

**EVALUATION OF HEALTH MANAGEMENT INFORMATION SYSTEM DATA OF  
SOUTH EAST DISTRICT, DELHI**



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



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**ACRONYMS AND ABBREVIATIONS**

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
BCG	Bacillus Calmette Guerin
DPT	Diphtheria, Pertusis and Tetanus
HMIS	Health Management Information System
IFA	Iron and Folic Acid
IUCD	Intra Uterine Contraceptive Device
JSY	Janani Suraksha Yojana
MoHFW	Ministry of Health and Family Welfare
MTP	Maternal Termination of pregnancy
NCT	National Capital Territory
OPD	Out Patient Department
OPV	Oral Polio Vaccines
PRC	Population Research Centre
RCH	Reproductive and Child Health
SBA	Skilled Birth Attendant
TT	Tetanus Toxoid

## KEY FINDINGS

The overall performance of South-East district in various maternal and child health indicators have improved substantially according to the latest figures of the Health Management Information (HMIS) Report. Some of the major findings of the report are listed below.

- The number of ANC registration and institutional deliveries of South-East district has increased according to the recent estimates.
- The percentage of home deliveries to total deliveries shows an increasing trend in South-East district as well in the state as whole.
- Home deliveries conducted by Skilled Birth Attendants (SBAs) to total home deliveries are high in the district as compared to the state.
- Recipients of JSY incentives for home deliveries are comparatively less and negligible in South-East district.
- Women receiving 3 ANC check-ups are comparatively less in the district than the State averages.
- Recipients of TT2 and booster are higher for the district than the state as whole.
- A steep rise in C-section deliveries noticed in South-East district over years.
- The percentage recipients of JSY incentives are significantly less in the district.
- A declined trend in case of Medical Termination of Pregnancies noticed in South-East district.
- Most cases of MTPs conducted during 12 weeks of pregnancies.
- The most common method of sterilisation is Tubectomy.
- The percentage of newborns received OPV0 at birth is comparatively less in south-east district than the state averages.
- The validation errors and outliers found highest in case of child immunisation rather than any other health indicators in the district

## 1. INTRODUCTION

Health Management Information System (HMIS) format have been introduced by the Ministry of Health and Family Welfare (MoHFW), India to assesses the progress, quantifying the output as well as outcome interventions regarding different health indicators of all levels. The main aim is to meet the goals set by National Health Mission (NHM) by the development and operationalization of effective HMIS at all levels as a prerequisite to assess the progress on health. The present study analyses the maternal and child health status of South East district through HMIS data.

South East is one among the eleven districts of the National Capital Territory (NCT) Delhi which came into existence in September 2012 along with the district Shahdara. M.B. road Saket is the headquarter of the district. It has been surrounded by the states of Haryana and Uttar Pradesh. The districts like Gurgaon and Faridabad of Haryana lie on the southern side; Gautam Budh Nagar of UP on the south eastern side; eastern side surrounded by south and east districts of Delhi while northern side by New Delhi district. The socio-economic and demographic profile of the district is not available as the district formed in the year 2012.

**Fig 1: Maps showing South-East District, Delhi**



## 2. OBJECTIVES OF THE STUDY

The overall objective of this study is to evaluate the performance of various health indicators in South-east district by using the HMIS data. The specific objectives are listed

- To examine the outliers and validation errors in the district over various time periods starting from the year 2011 -12.
- To show the level and trends of ANC registration, institutional deliveries and home deliveries in south-east district.
- To obtain the status and trends related to Antenatal care in south-east district and Delhi
- To assess the status of JSY payments in the district
- To examine the family planning status in the district
- To assess the child health and immunisation status in the district

### 3. DATA AND METHODS

The present study explores the data from the Health Management Information System (HMIS) portal available for different time periods. The portal provides data on different health indicators of India. The HMIS format have been introduced by the Ministry of Health and Family Welfare, India to assesses the progress, quantifying the output as well as outcome interventions regarding different health indicators of all levels. The main aim is to meet the goals set by National Health Mission (NHM) by the development and operationalization of effective HMIS at all levels as a prerequisite to assess the progress on health.

The data sets from the HMIS for South east district have been used by the present study to analyze the trends (2011-12 to 2014-15) and level of different indicators regarding maternal and child health. Analysis were carried out by deriving simple percentages using the excel sheet. Line graphs, bar charts and pie charts have been used to show the trends and percentage shares of different health indicators in the district.

### 4. VALIDATION ERRORS AND OUTLIERS

It can be seen that validation errors show a declining trend in Delhi while in the South-east district no change noticed from the year 2012-13 onwards (Table 1). The number of validation errors remains at 22 for three time periods (2012-13 to 2014-15). With regard to outliers, the district sees an increasing number of outliers over the years (Figure 2) . But the trend is not very clear as the number of outliers increased from 37 in 2011-12 to 57 in 2013-14 and then declined to 47 in 2014-15. The percentage share of validation errors in south- east district increased over the time periods 9



(Figure 3). In the year 2011-12, the percentage share of validation errors of south-east district to total Delhi was 11.7 which increased to 15.2 in the year 2014-15.

**Table 1: Number of Validation Errors and Outliers, South-East District and Delhi**

Years	South-East District			Delhi	Percentage share of South-East District to Delhi
	VE	O	Both (V & O)	Total Error	Validation Error
2011-12	23	37	0	196	11.7
2012-13	22	51	1	170	12.9
2013-14	22	57	0	155	14.2
2014-15	22	47	0	145	15.2

Source: HMIS 2011-2015

VE- Validation Errors, O-Outliers

**Fig 2: Trends of Validation Errors and Outliers in South-East District**

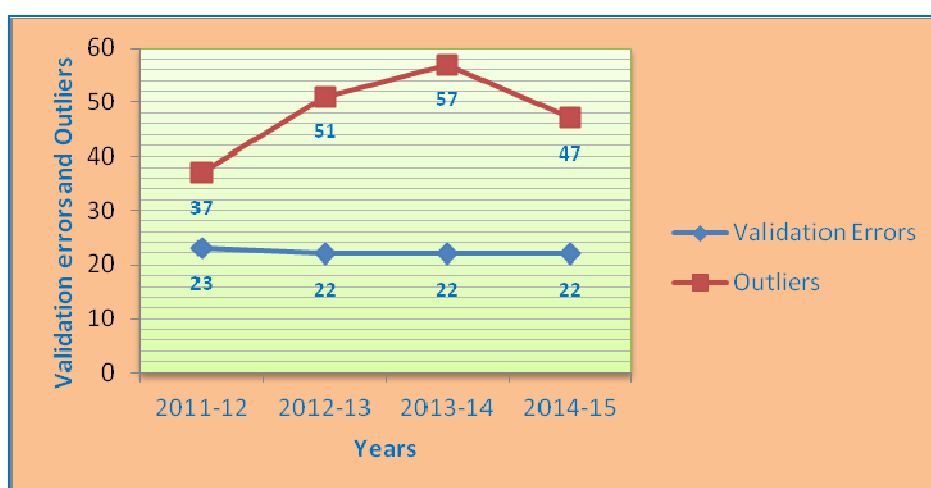
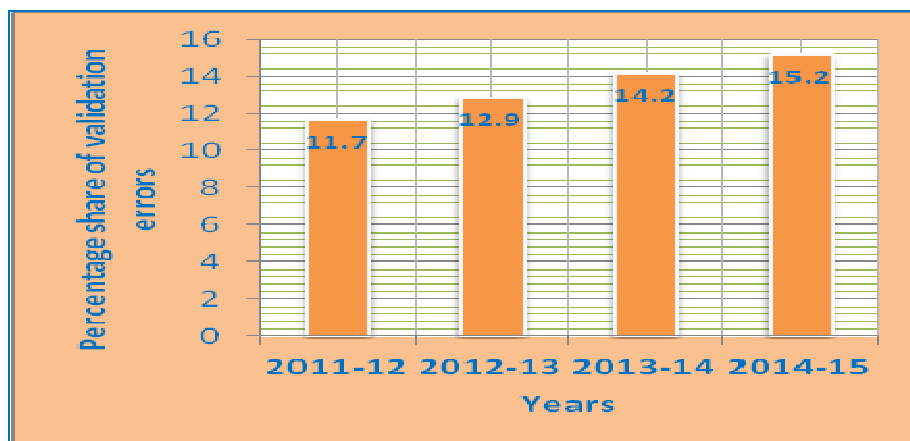


Table 2 presents the validation errors and outliers for each health indicator in South-east district in different time periods. With regard to reproductive and child health, in the year 2011-12, outliers found highest in the category of family planning while validation errors seen high in child

immunisation. In health facility services, patient services have 11 outliers as the highest for the year 2011-12.

**Figure 3: Percentage of Validation Errors of the District to Delhi**



**Table 2: Validation Errors and Outliers for different Health Indicators, South East-District, Delhi**

THEMES		YEARS							
ID	DETAILS	2011-12		2012-13		2013-14		2014-15	
		O	VE	O	VE	O	VE	O	VE
<b>Part A</b>	<b>Reproductive and Child Health</b>								
M1	Ante Natal Care Services (ANC)	0	-	5		3		5	
M2	Deliveries	2	-	1		4		2	
M3	Number Of Caesarean C-Section Deliveries Performed	0	-	2		0		0	
M4	Pregnancy Outcome & Weight of New-Born	0	-	1		0	3	1	
M5	Complicated Pregnancies	0	-	6		2		4	
M6	Post - natal Care	0	8	1	10	1	7	1	10
M7	Medical Termination of Pregnancy (MTP)	1	-	2		0		0	
M8	RTI/STI Cases	1	-	1		2		1	
M9	Family Planning	8	-	14		9		6	
M10	Child Immunization	4	15	3	12	4	12	10	12
M11	Number of Vitamin A Doses	0		0		3		1	
M12	Number of Cases of Childhood Diseases Reported during the Month 0-5 Years:	2	-	4		3		3	
<b>Part B</b>	Other Programmes								
M13	Blindness Control Programme	1	-	0		2		1	
<b>Part C</b>	Health Facility Services								
M14	Patient Services	11		9		14		3	
M15	Laboratory Testing	7		2		8		3	
<b>Part E</b>	Mortality Details								
M17	Details of Deaths Reported During the Month with Probable Causes	0		0		2		6	

Source: HMIS 2011-2015

VE- Validation Errors, O-Outliers

Outliers also found highest in the category of family planning in the year 2012-13 while validation errors found in child immunisation. In 2013-14, patient services have 14 outliers as the highest followed by 9 outliers in family planning. Regarding Validation errors, child immunisation has the highest validation errors in 2013-14. In the category of child immunisation 10 outliers and 12 validation errors found in the year 2014-15 as the highest in comparison to other health indicators.

## 5. ASSESSMENT OF KEY RCH AND FAMILY PLANNING INDICATORS

The Reproductive and Child Health Programme has been launched with the aim of improving the health status of mother and children. Reduction of infant mortality, child mortality and maternal mortality has been the ultimate goals of this programme. The assessment of various maternal and child health indicators in a timely manner is the key to formulate better policies for the improvement of health status. Health Management Information System (HMIS) keeps a record of various maternal and child health indicators in each period of time. Table 3 presents the status of ANC registration, institutional deliveries and home deliveries in South-east district in comparison to the state as a whole in various time periods. It can be observed that, the number of ANC registration, institutional deliveries as well as home deliveries increases over years in both the district and state. With regard to the share of ANC, the district has 4.6 percentage ANC registrations to the total ANC registration in the state for the year 2011-12 which increased to 5.3 percent in 2014-15. The share of institutional deliveries in the district to total institutional deliveries of the state rose to 3.3 percent in 2014-15 from 2.6 percent in 2011-12. The percentage of home deliveries in the district to state increased to 12.3 percent in the year 2014-15 from 5 percent in 2011-12 (Table 3).

**Table 3: Status of ANC Registration, Institutional Deliveries and Home Deliveries in South-East District and Delhi in Different time periods**

Year	South-East			Delhi			Percentage share of District to State		
	ANC Registered	Institutional deliveries	Home deliveries	ANC Registered	Institutional deliveries	Home deliveries	Share of ANC	Share of Institutional Deliveries	Share of Home Deliveries
2011-12	37616	5250	512	822846	204175	10291	4.6	2.6	5.0
2012-13	38863	6196	1716	852363	223459	13807	4.6	2.8	12.4
2013-14	42948	7806	1465	890664	230929	13910	4.8	3.4	10.5
2014-15	46034	8283	2051	874226	247999	16642	5.3	3.3	12.3

Source: HMIS 2011-2015

An increasing trend noticed with regard to the Home deliveries in both the district and the state (Table 4). In comparison to the state averages, the district has high percentage of women having home deliveries. In the year 2011-12, the district has 7.6 percentage home deliveries in comparison to 4.8 percentage home deliveries in the state while in 2014-15, the percentage rose to 19.8 and 6.3 in the district and state respectively (Figure 4). In overall, both the state and district see a rising cases of home deliveries over time. This is probably due to the high reporting of deliveries by the mothers or ASHAs to avail benefit from different schemes like JSY and JSSK.

**Table 4: Percentage share of home deliveries to total deliveries in South-East district and Delhi**

Year	South-East			Delhi		
	Home deliveries	Total deliveries	Home deliveries to total deliveries	Home deliveries	Total deliveries	Home deliveries to total deliveries
2011-12	512	5762	7.6	10291	214466	4.8
2012-13	1716	7912	21.7	13807	237266	5.8
2013-14	1465	9271	15.8	13910	244839	5.7
2014-15	2051	10334	19.8	16642	264641	6.3

Source: HMIS 2011-2015

**Figure 4: Trends of Home Deliveries in South-East District and Delhi**

It can be seen from Figure 5 that in both the district and NCT, the percentage share of deliveries to total ANC registration increasing over the years. It is surprising to note that actual deliveries is very low than the total ANC registration.

**Figure 5: Trends of Deliveries to ANC Registration in South-East District in comparison to Delhi**

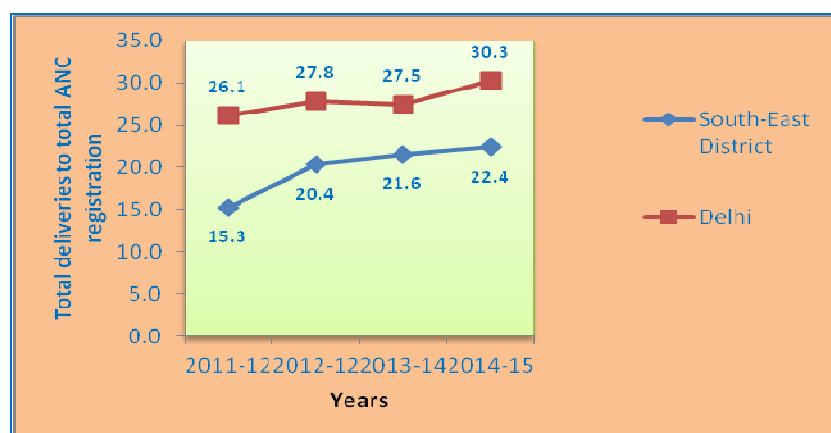


Table 5 depicts the distribution of home deliveries attended by Skilled Birth Attendant (SBA). The percentage of home deliveries attended by SBA is high in the district as compared to the state in each time periods. In specific, in the year 2011-12, 26.4 deliveries attended by SBA in South-East district while only 14 percentage deliveries attended by the SBA in the state. In the year 2014-15, the district has 37 percentage deliveries assisted by SBA as compared to only 16 percentages in the state. Home deliveries attended by SBA increased over time in both the district and the state.

**Table 5: Home Deliveries in South-East District and Delhi in different years**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
<b>Number of home deliveries</b>	512	10291	1716	13807	1465	13910	2051	16642
<b>Number of home deliveries attended by SBA trained (Doctor/Nurse/ANM)</b>	135	1439	442	1923	296	2204	758	2665
<b>Number of home deliveries attended by Non SBA trained (trained TB/Dai)</b>	377	8852	1,274	11884	1169	11706	1293	13977
<b>% SBA attended home deliveries to Total Reported Home Deliveries</b>	26.4	14.0	25.8	13.9	20.2	15.8	37.0	16.0
<b>Mothers paid JSY incentive for home deliveries</b>	1	75	7	253	4	122	12	83
<b>% Mothers paid JSY incentive for home deliveries to Total Reported Home Deliveries</b>	0.2	0.7	0.4	1.8	0.3	0.9	0.6	0.5

Source: HMIS 2011-2015

## 6. MATERNAL HEALTH

Improvement of maternal health by providing better antenatal care, incentives for institutional deliveries and better post-natal care remaining an integral part of National Health Mission(NHM).

**Table 6: Key Indicators related to Antenatal Care, South-East District and Delhi in different Years**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
Total number of pregnant women Registered for ANC	37616	8,22,846	38,863	8,52,363	42,948	8,90,664	46,034	8,74,226
Number of Pregnant women registered within first trimester	12565	2,18,195	13,894	2,59,033	16,756	2,76,523	19,561	3,03,725
Number of pregnant women received 3 ANC check ups	15193	4,32,411	19,540	4,71,435	24,271	5,31,436	22,287	5,12,679
TT2 or Booster given to Pregnant women (numbers)	13,401	2,16,240	14,597	2,28,143	15,256	2,31,488	17,952	2,49,692
% Pregnant Woman received 3 ANC check-ups to Total ANC Registrations	40.4	52.6	50.3	55.3	56.5	59.7	48.4	58.6
% Pregnant women received TT2 or Booster to Total ANC Registration	35.6	26.3	37.6	26.8	35.5	26.0	39.0	28.6
Number of Pregnant women given 100 IFA tablets	10,504	4,54,006	15,784	5,14,510	19,069	5,22,123	18,508	4,82,855
% Pregnant women given 100 IFA to Total ANC Registration	27.9	55.2	40.6	60.4	44.4	58.6	40.2	55.2
Number having Hb level<11 (tested cases)	15,227	2,75,101	13,478	2,94,786	15,338	2,74,161	15,801	3,05,471
Number having severe anaemia (Hb<7) treated at institution	260	17,343	223	20,022	304	24,263	284	19,448
% Pregnant women having severe anaemia (Hb<7) treated at institution to women having hb level<11	1.7	6.3	1.7	6.8	2.0	8.8	1.8	6.4
% New cases detected at institution for hypertension to Total ANC Registrations	1.6	2.2	1.0	2.6	1.7	3.5	0.9	2.7

Source: HMIS 2011-2015

It can be observed that the number of pregnant women registering for ANC, registering within the first trimester, receiving 3 ANC check-ups and the number of women given TT2 or booster increasing with years in both the district and the state (Table 6). In the 2011-12, number of women registered for ANC in south-east district is 37616 which rose to 38863, 42948 and 46034 for the year 2012-13, 2013-14 and 2014-15 respectively. The state follows the same trend as the district. With regard to three ANC check-ups, the district has less percentage of women who went for 3 ANC check-ups as compared to the state averages. In the year 2014-15, women received 3 ANC check-ups is 10 percentage points less in the district (48.4) in comparison to the state (58.6). The percentage of women given 100 IFA tablets is also less in the district as compared to the state. In the year 2011-12, only 27.9 percentage of women received IFA tablets in the district as compared to a substantially higher percentage of 55.2 in the state as a whole. Recipients of IFA tablets rose to 40 and 55 percent in the district and state respectively for the year 2014-15. In each time periods, less percentage of pregnant women having severe anaemia treated at institution in South-east district as compared to the state. In 2014-15, only 1.8 percentage of women sought treatment for severe anaemia in the district while 6.4 percentage women sought treatment in the state. The new cases of hypertension found among a negligible (0.9) percentage of women in the district while 2.7 percentage of women reported hypertension in the state in 2014-15.

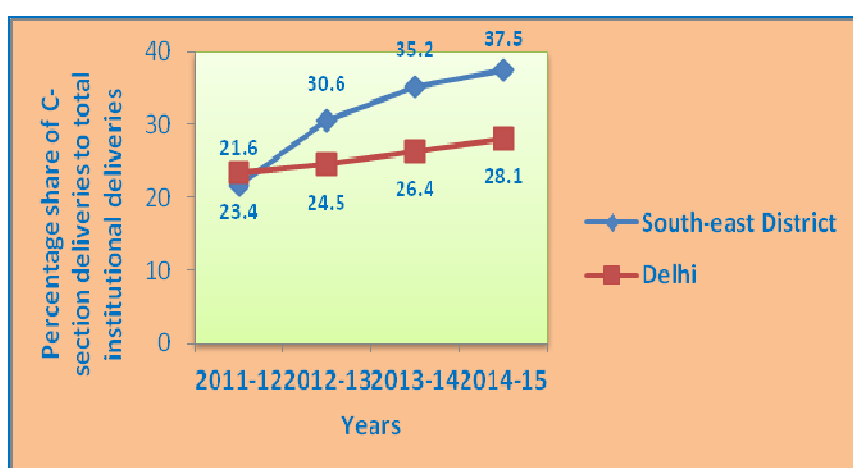
Table 7 presents the distribution of C-section deliveries in public and private facilities. A rising number of C-section deliveries conducted at public and private facilities noticed over years in both the district and the NCT 9 (Table 7 & Figure 6). In the year 2011-12, the C-section deliveries at public health facilities is 302 and 32776 which rose to 434 and 45758 in 2014-15 for the district and state respectively (Figure 7). Similar trend noticed with regard to C-section deliveries conducted at private facilities. Though C-section deliveries are increasing over the time in both Delhi and district, the rise is steeper in the district as compared to Delhi.



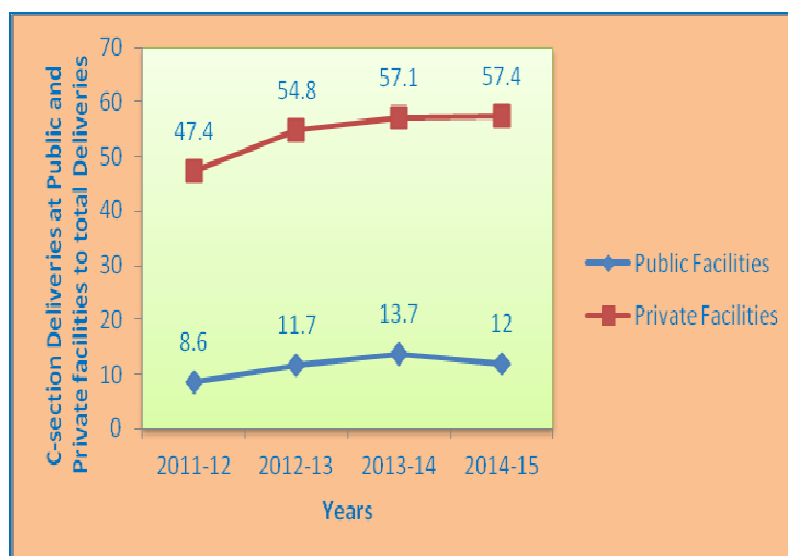
**Table 7: Distribution of C-section Deliveries in Public and Private Facilities, South-East District and Delhi in different time periods**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
Number of C-section deliveries conducted at public facilities	302	32,776	405	37,980	542	40,961	434	45,758
Number of C-section deliveries conducted at private facilities	833	14,990	1,492	16,806	2,202	19,896	2,673	24,001
% C-section deliveries (Public + Pvt.) to reported institutional (Public + Pvt.) deliveries	21.6	23.4	30.6	24.5	35.2	26.4	37.5	28.1
% C-sections conducted at public facilities to Deliveries conducted at public facilities	8.6	18.9	11.7	19.9	13.7	21.1	12.0	22.3
% C-sections conducted at Private facilities to Deliveries conducted at private facilities	47.4	48.3	54.8	51.5	57.1	54.3	57.4	56.4

Source: HMIS 2011-2015

**Figure 6: Trends of C-section Deliveries to total Institutional Deliveries in South-east District and Delhi**

**Figure 7: Trends of C-section Deliveries in Public and Private Facilities in South-East District**



## 7. JANANI SURAKSHA YOJNA (JSY)

Janani Suraksha Yojna (JSY) of NHM aims to reduce maternal and neonatal deaths through the promotion of Institutional deliveries. The ASHAs under this scheme receive cash incentive of 600 per delivery while the mothers receive 700 rupees. JSY registration and payments for deliveries presented in Table 8. The percentage registered for JSY to total ANC registration show a declining trend in both the district and the state. The district has comparatively less percentage of JSY registered women to total ANC registration in each time periods. In the year 2014-15, 2.5 percentage women registered for JSY in South-East district while 3.9 percentage in the state. The percentage mothers received JSY money in case of home deliveries observed negligibly in both the state and district. Less percentage of women paid JSY money for delivery at public institution in the district as compared to the state averages. In the year 2014-15, 5.2 percentage of women in the district paid JSY money for delivery at public institution while 6.8 percentage women received incentives in the state. With regard to incentives to the ASHAs, 3.4 percentage of ASHAs received incentive in South-east district for 2014-15 while 1.7 percentage in the state.

**Table 8: JSY Registration and Payments for Deliveries at Home and Public Facilities, South-East District and Delhi in different Years**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
Total number of pregnant women Registered for ANC	37,616	8,22,846	38,863	8,52,363	42,948	8,90,664	46,034	8,74,226
% JSY registration to Total ANC Registration	7.4	7.5	6.8	7.6	3.7	4.7	2.5	3.9
% Mothers paid JSY incentive for home deliveries to Total Reported Home Deliveries	0.2	0.7	0.4	1.8	0.3	0.9	0.6	0.5
% Mothers paid JSY Incentive for Delivery at Public institution to Total Public Deliveries	7.4	11.0	8.8	11.7	3.9	5.9	5.2	6.8
% of cases where JSY Incentive paid to ASHA for Delivery at Public institution to Total Public Deliveries	0.4	1.3	0.5	2.1	0.7	1.5	3.4	1.7

Source: HMIS 2011-2015

Table 9 presents the status of spontaneous abortions and MTPs in different years. A rising trend of abortions observed in both South-east district and Delhi. In the year 2011-12, abortion cases in South-east district were 1828 which rose to 2791 in 2014-15. On the other hand in Delhi it was 27753 in 2011-12 which increased to 31605 in 2014-15. With respect to Medical Termination of Pregnancies, except the year 2012-13 for the state, the cases decreased in both the state and the district. The percentage of MTPs to total abortions is low in the district as compared to the state. Only 10 percentage MTPs conducted in South-east district for the year 2014-15 while in Delhi 26 percentage conducted for the same period. Most of MTPs in both the district and state conducted within 12 weeks of pregnancies. In South-east district, for the year 2013-14 and 2014-15 all the MTPs were conducted within 12 weeks of pregnancies. The percentage MTPs conducted at private institutions is higher for the district while for the state it the public institutions where most of the MTPs conducted.

**Table 9: Spontaneous abortions and MTPs in South-East District and Delhi in different Years**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
Total Number of Abortions ( Spontaneous/ Induced) Reported	1,828	27,753	1,882	30,508	2,207	29,521	2,791	31,605
Total Number of MTPs ( Public) reported	323	10,484	318	10,711	300	9,255	281	8,259
% MTPs (Public) to Abortions	17.7	37.8	16.9	35.1	13.6	31.4	10.1	26.1
% MTPs up to 12 weeks of Pregnancy to Total MTPs at Public Institutions	92.3	90.8	99.7	93.1	100.0	92.4	100.0	91.6
% MTPs more than 12 weeks of Pregnancy to Total MTPs at Public Institutions	7.7	9.2	0.3	6.9	0.0	7.6	0.0	8.4
% MTPs Conducted at Public Institutions to Total MTPs	19.2	47.2	16.6	48.9	21.0	44.3	13.4	38.1
% MTPs Conducted at Private Institutions to Total MTPs	80.8	52.8	79.0	51.1	83.4	55.7	86.6	61.9

Source: HMIS 2011-2015

## 8. FAMILY PLANNING

In order to check the unwanted pregnancies, it is necessary to adopt family planning methods. Spacing and limiting are the two methods of family planning while spacing methods check the space between the two births and limiting terminates the birth performance of women. Condoms, oral pills and IUCD are various spacing methods of family planning. On the other hand the limiting methods include Vasectomies for male and Tubectomies for female. It can be seen from Table 10 that the number of vasectomies in South-east district increased from 20 in 2011-12 to 31 in 2012-13 and declined subsequently. Meanwhile in the state, number of vasectomies decreased with time. With regard to Tubectomy, the district sees a declining trend while the state sees an increasing trend initially which declined further. The number of sterilisations in the district for the year 2011-12 is 733 which decreased to 524 in 2014-15 while in the state it decreased to 17932 from 20441 for the same period. Though male sterilisation shows a declining trend in the state, the district didn't reveal any clear picture. The same trend observed for female sterilisation as in male sterilisation for the district and the state. The number of IUCD insertions conducted at public institutions in South-east

district is 2666 for the year 2011-12 which rose to 3377 in the year 2014-15. However the IUCD insertions conducted in the state for the year 2011-12 is 38196 which increased to 68363 in 2014-15. Also IUCD insertions conducted at private institutions shows an increasing trend in both the state and the district.

**Table 10: Tubectomies and Vasectomies Conducted at Public and Private Facilities, South-East and Delhi in Different Years**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
Number of Vasectomies Conducted (Public + Pvt.)	20	2,880	31	1,594	4	1,403	8	811
Number of Tubectomies Conducted (Public + Pvt.)	713	17,561	643	19,840	593	19,018	516	17,121
Total Sterilisation Conducted	733	20,441	674	21,434	597	20,421	524	17,932
% Male Sterilisation (Vasectomies) to Total sterilisation	2.7	14.1	4.6	7.4	0.7	6.9	1.5	4.5
% Tubectomies to Total sterilisation	97.3	85.9	95.4	92.6	99.3	93.1	98.5	95.5
IUCD Insertions done (public facilities)	2,666	38,196	2,285	43,408	2,933	53,812	3,377	68,363
IUCD insertions done (pvt. facilities)	242	4,344	429	4,442	555	4,075	518	3,664

Source: HMIS 2011-2015

## 9. CHILD HEALTH AND CHILD IMMUNIZATION

The status of child immunisation in the district as compared to the state was presented in Table 11. Newborns given OPV0 at birth show a declining trend in both the district and the state. In the year 2014-15, 68.9 percentage of children given OPV0 at birth in the district while 89.9 percentage children received in the state as whole. It was found that the newborns received OPV0 at a less

percentage in the district as compared to the state. The percentage immunisation sessions held slightly higher in the district as compared to the state. ASHAs presence observed at a less percentage during immunisation sessions in the district than the state.

**Table 11: Status of Immunisation in South-East District and Delhi in different time periods**

Indicators	2011-12		2012-13		2013-14		2014-15	
	South-East	Delhi	South-East	Delhi	South-East	Delhi	South-East	Delhi
% Newborns given OPV0 at birth to Reported live birth	93.9	93.0	79.1	92.6	80.4	92.7	68.9	89.9
% Newborns given BCG to Reported live birth	246.8	126.1	183.6	123.1	162.5	121	146.4	115.4
% Infants 0 to 11 months old who received Measles vaccine to reported live births	290.1	102.1	243.6	101.7	227.4	105.2	268.7	114.5
% Drop Out between BCG & Measles	-17.5	19.1	-32.7	17.4	-39.9	13.1	-83.5	0.8
% immunisation Sessions Held to Immunisation Sessions Planned	95.3	92.8	95.5	92.5	95.8	93.5	96.3	95.1
% Immunisation Sessions where ASHAs were present to Immunisation Sessions Planned	19.0	22.0	9.6	24.4	17.1	33.3	40.5	41.9

Source: HMIS 2011-2015

## 10. CONCLUSIONS AND RECOMMENDATIONS

The overall objective of this study is to see the performance of various health indicators related to maternal and child health care in South-east district in different time periods by using the data from Health Management and Information System (HMIS). The findings suggest that the district's performance has improved with years. With regard to Antenatal care registration and institutional deliveries, the performance of the district has improved as compared to the previous years. Home delivery attended by Skilled Birth Attendant is high for the district as compared to the state. The percentage mothers who received JSY incentives is very less in the district as compared to the state.

The district sees an improvement in the performance of antenatal care. Women receiving 3 ANC check-ups have increased in the district but the percentage is less than the state averages. The percentage of pregnant women receiving TT2 and booster is high in the district as compared to the state. On the other hand very little percentage of women with severe anaemia treated at the institution in the district as compared to the state. This shows the poor attitude among the women for seeking treatment. With respect to C-section deliveries, the district sees a rising percentage of C-section deliveries over the years. Though C-section deliveries are rising in both the state and district, the district sees a steep rise in comparison to the state. Private health facilities conduct more C-section deliveries in comparison to the public health facilities. The reason of high C-section deliveries at private institutions may be the wealthy people who do not wish to go for a normal delivery and choose C-section deliveries. Also the role of pregnancy complications cannot be ruled out. The performance of the district in the payment of JSY incentives to home deliveries as well as institutional deliveries is very poor. The percentage MTPs conducted show a declining trend in the district. This may be due to the awareness among the people of various family planning methods which help to avoid the resulted unwanted pregnancies. Most of the MTPs conducted within 12 weeks of pregnancy in the district showing the awareness among the people about the timing of pregnancy termination. Private hospitals are mostly chosen for pregnancy termination rather than public hospitals. Regarding methods of sterilisations, Tubectomies are more common than vasectomies. According to the latest figure, the percentage newborns received OPV0 is less in the district as compared to the state. With regard to Validation errors, the district did not mark any change in validation errors with time while outliers show an increasing trend. The validation errors and outliers found highest in case of child immunisation rather than any other variables. In overall it can be concluded that in some health indicators like ANC registration, 3 ANC check-ups and MTPs the district's performance is well while in case of anaemia treatment and immunisation the performance is not satisfactory.

## RECOMMENDATIONS

HMIS has been providing data for various health indicators in a timely manner which helps to assess the health status and further leads to policy formulations. Though HMIS has improved the procedure of data recording and provides good quality data for various health indicators, in some cases the figures raise questions on the quality of data which are listed below.

- Home deliveries show a rising trend in the district as well as in the state which is surprising. So it must be checked it out.
- The actual deliveries in the district are far less than the ANC registrations which points towards multiple ANC registrations. So the actual reason must be found to improve the quality of data.
- The percentage of immunised children found more than hundred percent in the district showing inconsistency in the data quality. So more focus should be given on the quality of HMIS data