

PN-ADG-318



**IOCH**  
**Immunization and Other Child Health Project**

**Vaccination Coverage Survey of the  
Peri-urban Areas of DCC (Sultanganj  
and Harirampur Unions)**

**May 2003**

**Survey Report No. 118**

**This survey was conducted by IOCH, a project of Management Sciences for Health,  
funded by USAID under AID contract No. HRN-I-01-98-00033-00, Task Order No. 01**

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

**September 2003**

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## **Acronyms**

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

## 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 1<sup>st</sup> 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 1<sup>st</sup> 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 1<sup>st</sup> 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 11<sup>th</sup> National Immunization Days, 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 part of this initiative, IOCH conducted two 30-cluster coverage evaluation surveys in the Peri-urban Areas of DCC. This survey, referred to as Peri-urban Survey-1 was conducted in Sultanganj and Harirampur Unions in the peri-urban areas of DCC from 24 to 28 May 2003.

### Objectives

The overall objective of the survey was to assess the level of immunization coverage in the Sultanganj and Harirampur Unions. 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 11<sup>th</sup> 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 the two Unions following PPS sampling procedures. A list of the selected clusters is provided in Annex- A and their locations are shown on the maps in page 12. 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. In addition, 7 children < 5 years (0 – 59 months) were selected to assess the immunization coverage of the 11<sup>th</sup> NIDs.

The WHO standard questionnaires were used for documenting the routine immunization status of the children and women. Separate questionnaires were also 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 IOCH. Data processing and analysis were done by the Monitoring & Evaluation Unit of IOCH using COSAS 4.41<sup>1</sup> and EpiInfo.

### Coverage levels for the routine immunization of children

**Access to child immunization:** Based on crude data (card plus history), 94% children received at least one dose of antigen (DPT 1<sup>st</sup> dose in this case) from routine immunization sessions. 6% children did not receive a dose of any antigen.

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<sup>1</sup> COSAS (Coverage Survey Analysis System) is a dedicated software for analyzing coverage evaluation survey data.

**Crude coverage of 12-23 months age group:** 93% children received BCG, 82% children received three doses of OPV, 82% received three doses of DPT and 70% received measles vaccine. 69% children were fully immunized.

**Valid coverage of 12-23 months age group:** 93% children received BCG, 61% children received three doses of OPV, 62% received three doses of DPT and 66% received measles vaccine. 55% children were fully immunized.

**Valid coverage by 12 months:** 93% children received BCG, 58% children received three doses of OPV, 59% received three doses of DPT and 62% received measles vaccine. 50% children were fully immunized.

**Routine immunization coverage by Gender:** There was a small gender difference in accessing routine child immunization services. Boys' access to immunization, as measured by the crude coverage of DPT1, was almost similar to that of the girls (95% for boys vs. 92% for girls). Proportions of fully immunized children (FIC), both crude and valid data, for boys were also of similar pattern to those for girls (71% crude FIC for boys vs. 68% crude FIC for girls, and 56% valid FIC for boys vs. 54% valid FIC for girls).

**Child immunization coverage trend:** Routine child immunization coverage, particularly full immunization coverage has increased a little over the past 4 years. Access to child immunization (as measured by DPT1) has increased from 90% in 2000 and 91% in 2002 to 94% in 2003. Crude FIC (Fully Immunized Children) has increased from 58% in 2000 and 63% in 2002 to 69% in 2003 and valid FIC by 12 months from 42% in 2000 and 45% in 2002 to 50% in 2003.

**Dropout rates:** Although access to child immunization was quite high (94% for DPT1), the dropout rates for different antigens were also higher - 12% from DPT1 to DPT3 and 25% 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 DPT3 has reduced from 22% in 2000 to 12% in 2003; while dropout rate from DPT1 to Measles has reduced from 34% in 2000 to 25% in 2003.

**Invalid doses:** 9% of the DPT1 doses were administered before 6 weeks of age of the children, and 5% of the measles doses were given before 38 weeks of age of the children. Besides, 4% each of the DPT2 and DPT3 doses were given before 4 weeks interval between the doses.

**Trend in invalid doses:** Invalid doses of DPT1 and measles have been mixed over the period. Invalid DPT1 doses had increased from 3% in 2000 to 12% in 2002 and decreased to 9% in 2003 while invalid measles doses decreased from 6% in 2000 to 5% in 2002 and stayed at 5% in 2003, reflecting very little improvement of quality of services (specially in DPT1) provided by the vaccinators over the period.

**Missed opportunities:** Total missed opportunities (uncorrected plus corrected) for different antigens ranged from 1% to 10%. The prevalence of uncorrected missed opportunities for different antigens ranged from 1% to 7%. The composite index for total missed opportunities was 76, reflecting serious need for improving the quality of screening during vaccination sessions.

**EPI card retention:** 93% of the children interviewed were ever given EPI cards; however, EPI cards were available with only 48% of the respondents at the time of interview. EPI card retention rate was 51% only, as 49% of the EPI cards were lost.

**Knowledge about required visit to immunization center for full immunization:** 18% 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 29% had wrong idea about it. Only 53% 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 GOB outreach centers (41%), followed by the Private clinics (25%). Hospitals as a whole provided 18% while GOB clinics provided 15% of the immunizations. Only 1% of the immunization services were recorded to have been provided by the NGOs.

**Adverse reaction following vaccination:** 3% of the children (who had ever received any vaccine) were reported to have abscesses after receiving vaccine, and 50% each had them at their arms and their thighs. About 3% of the ever immunized children experienced other adverse reaction following immunization, such as fever, swelling and ulcer after receiving vaccine. Swelling after BCG (100%) and ulcer after DPT (100%) were reported as most common other adverse reaction after receiving BCG & DPT while fever was mentioned as other adverse reaction - 67% after DPT & 33% after BCG.

**Charges for immunization:** The Parents of over three-fourth of the children (78%) paid money for vaccination of their children, and more than half of them (55%) paid Tk 10.00 or less per contact for vaccination. Another 20% paid an amount between Tk. 11.00 and Tk. 20.00 per contact for vaccination. Only 2% paid more than Tk. 30.00 per contact for vaccination.

**Reasons for non-immunization and partial immunization or dropout of children:** 13 children (out of 210) never received any vaccine: 54% for fear of adverse reaction, 15% for being too busy to take the child to the center and 8% each as child was sick and taken but not given, had to pay money and did not feel vaccination to be important. 7% did not vaccinate the children because of social barrier. The primary reasons for partial immunization or dropout included too busy to take the child to the center (17%), child was sick and so was not taken to the center (15%), fear of adverse reaction (10%) and 8% each for not knowing when to return for 2<sup>nd</sup>/3<sup>rd</sup> dose, for measles, and did not give importance to vaccination.

### **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. 92% of the women received TT1. The corresponding figures for TT2, TT3 and TT4 were 89%, 64%, and 47% respectively. Only 29% of the women received TT5, which provide lifelong protection against tetanus. 8% of the women never received any TT vaccine.

**Trend in TT immunization coverage:** The trend in TT coverage as seen in 2002 and 2003 was mixed – coverage of TT1 in 2003 went down by 1% while it increased by 2% in 2003 for TT2. In terms of TT5, it again decreased by 1%.

**Age distribution of women never receiving TT immunization:** The older women are less likely to receive TT vaccine. 12% of the women up to 30 years & 10% of 31-35 years had never received any dose of TT vaccine; while the corresponding figures ranged from 0 to 7% for the women of other age groups.

**Invalid TT doses:** A significant proportion of TT doses were invalid as they were administered before the minimum required interval between the doses. 31% of the TT3 doses were given before 6 months interval between TT2 and TT3, and as such were invalid. 44% 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:** 87% of the newborn babies were found protected against tetanus, indicating that 13% newborn babies were still not protected against tetanus at birth.

**Knowledge about full TT immunization:** 84% of the women did not have correct knowledge about the number of TT doses required for a woman for full immunization. Only 16% 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:** 83% of the women were ever given TT cards; however, TT cards were available with 31% of the women only at the time of interview. TT card retention rate was 38% only, as 62% of the TT cards were lost.

**Sources of TT immunization:** Majority of the women received TT vaccine from the GOB EPI outreach centers (49%), followed by the Hospitals (21%). GOB & NGO clinics provided 12% & 14% respectively while the Private clinics provided only 4% of the services.

**Adverse reaction following immunization:** No woman was reported to have had any abscess after receiving TT vaccine. Only 1 woman experienced other adverse reaction like scabies after receiving TT vaccine.

### **Coverage levels for the 11<sup>th</sup> NIDs**

**OPV and Vitamin A coverage:** 97% of the children <5 years received OPV in both rounds of the 11<sup>th</sup> NIDs. OPV coverage in 1<sup>st</sup> & 2<sup>nd</sup> Rounds was 99% & 98% respectively. Vitamin A capsules were given to 88% of the eligible children (12 – 59 months of age). Besides, 9 ineligible children (out of 210) were wrongly administered Vitamin A, as they were under 1 year on the 1<sup>st</sup> round of NID day.

**NID coverage trend:** The coverage of OPV during the NIDs has increased over the past 2 years (from 94% in 2002 to 97% in 2003). The Vitamin A coverage has also improved from 83% in 2000 to 84% in 2002 and 88% in 2003.

**Sources of OPV during the 11th NIDs:** Most of the children received OPV from the NID sites (96% in the 1st round and 92% in the 2nd round). 2% percent children received OPV during child-to-child search in the 1st round and 4% in the 2nd round. Also, 2% children in 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 majority of the households. Only 14% households in the 1st round and 21% 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 (74%), followed by family members and neighbors (42%). About 41% of the parents came to know about the NIDs from mobile miking. Mosque miking as a source of information of the NIDs was mentioned by 12% of the parents.

**Reasons for not receiving vaccines from the NID sites:** The primary reasons for not receiving OPV from the NID sites included: a) waited for house visit (29% & 21%) respectively in the 2 rounds; b) lack of information about the NIDs (15% & 22%) respectively in the 2 rounds and not at home (22%) in the 2nd round; c) parents' preoccupation on NID day (14% & 7% ) respectively in the 2 rounds. In the 1st round, 14% each cited reasons like father had not administered OPV, did not know where OPV was administered and child sick, not taken, as reasons for not availing the NID services.

## **Conclusions and recommendations**

Access to child immunization was quite high (85% for DPT1); but this high access dropped to 55% for valid fully immunized children because of dropouts and invalid doses. Although there has been some improvement in reducing the dropout rate for DPT1 to measles over the past years (from 2000 to 2003) from 34% in 2000 to 25% 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. 92% of the women received the first dose of TT, which reduced to 29% 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 1<sup>st</sup> birthdays (i.e., by 12 months). However, the coverage of fully immunized children (FIC) by 12 months was 50% (which was 5 percentage points less than the coverage of 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, 51% and 38% 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 89% of the women who gave birth in the past one year received at least two doses of TT, many newborn babies (28 or 13% 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. 47% of the mothers could not mention how many times a child was required to be taken to EPI center to get fully immunized. Similarly, 84% 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.*

Fear of adverse reaction was cited as an important primary reason for non-immunization & partial immunization of children by a sizable number of parents (54% & 10% respectively). It appears that the parents may have wrong impressions about adverse reaction of vaccination. The current 3% abscess rate might have contributed to such impressions of the parents.

- *Very selective and focused mass media campaign, in addition to IPC by health workers, should be conducted to achieve this end. In addition, appropriate BCC activities by the health workers during IPC and counseling at the first contact may also remove the fear of adverse reaction of vaccination from the minds of the parents as well.*
- *Special attention should be given to better sterilization/injection safety procedures to reduce current abscess rate*

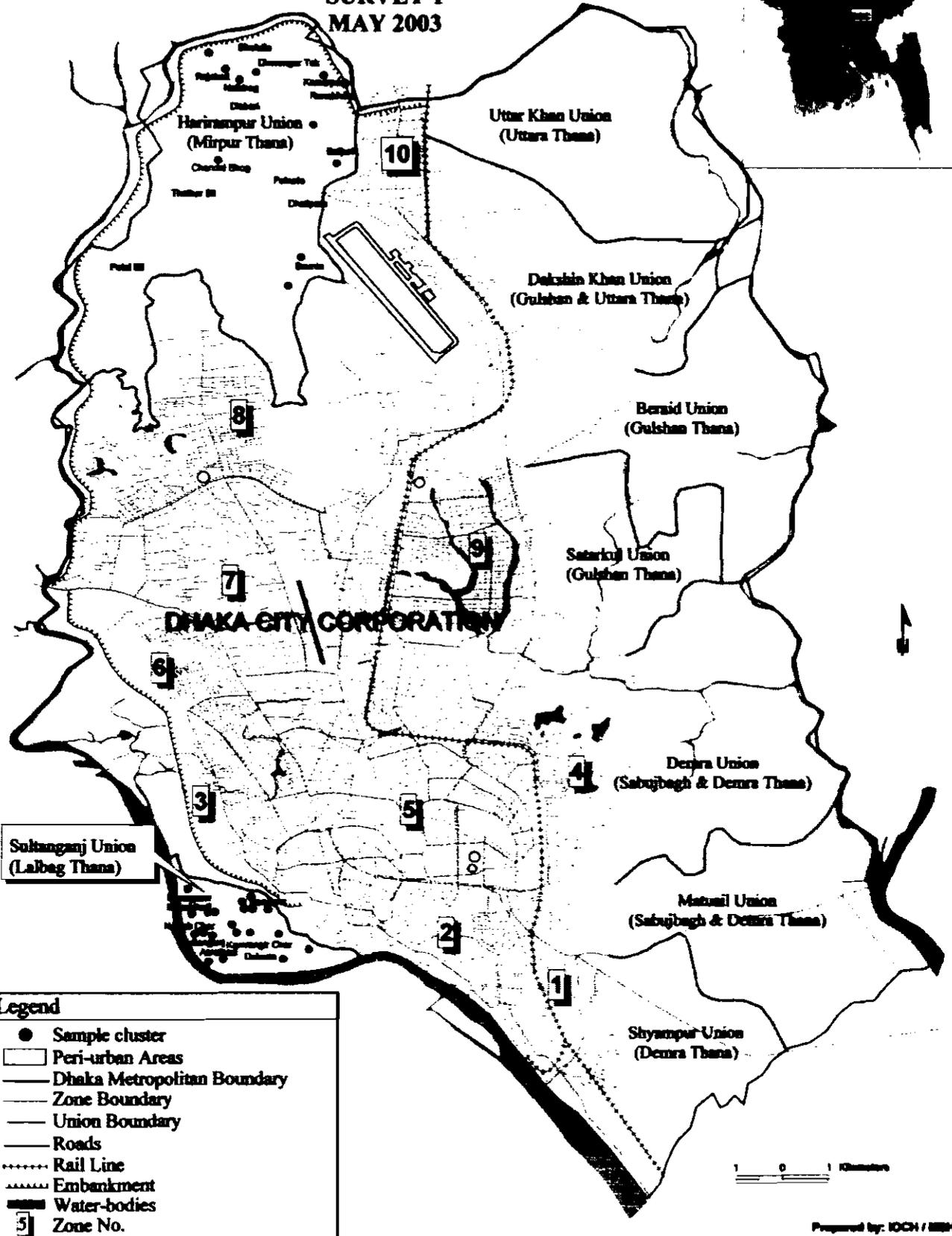
86% & 79% of the households were found not marked with visitation date of the workers during child-to-child search in the 1<sup>st</sup> & 2<sup>nd</sup> rounds respectively on the door or wall of the house.

- *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 may help to reduce this number*

12% of the eligible children (12 – 59 months) did not receive Vitamin A during the 1<sup>st</sup> round of the 11<sup>th</sup> NIDs. Besides, 9 ineligible children out of 210 (i.e., 4%) were wrongly administered Vitamin A, as they were under 1 year on the 1<sup>st</sup> round of the 11<sup>th</sup> NIDs.

- *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 better screening for age; and*
  - *no Vitamin A capsule should be given to the parents to administer to their children either at NID site or in their homes.*

**VACCINATION COVERAGE SURVEY IN THE PERI-URBAN  
AREAS OF DHAKA CITY CORPORATION  
SURVEY 1  
MAY 2003**



Sultanganj Union  
(Lalbag Thana)

- Legend**
- Sample cluster
  - Peri-urban Areas
  - Dhaka Metropolitan Boundary
  - Zone Boundary
  - Union Boundary
  - Roads
  - ..... Rail Line
  - ..... Embankment
  - Water-bodies
  - 5 Zone No.

1 0 1 Kilometers

Prepared by: IOCH / BSM

## TABLES AND FIGURES

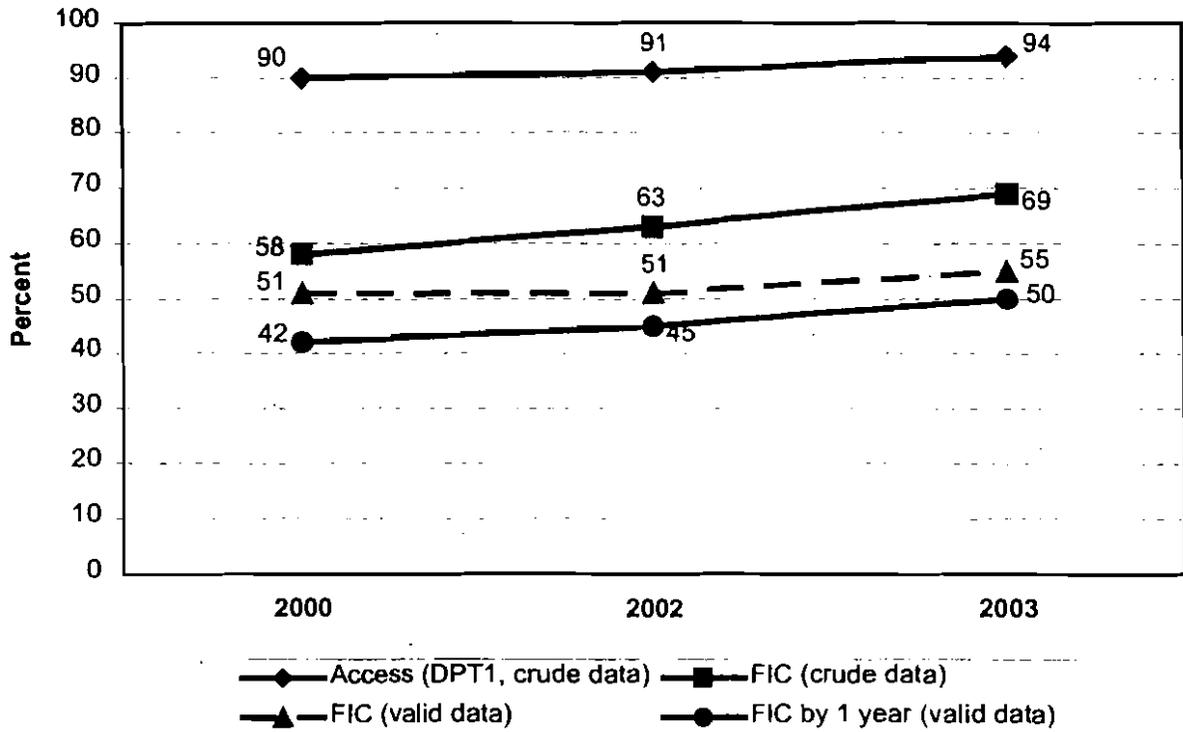
**Table 1: Routine immunization coverage levels of the children**

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
OPV1	92	83	83
OPV2	89	72	71
OPV3	82	61	58
DPT1	94	85	85
DPT2	90	73	72
DPT3	82	62	59
Measles	70	66	62
Fully immunized	69	55	50
Zero Dose	6	-	-

**Table 2: Routine immunization coverage levels by gender**

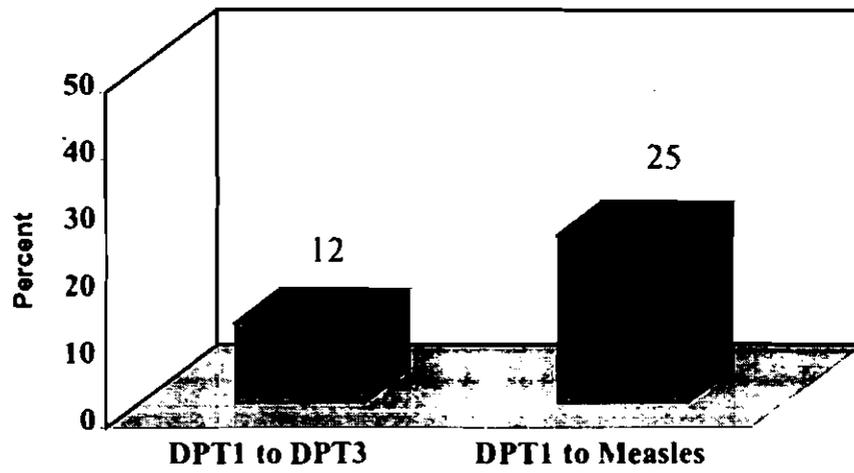
Name of the vaccine	Coverage % Immunization of 12-23 months age group				Coverage % Immunized by 12 months	
	Crude data (Access)		Valid data		Valid data	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
	BCG	93	92	93	92	93
OPV1	92	91	79	87	79	87
OPV2	86	91	66	77	64	77
OPV3	81	83	60	63	58	59
DPT1	95	92	82	88	82	88
DPT2	87	92	66	80	64	80
DPT3	81	84	60	64	58	60
Measles	71	69	68	65	64	59
Fully immunized	71	68	56	54	56	44
Zero dose	5	8	-	-	-	-

**Figure 1: Child immunization coverage trend**

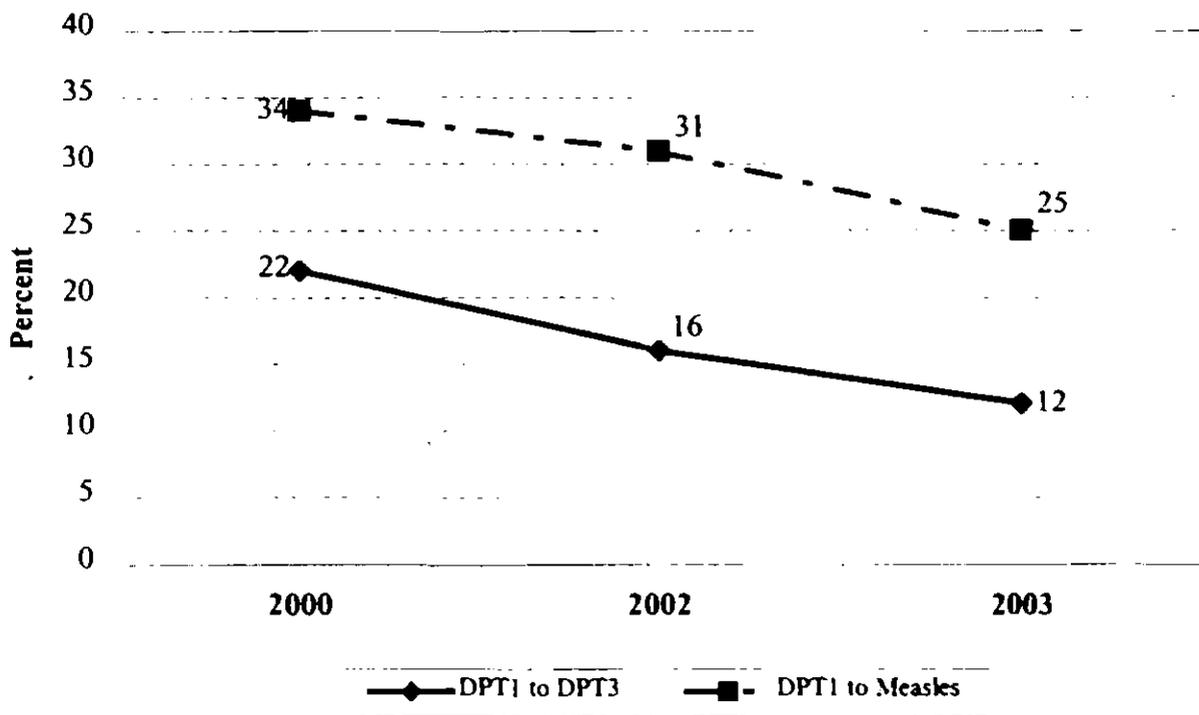


*Source: IOCH Vaccination Coverage Survey - 2000, 2002 and 2003*

**Figure 2: Drop-out rate for child immunization**



**Figure 3: Child immunization dropout trend**

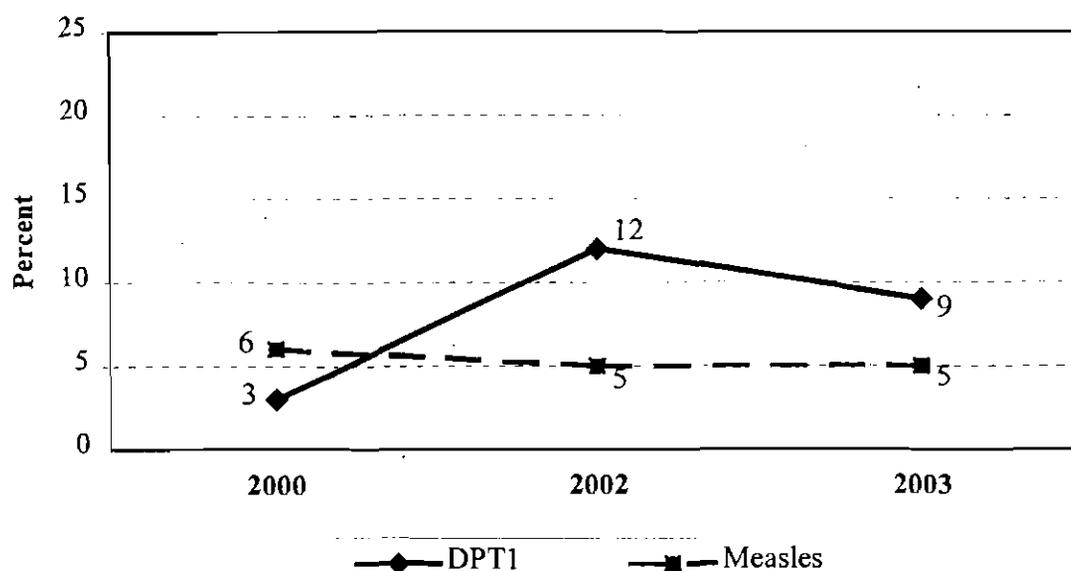


Source: IOCH Vaccination Coverage Survey - 2000, 2002 and 2003

**Table 3: Invalid doses of immunization provided to the children**

Antigens	Percents
DPT1	9
DPT2	4
DPT3	4
Measles	5

**Figure 4: Trend in invalid doses of child immunization**



Source: IOCH Vaccination Coverage Survey - 2000, 2002 and 2003

**Table 4: Missed opportunities by antigens**

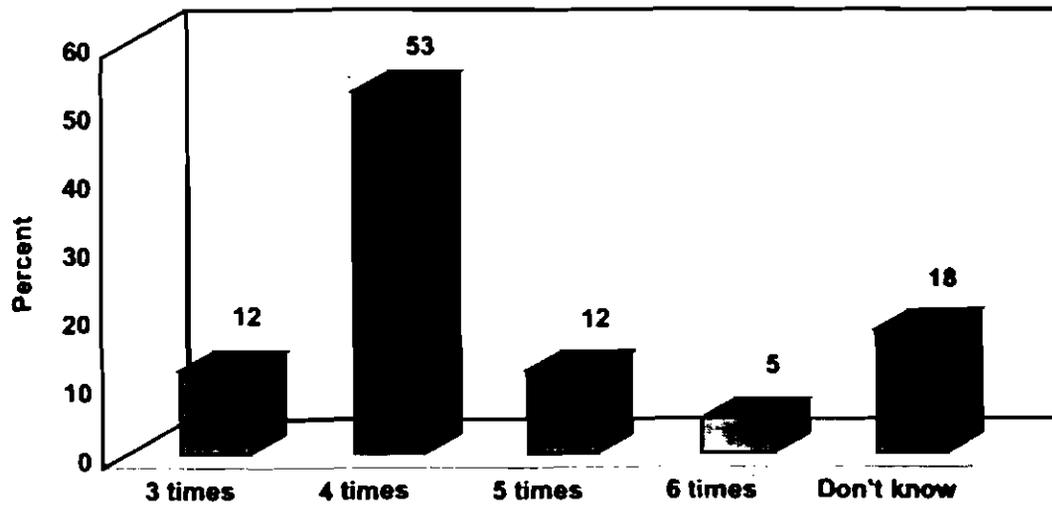
Name of the vaccine	Uncorrected		Corrected		Total	
	Number	Percent	Number	Percent	Number	Percent
BCG	9	4	5	2	14	7
DPT1	11	5	5	2	16	8
DTP2	5	2	-	-	5	2
DPT3	1	0	2	1	3	1
OPV1	15	7	5	2	20	10
OPV2	6	3	-	-	6	3
OPV3	2	1	2	1	4	2
Measles	4	2	4	2	8	4
*Index					76	

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

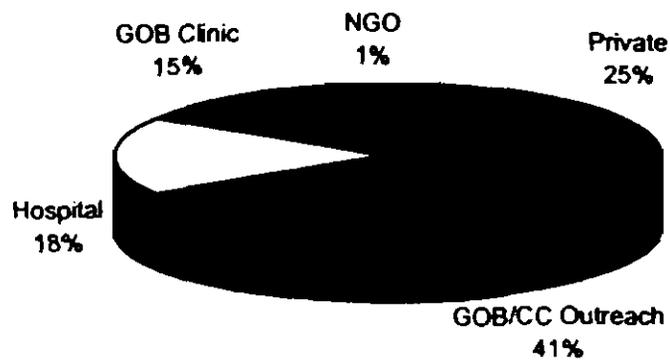
**Table 5: EPI cards availability and retention**

Card Status	Number	Percentage
EPI card available	100	48
EPI card ever given	195	93
EPI card retention	100	51

**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	6	3
No abscess	191	97
Total	197	100

**Table 7: Site of abscess (after receiving vaccine)**

Site of abscess	Number	Percentage
Arm	3	50
Thigh	3	50
Buttock	-	-
Other	-	-
Total	6	100

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

Status of other adverse reaction	Number	Percentage
Other adverse reaction	5	3
No other adverse reaction	192	97
Total	197	100

**Table 9: Nature of other adverse reaction**

Nature of other adverse reaction	Number	Percentage
Fever	3	60
Swollen	1	20
Ulcer	1	20
Total	5	100

**Table 10: Nature of other adverse reaction by antigen**

Nature of other adverse reaction	Antigen							
	BCG		DPT		Measles		Total	
	#	%	#	%	#	%	#	%
Fever	1	33	2	67	-	-	3	100
Swollen	1	100	-	-	-	-	1	100
Ulcer	-	-	1	100	-	-	1	100
Total	2	40	3	60	-	-	5	100

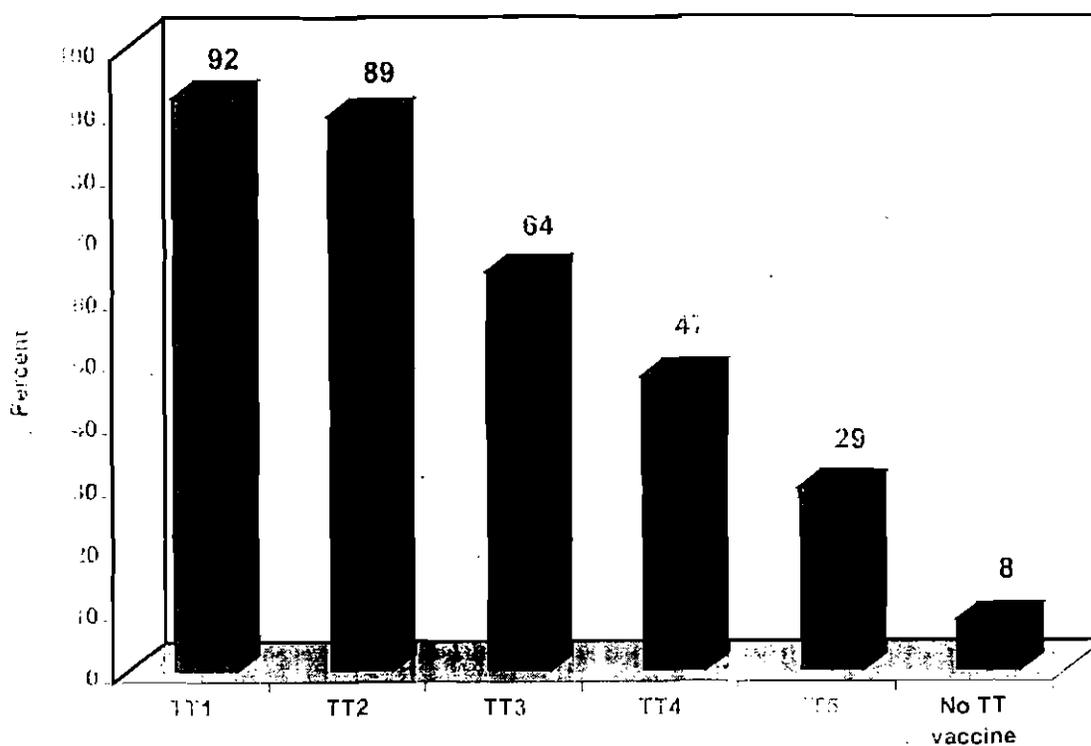
**Table 11: Parents of the children who paid money for receiving vaccine by amount of money paid per contract**

Amount of money (in Taka)	Number	Percentage
1-10 Taka	109	55
11-20 Taka	39	20
21-30 Taka	2	1
>30 Taka	4	2
No money was paid	43	22
Total	197	100

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

Reasons for non-immunization or partial immunization	Non-immunized (%) (N=13)	Partially immunized (%) (N=52)
Did not know when return for 2nd/3rd dose	-	8
Did not know when return for measles vaccine	-	8
Did not know where to go for vaccination	-	4
Fear of adverse reaction	54	10
Does not believe in vaccination	-	2
Planning to vaccinate in future	-	4
Too busy to not taken the child	15	17
Vaccination site was too far away	-	4
Mother sick	-	2
Child was sick and not taken	-	15
Child was sick and taken but not given	8	6
Had to pay money for vaccine	8	
Did not importance for vaccination	8	8
Had abscess after previous vaccination	-	2
Did not remember	-	4
Thought vaccinator will come to the house	-	2
Mother lost the card	-	2
Social barrier	7	
Not at home	-	2

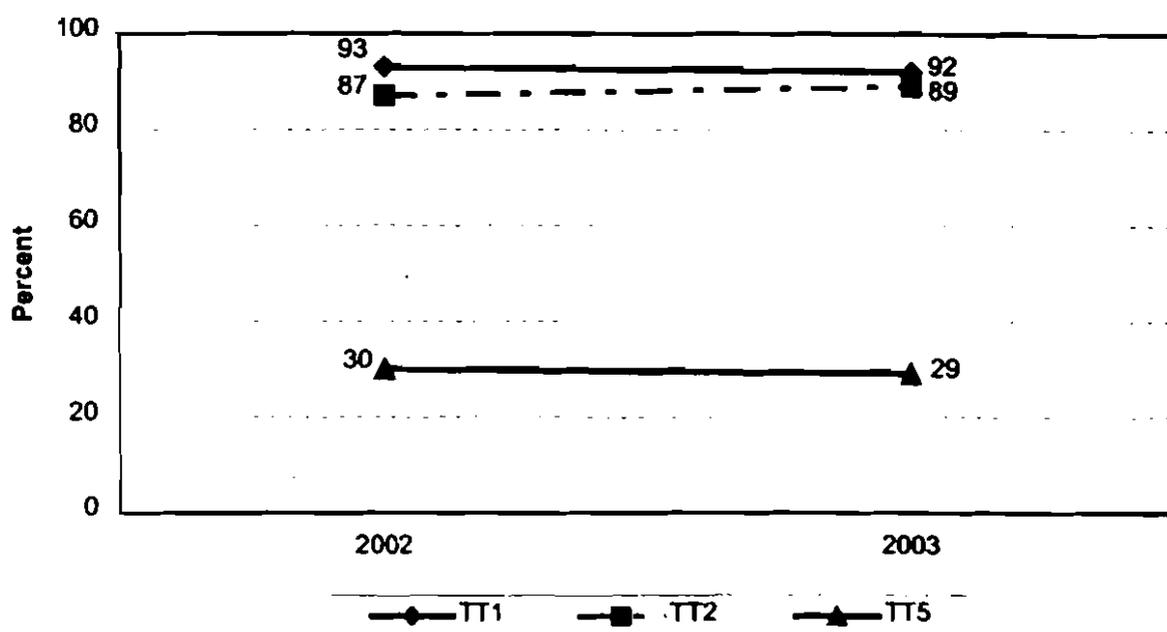
**Figure 7: TT immunization coverage levels of the women who gave birth in last one year**



**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	26	1	4
20-25 years	116	8	7
26-30 years	43	5	12
31-35 years	20	2	10
>35 years	5	-	-
Total	210	16	8

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



Source: IOCH Vaccination Coverage Survey - 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	2	1	185	99	-	-	-	-	-	-	-	-	187	100
TT2-TT3	-	-	-	-	42	31	93	69	-	-	-	-	135	100
TT3-TT4	-	-	-	-	-	-	-	-	44	44	55	56	99	100
TT4-TT5	-	-	-	-	-	-	-	-	23	38	38	62	61	100

**Table 15: Children born protected against tetanus**

Status of children born protected	Number	Percentage
Protected	182	87
Not Protected	28	13

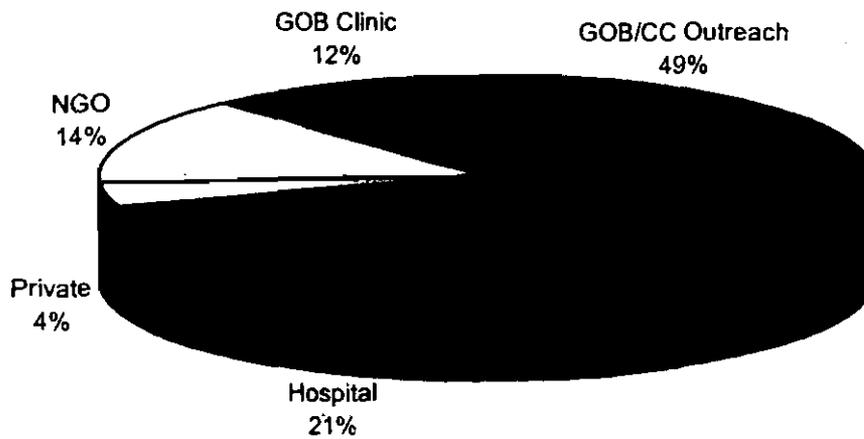
**Table 16: Knowledge about number of TT doses required for life time protection against tetanus**

Answers	Number	Percentage
2 doses	4	2
3 doses	8	4
4 doses	12	6
5 doses	34	16
6 doses	5	2
Don't know/ no idea	147	70

**Table 17: TT cards availability and retention**

Card Status	Number	Percentage
TT card available	66	31
TT card ever given	174	83
TT card retention	66	38

**Figure 9: Providers of TT immunization**



**Table 18: Women who had an abscess after receiving TT**

Status of women abscess	Number	Percentage
Abscess	-	-
Not abscess	194	100
Total	194	100

**Table 19: Women who had any other adverse reaction after receiving TT**

Status of other adverse reaction	Number	Percentage
Other adverse reaction	1	1
No other adverse reaction	193	99
Total	194	100

**Table 20: Nature of other adverse reaction**

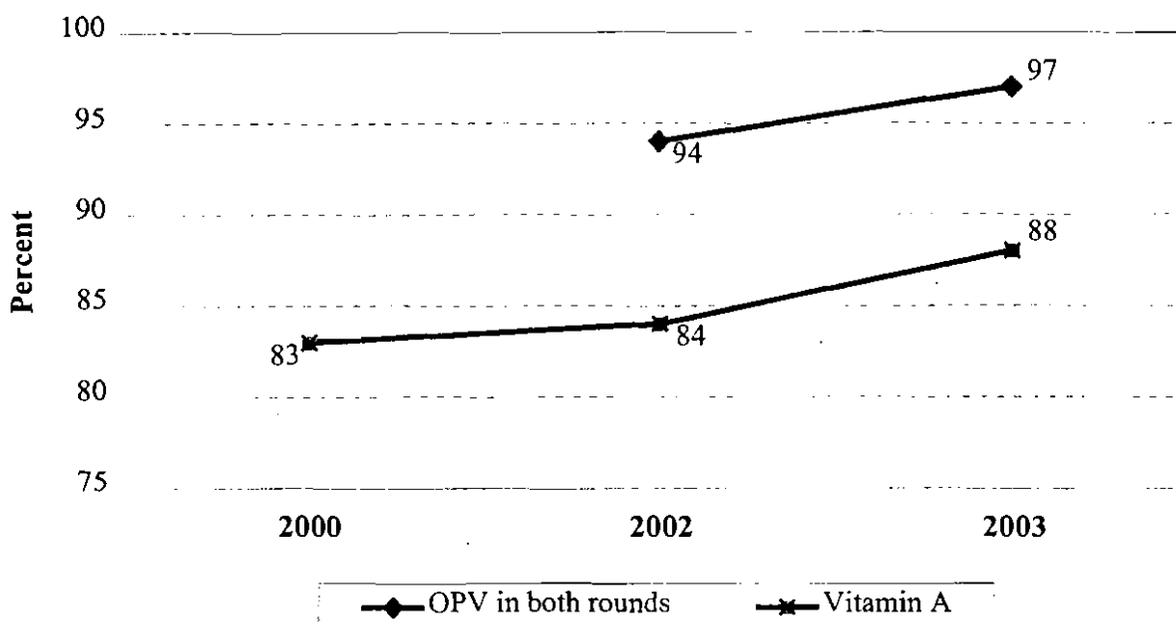
Nature of other adverse reaction	Number	Percentage
Scabies	1	100
Total	1	100

**Table 21: OPV and Vitamin A Coverage during the 11<sup>th</sup> NIDs**

N=210

Round	OPV (%)	Vitamin A (%)
1 <sup>st</sup> round	99	88
2nd round	98	-
Both round	97	-
Any round	100	-

**Figure 10: NID coverage trend**



Source: IOCH Vaccination Coverage Survey - 2000, 2002 and 2003

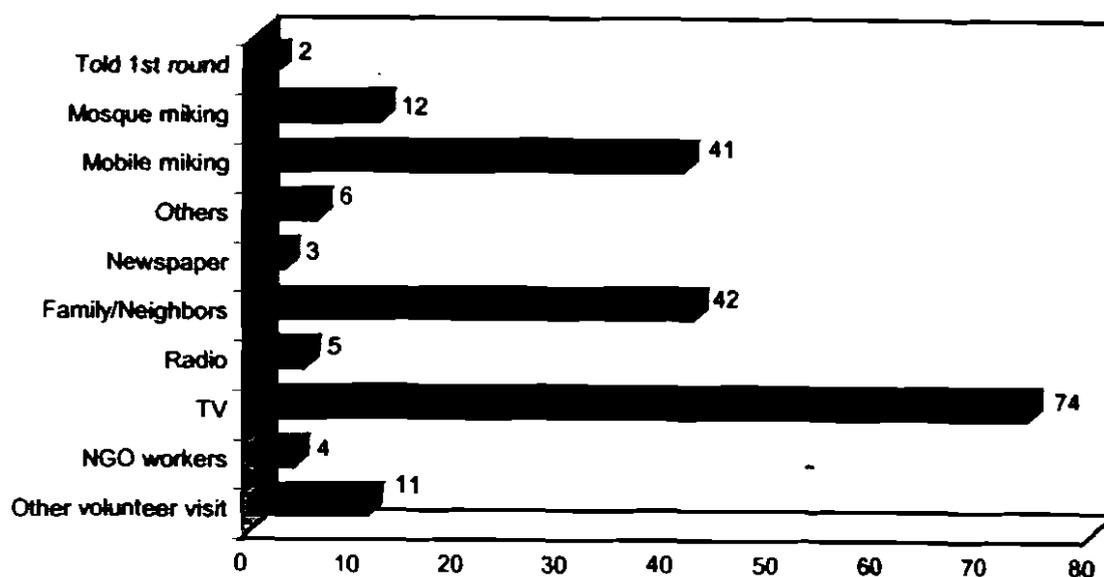
**Table 22: Sources of OPV during the 11<sup>th</sup> NIDs**

Sources of OPV	1 <sup>st</sup> Round		2 <sup>nd</sup> Round	
	#	%	#	%
NID site	202	96	193	92
Mobile on NID	1	0	3	1
Mobile after NID	-	-	2	1
Child to child search	4	2	8	4
Not received	3	1	4	2
Total	210	99	210	100

**Table 23: Date of child-to-child search of the 11 NIDs were written on the door of the house**

Variable	1 <sup>st</sup> Round		2 <sup>nd</sup> Round	
	#	%	#	%
Written	29	14	43	21
Not written	181	86	167	79
Total	210	100	210	100

**Figure 11: Sources of information of the 2nd round of the 11<sup>th</sup> NID campaign**



**Table 24: Reasons for not receiving of OPV from NID sites of the 11<sup>th</sup> NIDs**

Reasons	1 <sup>st</sup> Round (%) (N=7)	2 <sup>nd</sup> Round (%) (N=14)
Did not know about NID	15	22
Too busy	14	7
Traveling	-	7
Father had not administrated OPV	14	-
Did not know where OPV administrated	14	-
Fear of adverse reaction	-	7
Forgot the date	-	7
Not at home	-	22
Child sick, not taken	14	-
Mother was sick	-	7
Waited for house visit	29	21

**Annex - A**

**List of Selected Clusters for the Survey**

Union	Ward No.	Mouza name	Mahalla name	Total HH	Total Pop.	Cluster No.
Sultangonj	3	Bagchad Kha	Bagchad Kha	1249	5894	1
	3	Char Kamrangi	Puran Kamrangirchar	1385	8202	2,3,4
	3		Asrafabad	1559	8297	5,6
	2		Islam Nagar	835	4269	7
	2		Rusulpur	3791	17769	8,9,10,11,12
			Takerhati	306	1607	13
	1		Nowagaon	297	1624	14
	1	Hashlai	Hashlai	1473	7412	15,16,
	3	Jangalbari	Jangalbari	1478	7571	17,18,
	1	Nawbabchar	Nawbabchar	915	5183	19,20
Harirampur	3	Bailjuri	Bailjuri	758	4742	21
		Baunia	Sholahati	101	816	22
			Ahalia (Part-2)	146	893	23
			Baunia	848	4576	24
	1	Chandal Bhog	Chandal Bhog	201	1138	25
	1	Dhaur	Dhaur	482	2762	26
	1	Kamarpara	Kamarpara	1173	5220	27
		Nalbhog	Nalbhog	145	842	28
	2	Raja Bari	Raja Bari	329	1614	29
	1	Rasadia	Rasadia	241	1068	30

**Annex - B**

**List of Never Vaccinated Children Identified by Clusters**

Union	Ward No.	Mouza name	Mahalla name	Total HH	Total Pop.	Cluster No.	Child No.
Sultangonj	3	Bagchad Kha	Bagchad Kha	1249	5894	1	2, 4
	3	Char Kamrangi	Asrafabad	1559	8297	5, 6*	4, 6
	2		Rusulpur	3791	17769	9	5
						10	7
						11	7
						12	1
	1	Hashlai	Hashlai	1473	7412	15*, 16	6
	3	Jangalbari	Jangalbari	1478	7571	17*, 18	4
Harirampur	3	Baunia	Ahalia (Part-2)	146	893	23	1, 3
	1	Rasadia	Rasadia	241	1068	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:**

Dr. S.I.A.Jinnah, Field Support Coordinator, 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:**

Mr. Khan Md. Rafiqul Alam	Polio Eradication Facilitator
Mr. Md. Giasuddin Parves	Polio Eradication Facilitator
Mr. Md. Sahadat Hossain	Polio Eradication Facilitator
Mr. Md. Ali Ahmed	Polio Eradication Facilitator
Mr. Md. Abdul Hamid	Polio Eradication Facilitator
Mr. Md. Samsuzzaman Sarker	Polio Eradication Facilitator
Mr. Md. Touhidul Islam	Polio Eradication Facilitator
Mr. Md. Sabbir Ahmed	Polio Eradication Facilitator
Mr. Md. Sagir Ahmed	Polio Eradication Facilitator
Mr. Md. Ziaur Rahman	Member, PEF Support Team

## List of IOCH Survey/Research/Technical Reports

### Survey Reports

1. Vaccination Coverage Survey of the Slums of Rajshahi City Corporation - January 2000. Survey Report No. 1, May 2000
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
4. Vaccination Coverage Survey of the Slums of Khulna City Corporation - January 2000. Survey Report No. 4, July 2000
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21. Vaccination Coverage and Other Health Care Practices Survey in the Pabna Char Areas - August 2000. Survey Report No. 21, January 2001
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29. Vaccination Coverage Survey of the Peri-urban Areas of DCC - November 2000 (Peri-urban Area Survey-2). Survey Report No. 29, July 2001
30. Vaccination Coverage Survey of the Patuakhali, Jhalokathi and Pirojpur Municipalities - August 2000. Survey Report No. 30, July 2001
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80. Vaccination Coverage Survey of Selected Border Unions of Rajshahi Division - October 2002. Survey Report No. 80, October 2002
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106. Vaccination Coverage Survey of the Lalmonirhat Municipality – February 2003. Survey Report No. 106, May 2003
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115. Vaccination Coverage Survey of the Rajshahi City Corporation – May 2003. Survey Report No. 115, September 2003
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4. Vaccination Coverage Survey of Routine EPI and 2001 MNT Campaign in the Rural Areas of Chittagong, Khulna and Barisal Divisions. MNT Survey Report No. 4, March 2002
5. Vaccination Coverage Survey of Routine EPI and 2001 MNT Campaign in the Rural Areas of Dhaka, Rajshahi and Sylhet Divisions. MNT Survey Report No. 5, March 2002
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1. Vaccination Coverage Survey of the Teknaf and Ukhia Upazilas - February 2000. Survey Report No. 1, August 2000
2. Vaccination Coverage Survey of the Brahmanbaria Sadar Upazila - February 2000. Survey Report No. 2, August 2000
3. Vaccination Coverage Survey of the Debidwar Upazila - February 2000. Survey Report No. 3, August 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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