

Report on the Monitoring and Technical Support Visits to Drug and Therapeutic Committees in the Greater Accra, Central, and Western Regions of Ghana: May–September 2010

Kwesi E. Eghan
Johannes Addison
Chinwe Owunna

October 2010

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The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ABBREVIATIONS AND ACRONYMS

ADR	adverse drug reaction
AL	artemether-lumefantrine
AMDP	Antimalaria Drug Policy
AS/AQ	artesunate/amodiaquine
CC Metro	Cape Coast Metropolitan Hospital
DTC	Drugs and Therapeutics Committee
DHAP	dihydroartemesinine-piperaquine
EML	essential medicines list
GHAPOHA	Ghana Ports and Harbors
GHS	Ghana Health Service
IFL	institutional formulary list
MSH	Management Sciences for Health
NHIS	National Health Insurance Scheme
NMCP	National Malaria Control Programme
OPD	outpatient department
PML	Princess Marie Louise Children's Hospital
RDT	rapid diagnostic test
RMU	rational medicine use
SPS	Strengthening Pharmaceutical Systems
UCC	University of Cape Coast Hospital
UCEW	University College of Education Hospital, Winneba
USAID	U.S. Agency for International Development

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BACKGROUND

Irrational use of medicines continues to have a serious negative effect on quality and cost of care in Ghana which invariably impacts the financial sustainability of health systems in general and the National Health Insurance System (NHIS) in particular. Ghana Health Service (GHS) facilities' quarterly reports indicate that some medical services' reimbursement claims to the NHIS are being rejected because of non-adherence to recommended national standard treatment guidelines and protocols and also for non-adherence to the policy on the use of generic medicines. The cumulative effect is that the revolving drug funds of the various GHS hospitals are gradually being eroded with a resultant negative effect on medicine availability. The Strategic Plan of the Pharmacy Unit of the GHS—*Improving Pharmaceutical Services in the Health Sector 2007–2011*—highlights the establishment and strengthening of Drug Therapeutic Committees (DTCs) as a key means of ensuring good pharmacovigilance reporting and adherence to prescribing policies by providers in Ghana.

In an attempt to resolve these challenges and support the strategic plan of the pharmaceutical services in the health sector, the Pharmacy Unit Headquarters under the GHS, in collaboration with the Management Sciences for Health's (MSH) Strengthening Pharmaceutical Systems (SPS) Program, funded by the US Agency for International Development (USAID) President's Malaria Initiative, undertook a series of training program for 48 public, private, and quasi-governmental facilities in the Greater Accra, Central, and Western Regions of Ghana. The trainings were conducted December 8–10, 2009, in Accra for the Greater Accra Region; December 16–18, 2009, in Cape Coast for the Central Region; and two trainings conducted in Takoradi April 7–9, 2010, and October 13–16, 2010, for the Western Region.

Following these training programs, a joint monitoring team comprising staff members from the Pharmacy Unit of the GHS; Regional Health Directorates of the GHS for the Greater Accra, Western, and Central Regions; and SPS conducted supportive supervisory visits to 20 selected health facilities in these regions. These visits were conducted (all in 2010) May 10–14 and August 5–6 for the Greater Accra Region; May 24–28 and August 23–27 in the Central Region; and August 30–September 1 in the Western Region.

Objectives of the Visit

The main objectives of the supervisory visits included assessing—

- The level of implementation of the DTC concept after the training sessions
- Rational medicine use (RMU) indicators for the second (April–June) and third (July–September) quarters of 2010
- Adherence to uncomplicated malaria treatment policy at the out-patient departments (OPDs) of these facilities

Methodology

The revised GHS supportive supervisory visits checklist of January 2010 and malaria specific tools designed in collaboration with the National Malaria Control Programme (NMCP) were used during these visits (for more details, see the annex section). Prior to the administration of the tools and at the end of each visit, the monitoring and technical supervisory team held meetings with the head of each facility to discuss the objectives of the visit and the preliminary findings. The team then visited pharmacy and hospital records departments to collect the required data in the form of respondent interviews and record reviews. Preliminary analysis identified gaps and weaknesses. Preliminary findings were discussed with the head of the facility and key staff, highlighting areas that needed to be strengthened to improve RMU.

Commendations and recommendations were made and several agreements reached during the discussions. Committee members were tasked with improving RMU at the facility on the basis of the team's recommendations.

Table 1. List of Health Facilities Visited^a

Greater Accra Region	Western Region	Central Region
Ridge Regional Hospital, Accra	Effia Nkwanta Regional Hospital, Sekondi	UCEW ^b (quasi-governmental)
Adabraka Polyclinic, Adabraka	Essikado Hospital, Sekondi	Baptist Hospital (private)
Achimota Hospital, Achimota	Takoradi Hospital, Takoradi	Swedru Government Hospital, Swedru
PML	GHAPOHA ^d Clinic, Takoradi (quasi-governmental)	Winneba Government Hospital
Trust Hospital, Osu (quasi-governmental)		Klimovic Memorial Hospital (private)
La General Hospital		Central Regional Hospital Cape Coast, Pedu
Ga South Hospital, Weija		CC Metro ^e , Cape Coast
Ussher Polyclinic		University Hospital, Cape Coast (quasi-governmental)

^aAll facilities are public unless otherwise noted.

^bUCEW, University College of Education Hospital, Winneba

^cPML, Princess Marie Louise Children's Hospital

^dGHAPOHA, Ghana Ports and Harbors

^eCC Metro, Cape Coast Metropolitan Hospital

ACTIVITIES IN THE GREATER ACCRA REGION

Level of Implementation of DTC Meetings

The DTC training conducted by MSH/SPS and GHS in the Greater Accra Region led to the re-establishment of the Trust Hospital DTC. The team observed that all eight facilities visited had functioning DTCs. This is confirmed by the frequency of verifiable meetings which ranged from one to eight meetings in the first two quarters (January–June) of 2010 (figure 1). Their goal is to have one meeting every quarter to discuss their individual actions plans.

In all the facilities visited, the attendance at DTC meetings was very high (80 percent). As part of the supportive supervisory checklist, the team tried to verify when these DTCs were established, but documentation was not available. These documents are expected to spell out the terms of reference, goals, objectives, functions, and membership of the DTC in these facilities. All the facilities visited except Adabraka polyclinic had the agenda for meetings properly filed. Records of budgets for planned DTC activities for 2010 were not available at the time of the visit.

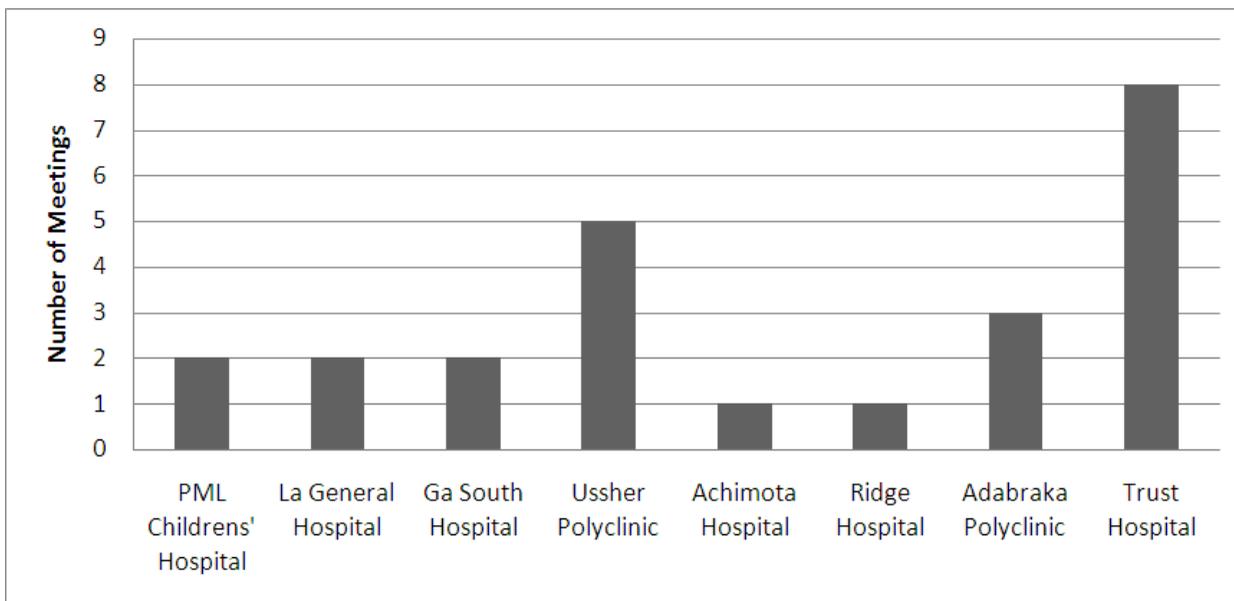


Figure 1. Number of DTC meetings, January–June 2010

Formulary List Development

All the facilities visited had partially developed their formulary list. Each facility had medicines in stock, ranging from a low value of 162 items (Achimota Hospital) to 314 items (Trust Hospital). The formulary lists in these facilities at the time of the visits were incomplete because they lacked the following items—

- A statement on how the present institutional formulary list (IFL) was developed
- Criteria for addition and deletion to the formulary list
- A policy statement on the supply and use of restricted medicines, for example, pethidine
- A policy statement on generic and therapeutic substitution

In all the facilities, the co-chairpersons or chairpersons of the committees were trained on how to add the relevant policy statements as indicated in the training manual of the DTCs.

It was observed that the formulary lists had no antimalarial monotherapies, and hence the facility procurements were not expected to include any.

Impact and Outcome Indicators

The following prescribing indicators were used during the supervisory visits—

- Average number of medicines prescribed per visit
- Percentage of medicines prescribed by generic names
- Percentage of visits in which an antibiotic was prescribed
- Percentage of visits in which an injection was prescribed
- Percentage of medicines prescribed from the essential medicines list (EML)

The team observed that all prescriptions issued included the patients' diagnoses. The average number of medicines prescribed per visit at Trust and Achimota Hospitals was 2.9, which is below the regional target of 3.0 (table 2).

Prescribing generics was highest in Ussher (90.3 percent) followed by Ga South (85.8 percent) and La General (71.4 percent), however, all eight facilities visited were below the regional target of 100 percent.

The prescribing of antibiotics at all the facilities was above the regional target of 30 percent (except Princess Marie Louis Children's Hospital [PML] at 26 percent). At La General Hospital, seven of every ten patients left the hospital with antibiotics; generally, over 50 percent of patients took antibiotics home.

Another remarkable performance indicator was the number of injections prescribed, which was below the regional target of 20 percent for 7 of the 8 facilities visited. Prescribing from the EML was generally high.

The availability of tracer medicines (a revised list of 65 items can be found in annex 1) on the day of the visit at the facilities varied from 68.8 percent at PML to 92.2 percent at Ussher and Ridge Hospitals. The low medicine availability observed at PML and Achimota Hospitals was reportedly a result of a problematic internal procurement process and insufficient medicine stock at the Regional Medical Store.

Table 2. Results on Prescribing Indicators Monitored

Date visited ^a	Facility ^b	Average number of medicines prescribed per visit	Medicines prescribed by generic name (%)	Antibiotics prescribed (%)	Injections prescribed (%)	On the EML (%)	In stock (%)
August 5	PML	3.6	63.0	26.0	3.0	74.0	68.8
August 6	La General	3.5	71.4	76.7	6.7	77.1	84.4
August 6	Ga South	3.8	85.8	66.7	3.3	83.2	76.5
August 5	Ussher Polyclinic	3.4	90.3	43.3	10.0	92.2	92.2
May 14	Achimota	2.9	48.5	56.7	8.3	91.8	72.0
May 13	Ridge	3.2	47.4	46.7	0.0	93.7	92.2
May 10	Adabraka Polyclinic	3.3	59.6	46.7	13.3	85.4	79.7
May 12	Trust	2.9	31.2	37.3	22.0	87.1	84.4
Regional target		3	100	30	20	100	95
Maximum		3.8	90.3	76.7	13.3	93.7	92.2
Minimum		2.9	31.2	26.0	0.0	74.0	68.8

^aAll dates in 2010

^bAll facilities are hospitals unless otherwise noted.

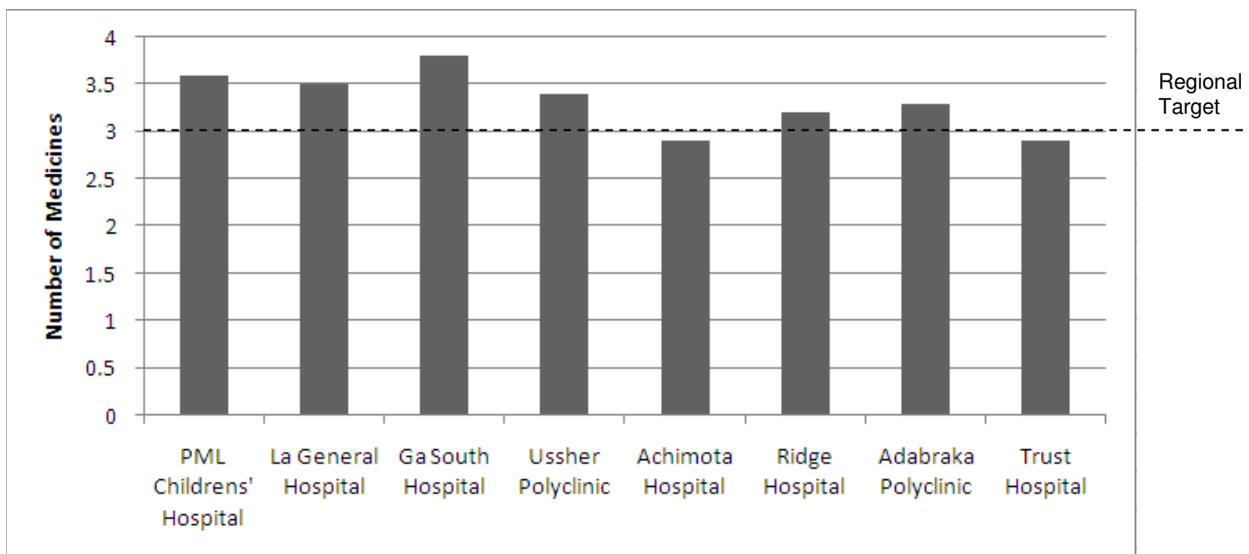


Figure 2. Average number of medicines prescribed per visit

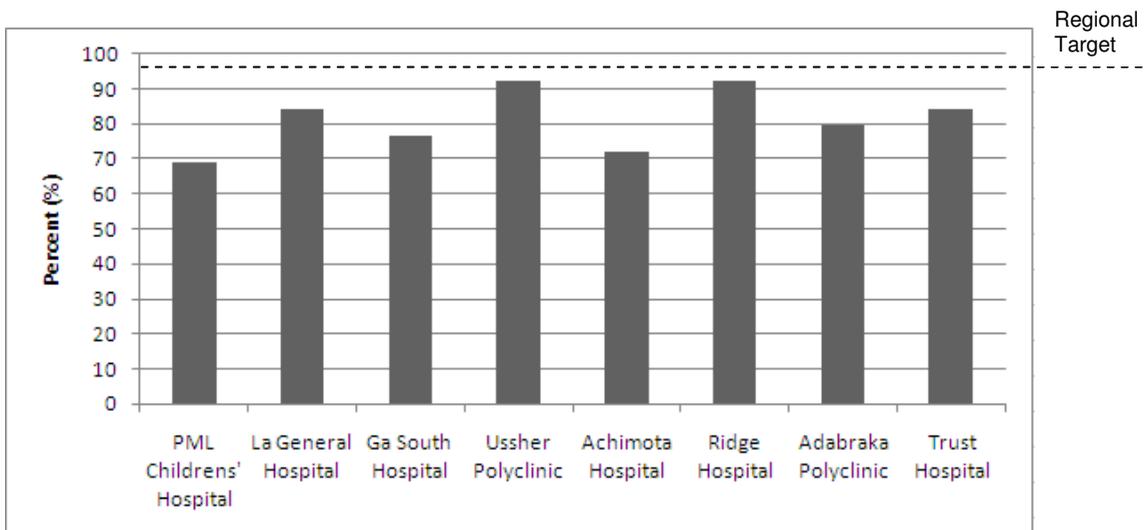


Figure 3. Medicine stock availability by facility

Table 3. Prescribing Indicators for all Facilities

	PML Childrens' Hospital	La General Hospital	Ga South Hospital	Ussher Polyclinic	Achimota Hospital	Ridge Hospital	Adabraka Polyclinic	Trust Hospital	Regional Target
Generics	63.0	71.4	85.8	90.3	48.5	47.4	59.6	31.2	100
Antibiotics	26.0	76.7	66.7	43.3	56.7	46.7	46.7	37.3	30
Injections	3.0	6.7	3.3	10.0	8.3	0.0	13.3	22.0	20
On EML	74.0	77.1	83.2	92.2	91.8	93.7	85.4	87.1	100

Intervention Studies

All facilities visited had carried out routine RMU indicator studies, which are ongoing systematic, criteria-based programs that will ensure appropriate medicine use. Interventions are necessary when inappropriate therapy is identified as a pattern in a facility. Trust Hospital had carried out ABC and VEN analyses that helped reduce the number of items on their IFL. ABC analysis is a powerful tool by which items are compared according to their annual usage, allowing the facility or planner to prioritize the management of class A items (10–20 percent of items that account for 70–80 percent of funds spent) in selection and procurement decisions. VEN analysis is a system of setting priorities, in which medicines are classified according to their health impact—vital (V), essential (E), and nonessential (N). The team encouraged co-chairpersons of the DTCs to pursue their various agendas on problem identification in medicine use. Among the various intervention studies needed in the facilities are—

- Management and use of hematinics to improve hemoglobin levels of pregnant women (Adabraka Polyclinic)
- Medication error monitoring (Trust Hospital)

Management of Uncomplicated Malaria

The malaria indicators were assessed to determine the level of adherence to the treatment of uncomplicated malaria as recommended by the Antimalaria Drug Policy (AMDP). The table below presents the results from the facilities.

Table 4. Adherence to Uncomplicated Malaria Treatment Policy^a

	Conformity to AMDP ^e (%)	Prescribed AS/AQ ^b (%)	Prescribed AL ^c (%)	Cases confirmed by microscope or RDTs ^d (%)
PML	100.0	86.7	6.7	0.0
La General	93.3	43.3	53.3	0.0
Ga South	96.7	46.7	50.0	16.7
Ussher Polyclinic	100.0	63.3	33.3	6.7
Achimota	80.0	43.3	53.3	6.7
Ridge	100.0	7.7	88.5	0.0
Adabraka Polyclinic	83.3	56.7	36.7	0.0
Trust	78.6	14.3	85.7	96.4

^aAll facilities are hospitals unless otherwise noted and all cases are OPD.

^bAS/AQ, artesunate/amodiaquine

^cAL, artemether-lumefantrine

^dRDTs, rapid diagnostic tests

^eConformity to AMDP means that an ACT was prescribed

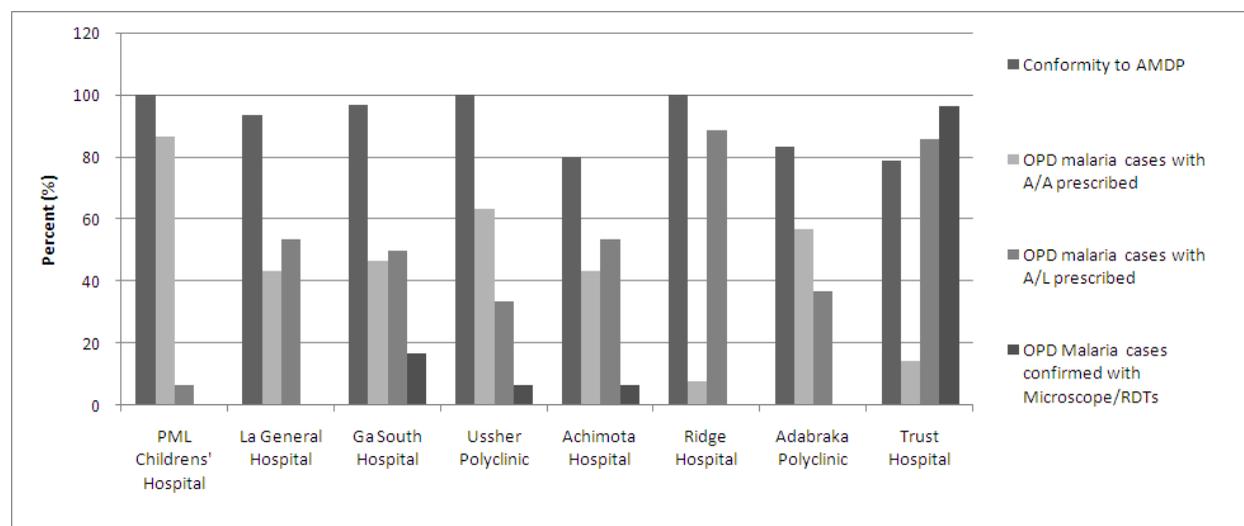


Figure 4. Adherence to uncomplicated malaria treatment policy

Out of 100 facility records reviewed at Adabraka, PML, La General, and Ridge Hospitals, none of the malaria cases were confirmed by microscopic diagnosis or by rapid diagnostic tests (RDTs). At Achimota Hospital, only 6.7 percent of malaria cases at the OPD were confirmed by

microscopy or RDT diagnostic methods. However, at Trust Hospital, 96 percent of the cases reviewed were confirmed for malaria with microscopy or RDT.

At La General, Adabraka, and Ga South Hospitals, prescribers initiated treatment of uncomplicated malaria cases with an arthemether injection followed by a three-day course of either artesunate/amodiaquine (AS/AQ), arthemether-lumefantrine (AL), or dihydroartemisinin-piperazine (DHAP). This practice is not in compliance with the AMDP, which recommends that arthemether injections be reserved for severe or complicated cases only. This appears to be a growing practice, and DTC co-chairpersons were advised accordingly to share and review this at subsequent committee meetings.

Other Observed Challenges

In all the facilities visited, there were no policy guidelines on evaluating adverse drug reactions (ADRs), medication error monitoring, and antimicrobial resistance surveillance.

Commendations

The monitoring and technical support team observed with satisfaction the level of institutionalization of the DTC in all facilities visited. In recognition of the enthusiasm and goodwill shown by the regional health directorate and DTC members in the hospitals, the following commendations were made—

- There is high level of commitment among all DTC members of the various hospitals, culminating in the observed high attendance rates at DTC meetings
- Ridge Hospital's initiative to train all medical housemen on the concepts of RMU to improve indicators is highly commendable and should be replicated in other facilities
- Ridge Hospital is also to be commended for 100 percent adherence to the use of oral artemisinin-based combination therapies for the treatment of uncomplicated malaria as recommended by the National Antimalaria Drug Policy
- Trust Hospital is commended for the development of treatment protocols for all the top ten morbidities in the hospital.
- The management teams and staff of the health facilities were cooperative, receptive, and appreciative of the technical support provided by the visiting team.
- The team had free and unrestricted access to all areas and information needed for the successful conduct of its work.

The immense support of the Greater Accra Regional Health Directorate during the visit is hereby duly acknowledged.

Recommendations

The following recommendations were made to the eight health facilities visited—

- Retrieve and file all documents containing the terms of reference, goals, objectives, functions and membership of the DTC
- Develop clear activity plans and accompanying budgets for the DTCs
- Revise and update the IFL in all facilities, ensuring that all required specifications listed in the DTC training manual are included
- Undertake antibiotic use evaluation studies to understand compounding factors accounting for the observed trends
- Develop an antimicrobial use policy for each facility to control and regulate use of antimicrobials by prescribers
- Develop guidelines for evaluating ADRs at the facility level while awaiting further directives from the Food and Drugs Board
- Invite the Food and Drugs Board facility representative or institutional contact persons to become members of the DTC
- Undertake a drug utilization review or investigate the bottlenecks affecting medicine availability in the facilities
- Undertake intra- and interfacility peer reviews to improve medicine use, for example, to improve adherence to AMDP

ACTIVITIES IN THE CENTRAL REGION

Level of Implementation of DTC Meetings

A central regional DTC training was conducted December 16–18, 2009 for 12 selected facilities; the training was given by MSH/SPS in collaboration with GHS with funding from the USAID’s Presidents Malaria Initiative. This training program led to the revival of six DTCs at Baptist, Swedru Government, Central Regional, Winneba, Cape Coast Metropolitan (CC Metro), and University of Cape Coast (UCC) Hospitals. Since then, the number of verifiable DTC meetings at each of these facilities ranges from zero (Klimovic and Winneba Hospitals and the University College of Education Hospital, Winneba [UCEW]) to seven (UCC Hospital) as represented on the graph below. The number of meetings planned per year varies from facility to facility and is determined by the action plan developed by the respective facilities at the end of the DTC training program.

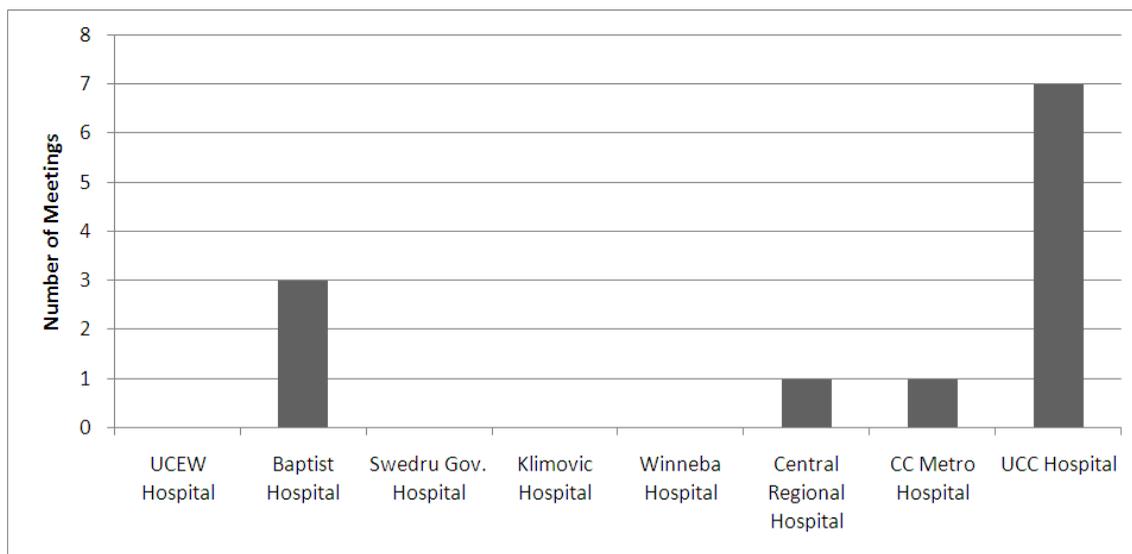


Figure 5. Number of DTC meetings, January–September 2010

Formulary List Development

Of the eight facilities visited, six had partially developed formulary lists. Their formulary lists did not contain—

- A policy statement on evaluating requests for changes in the IFL
- Criteria for additions and deletions to the formulary list
- A policy statement on restricted medicines, for example, pethidine
- A policy statement on generic and therapeutic substitution (please refer to the DTC training manual on formulary list development)

The other two facilities (UCEW and Winneba Hospital) had no documented formulary list. Each facility had in stock a number of medicines ranging from 186 items (Swedru Government Hospital) to 308 items (CCMetro). The formulary lists had no antimalarial monotherapies and therefore the facility procurements were not expected to include them (use of these therapies as a first-line treatment for uncomplicated malaria has been prohibited in the AMDP since 2009).

In all the facilities, the DTC chairpersons and co-chairpersons were trained on how to add the relevant policy statements as indicated in the DTC training manual.

Impact and Outcome Indicators

For the second (April–June) and third (July–September) quarters of 2010, the team assessed the hospitals using the following prescribing indicators—

- Average number of medicines prescribed per visit
- Percentage of medicines prescribed by generic names
- Percentage of visits in which an antibiotic was prescribed
- Percentage of visits in which an injection was prescribed
- Percentage of medicines prescribed from the EML

A summary of the team’s observations are highlighted in the table below.

Table 5. Results of Prescribing Indicators Monitored

Date visited ^a	Facility ^b	Average number of medicines prescribed per visit	Medicines prescribed by generic name (%)	Antibiotics prescribed (%)	Injections prescribed (%)	On the EML (%)	In stock (%)
August 24	UCEW	3.2	67.0	23.3	10.0	58.8	70.3
August 25	Baptist	4.5	67.2	40.0	10.0	65.9	78.1
August 26	Swedru Government	4.0	83.5	63.3	10.0	81.8	81.3
August 27	Klimovic	3.7	37.3	63.3	6.7	48.2	76.6
May 24	Winneba	4.0	41.8	50.0	3.3	95.4	57.8
May 28	Central Regional	3.0	64.4	46.7	0.0	90.0	92.0
May 26	CC Metro	3.6	44.1	35.0	15.0	96.2	64.0
May 27	UCC	2.9	54.7	35.0	10.0	95.7	86.0
Regional target		3	100	30	20	100	95
Maximum		4.5	83.5	63.3	15.0	96.2	92.0
Minimum		2.9	37.3	23.3	0.0	48.2	57.8

^aAll dates in 2010.

The team also observed that not all prescribers stated patients’ diagnoses (required for valid prescriptions in Ghana and for NHIA reimbursement). The average number of medicines per visit was lowest at UCC Hospital (2.9) and highest at Winneba Hospital (4.0).

The regional target for injection use is 20 percent. All the eight facilities visited had excellent values for this indicator that were at or below the regional target.

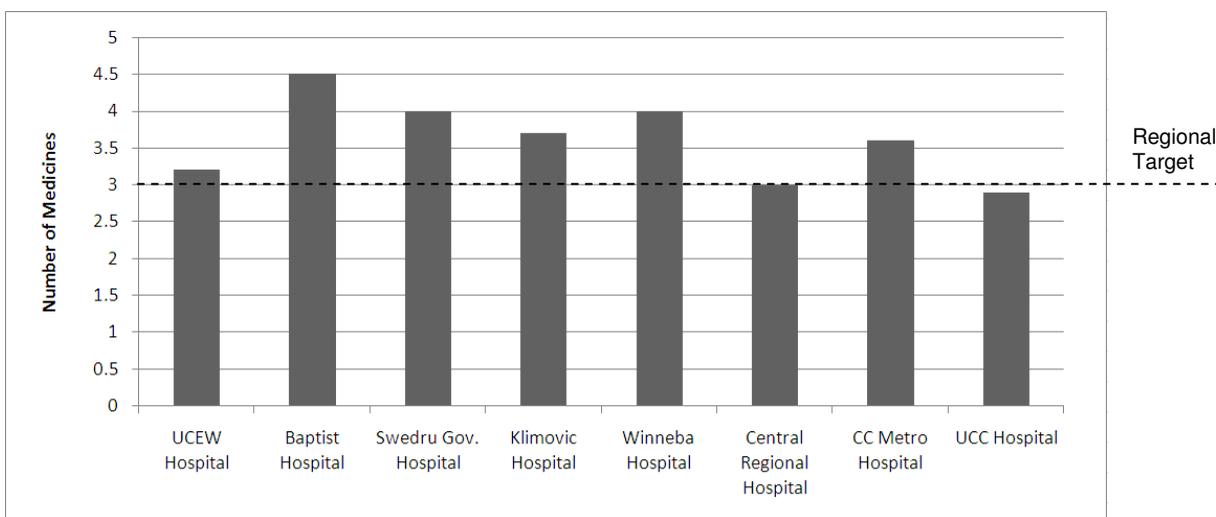


Figure 6. Average number of medicines per visit

Table 6. Prescribing Indicators for all Facilities

	UCEW Hospital	Baptist Hospital	Swedru Gov. Hospital	Klimovic Hospital	Winneba Hospital	Central Regional Hospital	CC Metro Hospital	UCC Hospital	Regional Target
Generics	67.0	67.2	83.5	37.3	41.8	64.4	44.1	54.7	100
Antibiotics	23.3	40.0	63.3	63.3	50.0	46.7	35.0	35.0	30
Injections	10.0	10.0	10.0	6.7	3.3	0.0	15.0	10.0	20
On EML	58.8	65.9	81.8	48.2	95.4	90.0	96.2	95.7	100

Intervention Studies

Three hospitals visited had carried out intervention studies—

- Antibiotic use and assessment of medication errors at Central Regional Hospital
- ABC/VEN analysis at UCEW and CC Metro

The other five facilities had not yet conducted any interventional studies. The team encouraged DTC chairpersons and co-chairpersons to pursue their various agenda on problem identification in medicine use.

Management of Uncomplicated Malaria

Indicators were assessed to determine the level of adherence to the treatment of uncomplicated malaria as recommended by AMDP. At each of the facilities visited, 30 records were reviewed, and the table below presents the results.

Table 7. Adherence to Uncomplicated Malaria Treatment Policy^a

Hospitals	Conformity to AMDP (%)	Prescribed AS/AQ (%)	Prescribed AL (%)	Prescribed DHAP (%)	Prescribed non-recommended antimalarial (%)	Cases confirmed by microscope or RDTs (%)
UCEW	100.0	10.0	90.0	0.0	0.0	0.0
Baptist	96.7	6.7	76.7	13.3	3.3	0.0
Swedru Government	93.3	33.3	56.7	3.3	6.7	13.3
Klimovic	93.3	40.0	53.3	0.0	6.7	26.7
Winneba	93.3	0.0	100.0	0.0	0.0	43.3
Central Regional	0.0	0.0	0.0	0.0	0.0	0.0
CC Metro	86.7	70.0	30.0	0.0	0.0	3.3
UCC	86.7	0.0	90.0	0.0	10.0	0.0

^aAll cases are OPD.

No malaria cases were confirmed with microscopy or RDTs at UCEW, Baptist Hospital, Central Regional Hospital, and UCC. The other four facilities had varying percentages of cases confirmed by microscopy or RDTs (Swedru Government Hospital, 13.3 percent; Klimovic Hospital, 26.7 percent; Winneba Hospital, 43.3 percent; and CC Metro, 3.3 percent). In the table above, at the time of the visit to Central Regional Hospital, the OPD patient records were being assessed by NHIS officials and were unavailable for data collection.

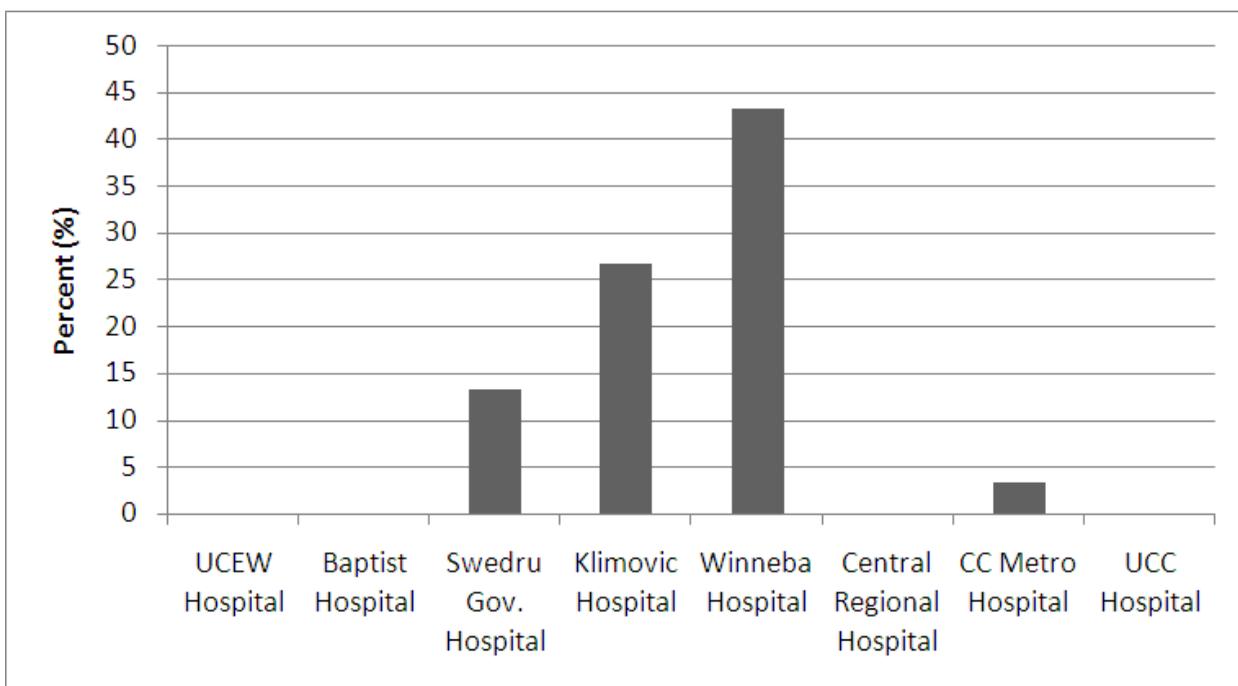


Figure 7. Percentage of OPD malaria cases confirmed with microscopy or RDTs

Commendations

- All DTC members at the various hospitals exhibited high levels of commitment in DTC activities as evidenced by meetings' attendance, however, this was not the case for Winneba Hospital
- The Central Regional Hospital was commended for developing guidelines and protocols for antibiotic use in their hospital
- The management teams and staff of the health facilities visited were cooperative, receptive, and appreciative of the technical support provided by GHS and the MSH team

Recommendations

UCEW

- Develop a budget for DTC activities and identify financial resources to support such activities
- Through the DTC, address and advocate for the use of microscopy or RDT to confirm the presence of malaria
- Advocate for the use of AS/AQ instead of the high use of AL

- Ensure availability of ADR forms and make available a facility incidence register of ADRs to inform decision making
- Develop policy for evaluating ADRs to ensure that patients are treated safely
- Control the requisition and utilization of high-risk medicines, for example pethidine, through use of Dangerous Drug Books or tally cards

Baptist Hospital

- Organize educational programs on the role of the DTC to improve staff acceptance
- Through the DTC, address and advocate for the use of microscopy or RDT to confirm the presence of malaria
- Conduct intervention studies, for example, generic medicine use studies and ABC/VEN analysis to improve medicine availability
- Formulate and implement policies to monitor and reduce medication errors
- Develop a budget for DTC activities and identify financial resources for continual support of its activities
- Ensure availability of ADR forms and make available a facility incidence register of ADRs to inform decision making
- Complete formulary list guidelines to include a policy for additions to and deletions from the list
- Streamline procurement processes to assure product quality

Swedru Government Hospital

- Organize educational programs on the role of the DTC to improve staff acceptance
- Formulate policy to control the activities of medical sales representatives
- Ensure availability of ADR forms and make available a facility incidence register of ADRs to inform decision making
- Conduct antimicrobial use studies to promote rational use of antimicrobials
- Develop a budget for DTC activities and identify financial resources to support such activities
- Document the terms of reference of the DTC

Klimovic Hospital

- Conduct intervention studies on antibiotic use to identify the causes and correct the high rates observed
- Formulate and implement policy to monitor and reduce medication errors
- Develop a budget for DTC activities and identify financial resources for continual support of its activities
- Educate staff on the role of the DTC

Winneba Hospital

- Conduct intervention studies on antibiotic use to identify the causes and correct the high rates observed
- Formulate and implement policy to monitor and reduce medication errors
- Develop a budget for DTC activities and identify financial resources for continual support of its activities
- Educate staff on the role of the DTC
- Control the requisition and utilization of high-risk medicines, for example pethidine, through use of Dangerous Drug Books or tally cards

Central Regional Hospital

- Formulate policy to monitor and reduce medication errors by implementing corrective actions
- Develop a budget for DTC activities and identify financial resources to support such activities
- Conduct antimicrobial resistance surveillance to promote rational use of antimicrobials
- Develop policy for evaluating ADRs to ensure that patients are treated safely
- Control the requisition and utilization of high-risk medicines, for example pethidine, through use of Dangerous Drug Books or tally cards

CC Metro

- Conduct intervention studies to identify and correct all medicine use problems
- Formulate policy to monitor and reduce medication errors by implementing corrective actions

- Develop a budget for DTC activities and identify financial resources to support such activities
- Organize educational program for the staff
- Conduct antimicrobial resistance surveillance to promote rational use of antimicrobials
- Develop policy for evaluating ADRs to ensure that patients are treated safely
- Formulate policy for additions to and deletions from the formulary list
- Formulate policy to assure medicine product quality
- Control the requisition and utilization of high-risk medicines, for example pethidine, through use of Dangerous Drug Books or tally cards

UCC

- Reduce the number of items on the formulary list by conducting ABC and VEN analyses, which will cut down medicine expenditures
- Document and file all DTC activities
- Formulate policy to monitor and reduce medication errors by implementing corrective actions

ACTIVITIES IN THE WESTERN REGION

Level of Implementation of DTC Meetings

The western regional DTC training was conducted April 7–9, 2010, by MSH/SPS and GHS. In the last several months, the Effia Nkwanta DTC has had six verifiable meetings. The team observed that the DTC had a clear and documented action plan for the year with an appropriate budget and proper filing of meeting minutes. The DTC had undertaken RMU interventions and collected pharmacovigilance reports that were sent regularly.

The training program led to the revival of the Essikado, GHAPOHA, and Takoradi Hospital DTCs. The team observed that the Essikado Hospital had undertaken only one DTC meeting since the regional training. The team highlighted the need to sensitize the polyclinic’s staff on the role and functions of DTCs; the need to develop a periodic action plan with a dedicated budget; and the need to revise the hospital formulary to include a policy on additions and deletions. GHAPOHA Hospital, a quasi-governmental hospital, did not have a DTC prior to the regional training conducted by MSH/SPS and GHS. A DTC was set up after the training program.

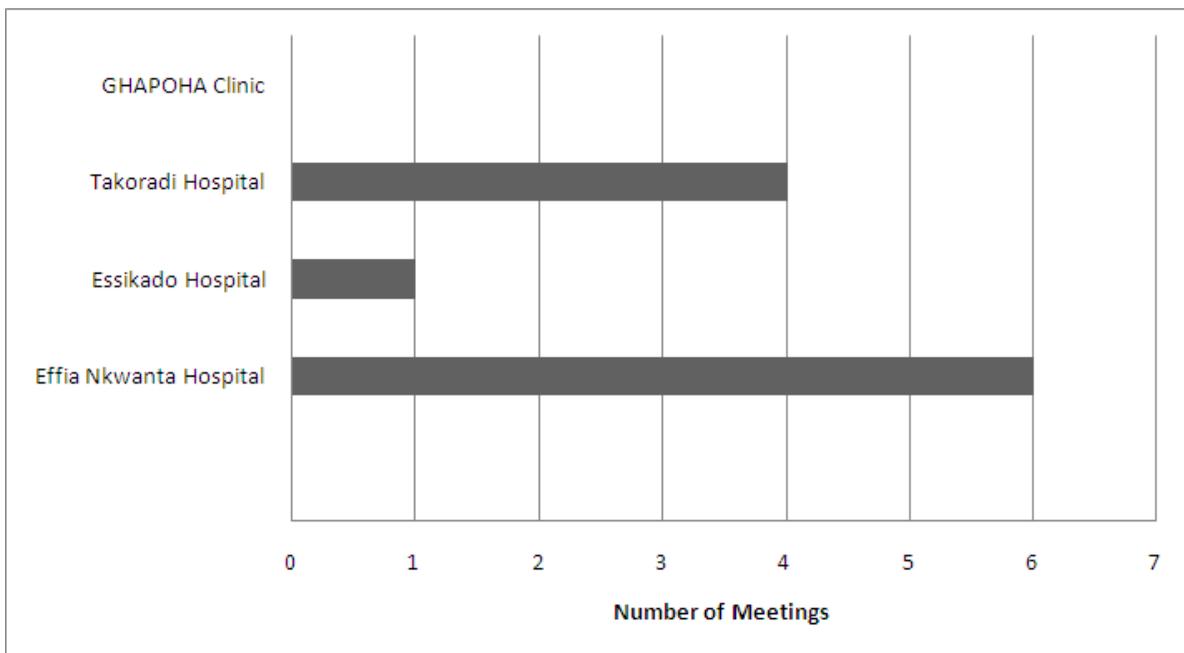


Figure 8. Number of DTC meetings, January–September 2010

Formulary List Development

With the exception of Effia Nkwanta, which had a complete formulary with the necessary policies, all the facilities visited had partially developed formulary lists. However, the following items were missing—

- A statement on how the present IFL was developed
- Criteria for additions and deletions
- A policy statement on the supply and use of restricted medicines, for example pethidine
- A policy statement on generic and therapeutic substitutions

In all facilities, the co-chairpersons or chairpersons of the committees were trained on how to add the relevant policy statements as indicated in the DTC training manual. The formulary lists had no antimalarial monotherapies and hence the facility procurements were not expected to include them.

Impact and Outcome Indicators

For the third quarter of 2010, the team assessed the hospitals using the following prescribing indicators—

- Average number of medicines prescribed per visit
- Percentage of medicines prescribed by generic names
- Percentage of visits in which an antibiotic was prescribed
- Percentage of visits in which an injection was prescribed
- Percentage of medicines prescribed from the EML

The team observed that not all prescriptions contained the patients' diagnoses. The average number of medicines per visit was lowest at GHAPOHA Hospital; the values at other facilities were 4.3 at Effia Nkwanta Hospital, 4.5 at Essikado Polyclinic, 5.6 at Takoradi Hospital, and 3.7 at GHAPOHA Hospital.

Although the regional target for injection use is 20 percent, the values for the same indicator at Essikado and GHAPOHA were well below the regional target at 13.3 percent and 10 percent, respectively. This is a positive development.

Table 8. Results on Prescribing Indicators Monitored

Dates visited ^a	Facility ^b	Average number of medicines prescribed per visit	Medicines prescribed by generic name (%)	Antibiotics prescribed (%)	Injections prescribed (%)	On the EML (%)	In stock (%)
August 31	Effia Nkwanta	4.3	42.5	55.0	28.3	74.5	78.1
August 30	Essikadu	4.5	75.4	56.7	13.3	84.3	84.4
August 30	Takoradi	5.6	32.0	80.0	33.3	71.6	84.4
Sept. 1	GHAPOHA Clinic	3.7	42.7	36.7	10.0	74.5	70.3
Regional target		3	100	30	20	100	95
Maximum		5.6	75.4	80	33.3	84.3	84.4
Minimum		3.7	32.0	36.7	10.0	71.6	70.3

^aAll dates are in 2010.

^bAll facilities are hospitals unless otherwise noted.

Table 9. Prescribing Indicators for all Facilities

	Effia Nkwanta Hospital	Essikado Hospital	Takoradi Hospital	GHAPOHA Clinic	Regional Target
Generics	42.5	75.4	32.0	42.7	100
Antibiotics	55.0	56.7	80.0	36.7	30
Injections	28.3	13.3	33.3	10.0	20
On EML	74.5	84.3	71.6	74.5	100

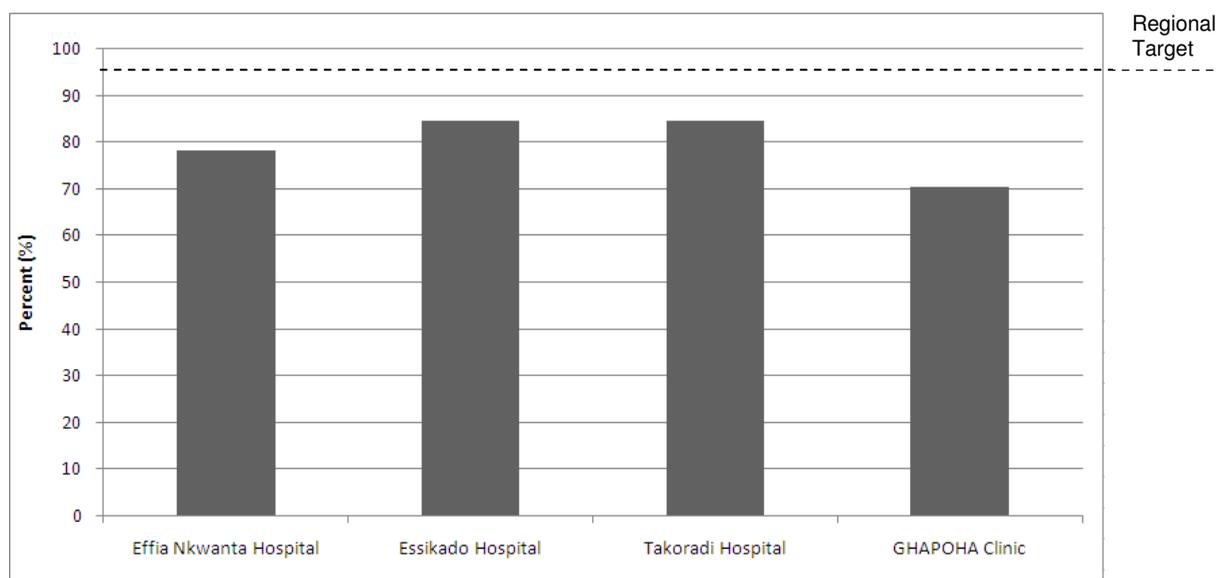


Figure 9. Percentage of medicine availability versus facilities

Intervention Studies

With the exception of Effia Nkwanta hospital, none of the other three hospitals had carried out any routine RMU indicator studies.

Management of Uncomplicated Malaria

The indicators were assessed to determine the level of adherence to the treatment of uncomplicated malaria as recommended by the AMDP. The table below presents the results from the facilities.

Table 10. Adherence to Uncomplicated Malaria Treatment Policy^a

Date visited ^a	Facility ^b	Conformity to AMDP	Prescribed AS/AQ (%)	Prescribed AL (%)	Prescribed DHAP (%)	Prescribed nonrecommended antimalarial (%)	Cases confirmed by microscope or RDTs
August 31	Effia Nkwanta	76.7	5.73	73.3	23.3	3.0	33.3
August 30	Essikado Polyclinic	86.7	43.3	43.3	13.4	7.0	10.0
August 30	Takoradi	63.3	23.5	68.5	8.0	12.0	0.0
Sept. 1	GHAPOHA	100.0	7.7	88.5	3.5	6.0	40.0
Maximum		100.0	56.7	88.5	6.6	3.8	96.4
Minimum		78.6	7.7	36.7	0.0	0.0	0.0

^aAll dates in 2010 and all cases are OPD.

^bAll facilities are hospitals unless otherwise noted.

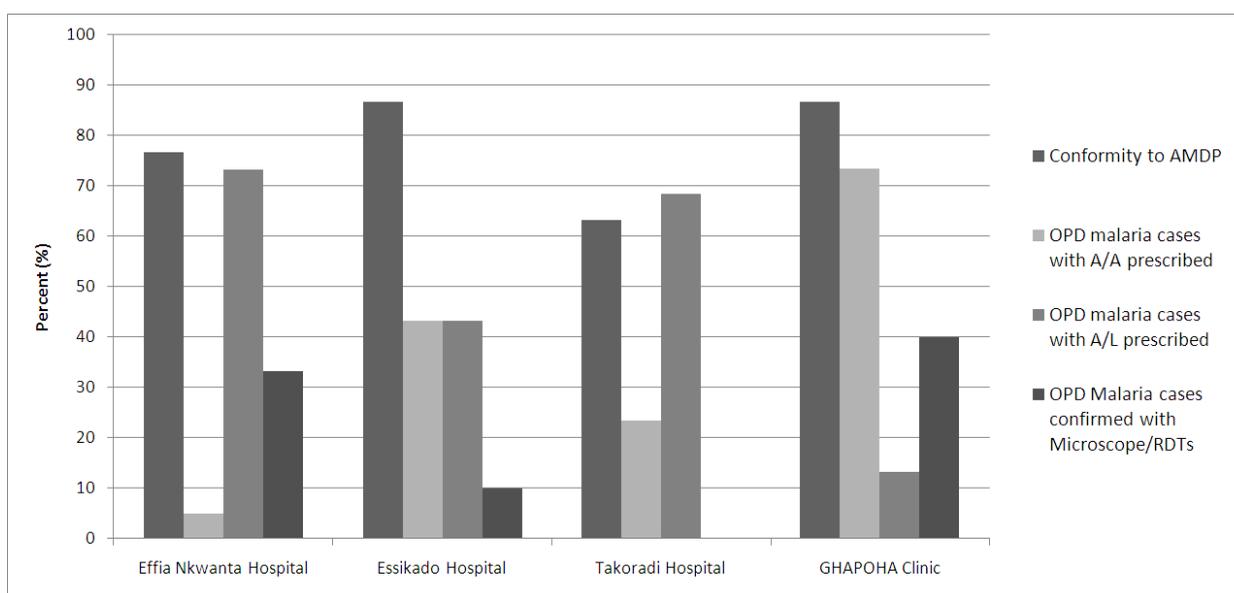


Figure 10. Measurement of adherence to antimalaria drug policy

Out of 100 facility records reviewed at Effia Nkwanta and 30 records for each of the other hospitals, it was found that 33.3 percent and 40 percent of the malaria cases at Effia Nkwanta and GHAPOHA Hospitals, respectively, were confirmed with microscopy or RDT. Only 10 percent of the malaria cases were confirmed with microscopy or RDT at Essikado Polyclinic and none were confirmed with microscopy or RDT at Takoradi Hospital.

Commendations

GHAPOHA Hospital, a relatively new quasi-government facility focused on private sector services, was commended for establishing a well-functioning DTC.

Recommendations

Effia Nkwanta Regional Hospital

- Develop a budget for DTC activities to help sustain the meetings and survey expenditures; in the long run, this will ensure sustainability
- Ensure availability of ADR forms and make available a facility incidence register of ADRs to inform decision making and easy referencing of facility ADR reports

Essikado Polyclinic

- Conduct intervention studies, for example, generic medicine use studies and ABC and VEN analyses to improve medicine availability
- Formulate and implement policy to monitor and reduce medication errors
- Develop a budget for DTC activities and identify financial resources for continual support of its activities
- Organize educational programs for the staff on the role of DTCs to improve staff acceptance
- Conduct antimicrobial use studies to promote rational use of antimicrobials
- Ensure availability of ADR forms and make available a facility incidence register of ADRs to inform decision making
- Complete the formulary list to include a policy for additions and deletions
- Streamline procurement processes to assure medicine product quality

Takoradi Hospital

- Complete formulary list to include a policy for additions or deletions
- Organize educational programs for the staff on the role of DTCs to improve staff acceptance
- Formulate policies to regulate medical marketing representatives and promotional activities at the hospital
- Ensure availability of ADR forms and make available a facility incidence register for ADRs to inform decision making
- Conduct antimicrobial use studies to promote rational use of antimicrobials
- Develop a budget for DTC activities and identify financial resources for continual support of activities
- Formulate and implement policy to monitor and reduce medication errors
- Document the terms of reference of the DTC
- Conduct intervention studies, for example generic medicine use studies and ABC and VEN analyses to improve medicine availability

GHAPOHA Hospital

- Review the number of items on the formulary list
- Document and file all DTC records
- Formulate and implement policy to monitor and reduce medication errors

CONCLUSION

All the health facilities visited were at various stages of implementing their DTC activities. Most DTCs had developed their formulary lists and revised their procurement lists in line with the current AMDP. Additional gaps, such as poor adherence to the use of generics policy and to AMDP, are still a problem. Health facilities should be supported so that DTCs can improve RMU practices through facility activities and monitoring visits. The annual government-led interfacility DTC peer-review meetings need to be supported so that members from various facilities can continue to meet and share experiences, challenges, and best practices.

Finally, it is recommended that regional DTCs be constituted with membership of representatives from various facilities. The regional DTC will serve as an overarching committee which will work toward promoting regional targets for RMU.

Next Steps

The next supportive supervisory visit is planned for the fourth quarter of 2010 and will be done by the GHS/MoH/Pharmacy Unit.

ANNEX 1. TRACER MEDICINES LIST FOR REGIONAL AND DISTRICT HOSPITALS

No.	Generic name	Available
1	Tab. acetylsalicylic acid 300 mg	
2	Tab. albendazole 200/400 mg	
3	Tab. aluminium hydroxide 500 mg/Tab. magnesium trisilicate 250 mg	
4	Tab. artesunate + Tab. Amodiaquine (base) Adult	
5	Tab. Artesunate + Tab. Amodiaquine (base) Children	
6	Tab. Artemether-lumefantrine 20\120 mg Adult	
7	Tab./Granules/artemether–lumefantrine 20\120 mg Pediatric	
8	Tab. chlopheniramine maleate 4 mg	
9	Tab. CO-TRIMOXAZOLE 400 mg + 80 mg	
10	Tab. ciprofloxacin 250/500 mg	
11	Tab. ceterizine 10 mg	
12	Tab. diazepam 5/10 mg	
13	Tab. diclofenac 50/100 mg	
14	Tab. ferrous sulfate 200 mg/Tab. ferrous fumarate 322 mg	
15	Tab. folic acid 5 mg	
16	Tab. furosemide 40 mg	
17	Tab. ibuprofen 200/400 mg	
18	Tab. methyl dopa 250 mg	
19	Tab. metronidazole 200 mg	
20	Tab. nifedipine retard 10/20 mg	
21	Tab. Paracetamol 500 mg	
22	Tab. quinine 300 mg	
23	Cap. amoxicillin 250/500 mg	
24	Cap. Chloramphenicol 250 mg	
25	Cap. Doxycycline 100 mg	
26	Cap. tetracycline 250 mg	
27	Susp. albendazole 100 mg/5 mL	
28	Susp. amoxicillin 125 mg/5 mL	
29	Susp. chloramphenicol 125 mg/5 mL	
30	Susp. dihydroartemisinin – piperaquine 40\320 mg	
31	Tab dihydroartemisinin – piperaquine 40\320 mg	
32	Susp. co-trimoxazole 200 mg + 40 mg/5 mL	
33	Syr. metoclopramide 1 mg/mL	
34	Susp. metronidazole 200 mg/5 mL	
35	Syr. multivitamin	
36	Syr. paracetamol 120 mg/5 mL	
37	Inj. anti-rabies vaccine (ARV)/serum	
38	Inj. anti-snake serum – West African polyvalent	
39	Inj. anti-tetanus serum 1,500/50,000 IU	
40	Inj. benzylpenicillin 1 mu	

*Report on the Monitoring and Technical Support Visits to Drug and Therapeutic Committees
in the Greater Accra, Central, and Western Regions of Ghana: May–September 2010*

No.	Generic name	Available
41	Inj. ciprofloxacin 500 mg/100 mL	
42	Inj. diazepam 5 mg/mL	
43	Inj. ergometrine 500 µg/mL	
44	Inj. oxytocin 10 IU	
45	Inj. frusemide 10 mg/mL	
46	Inj. hydrocortisone 100 mg	
47	Inj. metronidazole 500 mg/100 mL	
48	Inj. pethidine 50 mg/mL 2 mL	
49	Inj. promethazine 25 mg/mL	
50	Inj. quinine 600 mg/2 mL	
51	Inj. artemether	
52	IV. cholera replacement fluid 5:4:1	
53	IV. dextrose 5% 500 mL	
54	IV. dextrose 50% 250 mL	
55	IV. dextrose 5% in normal saline 0.9% 500 mL	
56	IV. ringers lactate 500/1000 mL	
57	IV. normal saline 0.9% 500 mL	
58	Supp. artesunate	
59	Supp. diazepam 5/10 mg	
60	Supp. diclofenac 25/50/100 mg	
61	Supp. paracetamol 125/250/500 mg	
62	Oral rehydration salt	
63	Gutt. chloramphenicol 1%	
64	Oc. chloramphenicol 1%	
65	Sol. povidone iodine	

ANNEX 2. INDICATOR-BASED PERFORMANCE ASSESSMENT OF DTCS

Name of health facility _____ Town/city _____
 Names of monitoring officials _____ Date _____

A.	Process indicators	Response
1.	Is there a DTC document that indicates its terms of reference including goals, objectives, functions and membership? (YES / NO)	
2.	How many DTC meetings have been held this year 2010?	
3.	How frequently does the DTC meet?	
4.	What percentage of DTC members attended more than half the meetings in 2009?	
5.	Is the agenda of the last DTC meeting available? (YES / NO)	
6.	Are the minutes of the last DTC meeting available? (YES / NO)	
7.	What is the date of last DTC meeting?	
8.	Is there a DTC budget? (YES / NO)	
9.	Is the IFL available? (YES / NO)	
10.	Is there a policy for evaluating new requests for the IFL? (YES / NO)	
11.	Are there documented criteria for additions to and deletions from the formulary? (YES / NO)	
12.	How many educational programs were presented in the last year?	
13.	How many intervention studies to improve medicine use have been conducted?	
14.	Is there any documented policy for controlling access of pharmaceutical representatives and promotional literature to hospital staff? (YES / NO)	
15.	State two main achievements of the DTC:	
	1.	
	2.	
16.	State two main challenges of the DTC:	
	1.	
	2.	

Annex 2. Indicator-Based Performance Assessment of DTCs

B.1	Impact and outcome indicators/quality of prescription	
	Number of medicines in the hospital formulary list	
	Number of antimicrobials in the formulary	
	Average number of medicines per prescription	
	Number of combination antimalarials in the formulary	
	Number of antimalarial monotherapies in the formulary	
	Number of antimalarial monotherapies purchased in the last procurement	
	Names of antimalarial monotherapies purchased in the last procurement	
	Names of combination antimalarials for treatment of uncomplicated malaria in stock	
	Percentage of prescribed medicines in generic form	
	Percentage of prescriptions with antimicrobials	
	Percentage of prescriptions with injectables	
	Percentage of medicines prescribed from the formulary list	
	Percentage of prescriptions in accordance with STGs	
B.2	Impact and outcome indicators/quality of care	
	Average duration of consultation	
	Average duration of dispensing of medicines	
B.3	Impact and outcome indicators/adherence to documented policies	
	Is there a policy for evaluating adverse drug reactions? (YES / NO)	
	Is there a policy to assure medicine product quality? (YES / NO)	
	Is there a policy to ensure that medicines are procured from approved sources? (YES / NO)	
	Is there a policy to monitor medication errors? (YES / NO)	
	Is there a policy for conducting antimicrobial resistance surveillance? (YES / NO)	

ANNEX 3. PRESCRIBING INDICATOR FORM

Location: _____

Investigator: _____

Seq. #	Type (R/P)	Prescription date	Age (years)	Number of medicines	Number of generics	Antibiotics (0/1)a	Injections (0/1)a	Number of medicines on EML	Diagnosis (optional)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

Annex 3. Prescribing Indicator Form

Seq. #	Type (R/P)	Prescription date	Age (years)	Number of medicines	Number of generics	Antibiotics (0/1) ^a	Injections (0/1) ^a	Number of medicines on EML	Diagnosis (optional)
23									
24									
25									
26									
27									
28									
29									
30									X
Total			X		X	X	X	X	X
Average			X						X
Percentage			X	X	Percentage of total medicines	Percentage of cases	Percentage of total cases	Percentage of total medicines	X

^a0 = no, 1 = yes

ANNEX 4. UNCOMPLICATED MALARIA TREATMENT MONITORING

Location: _____

Investigator: _____ Date: _____

Seq. #	Age	Weight	Conforms to AMDP? ^a	Type of antimalarial ^b				Appropriate frequency	Appropriate dose/weight	Duration of treatment	Lab/RDT confirm
				AS/AQ	AL	DHAP	Other				
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											

Annex 4. Uncomplicated Malaria Treatment Monitoring

Seq. #	Age	Weight	Conforms to AMDP? ^a	Type of antimalarial ^b				Appropriate frequency	Appropriate dose/weight	Duration of treatment	Lab/RDT confirm
				AS/AQ	AL	DHAP	Other				
22											
23											
24											
25											
26											
27											
28											
29											
30											
Total											
Percentage											

^a0 = no, 1 = yes

^bAS/AQ, artesunate/amodiaquine; AL, artemether-lumefantrine; DHAP, dihydroartemesinine-piperaquine

Operational definition of indicators

- **Conformity:** Determines whether the OPD uncomplicated malaria treatment or prescription contains AS/AQ, AL, or DHAP; NB, if quinine is prescribed, the prescription is said to conform if the patient’s history indicates previous use of AS/AQ, AL, or DHAP
- **Appropriate frequency:** Whether the malaria treatment prescribed has the right dose frequency; if the prescription says “full dose or course”, the prescription should be regarded as having the appropriate dose frequency
- **Appropriate dose/weight:** Measures whether the prescription has the correct or appropriate dose that corresponds to the weight of the patient; please use the chart provided by NMCP for AS/AQ treatment
- **Duration of treatment:** Determines whether prescription has the appropriate duration of treatment
- **Laboratory/RDT confirmation:** Indicates whether the malaria case has been confirmed by RDTs or by microscopy

ANNEX 5. LIST OF FACILITIES FOR SUPPORTIVE SUPERVISORY VISITS

All facilities are public unless otherwise stated

Greater Accra Region

- Ridge Regional Hospital, Accra
- Adabraka Polyclinic, Adabraka
- Achimota Hospital, Achimota
- Trust Hospital, Osu (quasi-government facility)
- PML Children's Hospital, Accra
- La General Hospital, La
- Ga South Municipal Hospital, Accra
- Ussher Polyclinic, Accra

Central Region

- Winneba Government Hospital, Winneba
- Cape Coast Metropolitan Hospital, Cape Coast
- Central Regional Hospital Cape Coast, Cape Coast
- University of Cape Coast Hospital, Cape Coast (quasi-government facility)
- Swedru Government Hospital, Winneba
- Baptist Hospital (private facility)
- Klimovic Hospital, Winneba (private facility)
- University College of Education Hospital, Winneba (quasi-government facility)

Western Region

- Effia Nkwanta Regional Hospital, Sekondi
- Essikado Hospital, Sekondi
- Takoradi Hospital, Takoradi
- GHAPOHA Clinic, Takoradi (quasi-government facility)

