# ASSESSMENT OF THE SWASTHYA SATHI SCHEME

A West Bengal Government led Health Insurance Scheme

> Spandan Dutta ECON004

## **Introduction**

Swasthya Sathi is a health initiative launched by the Government of West Bengal on 30th December 2016. The main features of the scheme are as follows:

- Basic health cover for secondary and tertiary care up to Rs. 5 lakh per annum per family.
- All pre-existing diseases are covered.
- There is no cap on the family size and Parents from both the spouse are included. All dependent physically challenged persons in the family are also covered.
- The entire cost is borne by the State Government and no contribution from the beneficiary.
- Online Swathya Sathi Smart card is provided to each family on the day of Enrolment. Smart Card captures the details of the family members, Photographs, biometric, address, Mobile Number, SECC ID.

This report is based on the survey conducted by the students of the Economics Department, Presidency University between August 2024 and September 2024 using a structured questionnaire. The Recruitment Criterion of the survey was the following:

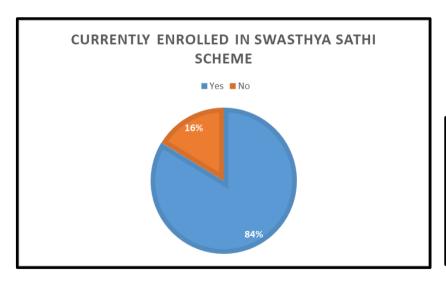
• Whether or not any family member had been admitted to hospital in the past 2 years?

If at least one of the family members had been hospitalized within two years they are included in the study.

• Was aid under the Swasthya Sathi scheme used for their treatment?

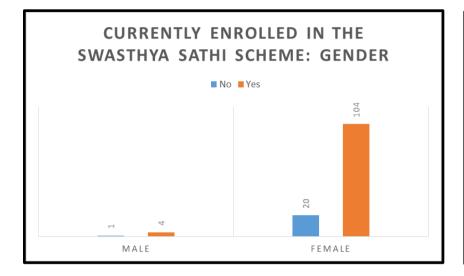
#### **EXPLORATORY ANALYSIS OF THE SAMPLE**

We start our exploration by looking at the proportion of people in our survey who are currently enrolled in the Swasthya Sathi scheme. We find that 108 people out of 129 people in our survey which is nearly 84% are enrolled under the scheme.



currently enrolled in the SS Scheme	Freq.	Percent	Cum.
No Yes	21 108	16.28 83.72	16.28 100.00
Total	129	100.00	

We found that in our survey among the 108 people who are currently enrolled under the scheme 104 were women (about 96.30%) and 4 were men. Alternatively, among the 124 women in our survey about 104 women (about 84% of the total female) were enrolled under the scheme.

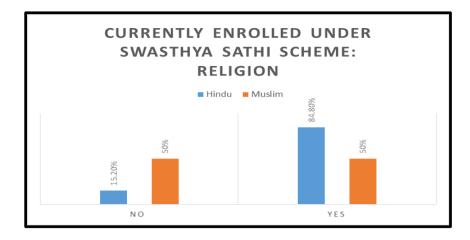


currently enrolled in			
the SS	Gen	der	
Scheme	Male	Female	Total
No	1	20	21
	4.76	95.24	100.00
	20.00	16.13	16.28
Yes	4	104	108
	3.70	96.30	100.00
	80.00	83.87	83.72
Total	5	124	129
	3.88	96.12	100.00
	100.00	100.00	100.00

By age we find that females show much larger range than men and has a much higher median age compared to men. This shows that the scheme has affected females across a wider spectrum of ages than men.

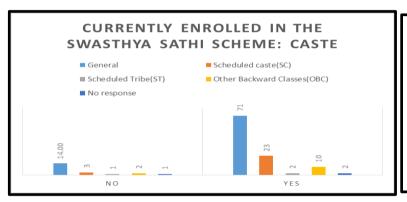


In our survey, majority of the sample is Hindu (comprising 96.90% of the sample) with the rest 4 individuals being Muslim. Among Hindu's 85% were covered under the scheme.



currently enrolled in			
the SS	Relig:	ion	
Scheme	Hindu	Muslim	Total
No	19	2	21
	90.48	9.52	100.00
	15.20	50.00	16.28
Yes	106	2	108
	98.15	1.85	100.00
	84.80	50.00	83.72
Total	125	4	129
	96.90	3.10	100.00
	100.00	100.00	100.00
<b>'</b>		'	

If we decompose our sample by caste, we find that General (65.89%) and Scheduled Caste (20.16%) dominate our sample. We find a similar distribution of caste when we compare between the group of people who are covered and the group of people who are not covered under the scheme.



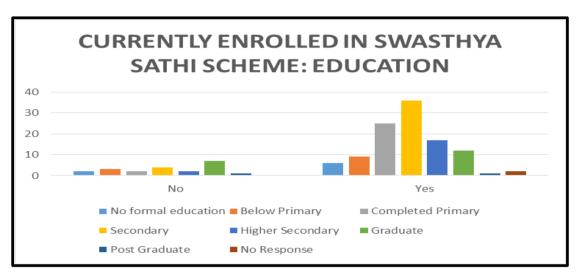
Total	Respon	Other Bac No	Caste Scheduled	Scheduled	General	currently enrolled in the SS Scheme
21 100.00	1 4.76	9.52	1 4.76	3 14.29	14 66.67	No
108	2	10	2	23	71	Yes
100.00	1.85	9.26	1.85	21.30	65.74	
129	3	12	3	26	85	Total
100.00	2.33	9.30	2.33	20.16	65.89	

We find that of 108 people who are enrolled in the scheme 89% are married and 8.33% are widowed whereas among the people who are not enrolled, married occupy more than 90% and the rest is equally divided between unmarried and widowed.



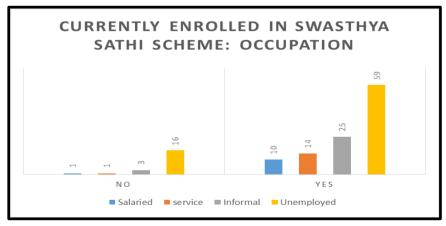
					currently
					enrolled in
		Status	Marital		the SS
Total	Separated	Widowed	Unmarried	Married	Scheme
21	0	1	1	19	No
100.00	0.00	4.76	4.76	90.48	
16.28	0.00	10.00	33.33	16.52	
108	1	9	2	96	Yes
100.00	0.93	8.33	1.85	88.89	
83.72	100.00	90.00	66.67	83.48	
129	1	10	3	115	Total
100.00	0.78	7.75	2.33	89.15	
100.00	100.00	100.00	100.00	100.00	

By educational qualification, we find that among the people who are enrolled under the scheme 76.37% of them have at most a secondary level education whereas among the people who have not enrolled only 52.38% of them have at most a secondary level education. **This hints at the possibility of difference in enrollment due to the level of education**. We also notice that the sub sample of enrolled people form a bell shaped curve.



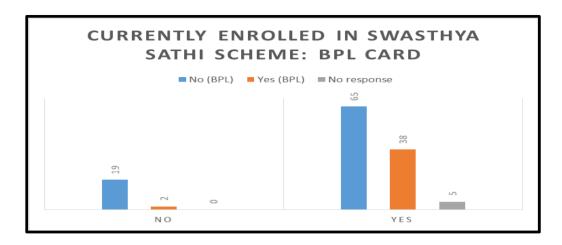
			on	Qualificatio	ducational	E			currently enrolled in the SS
Total	No Respon	Post-Grad	Graduate	Higher Se	Secondary	Completed	Below Pri	No Formal	Scheme
21	0	1	7	2	4	2	3	2	No
100.00	0.00	4.76	33.33	9.52	19.05	9.52	14.29	9.52	
16.28	0.00	50.00	36.84	10.53	10.00	7.41	25.00	25.00	
108	2	1	12	17	36	25	9	6	Yes
100.00	1.85	0.93	11.11	15.74	33.33	23.15	8.33	5.56	
83.72	100.00	50.00	63.16	89.47	90.00	92.59	75.00	75.00	
129	2	2	19	19	40	27	12	8	Total
100.00	1.55	1.55	14.73	14.73	31.01	20.93	9.30	6.20	
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

Occupation could play an important factor in determining whether a person enrols for the scheme or not. In our sample we find that, majority of people in both the categories were unemployed. Alternatively among the unemployed people 78.67% respondents were enrolled in the scheme and the other 21.33% were not.



					currently
					enrolled in
		tion	Occupa		the SS
Total	Unemploye	Informal	Service/S	Salaried	Scheme
21	16	3	1	1	No
100.00	76.19	14.29	4.76	4.76	
16.28	21.33	10.71	6.67	9.09	
108	59	25	14	10	Yes
100.00	54.63	23.15	12.96	9.26	
83.72	78.67	89.29	93.33	90.91	
129	75	28	15	11	Total
100.00	58.14	21.71	11.63	8.53	
100.00	100.00	100.00	100.00	100.00	

About 35.19% of the respondents who are enrolled in the scheme have a BPL card compared to only 9.52% of the respondents who are not enrolled have a BPL card. **This could hint at a relationship between holding BPL card and enrollment in the scheme.** 



currently enrolled in				
the SS	BPL	. Card Hold	ler	
Scheme	No	Yes	No Respon	Total
No	19	2	0	21
I	90.48	9.52	0.00	100.00
	22.62	5.00	0.00	16.28
Yes	65	38	5	108
- 1	60.19	35.19	4.63	100.00
	77.38	95.00	100.00	83.72
Total	84	40	5	129
- 1	65.12	31.01	3.88	100.00
	100.00	100.00	100.00	100.00

# So does holding a BPL card or the level of education significantly affects enrollment under the scheme?

In case of BPL card, we find that BPL, we do find a significant relationship and the estimated relationship shows that for a one-unit increase in BPL card holding (in other words, going from no to yes), we expect a 1.711 increase in the log-odds of the enrollment under the scheme.

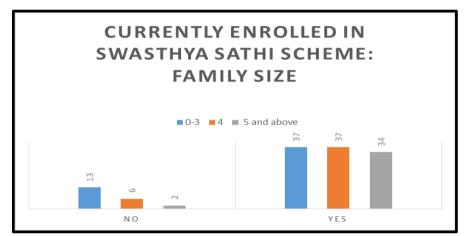
13						
_	_	ectly				
opped and o						
log likelih	-56.402	2857				
log likelih	-53.087	7655				
log likelih	-52.850	709				
log likelih	pod = -52.849	9708				
log likelih	-52.849	9708				
ssion			Number o	fobs	=	124
			Prob > c	hi2	=	0.0077
= -52.84970	В		Pseudo R	2	=	0.0630
Coef.	Std. Err.	z	P>   z	[95%	Conf.	Interval]
1.714491	.7709293	2.22	0.026	. 203	3497	3.225484
0	(empty)					
1.229948	.2607991	4.72	0.000	.7187	7914	1.741105
	opped and 5 of log likeliho log likeliho log likeliho log likeliho log likeliho ssion = -52.849700 Coef.	0 predicts success perfections of the property	O predicts success perfectly opped and 5 obs not used  log likelihood = -56.402857 log likelihood = -53.087655 log likelihood = -52.850709 log likelihood = -52.849708 log likelihood = -52.849708 ssion  = -52.849708  Coef. Std. Err. z  1.714491 .7709293 2.22 0 (empty)	O predicts success perfectly opped and 5 obs not used  log likelihood = -56.402857   log likelihood = -52.850709   log likelihood = -52.849708   log likelihood = -52.849708   ssion	0 predicts success perfectly opped and 5 obs not used  log likelihood = -56.402857   log likelihood = -52.850709   log likelihood = -52.849708   log likelihood = -52.849708   ssion	O predicts success perfectly opped and 5 obs not used  log likelihood = -56.402857   log likelihood = -52.850709   log likelihood = -52.849708   log likelihood = -52.849708   ssion

But we don't find any statistically significant relationship between level of education and enrollment.

el	Coef.	Std. Err.	z	P>   z	[95% Conf.	Interval]
p7						
Below Primary	-1.70e-15	1.054093	-0.00	1.000	-2.065983	2.065983
Completed Primary	1.427116	1.098484	1.30	0.194	7258724	3.580105
Secondary	1.098612	.9718253	1.13	0.258	8061303	3.003355
Higher Secondary	1.041454	1.107019	0.94	0.347	-1.128263	3.21117
Graduate	5596158	.9449112	-0.59	0.554	-2.411608	1.292376
Post-Graduate	-1.098612	1.632993	-0.67	0.501	-4.29922	2.101995
No Response	0	(empty)				
_cons	1.098612	.8164966	1.35	0.178	5016916	2.698916

#### **Family Information**

An important factor which determines the enrollment into the scheme is the size of the family, generally larger the family sizes, higher the chances of enrolling into the scheme because the probability of going to the hospital for any operation increases with the increase in the number of family members.



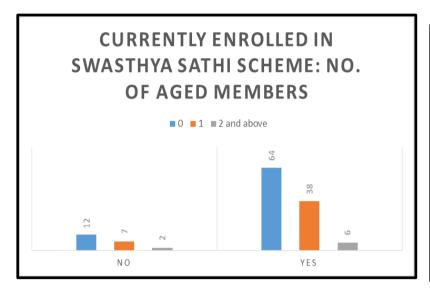
currently				
enrolled in	Recode	of number o	f family	
the SS		members		
Scheme	0-3	4	5 and abo	Total
No	13	6	2	21
	61.90	28.57	9.52	100.00
	26.00	13.95	5.56	16.28
Yes	37	37	34	108
	34.26	34.26	31.48	100.00
	74.00	86.05	94.44	83.72
Total	50	43	36	129
	38.76	33.33	27.91	100.00
	100.00	100.00	100.00	100.00

We find that the people who are enrolled under the scheme are almost equally distributed among the three family classes, 34% of the surveyed belong to a family of size 4 and 31% belong to a family size of 5 and above. Whereas people who are not enrolled, 62% of them belong to a family size of 3 and below.

We find that as the number of family members' increases to 5 or more, we expect a 1.787 increase in the log-odds of the enrollment under the scheme.

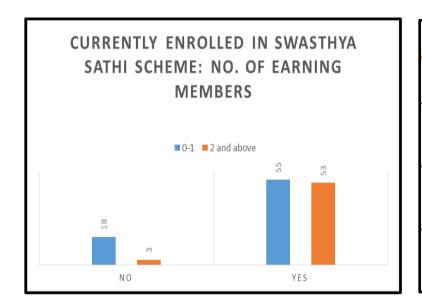
Logistic regr	ession				of obs		129 7.11
				Prob >	chi2	=	0.0285
Log likelihoo	d = -53.75406	L		Pseudo	R2	=	0.0621
el	Coef.	Std. Err.	z	P>   z	[95% (	Conf.	Interval]
p91							
4	.7731899	.5455674	1.42	0.156	29610	026	1.842482
and above	1.787245	.7958403	2.25	0.025	. 22742	264	3.347063
_cons	1.045969	.3224129	3.24	0.001	. 41405	508	1.677886

Similarly as the number of aged members in the family increases, they are more likely to enrol under the scheme. But here we don't find any evidence for that. 59% of the people who have enrolled under the scheme don't have any aged members in the family. Only 6% of the people who have enrolled also have 2 or more aged members in their family.



	ged family	number of a	Recode of	currently enrolled in the SS
Total	2 and abo	1	0	Scheme
21	2	7	12	No
100.00	9.52	33.33	57.14	
16.28	25.00	15.56	15.79	
108	6	38	64	Yes
100.00	5.56	35.19	59.26	
83.72	75.00	84.44	84.21	
129	8	45	76	Total
100.00	6.20	34.88	58.91	
100.00	100.00	100.00	100.00	

Among the people who have enrolled, we find that almost equal number of people 53 people have 2 and above earning members in their family, whereas 55 people have 0 to 1 earning in their family.

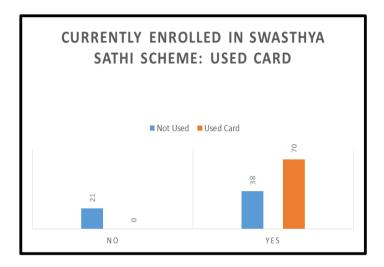


currently enrolled in	Recode of number of earning family			
the SS	mem	bers		
Scheme	0-1	2 and abo	Total	
No	18	3	21	
	85.71	14.29	100.00	
	24.66	5.36	16.28	
Yes	55	53	108	
	50.93	49.07	100.00	
	75.34	94.64	83.72	
Total	73	56	129	
	56.59	43.41	100.00	
	100.00	100.00	100.00	

Logistic regre		9		Number o LR chi2( Prob > ci Pseudo R	1) hi2	= = =	129 9.68 0.0019 0.0844
el	Coef.	Std. Err.	z	P>   z	[95%	Conf.	Interval]
p1211 2 and above _cons	1.75 <b>4</b> 718 1.116961	. 6526397 . 2715463	2.69 4.11	0.007 0.000	. 4755 . 5847		3.033869 1.649182

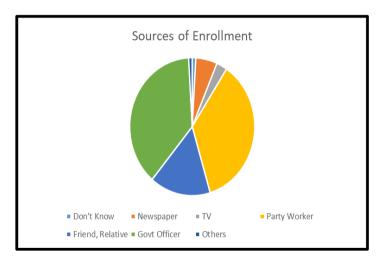
We find that as the number of earning members in the family increases to 2 or more, we expect a 1.755 increase in the log-odds of the enrollment under the scheme.

But even if 108 people enrolled, 38 people (35% of the enrolled people) didn't use the card.



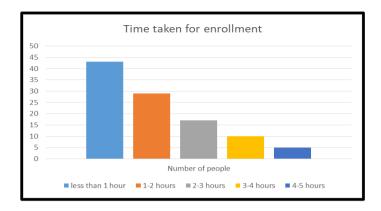
#### **Enrolment Procedure**

We find that Party Workers (36%) and Government Officers (38%) are the main sources of information about the scheme. And the most popular place of enrollment is Duare Sarkar, about 97% of the enrolled people are enrolled from Duare Sarkar.



Source of information about SS card	Freq.	Percent	Cum.
Don't know	1	0.93	0.93
Newspaper	6	5.56	6.48
TV	3	2.78	9.26
Party worker	39	36.11	45.37
Friend, Relative or neighbor	17	15.74	61.11
Government officer\Campaign	41	37.96	99.07
Others	1	0.93	100.00
Total	108	100.00	

For 70% of the people in our survey, the enrollment procedure was completed within 2 hours and for 40% of the people it was done in less than an hour.

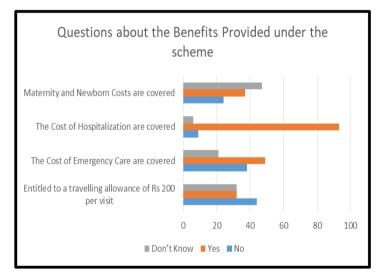


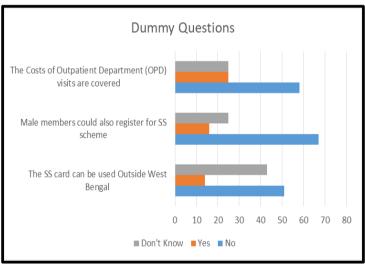
Recode of time spent on enrolment	Freq.	Percent	Cum.
less than 1 hour	43	41.35	41.35
1-2 hours	29	27.88	69.23
2-3 hours	17	16.35	85.58
3-4 hours	10	9.62	95.19
4-5 hours	5	4.81	100.00
Total	104	100.00	

We also find that 44% of the husbands were interested and had a positive attitude towards the enrollment whereas 38% were indifferent.

#### Awareness of the Benefits of the Swasthya Sathi Scheme

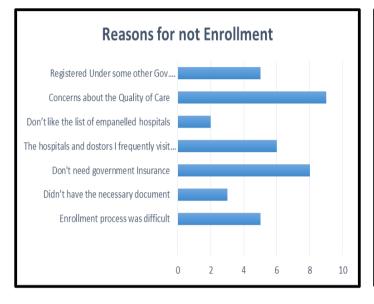
To test the awareness among people about the Swasthya Sathi Scheme, we provide them with a set of questions about the benefits provided under the scheme, some of the questions were dummy questions which were related to the benefits not provided under the scheme. For example, we find that among questions which are related to the benefits provided under the plan, most of the people knew that cost of hospitalisation is covered, followed by Cost of emergency care are also covered under the scheme. Whereas among the dummy questions, the biggest area of misinformation is that the costs of Outpatient Department visits are covered.





#### **Reasons for Non Enrollment**

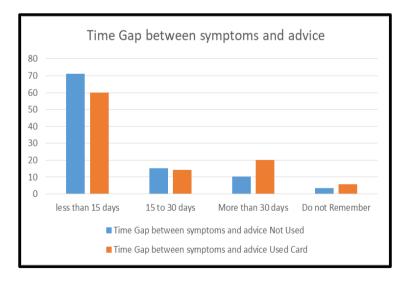
53% of cases were concerned about the quality of the care and 47% of the cases didn't need government medical insurance and another 46% of the cases were concerned about the coverage of the scheme (i.e. the scheme either didn't include the hospital they frequently visit or they didn't like the list of empanelled hospital).



. m	nrtab r1-r7			
		Frequency	Percent of responses	Percent of cases
rl	enrolment process was	5	13.16	29.41
r2	Didn?t have the necessary documents.	3	7.89	17.65
r3	Don?t need government medical insurance.	8	21.05	47.06
r4	The hospitals/doctors I frequently visit are not included	6	15.79	35.29
r5	Don?t like the list of empanelled hospitals.	2	5.26	11.76
r6	Concerns about the quality of care.	9	23.68	52.94
r7	Registered under some other government health insurance scheme.	5	13.16	29.41
	Total	38	100.00	223.53

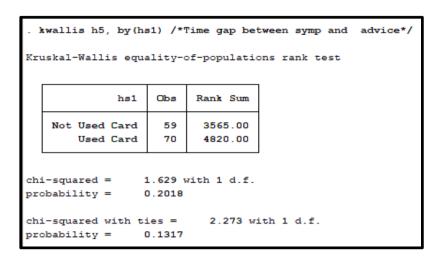
#### **Hospitalisation Episode**

We find that 122 family had 1 member who was hospitalised, while comparing the instances between when people have used cards and when they haven't we find that, under the time gap between symptoms and advice, 60% of the people have used the card when the gap is less than 15 days and 20% have used when the gap is more than 30 days. And among the people who have not used card 71% have not used card when the time gap is less than 15 days

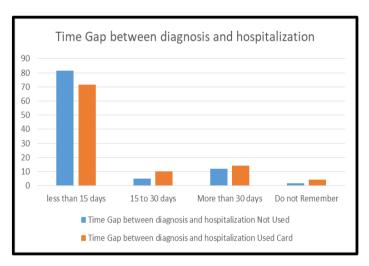


time gap between symptoms and advice	Recode of t		Total
less than 15 days 15 to 30 days More than 30 days	71.19 15.25 10.17	60.00 14.29 20.00	65.12 14.73 15.50
Do not remember	3.39	5.71	4.65
Total	100.00	100.00	100.00

By conducting the kruskal wallis test which has the null hypothesis that the mean rank of the groups are the same, we accept the null hypothesis that the mean ranks between the two groups (Used Card and not used card) are the same.

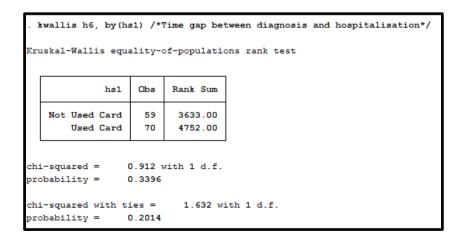


When we compare this with the time gap between diagnosis and hospitalisation, we find a similar distribution: 71% of the people who have used cards used it for the time gap less than 15 days followed by 14% for more than 30 days, and for people who have not used card 81% have not used the card when the time gap is less than 15 days

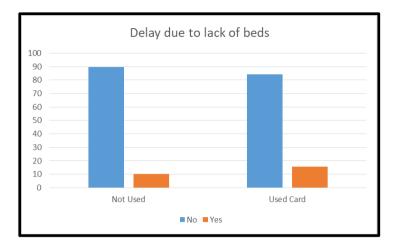


time gap between diagnosis and hospitalization	Recode of t		Total
less than 15 days 15 to 30 days More than 30 days Do not remember	81.36 5.08 11.86 1.69	71.43 10.00 14.29 4.29	75.97 7.75 13.18 3.10
Total	100.00	100.00	100.00

Similarly the under time gap between diagnosis and hospitalisation, we accept the null hypothesis and conclude that the mean rank is same for the groups.

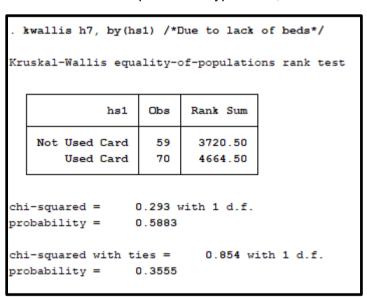


16% of the people who have used card experienced delays due to lack of beds compared to 10% of people who have not used the card.

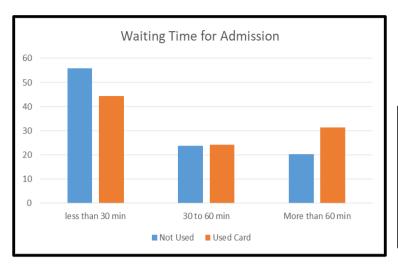


delay due so lack of beds	Recode of Not Used	used ss? Used Card	Total
No Yes	89.83 10.17	84.29 15.71	86.82 13. <b>1</b> 8
Total	100.00	100.00	100.00

Conducting the kruskal wallis test we accept the null hypothesis,

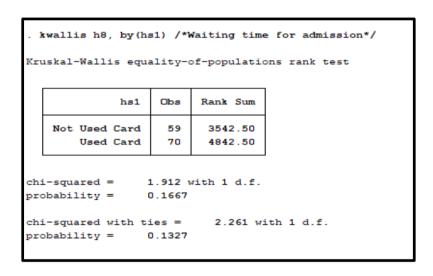


Finally for the waiting time, we find a very similar distribution between two groups as most of the members in each group, 56% of the people from not used card and 44% of the people among those who used card experienced a waiting time of less than 30 min

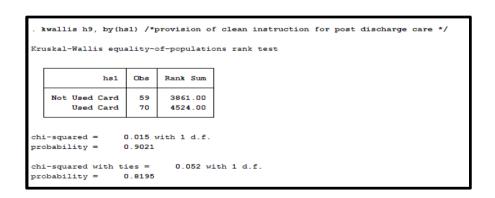


waiting time for admission	Recode of a		Total
Less than 30 minutes 30 to 60 minutes More than 60 minutes	55.93 23.73 20.34	44.29 24.29 31.43	49.61 24.03 26.36
Total	100.00	100.00	100.00

And kruskal wallis test confirms our hypothesis that there is no significant difference between mean ranks of the two groups.

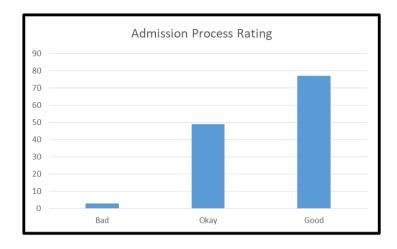


Furthermore, we also don't find any significant difference between mean ranks on the basis of provision of clear instruction for post discharge care.



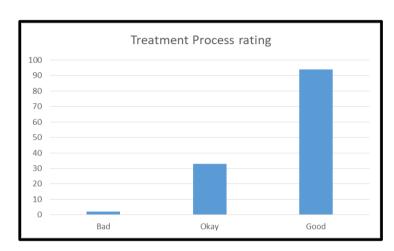
## **Rating Hospital Services**

Finally in our survey 60% of the people rated the survey "Good" and 38% rated it "Okay".



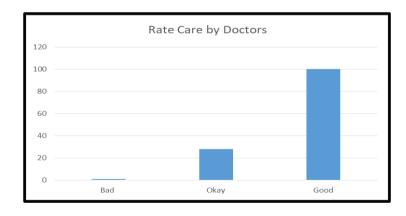
rate admission process	Freq.	Percent	Cum.
Bad	3	2.33	2.33
Okay	49	37.98	40.31
Good	77	59.69	100.00
Total	129	100.00	

In our survey we found that 72% people rated the treatment process 'Good" and 25% rated it "Okay"



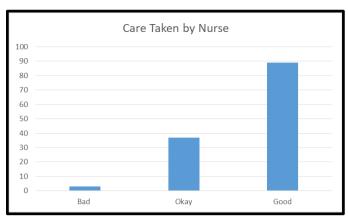
rate treament process	Freq.	Percent	Cum.
Bad	2	1.55	1.55
Okay	33	25.58	27.13
Good	94	72.87	100.00

77% of the people in our survey rated the care by doctors as "Good" and 21% as "Okay"



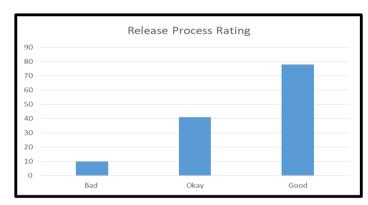
rate care by doctors	Freq.	Percent	Cum.
Bad	1	0.78	0.78
Okay	28	21.71	22.48
Good	100	77.52	100.00
Total	129	100.00	

68% considered the care taken by nurses as "Good" and 28% considered it as ""Okay"



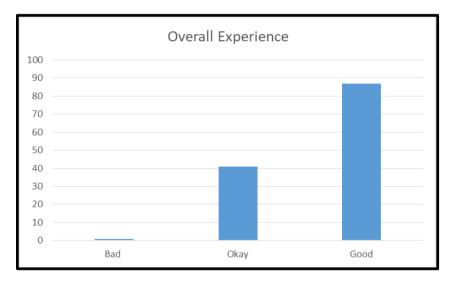
rate care by nurse	Freq.	Percent	Cum.
Bad	3	2.33	2.33
Okay	37	28.68	31.01
Good	89	68.99	100.00
Total	129	100.00	

60% of the people considered the release process to be "Good" whereas 32% considered it "Okay".



rate release process	Freq.	Percent	Cum.
Bad	10	7.75	7.75
Okay	41	31.78	39.53
Good	78	60.47	100.00
Total	129	100.00	

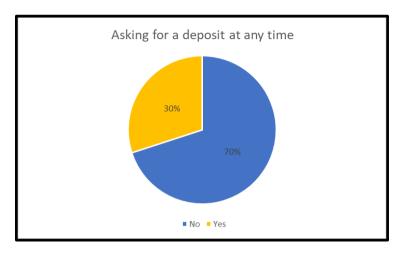
67% of the people voted the Overall Experience to be "Good".



rate overall experience	Freq.	Percent	Cum.
Bad	1	0.78	0.78
Okay	41	31.78	32.56
Good	87	67.44	100.00
Total	129	100.00	

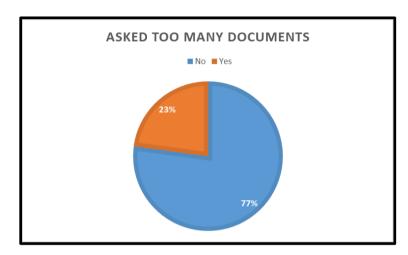
All of the above showed insignificant differences between mean ranks of the two groups under the .kruskal wallis test. In conclusion we find that **more than 90%** did not have any major problem with the services provided by the hospital.

We found that 70% of the people were not asked for any deposit at any time.



asking for deposit at any time	Freq.	Percent	Cum.
No	49	70.00	70.00
Yes	21	30.00	100.00
Total	70	100.00	

Only 23% of the people felt that they were asked for too many documents.



asked for too many documents	Freq.	Percent	Cum.
No	54	77.14	77.14
Yes	16	22.86	100.00
Total	70	100.00	

Therefore nearly 30% of the population faced some level of difficulty like asking for deposits and too many documents, therefore this could be a potential spot for improvement in the spread of information, so that people already know which documents are required.

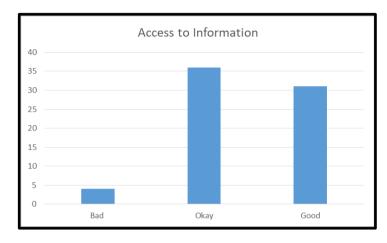
#### **Experience with Swasthya Sathi Scheme**

90% were satisfied with the swasthya sathi scheme whereas only 7 people in our survey are not happy

satisfactio n with SS	Freq.	Percent	Cum.
No Yes	7 64	9.86 90.14	9.86 100.00
Total	71	100.00	

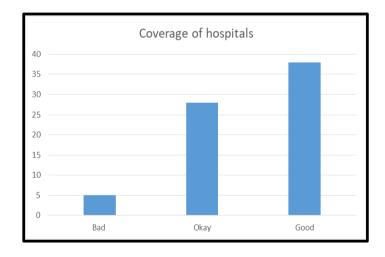
# **Rating the Services**

44% considered access to information under the scheme was "Good" and 51% as "Okay"



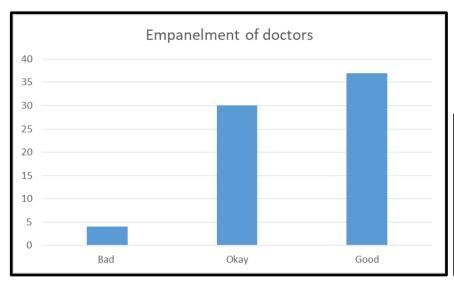
rate access			
information	Freq.	Percent	Cum.
Bad	4	5.63	5.63
Okay	36	50.70	56.34
Good	31	43.66	100.00
Total	71	100.00	

Under the coverage of hospitals 53% people thought it was "Good" whereas 39% though it was "Okay"



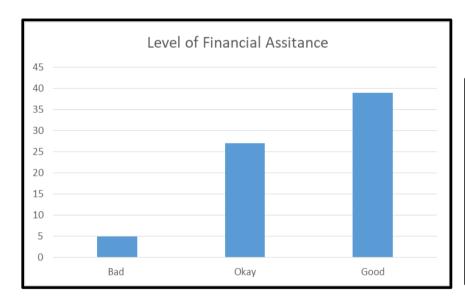
rate coverage of hospitals	Freq.	Percent	Cum.
Bad	5	7.04	7.04
Okay	28	39.44	46.48
Good	38	53.52	100.00
Total	71	100.00	

52% thought the empanelment of doctors under the scheme to be "Good" whereas 42% found it to be "Okay"



rate empanelment of doctors	Freq.	Percent	Cum.
Bad	4	5.63	5.63
Okay	30	42.25	47.89
Good	37	52.11	100.00
Total	71	100.00	

And finally 55% felt that the level of financial assistance was "Good" while 27% found it to be "Okay"



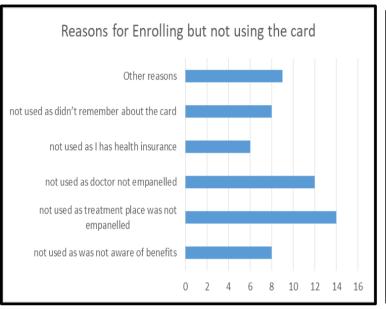
rate level of financial assitance	Freq.	Percent	Cum.
Bad	5	7.04	7.04
Okay	27	38.03	45.07
Good	39	54.93	100.00
Total	71	100.00	

From the above we find, access to information, empanelment of doctors and coverage of hospitals could be improved further.

#### Reasons for enrolling but not using the card

The most common reasons were:

Treatment place not empanelled (38%) and doctor not empanelled (33%)

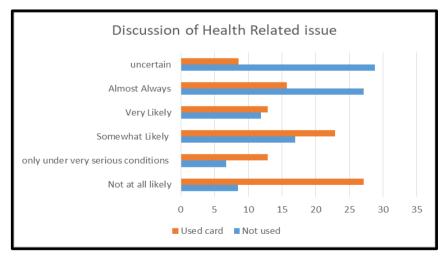


	Frequency	Percent of responses	Percent of cases
not used as was not aware of	8	14.04	21.62
benefits not used as treatment place not emplanelled	14	24.56	37.84
not used as doctor not emplanelled	12	21.05	32.43
not used as i had health insurance	6	10.53	16.22
not used as did not remember about the card	8	14.04	21.62
other reason	9	15.79	24.32
Total	57	100.00	154.05

#### **Status and Role of Respondent**

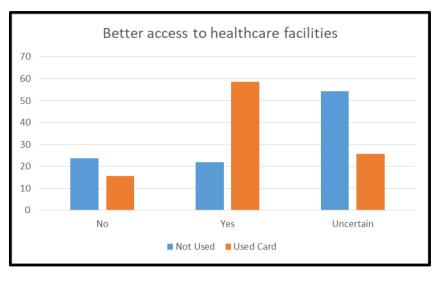
27% of the people who have not used card experience "almost always" discussion of health related issues after the scheme compared to only 16% of the people who have used the card.

Whereas we find that 27.14% of the people who have used a card experiences "not at all likely" discussion compared to only 8% of people who have not used the card



discussion of health-related issues after SS	Recode of Not Used		Total
not at all likely only under very serio somewhat likely very likely almost always don't know/uncertain	8.47 6.78 16.95 11.86 27.12 28.81	27.14 12.86 22.86 12.86 15.71 8.57	18.60 10.08 20.16 12.40 20.93 17.83
Total	100.00	100.00	100.00

And finally 59% of the people who used the card found access to better health care facilities compared to 22% of the people who did not use the card.



better accessibil ity after	Recode of	used ss?	
SS	Not Used	Used Card	Total
No	23.73	15.71	19.38
Yes	22.03	58.57	41.86
Uncertain	54.24	25.71	38.76
Total	100.00	100.00	100.00