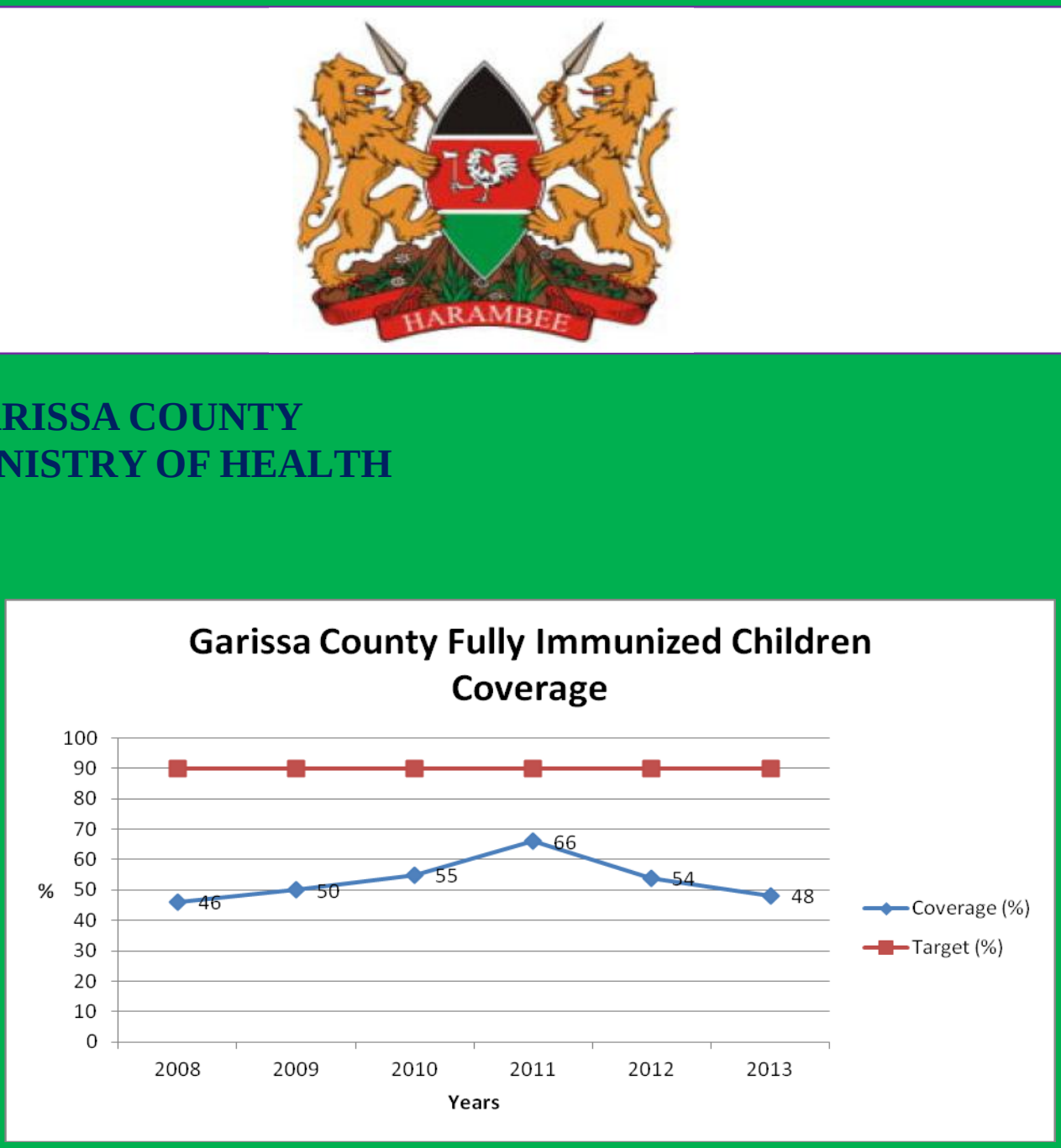
GARISSA COUNTY
MINISTRY OF HEALTH



ANNUAL REPORT 2013

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FOREWORD

Health Information System (HIS) is critical pillar in the National Health care delivery system. It provides the data and information that are required to support evidence –based decision making in the country's Health care planning and programming. As such the role of HIS is more than just routine collection of the health service data and subsequent conveyance of the same to higher levels of the health care system. HIS must endeavor to provide decision makers in health care system with value added data that enables them to make informed decisions. This annual report (2013) does exactly that by availing data on a diverse range of health related issues that are important to county and sub county level health care planners.

The data contained in this report are generated from diverse sources: individuals, health facilities, disease surveillance sites, the community as well as geographical (special) areas or units. The data which has been analyzed and aggregated is useful for planning purposes not at only the sub county but also the county and national levels depending on each levels needs and requirements. Health care providers are frequently concerned with the collection and reporting on health service (patient) data with minimal, if any, collection and reporting on management/ administrative data. In the absence of data collection and provision of information health resources such as personnel, finances, physical facilities, transport and equipment, becomes difficult to relate health resources to actual provision of services to the population being served.

This report provides reliable and relevant health information for use by all in order to make evidence based decisions in the allocation of the scarce resources available for purposes of improving the quality of health services at all levels in Garissa County

As the Ministry of Health (MOH) decentralize their core business in response to the new constitutional dispensation, the demand for sound data and information as well as appropriate use of the same need to be emphasized and strengthened. The county government will have to mobilize resources to improve and strengthen data collection and use through information communication technology (ICT) in order to provide quality information that will meet the need of policy makers, managers and service providers.

Currently District Health Information System 2 (DHIS) is use by all counties to manage health data. In Garissa county there is no health facility which is paperless compliant i.e. electronic medical record (EMR). All these efforts target the need to establish and maintain a simple, coherent, technically sound, easily understood and compatible information system that tracks the degree of achievement of the health

sector objectives at all levels while taking into account the county values of universal coverage, equity, equality and social justice. The ultimate should transcend data gathering and processing to the intelligent utilization of the information to improve health care service provision and delivery in support of national aspiration, neatly encapsulated in our national long term development blue print, vision 2030 of creating a globally competitive and prosperous nation with a high quality of life by 2030.

DR. FARAH AMIN
COUNTY HEALTH DIRECTOR
GARISSA COUNTY

ACKNOWLEDGEMENT

We would like to acknowledge the efforts of health facilities and other institutions and individuals who participated and contributed into providing the material that was used to draw up the report and the subsequent development of this report.

In particular, we wish to specially acknowledge the Director of Health, Garissa County and the entire County Health Management Team for their leadership support.

We also wish to thank the Sub County Health Management Teams and facility staffs for the valuable contribution and support in improving the Health Information System.

Special thanks go to county Health Records and Information officer and the editorial team for the technical input and commitment during the process of developing this report.

Finally we wish to thank all those who contributed directly or indirectly into the development of this report.

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LIST OF ACRONYMS

ABD	Available Bed Days
ACSM	Advocacy,Communication and Social Mobilization
ALOS	Average Length of Stay
ANC	Antenatal Clinic
ART	Anti Retroviral therapy
ARV's	Anti Retroviral
BCG	Bacillus Calmette-Guerin
CBC	Central Bureau of Statistics
CORPS	Community Own Resource Persons
DHIS	District health information software
DLTLD	Division of Leprosy,TB and Lung Diseases
DOT	Direct Observation of Treatment
EHR	Electronic Health Records
EMR	Electronic Medical Records
EPTB	Extra Pulmonary Tuberculosis
FIC	Fully Immunized Child
GOK	Government of Kenya
HIS	Health Information System
HIV/AIDS	Human Immune-Deficiency Virus/ Acquired Immune Deficiency Syndrome
ICT	Information Communication Technology
KDHS	Kenya Demographic Health Survey
MCH	Maternal Child Health
MDGS	Millennium Development Goals

MDR	Multi Drug Resistance
MFL	Master Facility List
OBD	Occupied Bed Days
OOC	Out of Control
OPV	Oral Polio Vaccine
Penta	Pentavelent
PMTCT	Prevention of Mother to Child Transmission
SM+VE	Smear Positive
SMND	Smear Not Done
SM-VE	Smear Negative
TB	Tuberculosis
TO	Transfer Out
WPV	Wild Polio Virus

EXECUTIVE SUMMARY

This executive summary sets out the key highlights of the Annual Health sector statistics (2013). The report, which was compiled by the county Health Information office Garissa, contains aggregated statistics for the County health sector and is an invaluable guide for decision makers at all levels of the health care system in the county.

This annual report is statistical compilation of key health sector indicators, rates and trends accompanied by detailed illustrations in the form of tables and figures.

The reporting rate was hampered by shortage of health workers which led to closure of some facilities or leaves or offs taken by staff of facilities manned by single staff hence affecting the consistence of reporting rate.

The county morbidity remained constant over the past three years with respiratory infection maintaining the leading cause of morbidity.

Compared with year 2011 and year 2012 malaria morbidity trend is on the decrease, this may be due to improvement of malaria diagnosis via RDT.

Compared with year 2011 and year 2012, year 2013 had the lowest workload. The workload has reduced from 593,995 in year 2011 to 515,654 in year 2013 thus 13% decrease. The report has analysis of the number of patients each nurse served per day.

Percentage number of hospital beds occupied in the county was 38%. Fafi Sub County reported 0% bed occupancy. The low bed occupancy may be due to poor reporting rate.

In comparison to year 2011 and 2012, immunization coverage have significantly reduced in all the antigens. Fully immunized reduced from 65% in year 2011 to 48% in year 2013. This may be majorly due to lack of accelerated immunization activities e.g. no outreaches were conducted in year 2013 due to lack of funding, coupled with lack of advocacy, communication and social mobilization for routine immunization. The report has analyzed coverage per Sub County and estimated number of unvaccinated children. It also analyzes the threshold of measles and shows that the county might experience measles outbreak unless measles two vaccination and routine vaccination is accelerated to reduce susceptible population.

Nutrition program measures the nutrition status of under five and manage malnutrition. In year 2013, 10% of the children weighed were underweight, while 3% were stunted. 6—23 months were most malnourished; this may be due to the introduction of complementary feeding at this age.

Family planning coverage is still very low in the county. Only 4% of the women of reproductive age were on family planning in year 2013. Garissa Sub County had the highest number of women on family planning; 9% of reproductive age women.

Skilled delivery is paramount in reducing maternal mortality rate. In Garissa County, only 30.5% of expected deliveries were conducted by skilled health worker compared with 44% nationally.

High dropout of patient in HIV care has been noted; 65.4% of patients enrolled are no longer in the program. This calls for defaulter mechanism to be put in place in this program.

INTRODUCTION

This annual report is a summary of aggregate of services carried out in the year under review.

The report covers program activities, interventions and achievements. The source of data was mainly drawn from:

- Outpatient system that reports morbidity and other statistics that are collected for patients who are nonresident in health facilities
- In patient system that reports morbidity and mortality for patients admitted in health facilities
- Service workload statistics that analyze health service utilization
- Hospital administrative statistics that describes bed utilization and other activities in the inpatient departments of the hospitals.

This report is in accordance with the monitoring and evaluation framework in the Kenyan health system which essentially based on reports from the routine Health information system.

The critical functions of monitoring and evaluation in Health information system are two- fold. First, to inform policy makers about the progress towards achieving targets and meeting objectives and secondly to assist health managers in day to day decision making and respond to data demand towards millennium development goals and the aspirations of vision 2030.

Therefore, the information system incorporates most of the data needed by policy makers, clinicians, and health service users to promote and protect population health.

OVERVIEW OF HEALTH INFORMATION SYSTEM

The vision and mission of HIS are derived from the Kenya health policy framework, the performance monitoring and evaluation framework and to the achievement of Kenya's vision 2030.

Vision

To be a centre of excellence for quality health and health –related data for information for use by all.

Mission

To provide timely, reliable and accessible quality health information for evidence –based decision making in order to maximize utilization of scarce resources in the health sector.

Mandate

The mandate of HIS is to collect, generate, analyze and disseminate health information to facilitate Effective policy formulation, management, planning, budgeting, implementation, monitoring and evaluation of health services and programme interventions in the health sector.

The Health Information System (HIS) is essentially a comprehensive and intergraded system that is involved in collection, collation, analysis, evaluation, storage and dissemination of health and health related data and information for use by its various stakeholders. The HIS is like other systems, consists of parts and levels which are interrelated, interdependent and work towards a common goal. The malfunctioning of any of the parts affects other parts of the system. Similarly therefore, the functionality and operations of HIS not differ from this in that it collects morbidity and mortality statistics, service statistics to support rational resource allocation such as human resource, financial, fixed assets and infrastructure ,drugs and supplies logistics. It is therefore evident that HIS is a powerful tool for making health care delivery more effective and efficient.

Currently HIS data is collected and entered into the web based District Health information software where it is accessible to all users.

1.0 CHAPTER ONE: DEMOGRAPHIC PROFILE

The health sector aims to improve the overall livelihoods of Kenyans through provision of an efficient, accessible and quality health care system with the best standards. This will reduce health in equalities and improve key areas where Garissa county is lagging, especially in lowering infant and maternal mortality in line with the MDG 4 and 5 and combating Communicable diseases.

1.1 Geographic Background

Garissa County is one of the 47 counties in Kenya. It covers an area of 44,174.1 km2 and lies between latitude 10 58'N and 20 1' S and longitude 380 34'E and 410 32'E. The county borders the Republic of Somalia to the East, Lamu County to the South, Tana River County to the West, Isiolo County to the North West, and Wajir County to the North.

Figure 1: Map of Garissa County showing the sub counties

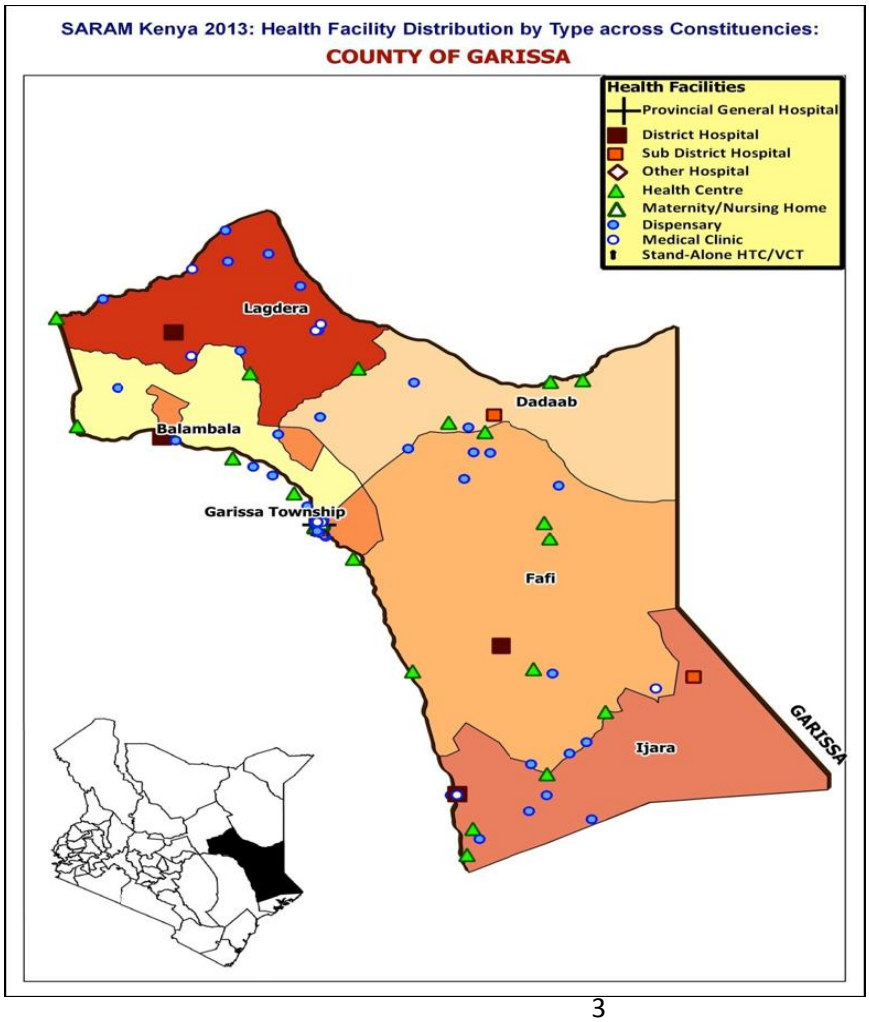
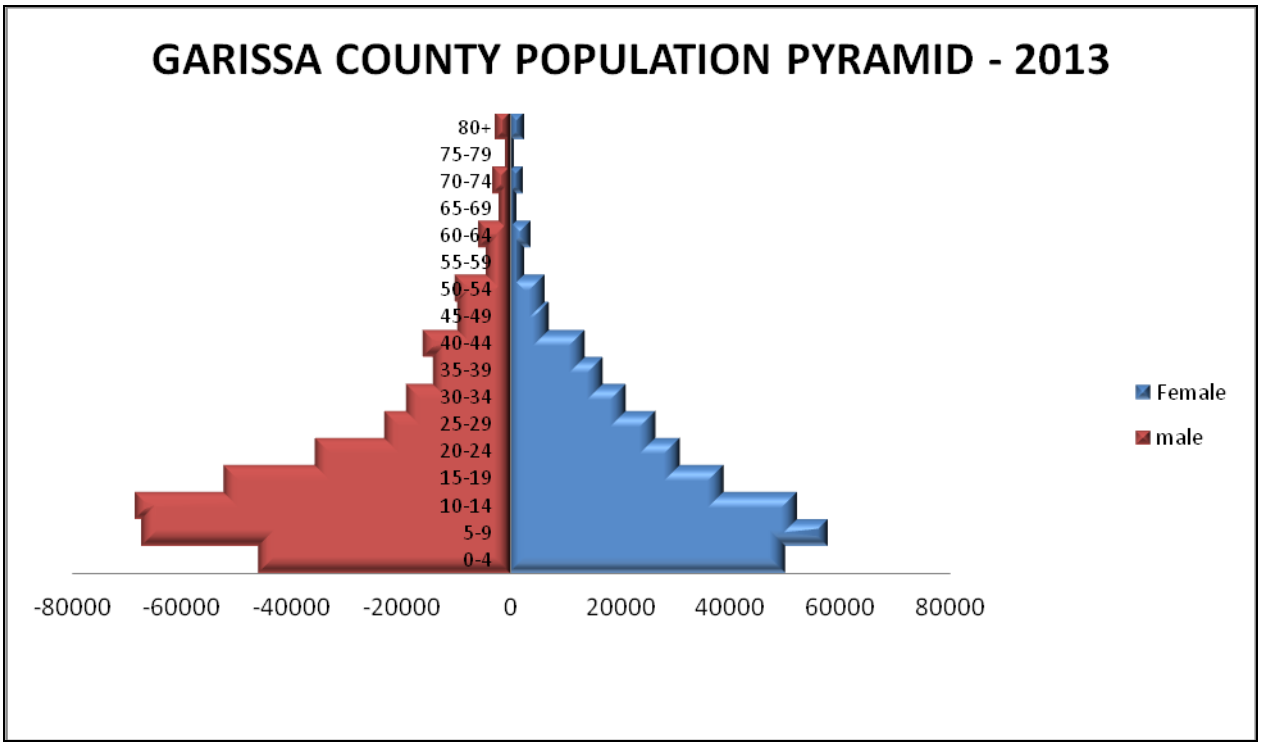


Figure 2: population pyramid



The above population pyramid illustrates that Garissa County is comprised of a youthful population which stands at 45% of the current estimated population for age between 10-29 years. Children under 5 years of age comprise 16.9% of the current population estimate, 2013.

1.2 Population Size and Composition

The county has a total population of 727,768 consisting of 371,162 males and 356,606 females as at 2013.

Table 1: Population Projection 2013/2014 – 2017/2018

No	Sub County Units	CENSUS	Population trends					
		2009	Year 2013	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018
1	Garissa	134,587	156,843	162,960	169,315	175,919	182,780	189,908
2	Balambala	55,475	64,649	67,170	69,790	72,511	75,339	78,278
3	Lagdera	92,636	108,204	112,489	116,943	121,574	126,389	131,394
4	Dadaab	152,487	178,113	185,167	192,499	200,122	208,047	216,286
5	Fafi	95,212	111,213	115,617	120,195	124,955	129,903	135,048
6	Ijara	43,849	51,218	53,246	55,355	57,547	59,825	62,195
7	Hulugho	48,814	57,017	59,275	61,622	64,063	66,600	69,237
	Garissa county	**623,060**	**727,257**	**755,924**	**785,719**	**816,691**	**848,883**	**882,346**

Source: Garissa County CDP – 2013, Growth rate – 3.9%

Table 2: Projected Population by Category

	Description	Proportion Estimates	Target population Year 2013
1	Total population		727,257
2	Total Number of Households		121,210
3	Children under 1 year	3.90%	28,363
4	Children under 5 years	16.90%	122,906
5	Under 15 year population	42.30%	307,630
6	Women of child bearing age (15 – 49 Years)	24%	174,542
7	Estimated Number of Pregnant Women	3.84%	27,927
8	Estimated Number of Deliveries	3.84%	27,927
9	Estimated Live Births	3.79%	27,563
10	Total number of Adolescent (15-24)	21%	152,724
11	Adults (25-59)	26.10%	189,814
12	Elderly (60+)	4.80%	34,908

Table 3: Population Distribution by Sub County Projections for 2013

Sub county	Total population	Households	Population <1y	Population <5y	Population <15y	WCBA	Deliveries
Garissa	156,843	26,141	6,117	26,506	66,345	37,642	6,023
Balambala	64,649	10,775	2,521	10,926	27,347	15,516	2,483
Lagdera	108,204	18,034	4,220	18,286	45,770	25,969	4,155
Dadaab	178,113	29,686	6,946	30,101	75,342	42,747	6,840
Fafi	111,213	18,536	4,337	18,795	47,043	26,691	4,271
Ijara	51,218	8,536	1,998	8,656	21,665	12,292	1,967
Hulugho	57,017	9,503	2,224	9,636	24,118	13,684	2,189
Garissa county	**727,257**	**121,210**	**28,363**	**122,906**	**307,630**	**174,542**	**27,927**

1.2 Distribution of Health facilities in the county

Health care services in the county is provided by a mix of public, private, traditional groups and NGOs (especially in the refugee camps) with the government providing over 90% of the health services through community units (21 units), primary health care (71), hospitals (10), and (1) county referral hospital. The private health facilities are mainly confined to the big commercial centers and a very few small towns. The average distance between health facilities is more than 45 km.

Table 4: Distribution of Health Facilities by type

S/No	Districts/HFs	Tier 1 (Community Units)	Tier 2 (Primary Health Care)	Tier 3 (Hospital)	Tier 4 (Referral Hospital)	Private Facilities	Total	% HFs from total facilities
1	Balambala	2	7	1	0	3	13	8%
2	Dadaab	6	12	3	0	0	21	12%
3	Fafi	2	11	2	0	0	15	9%
4	Garissa	4	18	1	1	59	83	49%
5	Hulugho	1	6	1	0	0	8	5%
6	Ijara	4	8	1	0	1	14	8%
7	Lagdera	2	9	1	0	3	15	9%
	Garissa county	**21**	**71**	**10**	**1**	**66**	**169**	**100%**

- Majority of the health facilities in the county are concentrated in Garissa Sub County comprising 56% with the lowest in Hulugho (5%).

Table 5: Distribution of Health facilities by ownership

Sub county	Faith Based Organization	Local Authority	Ministry of Health	Non-Governmental Organization	Private Institution	Total
Balambala	0	0	8	0	3	11
Dadaab	0	0	13	2	0	15
Fafi	0	0	12	1	0	13
Garissa	3	0	16	1	59	79
Hulugho	0	0	7	0	0	7
Ijara	0	0	9	0	1	10
Lagdera	0	0	10	0	3	13
Garissa County	**3**	**0**	**75**	**4**	**66**	**148**

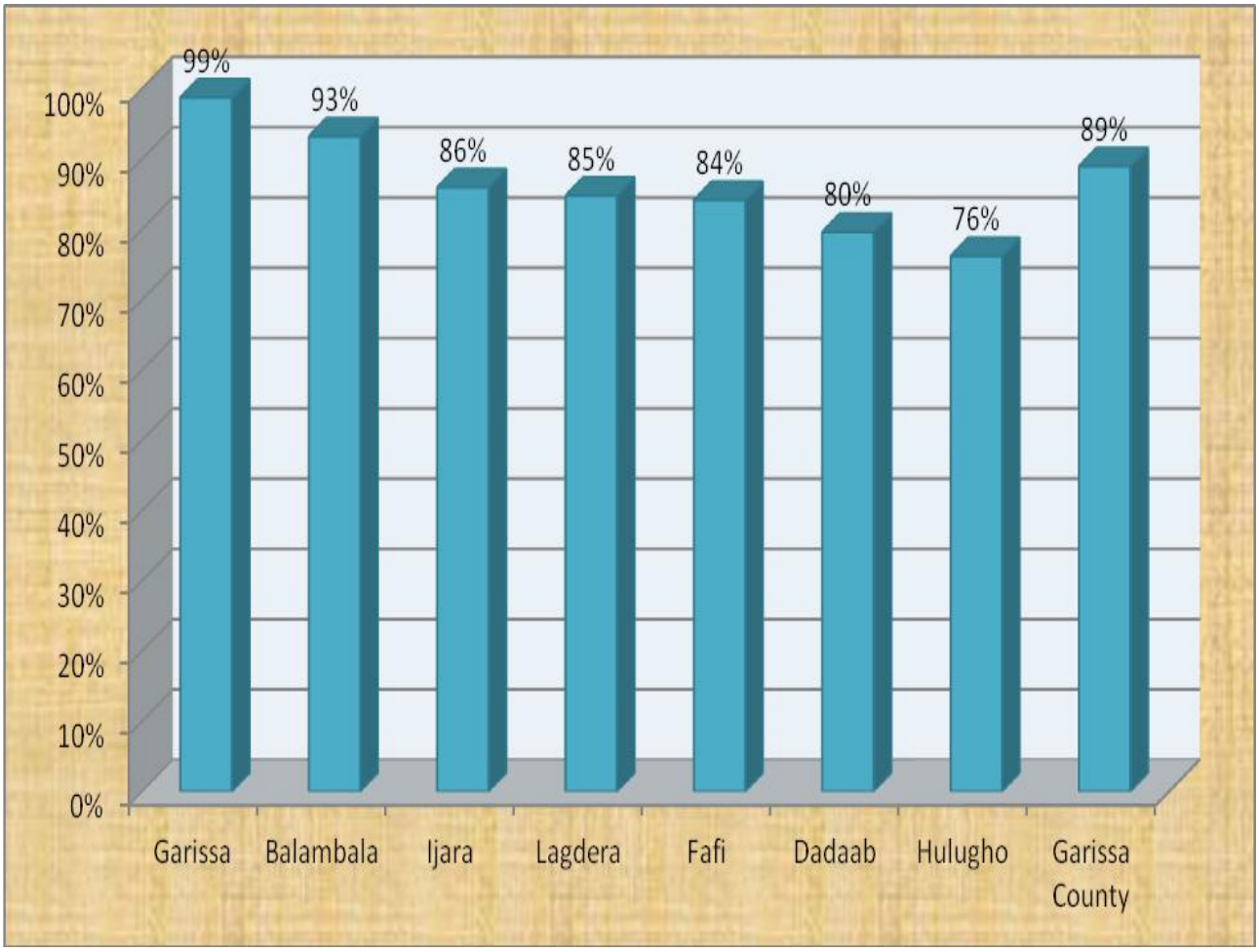
1.4 Human Resource by Cadre-2013

S/No	Cadre	Number Available	Required Numbers	Gaps
1	Medical officers	30	102	72
2	Medical specialist	8	33	25
3	Dentists	2	14	12
4	Clinical Officers (specialists)	13	20	7
5	Clinical Officers (general)	49	200	151
6	Nursing staff (KRCHNs)	352	835	483
7	Dental Technologists	2	30	28
8	Public Health Officers	51	114	63
9	Pharmacists	5	30	25
10	Pharm. Technologist	10	30	20
11	Health Records & Information Officers	9	60	51
12	Lab. Technologist	46	148	102
13	Orthopaedic Technologists	3	24	21
14	Nutritionists	12	71	59
15	Radiographers	4	30	26
16	Physiotherapists	3	20	17
17	Occupational Therapists	2	20	18
18	Plaster Technicians	3	20	17
19	Medical engineering technologist	3	20	17

2.0 SERVICE DELIVERY STATISTICS

2.1 OUT PATIENT MORBIDITY

Figure 3: Combined Over 5 years and Under 5 Years Morbidity Reporting Rate



- Garissa county reporting rate was 89% Garissa Sub County had the highest while Hulugho had the lowest reporting rate, The reporting might have been affected by the closure of some facilities and others being opened at the middle of the year.

2.2 Top Ten Morbidity 2011—2013

SNO	Period	Period 2011	% proportion From total cases
1	Other Resp. Dis.	142,592	29.8%
2	Clinical Malaria	49,641	13.5%
3	Diarrhea	45,310	12.7%
4	Confirmed Malaria	31,017	8.3%
5	UTI	30,581	7.0%
6	Skin Diseases	30,052	6.0%
7	Pneumonia	21,868	4.4%
8	Ear Infections	11,271	2.6%
9	Intestinal worms	9,946	2.5%
10	Typhoid fever	7,513	2.3%

Top Ten Morbidity 2012

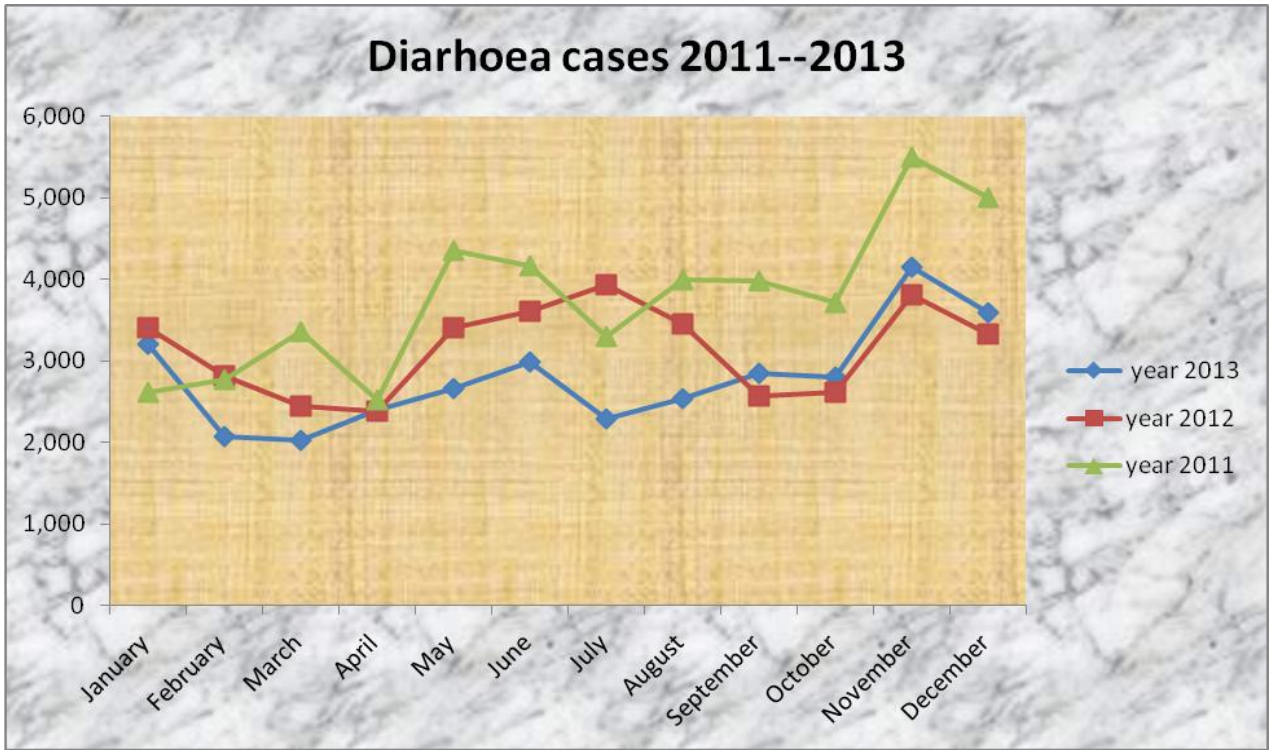
SNO		Period 2012	% proportion from total cases
1	Other Resp. Dis.	126,952	31.1%
2	Diarrhea	37,751	9.8%
3	UTI	32,991	9.5%
4	Skin Diseases	31,850	9.5%
5	Pneumonia	19,067	7.8%
6	Clinical Malaria	18,928	7.1%
7	Confirmed Malaria	13,751	5.0%
8	Ear Infections	9,781	2.9%
9	Intestinal worms	9,559	2.6%
10	Eye Infections	7,660	1.9%

Top Ten Morbidity 2013

SNO	Period	2013	% proportion from total cases	% proportion from total cases-National
1	Other Resp. Dis.	137,279	31.1%	37.6%
2	UTI	38,948	11.6%	2.8%
3	Skin Diseases	36,610	9.4%	9.3%
4	Diarrhea	33,577	8.9%	5.6%
5	Pneumonia	22,903	7.4%	3.3%
6	Clinical Malaria	16,349	5.5%	12.8%
7	Ear Infections	10,437	5.3%	1.5%
8	Confirmed Malaria	10,244	3.6%	9.3%
9	Intestinal worms	9,694	2.4%	0.9%
10	Typhoid fever	8,279	2.4%	1.7%

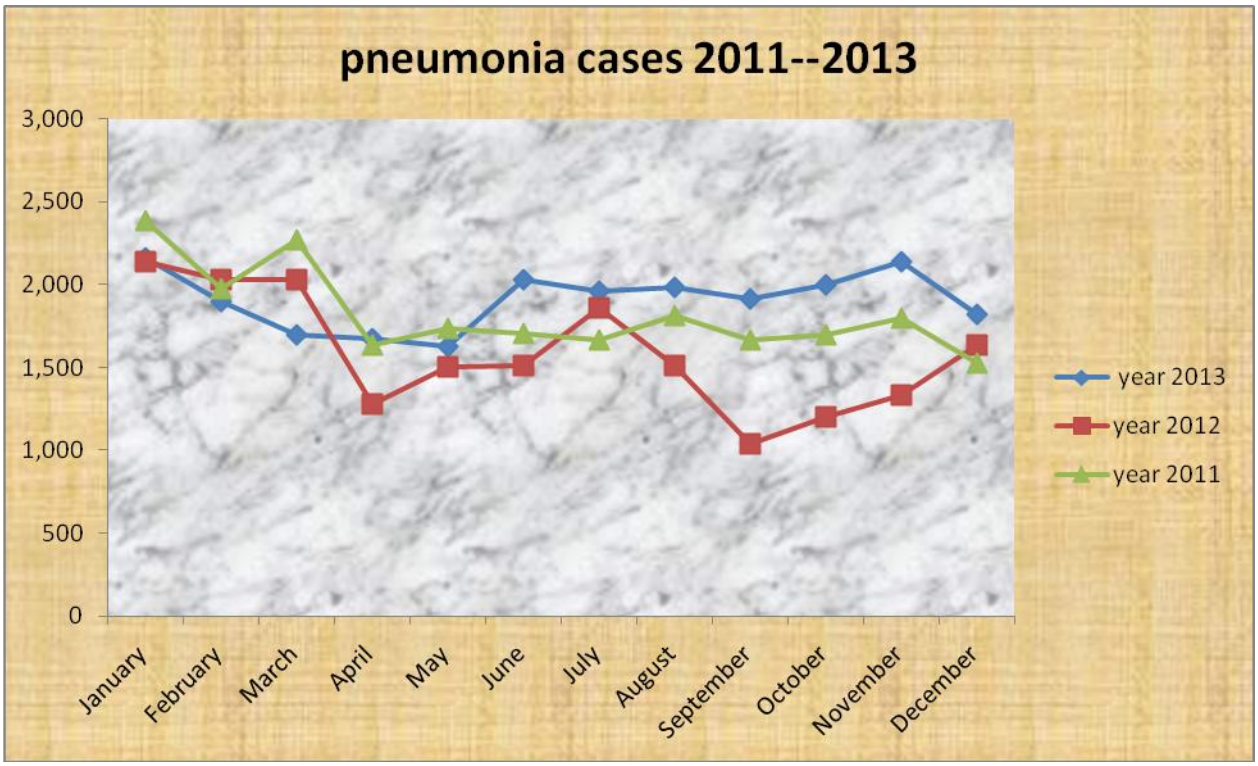
- In all years (2011-2013) other respiratory diseases was the highest cause of outpatient morbidity. Compared to year 2011 and year 2012, year 2013 had the highest number of other respiratory diseases.
- Despite introduction of Malaria RDT, clinical malaria still feature as one of the top ten diseases year 2011 to 2013. However much improvement has been noted in year 2013.
- Top ten diseases in three years (2011 to 2013) almost remained the same and what might be different is the order.

Figure 4: Comparison of Diarrhea Cases 2011-2013



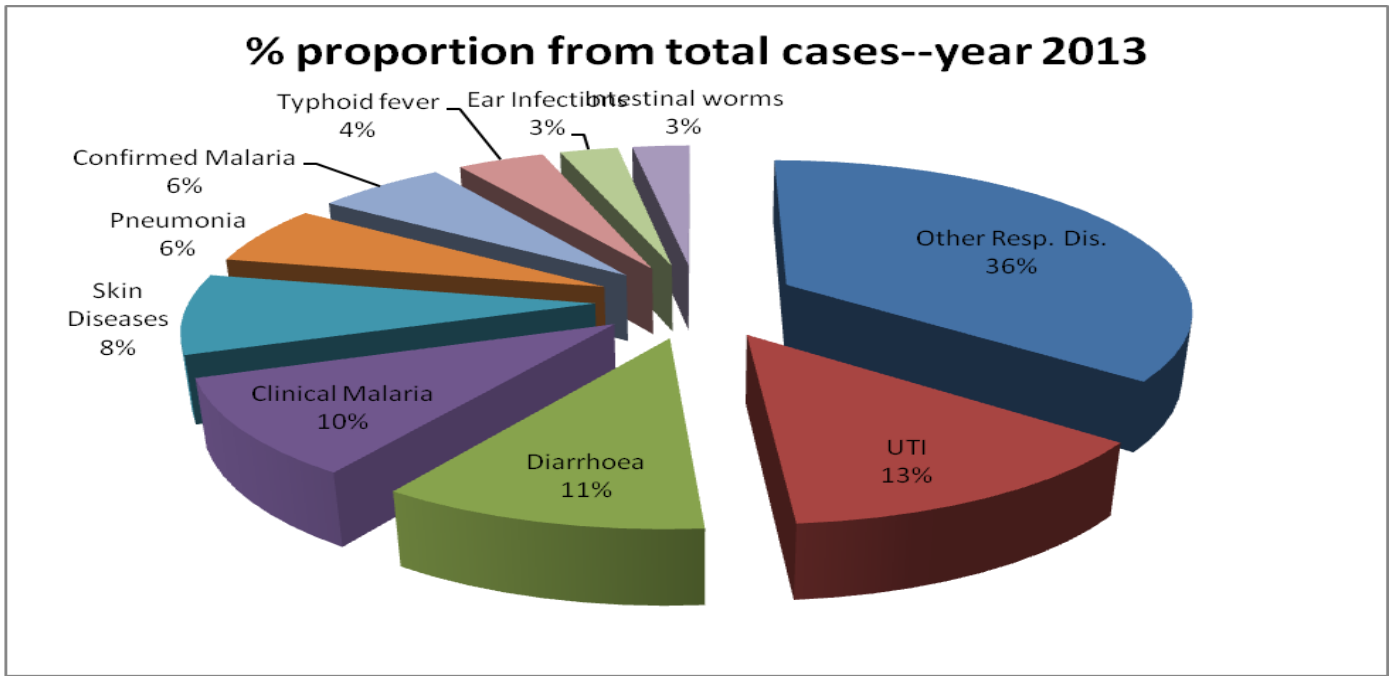
- In all years, month of November had the highest number of diarrhea cases. This may be due to onset of rains which is associated with flooding and increase of flies which contaminate food.
- In most of the months, year 2011 had the highest number of diarrhea cases.

Figure 5: Comparison of Pneumonia Cases 2011-2013



- In year 2013 June to November, pneumonia cases were constant.
- Generally pneumonia cases were high in year 2013.

Figure 6: Pie Chart Showing County Top Ten Outpatient Morbidity



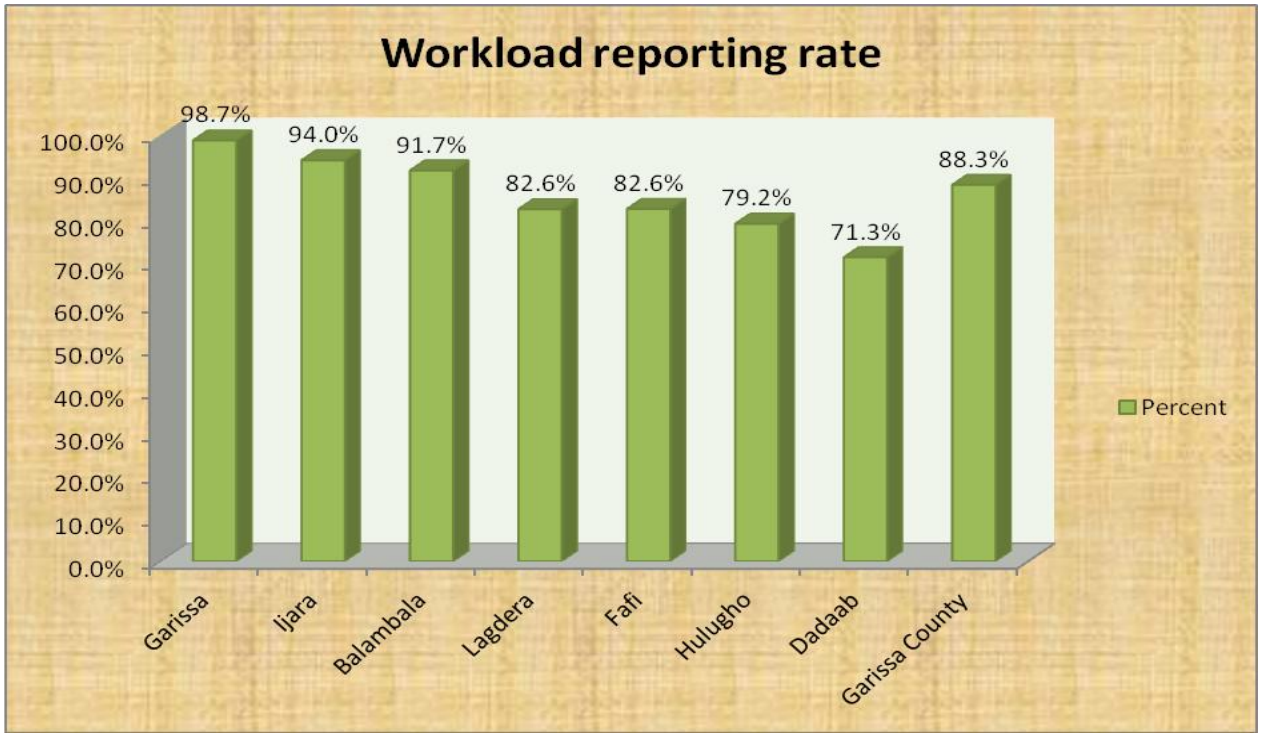
- Respiratory diseases accounts for the highest number of outpatient morbidity- 36%.

2.3 Workload

Service workload statistics are derived from the facilities on day to day activities on outpatient services, including MCH/FP and specialized clinic services. It also includes inpatient services. Service measures the accessibility (new patients) and utilization (per-visits). Workload is used for planning and allocation of resources in a health institution. In year 2013 the county expected 948 reports, however 837 reports were received which account to 88%. Some of the probable cause:

- Inadequate reporting tools.
- Non submission of reports by health facilities.
- Staff shortage leading to none reporting due to closure of such facilities.
- Knowledge gap especially for newly recruited staffs.

Figure 7: Workload Reporting Rates



- ❖ Garissa County workload reporting rate was at 88.3%. Dadaab reporting rate was the lowest at 71.3% of expected reports. This may be due to shortage of health workers at facility level

Table 6: Workload per Sub County

	OPD workload			OPD Average attendance per day			Inpatient days	Average patient per day-inpatient	OPD plus Inpatient per day	No. of Nurses	No. of Patients per nurse per day
Sub County	**2011**	**2012**	**2013**	**2011**	**2012**	**2013**	**2013**	**2013**	**2013**	**2013**	**2013**
Balambala	45,271	42,107	43,347	124	115	119	8	0	119	14	9
Dadaab	74,535	65,111	57,832	204	178	158	156	0	159	16	10
Fafi	47,152	61,133	51,760	129	167	142	0	0	142	15	9
Garissa	274,120	234,716	237,725	751	641	651	62,383	171	822	166	5
Hulugho	34,132	27,529	17,925	94	75	49	148	0	50	5	10
Ijara	55,219	44,377	47,736	151	121	131	2,448	7	137	15	9
Lagdera	63,566	55,340	59,329	174	151	163	1,099	3	166	24	7
Garissa County	**593,995**	**530,313**	**515,654**	**1,627**	**1,449**	**1,413**	**68,255**	**187**	**1,600**	**255**	**6**

- Compared with year 2011 and year 2012, year 2013 had the lowest workload. The workload has reduced from 593,995 in year 2011 to 515,654 in year 2013 thus 13% decrease.
- Hulugho Sub County had the highest decrease i.e. 47% decrease in year 2013 as compared with 2011. This may be due to staff shortage resulting to closure of some facilities.
- In average all facilities in the county served 1,600 patients/clients per day in both inpatient and outpatient.

- The total number of patients/clients served in outpatient per day in all the facilities within the county was 1,413 patients.
- The total number of patients/clients served in inpatient per day in all the facilities within the county was 187 patients.
- Garissa Sub County had the highest number of patients per day (822 patients), however it has the highest number of nurses (166) which translate to in average 1 nurse served 5 patients per day.
- Nurses in Dadaab and Hulugho were busiest in 2013; each nurse served 10 patients per day.
- In average each nurse in the county served 6 patients per day in year 2013.

Table 7: Outpatient Attendance per 1000 Population

Sub county	Population	OPD Workload	Outpatient attendance per 1000 population
Balambala	78,277	43,347	554
Dadaab	80,420	57,832	719
Fafi	106,955	51,760	484
Garissa	178,901	237,725	1,329
Hulugho	51,787	17,925	346
Ijara	52,405	47,736	911
Lagdera	82,167	59,329	722
Garissa County	**630,912**	**515,654**	**817**

Table 8: Proportion of OPD filter clinic attendance in Garissa County

Indicator	Attendance	% attendance
OPD Attendance <5yrs Female	72,103	18.60%
OPD Attendance <5yrs Male	67,276	17.40%
OPD Casualty attendance	7,847	2.00%
OPD attendance >5yrs Female	130,636	33.70%
OPD attendance >5yrs Male	109,885	28.30%
Total	**387,747**	**100.00%**

- Female above 5 years had the highest attendance of outpatient filter clinic; 33.7% of total attendance.

2.4 Administrative statistics

Hospital administrative statistics is derived from the diagnostic index (MOH 268) that is designed to classify together all patients who suffered from the same disease or condition regardless of age, sex, occupation or religion. Hospital administrative statistics is based on bed compliment against occupation of the same in a period of time which intern generate indicators useful in planning and management of services to the patients and hospital concerned

The statistics provide hospital administration with indicators necessary to deliver services on evidence based aspect. Specific areas concerned where managers are likely to benefit are:

- Procurement and supplies.
- Identifying health needs in the catchment population.
- Effectiveness of the curative services.
- Measures access in terms of admissions.
- Staffs, bed utilization and availability.

Table 9: administrative statistics

SUB COUNTY	BEDS	COTS	ADM	DISCH	DEATHS	ABSC	W/P DAYS	OBD	ABD	VBD	% OCC	ALOS	TOI	TOB
Balambala	8	0	26	26	0	0	0	8	2,920	2,912	0.3%	0.3	112	3.3
Dadaab	60	20	745	724	7	20	183	156	29,200	29,044	0.5%	0.2	40	9.1
Fafi	18	0	86	86	0	0	0	0	6,570	6,570	0.0%	0.0	76	4.8
Garissa	256	8	10,175	8,546	202	36	3,982	61,368	96,360	34,992	63.7%	7.0	4	33.1
Hulugho	10	0	81	81	0	0	46	148	3,650	3,502	4.1%	1.8	43	8.1
Ijara	66	4	1,180	1,160	16	0	1,384	2,448	25,550	23,102	9.6%	2.1	20	16.8
Lagdera	20	0	362	312	7	12	565	1,099	7,300	6,201	15.1%	3.4	19	16.0
Garissa County	**438**	**32**	**12,655**	**10,935**	**232**	**68**	**6,160**	**65,227**	**171,550**	**106,323**	**38.0%**	**5.8**	**10**	**23.8**

- A total of 232 deaths were reported in year 2013.
- The percentage number of hospital beds occupied in the county was 38%. This quite low. All Sub Counties except Garissa Sub County had less than 20% hospital bed occupancy. This may be due to poor reporting.
- On an average, patients admitted stayed in the ward for a period of 5.8 days.
- On an average each bed was used by 24 patients.

3.0 CHILD HEALTH

In realization of MDGs by 2015, the health sector envisages to reduce infant and child mortality rates through various integrated interventions such as immunization and child nutrition. In these regard, several indicators have been defined to monitor these interventions.

3.1 IMMUNIZATION

Routine child immunization in Kenya is based on defined schedule from birth to one year.

The analysis is based on data received at sub County level through the immunization summary form-MOH 710. There are various diseases which are targeted by KEPI, namely tuberculosis, polio, measles, tetanus, diphtheria, whooping cough, hepatitis B and HIB meningitis and pneumonia. Also included in this form is Vitamin A supplementation to children between 6 and 59 months, and lactating mothers.

In Garissa County, 77 health facilities offer immunization services which account for 55% of all health facilities. It is however noteworthy, that 98% of government facilities offer immunization services.

Immunization programme targets children under 1 year, however measles second dose was introduced in 2013 to include children up to two years. In year 2013, the county targeted 23,666 children under one year.

Figure 8: Immunization Reporting Rate by Sub County, 2013

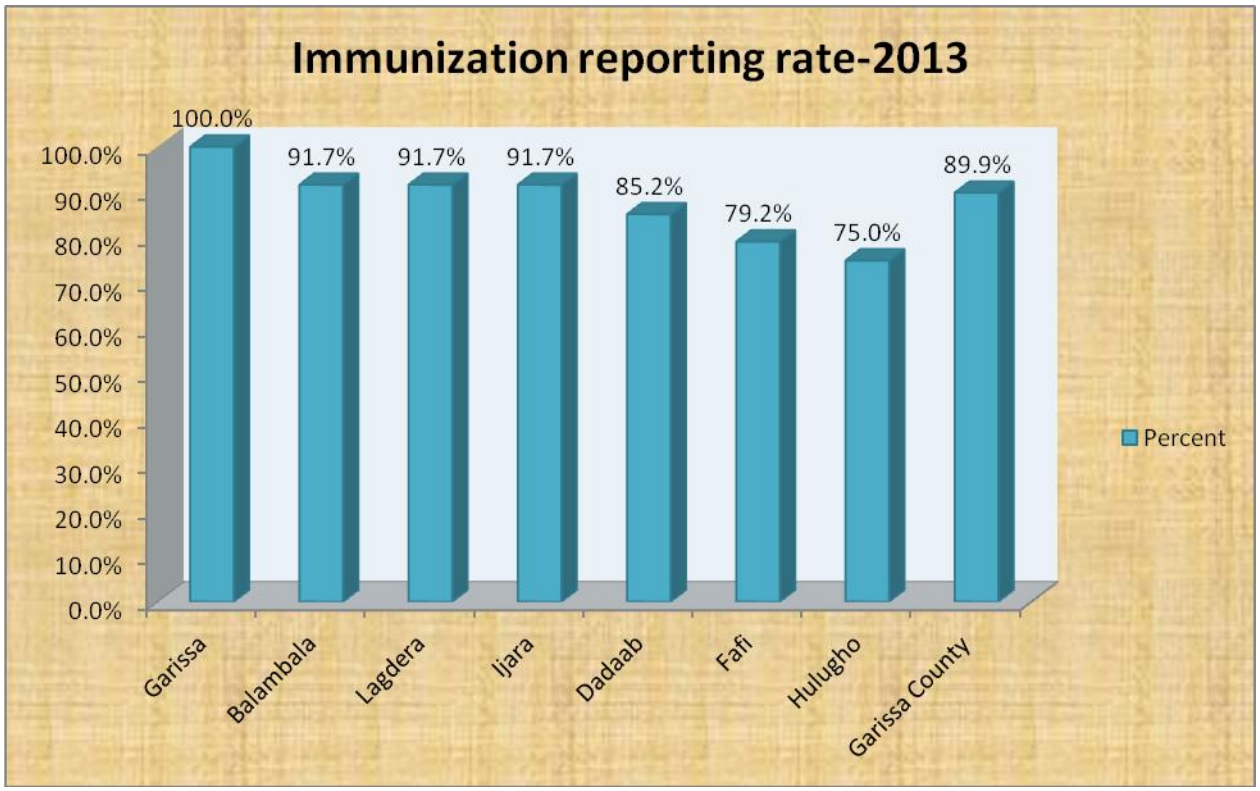


Table 10: EPI percentage Coverage

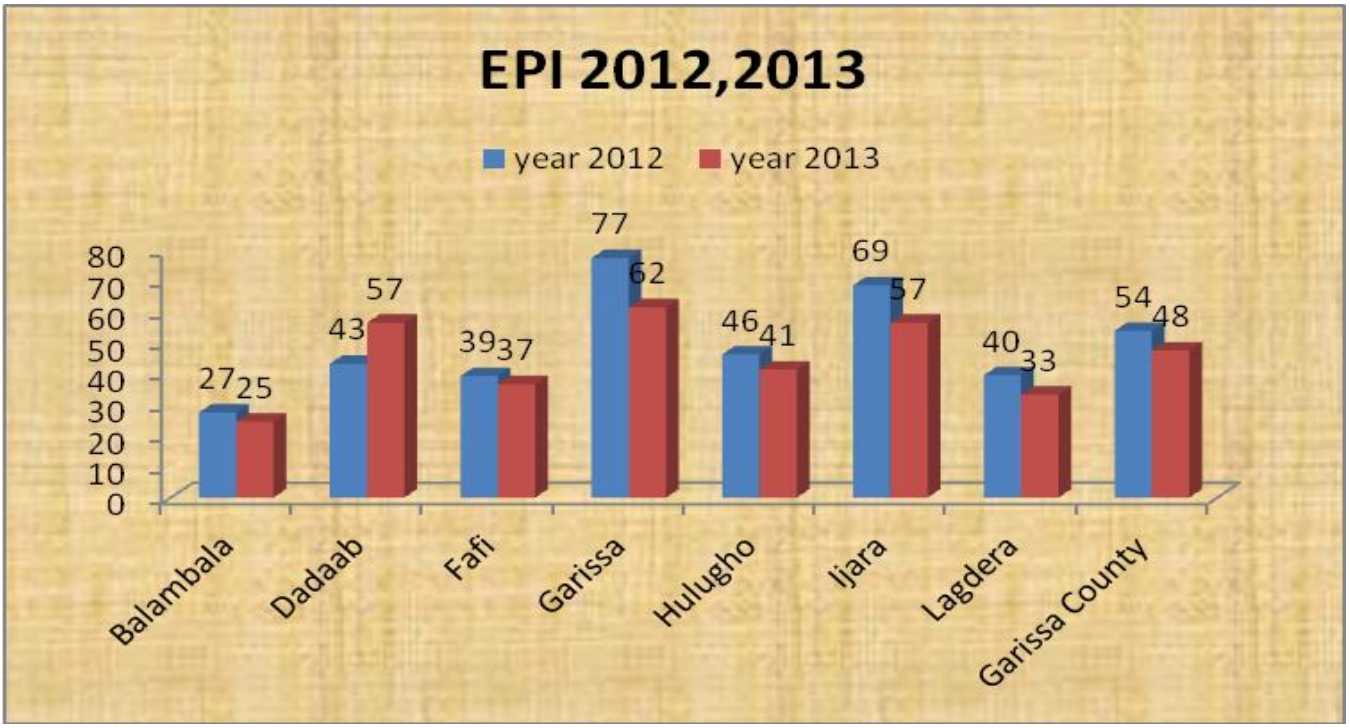
Antigens	Total Achievement	% Coverage	Unvaccinated (Absolute numbers)	% unvaccinated
BCG	14,792	63%	8,874	37%
OPV Birth	9,737	41%	13,929	59%
OPV1	15,740	67%	7,926	33%
OPV2	12,807	54%	10,859	46%
OPV3	12,854	54%	10,812	46%
penta 1	15,693	66%	7,973	34%
penta 2	12,860	54%	10,806	46%
penta 3	12,936	55%	10,730	45%
pneu.1	15,573	66%	8,093	34%
pneu.2	12,863	54%	10,803	46%
pneu.3	12,883	54%	10,783	46%
Measles	12,563	53%	11,103	47%
Fully Immunized Children(FIC)	11,256	48%	12,410	52%

- 11,103 (47%) of targeted children were not vaccinated against measles.

Table 11: Comparison of children below 1 year vaccinated 2011—2013**.**

	Achievement		
Antigens	**2011**	**2012**	**2013**
BCG	17,196	15,641	14,792
OPV Birth	9,998	9,564	9,737
OPV1	16,894	16,720	15,740
OPV2	14,218	13,621	12,807
OPV3	13,946	13,548	12,854
Penta 1	16,889	16,728	15,693
Penta 2	14,059	13,498	12,860
Penta 3	14,014	13,739	12,936
Pneu.1	17,750	16,093	15,573
Pneu.2	12,540	12,969	12,863
Pneu.3	10,362	13,112	12,883
Measles	15,436	16,225	12,563
Fully Immunized Children(FIC)	12,187	12,967	11,256

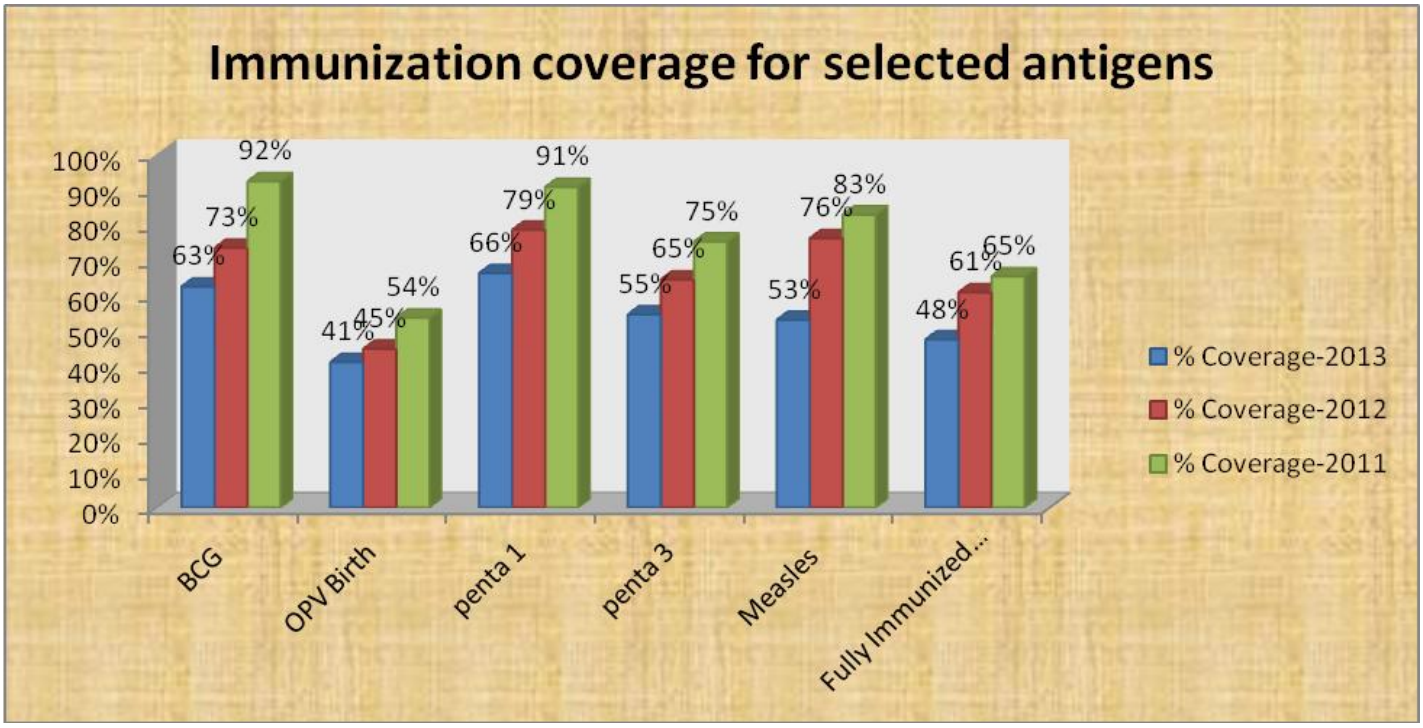
Figure 9: Fully Immunized child for 2012 compared to 2013



- Fully immunized child has dropped in all the Sub Counties except for Dadaab Sub County which increased from 43% to 57%.

- The fully immunized child coverage in the County dropped from 54% in the year 2012 to 48% in 2013.

Figure 10: Garissa County Immunization Coverage 2011—2013**.**

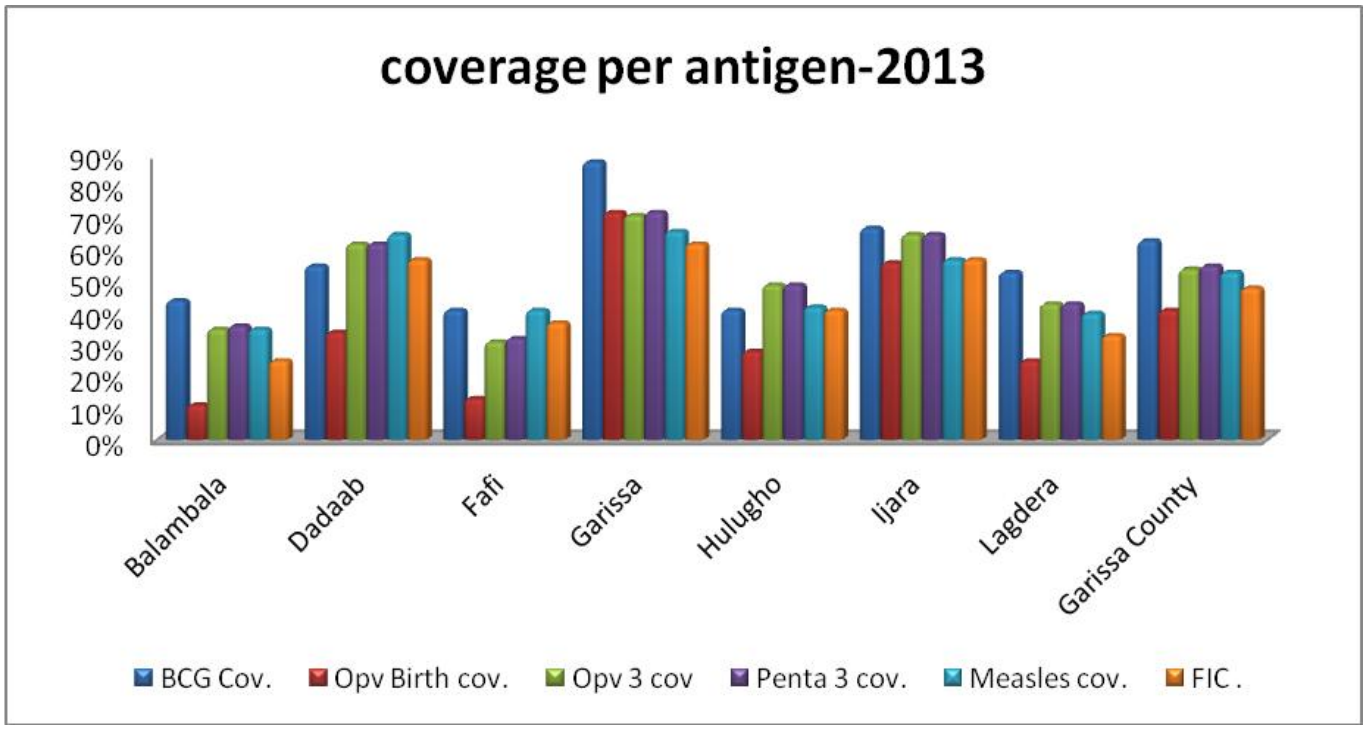


- Compared to year 2011 and year 2012, there was significant decrease of coverage in all the antigens in year 2013. This may be due to inadequate of accelerated immunization activities e.g. outreaches in year 2013 due to lack of funds.

Table 12: EPI Percentage Coverage per Sub County-2013

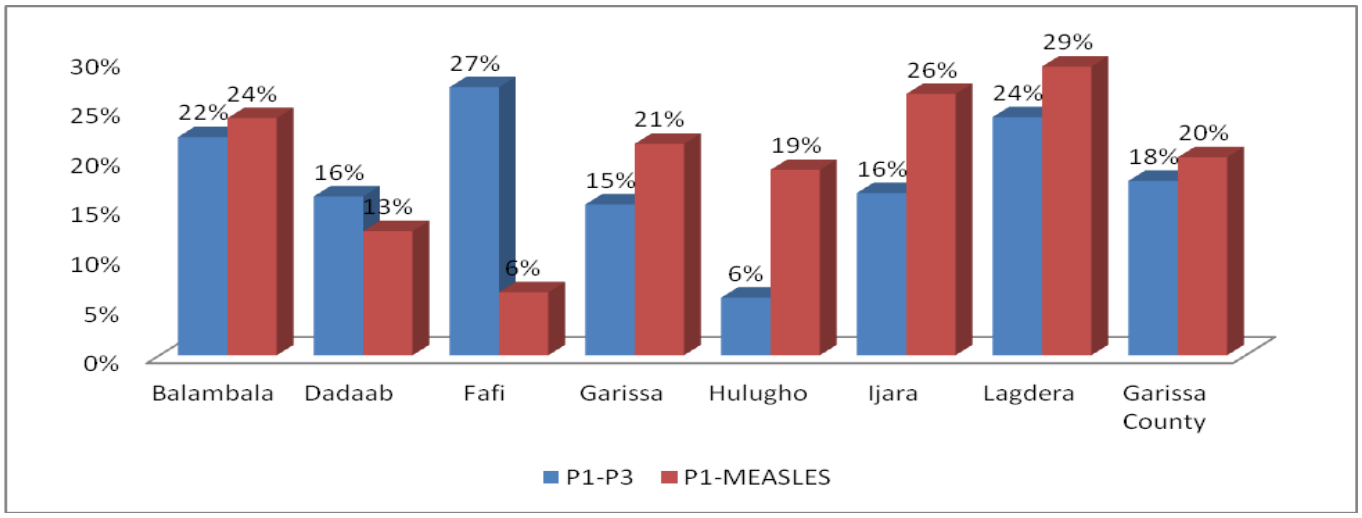
DISTRICT	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Garissa County
BCG Cov.	44%	55%	41%	88%	41%	67%	53%	63%
Opv Birth cov.	11%	34%	13%	72%	28%	56%	25%	41%
Opv1 cov.	45%	74%	44%	84%	53%	78%	58%	67%
Opv2 cov	34%	60%	31%	71%	46%	64%	46%	54%
Opv 3 cov	35%	62%	31%	71%	49%	65%	43%	54%
Penta 1 cov	46%	74%	44%	84%	52%	78%	57%	66%
Penta 2 cov.	33%	60%	32%	72%	46%	64%	47%	54%
Penta 3 cov.	36%	62%	32%	72%	49%	65%	43%	55%
Pneu 1 cov	45%	74%	43%	84%	52%	78%	56%	66%
Pneu 2 cov	33%	59%	32%	72%	47%	64%	46%	54%
Pneu.3 cov.	35%	63%	32%	71%	48%	65%	43%	54%
Measles cov.	35%	65%	41%	66%	42%	57%	40%	53%
FIC.	25%	57%	37%	62%	41%	57%	33%	48%

Figure 11: Graph showing coverage per antigen-2013



- Garissa Sub County had the highest immunization coverage in all the antigens with fully immunized of 62%, followed by Ijara and Dadaab while Balambala Sub Counties had the lowest of 25%.
- Except Garissa Sub County, OPV birth coverage had the lowest coverage compared to other antigens. This is an indication that most of the deliveries occurred at home rather than at a health facility.

Figure 12: DROP OUT RATES (PENTA1-PENTA3 &PENTA1-MEASLES)



- The county Dropout rate for penta1 –penta3 is at 20%, while dropout rate for penta1-measles is at 18%
- This means that in all the districts there is poor access and poor utilization because the dropout rates are above the acceptable 10%.

Table 13: Immunization access and utilization

Sub county	ANNUAL TARGET POP	IMMUNIZATION COVERAGE (%)			UNIMMUNIZED		DROP OUT		IDENTIFY PROBLEM		CATEGORISE PROBLEM
	Under 1	PENTA 1	PENTA 3	MEASLE	PENTA 3	MEASLE	PENTA1-PENTA3/PENTA 1	PENTA1-MEASLES/PENTA 1*100	ACCESS	UTILISATION	CATEGORY 1,2,3,4
Balambala	2,661	46%	36%	35%	1,714	1,737	22%	24%	poor	poor	4
Dadaab	2,967	74%	62%	65%	1,115	1,038	16%	13%	poor	poor	4
Fafi	3,531	44%	32%	41%	2,404	2,085	27%	6%	poor	good	3
Garissa	8,051	84%	72%	66%	2,286	2,701	15%	21%	good	poor	2
Hulugho	1,657	52%	49%	42%	845	956	6%	19%	poor	poor	4
Ijara	1,677	78%	65%	57%	587	717	16%	26%	poor	poor	4
Lagdera	3,122	57%	43%	40%	1,779	1,869	24%	29%	poor	poor	4
County TOTAL	23,666	66%	55%	53%	10,730	11,103	18%	20%	poor	poor	4

PLEASE NOTE:

ACCESSIBILITY = % COVERAGE OF PENTA 1

UTILISATION=% DROP OUT RATE OF PENTA 1-MEASLES

Category 1 (no problem) = drop rates for penta 1 to measles are low = good utilization (<10%)

=penta 1 coverage is high = good access (>80%)

Category 2 =drop out for penta 1 to measles are high = poor utilization (>10%)

= penta 1coverage is high = good access (>80%)

Category 3 = dropout rates for penta 1 to measles are low = good utilization (<10%)

= penta 1coverage is low = poor access (<80%)

Category 4 = dropout rates for penta 1 to measles are high = poor utilization (>10%)

= penta 1 coverage is low = poor access (<80%)

Good Accessibility=Penta 1 coverage should be more than 80%

Good Utilization== dropout rate should be less than +10% and -10%.

- Garissa County was at category 4 by the end of year 2013. This is because penta 1 coverage was 66% and penta 1 to measles dropout rate was 20%. This means both accessibility and utilization was poor thus need for outreaches and community mobilization/sensitization.
- Balambala, Dadaab, Hulugho, Ijara and Lagdera Sub County were at category 4. Thus poor accessibility and utilization hence for outreaches and community mobilization/sensitization.
- Fafi Sub County was at category 3; this means penta 1 coverage was poor (below 80%) and penta 1 to measles dropout was good (<10%) thus poor accessibility and good utilization hence outreaches are required. In other words clients near the facilities are completing the immunization schedule, but most of the target population is not able to reach the facilities (access).
- Garissa Sub County was at category 2; this means penta 1 coverage was good (>80%) and penta 1 to measles drop out was high (>10%) thus good accessibility and poor utilization hence community sensitization/mobilization is required in this Sub County.

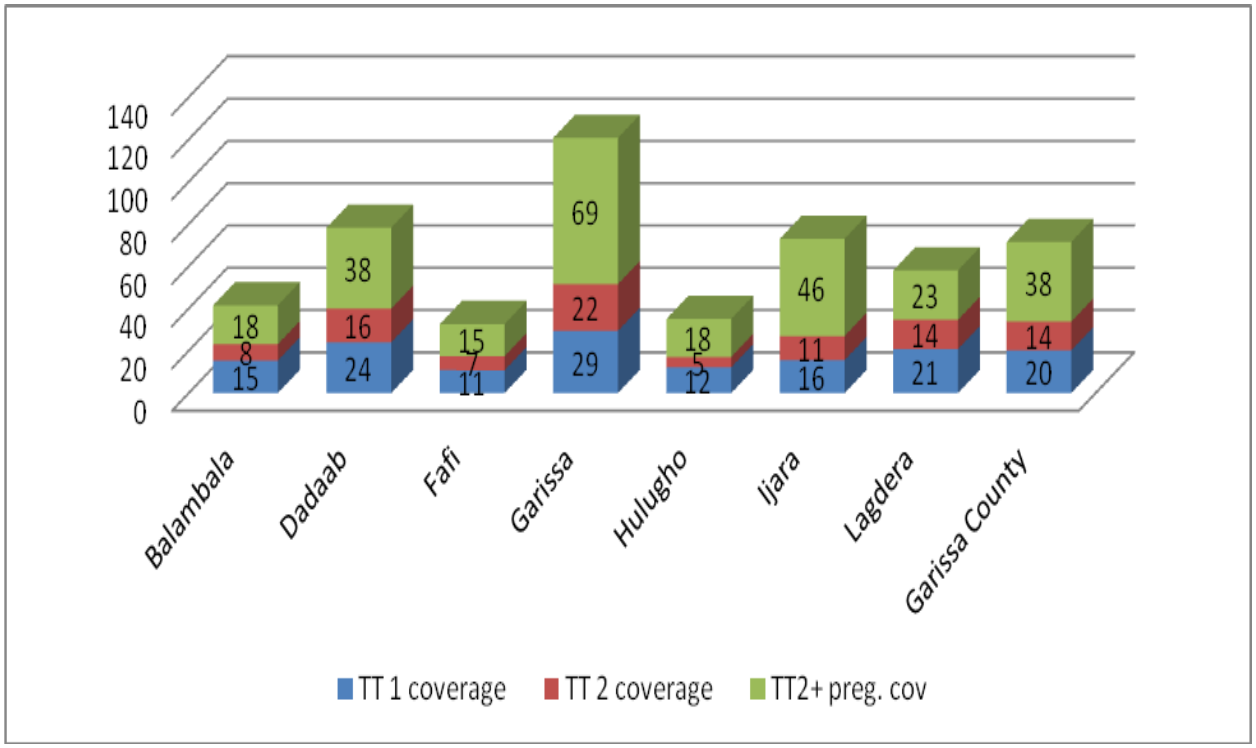
3.1.1 TETANUS TOXOID

The Tetanus Toxoid (TT) vaccine is given during pregnancy to prevent tetanus to mother as well as the baby.

Table 14: Tetanus Toxoid coverage per Sub County

Organization unit	TT 1 coverage	TT 2 coverage	TT2+ preg. cov
Balambala	15.4%	7.7%	18.4%
Dadaab	24%	15.9%	38.3%
Fafi	10.8%	6.6%	15.2%
Garissa	29.4%	22.1%	69.2%
Hulugho	12.2%	4.9%	18%
Ijara	15.6%	11.4%	46%
Lagdera	20.8%	13.8%	23.4%
Garissa County	20.2%	13.6%	37.7%

Figure 13: Graph for TT Coverage



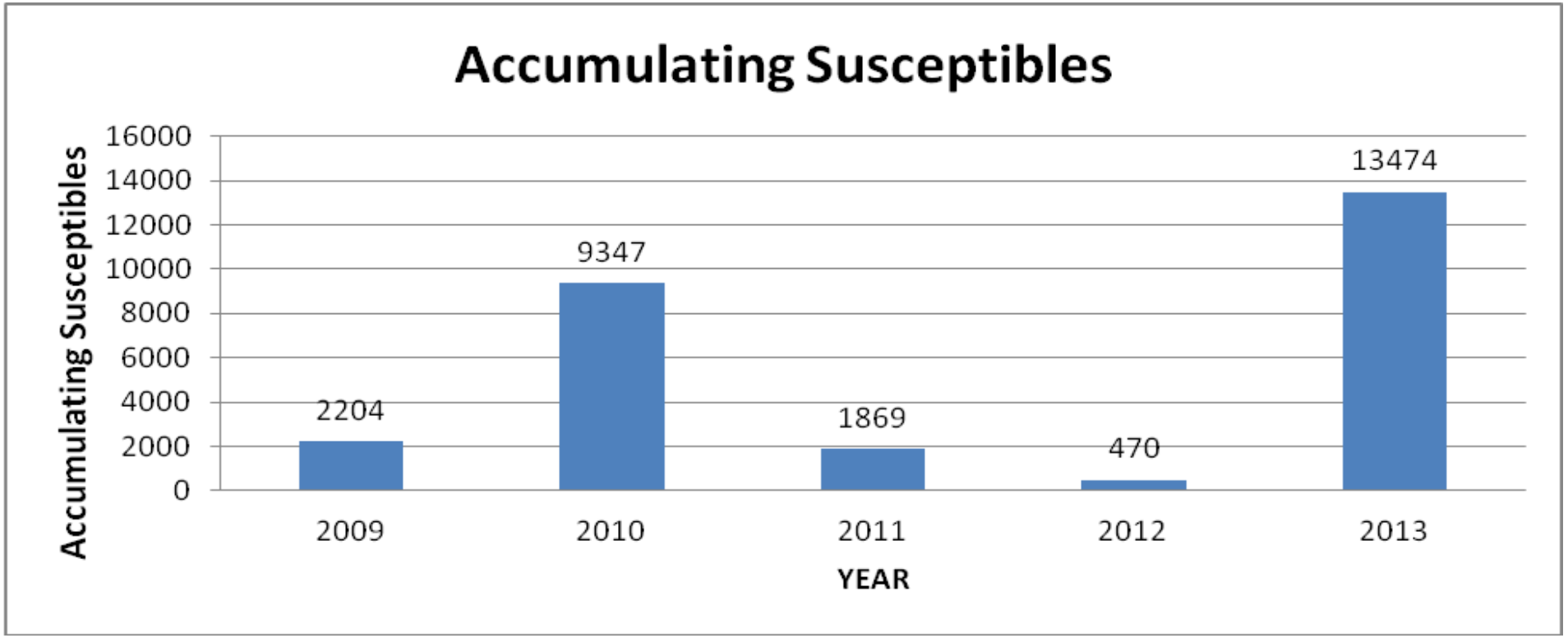
- 38% of pregnant women who attended ANC were vaccinated against tetanus for at least 5 years. Garissa Sub County had the highest number (69%) of pregnant women who attended ANC protected against tetanus for at least 5 years.
- 14% of pregnant women who attended ANC were protected against tetanus for at least 3 years.

Table 15: Susceptibility for Measles

a	b	c	d	e	f	g	h	i	j	K
Year	Birth cohort	Routine coverage (percent)	Number vaccinated (c * b)	Number Sero converting (d *0.85)	Number susceptible (b-e)	Coverage in SIA (%)	Susceptible vaccinated during the SIA (f*g)	Susceptible Immunized during the SIA (.95*h)	Remaining susceptible (f-i)	Accumulating susceptible (j1 + j2 + etc.)
2009	15688	62%	9727	8268	7420	74%	5491	5216	2204	2204
2010	16272	66%	10740	9129	7143	0%	0	0	7143	9347
2011	18626	83%	15460	13141	14832	92%	13645	12963	1869	1869
2012	21296	76%	16185	13757	9408	100%	9408	8938	470	470
2013	23666	53%	12543	10662	13004	0%	0	0	13004	13474

Outbreak Risk Threshold 15,777

Figure 14: Accumulative Susceptible



- By the end 2013, outbreak risk threshold was at 15,777; which was two third of target population (23,666).
- Culmulative susceptible children by the end of 2013 was 13,474 thus 2,303 to reach threshhold. This means that,if **second dose measles and routine vaccination** activities are not accelerated, then the county may experience measles outbreak in year 2014.

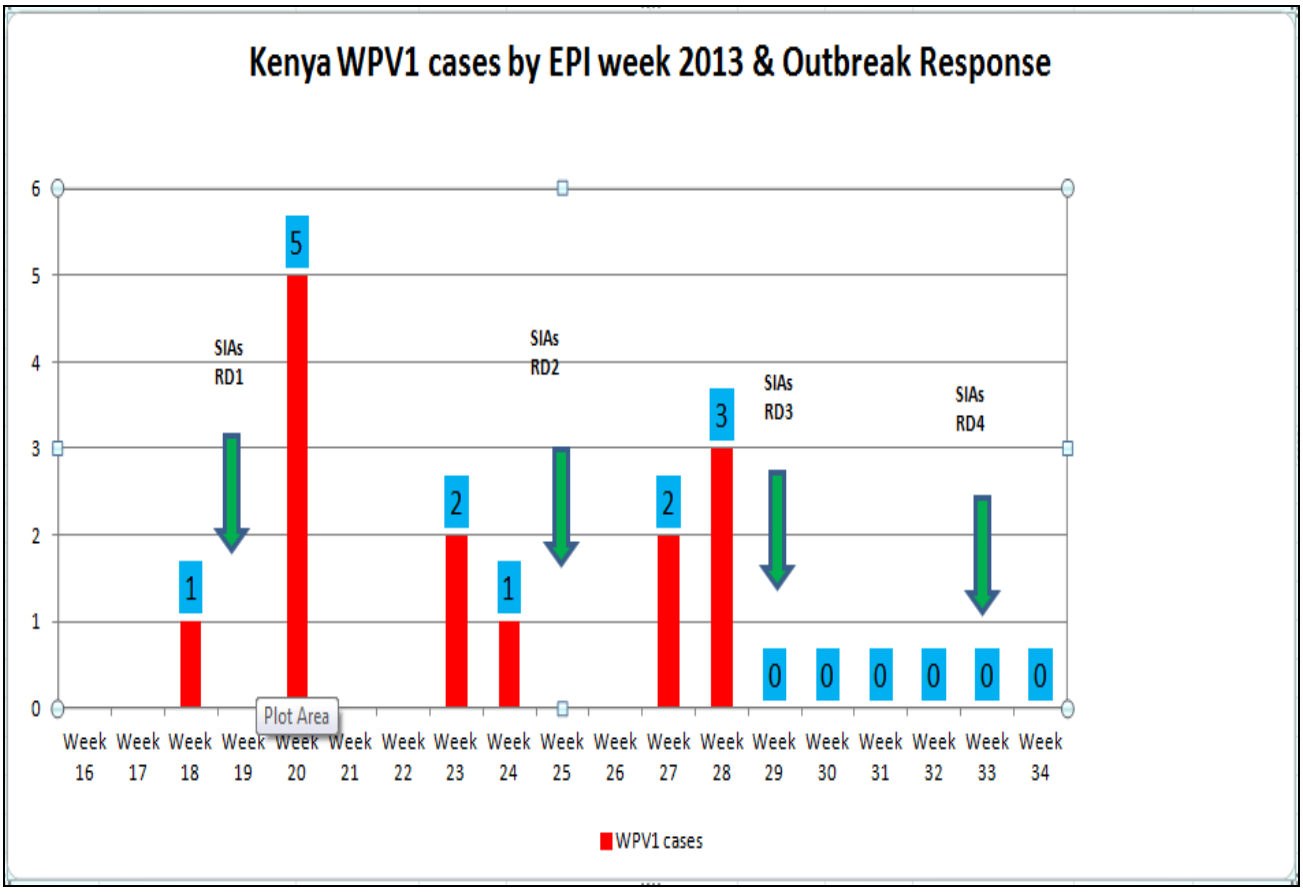
3.1.2: POLIO CAMPAIGN

INTRODUCTION:

The County have witnessed outbreak of polio virus in the year under review. 14 WPV cases was confirmed consisting of both children <5 years and adults. This shows that everyone were vulnerable - Adult cases confirmed with WPV. Based on the outbreak reported, the county have initiated and done seven (7) rounds of Polio campaign in the Months of May, June, July, August, September, November and December targeting all children less than 5 years of age. In the Months of August and September all ages including adults were targeted and during the Month of December, IPV/OPV was introduced together for <5 years in the Sub County of Dadaab, Jarajilla Division of Fafi Sub County and all camps in the refugees.

The Broad Objective of the campaign was to increase population immunity in children <5yrs and population at large that at risk. The Strategy used were house to house vaccination campaign

Polio Outbreak 2013



The County continuously faces the risk of disease importation from infected countries due to;

- Low immunity of children – routine immunization
- Significant surveillance gaps
- Very hard to reach communities especially with routine immunization services
- Regular movement of refugees

Risk of importation of diseases outbreaks

- Very porous border
- High population movements (e.g. pastoralists, traders)
- Mobile and migrant populations apparently extremely important in moving disease
- Neighboring countries with similar challenges

Conclusion

- The County must strive to attain high population immunity especially in the border hard to reach areas through routine immunization and any other opportunity
- Each Sub County has a responsibility to use every opportunity to immunize children and raise immunity
- Surveillance system must be very sensitive to pick any importations
- All populations, especially mobile, migrant, underserved people, should be targeted for surveillance, routine immunization and supplemental Immunization Activities (SIA).

3.2: NUTRITION

The nutrition status among children under 5 years in Garissa County is key indicator of socio – economic and health status of a community. Currently the nutrition indicators of children that are routinely monitored through the health facilities are under weight (Weight for age), Vitamin A supplementation, stunting and breast feeding. Revised Child Health and Nutrition Information System (MOH 713) was introduced sometimes last year to cater for almost all nutrition indicators.

Malnourished children are supplemented with food at outpatient level (SFP and OTP) and inpatient level (therapeutic commodity).

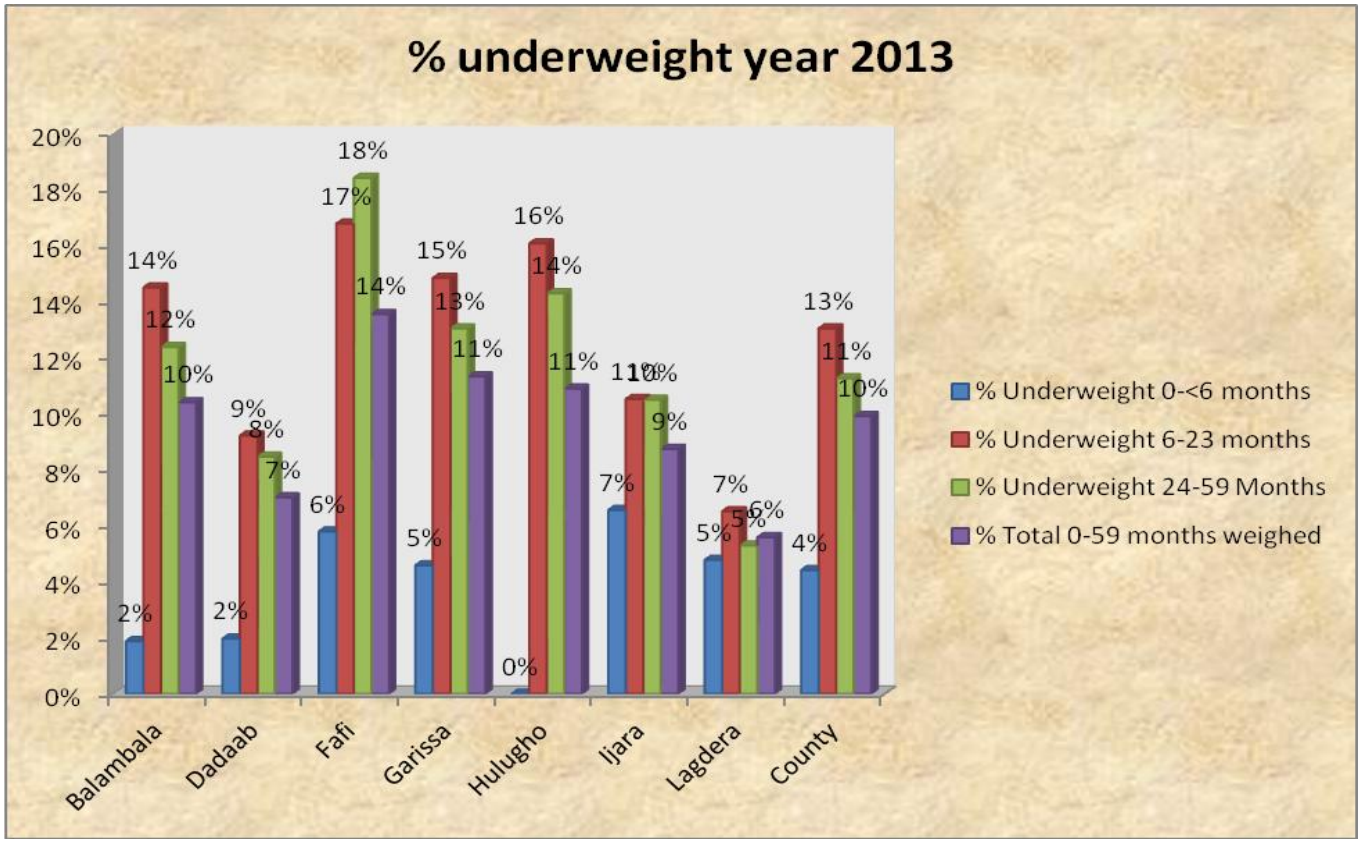
3.2.1 Nutrition status by Sub County

This data is routinely collected at the health facilities using three different age groups of 0-<6, 6-23 and 24-59 months

Table 16: Growth Monitoring

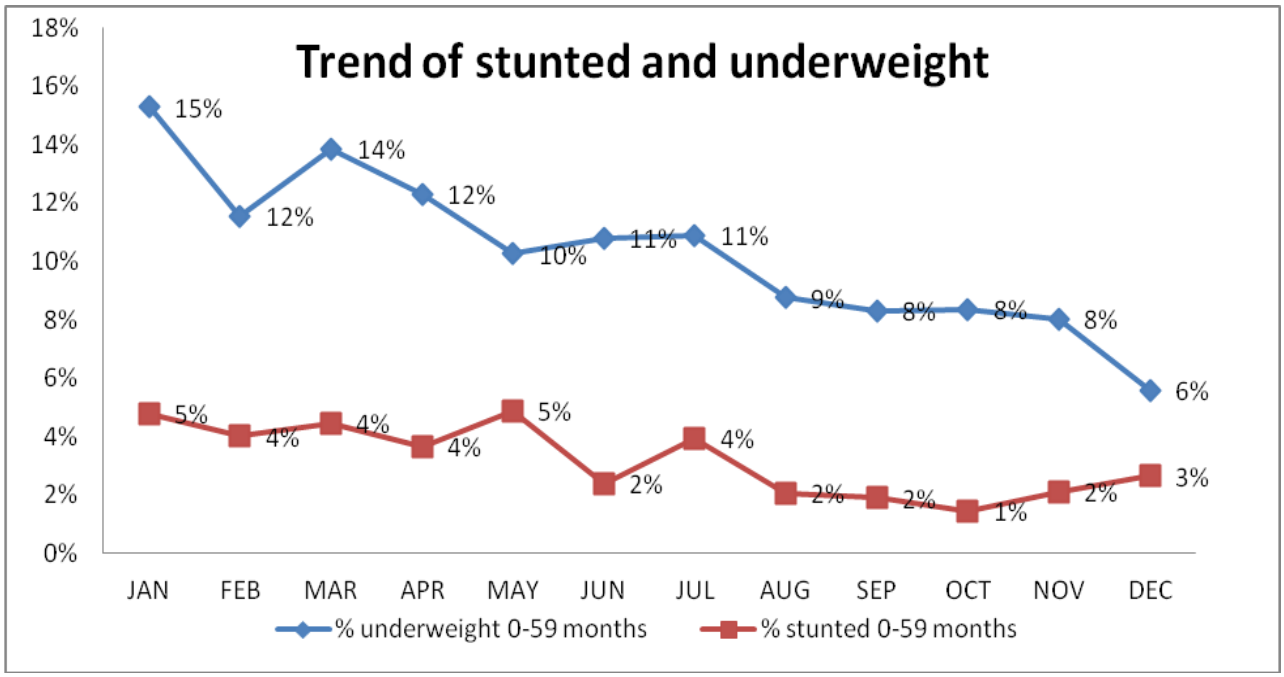
Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
Normal Weight 0-<6 month	2,608	698	439	7,889	201	2,893	1,874	16,602
Normal Weight 24-59 Month	3,235	930	359	8,331	186	1,246	3,350	17,637
Normal Weight 6-23 months	3,202	867	382	9,556	235	2,178	2,640	19,060
Severely Underweight 0-<6	0	0	7	75	0	17	4	103
Severely Underweight 24-59mth	127	27	11	278	3	22	22	490
Severely Underweight 6-23mth	127	16	19	451	5	30	17	665
Underweight 0-<6 months	50	14	20	304	0	186	90	664
Underweight 24-59 Months	330	59	70	971	28	124	165	1,747
Underweight 6-23 months	416	72	58	1,214	40	226	167	2,193
Stunting 0-<6 months	17	0	7	161	0	197	10	392
Stunting 24-59 Months	121	16	29	265	0	130	34	595
Stunting 6-23 months	58	12	17	337	8	146	69	647
Normal Height 0-<6 Months	2,363	668	447	7,283	173	2,698	1,326	14,958
Normal Height 24-59 Month	6,771	954	336	7,798	189	1,307	2,714	20,069
Normal Height 6-23 month	2,902	857	332	9,486	225	2,267	2,370	18,439

Figure 15: Percentage Underweight



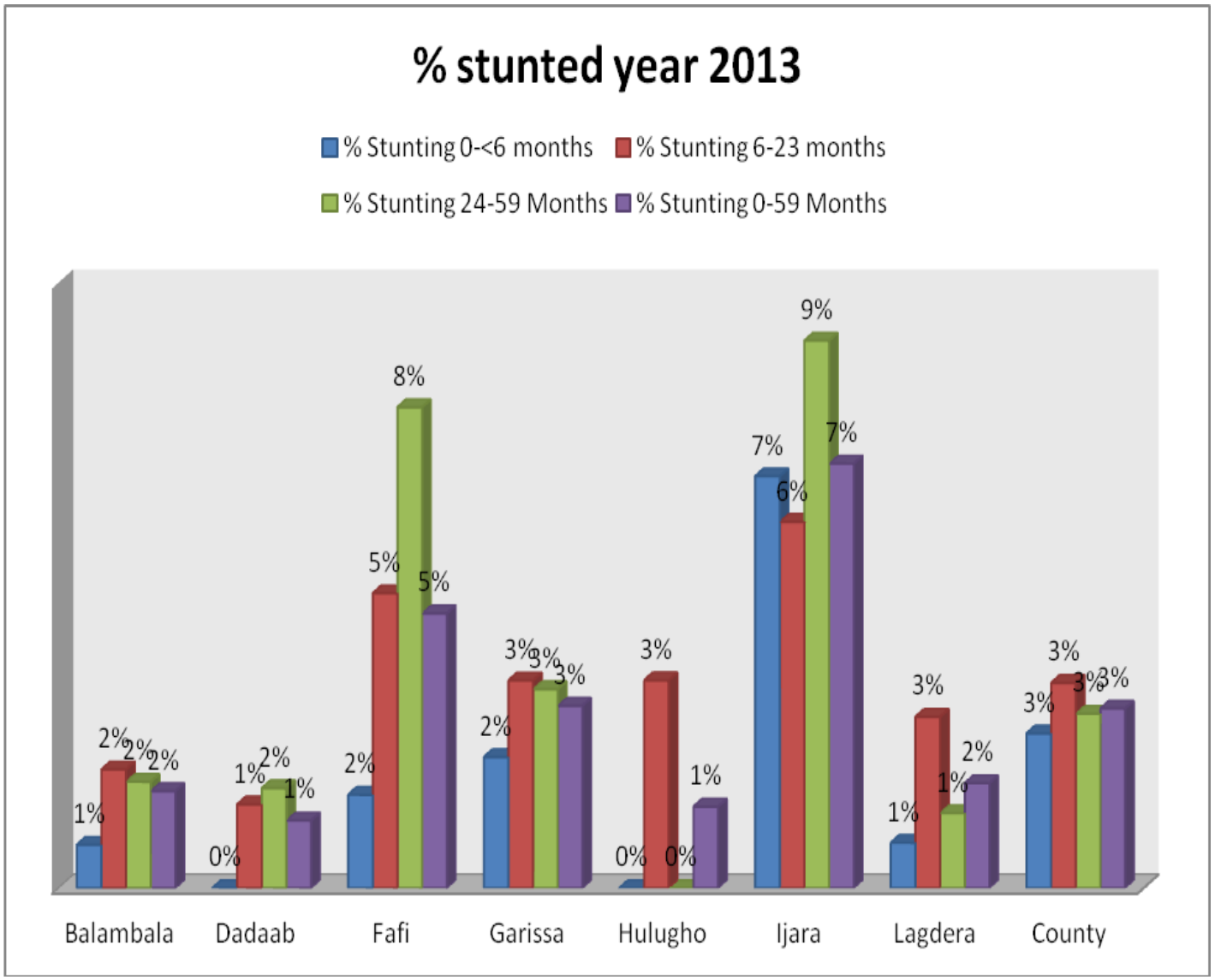
- In year 2013 Fafi had the highest percentage of underweight (14%) while Lagdera had the lowest (6%). This may be due to under reporting.
- Except Fafi, children aged 6-23 months were most malnourished; this may be due to the introduction of complementary feeding at this age.
- Percentage under weight for children aged 0-<6 months was 4% in the county; this may be due to the fact that most of the children at this age are breast fed.

Figure 16: Trend For Underweight and Stunted Children Aged 0-59 Months



- December had the lowest underweight prevalence of 6% while January had the highest at prevalence of 15%.
- From March underweight children had been reducing constantly i.e. from 14% in March to 6% in December. This may be due to the effectiveness of nutrition programme; food supplementation.
- January and May had the highest percentage of stunted children (5%) while October had the lowest (1%)

Figure 17: Percentage Stunted Year 2013



- ❖ Ijara Sub County had the highest proportion of stunted children in all the age group.
- ❖ The county had an average of 3% of under five stunted children.

3.2.2 Management of acute malnutrition; programme coverage

Standards

- Death rate—less than 3%.
- Defaulter rate—less than 15%.
- Recovery/cure rate—above 75%.

Table 17: Nutrition Death, Recovery and Defaulter Rate

Sub-County	OTP Death Rate	OTP Defaulter rate	SFP Death Rate	SFP Defaulter Rate	OTP Recovery Rate	SFP Recovery Rate
Balambala	0.36	20.9	0	26	75.5	72.5
Dadaab	0.63	16.9	0	13.9	81.9	83.8
Fafi	0.64	9.6	0	9.6	87.2	90
Garissa	0.46	11.7	0	21.3	85.2	77.4
Hulugho	0	0	0	0.63	92	99.4
Ijara	0.69	6.2	0	8.6	92.4	89.6
Lagdera	1.9	18.1	0	22.3	80	74.9

- In all the sub counties, death rate in OTP and SFP was within the acceptable standard.
- Balambala, Dadaab and Lagdera defaulter rate in OTP was above the target outcome.
- Balambala, Garissa and Lagdera defaulter rate in SFP was above the target outcome.
- Only Balambala Sub County had low recovery rate in relation to target outcome.

3.2.3 Vitamin A Supplementation

Vitamin A may be the single most effective child survival intervention, since deficiencies in this micronutrient can cause blindness and can increase the severity of infections such as measles and diarrhea.

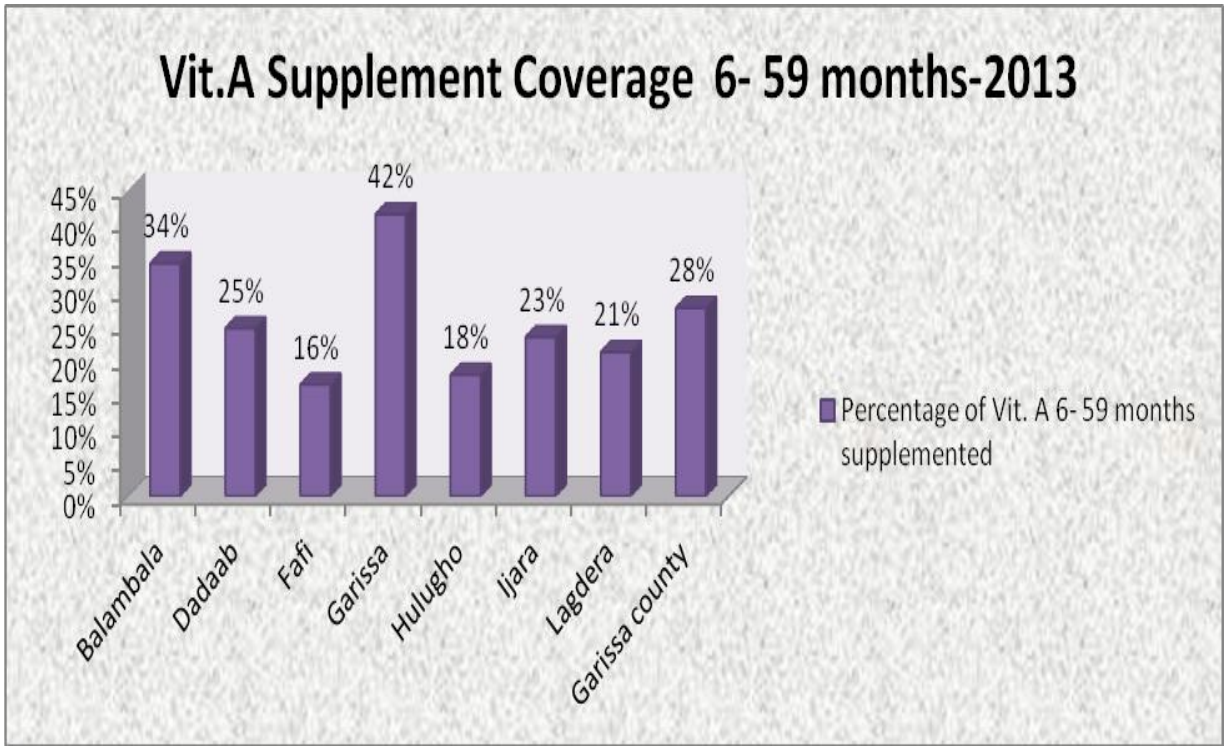
Vitamin A supplementation is given to specific age cohorts within the health care system. The specific cohorts are children 6 to 11 months (once a year) and 12 to 59 months who are supposed to be supplemented twice yearly and then aggregated to 6-59months. While lactating mothers are supplemented once within four weeks after delivery.

There are various strategies that the Division has used in order to reach the age cohort of 12-59 months which does not come to health facilities unless they are sick; likely childhood development centers, (ECDs), integrating supplementation with measles, polio and malezi bora which resulted to over 100% coverage in some sub counties.

Table 18: Vitamin A Supplementation Coverage

	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Garissa county
Target population 6-59 Months	18,812	23,154	31,838	49,824	15,744	15,931	24,174	179,476
Total 6-59 months supplemented	6,447	5,727	5,238	20,688	2,815	3,735	5,133	49,783
Percentage of Vit. A 6-59 months supplemented	34%	25%	16%	42%	18%	23%	21%	28%

Figure 18: percentage coverage of children aged 6-59 months supplemented with VIT A



- Vitamin A County coveraage was at 28%.
- Garissa Sub County had the highest Vitamin A coverage; 42%.
- Generally vitamin A coverage was low in all the Sub Counties,this may be due to poor documentation.

4.0 REPRODUCTIVE HEALTH

4.1 FAMILY PLANNING

In order to achieve vision 2030, population growth rate need to be controlled. To attain a balance between resources and population, Kenya population policy promote family planning as an entitlement that is based on informed and voluntary choice. Couples are motivated to adopt a family planning method when they are offered improved access to and quality of reproductive health services.

According to Kenya Demographic Health Survey (KDHS) 2008/2009, contraceptive use was at 4% of women of reproductive age and fertility rate of 5.9 children per woman. Compared to other counties, Garissa County had the lowest contraceptive use and highest fertility rate.

The eligible population in this is 147,563

Figure 19: Family planning

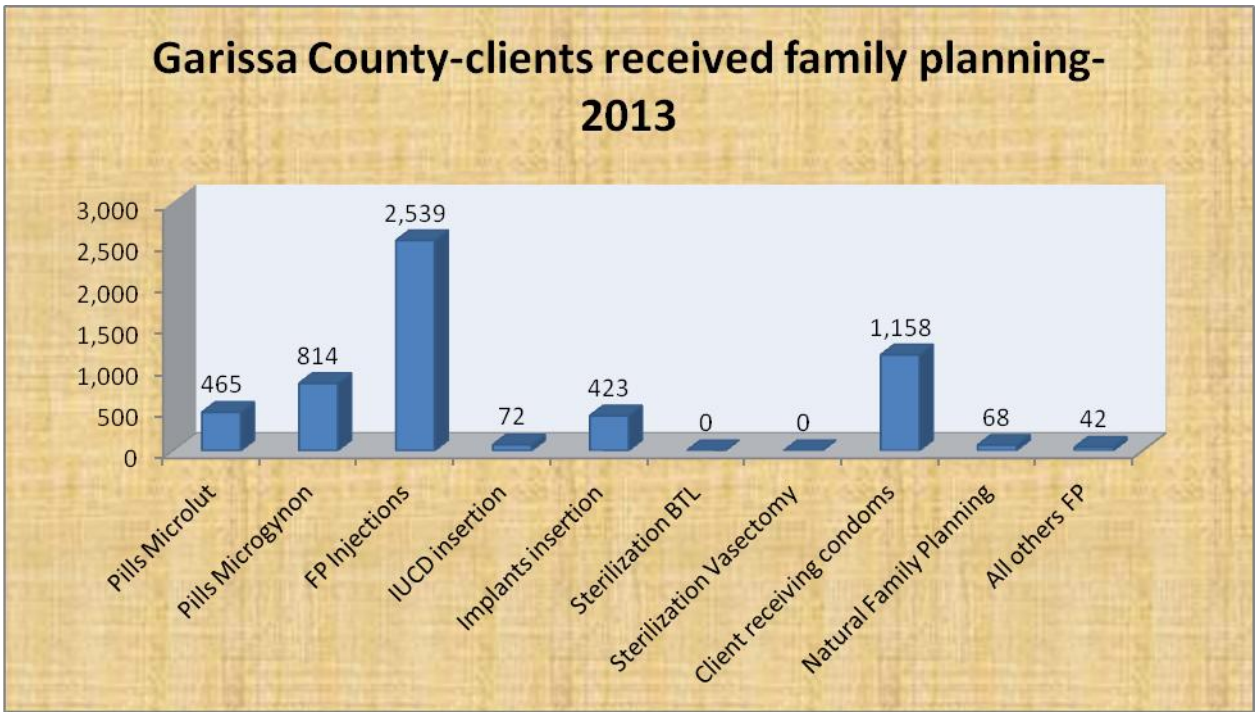
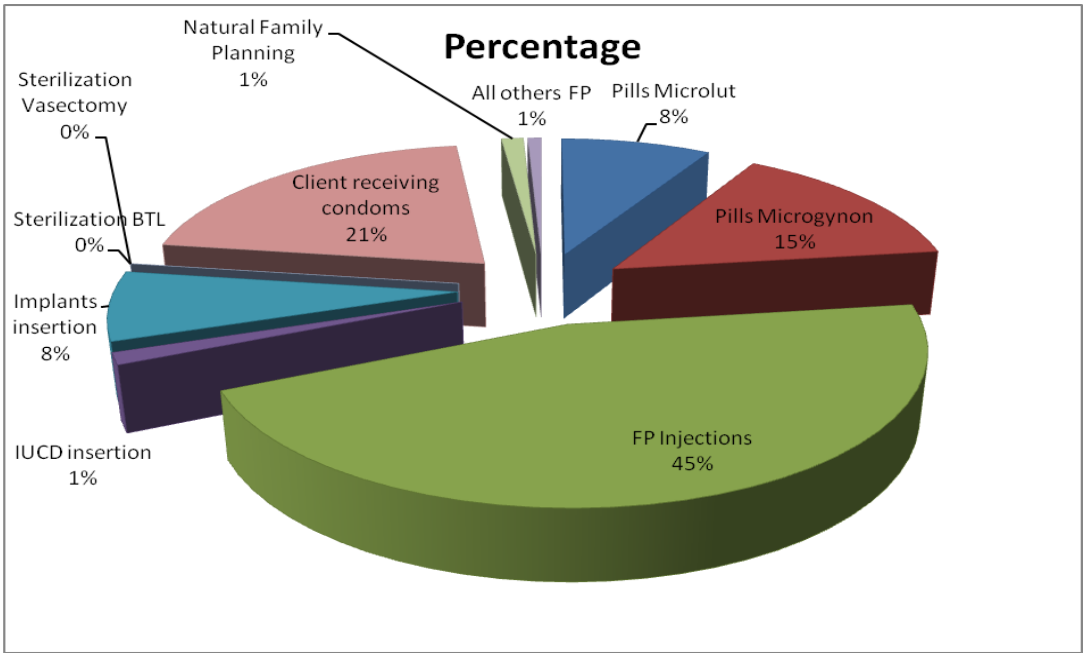
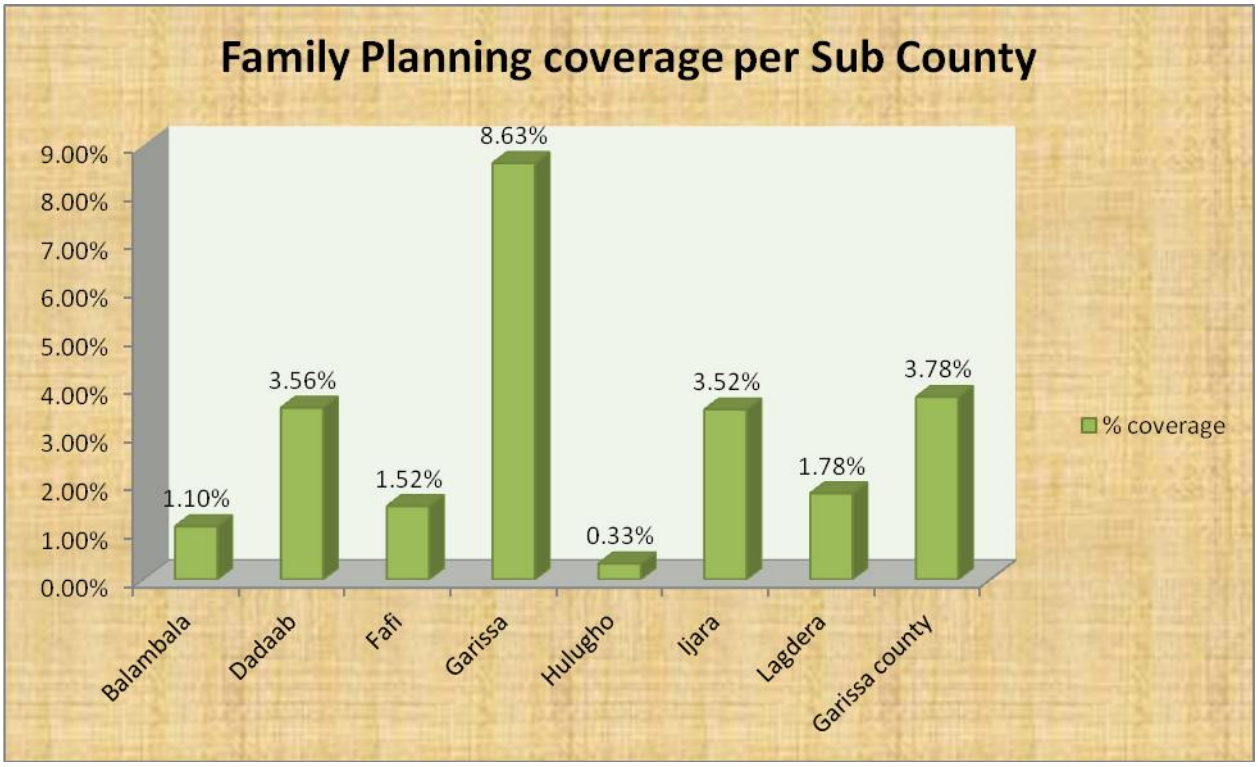


Figure 20: Proportion of Family Planning



- The most preferred method of family planning was injection which accounted for 45% of family planning methods.
- No client utilized sterilization as a family planning method in the whole county.
- Only 3.8% (5,581) of eligible population accessed family planning.
- 1.7% of eligible population used injectables as method of family planning, 0.9% pills, 0.3% implant and 0.05% IUCD.
- In comparison with KDHS 2008/2009 family planning coverage remain constant i.e. at 4%.

Figure 21: Family planning coverage per sub county 2013



- Garissa Sub County had the highest number of women using family planning (8.63%) while Hulugho had the lowest (0.33%). This may be due to the fact that most of the population in Garissa sub county is in urban where the services are more accessible. Also this population might be having more knowledge on family planning.

4.2 ANC PMTCT

The main aim of ante natal clinic is to take care of mother and unborn children for safe delivery.

Table 19: ANC, PMTCT Services

Indicators	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
ANC Partners Counsel	67	22	45	363	21	120	7	645
ANC Partners HIV+ve	0	0	0	3	0	0	0	3
ANC Partners Tested	54	17	37	341	21	117	5	592
PMTCT-ANC HIV+ve	0	0	1	32	6	1	1	41
ANC Syphilis +ve	25	9	0	3	0	2	0	39
ANC HIV tested	711	1,240	1,128	8,888	655	1,483	1,295	15,400
ANC counseled	783	1,284	1,162	9,229	652	1,420	1,434	15,964
ANC clients issued with preventive ARVs	0	0	0	31	0	1	0	32
ANC syphilis	163	474	285	6,667	387	788	460	9,224
IPT 1st Dose	0	0	2	18	0	0	6	26
IPT 2ndDose	0	0	0	61	0	0	2	63
Hb <7g/dl	18	26	40	368	40	52	54	598
Infants issued prev. ARVs	0	0	0	16	0	0	0	16
Infants HIV test 3 months	0	0	0	12	0	0	0	12
Infants HIV test 6 weeks	0	0	0	30	0	0	0	30
LLITNs ANC clients	25	129	233	81	55	0	406	929
Infant feeding	0	0	0	40	0	1	9	50
Mothers HIV+ve referred	0	0	1	14	0	1	0	16
New ANC clients	768	1,085	1,038	6,883	543	1,373	1,097	12,787
Partners HIV+ve referred	0	0	0	1	0	0	0	1
ANC 4 visits	139	428	371	3,178	78	668	438	5,300
Re-Visit ANC Clients	810	1,404	1,481	11,173	453	2,435	1,303	19,059

The number of expected ANC mother in the county was 23,666.

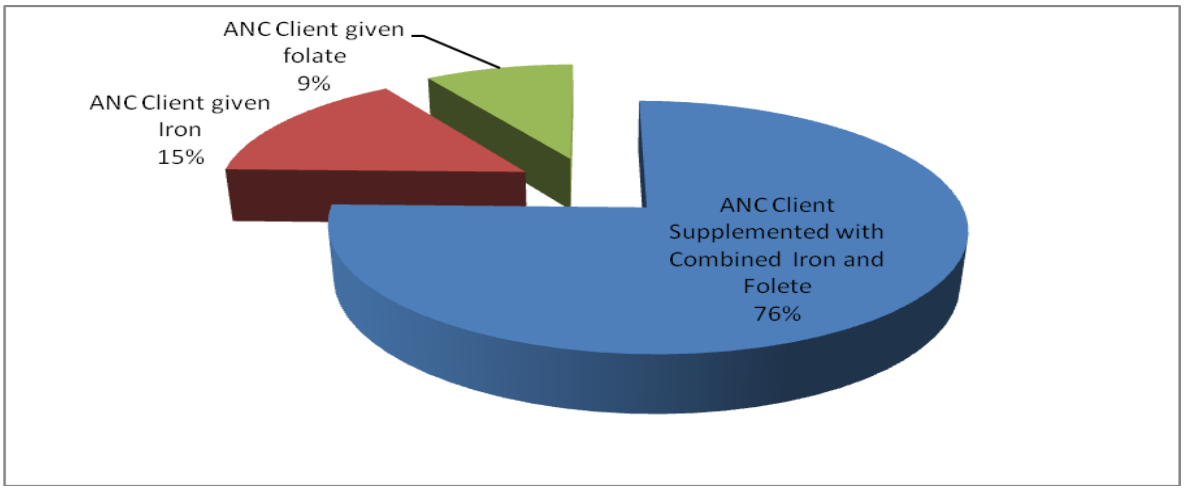
- Only 54% of pregnant mothers attended ANC clinic at least once compared to 92% nationally.

- 0.23% of those tested were HIV +ve. Garissa Sub county had the highest positivity rate i.e. 0.36% of those tested were HIV positive.
- In Garissa County 96% of those counselled in ANC were tested. Lagdera Sub County had the lowest number of pregnant women accepted to be tested after counselling i.e. 90%. Balambala, Dadaab, Fafi and Garissa Sub County acceptability was 91%, 97%, 97% and 96% respectively.
- Only 45.71% of positive mothers were referred to CCC for further management. The low referral may be due to poor documentation at facility level.
- In average only 41.45% of 1st ANC mothers attended 4th ANC clinic. This may be due to the fact that most of the mothers attend ANC at late stage in pregnant.
- Only 22% (5,300) of expected mothers attended 4th ANC.
- 0.51% of tested partners were positive.

Table 20: ANC Indicators Summary

Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
% HIV positive	0.00%	0.00%	0.09%	0.36%	0.00%	0.07%	0.08%	0.23%
Testing acceptability	91%	97%	97%	96%	100%	104%	90%	96%
% HIV +ve mothers referred	0	0!	100.00%	43.75%	0	100.00%	0.00%	45.71%
Proportion of 1st ANC who attended 4th ANC	18.10%	39.45%	35.74%	46.17%	14.36%	48.65%	39.93%	41.45%
proportion of HIV +ve partners	0.00%	0.00%	0.00%	0.88%	0.00%	0.00%	0.00%	0.51%
proportion of women issued with LLITN at ANC	3.26%	11.89%	22.45%	1.18%	10.13%	0.00%	37.01%	7.27%
proportion of women with HB <7g/dl	2.34%	2.40%	3.85%	5.35%	7.37%	3.79%	4.92%	4.68%
proportion of skilled deliveries who attended at least 1st ANC	24.74%	81.29%	43.35%	63.66%	27.07%	51.49%	41.39%	56.40%
proportion of 4th ANC who delivered via skilled health worker	73.16%	48.53%	82.44%	72.52%	53.06%	94.48%	96.48%	73.49%

Figure 22: ANC Supplemented By Iron, Folate and the Combined Iron and Folate



- The highest number of women supplemented by iron and folate combined with 76%

4.3 Maternity PMTCT

Table 21: Maternity PMCT

Data	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	County
Maternity Women Counseled	115	680	428	2,532	135	699	421	5,010
Maternity Women Tested for HIV	104	631	428	24,96	135	698	345	4,837
Maternity Women found HIV+ve	0	0	1	25	0	2	0	28
Deliveries from HIV+ve Women	0	0	1	25	0	2	0	28
Maternity Women issued with preventive ARVs	0	0	0	25	0	2	0	27
Infants initiated with Cotrimoxazole	0	0	0	4	0	0	0	4
Maternity Infants administered with preventive ARVs	0	0	0	26	0	2	0	28
Maternity Women Initiated with Cotrimoxazole	0	0	1	4	0	0	0	5

- 96% of positive mothers who delivered were initiated with ART.
- Only 14.3% of exposed children were issued with ART. However the low initiation of ART may be due to poor documentation.
- 0.6% (28) of those tested (4,837) was positive.

4.4 Maternity Safe Deliveries

The number of expected deliveries in year 2013 was 23,666. Balambala, Dadaab, Fafi, Garissa, Hulugho, Ijara and Lagdera target deliveries was 2,661, 2,967, 3,531, 8,051, 1,657, 1,677 and 3,122 respectively.

Table 22: Deliveries per Sub County

Data	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	county
Target	2,661	2,967	3,531	8,051	1,657	1,677	3,122	23,666
OPV Birth	294	1,008	454	5,803	463	941	774	9,737
Normal Deliveries	190	780	445	3662	147	680	415	6318
Assisted vaginal delivery	0	0	5	22	0	0	2	64
Caesarian Sections	0	92	0	640	0	21	0	753
Breach Delivery	0	10	0	58	0	6	3	77
Total deliveries	**190**	**882**	**450**	**4382**	**147**	**707**	**420**	**7212**
Live birth	185	848	444	4256	147	670	413	6942
Babies discharge Alive	184	824	434	4141	146	673	402	6804
Pre-term babies	1	4	0	55	0	6	2	68
Still birth	5	51	6	157		33	5	257
Underweight babies <2500gms	1	3	0	80	2	53	6	145
Maternity Referrals	8	42	3	170	3	19	26	271
Maternal Deaths	2	3		7	0	0	0	12
Maternal Deaths Audited	0	0	0	0	0	0	0	0
Neonatal deaths	0	2	0	60	1	5	1	69

Table 23: Maternity Indicators Analysis

	Sub County							
Indicator	**Balambala**	**Dadaab**	**Fafi**	**Garissa**	**Hulugho**	**Ijara**	**Lagdera**	**county**
% underweight babies <2500gms	0.5%	0.3%	0.0%	1.8%	1.4%	7.5%	1.4%	2.0%
% of Caesarian Sections	0.0%	10.4%	0.0%	14.6%	0.0%	3.0%	0.0%	10.4%
% of live births	97.4%	96.1%	98.7%	97.1%	100.0%	94.8%	98.3%	96.3%
% of still births	2.6%	5.8%	1.3%	3.6%	0.0%	4.7%	1.2%	3.6%
Facility based Neonatal death rate per 1000	0.0	2.4	0.0	14.1	6.8	7.5	2.4	9.9
(Facility based) proportion of maternal deaths per 100,000	1081	354	0	164	0	0	0	173
proportion of maternal death audited	0.0%	0.0%		0.0%				0.0%
Children administered with OPV but born at home	104	126	4	1,421	316	234	354	2,525
% Children administered with OPV but born at home	35.4%	12.5%	0.9%	24.5%	68.3%	24.9%	45.7%	25.9%
% of women delivered by skilled attendance	7.1%	29.7%	12.7%	54.4%	8.9%	42.2%	13.5%	30.5%

Figure 23: Deliveries per Sub County

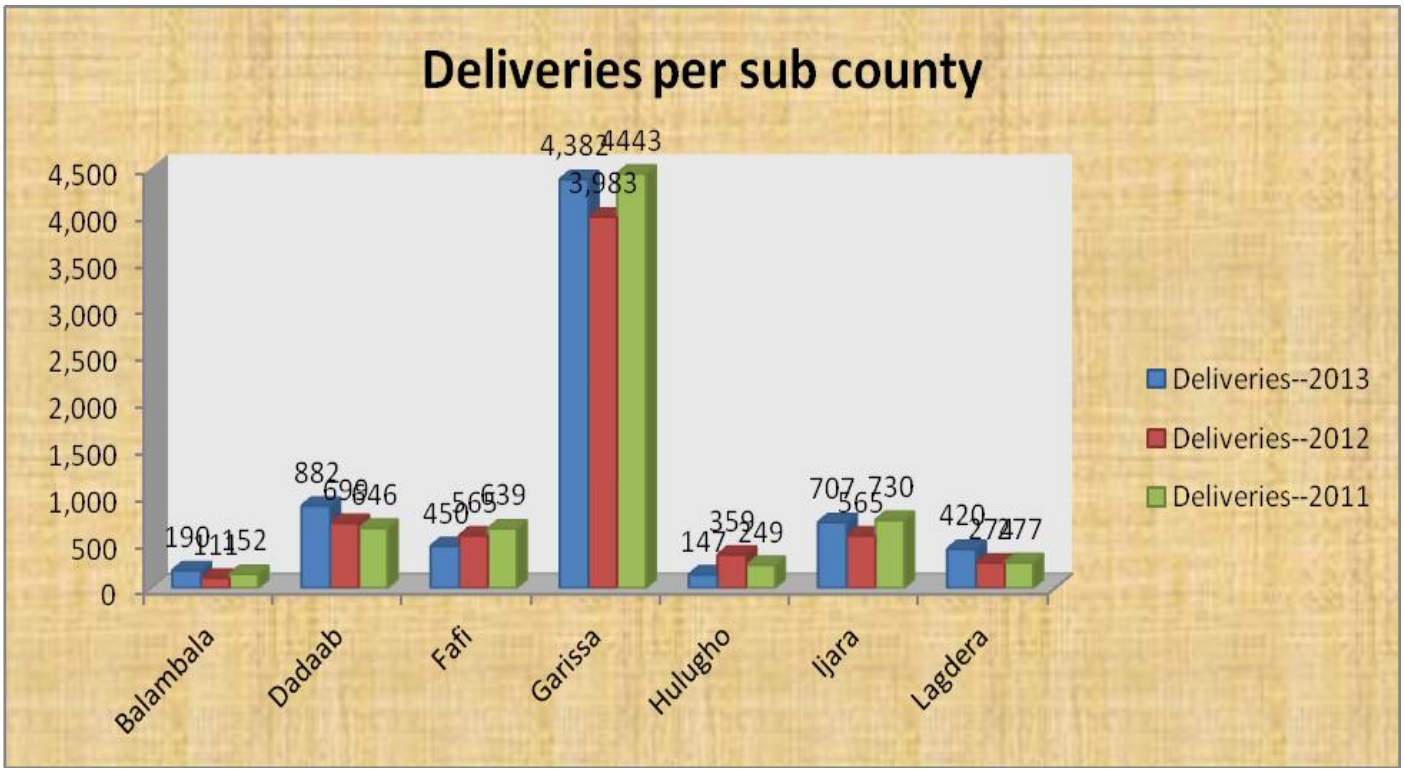


Figure 24: County Deliveries 2011-2013

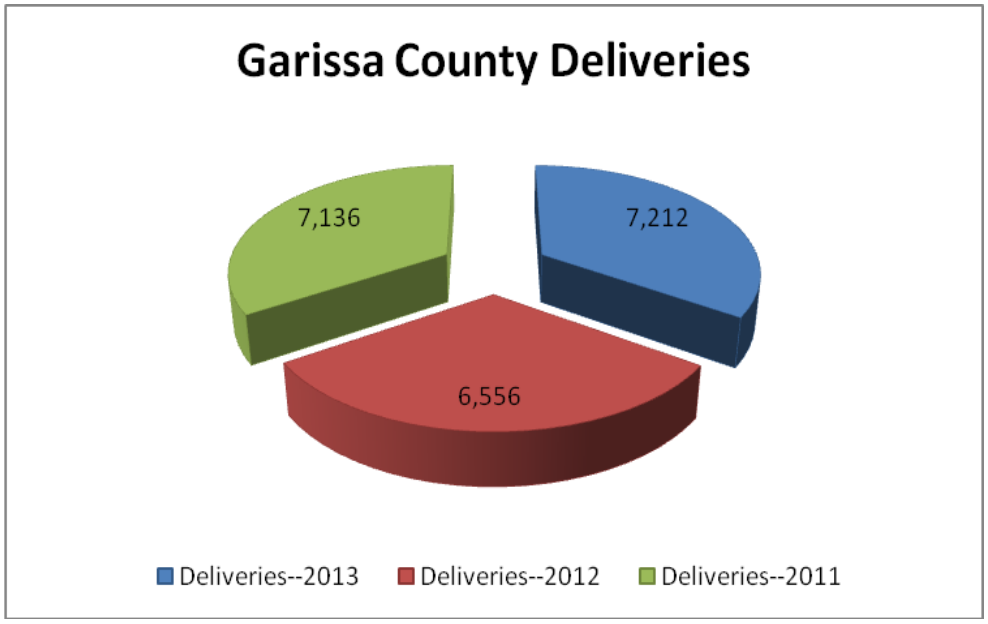
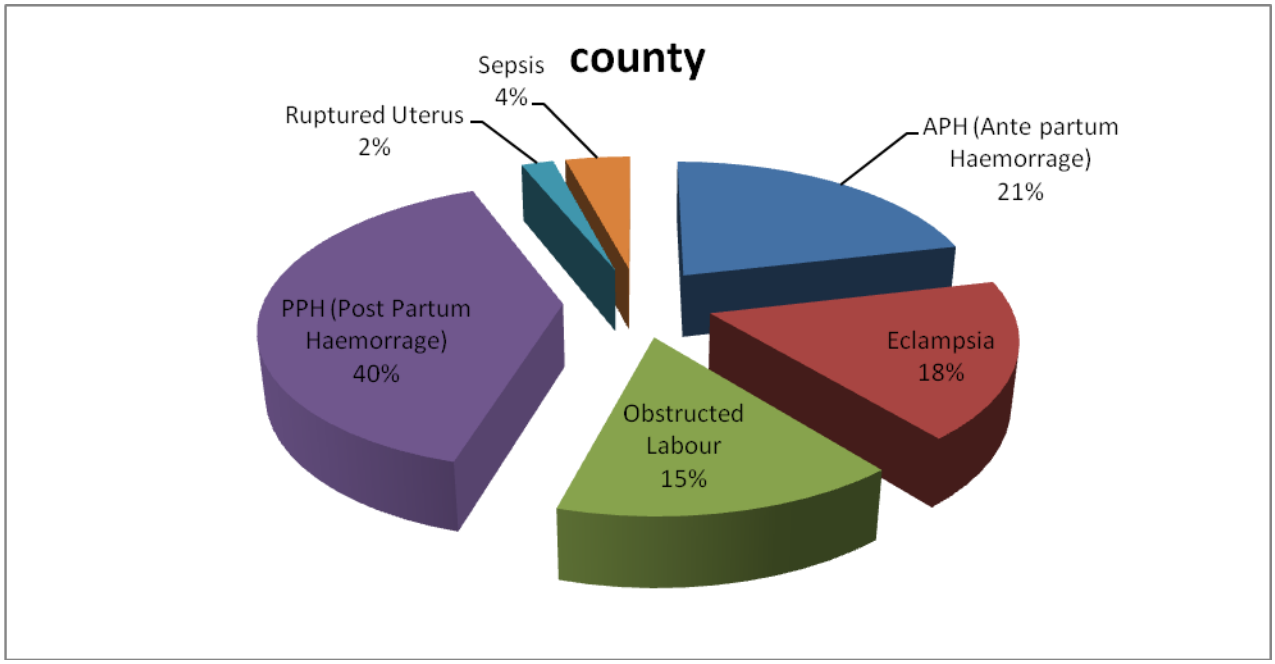


Table 24: Maternal Complications

	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	county
APH (Ante partum Haemorrage)	1	26	1	87	0	4	5	124
Eclampsia	2	40	1	49	0	5	6	103
Obstructed Labour	2	20		56	0	8	3	89
PPH (Post Partum Haemorrage)	6	16	10	161	0	15	21	229
Ruptured Uterus	0	3		9	0	0	0	12
Sepsis	1	6	1	3	0	9	4	24

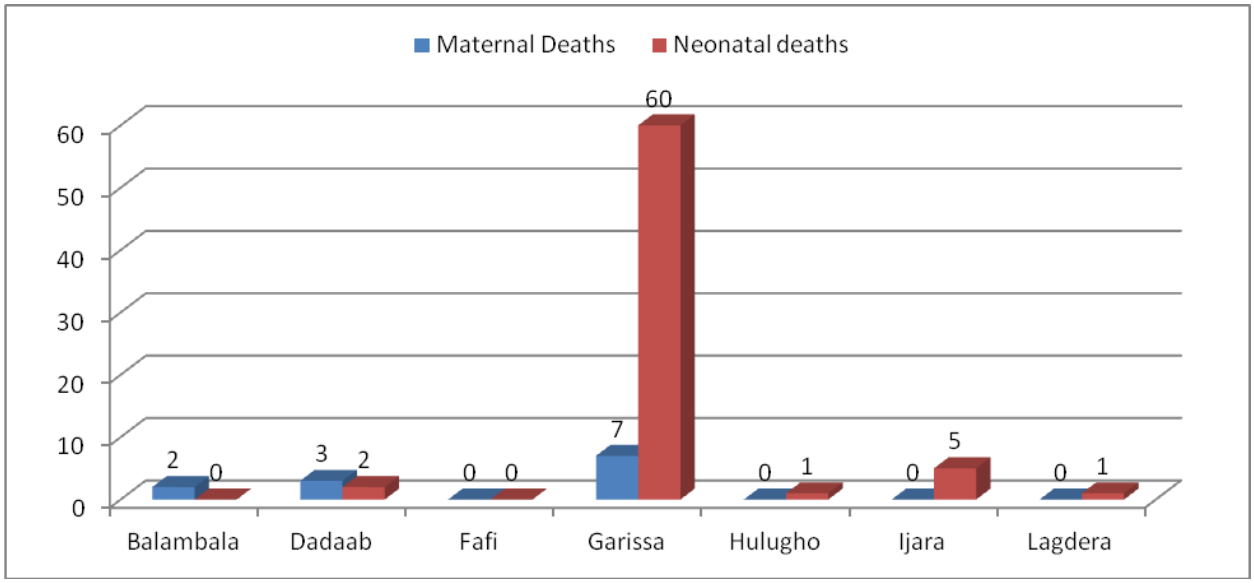
Figure 25: Percentage per Complication



- The leading cause of maternal complication is post Partum Hemorrhage at 40% followed by ante partum hemorrhage at 21%.
- 30.5% (7,212) of deliveries were conducted by skilled health worker compared to 30.7 in year 2012. Nationally 44% of deliveries are conducted by skilled health workers (KDHS 2008/2009). However it is noteworthy some deliveries are from neighboring counties.
- In year 2013, 753 deliveries were through caesarian section thus 10.4% of the total deliveries, compared to 639 (9.7%) caesarian sections in year 2012.
- 257 (3.6%) of deliveries were still births in year 2013 compared to 256 (3.9%) in year 2012. Dadaab Sub County had the highest proportion of still birth i.e. 5.8%.
- 69 neonatal deaths were reported in year 2013 compared to 71 neonatal deaths reported in year 2012. Neonatal death rate per 1000 was 9.9 compared to 11 per 1000 in year 2012. However the death rate might be high since most of the deaths are not reported.
- In year 2013, 2 % (145) of deliveries were under weight compared to 2% (133) in year 2012.
- 12 maternal deaths were reported in year 2013. Thus maternal mortality rate of 173/1000 live births. However the death rate might be high since most of the deaths are not reported.

- OPV birth is administered within 14 days after birth, compared with the deliveries 25.9 %(2,525) of children administered OPV birth were delivered at home. I.e. unskilled delivery. Hulugho Sub County had the highest proportion of children administered with OPV birth but not delivered by skilled health worker.

Figure 25: Maternal and neonatal deaths



- Garissa Sub County had the highest number of both maternal deaths (7) and neonatal deaths (60) while Fafi Sub County did not have any death reported.

5.0 HIV

5.1 Provider initiated counseling and testing

HIV prevention is paramount for the healthy nation. The ministry of health targeted 80% of the population to have knowledge of HIV status by 2013. HIV testing and counseling is mainly done at outpatient department, in patient, antenatal clinic, VCT centers and maternity.

Table 25: Diagnostic Testing and Counseling.

Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
DTC Inpatient Counseled	3	349	14	1	16	1,079	672	2,134
DTC-Inpatient HIV+ve	0	0	0	1	0	0	0	1
DTC Inpatient Tested	0	181	9	92	16	1,079	668	2,045
OPD counseled	6,833	4,565	11,986	4,644	4,941	10,107	14,947	58,023
DTC Outpatient Tested	6,814	3,842	12,253	4,246	4,836	9,879	14,514	56,384
DTC-Outpatient HIV+ve	2	2	2	45	0	1	5	57

Table 26: Voluntary Counseling and Testing

Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
VCT clients Counseled	1,129	213	1,136	26,558	0	4,041	175	33,252
VCT clients Tested	1,129	199	1,136	26,170	0	3,931	175	32,740
VCT clients HIV+ve	0	3	5	271	0	3	0	282
VCT Couple Counseled	50	18	30	995	0	143	301	1,537
VCT Couples Tested	50	18	30	945	0	143	301	1,487
VCT Couples Both HIV+ve	0	0	0	9	0	0	0	9
VCT Couples Discord	0	0	0	14	0	0	0	14

- The prevalence of HIV in VCT for the county is 0.9%.
- Of the couples either one partner tested positive or both tested positive; 39 %(9) were both HIV positive while 61% (14) were found to be discordant.

5.1.1 HIV Counseling and Testing Summary

Table 27: Analysis of clients tested for HIV per Sub County.

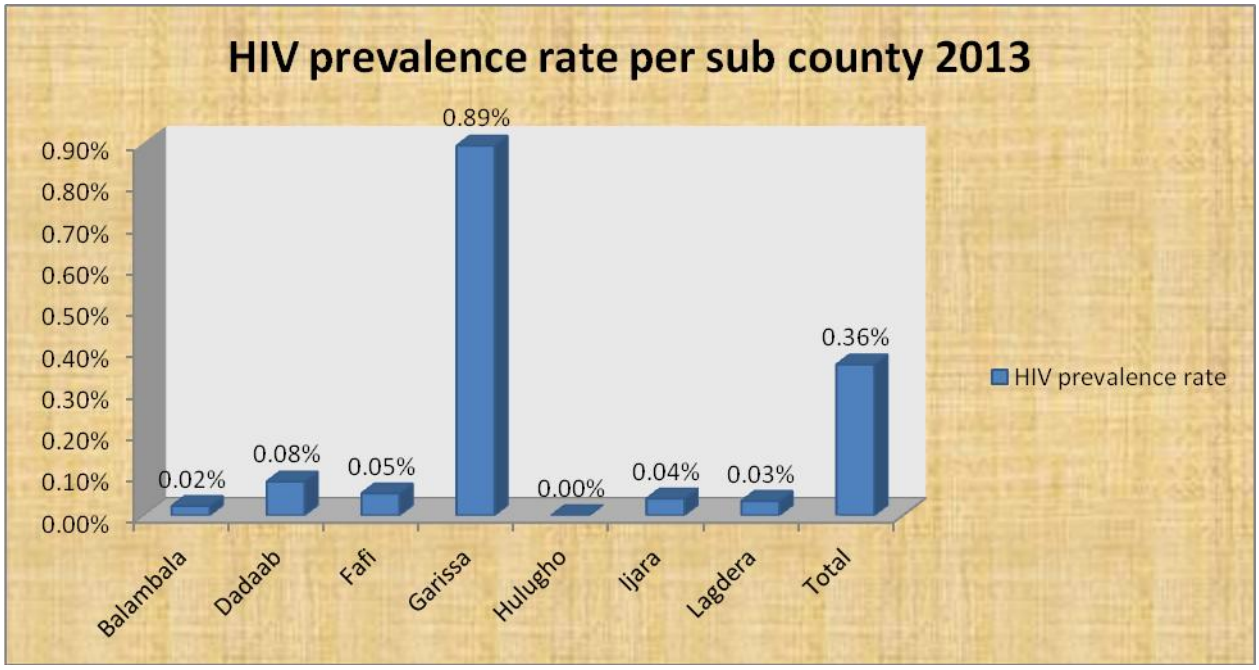
Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Total
Total population	78,277	80,420	106,955	178,901	51,787	52,405	82,167	**630,912**
Counselled	8,980	7,131	14,801	44,322	5,776	17,604	17,957	116,571
Tested	8,862	6,128	15,021	43,178	5,668	17,325	17,303	113,485
HIV +ve	2	5	8	386	0	7	6	414
HIV prevalence rate	0.02%	0.08%	0.05%	0.89%	0.00%	0.04%	0.03%	0.36%
Acceptance rate	98.69%	85.93%	101.49%	97.42%	98.13%	98.42%	96.36%	97.35%
Population who knows their status	11.3%	7.6%	14.0%	24.1%	10.9%	33.1%	21.1%	18.0%
Proportion tested via VCT	12.7%	3.2%	7.6%	60.6%	0.0%	22.7%	1.0%	28.8%
Proportion tested via DTC	76.9%	65.6%	81.6%	10.0%	85.6%	63.2%	87.7%	51.5%
Proportion tested via ANC	9%	21%	8%	21%	12%	9%	8%	14%
Proportion tested via Maternity	1.2%	10.3%	2.8%	5.8%	2.5%	4.0%	2.0%	4.3%
Proportion of couples tested	1%	0%	0%	2%	0%	1%	2%	1%
proportion of HIV positive both couples	0.0%	0.0%	0.0%	1.0%	0%	0.0%	0.0%	0.6%
HIV prevalence in couples	0.0%	0.0%	0.0%	2.4%	0%	0.0%	0.0%	1.5%
proportion of HIV positive discordant couples	0.0%	0.0%	0.0%	1.5%	#DIV/0!	0.0%	0.0%	0.9%

- A total of 113,485 clients were tested for HIV thus 18% of county population knew their HIV status in year 2013. Ijara Sub County had the highest number of people who knew their HIV status (33.1%) while Dadaab had the lowest 7.6%.
- 97.35% of those counseled accepted to be tested. This is an indication that if HCT is accelerated then more people could know their HIV status. Dadaab Sub County had the lowest acceptance rate i.e.86% of those counseled were tested.
- Most of the clients who knew their status in the county were through diagnostic counseling and testing (51.5%). However in Garissa Sub County, most of the clients

(60.6%) knew their status through voluntary counseling and testing. This may be due to moon light tested which mostly done by SIMAHO.

- 0.9% of the couples who were tested were discordant compared to 0.6% concordant couples. Garissa Sub County had the highest proportion of discordant couples i.e. 1.5% of those tested.
- Only 1% of the couples knew their HIV status in year 2013.

Figure 26: HIV prevalence per Sub County

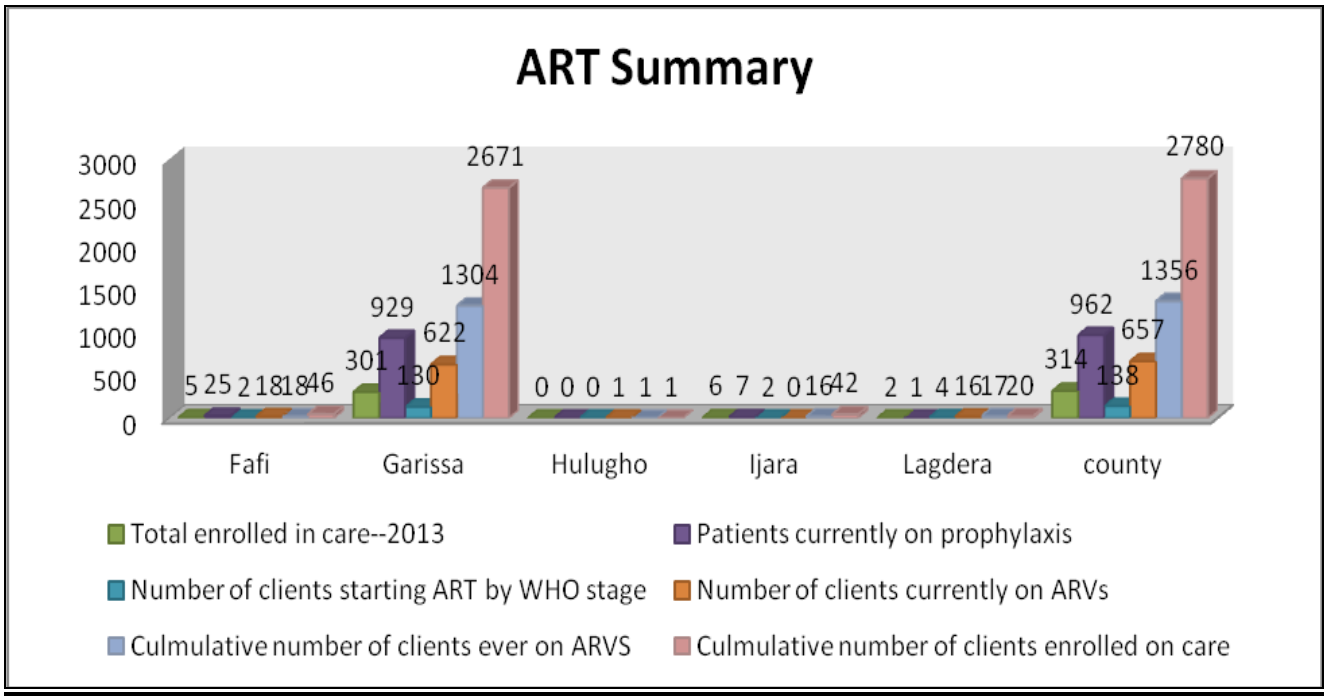


- Based on the available data, 0.36% of the county population is infected with HIV. Garissa Sub County has the highest prevalence rate of 0.89%.
- 1.5% of the couples tested either one or both were positive. Garissa Sub County had the highest with 2.4%.

5.2 Anti Retroviral Therapy

According to Kenya Aids Indicator Survey (KAIS 2007), the prevalence rate of HIV in Garissa County is estimated to be 1% therefore the county has 6,309 clients who are HIV positive. ART programme aims at providing anti retroviral therapy to the people affected and exposed, and also to provide prophylaxis treatment to prevent opportunistic infection. This ensures life prolongation.

Figure 27: ART summary



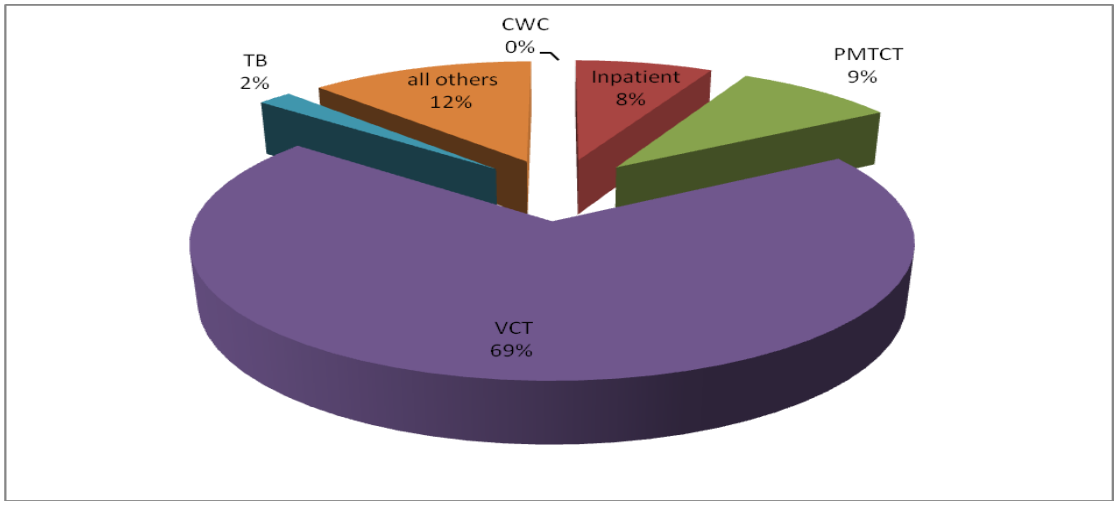
- Garissa Sub County has the highest ART/HIV care workload.
- Dadaab and Balambala have no client reported. This may be due to poor documentation.
- Cumulatively 2,780 clients had ever been enrolled on care, of which 96% (2,671) are from Garissa Sub County.
- In the year under review, 314 clients were enrolled in care however the number of positive clients in HCT programme was 414 thus hypothetically 24% (100) were not enrolled.
- Out of 2,780 clients ever enrolled, only 962 (33.6%) were still in the programme by the end of December 2013. This means 65.4% (1818) of the clients have either died, transfer out or loss to follow up. However data reconstruction which was done at PGH reviewed that 74% of missing patients was due to loss to follow up. This calls for urgent defaulter tracing mechanism.
- Out of 1,356 clients ever on ARVs, only 657 (48%) were still in the programme, therefore 52% (699) of the clients have either died, transfer out or loss to follow up. This might be dangerous since it can create drug resistance among the defaulters.
- Garissa County enrolment rate was at 68% (657 clients out of 962 who were in the programme by December 2013.

- In the year under review, 138 clients were started on ART compared to 129 in year 2012. Garissa Sub County had 130 patients started on ART.
- By December 2013, 10 pregnant women were on ART.

Table 28: Clients enrolled to HIV Care through various entry points

Data	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	county
Enrolled through CWC	0	0	0	0	0	0	0	0
Enrolled through Inpatient	0	0	0	24	0	0	0	24
Enrolled PMTCT	0	0	0	28	0	0	0	28
Enrolled through VCT	0	0	4	210	0	3	0	217
Enrolled through TB	0	0	0	4	0	0	2	6
Enrolled through all others	0	0	1	35	0	3	0	39

Figure 28: Patient Enrollment to Care in Proportion

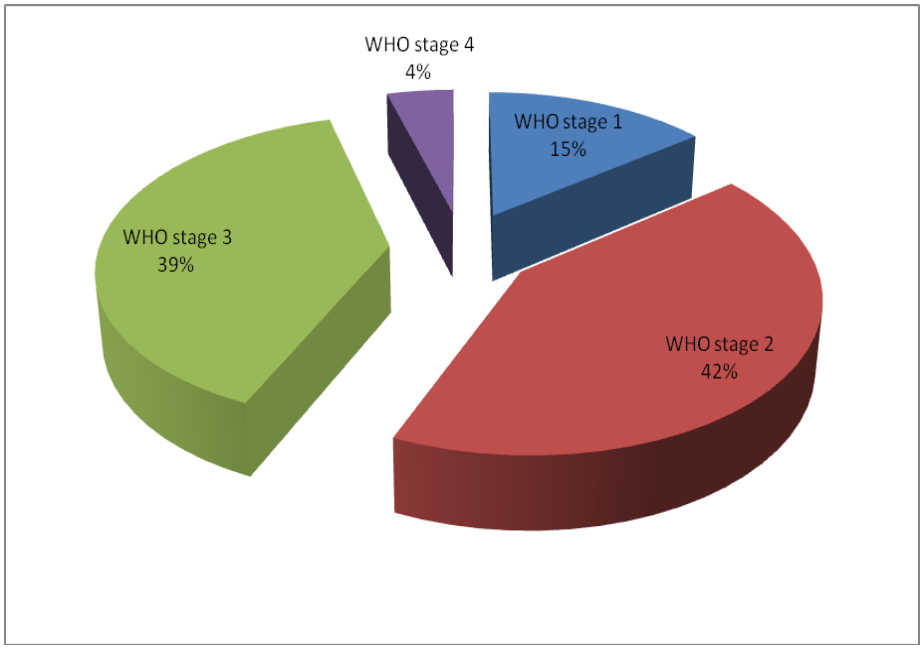


- 69% of the clients were enrolled to HIV care through VCT, and none enrolled through child welfare clinic

Table 29: Patients put on ARVS by WHO Staging

Indicator	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	County
WHO stage 1	0	0	0	20	0	0	0	20
WHO stage 2	0	0	0	58	0	0	0	58
WHO stage 3	0	0	1	47	0	2	4	54
WHO stage 4	0	0	1	5	0	0	0	6

Figure 29: Proportion of Clients Started On HIV by WHO Staging



- Most of the clients were started on ARVs when they were at WHO Stage 2 and 3 which comprises of 42% and 39% of the clients started on ART respectively.

6.0 INPATIENT DEPARTMENT

6.1 INTRODUCTION

The reported cases of inpatient morbidity and mortality for the period 2013 is based on the monthly reports submitted by admitting facilities using inpatient morbidity and mortality summary, in obtaining the data, the diseases were coded according to the international classification of diseases (ICD), tenth edition and submitted using excel sheets which were analyzed using three chapter categories.

List of inpatient reporting facilities 2013

1. Dadaab sub district hospital
2. Garissa county Referral Hospital
3. Ijara district hospital
4. Modogashe district hospital

Table 30: Top Ten Causes of Hospital Admission in All Ages

SNO	Diagnosis	Total cases	% of total cases admitted	Case fatality rate
1	pneumonia	512	12.5%	4.7%
2	Diarrhea and gastroenteritis of presumed infectious origin	390	9.5%	3.8%
3	Malaria	266	6.5%	0.8%
4	Essential (primary) hypertension	114	2.8%	1.8%
5	Unspecified diabetes mellitus	91	2.2%	4.4%
6	Peptic ulcer, site unspecified	89	2.2%	3.4%
7	Anemia, unspecified	85	2.1%	2.4%
8	Unspecified abortion	76	1.8%	0.0%
9	Tuberculosis of lung, without mention of bacteriological or histological confirmation	70	1.7%	15.7%
10	Unspecified severe protein-energy malnutrition	59	1.4%	0.0%

- Pneumonia is the highest cause of admission, which accounted for 12.5% of all admission.
- Of the top ten cause of hospital admission, tuberculosis had the highest case fatality rate of 15.7%. This means out of 100 patients admitted due to tuberculosis, 16 died.

Table 31: Top Ten Causes of Mortality in All Ages

SNO	Diagnosis	Total Deaths	Total cases	Case fatality rate
1	Pneumonia	24	512	4.7%
2	Diarrhea and gastroenteritis of presumed infectious origin	15	390	3.8%
3	Tuberculosis of lung, without mention of bacteriological or histological confirmation	11	70	15.7%
4	Meningitis, unspecified	7	57	12.3%
5	Heart failure, unspecified	7	30	23.3%
6	Bacterial sepsis of newborn, unspecified	6	59	10.2%
7	Other and unspecified intestinal obstruction	5	24	20.8%
8	Unspecified diabetes mellitus	4	91	4.4%
9	HIV disease resulting in other specified conditions	4	12	33.3%
10	Non pyogenic meningitis	4	10	40.0%

- Pneumonia had the highest number of deaths i.e. 24 deaths.
- 40% of patients admitted due to non pyogenic meningitis died.

Table 32: Diseases with High Case Fatality Rate

SNO	Diagnosis	Total Deaths	Total cases	Case fatality rate
1	Acute renal failure, unspecified	3	6	50.0%
2	Tuberculosis of bones and joints	1	2	50.0%
3	Leukemia, unspecified	1	2	50.0%
4	Peritonsillar abscess	1	2	50.0%
5	Gastric ulcer	1	2	50.0%
6	Dyspnoea	1	2	50.0%
7	Shock, not elsewhere classified	1	2	50.0%
8	Traumatic Pneumothorax	1	2	50.0%
9	Non pyogenic meningitis	4	10	40.0%
10	Unspecified renal failure	3	8	37.5%
11	HIV disease resulting in other specified conditions	4	12	33.3%
12	Inflammatory liver disease, unspecified	2	6	33.3%
13	Leishmaniasis, unspecified	1	3	33.3%
14	Cardiac arrest, unspecified	1	4	25.0%
15	Unspecified jaundice	1	4	25.0%
16	Intra-abdominal and pelvic swelling, mass and lump	1	4	25.0%
17	Heart failure, unspecified	7	30	23.3%
18	Septicaemia, unspecified	2	9	22.2%
19	Other and unspecified intestinal obstruction	5	24	20.8%
20				

Table 33: Top Ten Cause of Hospital Admission-Male

	MALE			
SNO	Diagnosis	TOTAL		G.TOTAL
		Alive	Death	A+D
1	Pneumonia	264	17	281
2	Diarrhea and gastroenteritis of presumed infectious origin	204	10	214
3	Malaria	131	2	133
4	Essential (primary) hypertension	67	2	69
5	Peptic ulcer, site unspecified	47	3	50
6	Tuberculosis of lung, without mention of bacteriological or histological confirmation	39	8	47
7	Unspecified diabetes mellitus	42	2	44
8	Unspecified severe protein-energy malnutrition	40	0	40
9	Anemia, unspecified	35	1	36
10	Volume depletion	36	0	36
11	Hyperplasia of prostate	31	2	33

Table 34: Top Ten Cause of Hospital Admission-Female

	FEMALE			
SNO	Diagnosis	TOTAL		G.TOTAL
		A	D	A+D
1	Pneumonia	230	7	237
2	Diarrhea and gastroenteritis of presumed infectious origin	171	5	176
3	Malaria	133	0	133
4	Unspecified abortion	76	0	76
5	Anemia, unspecified	48	1	49
6	Single delivery by caesarean section	48	0	48
7	Unspecified diabetes mellitus	45	2	47
8	Essential (primary) hypertension	45	0	45
9	Peptic ulcer, site unspecified	39	0	39
10	Unspecified protein-energy malnutrition	32	0	32

- In both gender, pneumonia, Diarrhea and gastroenteritis and malaria are the highest cause of hospital admission.

Table 35: Causes of Under 5 Years Admission

SNO	Diagnosis	TOTAL		G.TOTAL	
		Alive	Death	A+D	% of total cases admitted
1	pneumonia	355	14	369	27.5%
2	Diarrhea and gastroenteritis of presumed infectious origin	288	11	299	22.3%
3	Malaria	130	2	132	9.8%
4	Unspecified severe protein-energy malnutrition	110	1	111	8.3%
5	Bacterial sepsis of newborn, unspecified	48	5	53	3.9%
6	Volume depletion	41	0	41	3.1%
7	Meningitis, unspecified	30	2	32	2.4%
8	Anemia, unspecified	13	0	13	1.0%
9	Birth asphyxia, unspecified	11	2	13	1.0%
10	Tuberculosis	8	0	8	0.6%

Table 36: Under 5 Years Causes of Mortality

SNO	Diagnosis	Death	Cases	case fatality rate
1	Pneumonia	14	369	3.80%
2	Diarrhea and gastroenteritis of presumed infectious origin	11	299	3.70%
3	Bacterial sepsis of newborn, unspecified	5	53	9.40%
4	Non pyogenic meningitis	3	5	60.00%
5	Malaria	2	132	1.50%
6	Meningitis, unspecified	2	32	6.30%
7	Birth asphyxia, unspecified	2	13	15.40%
8	Other and unspecified intestinal obstruction	2	6	33.30%
9	Unspecified severe protein-energy malnutrition	1	111	0.90%
10	Septicaemia, unspecified	1	5	20.00%

7.0 TUBERCULOSIS PROGRAMME

7.1 BACKROUND

The TB/Leprosy programme was formed in 1980 when the Kenya TB and Leprosy programes were joined together by the Ministry of Health to become National Leprosy and Tuberculosis Programme (NLTP).

In year 2008 Division of Leprosy,TB and Lung Diseases (DLTLD) was created with more functions for NLTP by giving responsibilities for handling other chronic lung disease like asthma and chronic obstructive pulmonary disease (COPD).

7.1.1: Vision, Mission and Goal

Vision: To render Kenya and its communities free of Leprosy, TB and Lung Disease.

Mission: To sustain and improve Tuberculosis, Leprosy and Lung Disease control gains in order to accelerate the reduction of Tuberculosis incidence, intensify post- elimination leprosy activities and control Lung disease.

Goal: A generation free of Tb, Leprosy and Lung Disease.

Table 37: TB facilities in Garissa County

NAME OF CONTROL ZONE	DISTRICT IN THE ZONE	DIAGNOSTIC FACILITIES	TREATMENT FACILITIES	TOTAL
Garissa	Garissa and Balambala	12	0	12
Lagdera	Lagdera and Dadaab	9	3	12
Ijara	Ijara and Hulugho	5	3	8
Fafi	Fafi	3	2	5
Total		29	8	37

7.1.2 TB Service Decentralization In The Garissa County

Garissa had only one diagnostic and treatment facility in 2001 which was PGH Garissa. Currently the county has 37 TB facilities, 29 diagnostic and 8 treatment with several private laboratories doing diagnostic only.Decentralization effort has been hampered by lack of health care workers especially Nurses and laboratory personnel.

7.1.3 Strategy of TB control

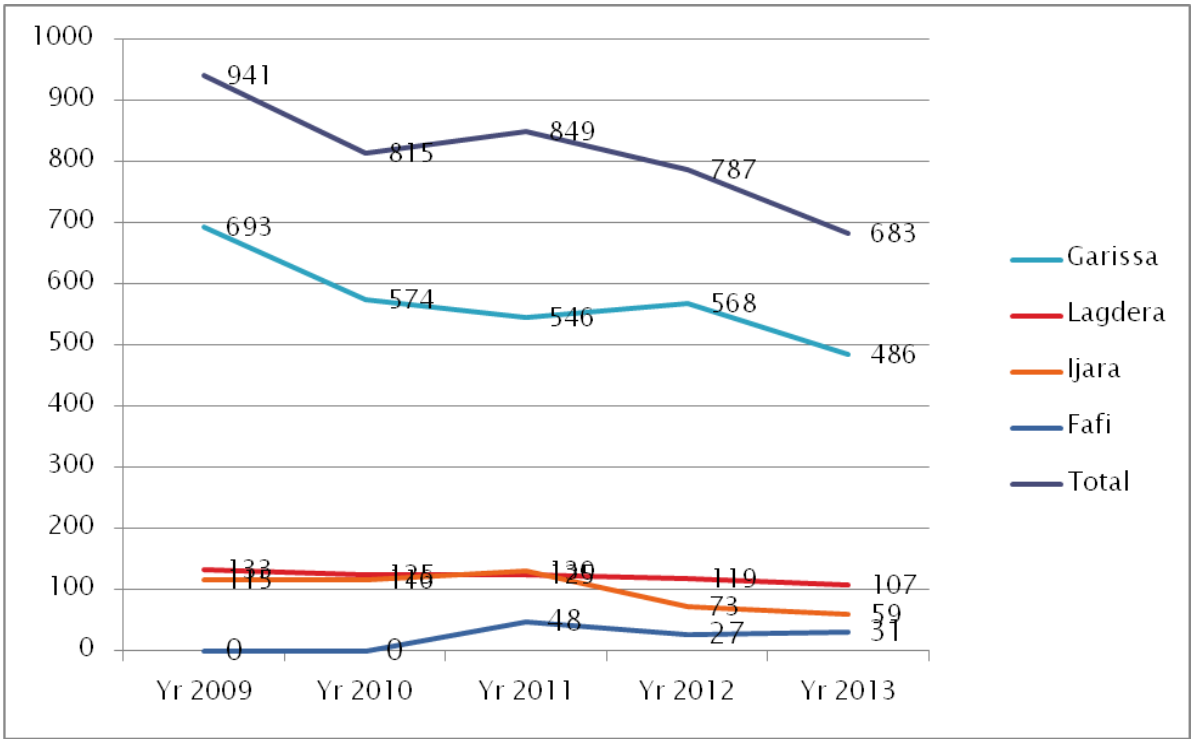
Five element o TB control

1. Sustained political commitment to increase human and financial resources and integrating TB in the national health system

2. Access to quality assured TB sputum microscopy
3. Standardized short course chemotherapy to all diagnosed cases of TB and case management under direct observation of treatment (DOT)
4. Un interrupted supply of quality assured drugs with reliable distribution system
5. Recording and reporting system enabling outcome assessment of each and every patient and overall assessment of the programme .
6. Handling of MDR TB/HIV and other emerging conditions
7. Advocacy,communication and social mobilization for the core TB activities and other related issues (ACSM)
8. Health system strengthening by providing microscope,motorcycles and other diagnostic aids like GenExpert machines
9. External Quality control

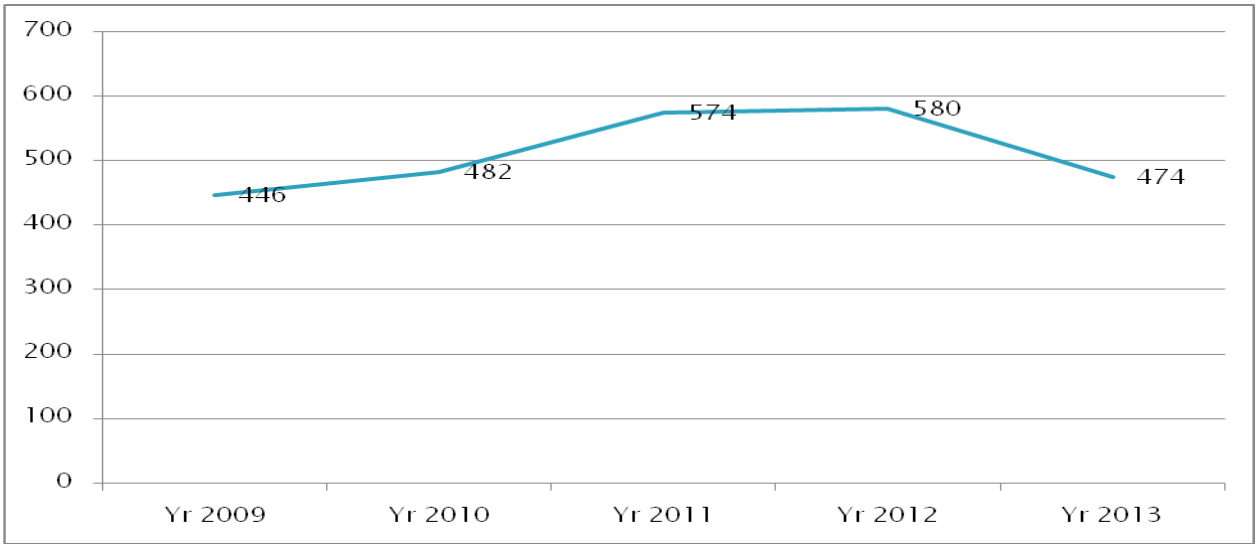
7.2 Case finding

Figure 30: TB case finding trends since 2009: Garissa County



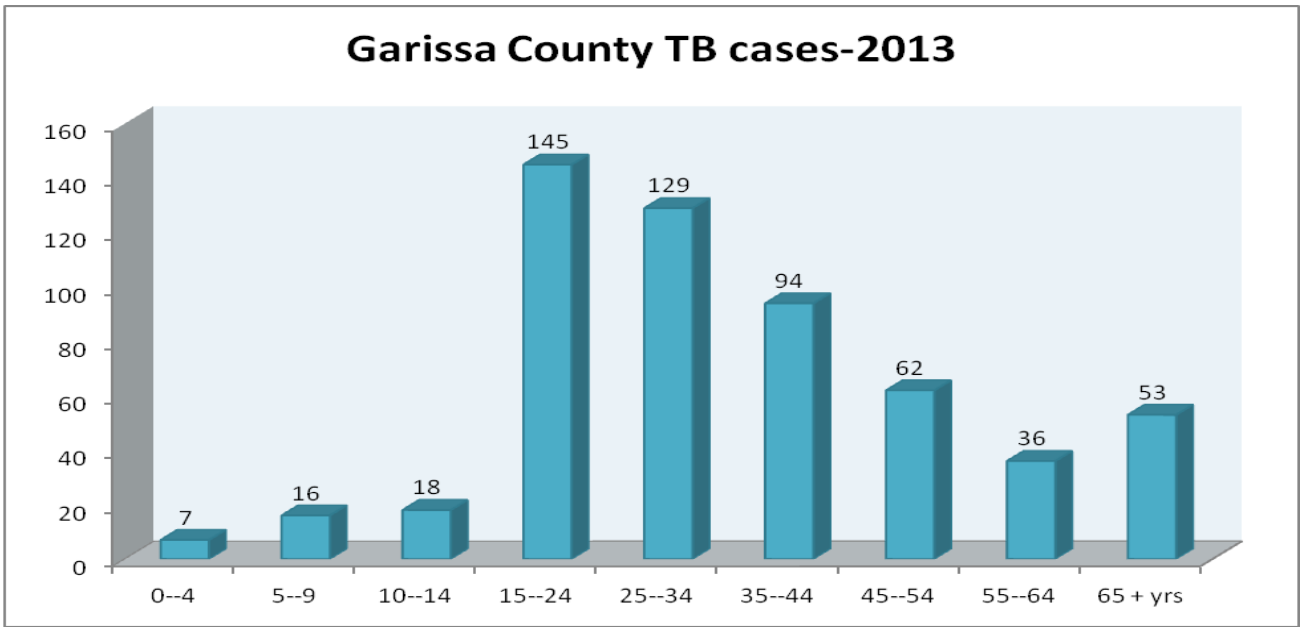
- The case finding have decrease throughout the years in all control zones. In year 2009, Garissa County had 941 cases detected compared to 683 in 2013 thus 27.4% decrease. This calls for more resource allocation for case finding. E.g at community level.

Figure 31: Refugee TB cases finding since 2009



7.2.1: Tuberculosis by Age

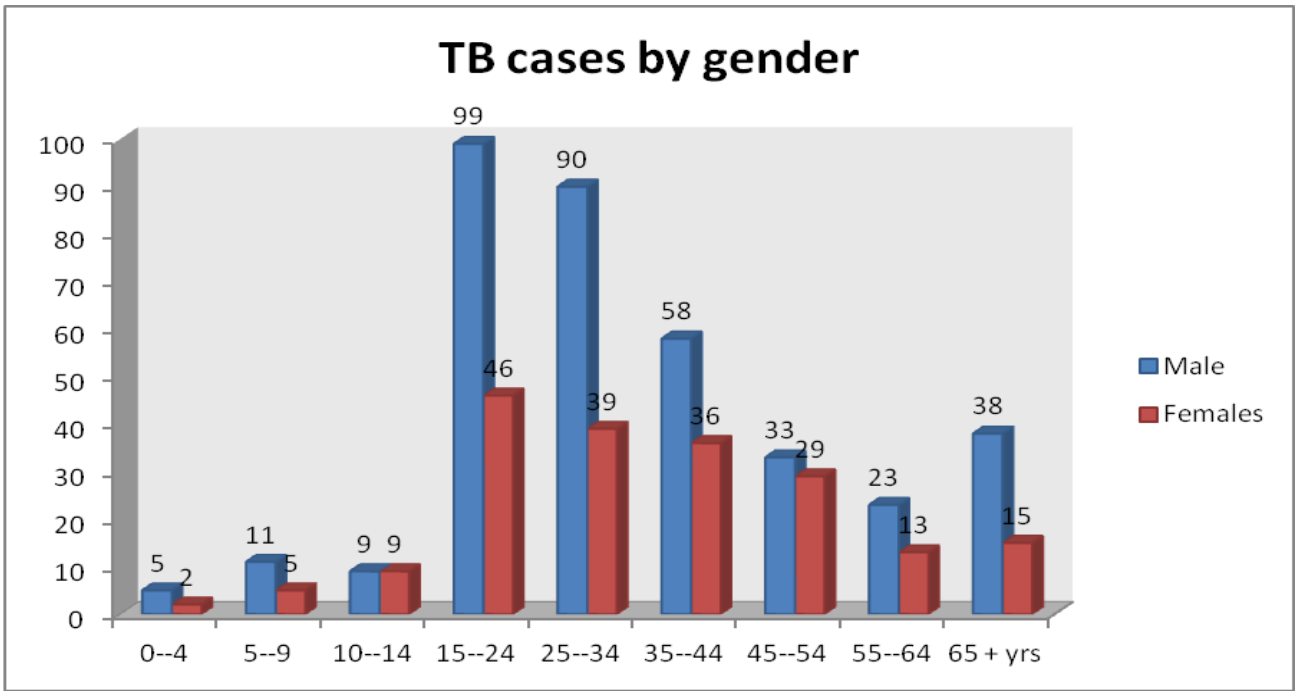
Figure 32: Age Sex Distribution For New Smear Positive: Garissa County



- The most affected age group is 15—24 years which account for 26% of TB cases detected.
- 15 to 44 years accounte for 66% of all TB cases detected.

7.2.2: TB cases by Gender

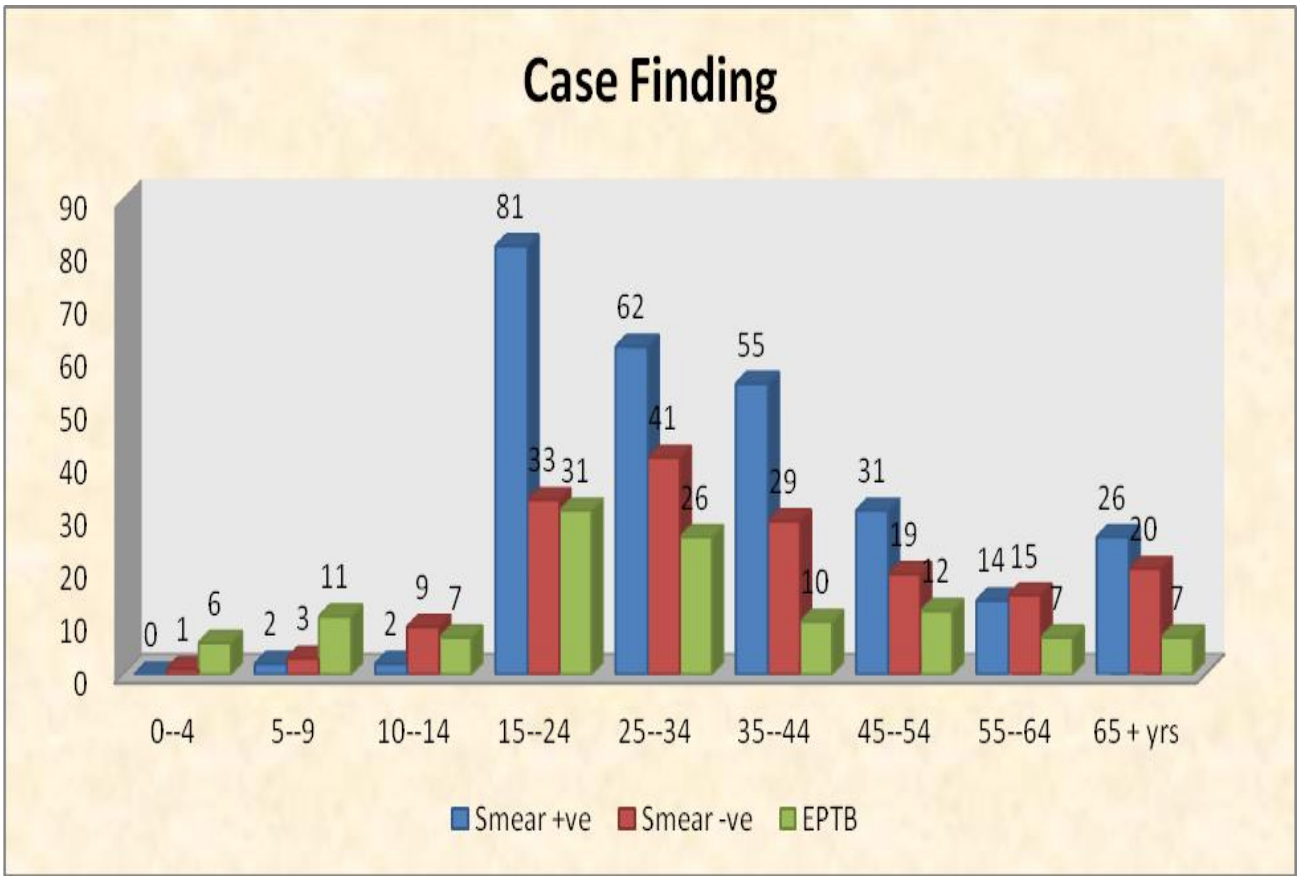
Figure 33: TB cases by Gender



- In all ages, male are the most affected. Males account for 65% (366) of all cases compared to females 35% (194).

7.2.3: TB Case Finding By Age Group

Figure 34: TB Case Finding By Age Group



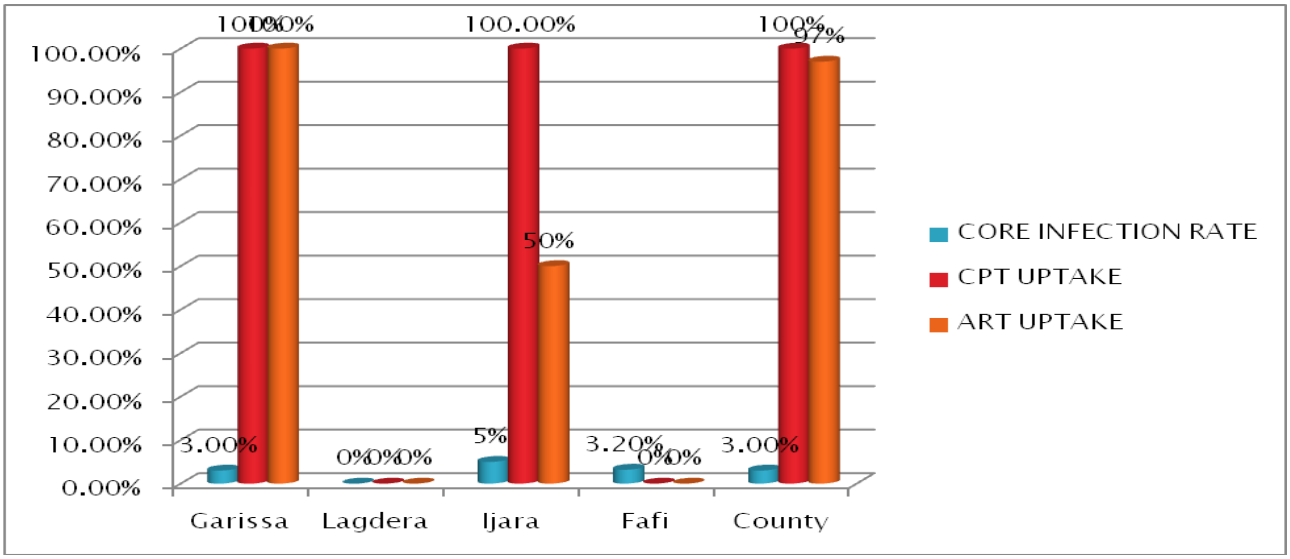
- 49% (273) cases were smear positive, 30% (170) smear negative and 21% (117) extra pulmonary tubeculosis.

7.3: Source of MDR TB

- Mandera East District 6 cases
- Wajir East 1 case
- Garissa District 2 cases
- Refugee camp 100 cases

7.4: TB/HIV Garissa County

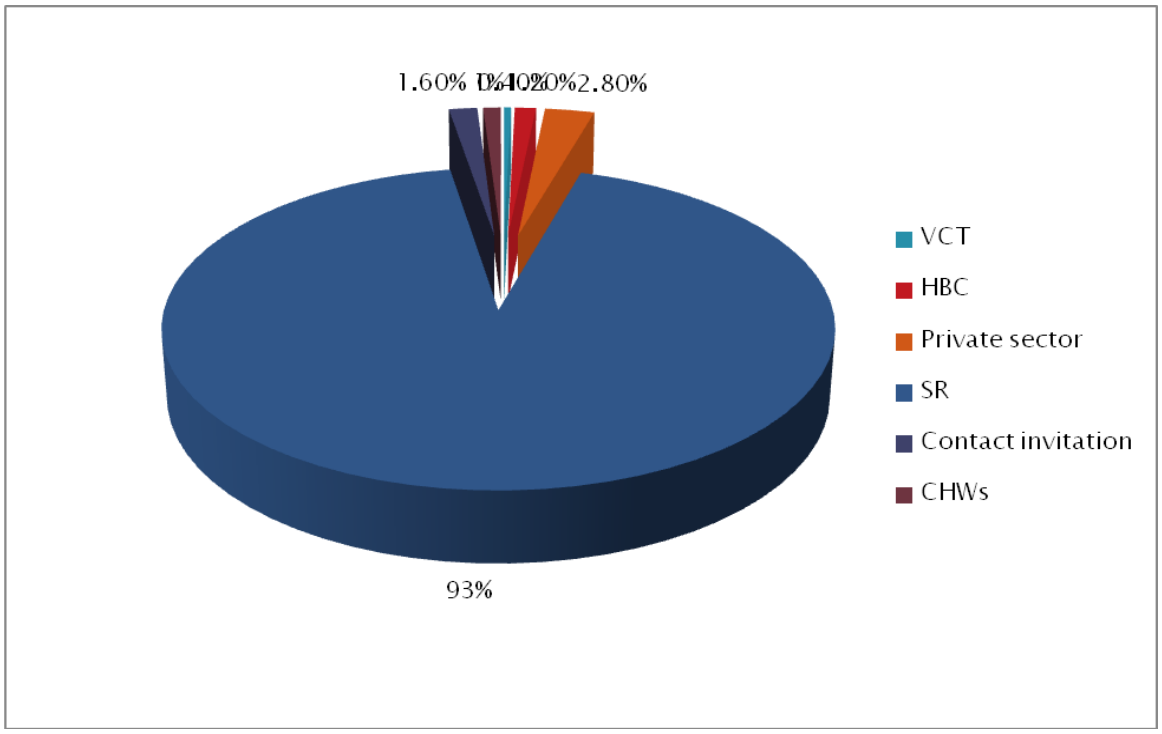
Figure 35: TB/HIV Garissa County



- 3% of TB patients in the county were also infected with HIV,100% of these patients were on cotrimoxazole propylaxis and 97% on ART.
- Ijara sub county had the highest co-infection rate (5%) of 50% were on antiretroviral treatment.
- Fafi Sub County had co-infection rate of 3.2%,however no patient was either on cotrimoxazole propylaxis or antiretroviral treatment.
- Lagdera Sub County had 0% co-infection rate.

7.5: Source of TB patients Garissa County

Figure 36: Source of TB patients Garissa County



- 93% of the patients were self referral. This mean they had signs and symptoms of TB which led them to seek medical attention.

7.6: **New Smear Positive Treatment Outcome for Garissa County 2012**

Sub County	SM-VE	%	SMND	%	SM+VE	%	DIED	%	OOC	%	TO	%	Total Evaluated
Garissa	181	90.5	1	0.5	0	0	5	2.5	2	1	11	5.5	200
Lagdera	39	93	1	2	0	0	1	2	1	2	0	0	42
Ijara	29	83	2	5.7	0	0	2	5.7	1	2.8	1	2.8	35
Fafi	3	75	1	25	0	0	0	0	0	0	0	0	4
County	**252**	**89.7**	**5**	**1.8**	**0**	**0**	**8**	**2.8**	**4**	**1.4**	**12**	**4.3**	**281**

Treatment Outcome for Other Forms of Tuberculosis: Garissa County

CATEGORY	SM-VE	%	SMND	%	SM+VE	%	DIED	%	OOC	%	TO	%	Total Evaluated
Smear Positive Retreatment	30	84	1	8	0	0	1	8	0	0	0	0	32
New Smear Negative	179	83					3	1.3	5	2.6	5	2.6	192
EPTB	140	93					2	1.3	2	1.3	4	2.6	150
Other Retreatment	54	92					1	1.7	2	3.4	1	1.7	59

7.7: Achievement of TB Programme

Table 38: Achievement of TB Programme

Indicator	WHO TARGETS	ACHIEVED
Cure rate	85%	89.7%
PITC uptake	90%	99%
CPT uptake	95%	98%
ART uptake	75%	97%

7.8: TB Programme Way Forward

- Proper monthly support supervision
- Provision of transport for supervision
- Provision of patient food
- Improving MDR TB surveillance to minimum of 85%
- Monthly reporting of TB commodities
- Renovation of TB manyattas and TB laboratories
- Timely registration of patient in the tablet and timely updating of data
- Improving EQA reporting
- Quarterly reporting of IPT activity
- Training of health care workers on TB/HIV,DR TB and PAL training and Quantification of drugs

8.0 COMMUNITY HEALTH STRATEGY

In year 2006 the ministry of health introduced community health strategy in the recognition and introduction of level 1 service, which are aimed at empowering Kenyan households and communities to take charge of improving their own health.

Community health strategy envisages building the capacity of households not only to demand services from all providers, but to know and progressively realize their rights to equitable, good quality health care.

The overall goal of the community health strategy is to enhance community access to health care in order to improve productivity and thus reduce poverty, hunger, and child and maternal deaths, as well as improve education performance across all the stages of the life cycle

8.1 Structure

Community health strategy is made of community units. Community unit is served by community Health Communities (CHCs), Community Health Workers (CHWs), usually referred as Community Own Resource Persons' (CORPs) and community health extension workers (CHEW).

As standard, each community unit (CU) serves a population of 5,000 people with each CHW serving 20 households or 100 people. One community health extension worker supervises and supports 25 CORPs. However, this standard is guided by other factors including the distance between villages, livelihood of the population (pastoral versus settled). In Garissa context thus adopted the CHS standard with these in mind.

CHWs and CHCs are normally volunteers while community health extension workers are paid by government. However if a community unit is supported by a partner, stipend is paid to CHWs.

In Garissa County, community health strategy was introduced in year 2009. Currently the County has 24 community units against a target of 217 units. This is in addition to 34 in the refugee camps. 10 more units are incomplete and are in the process for establishment through the support of UNICEF.

Challenges

- High attrition rate of community health workers have been experienced in all the community units, this may be due to lack of motivation e.g. incentives. This affected reporting rate.
- CHS currently heavily relies on partner's financial supports mainly in establishing new units and is basically ad hoc. There is no support to strengthen the existing ones. Other than policy guide, the Government both county and National seems absent in implementation.
- In adequate Human capital especially CHEWs to implement the CUs
- Many sub county managers seems not clearly understood/committed to the CHS implementation.

Recommendations

- The County Government to take the leadership and provide the conducive environment for the implementation of CHS in the county by;
  - Employing more CHEWs
  - Avail required resources to establish more unit to increase the coverage
  - Devise modalities to motivate the CHWs like stipend
- Proper coordination of the CHS implementation at the Sub counties level

Note: The data currently available for community units could not be analysed.

9.0 Key Areas of Investment of Health Information System (HIS)

1. Printing and distribution of integrated data collection and reporting tools (registers and summary forms).
2. Improving data demand, use, storage and security at all levels.
3. Developing a comprehensive Electronic Health Records (EHR) and networking for all county referral, sub-counties and ESP facilities.
4. Capacity building on:
    - District Health Information Software (DHIS);
    - International Statistical Classification of Diseases and Related Health Problems version 10 (ICD- 10), certification and classification;
    - Electronic Health Records (EHR).
    - Monitoring and evaluation;
    - Data management and use of information;
    - Information Communication and Technology (ICT); and
    - Monitoring of vital events by use of information technology.
5. Improving health information infrastructure such as airtime, computers, and physical infrastructure.
6. Conducting Data quality audits, verification, develop reports, dissemination, and support supervision.
7. Developing and reviewing annual work plans.
8. Enhancing use of operational research in health information system (HIS) and innovations (e.g., e-health, geographic information systems, cloud computing, and use of mobile technology).

Annex 1

Immunization Coverage per Sub County-2013

DISTRICT	Balambala	Dadaab	Fafi	Garissa	Hulugho	Ijara	Lagdera	Garissa County
TARGET	2661	2967	3531	8051	1657	1677	3122	23666
BCG	1163	1637	1447	7088	678	1120	1659	14792
BCG Cov.	44	55	41	88	41	67	53	63
OPV Birth	294	1008	454	5803	463	941	774	9737
OPV Birth cov.	11	34	13	72	28	56	25	41
OPV1	1196	2207	1566	6784	874	1312	1801	15740
OPV 1 cov.	45	74	44	84	53	78	58	67
OPV2	909	1769	1099	5752	763	1068	1447	12807
OPV 2 cov	34	60	31	71	46	64	46	54
OPV3	930	1849	1105	5724	808	1093	1345	12854
OPV 3 cov	35	62	31	71	49	65	43	54
penta 1	1214	2205	1544	6798	862	1303	1767	15693
Penta 1 cov	46	74	44	84	52	78	57	66
penta 2	885	1768	1126	5798	761	1066	1456	12860
Penta 2 cov.	33	60	32	72	46	64	47	54
penta 3	947	1852	1127	5765	812	1090	1343	12936
Penta 3 cov.	36	62	32	72	49	65	43	55
pneu.1	1185	2187	1503	6780	859	1310	1749	15573
PCV 10 cov	45	74	43	84	52	78	56	66
pneu.2	888	1756	1127	5797	783	1073	1439	12863
PCV 10 2 cov	33	59	32	72	47	64	46	54
pneu.3	927	1865	1146	5732	800	1085	1328	12883
PCV 10 3 cov.	35	63	32	71	48	65	43	54
Measles	924	1929	1446	5350	701	960	1253	12563
Measles cov.	35	65	41	66	42	57	40	53
Fully Immunized Children(FIC)	654	1678	1295	4956	686	948	1039	11256
FIC	25	57	37	62	41	57	33	48

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