

VACCINATION COVERAGE SURVEY
BANGALORE (RURAL) DISTRICT

JANUARY 1991

DEPT. OF PREVENTIVE & SOCIAL MEDICINE
BANGALORE MEDICAL COLLEGE
BANGALORE

GOVERNMENT OF KARNATAKA



PRINCIPAL

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BANGALORE MEDICAL COLLEGE

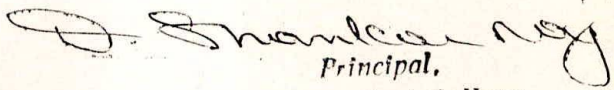
BANGALORE-560 002

DATED.....23/02/1991.....

The Department of Preventive and Social Medicine has once again brought out this commendable report on Coverage Evaluation Survey in Bangalore (Rural) District. This has been a part of the ICMR - Government of India initiated study of the Disease Surveillance Programme of the Vaccine Preventable Diseases.

The team spirit exhibited by the staff and postgraduate students under the leadership of Dr(Mrs) M.K. Vasundhra, Professor & Head of the Department of Preventive and Social Medicine deserves special commendation. This becomes all the more relevant in view of the acute shortage of staff in the department and various programmes entrusted to her in addition to the academic activities.

I congratulate all the team members for the excellent work turned out and assure such tempo shall be maintained for future assignments also.


Principal,
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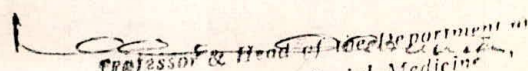
Date 23/02/1991

The Department of Preventive and Social Medicine of Bangalore Medical College has been selected by I.C.M.R. for Disease Surveillance Programme concerning Vaccine Preventable Diseases. The Coverage Evaluation Survey was one of such activities undertaken in Bangalore (Rural) District by the staff and postgraduate students of my department from 22.1.1991 to 25.1.1991.

It gives me an immense pleasure to present this report of the work carried out by this team, which I am sure will contribute to further development and implementation of Universal Immunisation Programme.

I wish to thank Dr. Gangadhar, District Health & Family Welfare Officer, Bangalore (Rural) District and his staff for all the co.operation extended during the survey. I am grateful to Dr. S.A. Vastrad, Lecturer in P & S Medicine for his untiring efforts in organising this survey. Dr. Satish, P.G. student has helped in compilation and analysis of data.

I thank I.C.M.R. for providing funds and an opportunity to carry out this survey which has been a great learning experience.


Professor & Head of Department of
Preventive & Social Medicine
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METHODOLOGY & PERSONNEL INVOLVED:

The Bangalore District Census Report of 1981 was procured from the District Health Office, Bangalore (Rural) District along with a list of modified area limits of the Rural District. 30 clusters were selected from this utilising the WHO approved cluster sampling Technique. The list of selected clusters along with the area map is appended (APPENDIX) - I.

The Survey was conducted as part of ongoing UIP Disease surveillance programme of I.C.M.R. New Delhi, and was financed by I.C.M.R.

The survey was preceded by a breifing session on 18.1.1991. The cluster were divided into 4 groups based on geographical convenience and a team leader assigned to each Group. Logistics, such as transport, and details of accomodation for overnight stay were finalised.

The survey conducted over a period of 4 days (22nd January to 25th January) except for one cluster which was isolated and had to be covered separately on 28.1.1991.

Primary health centres of concerned cluster was visited to study the cold chain equipment.

DEFINITIONS:

1. Fully Immunised:- A child, which has received 1 dose of BCG from 0-12 months, 3 doses each of DPT & OPV from 6 weeks to 12 months and 1 dose of Measles from 9-12 Mths.
2. Partially Immunised:- A child which has received one or more antigen but has not received all doses.
3. Not Immunised:- A child which does not receive even a single dose of any antigen.

PERSONNEL INVOLVED:

1. Dr. M.K. Vasundhra
Prof. & HOD of F & S Medicine, Chief Co.ordinator
2. Dr. S.A. Vastred
Lecturer, Dept. of F & S Medicine, Resource Person

POST GRADUATES:

3. Dr. Yarnal S.S.
4. Dr. (Mrs.) Radha R.
5. Dr. Gangadhara Swamy
6. Dr. Satish H.V.
7. Dr. Somashekar
8. Dr. Hooli B.
9. Dr. Nagaraj
10. Dr. Mallikarjuna Swamy
11. Dr. (Mrs.) Anasuya
12. Dr. Abdul Rahim
13. Dr. Samagond
14. Dr. Manjunath
15. Dr. Vijay Kumar
16. Dr. Ganesh Babu (House Surgeon)

DISTRICT PROFILE - BANGALORE (RURAL) DISTRICT

INFORMATION SOURCE - CENSUS REPORT OF BANGALORE DISTRICT 1981

1. Population (Bangalore - Rural) -	1472486 *
2. Rural population -	1300427 *
3. Urban opulation -	172059 *
4. Sex ratio (Bangalore District) -	926
5. Total Area of District -	8005 Sq.Kms.
6. Density of population -	618/sq.km.
7. Literacy rate (Urban) -	62.21%
Rural -	31.50%
8. Crude birth rate -	27.9 *
9. Crude death rate -	8.7 *
10. Infant mortality rate -	80 *
11. Temperature - Maximum	37 Deg.C.
Minimum	11 Deg.C.
12. Humidity	63.83%
13. Rainfall	794 mm.
14. Major agricultural produce - Ragi, Jowar, Paddy, Millets, Pulses.	
15. Major industries -	- Electronics, Electrical, Aeronautics, Ancillaries, Machine Tools.

* Information provided by Office of D.H.O. Bangalore (Rural) District.

HEALTH INFRASTRUCTURE OF THE DISTRICT

HEALTH INSTITUTIONS

Sl. No.	Particulars	Sanctioned	Working	Vacant
1.	No. of PHCs	36	36	0
2.	No. of PHUs & Ayurvedic Dispensaries	40+5	40+5	0
3.	No. of UFWC's	4	4	0
4.	No. of Sub Centres	341	338	4
5.	No. of ICDS Blocks	2	2	0
6.	No. of PPCs	2	2	0
7.	No. of G.Ps in the Dist.	0	0	0 (N.A.)

STAFFING PATTERN

Sl. No.	Category	Sanctioned	Working	Trained in UIP
1.	Medical Officers	98	93	92
2.	Lady Medical Officers	21	17	17
	Para Medical			
1.	Senior Health Asst. (M)	40	31	29
2.	Senior Health Asst. (F)	58	57	52
3.	Jr. Health Asst. (M)	232	167	152
4.	Jr. Health Asst. (F)	452	448	428
5.	Anganawadi worker	400	400	350
6.	No. of ICDS Blocks	2	2	0

UIP LOGISTICS

Cold chain equipment position as on 1.4.90, Bangalore Rural District.

Sl. No.	Items	Received	Used/installed
1.	Cold boxes 55 Modules	9	9
2.	Cold boxes 110 Modules	3	3
3.	Vaccine carriers	287	167
4.	Day carriers	287	167
5.	Dial thermometers	59	25
6.	Pressure Cookers	241	204
7.	Stoves (Kerosene)	301	239
8.	Syringes - 2 ml	900	310
9.	Syringes - 0.1 ml	3870	1135
10.	Syringes - 5 ml	1530	1518
11.	Needles - 20 G	310 boxes	310
12.	Needles - 23 G	5480 boxes	2500
13.	Needles - 26 G	3050	975
14.	Drum sterilizer	48 I	
15.	ILR 300 liters	2 I	
16.	Chest freezer 300 lits.	- I	Supplied during
17.	Voltage stabilizer	11 I	March 90
18.	Ice packs	2466 I	
19.	Glass syringes	11450	(do not fit into the holes of the pressure cooker supplied by Unicef).

O.P.V. POTENCY TEST

	1989-90	1990-91
1. No.of samples sent for testing	35	45
2. No.of results received	29	27
3. No.found satisfactory	22	20

DISEASE SURVEILLANCE (0-5 YEAR OLD CHILDREN)

Diseases	1988-89		1989-90		1990-91	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
1. Diphtheria	-	-	-	-	-	-
2. Pertussis	-	-	4	-	3	-
3. Tetanus Neonatorum	-	-	-	-	1	-
4. Tetanus (others)	-	-	-	-	-	-
5. Polio myelitis(ac.)	-	-	3	-	3	-
6. Tuberculosis (Childhood)	-	-	1	-	1	-
7. Measles	306	9	191	1	157	6
8. Typhoid fever	52	-	-	-	-	-

DETAILS OF ADVERSE VACCINATION REACTIONS AND DEATHS

None reported.

GENERAL INFORMATION

1. Total No. of houses visited in 30 clusters - 2058
2. Minimum No. of houses visited - Mothers 28, Children 20
3. Maximum No. of houses visited - Mothers 111, Children 97
4. Average No. of houses visited per cluster - Mothers 55.53,
Children 58.27
5. Minimum time spent (in minutes) - 120
6. Maximum time spent (in minutes) - 335
7. Average time spent (in minutes) per cluster - 211.33 Min.
8. No. of house holds visited to get 210 children - 1748
9. Total population enumerated to get 210 children - 10,340
10. No. of house holds visited to get 210 Mothers of infants - 1666
11. Total population enumerated to get 210 Mothers of
infants - 9592
12. Average size of family - 5.78
13. Total No. of live births - 211
14. Crude birth rate - 21.99 (1990)
15. Total No. of 0-5 year old children - 10,364
16. Total live birth in last one year - 2146

COVERAGE FIGURES (12-23 MONTHS CHILDREN)

Total No. of 12-23 months children - 210, Male 102, Female 108

IMMUNISATION CARD AVAILABLE - 81 (38.57%)
NOT AVAILABLE - 129 (61.43%)

Antigen	No. (%)
B.C.G.	184 (87.62%)
Scar present (out of 184)	166 (90.22%)
D.P.T. - 1	163 (77.62%)
D.P.T. - 2	157 (74.76%)
D.P.T. - 3	147 (70.00%)
DROP OUT RATE (1-3)	16 (9.82%)
O.P.V. - 1	163 (77.62%)
O.P.V. - 2	158 (75.24%)
O.P.V. - 3	148 (70.48%)
DROP OUT RATE (1-3)	15 (9.20%)
MEASLES	116 (55.24%)
Fully Immunised	110 (52.38%)
Partially Immunised	91 (43.33%)
Not Immunised	9 (4.29%)

Fully immunised children form 52.38%, when immunisation as per the recommended schedule is the criteria. However, when 6 children who were given measles within 15 months are also considered, the coverages is 55.24%. One child was not given Measles Vaccine, since it had an attack of Measles and is considered as partially immunised in this table.

SOURCE OF IMMUNISATION

Antigen	Hospital	H.C.	Outreach	Private
B.C.G.	44 (23.91%)	125 (67.93%)	15 (8.16%)	0
DPT 1	33 (20.25%)	110 (67.48%)	14 (8.59%)	6 (3.68%)
DPT 2	24 (15.29%)	108 (68.79%)	16 (10.19%)	9 (5.73%)
DPT 3	23 (15.65%)	102 (69.39%)	15 (10.20%)	7 (4.76%)
OPV 1	29 (17.79%)	112 (68.71%)	14 (8.59%)	8 (4.91%)
OPV 2	27 (17.09%)	110 (69.62%)	13 (8.23%)	8 (5.06%)
OPV 3	26 (17.57%)	100 (67.57%)	13 (8.78%)	9 (6.08%)
Measles	20 (17.24%)	83 (71.55%)	10 (8.62%)	3 (2.59%)

Hospital and Health Centre were together the leading source of B.C.G. (91-84%), DPT & OPV (85.04% to 87.73%) and Measles (88.79%). Only one in every tenth antigen was received through outreach activity.

REASONS FOR IMMUNISATION FAILURE

	P.I. (91) BCG/DPT/OPV	P.I. (91) Measles	N.I. (9)
<u>I. LACK OF INFORMATION</u>			
1. Unaware of need	8 (8.79%)	10 (10.99%)	5 (55.55%)
2. Unaware of need to return for 2/3 dose	10 (10.99%)	0	0
3. Place/time of immunisation unknown	0	0	0
4. Fear of side reactions	1 (1.10%)	1 (1.10%)	0
5. Wrong ideas about contra - indication	0	0	0
6. Others	0	0	0
<u>II. LACK OF MOTIVATION</u>			
1. Postponed till another time	8 (8.79%)	5 (5.49%)	0
2. No faith in immunisation	0	0	3 (33.33%)
3. Rumours	0	0	0
4. Others	0	0	0
<u>III. OBSTACLES</u>			
1. Place too far	7 (7.69%)	0	0
2. Time inconvenient	0	3 (3.30%)	0
3. Vaccinator not present	1 (1.10%)	3 (3.30%)	0
4. Vaccine not available	1 (1.10%)	0	0
5. Mother too busy	3 (8.79%)	8 (8.79%)	0
6. Family problems	0	0	0
7. Child ill, not brought for immunisation	0	3 (3.30%)	0
8. Child ill, brought, not immunised	1 (1.10%)	3 (3.30%)	0
9. Long waiting time	1 (1.10%)	0	0
10. Child afraid of injection	1 (1.10%)	0	0
11. Opposition at home	0	0	1 (11.11%)
12. Wrong timing - Late	0	6 (6.59%)	0
Early	0	1 (1.10%)	0
13. Attack of measles	0	1 (1.10%)	0

Children who were partially immunised due to not receiving one of the 3 antigens (BCG/OPV/DPT) numbered 47 (51.65%) and the most common reason was 'Unaware of need to return for 2/3 dose'.

Partially immunised children who had not received measles numbered 44 (48.35%) and the most common reason was 'Unware of need for immunisation'.

Problems that could be solved by outreach activities - 'Mother too busy', 'Time/place inconvenient' and 'Long waiting time' accounted for 27 (29.67%) of partially immunised children.

DROP OUT RATES

	<u>D.P.T.</u>	<u>O.P.V.</u>
I & II dose	6 (3.68%)	5 (3.07%)
II & III dose	10 (6.37%)	10 (6.33%)
I & III dose	16 (9.82%)	15 (9.20%)

Drop out rates for both OPV & DPT are higher between II & III dose than between I & II dose.

INITIATION OF ANTIGENS:

	0-1 1/2 M.	1 1/2-3 M.	4 M.	5 M.	6 M.	7 M.	8 M.	9 M.	10 M.	11 M.	12 M.
B.C.G. 184	114 (61.96%)	36 (19.57%)	19 (10.33%)	4 (2.17%)	3 (1.63%)	1 (0.54%)	1 (0.54%)	4 (2.17%)	0	0	2 (1.09%)
D.P.T. 1 163	0	120 (73.62%)	30 (18.40%)	10 (6.13%)	1 (0.61%)	0	2 (1.23%)	0	0	0	0
O.P.V. 1 163	0	120 (73.62%)	30 (18.40%)	10 (6.13%)	1 (0.61%)	0	2 (1.23%)	0	0	0	0
Measles 116	0	0	0	0	0	0	1 (0.86%)	0	86 (74.14%)	16 (13.79%)	8 (6.90%)
									12 + Month - 6 (5.17%)		

The number of children receiving immunisation with B.C.G., D.P.T. 1, O.P.V. 1, & Measles at the earliest recommended age was respectively 61.96%, 73.62%, 73.62% & 74.14%.

COMPLETION OF IMMUNISATION (Fully Immunised)

	10 - 12 Months	12 + Months
Male	57 (95.00%)	3 (5.00%)
Female	53 (94.64%)	3 (5.36%)
Total	110 (94.83%)	6 (5.17%)

57 of the fully immunised were males (55.88%) of all males, and 53 of the fully immunised were females (49.07%) of all females. Completion of the 12 months by 6 children was considered as partially immunised.

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COMMUNITY HEALTH CELL
326, V Main, I Block
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COMPARISON WITH PREVIOUS SURVEY DATA

(Figures in percentage)

	C.E.S. Dec. 1989	C.E.S. Jan. 1991
B.C.G	71.90	87.62
D.P.T. - 3	76.19	70.00
Drop out rate	10.11	9.82
O.P.V. 3	75.71	70.48
Drop out rate	10.17	9.20
Measles	37.62	55.24
Fully Immunised	34.29	52.38
Partially Immunised	52.38	43.33
Not Immunised	13.33	4.29

The most significant changes in coverage figures as compared to 1989 Survey are in BCG & Measles Antigens which are reflected in the fully immunised and partially immunised category.

COMPARISON OF MOTHER COVERAGE (Figures in percentage)

	C.E.S. Dec. 1989	C.E.S. Jan. 1991
TT - 2/B	70.95	77.73
Fully Immunised	70.95	77.73
Partially Immunised	5.24	6.16
Not Immunised	23.81	16.11

There are no significant changes in Coverage figures for TT and the maximum change has occurred in the not immunised category (7.70% decrement).

COMPARISON WITH REPORTED COVERAGE (Jan. 89 - Dec. 89)

	% Achievement	Survey Results
BCG	88.18%	87.62%
DPT 3	70.92%	70.00%
OPV 3	70.30%	70.48%
Measles	56.01%	55.24%

There are no significant difference in reported coverage & Survey Results.

K.A.P. OF RELIABLE RESPONDENTS

(12-23 months children)

	FI (110)	FI (91)	NI (9)
I. USE OF INJECTION/DROPS			
1. Maintains health	11 (10.00%)	12 (13.19%)	1 (11.11%)
2. Prevent sickness	65 (59.09%)	48 (52.75%)	1 (11.11%)
3. Prevent disability	8 (7.27%)	3 (3.30%)	1 (11.11%)
4. Prevent death	2 (1.82%)	0	0
5. Others	5 (4.55%)	3 (3.30%)	2 (22.22%)
6. Don't know	19 (17.27%)	28 (30.77%)	4 (44.44%)
II. DISEASES PREVENTED BY THESE INJECTIONS/DROPS			
1. Polio	65 (59.09%)	24 (26.37%)	3 (33.33%)
2. Tuberculosis	21 (19.09%)	11 (12.09%)	0
3. Diphtheria	20 (18.18%)	2 (2.20%)	0
4. Pertussis	24 (21.82%)	2 (2.20%)	0
5. Tetanus	37 (33.64%)	14 (15.38%)	2 (22.22%)
6. Measles	43 (39.09%)	9 (9.89%)	0
7. Others	12 (10.91%)	24 (26.37%)	0
8. Don't know	42 (38.18%)	42 (46.15%)	7 (77.77%)
III. SOURCE OF IMMUNIZATION SERVICES			
1. Government Hospital	91 (82.73%)	80 (87.91%)	2 (22.22%)
2. Outreach	16 (14.55%)	6 (6.59%)	2 (22.22%)
3. Private	3 (2.73%)	5 (5.49%)	0
IV. DAY OF AVAILABILITY OF IMMUNISATION SERVICES			
1. Any day	2 (1.82%)	16 (17.58%)	0
2. Fixed day	107 (97.27%)	59 (64.84%)	5 (55.55%)
3. Don't know	1 (0.91%)	12 (13.19%)	4 (44.44%)
V. CORRECT AGE FOR GIVING INJECTION/DROPS			
1. OPV	81 (73.64%)	44 (48.35%)	1 (11.11%)
2. DPT	73 (66.36%)	38 (41.76%)	1 (11.11%)
3. BCG	77 (70.00%)	40 (43.96%)	0
4. Measles	78 (70.91%)	31 (34.07%)	1 (11.11%)
VI. CORRECT NUMBER OF DOSES OF INJECTION/DROPS			
1. OPV	95 (86.36%)	50 (54.95%)	1 (11.11%)
2. DPT	92 (83.64%)	53 (58.24%)	1 (11.11%)
3. BCG	88 (80.00%)	59 (64.84%)	3 (33.33%)
4. Measles	80 (72.73%)	38 (41.76%)	0
VII. DECISION MAKER IN THE FAMILY			
1. Mother	64 (58.18%)	41 (45.05%)	3 (33.33%)
2. Father	21 (19.09%)	40 (43.96%)	3 (33.33%)
3. Mother-in-law	8 (7.27%)	5 (5.49%)	0
4. Father-in-law	5 (4.55%)	1 (1.10%)	0
5. Others	12 (8.39%)	4 (4.40%)	0

FI (110)

FI (91)

NI (9)

VIII. SOURCE OF INFORMATION

1.	Health Worker	84 (76.36%)	52 (57.14%)	4 (44.44%)
2.	Anganawadi Worker	6 (5.45%)	10 (10.99%)	0
3.	Medical Practitioner	12 (10.91%)	5 (5.49%)	1 (11.11%)
4.	Newspaper/Poster	6 (5.45%)	0	0
5.	Relatives/Neighbours	9 (8.18%)	10 (10.99%)	0
6.	Others	6 (5.45%)	3 (3.30%)	0
7.	No information	0	11 (12.09%)	1 (11.11%)

Reliable Respondents of the 12 - 23 month old children mostly felt that the Antigens prevented sickness, 114 (54.29%) , while 51 (24.29%) did not know their utility.

Awareness of the Vaccine preventable diseases varied between 43.81% for Polio & 10.48% for Diphtheria. 91 (43.33%) did not know any of the diseases prevented.

Commonest mentioned sources of Immunisation was Government Hospital or Health Centre, 173 (82.38%), and services were mostly thought to be on a fixed day, 171 (81.43%). 5 Respondents in the Not Immunised Category did not know the source of immunisation.

The knowledge of correct Age & No. of Doses was highest with regard to OPV (60.00%) and (69.52%) respectively. It was lowest for Measles (52.38% & 56.19% respectively).

The Decision to immunise the child was taken mostly by the mother herself (51.43%) and the commonest source of information was the Health Worker (66.66%).

MOTHER COVERAGE

Total No. of Pregnant Women - 211

Card available - 83 (39.34%)

Not available - 128 (60.66%)

	<u>Card</u>	<u>History</u>	<u>Total</u>
TT - 1	70	98	168 (79.62%)
TT - 2	69	86	155 (73.46%)
Booster	7	2	9 (4.27%)
Fully Immunised	164 (77.73%)		
Partially Immunised	13 (6.16%)		
Not Immunised	34 (16.11%)		

Out of 83 pregnant mothers who had a card 6 (7.23%) remained unimmunised and 1 (1.20%) partially immunised. Among those who did not have a card, 28 (21.88%) were unimmunised and 12 (9.38%) were partially immunised.

SOURCE OF IMMUNISATION

	TT - 1 (168)	TT - 2/B (164)
HOSPITAL	58 (34.52%)	56 (34.15%)
HEALTH CENTRE	90 (53.57%)	84 (51.21%)
OUT REACH	6 (3.57%)	10 (6.10%)
PRIVATE	14 (8.33%)	14 (8.54%)

Hospital & Health Centre together accounted for 66.35% of TT 2/B dose.

ANTENATAL CONTACTS

No. of contacts	Number (percentage)
3 or more than 3	96 (45.50%)
1 - 3	89 (42.18%)
0	26 (12.32%)

SERVICES DURING A.N.C.

No. of Times	Urine Examination	B.P. Check Up	Hb%
Nil	102 (48.34%)	102 (48.34%)	104 (49.29%)
1	39 (18.48%)	25 (11.85%)	47 (22.27%)
2	31 (14.69%)	27 (12.80%)	32 (15.17%)
3	34 (16.11%)	42 (19.91%)	28 (13.27%)
4	5 (2.37%)	15 (7.11%)	0

Pregnant women who had at least 3 or more antenatal contacts numbered 96 (45.50%) while the minimum criteria of at least 3 investigations each, was true of only 39 (18.48%), 57 (27.01%) and 28 (13.27%) for Urine Examination, B.P. Checkup & Hb% estimation respectively.

IRON & FOLIC ACID TABLETS CONSUMED

	Number(%)
100 or more	60 (28.44%)
1 - 100	104 (49.29%)
No tablets	47 (22.27%)

Totally 164 (77.73%) pregnant women consumed Iron and Folic Acid tablets and 60 (36.59%) of these took 100 or more tablets.

PLACE OF DELIVERY

	Number(%)
Hospital/Health Centre	62 (29.38%)
Home	143 (67.77%)
Private Nursing Home	6 (2.85%)
Others	0

DELIVERY ATTENDED BY

	Number (%)
Doctors	28 (13.28%)
Health Staff	59 (27.96%)
Trained dai	21 (9.95%)
Untrained dai	41 (19.43%)
Others	62 (29.38%)

Delivery was conducted at equipped centres for 68 (32.23%) of the deliveries with doctors attending 28 (41.18%) of these.

Qualified personnel conducted the delivery of 108 (51.18%) infants. The 'Others' category refers to a relative staying at home or some one passing by or even no attendants.

INITIATION OF TT IMMUNISATION								
MONTHS OF PREGNANCY -	3	4	5	6	7	8	9	Total
TT - 1	18(10.71%)	26(15.48%)	63(37.50%)	37(22.02%)	20(11.90%)	4(2.38%)	0	168

COMPLETION OF IMMUNISATION								
MONTHS OF PREGNANCY -	3	4	5	6	7	8	9	Total
TT - 2	0	10 (6.45%)	19 (12.26%)	31 (20.00%)	65 (30.81%)	21 (13.55%)	9 (5.81%)	155
Booster	0	0	3 (33.33%)	2 (22.22%)	3 (33.33%)	1 (11.11%)	0	9

107 of mothers (50.71%) had been initiated by 5th month, which is usually the period of initiation, but only 60(56.07%) of these were immunised by 6th month indicating a greater than 1 month dosage interval.

K.A.P. OF RELIABLE RESPONDENTS (0-12 months Infants)

	FI (155)	PI (22)	NI (34)
I. USE OF INJECTION/DROPS			
1. Maintains Health	22 (14.19%)	8 (36.36%)	4 (11.76%)
2. Prevents Sickness	72 (46.45%)	10 (45.45%)	15 (41.18%)
3. Prevents disability	9 (5.81%)	0	1 (2.94%)
4. Prevents death	11 (7.10%)	1 (4.55%)	2 (5.88%)
5. Others	13 (8.39%)	0	6 (17.65%)
6. Don't know	28 (18.06%)	4 (18.18%)	9 (26.47%)
II. DISEASES PREVENTED BY INJECTION/DROPS			
1. Polio	56 (36.13%)	16 (72.73%)	7 (20.59%)
2. Tuberculosis	34 (21.94%)	10 (45.45%)	3 (8.82%)
3. Diphtheria	10 (6.45%)	3 (13.64%)	1 (2.94%)
4. Pertussia	7 (4.52%)	3 (13.64%)	0
5. Tetanus	39 (25.16%)	9 (40.91%)	3 (3.82%)
6. Measles	27 (17.42%)	5 (22.73%)	5 (14.71%)
7. Others	9 (5.81%)	1 (4.55%)	2 (5.88%)
8. Don't know	62 (40.00%)	17 (77.27%)	11 (32.35%)
III. SOURCE OF IMMUNISATION SERVICES			
1. Government Hospital	128 (82.58%)	17 (77.27%)	24 (70.59%)
2. Outreach	27 (17.42%)	4 (18.18%)	4 (11.76%)
3. Private	0	1 (4.55%)	2 (5.88%)
IV. DAY OF AVAILABILITY OF IMMUNISATION SERVICES			
1. Any day	6 (3.87%)	2 (9.09%)	4 (11.76%)
2. Fixed day	149 (96.13%)	19 (86.36%)	19 (55.88%)
3. Don't know	0	1 (4.55%)	11 (32.35%)
V. CORRECT AGE FOR GIVING INJECTION/DROPS			
1. OPV	96 (61.94%)	14 (63.64%)	10 (29.41%)
2. DPT	93 (60.00%)	13 (59.09%)	8 (23.53%)
3. BCG	99 (63.87%)	15 (68.18%)	7 (20.59%)
4. Measles	77 (49.68%)	10 (45.45%)	9 (26.47%)
VI. CORRECT NO. OF DOSES OF INJECTION/DROPS			
1. OPV	101 (65.16%)	17 (77.27%)	13 (32.35%)
2. DPT	97 (62.58%)	14 (63.64%)	10 (29.41%)
3. BCG	102 (65.81%)	17 (77.27%)	12 (35.29%)
4. Measles	88 (56.77%)	13 (59.09%)	7 (20.59%)
VII. DECISION MAKER IN THE FAMILY			
1. Mother	86 (55.48%)	18 (81.82%)	14 (41.18%)
2. Father	44 (28.39%)	3 (13.64%)	10 (29.41%)
3. Mother-in-law	8 (5.16%)	0	4 (11.76%)
4. Father-in-law	11 (7.10%)	1 (4.55%)	0
5. Others	6 (3.87%)	0	6 (17.65%)

	FI (155)	PI (22)	NI (34)
VIII. SOURCE OF INFORMATION			
1. Health Worker	129 (83.23%)	17 (77.27%)	22 (64.71%)
2. Anganawadi Worker	7 (4.52%)	3 (13.64%)	1 (2.94%)
3. Medical Practitioner	11 (7.10%)	5 (22.73%)	1 (2.94%)
4. Newspaper / Poster	6 (3.87%)	0	1 (2.94%)
5. Relatives / Neighbours	9 (5.81%)	5 (22.73%)	4 (11.76%)
6. Others	14 (9.03%)	2 (9.09%)	4 (11.76%)
7. Don't know	2 (1.29%)	0	1 (2.94%)
IX. INTENTION TOWARDS IMMUNISATION			
1. Yes	97 (62.58%)	17 (77.27%)	22 (64.71%)
2. Already started	131 (84.52%)	16 (72.73%)	13 (38.24%)
3. Completed	24 (15.48%)	4 (18.18%)	5 (14.71%)
4. No	0	1 (4.55%)	1 (2.94%)
5. Others	0	1 (4.55%)	2 (5.88%)

Reliable Respondents of 0 - 12 Months old Infants mostly felt that the Antigens prevented Sickness (45.50%) and (19.43%) did not know the use of Antigens.

Polio was the disease thought to be prevented by most people (37.44%) while only (4.74%) knew about pertussia.

Commonest mentioned source of immunisation was Government Hospital or Health Centre (80.09%) and services were mostly thought to be on a fixed day (88.63%). 4 Respondents did not know the source of immunisation.

Knowledge of correct Age & correct No. of Doses was roughly equal for all antigens except Measles which was lower.

Decision to immunise was mostly made by the Mother (55.92%) and the commonest source of information was the Health worker (79.62%).

Only 2 Respondents refused to get the infant immunised.

COVERAGE FIGURES (1 1/2 to 11 month infants)

Total No. of infants -	195	Male -	95	Female -	100
Card available	137	(70.26%)			
Not available	58	(29.74%)			
Antigen		No. (%)			
B. C. G.		181	(92.82%)		
Scar present out of (137)	156	(86.19%)			
OPV 1		162	(83.08%)		
OPV 2		138	(77.44%)		
OPV 3		97	(49.74%)		
DPT 1		164	(84.10%)		
DPT 2		140	(71.79%)		
DPT 3-		99	(50.77%)		
Measles		22	(11.28%)		
Fully immunised		22	(11.28%)		
Partially Immunised upto date	101	(51.79%)			
Less than due	60	(30.77%)			
Not Immunised	12	(6.15%)			

Since no conclusions can be drawn from the figures as the immunisation in this group is ongoing, the only indicator is the number of fully immunised Plus the number who are immunised up to date-together forming 123(63.08%) of infants. The not immunised category indicates the non-receipt of BCG due to delivery being at home.

SOURCE OF IMMUNISATION

	HOSPITAL	HEALTH CENTRE	OUTREACH	PRIVATE
BCG (181)	43(23.76%)	108(59.67%)	28(15.47%)	2(1.10%)
DPT 1 (164)	23(14.02%)	92(56.10%)	42(25.61%)	7(4.27%)
DPT 2(140)	23(16.43%)	80(57.14%)	29(20.71%)	8(5.71%)
DPT 3(99)	17(17.17%)	56(56.57%)	19(19.19%)	7(7.07%)
OPV 1(162)	27(16.67%)	94(58.02%)	34(20.99%)	7(4.32%)
OPV 2(138)	26(18.84%)	77(55.80%)	27(19.57%)	8(5.80%)
OPV 3(97)	24(24.74%)	52(53.61%)	14(14.43%)	7(7.22%)
Measles (22)	6(27.27%)	12(54.54%)	4(18.18%)	0

Hospital & Health Centre were together the leading source of immunisation for all antigens with outreach contributing 14.43% to 25.61%

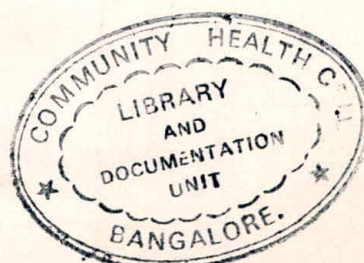
REASONS FOR IMMUNISATION FAILURE

(1/2 to 11 months)

	PI (60) (BCG/OPV/DPT)	PI (60) (Measles)	NI (12)
I. <u>Lack of information</u>			
1. Unaware of need	7(11.67%)	1(1.67%)	4(33.33%)
2. Unaware of need to return for 2/3 dose	4(6.67%)	0	0
3. Place/time not known	0	0	1(8.33%)
4. Fear of side reaction	0	0	0
5. Wrong ideas about Contra indication	1(1.67%)	0	0
6. Others	0	0	0

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	PI (60) (BCG/OPV/DPT)	PI (60) (Measles)	NI (12)
<u>II. Lack of motivation</u>			
1. Postpone till another time	7(11.67%)	1(1.67%)	1(8.33%)
2. No faith in immunisation	0	0	1(8.33%)
3. Rumours	0	0	0
<u>III. Obstacles</u>			
1. Place too far	11(18.33%)	0	0
2. Time inconvenient	1(1.67%)	0	0
3. Vaccinator absent	0	0	1(8.33%)
4. Vaccine not available	2(3.33%)	1(1.67%)	0
5. Mother too busy	14(23.33%)	3(5.00%)	0
6. Family problems	1(1.67%)	0	1(8.33%)
7. Child ill, not brought	5(8.33%)	0	1(8.33%)
8. Child ill, brought, not given	0	0	0
9. Long waiting time	0	0	0
10. Opposition of elders	1(1.67%)	0	1(8.33%)
11. Child too young to be taken out	1(1.67%)	0	0
12. Attitude of health staff	1(11.67%)	0	0
13. Wrong time	1(1.67%)	0	0

An infant which had not been immunised with antigens at the earliest recommended age or was not immunised, was classified as 'Failure of Immunisation'. The commonest overall reason was 'Mother too busy'.

LAMENESS SURVEY

No. of 0 - 5 Year old children -	10,364
No. of Lame children -	24
Cause of Lameness	No. (%)
Poliomyelitis	14 (58.33%)
Trauma	0
Congenital	9 (37.50%)
Others (TBM)	1 (4.17%)

Lameness due to Polio - 14
Rate/1000 children - 1.35

AGE & SEX DISTRIBUTION OF POLIO LAME CHILDREN

	Male	Female	Total
0 - 6 weeks	0	0	0
7 - 14 weeks	0	0	0
15 weeks - 6 months	1	1	2 (14.29%)
7 - 12 months	2	1	3 (21.43%)
2 Years	0	7	7 (50.00%)
3 years	0	0	0
4 Years	1	0	1 (7.14%)
5 Years	0	1	1 (7.14%)
Total :	4 (28.57%)	10 (71.43%)	14

IMMUNISATION STATUS OF POLIO LAME CHILDREN AT TIME OF ATTACK

	Male	Female	Total
Nil	0	5	5 (35.71%)
1st dose only	2	1	3 (21.43%)
2nd dose	0	3	3 (21.43%)
3rd dose	2	1	3 (21.43%)
Booster	0	0	0

PROVOCATIVE POLIOMYELITIS

History of provocation	Number (%)
Yes	1 (7.14%)
No	13 (92.86%)

AGE OF ONSET OF LAMENESS

Cause	Polio		Others		Total
	Male	Female	Male	Female	
0-6 weeks	0	0	4	4	8(33.33%)
7 weeks 12 Mth.	4	4	1	0	9(37.50%)
2 Years	0	6	1	0	7(29.17%)
3 Years	0	0	0	0	0
4 Years	0	0	0	0	0
5 Years	0	0	0	0	0

CALENDER YEAR OF SURVEY

	Number	(%)
1990	4	(28.57%)
1989	1	(7.14%)
1988	4	(28.57%)
1987	4	(28.57%)
1986	1	(7.14%)

NEO NATAL TETANUS SURVEY

No. of live births in last one year - 2146
 No. of Neonatal deaths - Male - 6, Female - 6 - 12
 No. of Neonatal deaths due to Tetanus - 2 (Male - 1, Female - 1)
 Neonatal death rate - 5.59/1000 Live Births
 Neonatal Tetanus rate - 0.93/1000 Live Births

BIRTH ATTENDANTS FOR NNT ONLY

	Number	(%)
Health staff	0	
Trained dai	0	
Untrained dai	0	
Family members	2	(100.00%)
Others	0	
None	0	

PLACE OF DELIVERY & N.N.T.

Hospital/Health Centre	0
Home	2
Others	0

MEDICAL CARE AT SICKNESS

Govt. Institution	0
N.G.O./Private	0
Institution	
Unqualified practioner	0
No treatment	2

IMMUNISATION STATUS OF MOTHERS

Not Immunised	1(50.00%)
1st dose	0
2nd dose	0
Booster dose	1(50.00%)

COLD CHAIN SURVEY

During the coverage Evaluation Survey, 13 P.H.C.'s of concerned clusters were visited for the purpose of Cold Chain Survey based on their proximity to the selected clusters. The Cold Chain Survey was carried out as per the proforma provided by Directorate of Health and Family Welfare Services, Bangalore. The findings during the survey are summarised here.

1. Medical Officers in 12 of 13 PHC's had undergone U.I.P. training
2. The persons in charge of Cold Chain equipment were M.O.H. -1 PH C, Pharmacists, - 5 PHC's, Health Inspector Senior - 2 PHC's L.H.V.'s - 3 PHC's, A.N.M. - 2 PHC's. All of them had undergone U.I.P. training.
3. Refirgerators had been supplied to 6 PHC's out of which 5 were being used. Location of the refrigerator was M.O.H. Room - 3 PHC's, injection room - 1 PHC, Store Room -1 PHC and Pharmacists Room - 1 PHC.
4. All the 6 refrigerators were placed at a distance of 10 Cms from the wall, all were level, the plugs were permanently taped to the wall with switch taped in ON position and voltage stabiliser was being used in all of them.
5. Vaccines were neatly stacked in 2 of the refrigerators, 1 refrigerator was not in use and 3 did not have vaccines as these were being stored in I.L.R.
6. In the 2 fefrigerators being used regularly - the vaccines were stored in the correct places.
7. Ice packs were kept neatly in freezing chamber in all 5 refrigerators and temperature charts were regularly maintained.
8. Periodicity of defroosting was weekly - in 3 PHC's, every 2 weeks in 1 PHC, occasionally in 1 PHC. None of the Refrig-
erators had food/drinks stored in them.
9. All the 12 PHC's had cold boxes which were in working condition
10. Vaccine carriers in PHC's ranged from 2-10 (Av. 4.77)all of which were in working condition.
11. Ice packs in the PHC's ranged from 20-54 (Av-36.62) only 1

:

out of 476 Ice packs was not in working condition.

12. Day carriers ranged from 1-10 (Av. 3.62). All of which were in working condition.
13. I.L.R.'s were supplied to 10 of the 13 PHC's.

EVALUATION OF I.L.R.

I.L.R.'s had been supplied in 10 of the 13 PHC's and one of these was not being used due to severe voltage fluctuation. The evaluation was done as per the proforma provided.

1. Persons-in-charge of the ILR were - ANM's - 4 PHC's LHV'S - 3 PHC's, HA (F) - 2 PHC's, Pharmacists - 1 PHC. All of them had undergone UIP training.
2. The ILR was supervised by pharmacists in 7 PHC's and Medical Officers in 3 PHC's. All of them had undergone UIP training as well as training in ILR maintenance.
3. All 10 persons stated that voltage stabiliser is a must for ILR.
4. Regarding water level in vertical tubes, 6 said it must be filled upto 3/4 of the tube, 2- upto 2 cms below the brim and 2 said it must be filled upto the brim.
5. The need for regular defrosting was indicated by 8 of them, When the ILR was emptied the vaccines were stocked in Cold Boxes - 3 PHC's, Vaccine Carriers - 3 PHC's, Refrigerators - 1 PHC's, Ice pack - 1 PHC, 2 of the persons were ignorant of the place to store vaccines.
6. Ice packs were prepared in Deep Freezer in 9 PHC's and Refrigerator in 1 PHC's.
7. The duration of power supply needed to maintain desired temperature for 24 hours was stated to be 8 hours - 2 person, 12 hours - 4 persons, 24 hours - 2 persons and not known in 2 persons.
8. All 10 stated that normal ILR temperature should be in the range 2-8°C, with 9 saying that dial thermometer should be

placed near the lid and 1 saying that it should be kept in the middle of the ILR.

OBSERVATIONS

1. The temperature was maintained within normal range in all 9 ILR's which were being used. One of them was found to be badly maintained.
2. Stabiliser (voltage) was working in all 10 PHC's, but the plug was not permanently plastered in 2 PHC's.
3. The level of the ILR, its distance from the wall and presence of caps for all vertical tubes were all as specified.
4. In 1 PHC's the vertical tube was not filled properly with water.

SUMMARY

CHILD COVERAGE SURVEY (12.23 months children)

1. Fully immunised children formed 52.38% of the 210 children covered and 4.29% were not immunised.
2. Hospital and Health Centre were the major sources for all antigen
3. Among the reasons for immunisation failure ignorance of the need for immunisation, Mother being too busy & ignorance of the need to return for further doses were prominent.
4. Initiation of immunisation was as per the recommended schedule in 61.9% to 74.14% of children. Completion within the recommended period was achieved in 95.97% of children.
5. Overall drop out rate was 9.82 % and 9.20% respectively for DPT AND OPV.
6. There is a significant improvement in coverage figures especially measles as compared to December 1989 survey, with a corresponding increase in the fully immunised category.
7. Comparison with reported Coverage during the same period shows agreement for all antigens.
8. Knowledge of Diseases prevented by immunisation was low, while the place (Mostly health centre) and time of immunisation (mostly fixed day) was known to a majority of respondents. The decision to immunise was mostly made by the mother.

MOTHER COVERAGE:

1. A low card availability (39.34%), 77.73% fully immunised, 16% not immunised with a 10% partially immunised are the prominent features.
2. Hospitals and Health centres were the leading sources of immunisation with private sources accounting for more immunisation than outreach activities.
3. Less than half (45.5%) of pregnant women received the minimum of 3 ante-natal contacts while only about 20% of them had the basic examinations (Hb% estimation, Urine examination and B.P. check-up) 3 times.
4. Only 28.44% consumed the requisite minimum of hundred Iron and Folic acid Tablets. 22.27% had not even received any tablets.
5. The usual place of delivery was at Home (67.77%) and it was usually attended by untrained Dai, 'others' or Trained Dai.
6. By the 7th month 164(77.73%) of the 211 pregnant women were given TT-1 and by 8th month 146(69.19%) had been given 2nd/Booster dose.

INFANT COVERAGE:

1. 195 infants of the 211 pregnant women within the age group of 1½ - 11 months were covered.
2. Card availability was 70.26%.
3. Taking the earliest recommended time of initiation as the criteria 101 (62.73%) of the partially immunised infants were upto-date and 22 (11.28%) were fully immunised.
4. The source of immunisation was mostly either the Hospital or Health Centre for all the Antigens.
5. Immunisation failure was concluded when the child had been immunised 'less than due' or Not immunised. The commonest reasons being place of immunisation too far, mother too busy, or ignorance of the need to return for 2nd or 3rd doses of DPT & OPV.
6. Respondents of about 20% of infants were ignorant of the use of injection/drops, while knowledge of diseases prevented was incomplete. Government Hospital was the commonest source cited and a fixed day of availability was widely known, knowledge of the correct age and correct number of doses of antigens was present in about 50% of the respondents. Aided by information mostly from the Health worker (79.62%), the mother was the usual decider with regard to immunisation.

LAMENESS SURVEY:

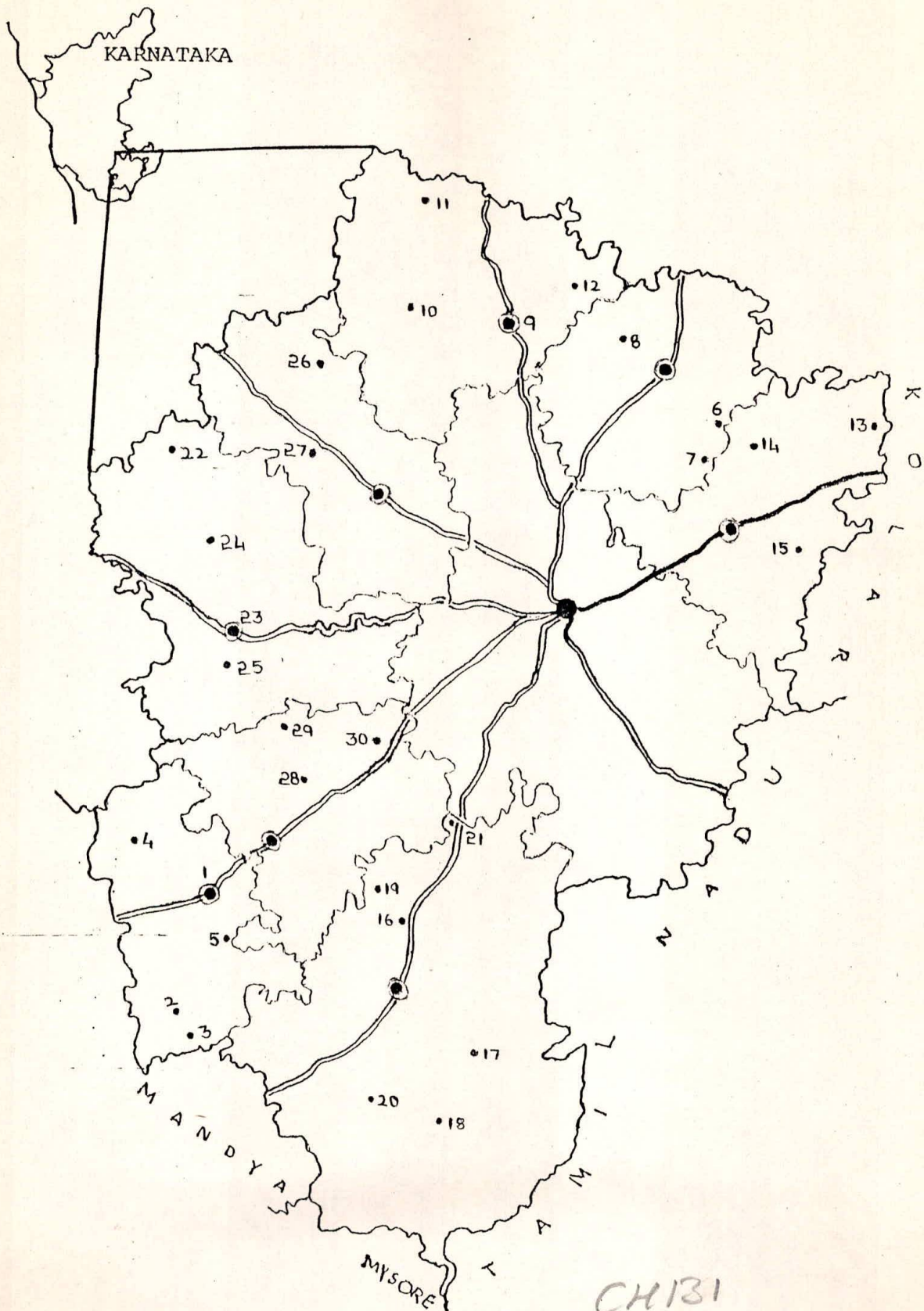
1. The No. of 0-5 year old children enumerated was 10,364 with 24 of them being lame.
2. Lameness due to polio was found in 14 (58.33%) & polio lameness rate was 1.35/1000 0-5 years old children.
3. Polio lame children were mostly females in age group 12-24 hours months (7-50%) with the usual Age of Onset being 7 weeks to 12 months (8-57.14%) with the usual Age on Onset being 7 weeks to 12 months (8-57.14%).
4. Only 21.43% of Polio lame children/were fully immunised at the time of attack. History of provocation was found in only one child.

NEONATAL TETANUS SURVEY:

1. Total number of live births in last 1 year was found to be 2146.
2. Neonatal death occurred in 12 neonates, out of which 2 were due to Neonatal Tetanus (N.N.T. Rate-0.93/1000 live births)
3. Both N.N.T. deaths occurred during home delivery by Family members, with one mother being fully immunised and other partially immunised Both neonates did not receive any treatment.

RECOMMENDATIONS

1. It is essential to organise refresher course for health workers to ensure essential, health care examinations at least for 3 antenatal contacts. This would stress the need of safe motherhood for child survival.
2. Increased involvement of media and other allied departments is essential to improve immunisation programme through community participation.
3. Health education activities needs to be strengthened to ensure parent's right to information.
4. Health Service Research is indicated to elicit the reasons for non-utilisation of the available service.



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CHIBI
COMMUNITY HEALTH CELL
326, V Main, I Block
Koramangala
Bangalore-560034
India

LIST OF CLUSTERS, BANGALORE (RURAL) DISTRICT

Cluster No.	Names	Population	Taluk
1.	Channapatna Town	50,725	Channapatna
2.	Horakoppa	1,685	"
3.	Nelamakanahalli	1,625	"
4.	Bevooru	2,355	"
5.	Kodipura	207	"
6.	Bidalapura	877	Devanahalli
7.	G.C. Halli	1,720	"
8.	Vishwanathapura	1,571	"
9.	Doddaballapur Town	47,168	Doddaballapur
10.	Karepura	467	"
11.	Ujjani	1,115	"
12.	Beedikere	1,015	"
13.	Korati	1,155	Hoskote
14.	Valagerepura	346	"
15.	Jadigenahalli	344	"
16.	Cheelur	2,119	Kanakapura
17.	Doddaguli	1,175	"
18.	Hukunda	2,307	"
19.	Kottagalu	834	"
20.	Mahimanahalli	1,136	"
21.	Vaderahalli	780	"
22.	Gundigere	621	Magadi
23.	Magadi Town	17,623	"
24.	Surappanahalli	513	"
25.	Udavigere	1,143	"
26.	Obalapura	1,195	Nelamangala
27.	T. Begur	1,637	"
28.	Bommachanahalli	1,481	Ramanagara
29.	Lakshmipura	1,651	"
30.	Vajarahalli	870	"