

**EVALUATION OF
HEALTH MANAGEMENT INFORMATION SYSTEM DATA
OF SOUTH DISTRICT, NCT DELHI (2010-2015)**

SUBMITTED TO



**MINISTRY OF HEALTH AND FAMILY WELFARE
GOVERNMENT OF INDIA**



**POPULATION RESEARCH CENTRE,
INSTITUTE OF ECONOMIC GROWTH
UNIVERSITY OF DELHI ENCLAVE,
NORTH CAMPUS, DELHI 110007**

Dr. Ruby Alambusha Singh

Ms. Chavi Jain

FEBRUARY 2016

CONTENTS

LIST OF TABLES.....	3
LIST OF FIGURES.....	3
ACKNOWLEDGEMENT.....	4
ACRONYMS AND ABBREVIATIONS.....	5
1. KEY FINDINGS.....	6
2. SOCIOECONOMIC AND DEMOGRAPHIC PROFILE: SOUTH DISTRICT DELHI.....	7
3. DATA AND METHODS.....	8
4. VALIDATION AND OUTLIERS.....	8
5. PERFORMANCE OF KEY HMIS INDICATORS FOR DELHI.....	11
5.1 ANC & PNC CHECK UPS AND DELIVERIES.....	11
5.2 JANANI SHISHU SURAKSHA.....	19
5.3 ABORTIONS.....	20
5.4 FAMILY PLANNING.....	22
5.5 IMMUNISATION.....	26
6. CONCLUSIONS AND RECOMMENDATIONS.....	29

LIST OF TABLES

TABLE 1: SOCIO ECONOMIC PROFILE OF SOUTH DISTRICT DELHI AND DELHI STATE.....	7
TABLE 2: VALIDATION ERRORS AND OUTLIERS.....	9
TABLE 3: THEME WISE CLASSIFICATION OF VALIDATION ERRORS AND OUTLIERS	10
TABLE 4: REPORTED LEVELS OF ANC REGISTRATION, INSTITUTIONAL DELIVERIES AND HOME DELIVERIES	12
TABLE 5: DISTRIBUTION OF HOME AND INSTITUTIONAL DELIVERIES, DISTRICT AND STATE.....	14
TABLE 6: KEY INDICATORS RELATED TO ANTENATAL CARE, DISTRICT AND STATE	15
TABLE 7: DISTRIBUTION OF C-SECTION DELIVERIES IN PUBLIC AND PRIVATE FACILITIES, DISTRICT AND STATE	17
TABLE 8: JSY REGISTRATION AND PAYMENTS FOR DELIVERIES AT HOME AND PUBLIC FACILITIES, DISTRICT AND STATE	19
TABLE 9: SPONTANEOUS ABORTIONS AND MTPS, DISTRICT AND STATE.....	20
TABLE 10: FAMILY PLANNING INDICATORS AT DISTRICT AND STATE LEVEL	22
TABLE 11: IMMUNIZATION-RELATED INDICATORS FOR DISTRICT AND STATE.....	27

LIST OF FIGURES

FIGURE 1: DELHI DISTRICT MAP	7
FIGURE 2: VALIDATION ERRORS AND OULIERS, SOUTH DISTRICT, DELHI	9
FIGURE 3: SHARE OF SOUTH DISTRICT IN VALIDATION ERROR	10
FIGURE 4: % SHARE OF HOME DELIVERIES TO TOTAL REPORTED DELIVERIES IN DISTRICT	12
FIGURE 5: % SHARE OF HOME DELIVERIES TO TOTAL REPORTED DELIVERIES IN STATE.....	13
FIGURE 6: RATIO OF ANC REGISTERED TO TOTAL REPORTED DELIVERIES AT DISTRICT LEVEL	13
FIGURE 7: NUMBER OF PREGNANT WOMEN RECEIVED 3 ANC CHECK UPS.....	17
FIGURE 8: C-SECTION DELIVERIES AT PUBLIC AND PRIVATE FACILITIES.....	18
FIGURE 9: TOTAL NUMBER OF ABORTIONS (SPONTANEOUS/ INDUCED) REPORTED.....	21
FIGURE 10: TOTAL NUMBER OF MTPS (PUBLIC) REPORTED.....	22
FIGURE 11: NUMBER OF VASECTOMIES CONDUCTED (PUBLIC + PVT.) AT DISTRICT LEVEL.....	23
FIGURE 12: NUMBER OF VASECTOMY CONDUCTED (PUBLIC + PVT) AT STATE LEVEL.....	23
FIGURE 13: NUMBER OF TUBECTOMIES CONDUCTED (PUBLIC + PVT.) AT DISTRICT LEVEL	24
FIGURE 14: NUMBER OF TUBECTOMIES CONDUCTED (PUBLIC + PVT.) AT STATE LEVEL.....	24
FIGURE 15: TOTAL STERILISATION CONDUCTED.....	25
FIGURE 16: IUCD INSERTIONS AT DISTRICT LEVEL	26
FIGURE 17: IUCD INSERTIONS AT STATE LEVEL.....	26
FIGURE 18: % NEWBORNS GIVEN OPV0 AND BGC	28
FIGURE 19: % INFANTS 0 TO 11 MONTHS OLD WHO RECEIVED MEASLES VACCINE TO REPORTED LIVE BIRTHS.....	28
FIGURE 20: % DROP OUT BETWEEN BCG & MEASLES	28

ACKNOWLEDGEMENT

HMIS is NHM Health Statistics Information Portal. This portal is a gateway to a wealth of information regarding the Health Indicators of India. The information available on this portal is being compiled from Health Management Information System (HMIS) and other varied information sources such as National Family Health Survey (NFHS), District Level Household Survey (DLHS), Census, SRS and performance statistics. The Health Statistics Information Portal facilitates the flow of physical and financial performance from district level to state HQ and the Centre using a web based Health Management Information System (HMIS) interface.

This study is sponsored by Ministry of Health and Family Welfare (MoHFW). We are extremely thankful to Shri C.R.K Nair, Additional Director General (Stats), Shri P.C. Cyriac Deputy Director General (Stats) and Ms Navanita Gogoi, Director (Stats), Ministry of Health and Family Welfare, Government of India for constant support and encouragement.

At IEG our director, Professor Manoj Panda has been a constant source of inspiration to us. We would like to express our gratitude towards him. This acknowledgment cannot be concluded without expressing appreciation for our Associate Professor and Acting Head, Dr. Suresh Sharma at PRC, IEG for his constant support to research staff at PRC.

DR. RUBY ALAMBUSHA SINGH

MS. CHAVI JAIN

Population Research Centre
Institute of Economic Growth
Delhi

February, 2016

ACRONYMS AND ABBREVIATIONS

AMG	Annual Maintenance Grant
ANM	Auxiliary Nurse Midwife
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy
BEMOC	Basic Emergency Obstetric Care
BMW	Biomedical waste
BPM	Block Programme Manager
BSU	Blood Storage Unit
CMO	Chief Medical Officer
DH	District Hospital
DPM	District Programme Manager
ECG	Electrocardiography
EMOC	Emergency Obstetric Care
FRU	First Referral Unit
HMIS	Health Management Information System
IEC	Information, Education and Communication
IPD	In Patient Department
IUCD	Intra Uterine Contraceptive Device
IYCF	Infant and Young Child Feeding
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
LHV	Lady Health Visitor
LSAS	Life Saving Anaesthetic Skill
LT	Laboratory Technician
MCTS	Mother and Child Tracking System
MMU	Mobile Medical Unit
MO	Medical Officer
MoHFW	Ministry of Health and Family Welfare
NBCC	New Born Care Corner
NBSU	New Born Stabilization Unit
OCP	Oral Contraceptive Pill
OPD	Out Patient Department
OPV	Oral Polio Vaccines
PIP	Programme Implementation Plan
PRC	Population Research Centre
SBA	Skilled Birth Attendant
SN	Staff Nurse
SNCU	Special New Born Care Unit

1. KEY FINDINGS

The study is based on HMIS Data (2010-11 to 2014-15). The key observations from HMIS data are as following.

- The number of the committed outliers is more than the validation errors. The validation errors declined continuously over the years but outliers do not represent a constant trend.
- ANC registrations increased over time but the percentage of women receiving three ANC check up is not constant and is less, with no major changes over the years.
- The institutional deliveries represent an increasing trend but at the same time home deliveries are still high in the district. The percentage share of home deliveries to total reported deliveries was 16% in 2014-15.
- The C-sectional deliveries conducted at private facilities are more than the C-sectional deliveries being conducted at public facilities.
- After ANC registration, the pregnant women are receiving all 3ANC checkups, TT2 or booster, 100 IFA tablets etc. The trend of receiving these services varies over the time period 2010-2015.
- Out of total mothers who were registered for JSY incentive, very few beneficiary mothers's received their JSY incentive after home and institutional delivery.
- The percentage of MTPs to total reported abortions is low in all the years, with less than 50 percent.
- Out of total sterilization conducted at public and private facilities, the rate of male sterilization is very less. Vasectomies declined at state and district level over the years. IUCD conducted institutions declined in initial years but increased in later years. IUCD insertions conducted at private facilities in the district declined continuously over the years.
- Children received all three vaccination mainly OPV0, BCG, and measles. Overall percentage of vaccination among children is satisfactory. The drop out percentage between BCG & measles is low in district. Regular sessions of immunization were being held in south district. The involvement of ASHAs in immunization session also increased significantly.

2. SOCIOECONOMIC AND DEMOGRAPHIC PROFILE: SOUTH DISTRICT DELHI

South Delhi district is one of the 11 districts of Delhi. South District having its district head quarter at M.B. Road, Saket, is surrounded by states of Uttar Pradesh and Haryana. The district is divided into three sub districts namely, Saket, Hauz Khas and Mehrauli. South district caters a population of 13 Lakh with a population density of 10,935 sq. km after its division into two districts namely South and South-East. The map of South district is given in figure 1.

Figure 1: DELHI DISTRICT MAP

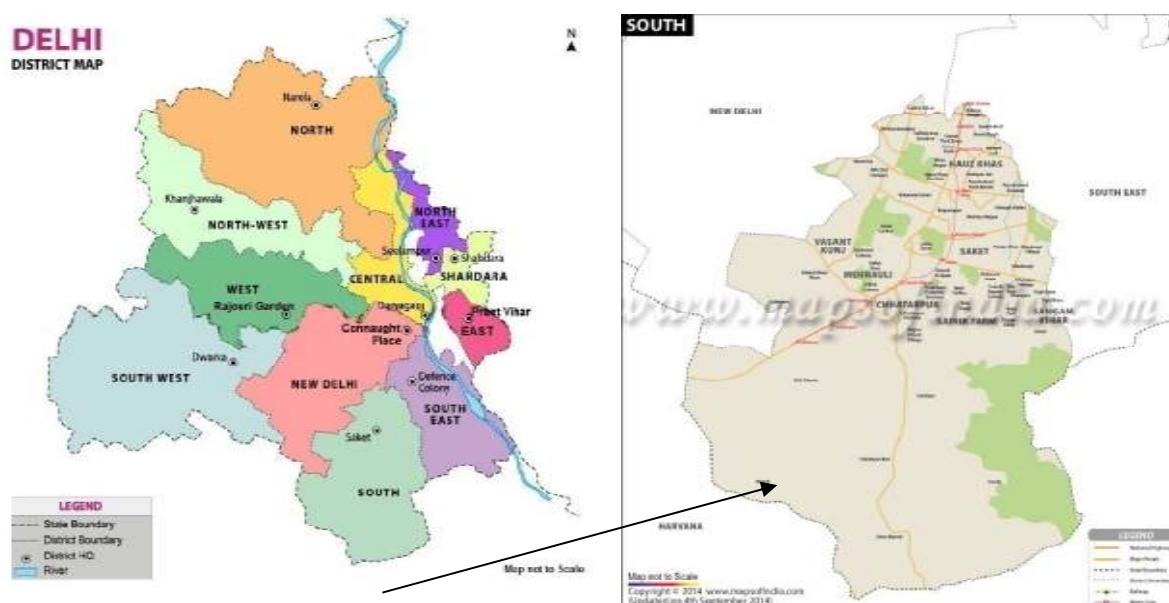


Table 1: SOCIO ECONOMIC AND DEMOGRAPHIC PROFILE OF SOUTH DISTRICT DELHI AND DELHI STATE

INDICATOR	INDIA	DELHI	SOUTH DISTRICT
Actual Population	1,21,05,69,573	16,787,941	2,731,929
Males	62,31,21,843	8,987,326	1,467,428
Females	58,74,47,730	7,800,615	1,264,501
Population Growth	17.7	21.21%	20.51%
Density/ km 2	382	11,297	10935
Sex Ratio (per 1000 males)	943	868	862
Literacy Rate (in %)	73	86.21	86.57
Male Literacy (in %)	80.9	90.94	91.73
Female Literacy (in %)	64.6	80.76	80.55

Source: Census 2011

- According to census 2011, south district has population of 2,731,929 out which 1,467,428 were male and 1,264,501 were female. Further population growth was 20.51% which is close to the growth rate of Delhi as a whole but higher than the overall population growth of India, this may be due to increasing numbers of migratory population coming to Delhi.
- Sex ratio was lower than that for India as a whole for both the district and state thus efforts should be taken to correct the imbalance in the ratio.
- Overall Literacy rate was 86.57 % in the district which was far better than all India average of 73%, but female literacy rate of 80.55 is very low compared to 91.73% of males thus female education should be promoted.

3. DATA AND METHODS

The data source for the present study is HMIS data for the year 2010-2015 based on HMIS portal. The portal provides periodic reports on the status of the health indicators. HMIS is based on a composite index calculated on 16 RMNCH+A indicators covering the following 4 stages of lifecycle: Pre- pregnancy/reproductive age, Pregnancy care, Child birth / delivery, Post natal, maternal and new born. The purpose of study is to analyze the data for the period 2010-11 to 2014-15 of South district. The data has been extracted from following web link:

https://nrhm-mis.nic.in/MOHFW_MIES/UI/Reports/frmStandard_Reports.aspx

In the present study, HMIS data of South district is used for descriptive, cross sectional and comparative analysis Maternal health, Child immunization, Institutional deliveries. Firstly, all the relevant data were entered in the excel sheet. The data is analysed in excel sheet. The results were interpreted by working out the averages and the percentages.

4. VALIDATION AND OUTLIERS

The major errors encountered while collecting data are categorised as outliers and validation errors. Table 2 shows that the validation error and outliers declined over the years. The share of south district in validation error was highest in 2010-11, 17.5% but declined in subsequent years.

Table 2: VALIDATION ERRORS AND OUTLIERS

Year	District			State				Share of South district validation error
	Validation Error	Outlier	Both	Validation Error	Outlier	Both	Total validation Error	
2010-11	42	53	0	24	55	0	233	17.5%
2011-12	29	43	0	12	56	0	196	14%
2012-13	14	42	1	16	57	0	170	9%
2013-14	11	51	0	13	49	0	155	7%
2014-15	13	30	0	12	41	1	145	9%

Source: HMIS portal

Figure 2 shows that the validation errors and outliers have declined over the years at both state and district level. A validation error in district shows a variation. It starts declining till 2013-14 and again it increases to 13 in 2014-15. Outliers declined initially in the district till 2012-13 but increased again in 2013-14. Again it declined to a minimum level of 30 in 2014-15.

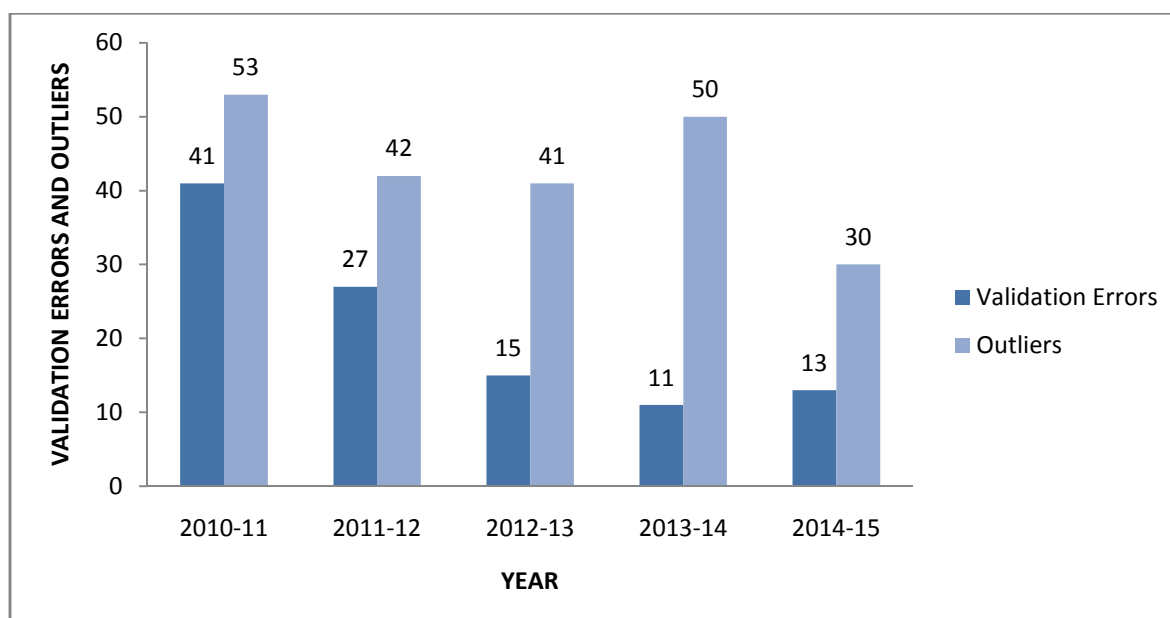
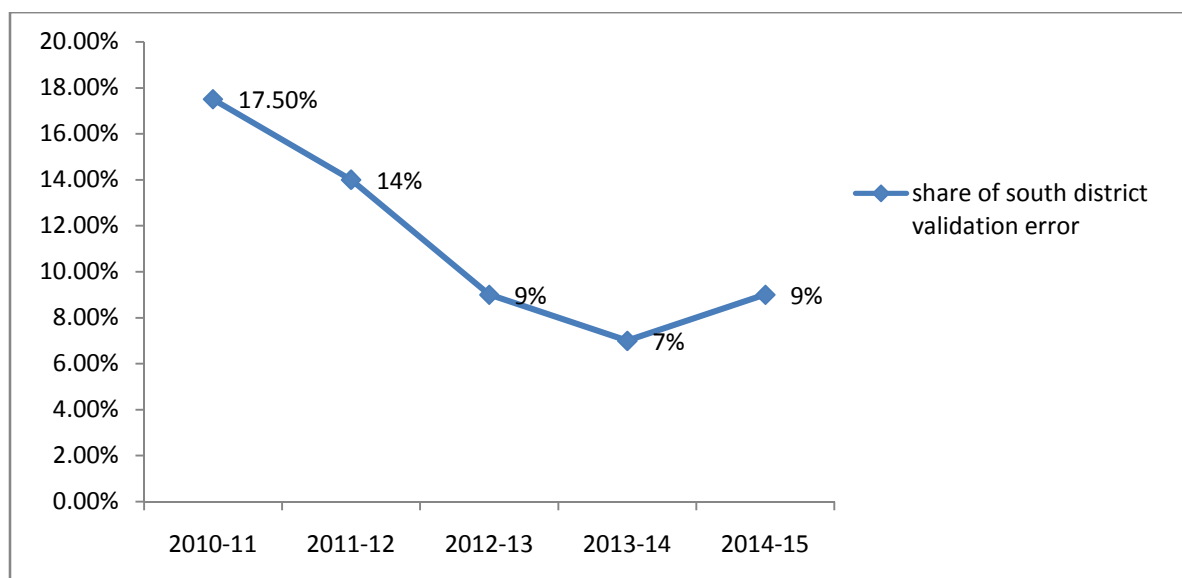
Figure 2: VALIDATION ERRORS AND OULIERS, SOUTH DISTRICT, DELHI

Figure 3 represents trend of district share in validation error. The share of south district in validation errors represents a declining trend from 17.5% in 2010-11 to 7% in 2013-14. In 2014-15 the share of district increased marginally to 9%.

FIGURE 3: SHARE OF SOUTH DISTRICT IN VALIDATION ERROR IN STATE ERROR



Theme wise classification of errors has been presented in table 3. Major validation errors were incurred in child immunisation which got declined over the years. Outliers were high for ANC and Patients service components but no constant change in these outliers is observed over the year.

Table 3: THEME WISE CLASSIFICATION OF VALIDATION ERRORS AND OUTLIERS

THEMES		YEARS									
ID	DETAILS	2010-11		2011-12		2012-13		2013-14		2014-15	
		O	VE	O	VE	O	VE	O	VE	O	VE
Part A	REPRODUCTIVE AND CHILD HEALTH										
M1	Ante Natal Care Services ANC	4		7		2		6		3	
M2	Deliveries	1		1		1		4			
M3	Number of Caesarean C-Section deliveries performed at										
M4	Pregnancy outcome & weight of new-born	1	3		3						
M5	Complicated pregnancies	2	3		6			1		2	
M6	Post - Natal Care		8		4	1	3	1			
M7	Medical Termination of Pregnancy (MTP)	1	2	2							
M8	RTI/STI Cases	2		1				2			

M9	Family Planning	5		8		12		16		7	
M10	CHILD IMMUNIZATION	3	24	5	16	6	11	6	11	5	13
M11	Number of Vitamin A doses					1		1			
M12	Number of cases of Childhood Diseases reported during the month 0-5 years:			4		1		3			
Part B	Other Programmes										
M13	Blindness Control Programme	2	2	4							
Part C	Health Facility Services										
M14	Patient Services	12		9		4		1		6	
M15	Laboratory Testing	8		2		8		2		2	
Part E	Mortality Details										
M17	Details of deaths reported during the month with probable causes:	12				6		8		5	
	Total	53	42	43	29	42	14	51	11	30	13

Source: HMIS portal

O: outlier, VE: validation error

5. PERFORMANCE OF KEY HMIS INDICATORS FOR DELHI

5.1 ANC & PNC CHECK UPS AND DELIVERIES

ANC intervention include identification and management of obstetric complications such as preeclampsia, tetanus toxic immunisation, intermittent preventive treatment for malaria during pregnancy, and identification and management of infections including HIV, syphilis and other sexually transmitted infections (STIs). ANC is also an opportunity to promote the use of skilled attendance at birth and healthy behaviours such as breastfeeding, early postnatal care, and planning for optimal pregnancy spacing. Institutional delivery and post natal care in a health facility is promoted in NHM with the help of Accredited Social Health Activist (ASHA), Janani Shishu Suraksha Karyakaram (JSSK) and Janani Suraksha Yojna (JSY) which is 100% centrally sponsored scheme, providing cash assistance with delivery and post delivery care.

Post Natal Care services involves basic care for all newborns which includes promoting and supporting early and exclusive breastfeeding, keeping the baby warm, increasing hand washing and providing hygienic umbilical cord and skin care, identifying conditions requiring additional care and counselling on when to take a newborn to a health facility. Newborns and their mothers are examined for danger signs at home visits. Newborns with

preterm birth or low birth weight, sick or are born to HIV-infected mothers are provided special care.

Table 4 represents the yearly status of ANC registered and deliveries taking place in the district and state. Registered ANC has declined in 2011-12 but increased in years (2013-15) in the district. At state level registered ANC numbers increased from 768916 in 2010-11 to 874,226 in 2014-15.

Table 4: ANC registration, Institutional Deliveries and Home Deliveries

Year	District			State			% share of district		
	ANC Registered	Institutional deliveries	Home deliveries	ANC Registered	Institutional deliveries	Home deliveries	% share	% share	% share
2010-11	94419	12666	1563	768916	168217	8358	12.2	7.5	18.7
2011-12	32567	6622	1548	822846	204175	10291	3.9	3.2	15.0
2012-13	38706	9172	2319	852363	223459	13807	4.5	4.1	16.7
2013-14	38842	9991	2375	890664	230929	13910	4.3	4.3	17.0
2014-15	40735	10613	2056	874226	247999	16642	4.6	4.2	12.3

Source: HMIS portal

Figure 4 and 5 shows the share of home deliveries to total reported deliveries in district and state respectively. The share of home deliveries to total reported deliveries in the district exhibits a declining trend in last few years after reaching a peak of 20.2% in 2012-13. On the contrary, for Delhi state as a whole, the share of home deliveries experienced an increasing trend over the years reaching the maximum of 6.3% in 2014-15.

Figure 4: PERCENTAGE SHARE OF HOME DELIVERIES TO TOTAL REPORTED DELIVERIES IN DISTRICT

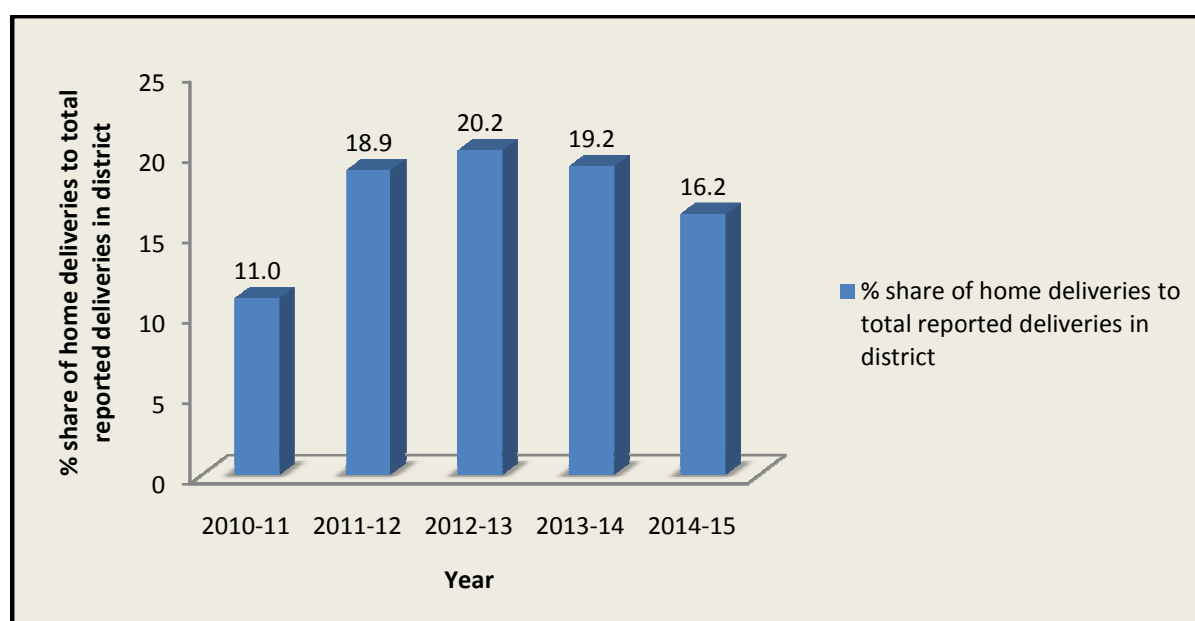


Figure 5: PERCENTAGE SHARE OF HOME DELIVERIES TO TOTAL REPORTED DELIVERIES IN STATE

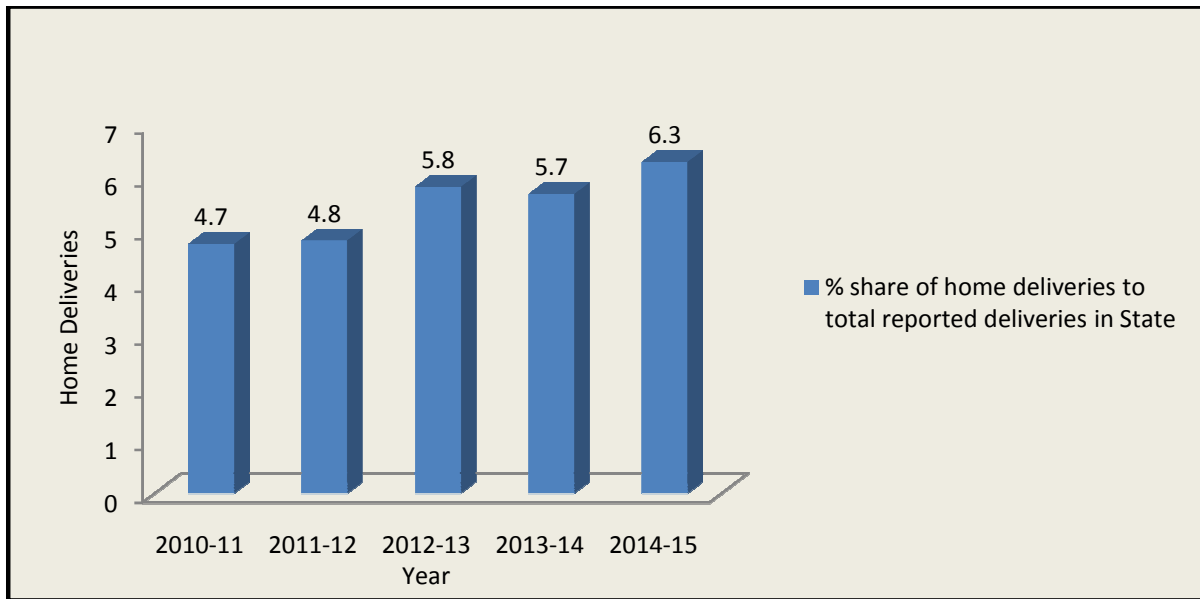


Figure 6 shows the ratio of ANC registered to total reported deliveries at district level. The deliveries taking place against the registered ANC are less. Though the share of ANC registered to total reported deliveries has declined over the years it is still in excess of ideal ratio of 2. In Delhi, the ideal ratio (ANC registered/Deliveries) is around 2 assuming that ANCs are done at primary care facilities and deliveries are conducted at maternity homes or hospitals. The reason for low deliveries against ANC registrations are that deliveries being conducted in other state or districts or deliveries conducted not being reported or multiple ANC registrations.

Figure 6: RATIO OF ANC REGISTERED TO TOTAL REPORTED DELIVERIES AT DISTRICT LEVEL

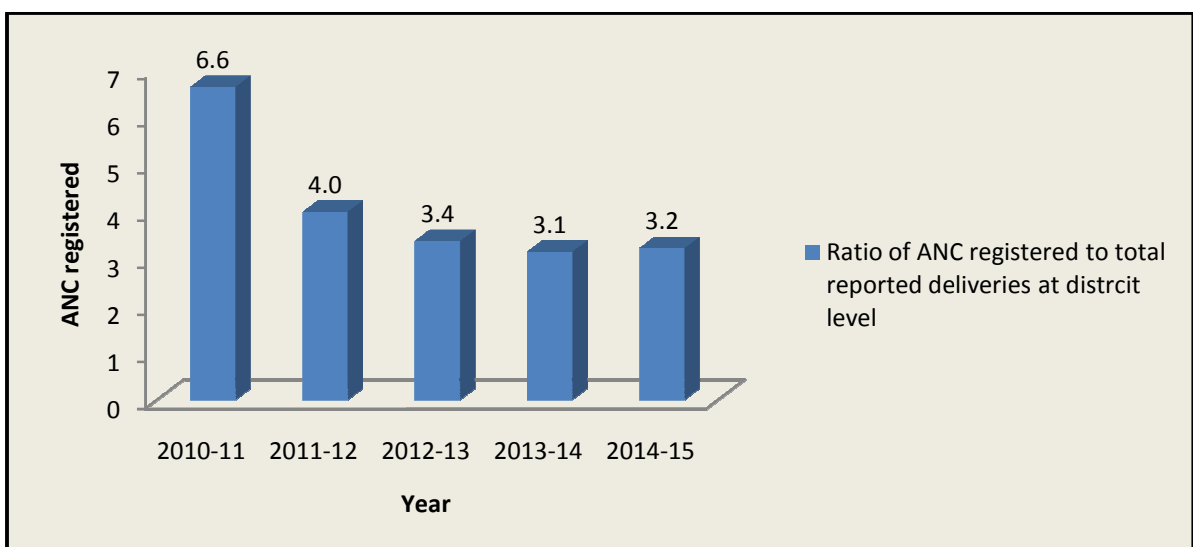


TABLE 5: DISTRIBUTION OF HOME AND INSTITUTIONAL DELIVERIES

INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Number of home deliveries	1563	8358	1548	10291	2319	13807	2375	13910	2056	16642
Number of home deliveries attended by SBA trained (Doctor/Nurse/ANM)	386	1240	718	1439	564	1923	701	2204	568	2665
Number of home deliveries attended by Non SBA trained (trained TB/Dai)	1177	7118	830	8852	1755	11884	1674	11707	1488	11706
% SBA attended home deliveries to Total Reported Home Deliveries	24.7	14.8	46.4	14	24.3	13.9	29.5	15.8	27.6	16
Mothers paid JSY incentive for home deliveries	10	96	6	75	12	253	4	122	9	93
% Mothers paid JSY incentive for home deliveries to Total Reported Home Deliveries	0.6	1.1	0.4	0.7	0.5	1.8	0.2	0.9	0.4	0.5

Source: HMIS portal

Table 5 represents the performance of home deliveries at district and state level. The number of home deliveries attended by SBA increased over the years at state level but the performance of home deliveries attended by SBA is mixed at district level. The SBA attended deliveries in the district witnessed a drastic fall in 2012-13 and 2014-15 against the one conducted in their respective previous year. The percentage of SBA attended home deliveries to total reported deliveries in the district reached to 46% in 2011-12 before reducing in coming years. Percentage of mother's paid JSY incentive for home deliveries to Total Reported Home Deliveries is negligible in all the years.

TABLE 6: KEY INDICATORS RELATED TO ANTENATAL CARE

INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Total number of pregnant women Registered for ANC	94419	768916	32567	822846	38706	852363	38842	890664	40735	874226
Number of Pregnant women registered within first trimester	33381	193,234	13398	218195	12931	259033	14423	276523	15033	303725
Number of pregnant women received 3 ANC check ups	61954	351777	29750	432411	27372	471435	30639	531436	26006	512679
TT2 or Booster given to Pregnant women (numbers)	29596	196899	14431	216240	14298	228143	13398	231488	12812	249692
% Pregnant Woman received 3 ANC check ups to Total ANC Registrations	65.6	46.5	91.4	52.6	70.7	55.3	78.9	59.7	63.8	58.6
% Pregnant women received TT2 or Booster to Total ANC Registration	31.3	25.6	44.3	26.3	36.9	26.8	34.5	26	31.5	28.6
Number of Pregnant women given 100 IFA tablets	41613	366808	17081	454006	24345	514510	28892	522123	24081	482855
% Pregnant women given 100 IFA to Total	44.1	47.7	52.4	55.2	62.9	60.4	74.4	58.6	59.1	55.2

ANC Registration										
Number having Hb level<11 (tested cases)	37545	253055	9172	275101	9828	294786	9388	274161	9298	305471
Number having severe anaemia (Hb<7) treated at institution	1464	17836	552	17343	502	20022	466	24263	474	19448
% Pregnant women having severe anaemia (Hb<7) treated at institution to women having hb level<11	3.9	7	6	6.3	5.1	6.8	5	8.8	5.1	6.4
% New cases detected at institution for hypertension to Total ANC Registrations	4.9	2.6	4.6	2.2	4.3	2.6	4.7	3.5	3.3	2.7

The table 6 shows health care indicators related to ANC at district and state level. The table shows the increasing trend for ANC over the years from 2011-2015 at district and state level. In 2011-12 there is a sharp decline in the numbers to 32567 from 94419 in 2010-11. After 2011-12, the ANC registration started increasing at district level with an average growth of 8% and at state level with an average growth of 3%.

This indicates that the pregnant women are aware of maternal and health care facilities. According to reproductive and child health (RCH) programme the pregnant women registered for ANC (Ministry of Health and Family Welfare, 1997) checkups receive maternal health checkups and relevant information, TT2 or Booster, iron folic acid tablets, etc. At district level there is a mixed trend for women received all 3 checkups over the years from 2011-2015. While at state level the percentage of women receiving 3ANC checkups shows an increasing trend from 2011-15.

Figure 7 shows the number of pregnant women receiving 3 ANC checkups. It declined considerably in 2011-12 from its previous level and continued declining in 2012-13 and 2014-15.

Figure 7: NUMBER OF PREGNANT WOMEN RECEIVED 3 ANC CHECK UPS

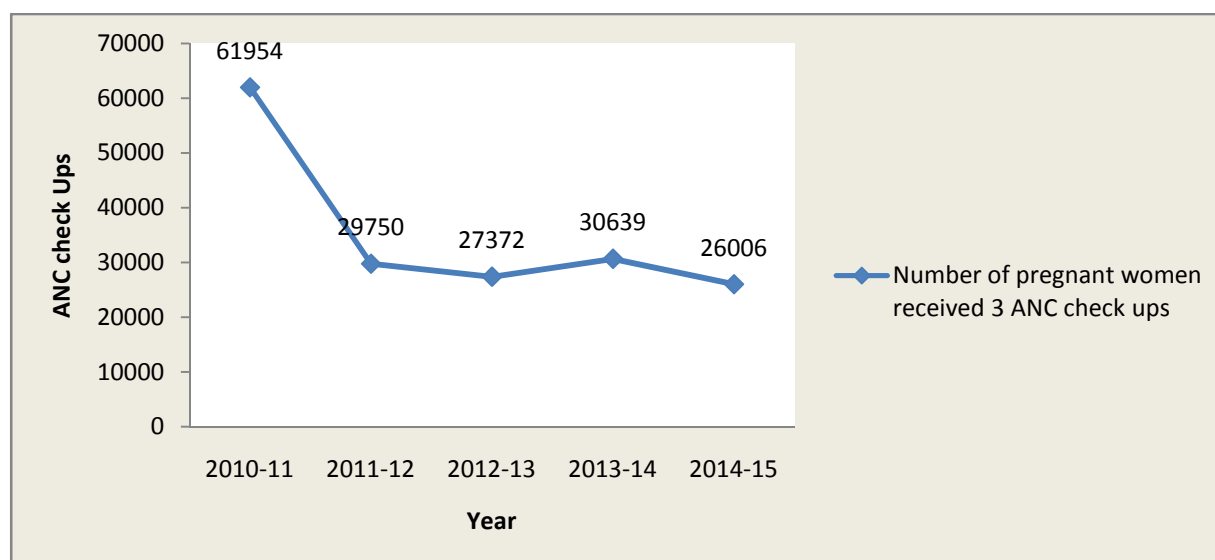


Table 7 shows the distribution of C-section deliveries conducted at private and public facilities at district and state level. The table shows the percentage of C – sections deliveries conducted at private facilities to total deliveries conducted at private facilities is significantly higher than the C- sections deliveries conducted at public facilities to total deliveries conducted at public facilities.

TABLE 7: C-SECTION DELIVERIES IN PUBLIC AND PRIVATE FACILITIES

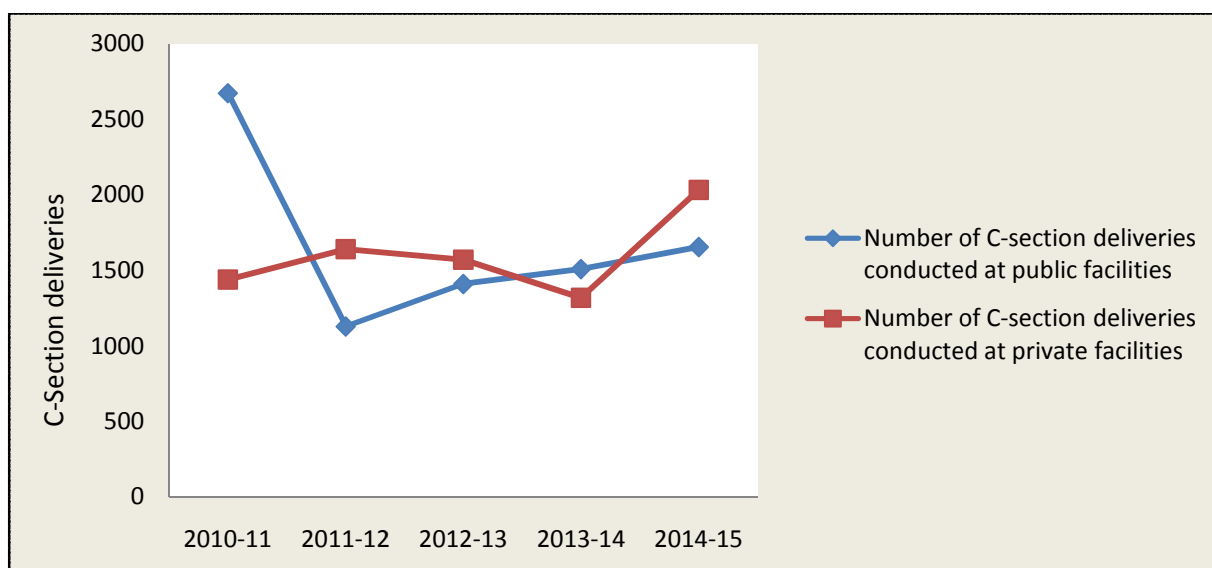
INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Number of C-section deliveries conducted at public facilities	2672	33071	1129	32776	1410	37980	1509	40961	1655	45758
Number of C-section deliveries conducted at private facilities	1439	8352	1641	14990	1570	16806	1318	19896	2033	24001
% C-section deliveries (Public)	32.4	24.6	41.8	23.4	32.5	24.5	28.3	26.4	34.7	28.1

+ Pvt.) to reported institutional (Public + Pvt.) deliveries										
% C-sections conducted at public facilities to Deliveries conducted at public facilities	38.3	23.2	29.3	18.9	25.2	19.9	24.8	21.1	28	22.3
% C-sections conducted at Private facilities to Deliveries conducted at private facilities	25.2	32.7	59.3	48.3	43.9	51.5	33.7	54.3	43.2	56.4

Source: HMIS portal

Figure 8 shows the C Section deliveries at public and private facilities. Number of C-sections deliveries showing increasing trend in public health facilities in all the years (2011-12 to 2014-15) at district and state level. The trend is mixed for C section deliveries at private facilities. It increased in 2011-12 at district level but declined in 2012-13 and 2013-14. It again increased in 2014-15. At state level the average c section deliveries to total deliveries over the years is 21%.

Figure 8: C-SECTION DELIVERIES AT PUBLIC AND PRIVATE FACILITIES



5.2 JANANI SHISHU SURAKSHA

Janani Suraksha Yojna (JSY) was launched on 12th April 2005. The goal is to offer safe motherhood intervention under NHM. It aims to reduce maternal and neo natal mortality by promoting institutional delivery amongst the poor pregnant ladies.

It was observed that the JSY payments given status was low in the district. The major reason for pending payments was that the beneficiaries were not having their bank accounts in their name.

TABLE 8: JSY Registration and Payments for Deliveries at Home and Public Facilities

INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Total number of pregnant women Registered for ANC	94419	768916	32567	822846	38706	852363	38842	890664	40735	874226
% JSY registration to Total ANC Registration	4.9	6.2	3.6	7.5	2.7	7.6	2.7	4.7	0.6	3.9
% Mothers paid JSY incentive for home deliveries to Total Reported Home Deliveries	0.6	1.1	0.4	0.7	0.5	1.8	0.2	0.9	0.4	0.5
% Mothers paid JSY Incentive for Delivery at Public institution to Total Public Deliveries	3.7	9.9	4	11	3.9	11.7	1.9	5.9	2.7	6.8
% of cases where JSY Incentive paid to ASHA for Delivery at Public institution to Total Public Deliveries	0	1.4	0.6	1.3	0.7	2.1	0.8	1.5	1.7	1.7

Source: HMIS Portal

Table 8 shows the total number of women registered under JSY schemes and paid JSY incentive for home and institutional deliveries at district and state level. The trend of JSY registration at district and state has seen quite uncertain. In district the percentage of JSY registration to total ANC registration has declined from 4.9% in 2010-11 to 0.6 % 2014-15.

While at state level it increased in 2012-13 and 2013-14 but declined to 3.9% in 2014-15 from 7.6% in 2012-13.

The Percentage of mother's paid JSY incentive for home deliveries increased initially in 2012-13 but later declined in 2014-15 at both district and state level. The percentage of Mothers paid JSY Incentive for Delivery conducted at Public institution to Total Public Deliveries can be seen more than the same has paid to ASHAs for home deliveries and mother paid for home deliveries at district and state level.

5.3 ABORTIONS

Abortions can be defined as the removal or expulsion of an embryo or foetus from the uterus, resulting in, or caused by, its death. This can occur spontaneously as a miscarriage, or be artificially induced (Medically Terminated Pregnancy) through chemical, surgical or other means.

Table 9 shows that the numbers of abortions has declined at district level except in 2012-13. The total number of MTP declined till 2012-13, increasing in 2013-14 but again declining in 2014-15 at district level. At state level total number of abortions shows an increasing trend except in 2013-14 while the MTPs shows a decreasing trend over the years. The percentage of MTPs up to 12 weeks of pregnancy out of total MTPs at public institution observed significantly very high than MTPs more than 12 weeks pregnancy. The percentage of MTPs conducted at private institutions to total MTPs was high i.e. 61.9% in 2014-15.

TABLE 9: SPONTANEOUS ABORTIONS AND MTPS

Indicators	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Total Number of Abortions (Spontaneous/ Induced) Reported	6532	26241	2403	27753	2636	30508	2509	29521	2393	31605
Total Number of MTPs (Public) reported	2582	15157	863	10484	857	10711	1078	9255	958	8259
% MTPs (Public) to Abortions	39.5	57.8	35.9	37.8	32.5	35.1	43	31.4	40	26.1
% MTPs up to 12	85.8	91.4	63.7	90.6	83.7	93.1	82.4	92.4	77.7	91.6

weeks of Pregnancy to Total MTPs at Public Institutions										
% MTPs more than 12 weeks of Pregnancy to Total MTPs at Public Institutions	14.2	8.6	36.3	9.2	16.3	6.9	17.6	7.6	22.3	8.4
% MTPs Conducted at Public Institutions to Total MTPs	44.6	51.7	54.4	47.2	51.5	48.9	62.7	44.3	54.2	38.1
% MTPs Conducted at Private Institutions to Total MTPs	55.4	48.3	45.6	52.8	48.5	51.5	37.3	55.7	45.8	61.9

Source: HMIS portal

FIGURE 9: TOTAL NUMBER OF ABORTIONS (SPONTANEOUS/ INDUCED) REPORTED

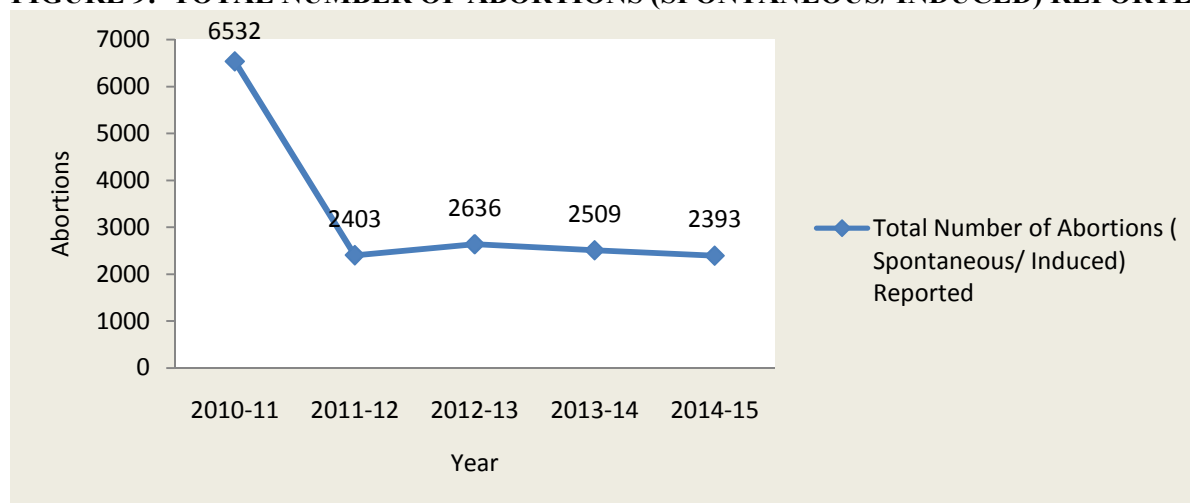
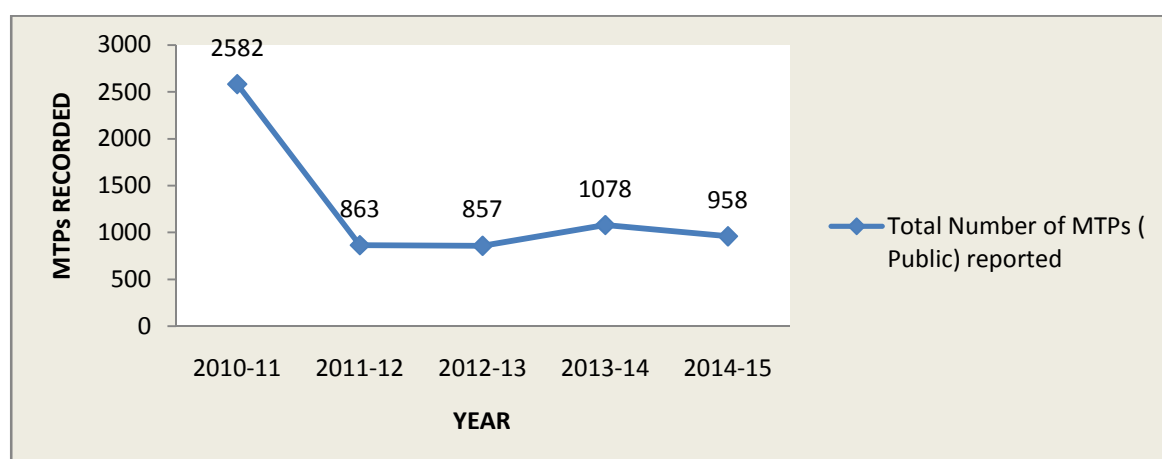


Figure 9 and 10 shows the total number of abortions reported and total number of MTPs reported at the district respectively. The numbers of abortions have declined at district level except in 2012-13. The total number of MTP declined till 2012-13, increased in 2013-14 but again declining in 2014-15 at district level. At state level total number of abortions shows an increasing trend except in 2013-14 while the MTPs shows a declining trend over the years.

FIGURE 10: TOTAL NUMBER OF MTPs (PUBLIC) REPORTED

5.4 FAMILY PLANNING

Family planning facilitates an individual to anticipate and attain the desired number of children with the help of contraception and sterilisations.

Table 10 shows the family planning indicators. Total sterilisations conducted declined in the district from 2125 in 2010-11 to 1060 in 2014-15.

TABLE 10: FAMILY PLANNING INDICATORS AT DISTRICT AND STATE LEVEL

INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
Number of Vasectomies Conducted (Public + Pvt.)	130	2801	150	2880	84	1594	42	1403	27	811
Number of Tubectomies Conducted (Public + Pvt.)	1995	15339	982	17561	1036	19840	1305	19018	1033	17121
Total Sterilisation Conducted	2125	18140	1132	20441	1120	21434	1347	20421	1060	17932
% Male Sterilisation (Vasectomies) to Total sterilisation	6.1	15.4	13.3	14.1	7.5	7.4	3.1	6.9	2.5	4.5
% Tubectomies to Total sterilisation	93.9	84.6	86.7	85.9	92.5	92.6	96.9	93.1	97.5	95.5
IUCD Insertions	5427	30204	3369	38196	3260	43408	3338	53812	4186	68363

done (public facilities)										
IUCD insertions done (pvt. facilities)	472	2480	296	4344	264	4442	234	4075	181	4075

Source: HMIS portal

Figure 11 and 12 shows the number of vasectomies conducted at district and state level respectively. Vasectomies conducted (public +private facilities) represents a declining trend over the years at district level. The performance of district is in accordance with the state as the vasectomy conducted declined over the years at state level as well.

FIGURE 11: NUMBER OF VASECTOMIES CONDUCTED (PUBLIC + PVT.) AT DISTRICT LEVEL

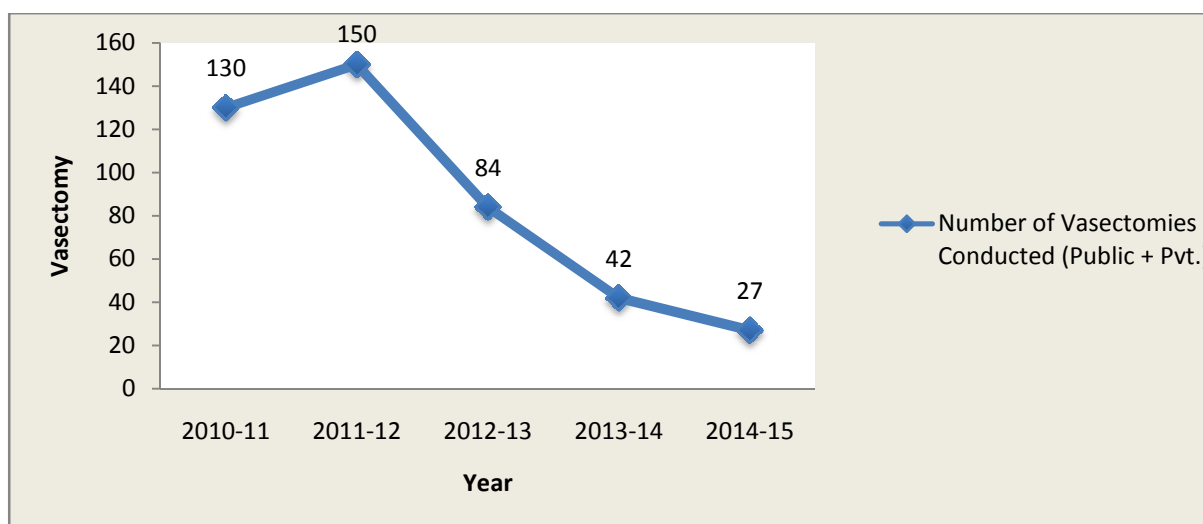


FIGURE 12: NUMBER OF VASECTOMY CONDUCTED (PUBLIC + PVT) AT STATE LEVEL

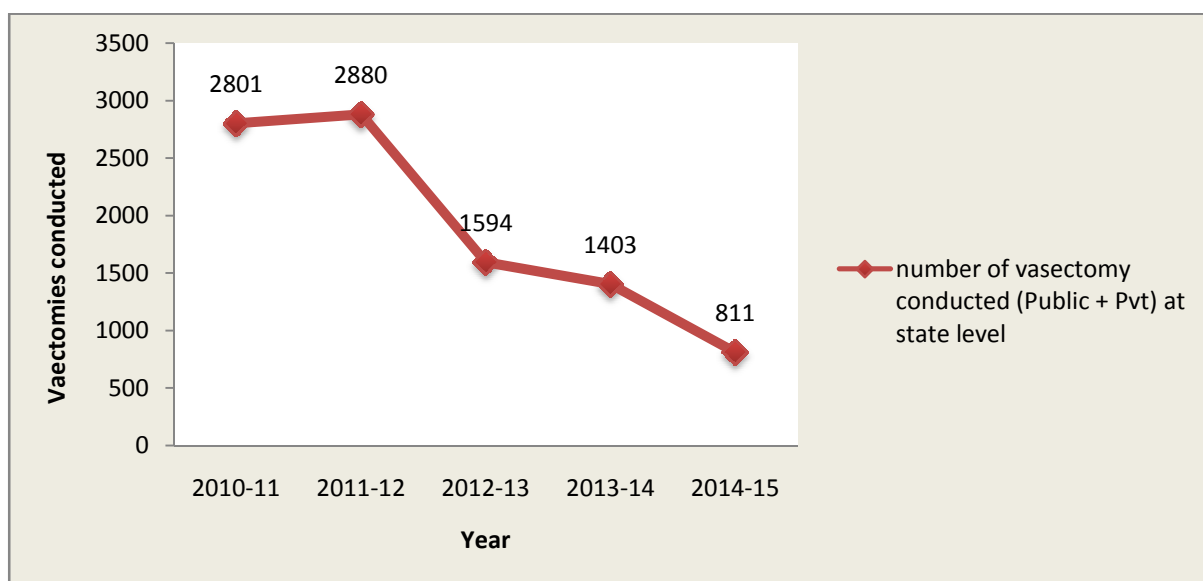


Figure 13 and 14 shows the tubectomies conducted at state and district level respectively. The tubectomies conducted registered an increase in number in 2012-13 from previous year level at both state and district. In 2013-14, the tubectomies conducted increased at district level but declined at state level. In 2014-15 both state and the district registered a decline in number of tubectomies conducted.

FIGURE 13: NUMBER OF TUBECTOMIES CONDUCTED (PUBLIC + PVT.) AT DISTRICT LEVEL

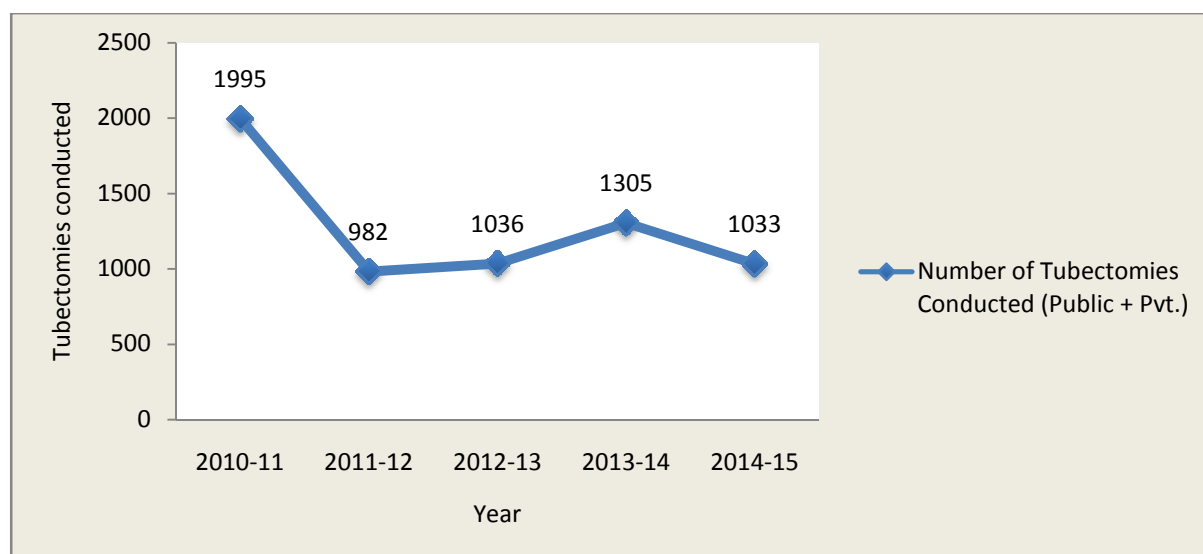


FIGURE 14: NUMBER OF TUBECTOMIES CONDUCTED (PUBLIC + PVT.) AT STATE LEVEL

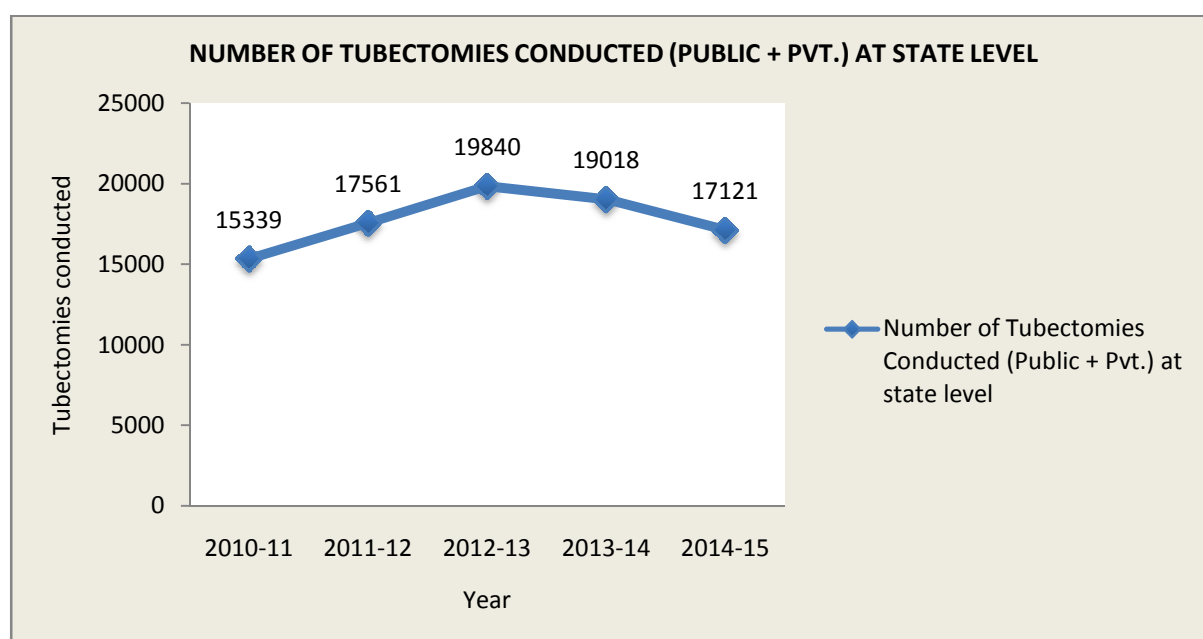


Figure 15 shows the total sterilisations conducted in the district. The number of reported female sterilization is very high as compare to male sterilization at district and state level. At

district level the percentage of male sterilization out of total sterilization has declined over the time period while percentage of female sterilization has increased over the time period 2012 to 2015. At state level also the same trend of male and female sterilization over the time period 2010-2015.

The percentage of male sterilization is following a declining trend over the time except in the 2011-12 it has increased to 13.3% from 6.1% in 2010-11 at district level. The maximum (13.3%) male sterilization done at district during 2011-12 and the minimum (2.5%) was in 2014-15.

FIGURE 15: TOTAL STERILISATION CONDUCTED

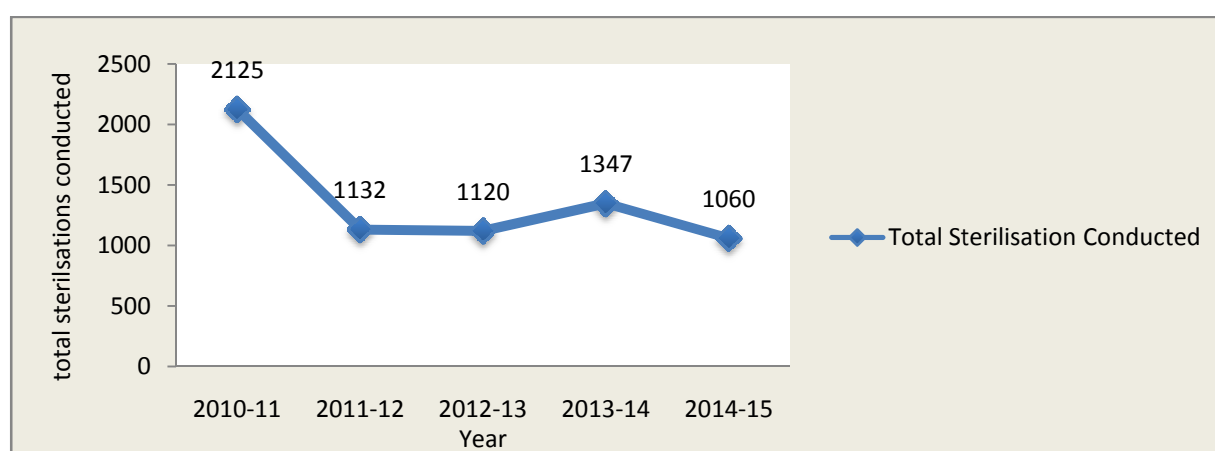
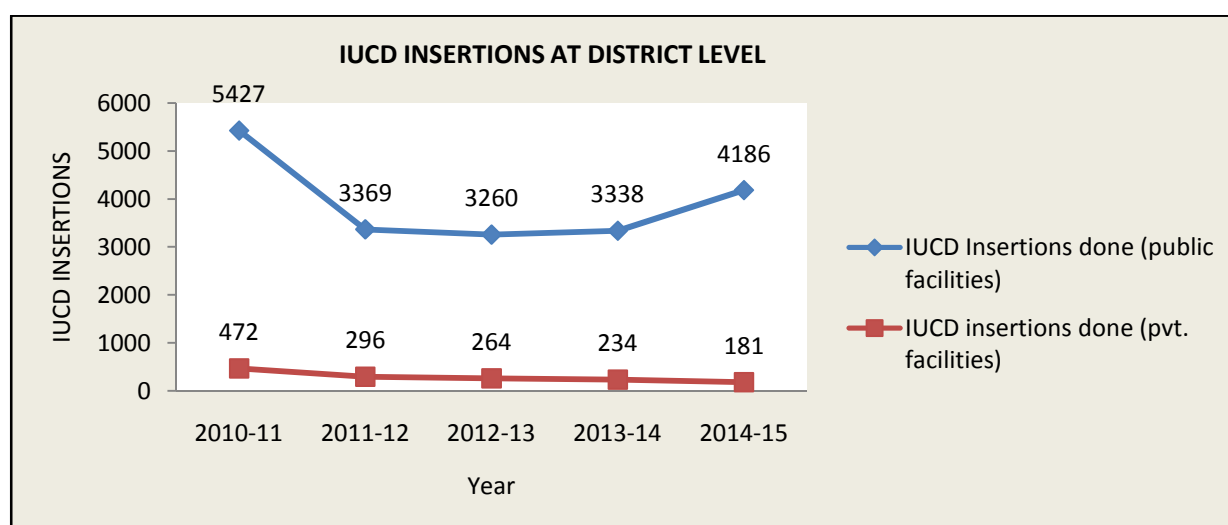
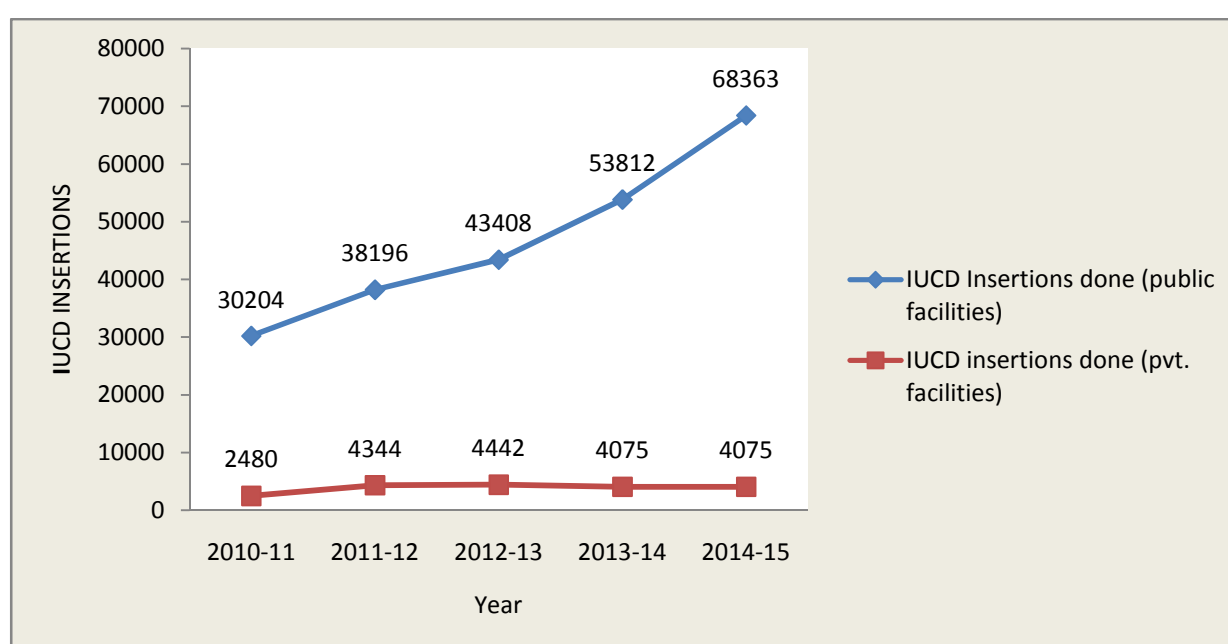


Figure 16 and 17 shows the IUCD insertions at district and state level respectively. The IUCD insertion done at public institutions is very high as compare to insertions done at private institutions at both district and state level. The state shows an increasing trend of IUCD insertions over the years to 68,363 insertions in 2014-15 compared to 30,204 in 2010-11. IUCD insertions done at public facilities registered a constant trend over the years from 2011-12 to 2013-14 and increasing in 2014-15. But at state level IUCD insertions continuously increased over the years reaching the maximum in 2014-15. IUCD insertions done at private facilities declined over the years at both state and district level.

Figure 16: IUCD INSERTIONS AT DISTRICT LEVEL**Figure 17: IUCD INSERTIONS AT STATE LEVEL**

5.5 IMMUNISATION

Immunisation of children forms an essential backbone for their protection from diseases and their development. Immunisation is provided for six serious but preventable diseases namely, tuberculosis, diphtheria, pertusis, poliomyelitis and measles. The standard immunisation schedule developed for child immunisation programme specifies the age at which each vaccine should be administered and the number of doses to be given. Routine vaccinations

received by infants and children are usually recorded on a vaccination card that is issued for the child.

TABLE 11: IMMUNIZATION-RELATED INDICATORS FOR DISTRICT AND STATE

INDICATORS	2010-11		2011-12		2012-13		2013-14		2014-15	
	District	State	District	State	District	State	District	State	District	State
% Newborns given OPV0 at birth to Reported live birth	100.3	96	80	93	81.3	92.6	85.2	92.7	87.1	89.9
% Newborns given BCG to Reported live birth	225.3	136.1	177.4	126.1	147.5	123.1	121.6	121	115.6	115.4
% Infants 0 to 11 months old who received Measles vaccine to reported live births	222.4	111	194.5	102.1	153.6	101.7	141.4	105.2	149	114.5
% Drop Out between BCG & Measles	1.3	18.5	-9.6	19.1	-4.2	17.4	-16.2	13.1	-28.9	0.6
% immunisation Sessions Held to Immunisation Sessions Planned	90.7	91.3	94.4	92.8	99.1	92.5	96.3	93.5	97.9	95.1

Source: HMIS portal

The table-11 shows immunization indicators at district and state. The percentage of giving oral polio vaccine to total live birth at district level is lower than Delhi state in all four years (2011-2015) but the percentage new born given BCG to reported live births is higher or the same at the district in comparison to the state.

Figure 18 shows percentage of newborn given OPV and BCG. The district and state shows a declining trend of percentage new born given BCG to reported live births over the years. Percentage of newborns given OPV 0 at birth is almost constant over the years with minor variations.

Figure 18: % NEWBORNS GIVEN OPV0 AND BCG

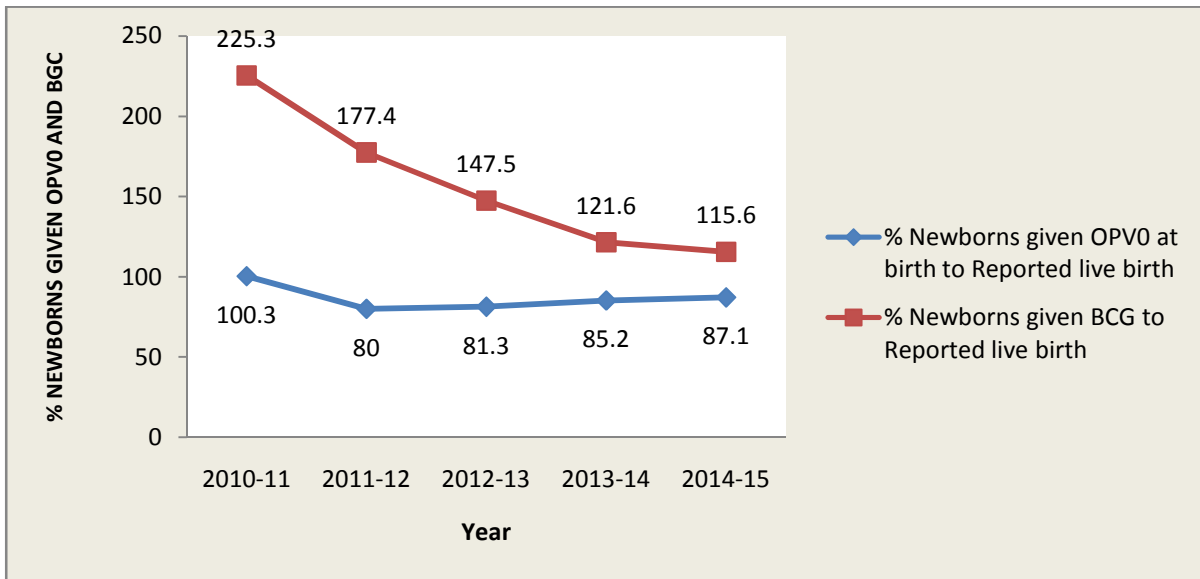


FIGURE 19: % INFANTS 0 TO 11 MONTHS OLD WHO RECEIVED MEASLES VACCINE TO REPORTED LIVE BIRTHS

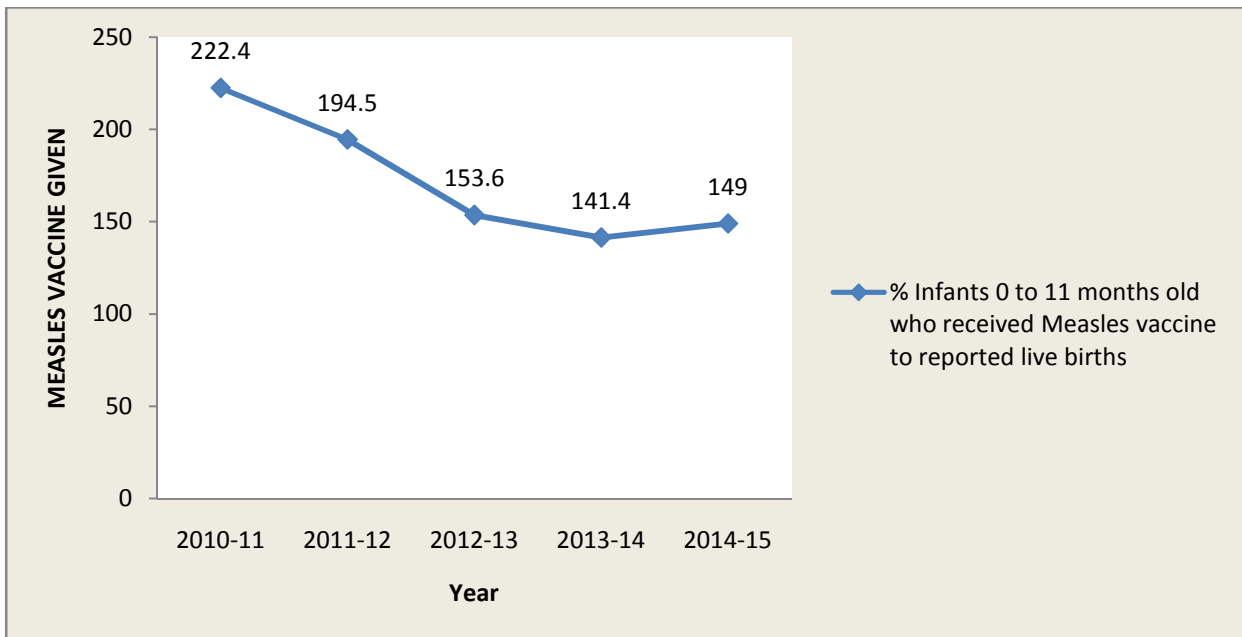
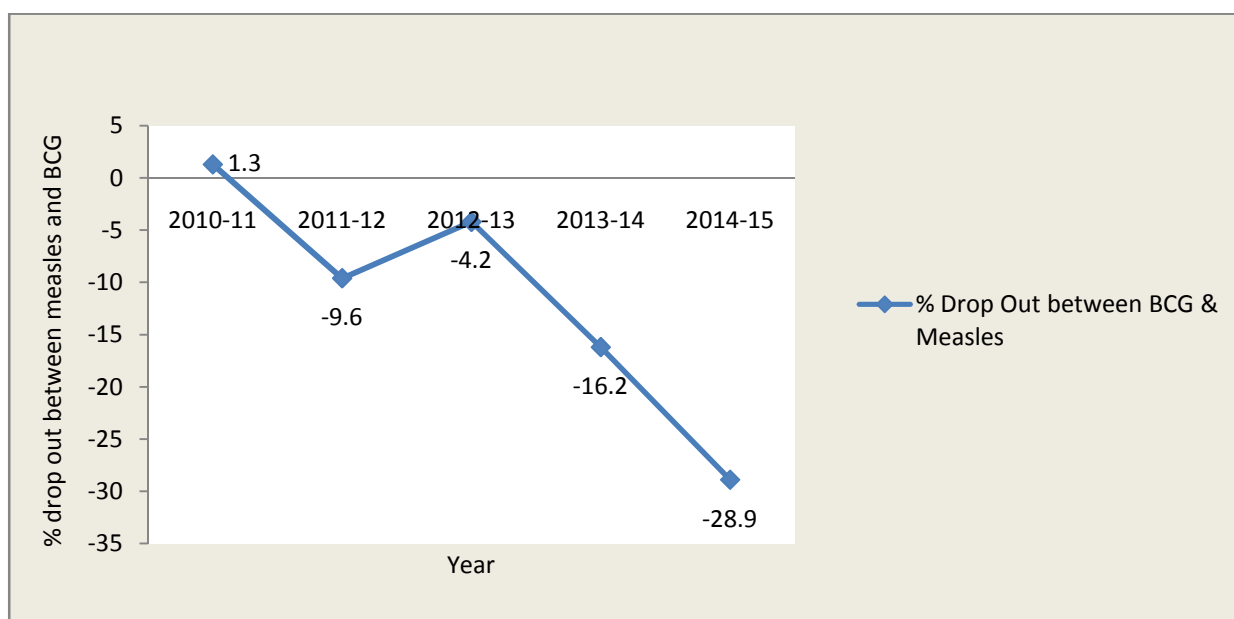


Figure 20 shows the drop out between giving BCG and measles to baby is very low and rather negative in district as compared to the state. The drop out rate is low in the state with a maximum drop out of 19.1% in 2011-12 which got reduced to 0.6 in 2014-15.

FIGURE 20: % DROP OUT BETWEEN BCG & MEASLES

The immunization sessions held in the presence of ASHAs were comparatively less than the total session held at district and state level. The percentage of immunisation session held to immunisation sessions planned increased till 2012-13 reaching 99.1% but declined to 97.9% in 2014-15.

6. CONCLUSIONS AND RECOMMENDATIONS

The aim of this particular study is to provide an overview on performance of major indicators of HMIS data. The data has taken from the year 2010-11 to 2014-15 of South district, NCT Delhi. The overall performance of South district is improving in terms of maternal and child health, institutional deliveries, Ante Natal Care and other indicators. The reported level of ANC registration and intuitional deliveries has increased over the years. But, the number of home deliveries attended by SBA witnesses a declining trend except for the 2012-13. The increasing rate of institutional deliveries at district level witnessed satisfactory performance of services and facilities. ASHAs worker are doing well to influence and counsel the women.

The most frequent errors in HMIS data reporting can be categorized as validation errors and outliers. Validation errors and outliers are related to particular themes. Therefore, we classified their themes accordingly and found that committed validation errors are related to themes: pregnancy outcome, complicated pregnancies, post natal care and child immunization. However the outliers related to themes: family planning, child immunization, pregnancy outcomes, complicated pregnancies, patient and inpatient services, infants deaths

and institutional performance. Validation errors have decreased over the years at both state and district level. Outliers declined initially in the district till 2012-13 but increased again in 2013-14 before declining to minimum level in 2014-15.

Overall health performance of pregnant women during their pregnancy was average in the district comparative state. Severe cases of anaemia have been found to be one of the major issues that have hampered the health of pregnant women and attention needs to be given in the district. C-sectional delivery is another field that requires further study as there is increase in number of C-sectional deliveries at public and private institutions over the time at the district and state level.

The positive impact of family planning programme is visible by increasing number of male and female sterilizations. At the district level insertion of IUCD was one of the most adopted methods to prevent pregnancy. Moreover, the decreasing rate of abortion and MTPs witnessed an achievement of the programme at the district level. A higher rate of MTPs conducted for up to 12 weeks in public or private institutions can be seen in the district in comparison to cases of pregnancy beyond 12 weeks.

Further, immunization of new born has been performing well at the district level. Infants were receiving vaccinations timely like oral polio vaccine, BCG and measles vaccine. The drop outs reported in between BCG and Measles vaccine courses was low. Therefore, it can be concluded that satisfactory performance was possible because of immunization sessions held at the district level. Similarly, the increasing rate of immunization session held in presence of ASHAs shows that the effective role of ASHAs and their ability to counsel women for accessibility of health facilities, safe delivery, immunization, family planning etc.

The ministry of health and family welfare implemented new interventions schemes i.e. JSY, for safe motherhood and seeks to reduce maternal and neo-natal mortality by promoting institutional delivery. A major failure of programme was that the pregnant women were not receiving their JSY incentive after home or institutional delivery. The percentage of mother paid JSY incentive was very less in case of institutional deliveries and in case of home deliveries the percentage was minimal. The reason behind the mother and ASHAs not receiving JSY incentive might be the following:

1. They don't have bank account.
2. They don't have ID proof (voter ID, ADHAR card etc).

RECOMMENDATION

- HMIS has indeed improved the procedure of data recording but still there are various gaps when it comes to quality of data. Categories such as number of women having 3 ANC checkups, number of children who took BCG, have been showing figures which are not justifiable and therefore witnesses high validation errors. For instance as per the data, number of children who took BCG injections were higher than the live births in particular district.
- Although the share of validation errors have declined over the period of time, but still there is need of contemplation of data from time to time in specific areas such as ANC checkups and immunization records.
- Family planning services like vasectomy and tubectomy shows a declining trend in the district. IUCD insertions are also not appreciable except for 2014-15. Therefore family planning services needs to be enhanced by increasing the number of awareness camps and counselling sessions. Pregnant mothers can be given counselling in their ANC and PNC stages and be motivated to adopt birth control measures.
- The beneficiaries not having necessary documents for availing of JSY incentives should be provided with resources to garner their needed documents easily. The ASHAs is the key components of this scheme, so their involvement can be used for the same.