Accra, were among the least performing regions. Innovative strategies, including the use of private providers, are required to improve EPI performance in urban settings. EPI Coverage survey has been conducted nationwide to validate the administrative reports.

A four-year trend analysis of administrative performance data by region (**Figure 28**) shows that the Greater Accra region continues to perform poorly while the Northern region consistently records the highest performance. District level performance has generally improved. In 2007, 115 out of the 138 districts had a Penta3 coverage of 80% or more as compared with 107 out of 138 in 2006. During the last two years no district had Penta 3 coverage less than 50%.

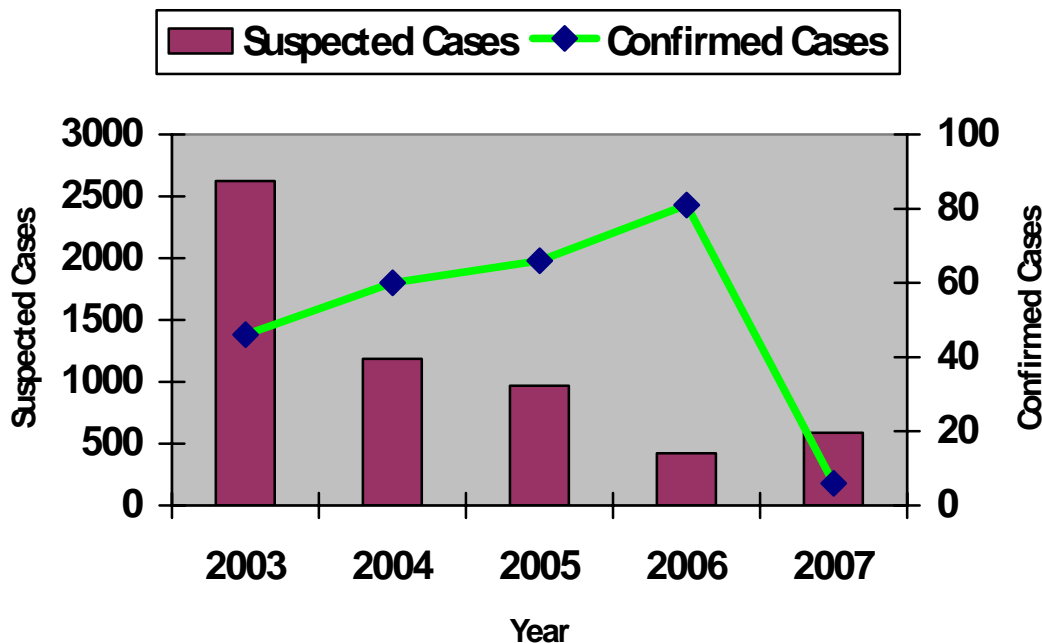
Figure 28: Penta 3 Performance by Region 2004-2007



Trend in incidence of some Vaccine Preventable Diseases

The goal of EPI is to reduce the morbidity and mortality of vaccine preventable disease. The incidence in some vaccine preventable diseases such as measles has continued to decline. There has not been any reported deaths due to measles since 2002. No acute flaccid paralysis (AFP) due to wild polio virus has been reported during the last four years. No cases of yellow fever have been reported since 2006.

Figure 29: Suspected and Confirmed (IgM+)Measles Cases, 2003-2007.



Integrated Management of Childhood Illness

Integrated Management of Childhood Illnesses (IMCI) is a broad strategy to reduce under-five (U5) mortality and morbidity, promote growth and development, focusing on the five

causes which contribute to 70% of U5 deaths: malaria, pneumonia, measles, diarrhoea and malnutrition. The three components of the WHO/UNICEF initiative are:

- Improvements in the case management skills of first level health staff;
- Improvements in the health system required for effective management of childhood illnesses; and
- Improvements in family and community practices.

In Ghana IMCI implementation started in 1999 and the MOH planned to scale up nationally. But progress to scaling up has been slow. At present 62 out of the 138 districts have at least one health staff trained in IMCI, which falls short of the World Health Organisation's recommendation that 60% of all prescribers from 80% of districts should be trained in order to make an impact. There is also a concern about the use and integration of all first level health workers in IMCI.

In 2007 a total of 414 health workers were trained in the case management component of IMCI. This brought the cumulative number health workers so far trained in case management to 1,481. These staff are in ninety-seven (97) out of the 138 districts. Follow up visits in IMCI implementing districts have shown improvement in case management and availability of drugs at health facilities

Community IMCI interventions are being implemented in various regions. The scale of implementation is however much lower than for the first component. The rate of roll-out of these interventions is very slow. This is mainly due to inadequate funds for training and for procurement of logistics; and the high rate of attrition of trainers. Regions complained of lack of financial support from partners and erratic flow of funds from GOG. Besides, some still consider the 11-day training too long and expensive. Efforts have been made to introduce alternate methods of training to reduce cost and break the 11 continuous days into two or three shorter sessions. This method may be considered for some parts of the country. Continuous effort is being made to introduce more varied methods to shorten duration of the course without compromising quality of content.

Breast Feeding

Breast milk is the best food for the baby and almost all mothers can produce sufficient quantities for the baby for up to 6 months. The exclusive use of breast milk during the first 6 months of life has many benefits for both the baby and the mother. The policy of the Ghana Health Service /MOH is to promote exclusive breastfeeding for the first six (6) months of the baby's life and continued breastfeeding with appropriate complementary feeds from six (6) months until the child is at least two (2) years old.

However, since it has been established that mother-to-child transmission of HIV can take place through breast milk GHS/MOH has developed a policy and guidelines on HIV and infant feeding. The policy states that HIV positive mothers should be given all the information about the risks and benefits of breastfeeding and replacement feeding and the mother counseled to make an informed choice. If the mother chooses replacement feeding, she should be counseled to ensure that her choice is safe and also meets the criteria of acceptability, feasibility, affordability and sustainability. If she chooses to breastfeed, she should be counseled to avoid mixed feeding and. She can exclusively breastfeed for up to six (6) months.

The DHS which is carried out at five yearly intervals has recorded an increasing trend in the rate of exclusive breast feeding. It increased from 17% in 1993 to 36.5% in 1998 and to 53.4% in 2003. The Ghana Multiple Indicator Cluster Survey which was carried out in 2006 recorded a rate of 54.3%.

The exclusive breastfeeding rate at discharge has been consistently high over the years indicating that health facilities are implementing the policy on breastfeeding. In 2007, out of the 169,817 mothers who were discharged from health facilities after delivery, 158,663 (93.4%) were breastfeeding their babies exclusively at the time of discharge. The regional proportion ranges from 80.5% in Ashanti to 100% in the Northern and Upper East regions. The rate of exclusive breast feeding on discharge from health facilities was 87.9% in 2006.

Baby Friendly Health Facilities Initiative

The Baby Friendly Health Facilities Initiative (BFHFI) seeks to promote optimal breastfeeding practices starting from the Health Care Facility. Practices within facilities which provide maternity services are assessed in line with the ‘Ten Steps to Successful Breastfeeding’ using structured questionnaires with observation. When the practices of any facility meet the global standard, it is accredited as Baby Friendly.

The number of facilities designated as Baby Friendly has increased by 12% from 211 in 2006 to 237 in 2007 (**Table 16**). This increase was due largely to additional facilities designated in Ashanti and Upper East regions. The Volta and Western regions have the lowest number of facilities designated as baby friendly. These regions should take the necessary steps to ensure that more of their facilities are designated. Monitoring should be continued in all regions to ensure that all facilities designated baby friendly maintain their standard of practice.

Table 16: Facilities Designated As Baby Friendly By Region, 2005-2007

Region	2005	2006	2007
Ashanti	31	31	45
Brong Ahafo	14	14	14
Central	17	17	17
Eastern	39	39	39
Greater Accra	15	19	19
Northern	23	23	23
Upper East	21	21	33
Upper West	9	27	27
Volta	10	10	10
Western	10	10	10
Total	189	211	237

Integrated Maternal and Child Health Campaign (IMCHC)

One of the priorities of the 2007 Programme of Work (POW) was the scaling up interventions against diseases of public health importance, primarily through the High Impact Rapid Delivery (HIRD) strategy. The package of interventions included increasing use of insecticide treated nets among children under five and pregnant women, twice-yearly provision of Vitamin A supplements, de-worming for children, and increasing the proportion of supervised deliveries. In addition, there was the expressed need to accelerate activities to improve maternal health.

Following the successful implementation of mass measles campaign in 2002 and the integrated child health campaign in 2006 an Integrated Maternal and Child Health Campaign was carried out in 2007. The 2007 campaign was conducted under the theme “Healthier mothers and children for Ghana’s Golden Jubilee Year and beyond” and we need to sustain the gains made in 2008 and beyond.

Box 2: Services Provided To Various Target Groups During the 2007 IMCHC

Children:

- ✚ Polio vaccine for children 0-59 months
- ✚ Vitamin A supplementation for children 6-59 Months
- ✚ Deworming for children 24-59 months
- ✚ Long Lasting Insecticide-treated Nets (LLINs) for children 0-12 months (those children born subsequent to the November 2006 campaign)
- ✚ Birth Registration for children under 12 months

Pregnant Women:

- ✚ Long Lasting Insecticide-treated Nets

Post-Partum (Lactating) Women:

- ✚ Vitamin A supplementation for women within 8 weeks post-partum who had not already been given

Table 17: Summary of Integrated Maternal and Child Health Campaign in 2007

Intervention/Service	Target pop	Total Immunized/given	Percent coverage (%)
Polio Vaccination	4,582,797	4,599,929	100.4
Vitamin A (6-59 months)	4,124,517	4,134,435	100.2
Vitamin A (Post-partum)	458,280	153,686	33.5
ITN (0-11months)	916,559	1,101,040	120.1
ITN (Pregnant Women)	458,280	349,933	76.4
Mebendazole	2,749,678	2,368,769	86.1

The Integrated Maternal and Child Health Campaign would be institutionalized in the coming years as part of the High Impact Rapid Delivery strategy to boost Ghana’s efforts to achieve MDGs 4 and 5.

Progress Towards the Attainment of MDG 4

In 2000, representatives from 189 countries committed themselves to sustaining development and eliminating poverty and, therefore, set goals and targets to achieve them. The Millennium Development Goals, indicators and targets (MDGs) are accepted as the framework for measuring development progress. Out of the 48 indicators, 18 are directly related to health, thus emphasising the importance of health in the development process. The child health components of the MDGs are the reduction of under-five mortality by 2/3 by 2015 using 1990 as the reference year.



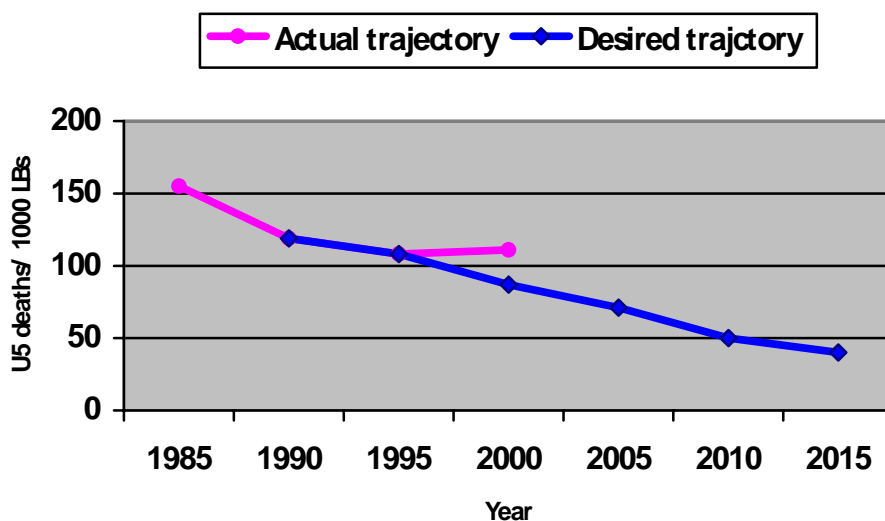
Children at a Day Nursery pose for a picture during the 2007 IMCHC

After declining from 77/1000 live births in 1988 to 57/1000 live births in 1998 the trend in infant mortality rate was reversed and it rose to 64/1000 lives in 2003. Similarly the under 5 mortality rate also declined from 155/1000 live births in 1988 to 108/1000 live births in 1998 but increased to 111/1000 live births in 2003. A Multiple Indicator Cluster Survey conducted in 2006 showed that while the under 5 mortality rate has remained at the level found in 2003, the

infant mortality actually increased to 71/1000 live births.

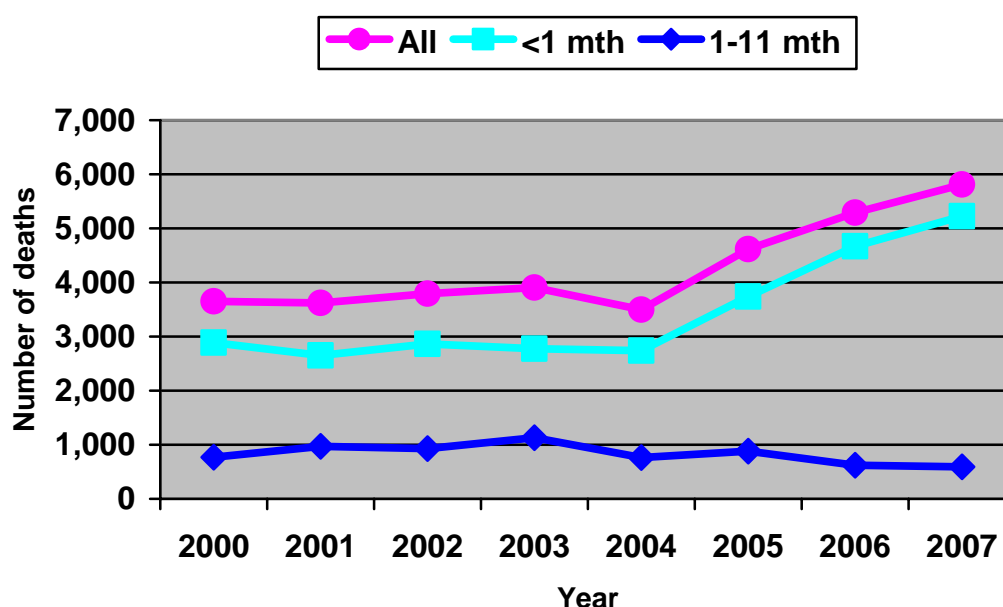
Figure 30: Ghana’s Progress against Millennium Development Goal 4

Two-Thirds Reduction in Under 5 Mortality Rate, 1990 to 2014



Similarly, institutional infant deaths, have increased by almost 26% from 4618 in 2005 to 5,811 during the year under review. Though deaths during the post neonatal period have declined, the number of deaths during the neonatal period have increased sharply thus offsetting any gains made (Fig 31). The 2003 DHS⁷ showed that the increase in infant mortality was mainly due to the increase in neonatal deaths. The current situation is an indication that not much has changed since 2003. Neonatal deaths were responsible for two thirds of infant deaths. There is an urgent need to address risk factors for neonatal deaths and to improve the quality of neonatal care including resuscitation of the newborn. As some of the causes of peri-natal deaths have their roots in the availability and quality of obstetric care, improvement in access to quality obstetric services will impact positively on neonatal deaths.

Figure 31: Institutional Infant deaths, 2000-2007



In the 2008 State of the World's Children report, Ghana was ranked number 32 based on the current level of under 5 mortality rate, among a total 194 countries and territories. This marked a significant deterioration from the previous rank of 48 in 2005 (countries with lower under 5 mortality rates have a higher rank).

Table 18: Progress Towards the Attainment of MDG 4: Ghana Compared With Some Other West African Countries

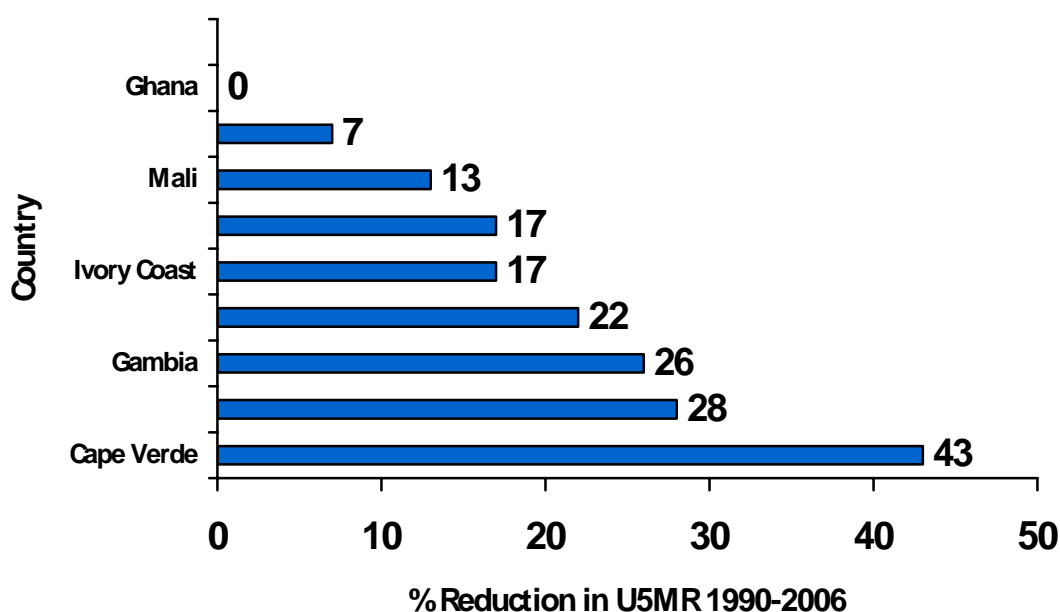
Country	U5 Mortality Rank	U5 Mortality Rate		Infant Mortality Rate		NNMR 2000
		1990	2006	1990	2006	
Mali	6	250	217	140	119	55
Burkina Faso	10	206	204	123	122	36
Ivory Coast	26	153	127	105	90	65

⁷ Ghana Demographic and Health Survey 2003.

Gambia	31	153	113	103	84	46
Ghana⁸	32	120	120	76	76	27
Cape Verde	83	60	34	45	25	10
Nigeria	12	230	191	120	99	53
Senegal	35	149	116	72	60	31
Sierra Leone	1	290	270	169	159	56
Togo	38	149	108	88	69	40

Compared with some other countries in the West Africa sub-region, Ghana has the lowest under 5 mortality. However, the report also notes that between 1990 and 2006 some of the countries have made better progress than Ghana in reducing their under 5 mortality rates (**Figure 32**).

Figure 32: Percentage Reduction in U5MR between 1990 and 2006 in selected West African Countries



The 2015 timeline for attaining the MDGs is only about 7 years away. Urgent actions must therefore be taken if Ghana is to be among those countries that achieve the MDG4. The adoption of the HIRD approach is the way forward. Since neonatal deaths contribute significantly to infant and under 5 mortality maternal and new born care will be given priority.

Nutrition

Children's nutritional status is a good reflection of their overall health. Children who have access to an adequate food supply and are not exposed to repeated illness often reach their growth potential. Malnutrition plays a significant role in morbidity and mortality from common childhood conditions such as malaria, diarrhoea and acute respiratory infections.

⁸A Multiple Indicator Cluster Survey in 2006 reported IMR of 71/1000 live births and Under 5 Mortality rate of 111.

Three indicators are commonly used for assess the nutritional status of children. These are Weight for Age (W/A), Height for Age (H/A) and Weight for Height (W/H). Weight for age measures both acute and chronic malnutrition. Height for age is a measure of linear growth.



During routine service delivery the data collected is based on weight for age. Children whose weight for age is more than 2 standard deviations below the median for a reference population are considered underweight while those below 3-standard deviations from the median are classified as severely malnourished.

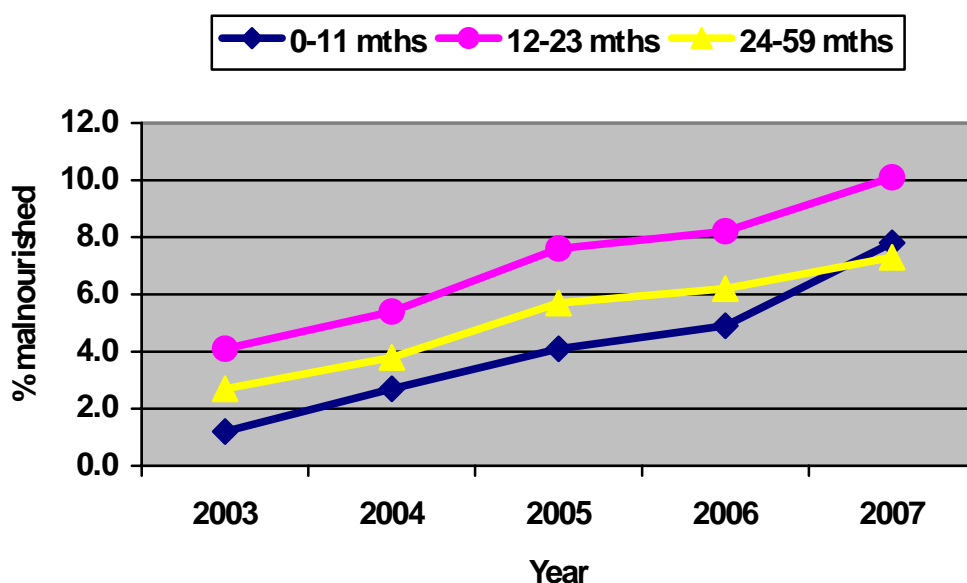
The malnutrition rates for all age groups have increased steadily over the past five years. The data shows that malnutrition peaks in the 12-23 months age group. This requires that greater attention be paid to supplemental of infants and young children in the years to come. Almost eight percent (7.8%) of children aged 0-11 months were found to be malnourished. This shows a steady increase from 4.1% in 2005 to

4.9% in 2006 to the current figure. Upper West region had the highest rate of 24.1% whilst Ashanti recorded the lowest rate of 1.8%. For children aged 12- 23 months, 10.1% were malnourished as compared to 8.2% in 2006. The highest rate of 28.2% was recorded by Upper West region, while Brong-Ahafo recorded the lowest rate of 3.3%. The malnourished rate among child 24-59 months age group was 7.3%, compared to 6.2% in 2006. Upper West region again recorded the highest rate of 21.0% whilst Ashanti region recorded the lowest rate of 2.3%. For 2006 and 2007, Upper West region recorded the highest malnutrition rate for all three age groups. For this current year however the rate of increase is alarming. The region is urged to conduct some operational research to find out probable causes and institute measures to curb the trend. Indeed there is an urgent need for community-based research to identify the causes was recommended. In 2005 the Brong-Ahafo region initiated a study to identify the causes of the unexpected high and rising malnutrition figures in their region. Some of their findings were:

- Faulty and non-functioning weighing scales
- Inaccurate recording of weight
- Poor record keeping.

Regions are urged to conduct similar researches and use findings to review and plan for more effective interventions.

Figure 33: Proportion Of Malnourished U5 Year Olds, 2003-2007.



Micro-Nutrient Deficiency Disorders: Vitamin A Deficiency

In line with the ultimate goal of eliminating vitamin A deficiency in the country, the following Strategic Objectives were pursued during the year under review

- Provide high dose vitamin A capsules to all children aged 6 to 59 months
- Provide high dose vitamin A capsules to at least 60% of all post partum women within 8 weeks after delivery

One round of nationwide distribution of vitamin A capsules to children aged 6 -59 months targeting about five million children was done in May as part of Child Health Promotion Week's celebration. Other services provided during the week's celebration are Immunization, Re-treatment of bednets, Growth Promotion and Birth Registration. Supplementation of lactating women was also carried out nationwide as part Child Health Promotion Week in addition to what is provided as a routine in all Ghana Health Service facilities nationwide.

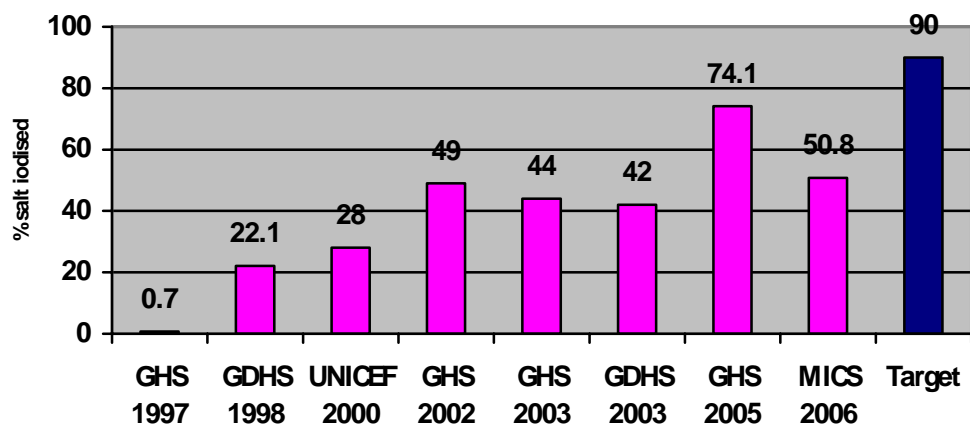
A second mass vitamin A supplementation for children 6-59 months and lactating mothers was carried out during the Integrated Maternal and Child health Campaign.

Control of Iodine Deficiency Disorders

Iodine Deficiency Disorders (IDD) are the world's leading cause of preventable mental retardation and impaired psychological development in young children. In the extreme form it results in cretinism and intellectual impairment of school children. IDD increases the risk of still births and miscarriages in pregnant women. It is a common cause of goitre. The control of IDD involves the promotion of the consumption of iodated salt, monitoring the consumption of iodated salt through periodic household and market surveys. Some inter-sectoral activities were also undertaken to strengthen advocacy. The National Salt Iodization Committee-a multi sectoral Coordination Committee of 13 MDAs, Development Partners (especially UNICEF) held 2 quarterly coordination and planning meetings. The President's Special Initiative on Salt explored opportunities for local production of iodisation machine so as to reduce cost and increase availability of these machines. The indicator used in measuring progress towards the elimination of IDD is the proportion of households consuming adequately iodated salt (salt containing 15 or more parts iodine per million). The

national average is about 32% but the coverage is highest in Ashanti, Brong-Ahafo, and Greater Accra regions where it averages about 50%. The Upper East, Northern, Volta and Central regions recorded the lowest coverage of about 12%.

Figure 34: Iodised Salt Coverage in Ghana, 1997-2006⁹



The target is for 90% of households to consume iodised salt by the end 2010. If this target is to be achieved then there is an urgent need to strengthen mechanisms to ensure effective and sustainable enforcement of regulations on quality iodised salt production and distribution.

Anaemia Control

The objective of the anaemia control program is to reduce the prevalence of anaemia in women and children by 25% in 5 years. The strategies include education on good nutrition practices, de-worming of school aged children and folic and iron supplementation to pregnant women. De-worming as a control strategy for school aged children was carried out in all regions.

Adverse effects of anaemia in pregnancy include low birth weight and adverse outcome in case of haemorrhage. Efforts are required to improve the health of women to as near optimum as possible before they become pregnant and to maintain this status throughout the duration of pregnancy. Some of the measures currently in place include family planning, promotion of the use of insecticide treated nets and intermittent preventive treatment for malaria during pregnancy. Pregnant women who attend antenatal care are given folic acid and iron containing tablets and have haemoglobin levels estimated.

Table 20 shows that a high proportion (28.9%) of pregnant women is anaemic at the time of registration and a similar proportion is so at 36 weeks of gestation. On a regional basis, the proportion anaemic at the time registration ranges from 17.1% in the Upper West region to as high as 53.7% in the Volta region. In 5 regions the proportion anaemic at 36 weeks gestation is actually higher than at registration. This is very serious in the light of the evidence that haemorrhage is a major cause of maternal mortality. The number of pregnant women whose HB is checked at 36 weeks is less than a third of those whose Hb level is assessed at registration. It may be that those women who are obviously anaemic at 36 week gestation are the ones whose Hb is checked. The Volta region should examine the nutrition practices of pregnant women as well as other practices that might be contributing to these exceptional

⁹ UNICEF Ghana Fact Sheet: Salt Iodization. November 2007

levels of anaemia. BCC should be intensified so that pregnant women can start antenatal care early so that those found with anaemia can have it corrected before to reach term. There is an urgent need to conduct a survey to determine the baseline prevalence of anaemia in pregnancy.

Table 19: Haemoglobin Level of some ANC attendees at Registration and 36 weeks

Region	No. with Hb checked at Registration	No. who are anaemic at Registration	% who anaemic at Registration	No. with Hb checked at 36 weeks	No. who are anaemic at 36 weeks	% who anaemic at 36 weeks
Ashanti	124,176	30,302	24.4	36,584	10,365	28.3
Brong-Ahafo	75,627	16,966	22.4	25,632	6,390	24.9
Central	64,999	21,818	33.6	17,484	5,979	34.2
Eastern	72,181	19,414	26.9	18,120	3,724	20.6
Greater Accra	78,854	23,591	29.9	32,727	7,832	23.9
Northern	57,402	17,247	30.0	15,371	3,832	24.9
Upper East	28,979	7,978	27.5	8,502	2,302	27.1
Upper West	15,515	2,650	17.1	2,007	524	26.1
Volta	42,019	22,577	53.7	9,705	5,563	57.3
Western	114,146	32,332	28.3	23,483	5,821	24.8
National	673,898	194,875	28.9	189,615	52,332	27.6

Regenerative Health and Nutrition

With support from the MOH, training was carried out in all the regions and some districts were selected to pilot the programme in each region. Preparations have been made for training of “Change Agents” in the pilot districts. Some Regions have also continued to organise health walks as part of efforts to promote exercise. Various regions collaborated with the Food and Drugs Board in the enforcement of legislation on food handling and sale of iodated salt in order to improve food safety.

Advocacy and Public Education on Nutrition

The infant and Young Child Feeding Strategy (IYCF) document was developed in 2006. A consensus building workshop held this year prior to finalise the document for printing and documentation. The aim of IYCF Strategy is to strengthen advocacy and IEC/BCC on infant and young child feeding in order to reduce child malnutrition.

The theme for the year was **‘HEALTHY CHILD, EVERY CHILD COUNTS’**. Public education on nutrition was carried out on radio and television. Episodes were held on child feeding, growth promotion and food hygiene. These covered feeding children under 2 years of age, ensuring nutritional wellbeing of 2-5 yr olds; healthy dietary practices for teenagers and adults and the role of food fortification in promoting nutritional well-being.

Nutrition and Malaria Control for Child Survival Project

Lessons learnt from piloting of the Community Based Growth Promotion were adopted for the design of strategy for the Nutrition and Malaria Control for Child Survival Project.

This project, designed by GHS/MOH and World Bank team, was approved by the World Bank. Implementation commenced in 2007. The project goal is to contribute to the reduction of mortality among U2s in target areas in all selected districts. The objective is to improve the utilization of selected community-based health and nutrition services for children under 2 years and pregnant women in selected districts.

The initial plan was to work in selected districts in the Central, Northern, Upper East, Upper West and Upper West Regions as well as the Metropolitan areas in Ashanti, Greater Accra and Western regions. However because of the anticipated negative effects of the floods on food security in the three Northern regions, a decision was taken to take on board all the districts in these regions first and scale up to others later.

General Health Systems Development

In a recent report entitled Health and the Millennium Development Goals,¹⁰ the World Health Organization (WHO) said that building up and strengthening health systems is vital if more progress is to be made towards the Millennium Development Goals. Unless urgent investments are made in health systems, current rates of progress will not be sufficient to meet most of the goals. It further warns that without more efficient and equitable health systems countries will not be able to scale up the disease prevention and control programmes required to meet the specific goals of reducing child mortality and maternal mortality and rolling back malaria, tuberculosis and HIV/AIDS.

Community Based Health Planning and Services

The Community –based Health Planning and Services (CHPS) is the mobilization of community leadership, decision making systems and resources in a defined catchment area (zone), the placement of reoriented frontline health staff (known as Community Health Officer (CHO), with logistics support and community volunteer system to provide services according to the principles of primary health care. CHPS essentially involves shifting health services from centrally located delivery points (health centres) to remote, community based locations. Communities are responsible for mobilizing traditional social institutions, local resources, and volunteer labour as one of the major components of CHPS success

CHPS is a key GHS strategy to provide cost-effective, quality, basic primary health services to individuals and households in the communities where they live by engaging them in the planning and delivery of services. It aims to improve equity in access to basic health services, improve efficiency and responsiveness to client needs and develop effective inter-sectoral collaboration. Thus, CHPS can be a vehicle for introducing a range of health interventions and offers enormous opportunities for increasing the coverage of such interventions.

The vision of the Ghana Health Service is to have the core services defined within the CHPS Initiative to be available and accessible to all Ghanaians who need it by 2015. The population covered by CHPS is currently 6.4% with a range of 1.4% in the Brong-Ahafo to 12.5% in

¹⁰ Downloaded from http://www.who.int/hdp/publications/mdg_en.pdf on 16th May 2008

the Upper East region. The scaling up process has been hampered by inadequate resources and to some extent, inadequate understanding of CHPS by some people in various leadership positions within the Service.

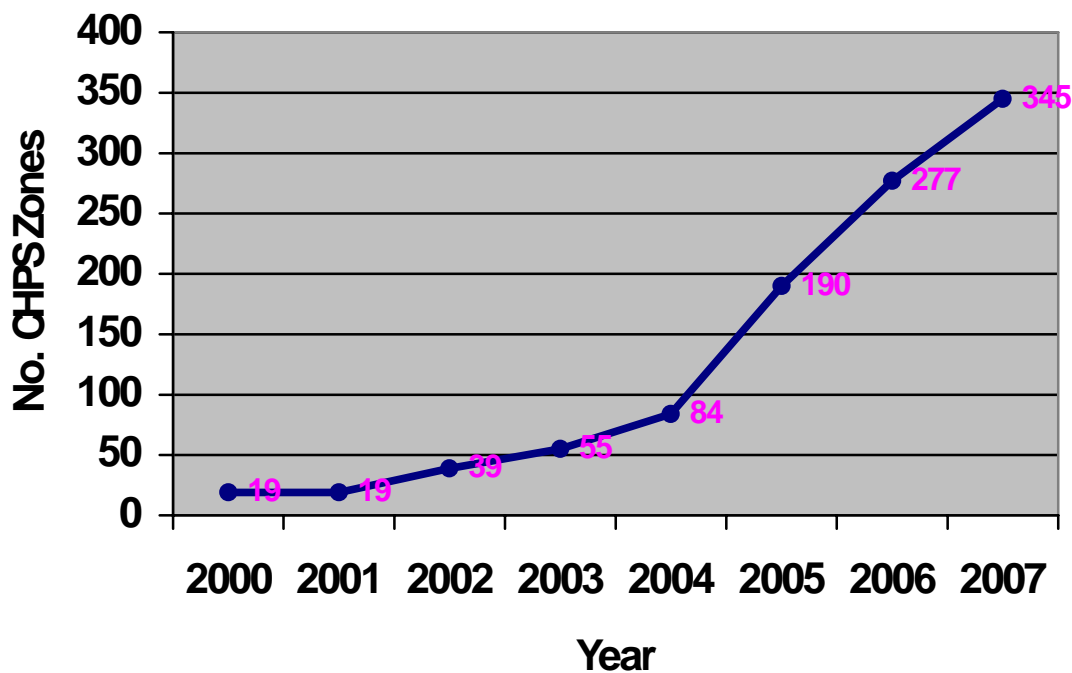
Table 20: Progress In The Implementation Of CHPS By Region, 2005-2007¹¹

Region	2005				2006				2007			
	Comp	% Pop.	Funct	% Pop.	Comp	% Pop.	Funct	% Pop.	Comp.	% Pop.	Funct	% Pop.
Ashanti	0	0	4	1	1	0.3	7	1.7	3	0.6	8	1.8
B/Ahafo	0	0	6	1.8	0	0	6	1.5	0	0	6	1.4
Central	20	4.6	28	6.4	22	4.6	31	6.9	30	5.6	46	8.9
Eastern	25	5.6	42	8.6	29	5.9	53	9.5	30	5.8	54	9.4
G/ Accra	0	0	0	1.5	0	0	5	2.1	0	0	5	1.9
Northern	20	4.7	26	5.2	27	5	29	5.9	29	5.2	35	6.5
U/ East	56	11.4	61	12.5	61	11.6	68	11.5	85	12.7	82	12.5
U/ West	8	1	9	1.1	10	1.2	20	2.4	24	3	29	3.6
Volta	13	3.3	25	5.2	15	3.4	27	4.9	20	4	37	6.2
Western	1	0.2	12	3.3	13	2.9	28	6.8	20	7.2	43	11.9
Totals	143	4.67	213	3.9	178	3.5	274	5.31	241	4.42	345	6.41

The increase in the number of functional zones has picked up during the last three years (**Figure 35**), but this is still far from the number required, 1706 to achieve the target by 2015. The challenge facing the scale up process has to do with compound construction and provision of basic equipment and means of transport for the Community Health Nurse.

Figure 35: Number of Functioning CHPS Zones By Year, 2000-2007

¹¹ A completed CHPS zone is one in which all the key milestones have been achieved and there is a CHO resident in the community. A functional zone is one where there is CHO resident in the community even though one or more key milestones has not been achieved e.g. lack of a community health compound.



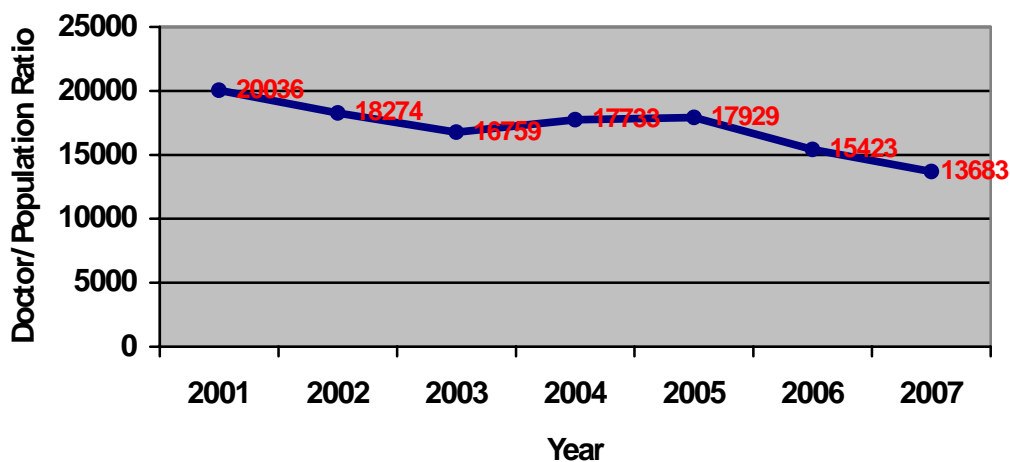
Human Resources

The situation of human resource for has continued to improve. However there are still major challenges to overcome in order in roll out all the available cost effective health interventions. Efforts to increase access to quality health services will continue to be constrained by the limited supply of adequately trained doctors, midwives, pharmacists and other skilled health service providers.

Doctor to Population Ratio

The number of doctors increased from 1,514 in 2006 to 1,676 in 2007. The doctor to population ratio has improved from 1:14,731 in 2006 to 1:13,683. Figure 31 shows the improving trend in the doctor population ratio between 2001 and 2007.

Figure 36: Trend Of Doctor To Population Ratio, 2001-2007



In the midst of this overall improvement in the doctor to population ratio, there have been significant deterioration in this ratio in the Northern, Upper East, Volta and Western regions. The wide regional variations seen in previous years persist. Greater Accra remains the region with the best doctor/population ratio of 1:5,202 while the Northern region remains the worst with 1:92,046. The deprivation in these regions does not motivate health workers to accept posting to these areas. Table 15 gives the doctor to population ratio for each of the regions.

Table 21: Number Of Doctors And Doctor Population Ratio By Region, 2006 and 2007

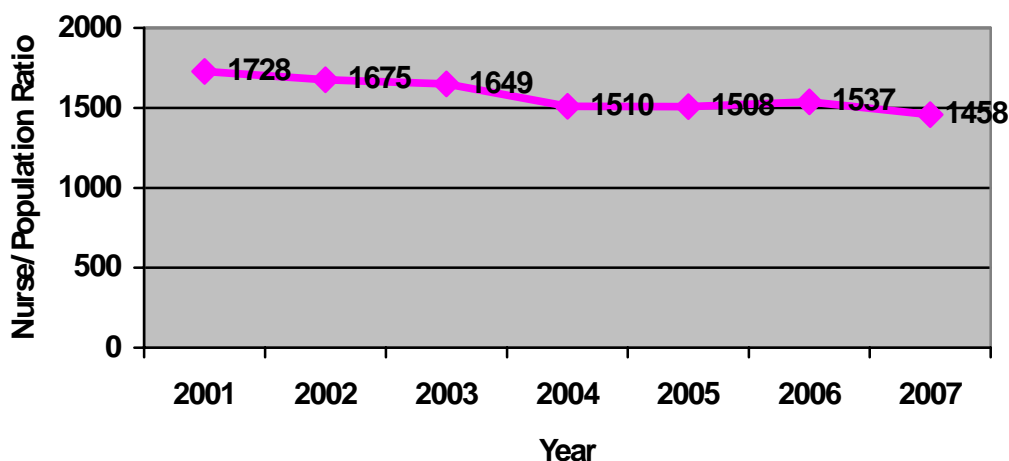
Region	Estimated Population 2006	No. of Doctors	Doctor to population ratio	Estimated Population 2007	No. of Doctors	Doctor to population ratio
Ashanti	4,415,554	378	1:11,681	4,565,683	428	1:10,667
B/Ahafo	2,105,317	83	1:25,365	2,157,949	96	1:22,479
Central	1,805,488	57	1:31,675	1,843,403	63	1:29,260
Eastern	2,289,969	104	1:22,019	2,322,029	128	1:18,141
G/Accra	3,762,337	669	1:5,624	,927,879	755	1:5,202
Northern	2,148,930	32	1:67,154	2,209,100	24	1:92,046
Upper East	982,510	34	1:28,897	993,317	30	1:33,111
Upper West	637,951	14	1:45,568	648,797	15	1:43,253
Volta	1,829,146	72	1:25,405	1,865,730	66	1:28,269
Western	2,324,949	71	1:32,746	2,399,348	71	1:33,794
National	22,302,150	1,514	1:14,731	22,933,234	1,676	1:13,683

The doctor population ratio is deteriorating in Northern, Volta, and Western regions. Its worst in the Northern, Upper West, Western, Upper East and Central regions.

Nurse to Population Ratio

There has also been an improvement in the situation of nurses with the total number of nurses increasing to 15,724 in 2007 from a figure of 14,507 in 2006. The nurse to population ratio in 2007 is 1:1,451 compared with 1:1,537 in 2006. The improvement is due to increased production as well decreased emigration of nurses.

Figure 37: Trend of Nurse to Population Ratio, 2001-2007



All regions showed significant improvement in this indicator. This is due to increased production especially general and community health nurses. As in the case of the doctor to population ratio, the Greater Accra has the best Nurse to population ratio of 1:979 while the Ashanti region has the worse of 1:2,024 (Table 23).

Table 22: Number Of Nurses And Nurse Population Ratio By Region, 2006 and 2007

Region	Estimated Population 2006	No. of nurses	Nurse to population ratio	Estimated Population 2007	No. of nurses	Nurse to population ratio
Ashanti	4,415,554	2,067	1:2,136	4,555,688	2,251	1:2,024
Brong-Ahafo	2,105,317	1,034	1:2,036	2,156,950	1,099	1:1,099
Central	1,805,488	1,145	1:1,577	1,843,321	1,249	1:1,476
Eastern	2,289,969	1,831	1:1,251	2,319,684	1,977	1:1,173
G/Accra	3,762,337	3,789	1:993	3,927,878	4,011	1:979
Northern	2,148,930	1,011	1:2,126	2,113,010	1,131	1:1,868
Upper East	982,510	757	1:1,298	991,965	798	1:1,243
Upper West	637,951	485	1:1,315	648,799	537	1:1,208
Volta	1,829,146	1,406	1:1,301	1,865,591	1,474	1:1,266
Western	2,324,949	982	1:2,368	2,385,307	1,197	1:1,993
National	22,302,150	14,507	1:1,537	22,808,193	15,724	1:1,451

Human Resources Capacity Development

The District health Systems Operation (DISHOP) training programme was reviewed in collaboration with African Development Bank and Kintampo Rural Health Training School (RHTS) and re-introduced as DISHOP II. DISHOP II has a short course covering the five (5) reviewed modules for 2 weeks and a long course which is an expansion of the Management Module also covering a period of 2 week. Three sessions were organised and 95 district staff trained. In conjunction with the DISHOP II training programme, the RHTS, Kintampo also runs the IMCI training programme for district health personnel. Two sessions have taken place and 35 staff have been trained.

In-Service Training Policy Guidelines, Induction and Orientation Manual and the Staff Handbook were developed and produced in collaboration with Quality Health Partners. The 14 training modules developed and used for the orientation of Community Health Nurses, Field Technicians and Midwives to become CHOs were reviewed and organized into three volumes and printed for distribution to regions.

Transport

An effective transport system is required to extend services to outreach points, transport referred patients, collection and distribution of logistics and supplies and for effective monitoring and supportive supervision, amongst others. The system is vital for ensuring efficiency and equitable access to quality services. Transport is literally the legs on which the Service walks to deliver health care to the population; without which it will be effectively crippled in its efforts. Failures in the transport service such as lack of/ or unreliable vehicles, and inability to pay for vehicle running costs have serious repercussions for service delivery.

The total fleet of vehicles increased from 3,456 in 2006 to 3,960 in 2007. The fleet is made up of 1,294 four wheel vehicles, 2,641 motorbikes and 25 boats. The average age of 4-wheel vehicles is 7.3 years while that of the motor cycles is 5.9 years. The Eastern region has the youngest fleet of 4-wheel vehicles while Greater Accra has the oldest fleet with an average age of 10.7 years. The Upper East has the youngest fleet of motor cycles and the Eastern region has the oldest with an average age of 10.2 years. **Table 24** below shows that 40% of the four wheel vehicles and about 46% of the motor cycle fleet is overaged and need replacement.

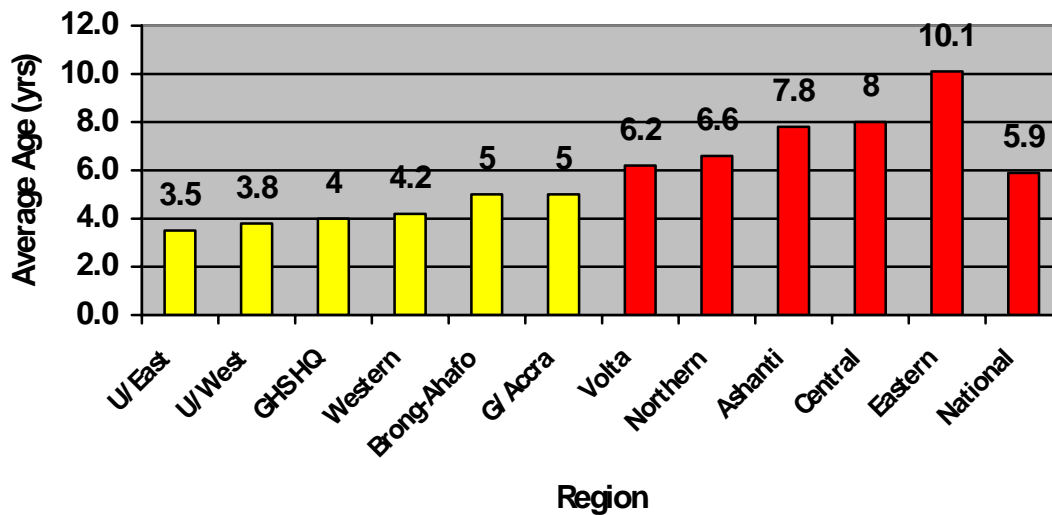
Table 23: Ghana Health Service Vehicle Fleet Size As At End Of 2007

Region	No. of vehicles	Average Age (yrs)	% to be Replaced	No of motorbikes	Average Age (yrs)	% to be Replaced
Ashanti	114	6.6	66%	242	7.8	31.9%
Brong-Ahafo	103	7.0	38%	236	5.0	52.9%
Central	96	8.3	26%	163	8.0	15.9%
Eastern	111	5.7	52%	230	10.2	52.3%
Greater Accra	126	10.7	53%	121	5.0	53%
Northern	118	6.6	61%	367	6.6	61%
Upper East	72	7.0	26%	264	3.5	26%
Upper West	90	6.5	35%	390	3.8	37%
Volta	129	8.2	47%	340	6.2	55.7%
Western	103	6.9	40%	250	4.2	35%
Headquarters	232	6.4	42%	38	4.0	42%
National	1,294	7.3	40%	2,641	5.9	45.7%

Ghana Health Service transport policy proposes that motor cycles will be replaced after 5 years of use while 4 wheelers will be replaced after 5-7 years. Implementing this policy has been a challenge. As can be seen in Figure 35, the average age of motor cycles is 6.1 years

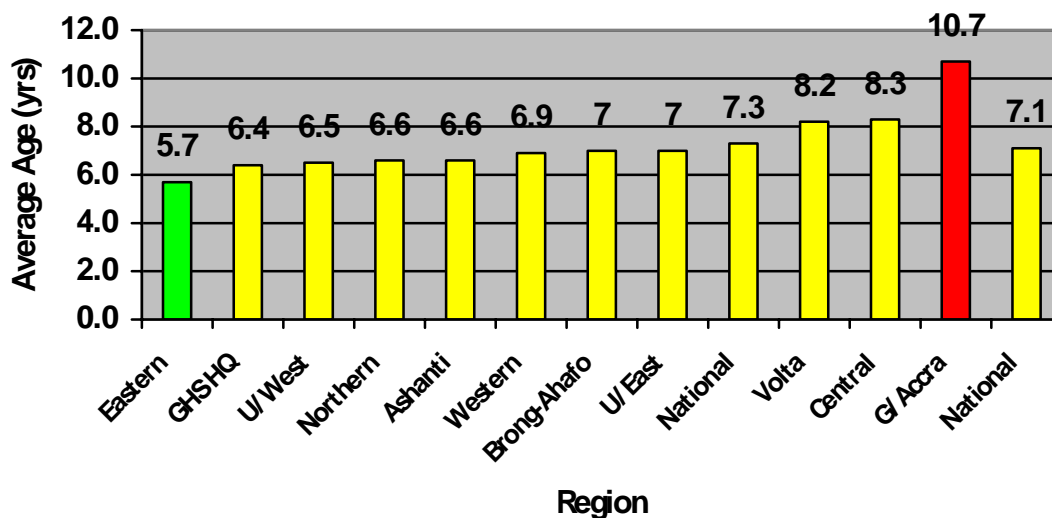
nationally. Five regions have an average motor cycle age of 6 years and above. After this age both the running and maintenance costs tend to rise steeply. BMCs tend to spend increasing percentage of their budget just to keep such bikes on road. Breakdowns also tend to increase with its attendant impact on service provision.

Figure 38: Average Age of Motorbike Fleet By Region, 2007



The situation of the 4-wheelers is much better compared with the motor cycles. The average fleet age is 7.1 years. Only the greater Accra region had an average fleet age of more than 10 years. Long term planning for replacement is required for massive vehicle replacement in the next 3-4 years as the average fleet age in many regions is between 6 and 7 years (Figure 36).

Figure 39: Average Age of Vehicles, 2007



Challenges facing transport management within the Service

The demand for transport is increasing at a rate that it is difficult for the supply to keep pace with. For instance more facilities are built, more districts are created and more CHPS zones are established. There are no transport officers in the districts and hospitals but it is at this level that over 70% of the vehicles operate. A significant number of vehicles are overaged and this is taking a toll on the budget for maintenance and repairs. Furthermore, inadequate and erratic flow of funds means that planned preventive maintenance schedule is not followed rigorously. The escalating cost of fuel and lubricants also puts limits on the availability of vehicles. The de-standardization (not buying by brand names) of vehicles and that coming into effect of the Procurement Law means that the Service cannot dictate the make of vehicles to buy at any given time. The bidding process can sometimes result in a vehicle that is not very robust winning the bid and being supplied.

In order to address some of the challenges outlined above the GHS has sourced funding to purchase about 6000 motor cycles for fleet replacement and to meet with expending service delivery demands. The Service is also considering the option of private funding (a hire purchase arrangement) to buy 1000 pick-ups. Additional motor cycles and vehicles procurement has been planned through various programme such as Global Fund and GAVI. Motor cycles rider will be trained in order to promote safe riding and prolong the working life of the bikes. Funding will be sought to revamp the motorcycle maintenance facilities throughout the country.

Financing & Financial management

There were major improvements to the development of the sector programme of work and the planning processes in 2007. The areas of improvement were the transparency in the dialogue with Development Partners and provision of detailed information within the Programme of Work.

Many challenges in financing the health sector remain unresolved. These challenges include untimely releases of funds, equity in the distribution of financial resources and under-funding in some health interventions including general health system support. At the general health sector level, the evolving changes in health financing policies through the NHIS and the MDBS provided an apparent anxiety especially at the agency level.

The expansion of the HIRD programme to the remaining six regions saw a general increase in funding to the district levels. The district level continued to record increase funding towards HIV/AIDS, TB and Malaria, which also provided significant support to the district health system operations.

The Health Sector 2007 Approved Budget

The total sector budget from all sources for the year 2007 documented in the PoW was GH¢ 5.6m.

Table 24: Total Health Sector Budget by Items

Items	Approved Budget (GH¢)	Percentage (%)
Personal Emolument – Item 1	2,248,080	39.88%
Administration – Item 2	350,476	6.22%
Service – Item 3	2,202,186	39.06%

Investment – Item 4	836,822	14.84%
Total	5,637,564	100.00%

Staff salaries and allowances was about 40% of total health budget (all sources). Close to the budget of salaries is the service budget. Compared to previous years, the proportion of item 1 to item three has changed. The continuous reflection of the full extent of the NHIS budget in the health budget has resulted in a shift in these proportions. As seen in the table below, NHIS contribution was about 31% to the total health sector budget of which GH¢ 72.5m and GHc 1,252m were for item 1 and item 3 respectively.

Table 25: Total Health Sector Budget by Source

Sources of Funds	2007 Budget (GH¢)	2007 (%)	2006 %
Government of Ghana	2,481,904	44.02%	44.6%
Health Fund	189,000	3.35%	12.7%
Earmarked Funds	591,563	10.49%	12.8%
Internally Generated Funds	521,000	9.24%	3.3%
NHIF	1,759,097	31.20%	23.1%
HIPC	95,000	1.69%	3.5%
Total	5,637,564	100.00%	100%

Total domestic source contributed to about 86% of total sector budget whilst external source contributed 16% in 2007. There was a significant inflow of 32% from the NHIF. As a result of the shift in the financing policies from the Health Fund to MDDBS, the contribution from the Health Fund source dropped compared to 2006.

Table 26: Approved 2007 GoG Budget

Level	Item 1	Item 2	Item 3	Item 4	Total
MoH-Headquarters	223,218	29,946	39,003	84,316	376,483
Teaching Hospitals	336,636	11,621	7,397		355,654
Psychiatry Hospitals	54,538	4,876	3,969		63,383
GHS Headquarters	35,229	6,935	10,818	18,973	71,955
Regional Health Services	262,007	10,738	7,815		280,560
District Health Service	1,263,921	38,562	31,387		1,333,870
Total	2,175,549	102,678	100,389	103,289	2,481,905

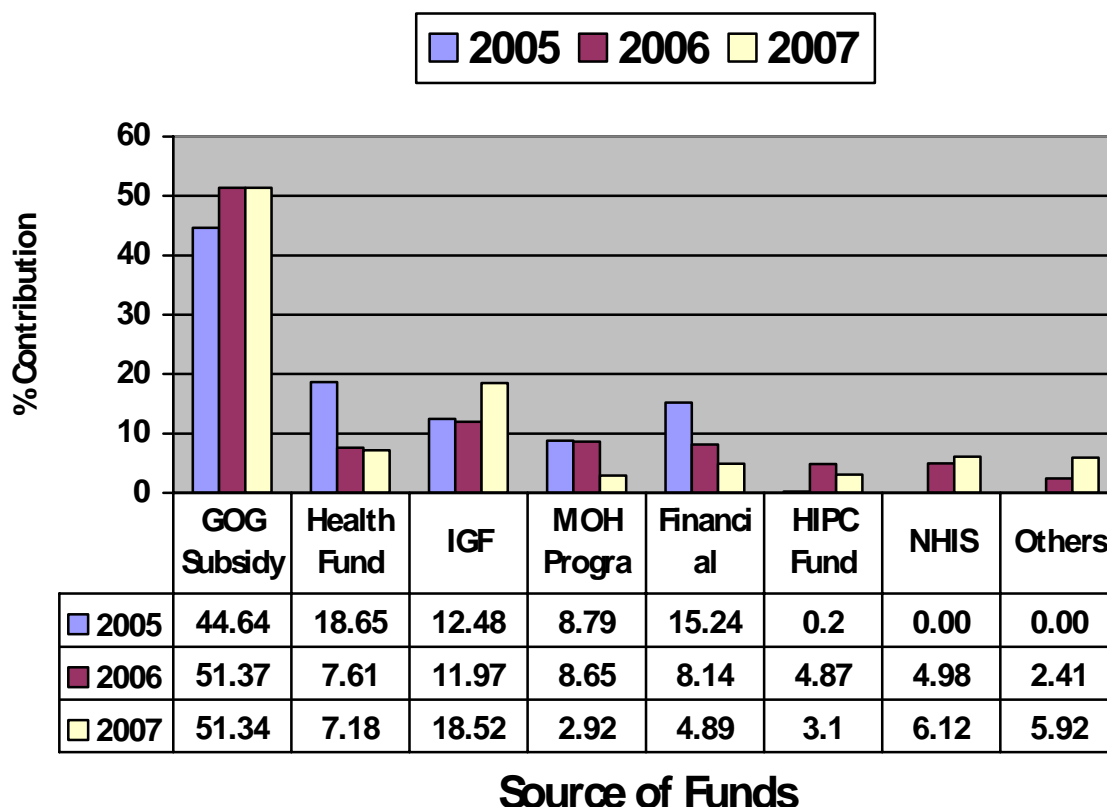
Table 27: Actual Revenue Inflows in 2007

	Actual Revenue (GH¢)	%
GOG Subsidy/Operating Grant	284,500,000	51.34%
Health Fund	39,800,000	7.18%
MOH Programmes	16,200,000	2.92%
IGF	102,600,000	18.52%
NHIS	33,900,000	6.12%
Financial Credits	27,100,000	4.89%
HIPC Fund	17,200,000	3.10%

Others	32,800,000	5.92%
Total Inflows	554,100,000	100.00%

The **Table 28** above shows actual inflows of funds for 2007. The actual revenue inflow was lower than anticipated (Table 26 compared with Table 28). The contribution from the Health Fund was much lower than expected while IGF increased significantly.

Figure 40: Trend in the inflow of Revenue 2005-7



GHS 2007 Approved Budget

Total resources to GHS for the year 2007 could not be quantified for all the sources. As a result, this analysis focuses on the GoG. It was not possible to include the other sources especially external sources because it could not be accurately attributed or distributed according to beneficiary organisations and secondly there are overlapping beneficiaries that could distort the analysis.

Table 28: Total Approved GoG 2007 Budget

	Item 1	Item 2	Item 3	Item 4	Total	2007 (%)	2006 (%)
GHS Headquarters	35,229	6,935	10,818	18,973	71,955	4.1%	9.2%
Psychiatry Hospitals	54,538	4,876	3,969		63,383	3.6%	3.4%

Regional Health Services	262,007	10,738	7,815		280,560	16.0%	21.3%
District Health Service	1,263,921	38,562	31,387		1,333,870	76.2%	66.1%
Total	1,615,695	61,111	53,989	18,973	1,749,768	100.0%	100%

Total GoG approved budget for GHS was GH¢1,749,768. A total of 76% of GHS GoG budget went to the District level, 16% to regional and 4% to national levels. The three Psychiatry hospitals received 3.6% in total.

2007 Disbursement

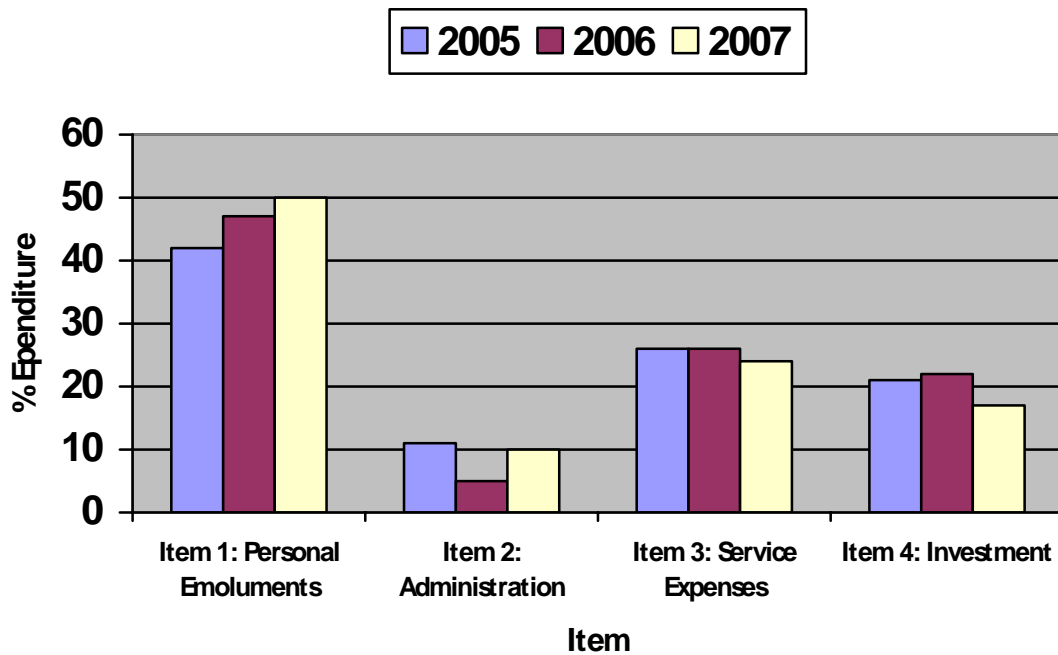
The pace and timeliness of disbursement in 2007 remain a challenge to the health sector. Significant improvements continue to be seen in items 1 and 2. However, item 3, which is the service delivery budget continue to experience delays. There were also challenges in the mode of disbursement in view of the changes taking place in the financing mechanism.

Major cause of worry was the stream of disbursement to programmatic areas funded from MDDBS. Decisions on disbursement towards specific disease programmes were not according to cash flow plans and were taken without consultations with the GHS. In some cases, the disbursements were untimely, which affected integration of activities carried out especially at the district levels.

2007 Expenditure

The graph below shows the trend in expenditure over the last three years. The trend shows an increasing trend in salaries and allowances. There has been a gradual reduction in the flexible funds (GoG) for item three (service expenditure) and in the investment budget. The trend in item two has not been consistent and fluctuated over the three years. The 8-percentage point increase in item 1 over the three-year period is however significant compared to about 2-percentage point reduction for item three.

Figure 41: Distribution of Expenditure by Item, 2005-2007



Below is the trend in GHS GoG expenditure over the last three years by items and levels. It shows that the amount and proportion of GoG funds available for items 2 and 3 has been declining. In 2005 the proportion was 8.1% and declined to 6.1% in 2006 and to 4.2% in 2007. The actual amount of GOG items 2 and 3 available in 2007 declined from GH¢10,388,931.94 in 2006 to GH¢9,520,128 in 2007.

Table 29: GHS (GoG) Expenditure (GH¢), 2005-2007.

	Item 1	Item 2	Item 3
2005			
GHS-HQ	779,923.06	1,277,832.81	1,232,664.19
Psychiatric Hospitals	3,433,367.37	337,243.47	284,518.53
RHS	30,384,936.59	830,773.17	1,123,543.08
DHS	65,284,879.39	1,856,716.79	1,885,925.70
Total	99,883,106.41	4,302,566.23	4,526,651.50
2006			
GHS-HQ	30,031,633.23	599,009.84	112,971.91
Psychiatric Hospitals	5,449,751.21	267,306.95	108,097.99
RHS	36,145,434.54	996,605.35	1,279,263.45
DHS	88,696,177.89	2,294,049.29	4,731,627.16
Total	160,322,996.87	4,156,971.43	6,231,960.51
2007			
GHS-HQ	29,765,520.00	691,818.00	451,741.00
Psychiatric Hospitals	183,897.00	458,908.00	395,308.00
RHS	38,675,097.00	1,224,461.00	708,171.00
DHS	149,607,543.00	3,984,381.00	1,605,340.00
Total	218,232,057.00	6,359,568.00	3,160,560.00

The computerization of GHS accounting system at headquarters was completed and as at the time of writing the annual report, was being used to prepare the 2007 financial statement for GHS. This is significant and is expected to ensure timely preparation and dissemination of information at HQ level. It will be rolled out to the regional level in 2008.

Health Insurance Implementation

Following the passage of the National Health Insurance Law, Act 650 and the Legislative Instrument LI 1809, Ghana Health Service set up a National Health Insurance Oversight and Support Team (GNOST) in 2005 to work out modalities of how Ghana Health Service was going to support the implementation of National Health Insurance in the country.

The GHS drew up a National Health Insurance (NHI) implementation strategic plan which outlined following six broad of focus:

- GHS response to NHIS implementation in facilitating schemes establishment
- GHS as a provider of high quality accredited health services.
- GHS as a manager of health providers and client relationships
- GHS as a manager of provider insurer relationships
- GHS as an employer of health workers
- Monitoring and evaluation of the process of Health Insurance implementation

To enhance the implementation and give it the importance it deserves , Ghana Health Service set up a NHIS co-ordination unit with a co-ordinator under the office of Director General to support health providers, carry out monitoring of the implementation, and act as a liaison with other stakeholders. The office apart from undertaking the strategic plan also carried out continuous orientation of health staff throughout the country on emerging implementation issues.

The high utilization have however exposed acute short of health professionals, facilities as well the lack of equipment throughout the country particularly at the rural and lowers levels. See regional schemes enrolment level and health facility utilization rates for 2006 and 2007.

Accreditation of Service Providers

The National Health Insurance law Act 650 requires all health providers and health professionals to be accredited to qualify to provide service to insured clients. Currently, however, all Ghana Health Service facilities have been given a provisional accreditation allowing them to provide service to insured clients pending the actual accreditation to be conducted by NHIA. The NHIA with technical input from staff of Ghana Health Service has developed accreditation tools for all types of health facilities and health professionals.

During the year under review, Ghana Health Service used the accreditation tools to train regional staff throughout the country. Health facility managers were trained and tools used to pre-test at health facilities level. The major short comings observed included shortage of equipment and requisite staffing mix in their number and qualifications and poor appearance of health facilities (inadequate maintenance). The managers are working to correct the short

comings detected in order to be ready in time for pre-accreditation assessment by to be conducted by the National Health Insurance Authority.

Claims Submission and Re-imburement

GHS claims processing in 2007 improved over 2006 from average of two months down to one month. However, most health facilities are having difficulty meeting the two weeks date line for submission of claims at the end of each month. Similarly schemes are also unable to vet claims within the two weeks time line. The average scheme vetting time is between four to six weeks. These delay results in further delays in reimbursement of health providers. The average re-imburement of Health providers during the period is in three months arrears.

The Regional and some District hospitals have purchased computers and some software and put into use to facilitate claims processing. GHS headquarters has developed a software for which piloting have started in three health facilities namely Kaneshie Polyclinic, Achimota Hospital and Tema General Hospital. Preparatory work has started to rollout the software to Cape Coast Regional, Ho Regional and Ridge hospitals.

During the year under review Ghana Health Service worked with the National Health Insurance Authority to roll out a common comprehensive computerisation programme to facilitate patient authentication as well as facilitate claims management. The implementation of this programme will involve computerization of schemes and Health facilities, networking of schemes and health providers' in a manner that they can share insured membership and patient information. The Ghana Health Service has selected 550 health facilities throughout the country for the initial computerization programme.

During the year GHS participated actively in the preparation of review of tariffs and medicines list. The new tariffs if approved would replace the "Fee for Service" charges with fixed OPD and inpatients service charges using a Ghana Diagnosis Related Group (G-DRGS) charges. GHS organised series of workshops starting at facility, district, regional to national level to enable the service make a good input. There were also workshops for the following specialists groups of carers for their input; Dental, Eye and Ear Nose and Throat.

Implementation Challenges

The implementation of NHIS has brought bare the inadequate infrastructure and their mal-distribution throughout the country including lack of maintenance. Other challenges encountered in the NHIS implementation during the year under the review include the following:

- Delays in submission of claims to Schemes for reimbursement
- Delays in reimbursement of claims which led to health facilities being indebted to suppliers
- Increase in patient attendance resulting in overcrowding, long patient waiting time. This was partly as a result multiple attendance and health shopping by insured patients.
- There were also complaints of poor health attitudes of health staff.
- Inadequate equipment and professional staff at the lower level and the rural areas making people not to be willing to use the facilities at this level. This situation resulted many insured patient by-passing lower level health facilities moving to District and Regional Hospitals putting unnecessary pressure on such facilities.

- Inadequate human resource particularly the professional groups to deliver quality services at all levels

Auditing

The Internal Audit Division of the Ghana Health Service was established under the Internal Audit Act, Act 658 of 2003 to provide assurance service to management through audits to achieve Ghana Health Service operational goals and objectives. The Internal Auditing Division at the national level and the units in the Regional Directorates of GHS have adopted the preventive approach rather than the detective approach to auditing and has put in place control measures to safeguard assets. This approach requires frequent audit visits to Budget Management Centres (BMCs) not only to serve as a moral check on operating staff to prevent irregularities, including fraud and errors; but also facilitate early detection of such irregularities for immediate corrective action.

The IAD has been carrying out continuous monitoring in GHS Headquarters and also supporting the Regional Units to conduct continuous audit in all major Budget Management Centres. Such BMCs includes Regional Health Directorates, Regional Hospitals, Regional Medical Stores and Metropolitan/Municipal Health Directorates. A total of 88 facilities were visited during the year under review.

Key Audit Findings

The major findings are as follows

1. Non compliance of procurement law, policies/procedures:
 - No procurement planning and budgeting (Need)
 - Absence of procurement register
 - None provision of sufficient audit trail by way of sufficient documentation to authenticate transactions.
 - No fixed assets register or failure to update them
 - Non-acquittal of payment vouchers to the tune of GH¢275,219,162.10
2. Indebtedness to five B.M.Cs. by Institutions and NHIS to the tune of GH¢413,074,820.80
3. Delay in remitting 5% withholding tax valued at GH¢41,608,254.70
4. Embezzlement of Drug IGF revenue in one facility to the tune of GH¢2,206,720.
5. Fraudulent withdrawal of GH¢4,331,680.00 in one BMC.

In the case of item of no. 4 and 5 some steps had already been taken to recover the sums of money involved.

Recommendations to Key Findings

- If fraud is to be avoided, BMCs should be made to strictly adhere to the procurement policies/procedures.
- Management of all BMCs should ensure that asset registers are maintained to keep track of all assets. Besides, all fixed assets should be embossed. Also there should be coordination among Procurement Unit, Finance unit & Estate Unit in respect of fixed assets procurement.

- Heads of BMCs and Finance Officers should ensure that payment vouchers have all the relevant supporting documents before approving them.
- Management of BMCs should determine the terms of refund of salary advance before granting it.
- To avoid fraud, management must adhere strictly to the budget, and if there is a need to spend on an item not budgeted for, approval should be sought from the appropriate authority.
- Apart from being made to refund money, disciplinary action should be taken against officers who embezzle funds.
- Withholding tax vouchers should be prepared together with the payment voucher and amount paid promptly to the Internal Revenue Service (IRS).
- Management of all institutions should adopt effective means to collect money owed them
- Management of facilities should liaise with the Management of the various District Health Insurance Schemes to ensure claims submitted are vetted one time and reimbursements made for services provided to clients covered by the schemes.

Challenges

The challenges facing the Internal Audit Division at the national level and the units in the various regions include inadequate human resource, inadequate vehicles and insufficient budgetary allocation to carry out IAD planned activities. To address the human resource, the Division worked with the HRD Division to selection and recruit new staff. Once financial clearance has been obtained the selected officer can commence work. The division will organize induction training course for newly recruited staff and organize training workshop on new audit tools for all Internal Audit Staff.

Health Information Management System

DHIMS Software

A review of the Health Information System found that multiple information systems that do not communicate with each other exist in the Ghana Health Service resulting in data redundancy, duplications, inconsistencies amongst the various information sources and inadequate access to information. To address this and some other challenges facing information management within the Ghana Health Service, a software for use in data management was developed. The software was piloted in 20 districts (two in each region). The piloting period was used to identify and rectify defects in the soft ware and make more user friendly. Stakeholders, especially Programme Managers, made inputs for modification of the software in order increase its capacity to generate all reports needed.

In 2007 the system was scaled up to all districts in the country. Under this system 1 data captured from service delivery points is inputted at the Hospitals and District Health Administrations. In future this will be extended to sub-districts where capacity for data entry exists. Data from all facilities in a district is then merged at the district and a copy transmitted to the region. At the regional level data from all districts is merged and transmitted to the national level. This has reduced the time required for collation of data at

the district, regional and national level. It has also minimized errors arising during data entry and thus improved data accuracy.

The main challenge facing the smooth operation of the system is the non-availability of health information officers in many districts and hospitals. In some regions the implementation was delayed to the later half of the year due to lack of funds. Some districts too did not have computers.

RCH System

A soft ware similar to the DHIMS was developed by the Reproductive and Child Care Division of the Public Health Directorate. The software was deployed in all regions and districts. This system and the DHIMS will run parallel for some time and based on their performance one will migrate to the other so the Service will use on common data management system.

GHS Gender Mainstreaming

Two officers from each region and other officers from the national level were trained on Gender mainstreaming in health care delivery. Policy Development Guidelines were developed with the objective of giving practical advice to divisions of the Ghana Health Service on the policy development process and to provide a common framework specifically in the context of the priorities and objectives of the GHS in developing new policies.

To address gender issues in health care by making health care delivery more sensitive to the health needs of women and men, Gender Mainstreaming guidelines were also developed. Both documents have been drafted and need to be finalized before dissemination.

Monitoring and Supervision

As part of efforts to improve interaction between GHS HQ and regions and facilitate the sharing of information, the Director General constituted teams from the National level to visit the regions. Each team was made up of one Divisional Director as the leader and two other officers.

During the visits the teams shared information on some of the major areas of concern raised during the Senior Managers' Meetings held during the year. Apart from information sharing the teams also made a rapid assessment of the systems in place to address some of the key issues. Information sharing covered the following areas:

- The new Corporate Image of the Ghana Health Service
- Performance Appraisal Systems
- Supervision and Monitoring to improve performance
- Team work
- Staff welfare, health and safety
- Staff attitudes and other issues which affect the quality of services
- Compliance with regulations - Financial and Procurement
- Response to Audit Queries
- Management of information to improve decision making

The inadequate number of professional and technical staff was a key issue in almost all the districts and regions and districts visited. It was however noticed that some facilities were actually overstaffed and recommendations were made for redistribution of staff. Though the Human Resource Development Directorate has produced new job descriptions for all categories of staff and has also developed a new staff appraisal form many staff were not aware of these documents. The HRDD has re-circulated these documents and directives have been sent by the Director General for all regional Directors to ensure that the documents are disseminated to all levels within their jurisdiction.

The policy of holding induction courses for all staff recruited into the service should be implemented at all levels. Structured should be held for staff who are appointed into management positions.

Outlook for 2008

The priority health interventions will not change as there has not been any significant change in the pattern of the health and disease problems of the country. The Ghana Health Service will continue to focus on improving coverage of priority programmes for the prevention, control and management of diseases of public health importance. The momentum for this has been built up with the expansion of the HIRD approach to all regions and districts.

Communicable diseases remain the major causes of mortality and the priority which has been to their control will be maintained. Systems to monitor the impact of interventions will be strengthened. In particular the systems for diagnosing and reporting on malaria will be reviewed to make it easier to assess if the control measures are having the desired effect. Remarkable progress has been made in rolling out anti-retroviral therapy but the unmet need is still very great. Extra efforts are required to make people aware of the availability of the service and create a demand for people to take up counselling and testing as a prerequisite to benefiting from ART.

The interventions to eradicate guinea worm will be maintained in order to build on gains made in 2007 towards the eradication of the disease. In deed it is acknowledged that the last few cases of any disease targeted for eradication are usually the most stubborn as they tend to occur in hard to reach locations or among special populations. If the need arises, special initiatives will be adopted so that the country can remain on course to eradicate this disease by 2010.

The threat of avian influenza is a real one as shown by the outbreaks among poultry in 3 regions during the year under review. Surveillance of this and other epidemic prone diseases will remain one of the top priorities of the Service. All staff involved in surveillance will be trained based on the revised surveillance guidelines.

The focus for the control of non-communicable diseases in 2008 will be a drive to increase awareness of the risk factors associated with some of these diseases and ensure early diagnosis and appropriate treatment. The Regenerative Health and Nutrition programme will be scaled up to additional districts. Pilot screening programmes for specific age groups and population cohorts (infants, pre-school, school-going children, adults and elderly) will be

scaled up while the capacity for clinical management of the major non-communicable diseases will continue to be built through training and provision of essential equipment.

The trend of maternal and infants deaths is a cause of great concern. The MICS 2006 showed that neonatal deaths account for almost two thirds of infant deaths. Emergency maternal and neonatal care is an area that requires urgent improvement. In the short term the shortage of midwives cannot be addressed but the skill of those involved in the care of pregnant women can be improved through training on the Safe Motherhood Clinical Protocol. Plans to provide basic equipment for neonatal and comprehensive obstetric care will be followed through. The roll out of two of the three components of IMCI (Case management and community IMCI) is very slow. Efforts being made to introduce more varied methods to shorten duration of the course without compromising quality of content will continue so that more staff can get the training within as short a time as possible. The Integrated Maternal and Child Health Campaign which has been conducted in the past two years will be conducted in 2008 to further build on the gains made as a result of previous rounds.

There has been improvement in the human resource base especially with respect to nurses but inequities still exist. Bold measures to address this will have to be taken. To this end the plans to decentralize the management of the personal emoluments of the budget will be pursued. There have been numerous complaints about the poor attitude of staff towards patients who seek care at various facilities. This is of great concern to the Service. To help address this negative attitude of staff, the Service is working with a reputable private sector organization to introduce the customer care approach into health care delivery. There will also be training in ethics so that staff can adopt a more professional attitude towards their work. Performance standards will be developed and implemented for all categories of staff. This will be combined with improved supervision and monitoring so as to track the performance of all staff and hold each to account for his/her stewardship.

Generally the outlook for 2008 is good in spite of the anticipated challenges and the Service will continue to make modest gains and continue to contribute to attainment of the developmental goals of the country.

Appendix 1: Table Of Sector wide Indicators

Indicator	2005 Actual	2006 Actual	2007 Actual
Number of Infants deaths – Institutional	4,618	5,291	5,811
Number of Infants admissions – Institutional	74,582	51,184	36,622
Number of under five deaths – Institutional	7,615	6,057	5,287
Number of under five admissions – Institutional	171,332	172,411	113,792
Maternal Mortality ratio – Institutional (per 100,000 LBs)	197	187	230
Number of Under five years who are under weight presenting under facility and outreach	72,735	73,900	161,350
% Under five years who are underweight - Institutional	5.0	4.5	8.6
Number of outpatient visits	11,650,188	12,241,163	15,712,070
Outpatient visits per capita	0.54	0.55	0.69
Number of admissions	800,437	748,136	891,747
Hospital Admission rate	36.9	33.6	38.9
Specialist Outreach			
Number of specialist visits received from the national level	170	144	72
Number of patients seen by national team	5,103	5,348	6,910
Number of operations performed by national team	560	568	649
Disease Surveillance			
TB cure rate	67.6	71	N/A
TB Treatment Success Rate	72.6	76.6	N/A
HIV prevalence (among pregnant women)	2.7	3.2	2.6
No. of guinea worm cases seen	3,958	4,129	3,981
No. of AFP cases seen	173	168	163
Total number of malaria cases	3,799,158	3,869,406	5,201,427
Diseases targeted for Elimination			
Lymphatic filariasis treatment coverage	74.4	71.5	73.2
Reproductive & Child Health			
Safe Motherhood			

Number of Family planning Acceptors	1,189,221	1,419,998	1,317,755
% of WIFA accepting FP	23	26.8	23.9
Number of ANC registrants	777,179	1,419,998	1,317,755
% of ANC coverage	88.7	88.4	89.5
% ANC registrants given IPT2	N/A	25.2%	36.8
Number of PNC registrants	481,674	500,801	507,494
% PNC coverage	55	55.9	55.3
Number of Supervised Deliveries (includes deliveries by trained TBAs)	474,377	522,522	467,467
% of supervised Deliveries	54.2	58.4	51
Number of deliveries by skilled attendants	353,352	398,750	322,127
% of Deliveries by skilled Personnel	46	44.5	35.1
CHPS			
No. of functional CHPS zones	190	277	345
Child Survival			
EPI coverage Penta 1 (%)	87	87	90
EPI coverage Penta 3 (%)	85	84	88
EPI coverage OPV 3 (%)	84	84	88
EPI coverage Measles (%)	83	85	89
Total number of Under five malaria cases – Admissions	86,974	78,464	62,072
Number of maternal deaths audited	755	557	679
Total number of maternal deaths	912	951	995
% maternal death audits	91.9	58.6	75.6
Total number of Under five deaths due to malaria	2469	2089	1,506
Under five malaria case fatality rate	2.8	2.7	2.4
% Tracer Drugs available out of the tracer drug list at the Regional Medical store	89	74	87
Total Number of TB Cases Cured	5,125	5,519	N/A
AFP Non-Polio AFP rate (/100,000) population under 15 years	1.6	1.65	1.55
Revenue Mobilization			
IGF (GH¢)	44,370,000	61,480,000	102,600,000
GOG subsidy (GH¢)	154,390,000	263,890,000	284,500,000

Health Fund (GH¢)	54,640,000	39,080,000	39,800,000
MOH Programmes (Earmark Funds) (GH¢)	49,000,000	44,410,000	16,200,000
Other Sources e.g. Financial Credits, HIPC (GH¢)	54,760,000	66,800,000	110,200,000
Expenditure by item			
Item 1: Personal Emoluments (GH¢)	146,894,475.64	235,215,428.66	264,800,000.00
Item 2 : Administration Expenses (GH¢)	38,179,295.75	27,417,725.02	53,500,000.00
Item 3: Service Expenses (GH¢)	89,769,883.45	129,997,119.07	123,200,000.00
Item 4: Investment Expenses (GH¢)	73,212,048.90	109,460,436.10	86,100,000.00
Number of doctors	1,209	1,514	1,676
Population to doctor ratio	1:17,929	1:15,423	1:13,683
Number of nurses	14,373	14,507	15,724
Population to nurse ratio	1:1508	1:1,537	1:1,415