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IOCH

Immunization and Other Child Health Project

Vaccination Coverage Survey of the Rajshahi City Corporation

May 2003

Survey Report No. 115

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House 1, Road 23, Gulshan 1, Dhaka 1212, Bangladesh
Tel: 8828596, 8829279, 8813611, 8813410
Fax: 880-2-8826229
E-mail: ioch@citechco.net

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Acronyms

BCC	Behavior Change Communication
BCG	Bacillus of Calmette and Guerin
CES	Coverage Evaluation Survey
COSAS	Coverage Survey Analysis System
DPT	Diphtheria, Pertussis and Tetanus
EPI	Expanded Program on Immunization
FWC	Family Welfare Center
IOCH	Immunization and Other Child Health
Mahallah	Smaller localities (like a village or para) in urban areas
MOHFW	Ministry of Health and Family Welfare
Mouza	Smallest administrative locality in an Upazila
MSH	Management Sciences for Health
NGO	Non Governmental Organization
NID	National Immunization Day
OPV	Oral Polio Vaccine
SNID	Sub-national Immunization Day
TT	Tetanus Toxoid
WHO	World Health Organization

Terminology

This provides the meaning of some of the more technical terms used in this report and a brief explanation of their use.

By card: An immunization given to a child is termed as by card if the date of the dose is entered on an immunization card. Only doses recorded by card are treated as valid data in this survey.

By history: Immunization history collected from a parent's recall is termed as by history. Often no date will be mentioned. This information is only included in crude data.

Crude coverage rate is calculated from the doses recorded by card and/or by history. It is not ascertained whether the doses were given at the correct age and/or following the correct interval (where applicable). Crude data however, helps us to understand how much additional coverage could be achieved if all vaccines were given at the optimum age for the child and following the optimum interval. It also provides useful information on access to the EPI program and on the operational aspects of the provision of health services.

Valid coverage rate is calculated from the vaccinations recorded by card plus history. In the calculation process, first the rate of validity is calculated based on cards only, then this rate is applied to history cases too. Valid data includes only the doses of vaccines that were given after the minimum date of eligibility and/or after the minimum interval necessary to be effective and to protect the child. There is no maximum interval for a dose and therefore a dose administered after 52 weeks is still regarded as valid. By comparing crude coverage with valid coverage data of any particular antigen, one can determine how much coverage was lost due to the inability to give vaccine at the appropriate time.

Invalid doses are those administered at the wrong age and/or at the wrong interval. Doses administered before the minimum age in the case of DPT/Polio 1st doses and Measles vaccine or with less than four weeks interval in the case of DPT or Polio vaccines are classified as "invalid" doses.

The **criteria for a valid dose** used in this survey are the criteria recognized by the Bangladesh EPI program: minimum age for DPT/Polio 1st dose - 6 weeks old; minimum DPT/Polio interval - 4 weeks; minimum age for Measles vaccine - 38 weeks old.

Dropout cases refer to the children/women who have initially received at least one dose of any antigen and then failed to receive the subsequent doses to get fully immunized. Dropout rate implies the inability of the EPI to follow-up and protect the cohort of children initially reached out.

Program access is measured by the percentage of children surveyed who received DPT 1st dose (crude data – by card and history) in the routine immunization session.

Fully immunized means the child has received all the doses it requires (BCG, OPV 1-3, DPT 1-3 and measles).

Missed opportunity refers to a visit of a child to a vaccination center for a dose that he received. However at that time he was also eligible for another dose of antigen that he did not receive. If the missed dose was provided at a later date, it is a *corrected missed opportunity*. If not, it is an *uncorrected missed opportunity*.

SUMMARY RESULTS

Background

Following the 11th National Immunization Campaign, a national coverage evaluation survey was conducted under the auspices of the Expanded Program on Immunization (EPI), Directorate General of Health Services (DGHS), Government of Bangladesh, with technical assistance from WHO and IOCH in May-June 2003. As a part of this initiative, IOCH conducted a 30-cluster coverage evaluation survey in the Rajshahi City Corporation (RCC) on 20 - 26 May 2003.

Objectives

The overall objective of the survey was to assess the level of immunization coverage in the Rajshahi City Corporation. The specific objectives were to:

a) assess the level of routine immunization coverage of the children (12-23 months) and find out the reasons for non-immunization and partial immunization;
b) assess the level of TT immunization coverage among women who had given birth during one year prior to the survey, and find out the reasons for non-immunization and partial immunization; and
c) assess the coverage levels of OPV and Vitamin A administered during the 11th NIDs.

Methodology

The survey employed the WHO recommended 30-cluster survey methodology that has been widely used in many developing countries to assess immunization coverage. In all, 30 clusters were randomly selected from Rajshahi City Corporation following PPS sampling procedures. A list of the selected clusters is provided in Annex- A and their locations are shown on the maps in page12. From each cluster, 7 children 12 – 23 months and 7 women who gave birth during last 12 months were selected following 30 cluster survey methodology to ascertain their routine immunization coverage. Also, 7 children < 5 years (0 – 59 months) were selected to assess the immunization coverage of the 11th NIDs.

The WHO standard questionnaires were used for documenting the routine immunization status of the children and women. Also, separate questionnaires were used to collect data on NIDs and reasons for non-immunization and dropouts. The data were collected by the experienced Field Investigators of the Survey Team of the IOCH. Data processing and analysis were done by the Monitoring & Evaluation Unit of the IOCH using COSAS 4.41[1] and EpiInfo.

Coverage levels for the routine immunization of children

Access to child immunization: Based on crude data (card plus history), all the children 12-23 months (excepting one out of 210) received at least one dose of antigen (DPT 1st dose in this case) from routine immunization sessions. Only one child out of 210 did not receive a dose of any antigen.

[1] COSAS (Coverage Survey Analysis System) is a dedicated software for analyzing coverage evaluation survey data.

Crude coverage of 12-23 months age group: All the children (excepting one out of 210) received BCG, 98% children received three doses of OPV, 98% received three doses of DPT and 93% received measles vaccine. 93% children were fully immunized.

Valid coverage of 12-23 months age group: All the children (excepting one out of 210) received BCG, 91% children received three doses of OPV, 91% received three doses of DPT and 91% received measles vaccine. 86% children were fully immunized.

Valid coverage by 12 months: All the children (excepting one out of 210) received BCG, 91% children received three doses of OPV, 91% received three doses of DPT and 89% received measles vaccine. 83% children were fully immunized.

Routine immunization coverage by Gender: There was no gender difference in accessing routine child immunization services. Boys' access to immunization, as measured by the crude coverage of DPT1, was similar to that of the girls (100% for boys vs. 99% for girls). However, crude measles coverage for boys was 3 percentage points higher than that for the girls, resulting in higher crude FIC for boys than the girls (94% crude FIC for boys vs. 91% crude FIC for girls). The boys had more invalid measles doses than the girls, resulting in one percentage point lower valid FIC for boys than that for girls. However, more girls than the boys received measles vaccine after one year of age, resulting in higher valid FIC by 12 months for boys than the girls (85% valid FIC for boys vs. 82% valid FIC for girls).

Child immunization coverage trend: Routine child immunization coverage, particularly full immunization coverage has considerably increased over the past 4 years. Access to child immunization (as measured by DPT1) has increased from 96% in 2000 to 100% in 2003. Crude FIC (Fully Immunized Children) has increased from 80% in 2000 to 93% in 2003 and valid FIC by 12 months from 60% in 2000 to 83% in 2003.

Dropout rates: Although access to child immunization was very high (100% for DPT1), the dropout rates for different antigens were 2% from DPT1 to DPT3 and 7% from DPT1 to measles.

Dropout trend: A down-ward trend in dropout was observed during the past 4 years. The dropout rate from ~~DPT1 to DPT~~3 has reduced from 11% in 2000 to 2% in 2003; while dropout rate from DPT1 to Measles has reduced from 16% in 2000 to 7% in 2003.

Invalid doses: 4% of the DPT1 doses were administered before 6 weeks of age of the children, and 2% of the measles doses were given before 38 weeks of age of the children. Besides, 3% of the DPT2 doses and 2% of DPT3 doses were given before 4 weeks interval between the doses.

Trend in invalid doses: Invalid doses of DPT1 and measles have decreased over the period. Invalid DPT1 doses has decreased from 8% in 2000 to 4% in 2003 and invalid measles doses from 5% in 2000 to 2% in 2003, reflecting some improvement of quality of services provided by the vaccinators over the period.

Missed opportunities: Total missed opportunities (uncorrected plus corrected) for different antigens ranged from 0 to 1%. There was no uncorrected missed opportunity for different antigens. The composite index for total missed opportunities was 15, reflecting the need for further improving the quality of screening during vaccination sessions.

EPI card retention: 99% of the children interviewed were ever given EPI cards; however, EPI cards were available with 74% of the respondents at the time of interview. EPI card retention rate was 75% only, as 25% of the EPI cards were lost.

Knowledge about required visit to immunization center for full immunization: 13% of the mothers interviewed did not have any idea about how many times a child was required to be taken to an immunization center to get fully immunized; while 35% had wrong idea about it. Only 52% of the mothers could mention correctly the number of times (i.e. 4 times) a child is required to visit immunization center to get fully immunized.

Sources of immunization services: Childhood immunization in this area was provided mostly by the city corporation outreach centers (43%), followed by the GOB clinics (28%) and hospitals (15%). NGO clinics provided EPI services to 14% of the cases only.

Adverse reaction following vaccination: About 1% of the children (who had ever received any vaccine) were reported to have abscesses after receiving vaccine, and 75% of them had their abscesses at their arms; while the rest (25%) had it at their thighs. About 2% of the ever immunized children experienced other adverse reaction following immunization, such as fever, Pneumonia and swelling. Fever was reported as other adverse reaction after receiving BCG; while pneumonia and swelling were mentioned as other adverse reaction after receiving DPT and measles respectively.

Charges for immunization: Most of the children (96%) received vaccine free of charge. Only 4% of the parents of the children (who ever received a dose of any antigens) paid money for vaccination of their children, and over three-fourth of them paid between Tk.1.00 and Tk.10.00 only; while the rest paid between Tk11.00 and Tk.30.00 only.

Reasons for non-immunization and partial immunization or dropout of children: Only one child (out of 210) never received any vaccine as his/her parents did not believe in the benefits of immunization. The primary reasons for partial immunization or dropout included: parents did not know when to return for measles vaccine (29%), sickness of the children (29%) and fear of adverse reaction (7%) etc.

Coverage levels for the routine TT immunization of women who gave birth in last one year

TT immunization coverage: Access to TT immunization for the women who gave birth in last one year was quite good. 97% of the women received TT1. The corresponding figures for TT2, TT3 and TT4 were 97%, 78% and 48% respectively. Only 27% of the women received TT5, which provide lifelong protection against tetanus. 3% of the women never received any TT vaccine.

Trend in TT immunization coverage: An up-ward trend in TT immunization was observed over the past 4 years. Coverage of TT1 increased from 83% in 2000 to 97% in 2003 and coverage of TT2 increased from 76% in 2000 to 97% in 2003. TT5 coverage also increased from 20% in 2000 to 27% in 2003.

Age distribution of women never receiving TT immunization: The older women are less likely to receive TT vaccine. 11% of the women over 30 years had never received any dose of TT vaccine; while the corresponding figures ranged from 4% to 6% for the women below 30 years of age.

Invalid TT doses: A significant proportion of TT doses were invalid as they were administered before the minimum required interval between the doses. 15% of the TT3 doses were given before 6 months interval between TT2 and TT3, and as such were invalid. 33% of the TT4 doses were invalid, since they were given before one year interval between TT3 and TT4; similarly, 38% of the TT5 doses were invalid for the same reason.

Protection against tetanus at birth: 95% of the newborn babies were found protected against tetanus, indicating that 5% newborn babies were still not protected against tetanus at birth.

Knowledge about full TT immunization: 62% of the women did not have correct knowledge about the number of TT doses required for a woman for full immunization. Only 38% women could correctly mention that a woman was required to receive 5 doses of TT vaccine for full immunization for lifelong protection against tetanus.

TT card retention: 93% of the women were ever given TT cards; however, TT cards were available with 55% of the women only at the time of interview. TT card retention rate was 59% only, as 41% of the TT cards were lost.

Sources of TT immunization: Half of the women received TT vaccine from the city corporation EPI outreach centers, followed by the GOB clinics (19%) and hospitals (15%). NGO clinics and private clinics provided TT immunization to 11% and 5% of the cases respectively.

Adverse reaction following immunization: Only 0.5% women (1 woman out of 204 who had ever received any TT vaccine) were reported to have abscess at their arms after receiving TT vaccine. Besides, 2% women experienced other adverse reaction, such as fever, pain and swollen hand after receiving TT vaccine.

Coverage levels for the 11th NIDs

OPV and Vitamin A coverage: 99% of the children <5 years received OPV in both rounds of the 11th NIDs. OPV coverage in the 1st round was 100%; while it was 99% in the 2nd round. Vitamin A capsules were given to 93% of the eligible children (12 – 59 months of age). Besides, 10 ineligible children (out of 210) were wrongly administered Vitamin A, as they were under 1 year on the 1st round NID day.

NID coverage trend: The coverage of OPV during the NIDs has increased over the past 4 years (from 94% in 2000 to 99% in 2003). Vitamin A coverage has also increased from 87% in 2000 to 93% in 2003).

Sources of OPV during the11th NIDs: Most of the children received OPV from the NID sites (97% in the 1st round and 94% in the 2nd round). 2% percent children received OPV during child-to-child search in each round. Also, 1% children in the 1st round and 2% in the 2nd round received OPV from the Mobile Teams for traveling population.

Household visitation during child-to-child search: While visiting each and every household during child-to-child search to identify the left out children, the health workers/volunteers were supposed to write the date of their visitation on the door or wall of the house. However no such visitation date was found written on door or wall of many of the households. Only 39% households in the 1st round and 54% households in the 2nd round were found with date of visitation (by the workers/volunteers during child-to-child search) written on the door or wall of the houses.

Sources of information of the 2nd round of the 11th NIDs: Majority of the parents learned about the 2nd round of the 11th NIDs from television (78%), followed by mobile miking (65%). City Corporation workers as a source of information were mentioned by 57% of the parents. About 38% of the parents came to know about the NIDs from family members and neighbors.

Reasons for not receiving vaccines from the NID sites: The primary reason for not receiving OPV from the NID sites included: a) lack of information about the NIDs (40% in the 1st round and 15% in the 2nd round); b) parents forgot the date of NIDs (40% in the 1st round and 29% in the 2nd round); and c) child was away from home on NID day (20% in the 1st round).

Conclusions and recommendations

Access to child immunization was quite high (100% for DPT1); but this high access dropped to 86% for valid fully immunized children because of dropouts and invalid doses. Although there has been improvement in reducing the dropout rate for DPT1 to measles over the past four years (from 16% in 2000 to 7% in 2003), it can still be reduced. Too many invalid doses are provided to the children before the minimum required age or before the minimum required interval between the doses. Similarly, access to TT immunization for the women (who gave birth during last one year) was very good. 97% of the women received the first dose of TT, which reduced to 27% for TT5 that provides lifelong protection against tetanus. To further improve the valid coverage of fully immunized children and women, the current dropout rates and invalid doses need to be further reduced.

- *Vaccination providers should focus on quality of services, such as counseling and screening of children/ mothers/women (for immunization) by the health workers. The health worker at the first contact must counsel the mother/woman properly to motivate her to return and to get herself and/or her child fully immunized. Emphasis should also be given on screening of clients for immunization to avoid or reduce invalid doses and missed opportunities. The service providers must screen properly each and every child/ woman to decide his/her eligibility for a specific dose of specific antigen.*
- *The service providers should be given refresher training to improve their technical skills on organizing good vaccination sessions: counseling of mothers/women and screening of clients for immunization.*

The national EPI program emphasizes that all children should get fully immunized before their 1st birthdays (i.e., by 12 months). However, the coverage of valid fully immunized children (FIC) by 12 months was 83%, which was 3 percentage points less than the coverage of valid FIC by 23 months.

- *During IPC by the health worker and/or during counseling at first contact, mothers should be clearly informed that only 8 doses will protect their children and that it must happen before 12 months of age. The mass media, such as television, radio and newspapers can play a vital role in educating the parents in this regard.*

EPI card (child immunization card) and TT card play an important role in ensuring good quality of immunization services. It helps the mothers to adhere to immunization schedule, as well as assists the service providers to screen the children for specific doses of specific antigens. Unfortunately, the retention rates of both the EPI card and TT card were very low, 75% and 59% respectively.

- *Vaccination cards (EPI card/TT card) should be given special attention. Vaccination cards must be issued to each and every child/woman vaccinated, properly filled out and screened, and they should be replaced, if lost, whenever needed. During counseling at the first contact and/or IPC by the health worker, mothers/women should be explained the benefits and importance of EPI cards/ TT cards for immunization of themselves and their children. They should be asked to preserve the EPI card and TT card safely, and to bring the cards with them whenever they come to the clinic/ EPI center for immunization of themselves and their children. In the case of loss of EPI card/TT card, it should be provided over and over, and the history of the earlier vaccinations accurately recorded again and again, if necessary.*

Although 97% of the women who gave birth in the past one year received at least two doses of TT, many newborn babies (5% of the total newborn babies) were found unprotected against tetanus at birth.

- *The pregnant mothers should be motivated to receive the required number of valid TT doses necessary to protect their newborn babies against tetanus.*

The understanding of mothers' about the number of doses required for fully immunization of themselves and of their children is very critical. It was found that the mothers had a poor understanding of full immunization. 48% of the mothers could not mention how many times a child was required to be taken to EPI center to get fully immunized. Similarly, 62% of the women (who gave birth in past one year) did not know how many TT doses were required for a woman for lifelong protection against tetanus.

- *During IPC between the mother/woman and the service provider and/or at the first contact, the mother/woman should be clearly explained the importance of full immunization of children and women, and of the immunization schedule of full immunization for both children and women.*

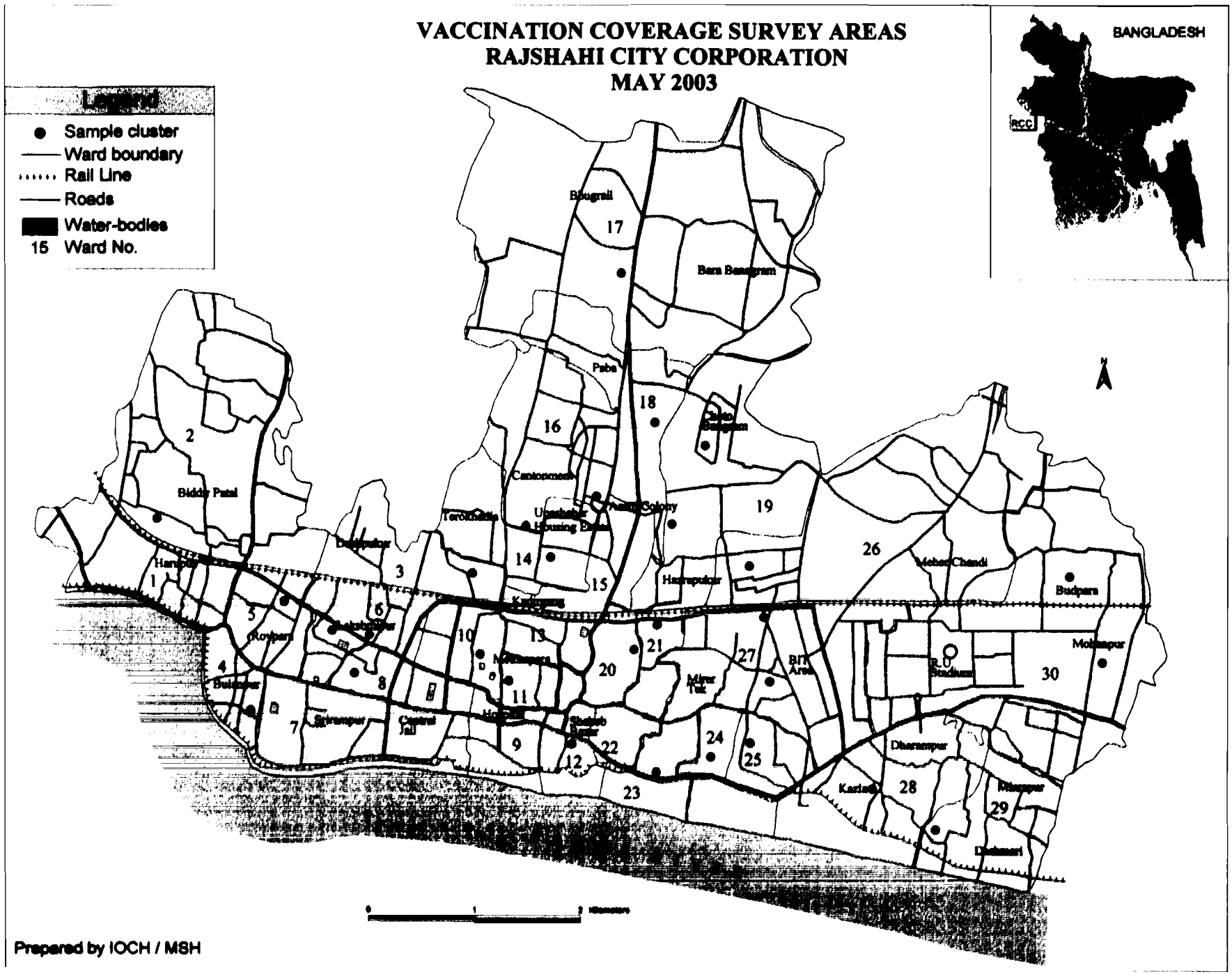
1% of the children 0 –59 months did not receive OPV in the both rounds of the 11th NIDs. 61% households in the 1st round and 46% households in the 2nd round were found not marked with visitation date of the workers during child-to-child search on the door or wall of the house.

- *Area specific innovative strategies suitable to local situation have to be undertaken during the next NIDs to reach to the left out children. These may include, but not limited to, the following:*
  - *using mosque miking, as well as Imam of the mosque during Jumma Pray;*
  - *special team at railway station, bus stand, ferry-ghat etc. for traveling children*
  - *evening NID sites for working mothers;*
  - *special mobile teams at night to vaccinate homeless and floating children; and*
  - *strengthening supervision of field workers during child-to-child search to ensure that each and every household is visited and properly marked by the workers*

7% of the eligible children (12 – 59 months) did not receive Vitamin A during the 1st round of the 11th NIDs. Besides, 10 ineligible children out of 210 (i.e., 4%) were wrongly administered Vitamin A, as they were under 1 year on the 1st round NID day.

- *Special attention should be given to:*
  - *ensure that each and every eligible child 12–59 months receives Vitamin A;*
  - *Prevent administration of Vit. A to children under one year. There should be a better screening for age; and*
  - *no Vitamin A capsules should be given to the parents to administer them to their children either at NID site or in their homes.*

VACCINATION COVERAGE SURVEY AREAS
RAJSHAHI CITY CORPORATION
MAY 2003



TABLES AND FIGURES

Table 1: Routine immunization coverage levels of the children

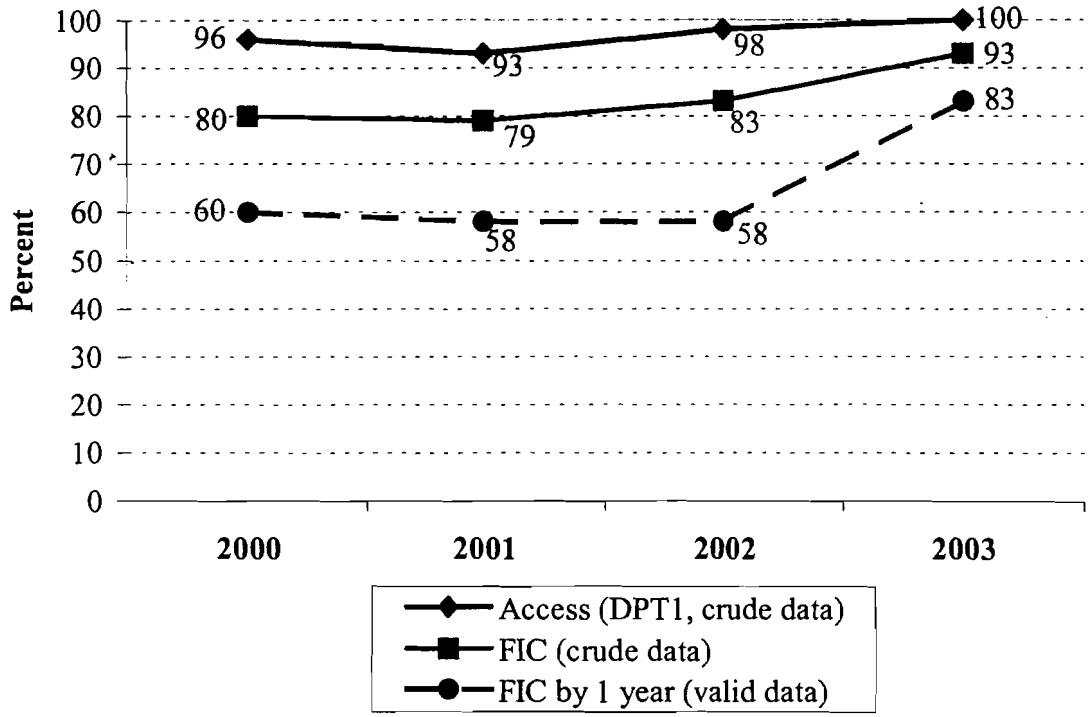
Name of the Vaccine	Coverage (%) Immunization of 12-23 months age group		Coverage (%) Immunized by 12 months of age
	Crude data (Access)	Valid data	Valid data
BCG	100*	100	100
OPV1	100*	96	96
OPV2	99	93	93
OPV3	98	91	91
DPT1	100*	96	96
DPT2	99	93	93
DPT3	98	91	91
Measles	93	91	89
Fully immunized	93	86	83
Zero Dose	0*	-	-

- *Only one child out of 210 never received a dose of any antigen*

Table 2: Routine immunization coverage levels by gender

Name of the vaccine	Coverage % Immunization of 12-23 months age group				Coverage % Immunized by 12 months	
	Crude data (Access)		Valid data		Valid data	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
BCG	100	99	100	99	100	99
OPV1	100	99	97	94	97	94
OPV2	100	98	95	92	95	92
OPV3	98	97	92	91	92	91
DPT1	100	99	97	94	97	94
DPT2	100	98	95	92	95	92
DPT3	98	97	92	91	92	91
Measles	94	91	91	91	91	86
Fully immunized	94	91	85	86	85	82
Zero dose	0	1	-	-	-	-

Figure 1: Child immunization coverage trend



Source: National Coverage Evaluation Survey- 2000, 2001, 2002 and 2003

Figure 2: Drop-out rate for child immunization

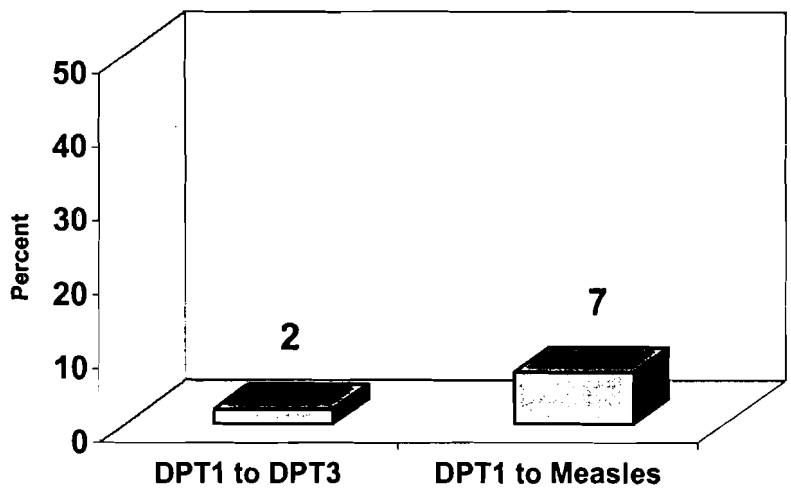
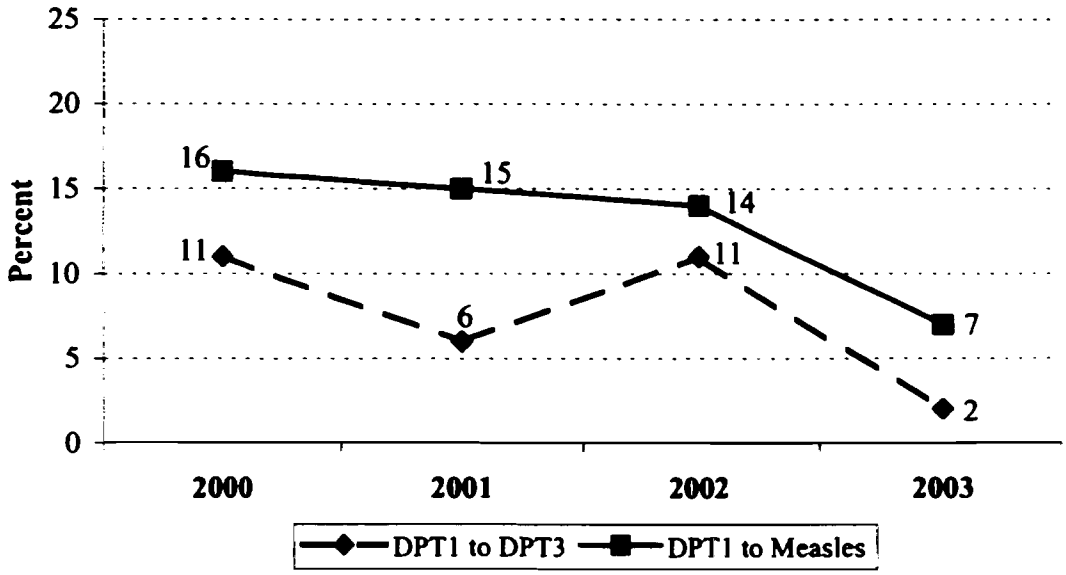


Figure 3: Child immunization dropout trend

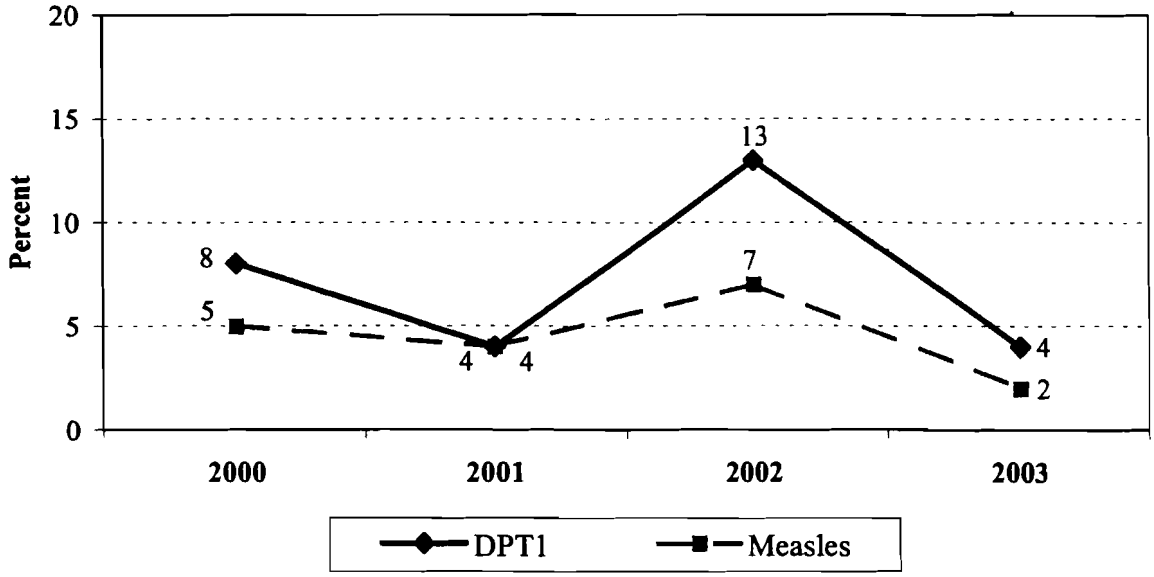


Source: National Coverage Evaluation Survey- 2000, 2001, 2002 and 2003

Table 3: Invalid doses of immunization provided to the children

Antigens	Percents
DPT1	4
DPT2	3
DPT3	2
Measles	2

Figure 4: Trend in invalid doses of child immunization



Source: National Coverage Evaluation Survey- 2000, 2001, 2002 and 2003

Table 4: Missed opportunities by antigens

Name of the vaccine	Uncorrected		Corrected		Total	
	Number	Percent	Number	Percent	Number	Percent
BCG	1	0	-	-	1	0
DPT1	1	0	2	1	3	1
DTP2	-	-	1	0	1	0
DPT3	-	-	2	1	2	1
OPV1	1	0	2	1	3	1
OPV2	-	-	1	0	1	0
OPV3	-	-	2	1	2	1
Measles	1	0	1	0	2	1
*Index					15	

* *The idea is to propose one composite index reflecting the quality of screening during vaccination sessions.*

Table 5: EPI cards availability and retention

Card Status	Number	Percentage
EPI card available	156	74
EPI card ever given	209	99
EPI card retention	156	75

Figure 5: Knowledge about required visits to immunization centers for full immunization

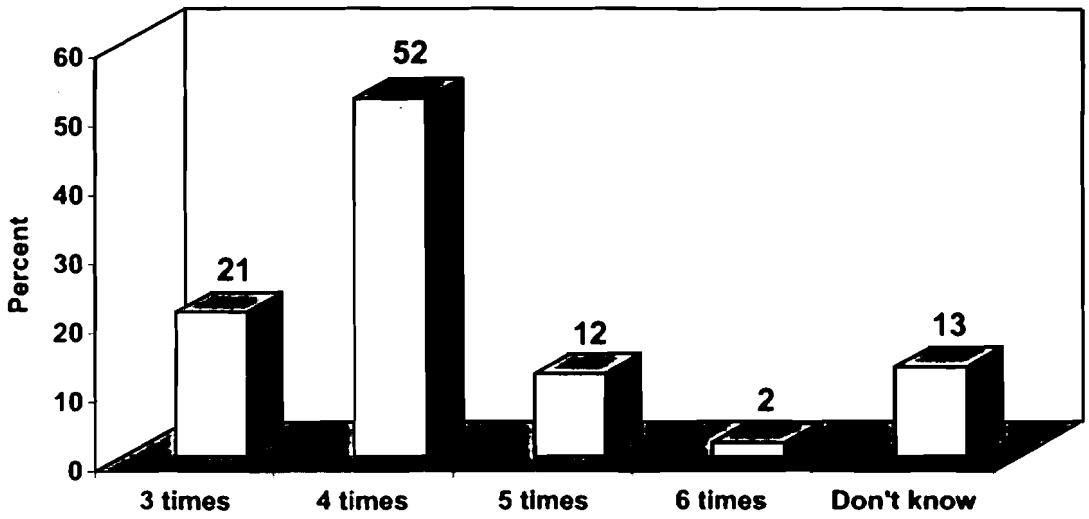


Figure 6: Sources of child immunization services

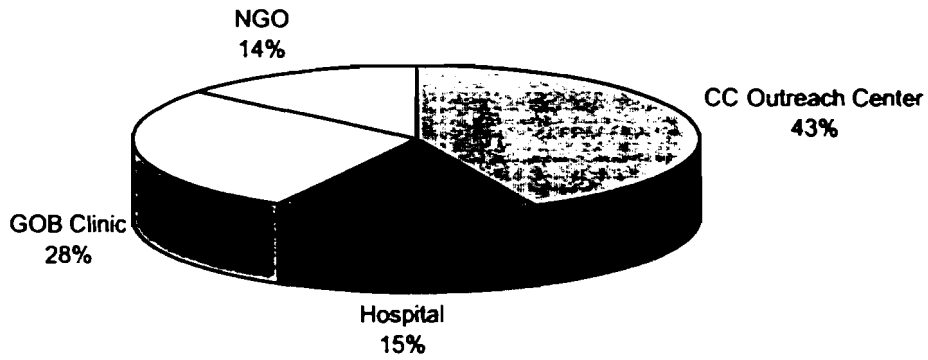


Table 6: Children who had an abscess after receiving vaccine

Status of children abscess	Number	Percentage
Abscess	3	1
No abscess	206	99
Total	209	100

Table 7: Site of abscess (after receiving vaccine)

Site of abscess	Number	Percentage
Arm	2	67
Thigh	1	33
Buttock	-	-
Other	-	-
Total	3	100

Table 8: Children who had any other adverse reaction after receiving vaccine

Status of other adverse reaction	Number	Percentage
Other adverse reaction	5	2
No other adverse reaction	204	98
Total	209	100

Table 9: Nature of other adverse reaction

Nature of other adverse reaction	Number	Percentage
Fever	1	20
Pneumonia	1	20
Swelling	3	60
Total	5	100

Table 10: Nature of other adverse reaction by antigen

Nature of other adverse reaction	Antigen							
	BCG		DPT		Measles		Total	
	#	%	#	%	#	%	#	%
Fever	1	100	-	-	-	-	1	100
Pneumonia	-	-	-	-	1	100	1	100
Swelling	-	-	3	100	-	-	3	100
Total	1	20	3	60	1	20	5	100

Table 11: Parents of the children who paid money for receiving vaccine by amount of money paid per contract

Amount of money (in Taka)	Number	Percentage
1-10 Taka	7	3
11-20 Taka	1	0
21-30 Taka	1	0
>30 Taka	-	-
No money was paid	200	96
Total	209	99

Table 12: Reasons for non-immunization and partial immunization of the children

Reasons for non-immunization or partial immunization	Non-immunized (%) (N=1)	Partially immunized (%) (N=14)
Did not know when return for measles vaccine	-	29
Did not know where to go for vaccination	-	-
Fear of adverse reaction	-	7
Does not believe in vaccination	100	-
Planning to vaccinate in future	-	7
Did not feel need for next dose	-	7
Vaccine was not available at the site	-	7
Vaccination site was too far away	-	-
Vaccinator not given vaccine for mother did not carry card	-	7
Child was sick and not taken to immunization center	-	22
Child was sick and taken but not given	-	7
Child had paralysis	-	7
Others	-	-

Figure 7: TT immunization coverage levels of the women who gave birth in last one year

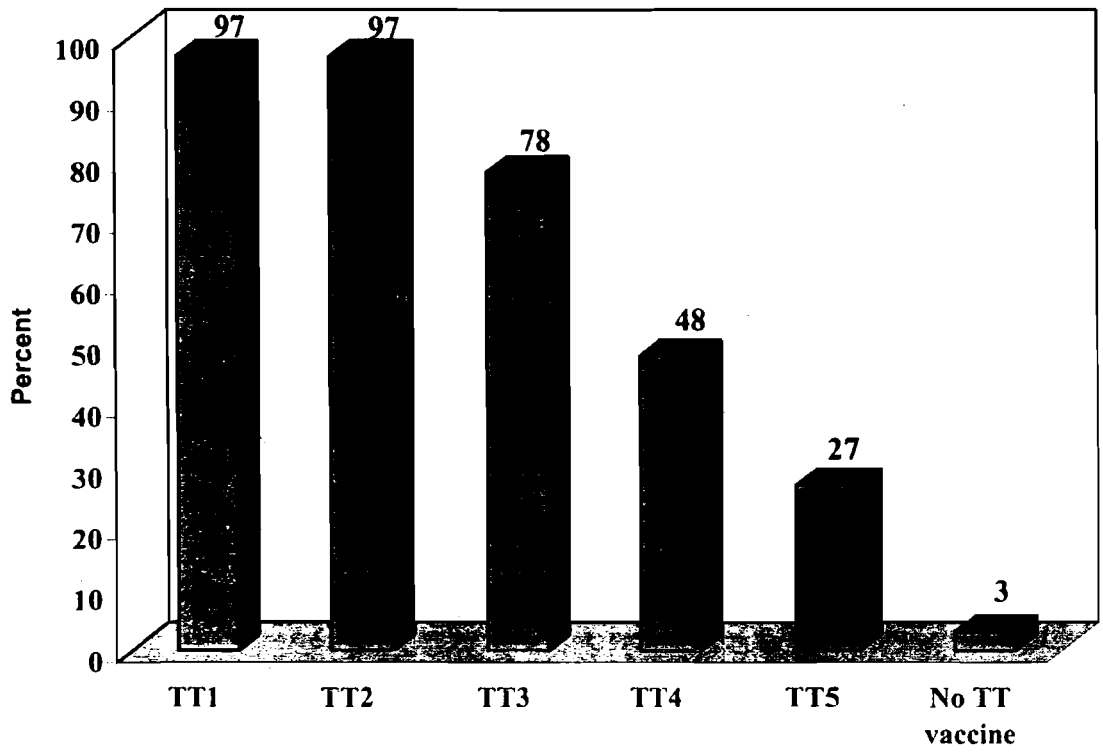
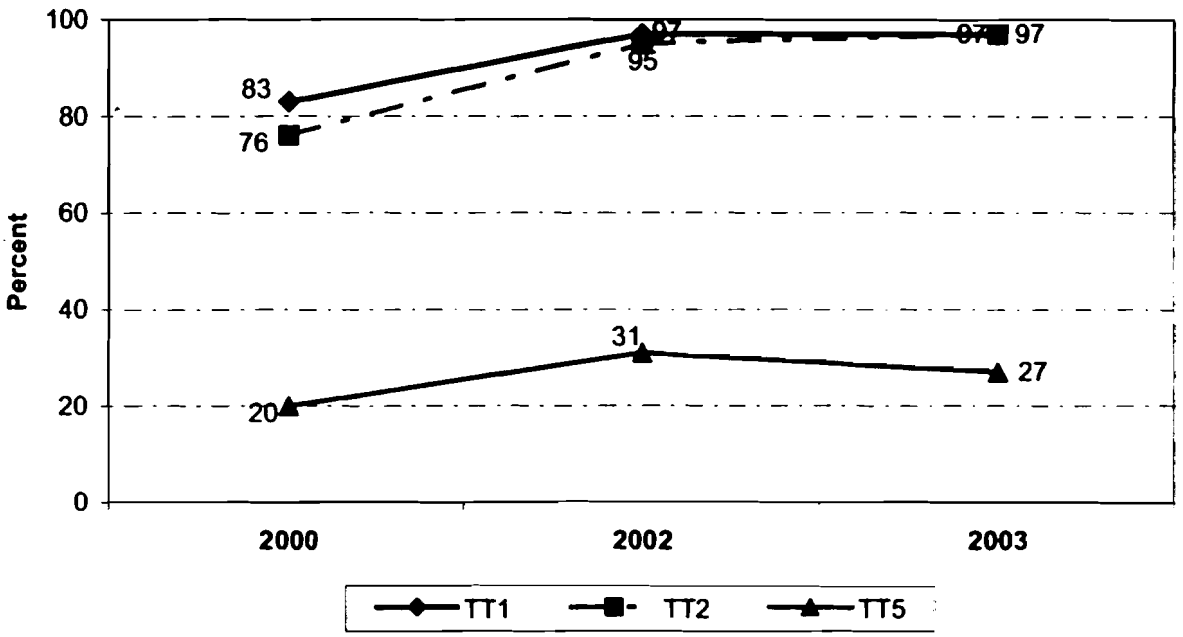


Table 13: Age distribution of women who never received TT vaccine (among those who gave birth in last year)

Age group	# of women	Never received TT	
		#	%
<20 years	35	2	6
20-25 years	99	-	-
26-30 years	57	2	4
31-35 years	18	2	11
>35	1	-	-
Total	210	6	3

Figure 8: TT immunization trend among the women giving birth in last one year



Source: National Coverage Evaluation Survey- 2000, 2002 and 2003

Table 14: Interval between TT1 and TT2, TT2 and TT3, TT3 and TT4, TT4 and TT5 doses

Interval between dose	<1 months		1 months+		<6 months		6 months+		<1 year		1 year +		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
TT1-TT2	6	3	183	97	-	-	-	-	-	-	-	-	189	100
TT2-TT3	-	-	-	-	20	15	118	85	-	-	-	-	138	100
TT3-TT4	-	-	-	-	-	-	-	-	29	33	60	67	89	100
TT4-TT5	-	-	-	-	-	-	-	-	18	38	30	62	48	100

Table 15: Children born protected against tetanus

Status of children born protected	Number	Percentage
Protected	199	95
Not Protected	11	5

Table 16: Knowledge about number of TT doses required for life time protection against tetanus

Answers	Number	Percentage
2 doses	3	1
3 doses	6	3
4 doses	10	5
5 doses	80	38
6 doses	4	2
Don't know/ no idea	107	51

Table 17: TT cards availability and retention

Card Status	Number	Percentage
TT card available	116	55
TT card ever given	196	93
TT card retention	116	59

Figure 9: Providers of TT immunization

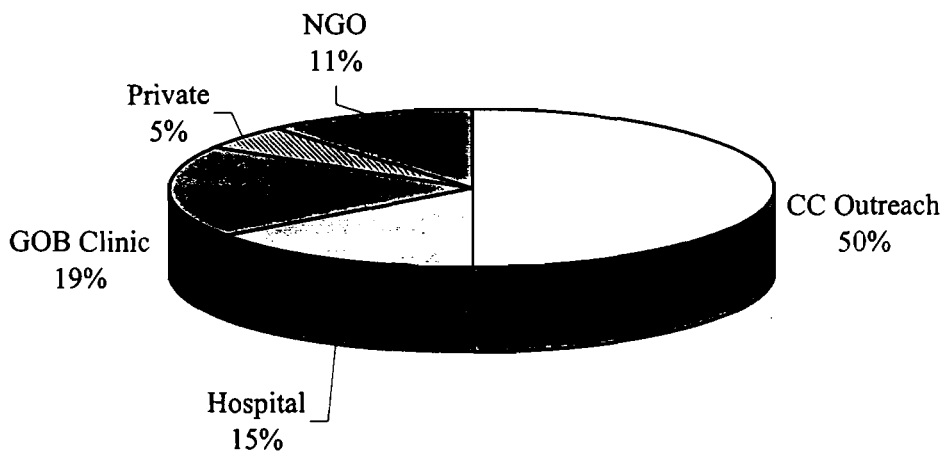


Table 18: Women who had an abscess after receiving TT

Status of women abscess	Number	Percentage
Abscess	1	0.5
Not abscess	203	99.5
Total	204	100

Table 19: Women having abscess after receiving TT by site of abscess

Site of abscess	Number	Percentage
Arm	1	100
Thigh	-	-
Buttock	-	-
Other	-	-
Total	1	100

Table 20: Women who had any other adverse reaction after receiving TT

Status of other adverse reaction	Number	Percentage
Other adverse reaction	4	2
No other adverse reaction	200	98
Total	206	100

Table 21: Nature of other adverse reaction

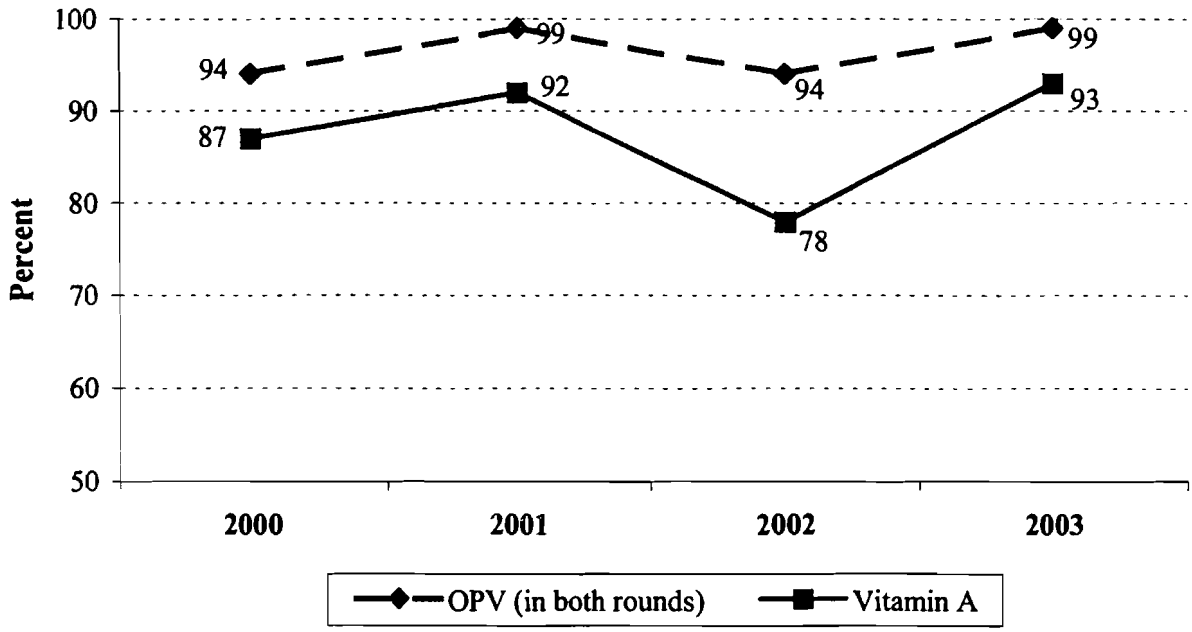
Nature of other adverse reaction	Number	Percentage
Fever	1	25
Pain	2	50
Swollen	1	25
Total	4	100

Table 22: OPV and Vitamin A Coverage during the 11th NIDs

N=210

Round	OPV (%)	Vitamin A (%)
1st round	100	93
2nd round	99	-
Both round	99	-
Any round	100	-

Figure 10: NID coverage trend



Source: National Coverage Evaluation Survey- 2000, 2001, 2002 and 2003

Table 23: Sources of OPV during the 11th NIDs

Sources of OPV	1st Round		2nd Round	
	#	%	#	%
NID site	203	97	198	94
Mobile on NID	2	1	5	2
Mobile after NID	-	-	1	0
Child to child search	4	2	4	2
Not received	1	0	2	1
Total	210	100	210	99

Table 24: Date of child-to-child search of the 11 NIDs were written on the door of the house

Variable	1st Round		2nd Round	
	#	%	#	%
Written	81	39	113	54
Not written	129	61	97	46
Total	210	100	210	100

Figure 11: Sources of information of the 2nd round of the 11th NID campaign

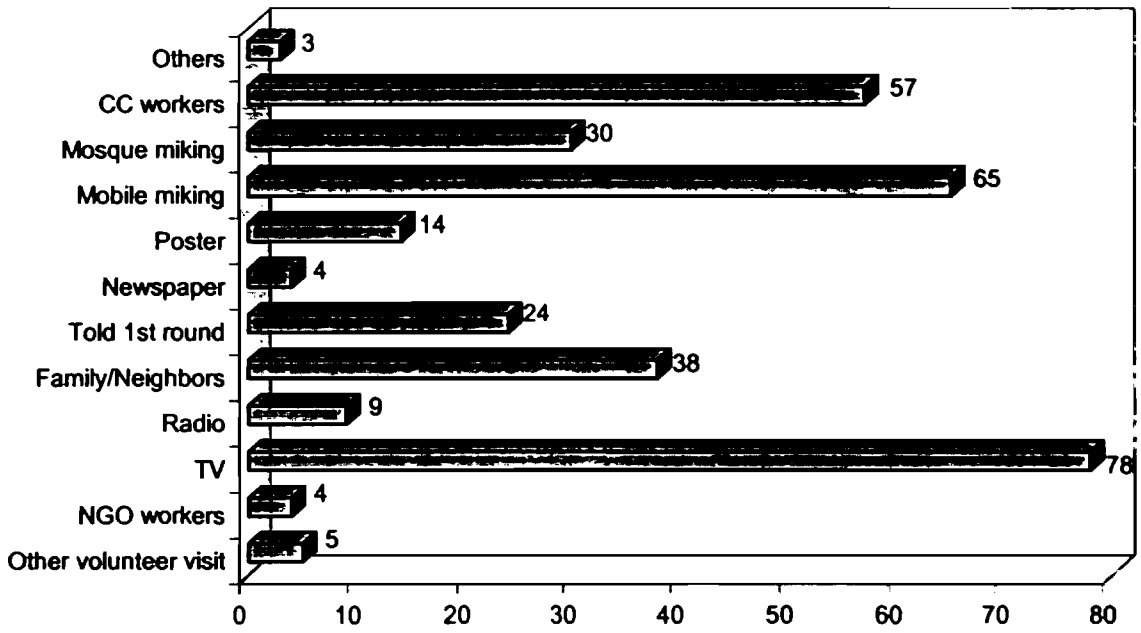


Table 25: Reasons for not receiving of OPV from NID sites of the 11th NIDs

Reasons	1st Round (%) (N=5)	2nd Round (%) (N=7)
Did not know about NID	40	15
Too busy	-	14
Traveling	-	14
Child was not at home	20	-
Child was not given OPV	-	14
Child had escaped the centre	-	14
Parents forgot the date of NIDs	40	29

Annex- A

List of Selected Clusters for the Survey

Ward No.	Mahalla name	Total HH	Total Pop.	Cluster No.
1	Munshipara	60	392	1
2	Haragram Nutanpara	386	2073	2
3	Natun Bishimla	620	3377	3
4	Goalpara	504	2635	4
5	Kulupara	120	723	5
6	Lakshmipur (part)	1803	11878	6
7	Lakshmipur Bhatapara	328	2013	7
8	Kazihata	800	4746	8
10	Dargapara	272	2164	9
11	Hetemkhan	737	3984	10
12	Shabjee Para	450	2772	11
14	Rani Bazar	182	1222	12
16	Darikhar Bona (part)	1070	5569	13
	Upasahar Sector-2	395	2272	14
17	Mathurdanga	282	1595	15
18	Kutchpara	41	190	16
19	Assam Colony	957	4465	17
20	Nutan Chhota Banagram	509	2481	18
	Seroil Colony	1135	6131	19
21	Sultanabad	1086	6436	20
23	Khansamer	130	796	21
24	Ramchandrapur Boshpara	283	1565	22
25	Purba Ramchandrapur	478	4564	23
26	Raninagar (part)	1599	9443	24
27	Debishing Para	408	2161	25
	Uttar Meherchandi Para	197	1053	26
28	Kajla	674	3749	27
29	Char Satbaria	340	1820	28
30	Budh Para	628	3439	29
	Mohanpur (Krishibagan)	65	299	30

Annex-B

List of Never Vaccinated Children Identified by Clusters

Ward No.	Mahalla name	Total HH	Total Pop.	Cluster No.	Never vaccinated children
30	Mohanpur (Krishibagan)	65	299	30	4*

Acknowledgements

Survey coordination:

Mr. Md. Mafizur Rahman, Monitoring and Evaluation Specialist, IOCH/MSH

Survey management:

Mr. Jagadindra Majumder, Field Survey Manager, IOCH/MSH

Data analysis:

Mr. Md. Mafizur Rahman, Monitoring and Evaluation Specialist, IOCH/MSH
Mr. Khodadad Talukder, PEF Monitoring, IOCH/MSH

Report writing:

Mr. Md. Mafizur Rahman, Monitoring & Evaluation Specialist, IOCH/MSH

Report review:

Dr. Pierre Claquin, Chief of Party, IOCH/MSH

Digital map preparation:

Mr. Din Mohammed, Monitoring and Evaluation Assistant, IOCH/MSH

Cover photo:

Dr. Pierre Claquin, Chief of Party, IOCH/MSH

Survey Team members, IOCH/MSH:

Ms. Niva Rani Taju, Field Investigator, IOCH/MSH
Ms. Khaleda Akter, Field Investigator, IOCH/MSH
Mr. Md. Wazed Ali, Polio Eradication Facilitator, IOCH/MSH
Mr. Md. Nurul Islam, Polio Eradication Facilitator, IOCH/MSH
Mr. Md. Sagir Ahmed, Polio Eradication Facilitator, IOCH/MSH

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2. Vaccination Coverage Survey of the Selected Unions along the North-western Border of Bangladesh - February 2000. Survey Report No. 2, June 2000
3. Vaccination Coverage Survey of the Selected Unions along the South-west Border of Bangladesh - February 2000. Survey Report No. 3, July 2000
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1. Joint National/International Review of EPI Program in Urban Areas of Bangladesh - 23 January - 3 February 2000. Technical Report No. 1, July 2000
2. Joint Review of the Expanded Program on Immunization (EPI) in the Areas of Rural service Delivery Partnership (RSDP), April 2001. Technical Report No. 2, May 2002

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