

Examining the effectiveness of selected Community Mobilisation Coordinators (CMC) communication activities on specific behavioural outcomes in support of the Intensified Pulse Polio Immunisation (IPPI) programme

Purpose

To examine the effectiveness of selected CMC communication activities on specific behavioural outcomes in support of the Intensified Pulse Polio Immunisation (IPPI) programme in Uttar Pradesh (UP).

Methodology

Sampling Frame

- Based on three impact indicators (booth coverage, Xr HH and total coverage), 31 districts with CMCs were ranked.
- One district from the top, middle and bottom of the ranking was selected for each region.
- Districts were listed in order, starting with the top of the district rankings
- The final selection of districts included: Western UP- Bijnor, Meerut and Moradabad; Eastern UP- Ambedkar Nagar, Barabanki, and Varanasi.

Structured interviews and non-participatory observation data was collected from a variety of sources (listed below). All instruments were pretested during the January National Immunisation Day (NID) round. Fieldwork was conducted during the February NID round. Field researchers conducted fieldwork starting approximately 10 days prior to the NID and concluded fieldwork, upon completion of Team A activities in the villages where field work was undertaken. Fieldwork was conducted by AC Neilsen (ORG). Technical assistance for all aspects of the research was provided by the Johns Hopkins Bloomberg School of Public Health, Centre for Communication Programs.

Model

Inputs

In broad terms, these refer to the main communication inputs, which were the CMCs for the purpose of this research. The research followed CMC activities for two main reasons. First, as part of the UP strategy for high-risk areas, UNICEF uses CMCs to have the most immediate contact with the intended audiences for the polio eradication initiative (PEI) (i.e. parents/caregivers of children 0 – 5). Second, UNICEF/India allocates a substantial portion of its polio eradication budget to train, deploy and support CMC in the field.

Outputs (Activities)

The main function of the CMCs is to inform and mobilise communities to participate in polio vaccination rounds and to reduce vaccine avoidance behaviour. While CMCs undertake many activities to achieve these objectives, for the purpose of this evaluation, their activities were aggregated into three groups:

Interpersonal communication/counselling (IPC/C):

Specific tasks under this aggregation include counselling visits for individual consultation in the home--either the CMC alone or the CMC accompanied by a community influential.

Group counselling:

This aggregation includes organising and facilitating meetings with mothers' groups, mother and daughter-in law groups, youth groups, social mobilisation group (SMG), and self-help groups.

Mobilise partners:

This aggregation includes working with partners in education (rallies, bulawa tolis, polio classes); Panchayati Raj (announcements); Aanganwadi (list of eligible children); religious institutions (announcements, meetings); Health Department (routine immunisation and health camps).

Outcomes

These refer to the specific indicators that are expected to change as a direct result of CMC activities:

1. Knowledge of next booth day/date and location
2. Knowledge of the need for repeated OPV rounds
3. Reduction in specific concerns and misconceptions
4. Trust in the CMC
5. Encouraging reluctant community members to accept OPV
6. Reporting intention to access OPV
7. Maintenance of positive behaviours (participation in polio vaccination for 2 successive rounds)

Data Sources and Sample Sizes

- Interviews with Xr caregivers (pre and post round) (N = 901)
- Interviews with CMCs (N = 114)
- Independent observations of HH IPC sessions of CMCs (N = 517)
- Observations of Group Counselling sessions of CMCs (N = 36)
- Exit interviews with parents post HH IPC (N = 517)
- Key influential interviews (N = 341)
- Interviews with P to Xr HH (post-round) (N = 63)
- Booth day observations (N = 114)
- Vaccinators' Profile (N = 305)

For the purposes of this analysis the Xr caregivers have been classified into three groups:

Table 1: Post Round Classification of Xr Households

HouseHold (HH) type	N	%
Xr during January round who got their children vaccinated at a booth in February (Xr vaccinated at booth)	359	39.8
Xr during the January round who got their children vaccinated at home in February (Xr vaccinated at home)	234	26.0
Xr during January round who refused vaccination in the February round (Xr to Xr)	308	34.2
TOTAL	901	100.00

Given the small sample of P to Xr HH (respondents whose children were vaccinated in January but who refused vaccination in February), these were not included in this analysis (N = 63).

Salient Findings:

- There were significant differences ($p < .00$) within districts in UP with regards to the classification of houses post round, hence indicating district wise variations within UP.
- The analysis of the age-groups of the various respondents revealed that the CMCs were well matched in terms of age when it comes to the Xr vaccinated at a booth and Xr vaccinated at home respondents (many of whom were within the 25-35 age category). The CMCs were less likely to be well matched with the Xr to Xr respondents in terms of age (many of whom were 35+ years of age). The results further showed that key influentials generally tended to be older than the CMCs and hence were better matched in terms of age with the Xr to Xr caregivers.
- Slightly more than half of the Xr to Xr respondents were Muslims. The highest percentage of Muslim respondents came from the Xr vaccinated at home category (66.2%). Over half of the CMCs interviewed also belonged to the Muslim community (57.9%). At 41.9 percent there were slightly fewer Muslim key influentials in comparison to the Muslim composition of the three types of Xr respondents and the CMCs.
- There were significant differences ($p < .01$) among Xr respondents' awareness of PPI by their immunisation status post round, Xr vaccinated at booth reported highest levels of PPI awareness, followed by Xr vaccinated at home and then by Xr to Xr respondents.
- Despite the fact that the overall levels of awareness that polio can be prevented were very high, there were significant differences ($p < .05$) among the three types of Xr respondents' awareness that polio can be prevented. Xr vaccinated at booth respondents (96.2%); Xr vaccinated at home respondents (93.5%) and Xr to Xr respondents (91.4%).

- It appears that all three types of Xr respondents did not have a clear understanding with regards to the safety issue, while many of the respondents reported that OPV is safe, when asked about “complete safety” relatively fewer respondents reported in the positive.
- Across all the three types of Xr respondents, Xr to Xr respondents were significantly more likely ($p < .01$) to report misconceptions about polio in comparison to Xr respondents vaccinated at booth or Xr respondents vaccinated at home. At the same time, Xr vaccinated at booth respondents or Xr vaccinated at home respondents were significantly ($p < .01$) more likely to have correct conceptions about polio in comparison to the Xr to Xr respondents interviewed.
- Questions regarding the knowledge of the date of the February round were asked to all the three types of Xr respondents both pre and post round. The results showed that pre-round knowledge of the date of the booth was highest among the Xr vaccinated at booth respondents and lowest among the Xr to Xr respondents. The knowledge of Xr vaccinated at home respondents lay somewhere in between. Post round knowledge of the correct dates was almost universal across all three types of Xr respondents.
- It is interesting to note that almost 30 percent of Xr to Xr respondents answered in the negative when asked if they were aware of any community based activities for polio in their communities. However, when asked specifically about the CMCs and their involvement in polio related activities more individuals across the three types of Xr respondents were likely to reply positively.
- A logistic regression model while controlling for SES, age groups and area of residence revealed that Xr vaccinated at booth respondents were 1.6 times more likely to know about the CMC than their Xr to Xr counterparts (sig. @ .05 level). Surprisingly, the logistic regression model indicated that the Xr vaccinated at home respondents were least likely to be acquainted with the CMCs in comparison to the Xr vaccinated at booth or Xr to Xr respondents.
- Relatively low levels of awareness were observed among all types of Xr respondents regarding the fact that the CMC belonged to their community. Interestingly, these results showed that the Xr vaccinated at home respondents were least likely among the three Xr respondent types to report that the CMC was from their community.
- Length of acquaintance with the CMC, the CMC belonging to the same village as the Xr respondents and religion of the CMC did not appear to make a significant difference as far as acceptance of OPV was concerned either at a booth or at home.
- Caste on the other hand appeared to be marginally important with significantly higher ($p < .05$) percentages of Xr vaccinated at booth respondents also indicating that the CMC belonged to the same caste as them. Only some 21.8 percent of the Xr vaccinated at home respondents reported that the CMC belonged to the same caste as them.

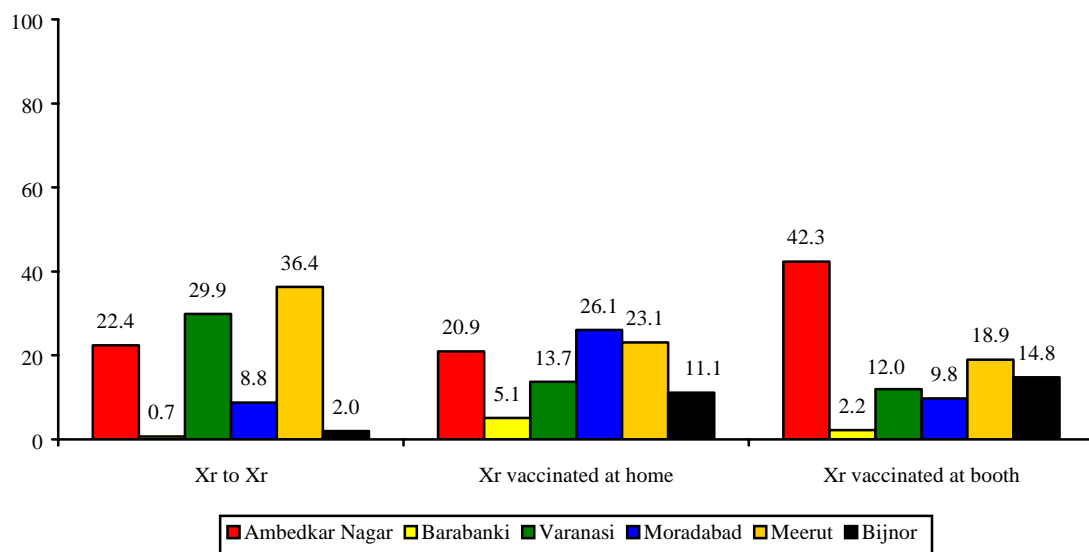
- Extremely, high percentages of all the three types of Xr respondents reported that they had participated in interpersonal communication (IPC) sessions with the CMC (over 80 percent across the three types of Xr respondents respectively).
- With regards to the topics discussed with the CMC during IPC sessions, as well as group interactions, the results indicated that Xr HH vaccinated at booth respondents were significantly more likely ($p < .05$) to report that one of the topics discussed was “the need for repeated rounds” and the “the need to visit a booth”. Results showed that not only were the Xr vaccinated at home respondents least likely to be acquainted with the CMC they were also least likely to have discussed specific topics like the “need to visit a booth.”
- Surprisingly, Xr to Xr respondents were significantly more likely in comparison to the Xr vaccinated at booth and Xr vaccinated at home respondents, to report that they discussed myths and misconceptions with the CMC during their interaction with them, either interpersonally or in a group setting. However, it is important to point out that the results also indicate that the CMC is considerably less likely to initiate discussions on myths and misconceptions.
- With regards to group meetings organised by the CMCs relatively smaller numbers of the three types of Xr respondents reported having participated in group meetings, especially in comparison to the substantially higher percentages who reported having engaged in IPC with the CMCs. The differences in group meeting participation among the three types of Xr respondents were not significant. As was the case with IPC interactions with the CMCs, the Xr vaccinated at home respondents were least likely among the three types of Xr respondents to report having participated in group meetings organised by the CMCs.
- Xr vaccinated at booth respondents were considerably more likely to recall CMC activities such as organisation of bulawa tolis, mosque elans and personal interaction with CMCs on booth day, as well as the specific techniques used by CMC to convince respondents to accept OPV on booth day in comparison to the Xr vaccinated at home and the Xr to Xr respondents.
- Interestingly, Xr vaccinated at home were least likely to be aware of booth day activities, such as information about time and date of booth that is crucial information in promoting booth attendance.
- Approximately 20 percent of all three types of Xr respondents reported that there were issues related to PPI that were still not clear to them. Among specific issues not clear to the Xr respondents, Xr to Xr respondents were significantly ($p < .05$) likely to report that they were concerned that OPV causes sterility. Surprisingly, significantly more ($p < .01$) Xr vaccinated at booth respondents reported that they were concerned that their child is already vaccinated (23.7%) in comparison to the Xr to Xr respondents (15.9%), at 43.2 percent the Xr vaccinated at home respondents were most likely to voice this concern.

- The fact that Xr vaccinated at booth respondents were most likely to report that CMCs are polite indicates that polite behaviour on part of the CMCs might facilitate booth attendance. Specifically when seen in light of the findings that at least a third of the respondents across all three types of Xr respondents reported that in general the decision of ‘caregivers in their community’ to vaccinate their children was to a large extent dependent upon CMC behaviour.
- The Xr to Xr respondents were asked after the round whether they were aware of a HH vaccination day when the vaccinators came from door to door. An overwhelming majority (91.2%) of the Xr to Xr respondents reported that they were aware of HH vaccinations and around three fourths (75.6%) of them reported that the CMC accompanied the vaccinator during the HH vaccination.
- Xr vaccinated at home respondents and the Xr to Xr respondents were likely to report higher levels of respect for CMCs as well as greater appreciation of their communication skills in comparison to the Xr vaccinated at booth respondents. A logistic regression model while controlling for SES, age groups, and area of residence revealed that Xr vaccinated at booth respondents were 1.5 times more likely to believe that the CMC was educated than their Xr to Xr counterparts (sig. @ .01 level). Xr vaccinated at home were least likely to opine that the CMC was educated.
- Overall, respondents reported that CMCs are indeed successful in promoting OPV among children. As expected Xr vaccinated at a booth respondents were significantly ($p < .01$) more likely to attest to the success of the CMCs in promoting this behaviour change (71.5%), in comparison to Xr vaccinated at home (66.7%) and Xr to Xr respondents (58.2%).
- The relatively low levels of awareness of local key influentials involvement in PPI and also the low levels of spontaneous recall of the specific activities they perform were contrary to the relatively high levels of acknowledgement of their effectiveness. These results suggest that social mobilisation and communication interventions to benefit from greater and more visible involvement of the key influentials.
- Among the Xr to Xr respondents slightly less than half continue to resist OPV and do not intend to get their children vaccinated in the next round. The remaining Xr to Xr respondents are at a different stage of behaviour change in that they are at least willing to accept vaccination. Among X vaccinated at home respondents some 51 percent reported that they would go to a booth during the next round. While some 37 percent reported that they would continue to get vaccinated at home. Among Xr vaccinated at booth some 14 percent indicated they intend to get their children vaccinated at home during the next round. Given the different stages of behaviour changes, that these respondents were at, different types and levels of social mobilisation and communication activities tailor made to suit their needs are necessary.

Socio-Demographics

There were significant differences ($p < .00$) within districts in UP with regards to the classification of houses post round. The largest numbers of Xr to Xr respondents (those who had refused vaccination in January and continued to resist vaccination in February) belonged to the districts of Varanasi (29.9%) and Meerut (36.4%). Ambedkar Nagar had the highest numbers of Xr vaccinated at booth respondents i.e. those who had refused vaccination in January and who converted by getting their children vaccinated at a booth in February (42.3%). These results suggest that social mobilisation and communication activities ideally suited to adapt to local realities are likely to be more effective.

Figure 1: Geographical Distribution of Respondents in UP By District

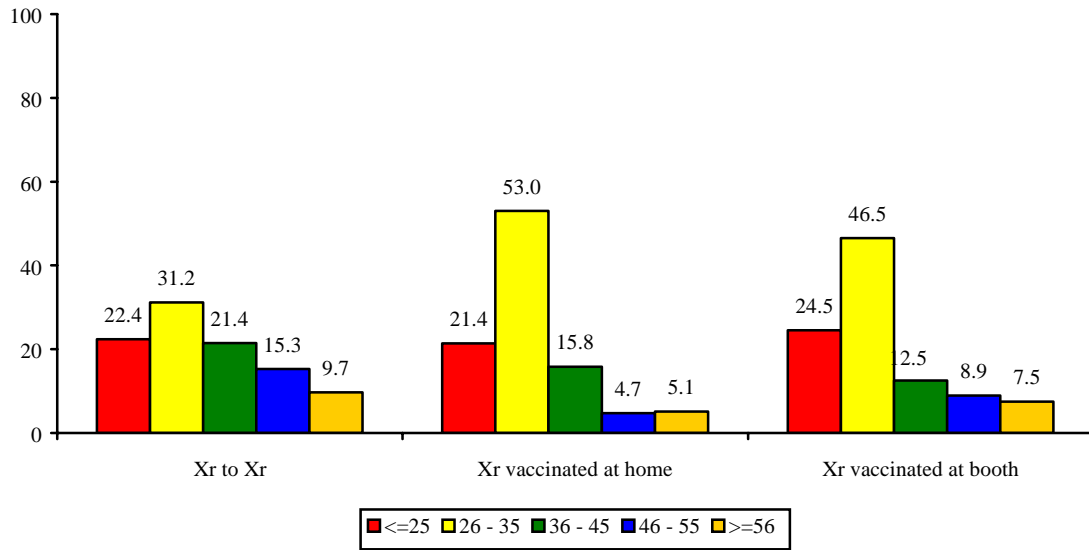


Differences significant at the .01 level.

Xr household = 308; Vaccinated at home = 234; Vaccinated at the booth = 359

There were also significant differences in the age groups of the three types of Xr respondents interviewed. The largest group of Xr vaccinated at booth respondents belonged to the 25- 35 age category (46.5%). Similarly, the largest group of Xr vaccinated at home (i.e. respondents who had resisted vaccination in January but who got their children vaccinated at home during the February round), belonged to the 25-35 age category (53%). Older caregivers between the 35-45 age category (21.4%) were more likely to remain in the Xr to Xr respondent group (Figure 2). Given that the Xr to Xr caregivers tended to be older, these results suggest that current social mobilisation and communication interventions might not be reaching this specific segment of parents/caregivers.

Figure 2: Age of Household Respondents by Post- Round Immunization Status

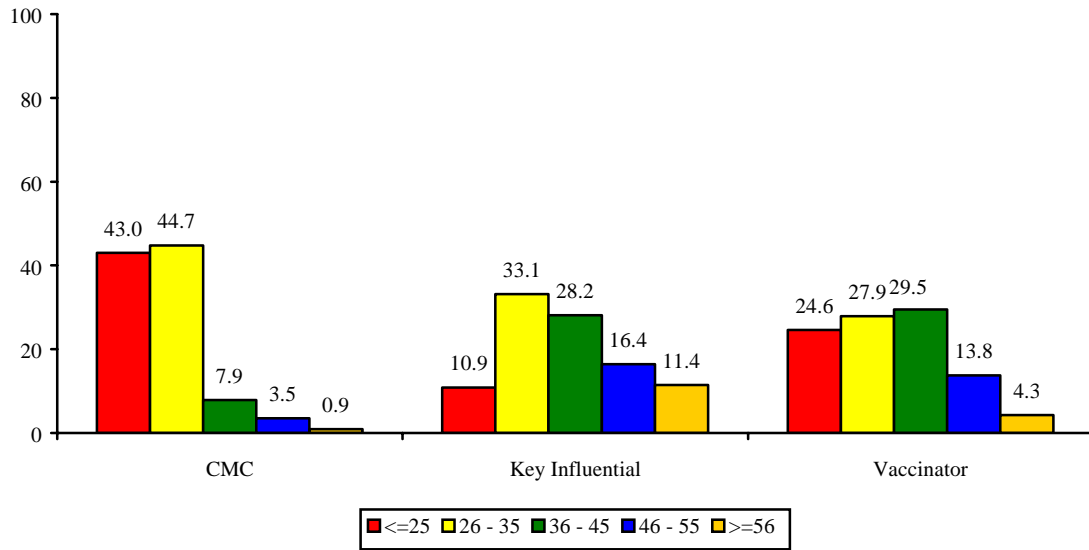


Differences significant at .01 level.

Xr household = 308; Vaccinated at home = 234; Vaccinated at the booth = 359;

A majority of the CMCs belonged to the less than 25 years age category (43%) and the 25 – 35 age category (44.7%). Key influentials and vaccinators tended to be between the 25 – 35 and the 35-45 age categories (key influentials 25 – 35: 33.1% and 35 – 45: 28.2%; Vaccinators 25 – 35: 27.9% and 35 – 45: 29.5%) (Figure 3). These results indicated that CMCs were well matched in terms of age when it comes to the Xr vaccinated at a booth and Xr vaccinated at home respondents and were less likely to be well matched with the Xr to Xr respondents in terms of age. The results further showed that key influentials generally tended to be older than the CMCs and hence were better matched in terms of age with the Xr to Xr caregivers.

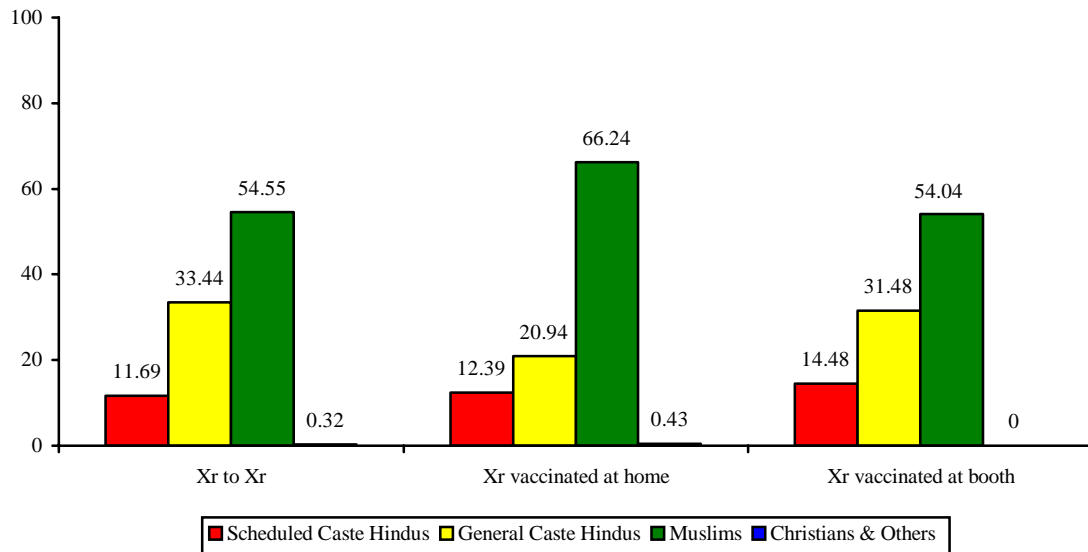
Figure 3: Age of Respondents



CMC N = 114; Key Influential N = 341; Vaccinator N = 305

Not surprisingly, a majority of all three types of Xr respondents belonged to the low and medium SES categories and more than half of the three types of Xr respondents respectively were Muslims. The highest percentage of Muslim respondents came from the Xr vaccinated at home category (66.2%). The religion and caste make-up of the respondents is illustrated in Figure 4. It is interesting to note that while the largest numbers of all three types of Xr respondents belonged to the Muslim community, a third of the Xr to Xr respondents and Xr vaccinated at booth respondents respectively reported being ‘General Caste Hindus.’

Figure 4: Religion-Caste Make-up of Household Respondents by Post- Round Immunisation Status

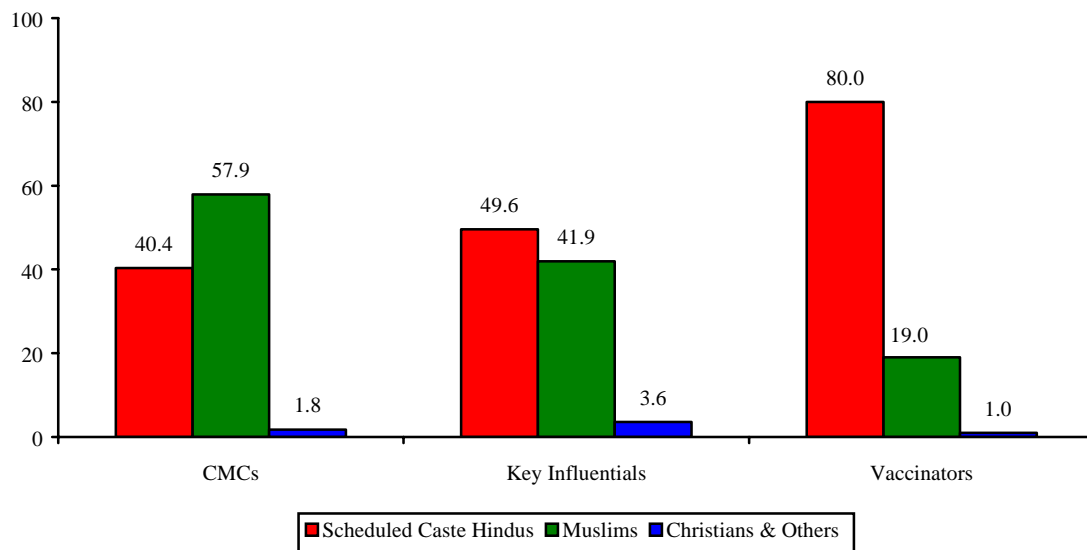


Differences significant at the .05 level.

Xr household = 308; Vaccinated at home = 234; Vaccinated at the booth = 359

Over half of the CMCs interviewed also belonged to the Muslim community (57.9%). At 41.9 percent there were slightly fewer Muslim key influentials in comparison to the Muslim composition of the Xr HH and the CMCs. Some 80 percent of the vaccinators were Hindus. What emerges from the research findings is that there were noteworthy numbers of general caste Hindus in the Xr categories. CMCs and Xr respondents were well matched as far as belonging to the Muslim community was concerned. The Muslim key influentials who may play a significant role in bringing about behavioural change in the Xr HHs were not well matched with the religious break up of the CMCs and the three types of Xr respondents (Figure5).

Figure 5: Religious Make-up of Respondents



CMC N = 114; Key Influential N = 341; Vaccinator N = 305

When asked about the main decision-maker with regards to getting children vaccinated, across the districts in UP, all respondents reported that either the mother or the father of the children concerned made decisions regarding vaccinations. Grandparents were less likely to be reported as being the key decision-makers.

Awareness of PPI

There were significant differences ($p < .01$) among Xr respondents' awareness of PPI by their immunisation status post round. Xr vaccinated at booth respondents at 94.2 percent were significantly more likely to be generally aware of PPI in comparison to the Xr vaccinated at home respondents (82.8%). Awareness of PPI was also very high among the Xr to Xr respondents (88.7%).

There were no significant differences among the Xr respondents, regardless of their immunisation status post-round in terms of their awareness of specific dimensions of the OPV such as: (a) it is given at a booth on a fixed date, (b) OPV is given at the HH on a fixed date, or (c) PPI is conducted for the eradication of polio. Surprisingly, spontaneous knowledge of these dimensions of PPI was fairly low across the three types of Xr respondents. We can conclude from these results that although general awareness of PPI is quite high but knowledge of specific dimensions is comparatively low.

There were significant differences ($p < .05$) among the three types of Xr respondents' awareness that polio can be prevented. Xr vaccinated at booth respondents at 96.2 percent were significantly more likely to be aware that polio can be prevented in comparison to Xr to Xr respondents. However, awareness that polio can be prevented was also very high among the Xr vaccinated at home respondents (93.5%) and the Xr to Xr respondents (91.4%).

At the same time Xr vaccinated at a booth respondents were significantly more likely ($p < .01$) to know that OPV prevents Polio (93.1%), in comparison to the Xr to Xr respondents (80.8%). Some 93.5 percent of the Xr vaccinated at home respondents reported that OPV prevents polio. These results indicate that the Xr vaccinated at booth respondents had higher levels of knowledge in comparison to the Xr vaccinated at home respondents. The Xr vaccinated at home respondents on the other hand had higher levels of knowledge in comparison to the Xr to Xr respondents.

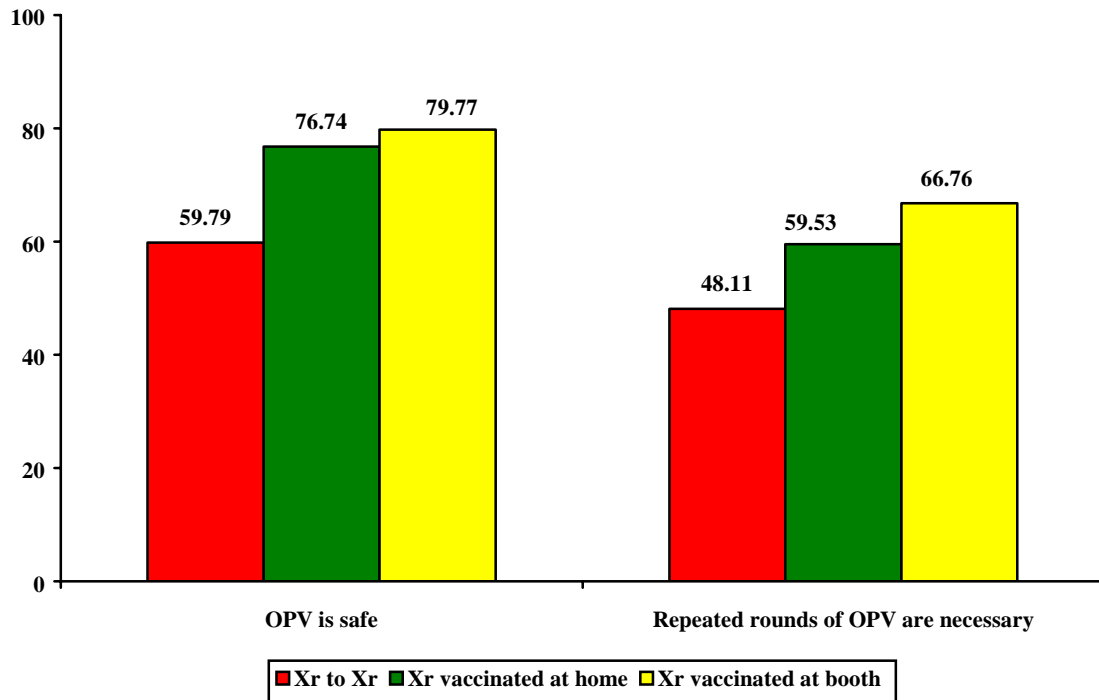
Interestingly, only 30.9 percent of Xr vaccinated at booth respondents reported that OPV is completely safe, some 24.2 percent of the Xr vaccinated at home respondents reported the same and only some 20.3 percent Xr to Xr respondents were likely to report that OPV is completely safe. On the one hand these findings suggest that knowledge of OPV being completely safe is in all likelihood linked to respondents going to the booth. At the same time there appears to be a lack of clear understanding about the safety issue. It is possible that respondents feel that OPV is safe but are not willing or able to label it as 'completely safe'.

Conceptions about Polio

Across all the three types of Xr respondents, Xr to Xr respondents were significantly more likely ($p < .01$) to report misconceptions about polio in comparison to Xr respondents vaccinated at booth or Xr respondents vaccinated at home. At the same time, in general, the Xr respondents vaccinated at home had slightly higher misconceptions regarding polio in comparison to the Xr vaccinated at booth respondents. Some of the common misconceptions explored in this research included: polio is God's curse, polio drops have side-effects, polio drops cause sterility, OPV is unsafe for a sick child and infants below one year of age are too young for OPV.

At the same time, Xr vaccinated at booth respondents and the Xr vaccinated at home respondents were significantly ($p < .01$) more likely to have correct conceptions about polio such as repeated rounds of polio are necessary and OPV is safe, in comparison to Xr to Xr respondents interviewed (Figure 6). It is evident from these research findings that there is a constant need for repeated emphasis on breaking down myths and misconceptions as well as a continued emphasis on the correct conceptions about Polio might be one way to encourage Xr to Xr respondents to adopt OPV.

Figure 6: Correct Conceptions about Polio by Post Round Immunisation Status

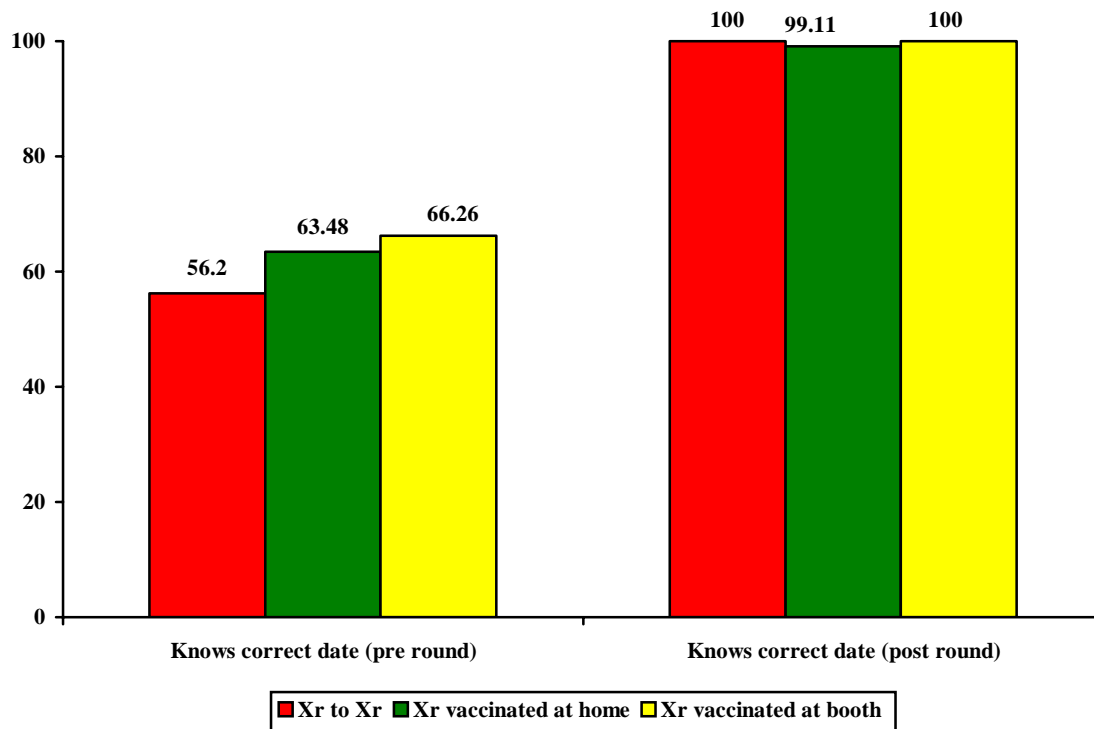


Differences significant at the .01 level

Xr household = 291; Vaccinated at home = 215; Vaccinated at the booth = 346;

Questions regarding the knowledge of the date of the February round were asked to the three types of Xr respondents both pre and post round. The results show that pre-round knowledge of the date of the booth was highest among the Xr vaccinated at booth respondents and lowest among the Xr to Xr respondents. The knowledge of Xr vaccinated at home respondents lay somewhere in between. Post round knowledge of the correct dates was almost universal (Figure 7). These findings indicate that it is possible that improved promotion of the date of the booth might lead to improved booth attendance. At the same time, a lack of awareness regarding the date the booth is not the reason behind the failure of Xr to Xr respondents and the Xr vaccinated at home respondents going to a booth.

Figure 7: Knowledge of the date of booth pre round and post round by post immunization status



Xr household = 308; Vaccinated at home = 234; Vaccinated at the booth = 359

CMC Activities Before, During and Post Round

CMC Activities Before the Round:

It is interesting to note that almost 30 percent of Xr to Xr respondents responded in the negative when asked if they were aware of any community based activities for polio in their communities. Awareness of any kind of community based activities does not appear to have been top of the mind as far as these respondents were concerned. However, when asked specifically about the CMCs and their involvement in polio related activities more respondents across the three types of Xr respondents responded positively.

Xr vaccinated at booth respondents were significantly more likely to know of community based activities and also appeared to be better acquainted with the CMC in comparison to those Xr vaccinated at home and Xr to Xr respondents. These findings suggest that CMC activities with regards to promoting booth coverage have some impact.

A logistic regression model while controlling for SES, age groups and area of residence revealed that Xr vaccinated at booth respondents were 1.7 times more likely to be aware about community based activities than their Xr to Xr counterparts (sig. @ .01 level). Logistic regressions also revealed that Xr vaccinated at booth respondents were 1.6 times more likely to know about the CMC than their Xr to Xr counterparts (sig. @ .05 level). Surprisingly, the logistic regression model also indicated that the Xr vaccinated at home respondents were least likely to be acquainted with the CMC in comparison to the Xr vaccinated at booth or

Xr to Xr respondents. These results indicate that the CMCs are perhaps less effective when it comes to reaching a core group of Xr respondents who nevertheless accept vaccination at home rather than the two other groups who either make the effort to go to a booth or else continue to reject OPV.

Among respondents who were acquainted with the CMC, almost all types of Xr respondents regardless of their post round immunisation status were familiar with the fact that the CMC conducts PPI related activities.

Only 29.6 percent of Xr to Xr respondents indicated that the CMC belonged to their community. Xr vaccinated at booth respondents at 32.3 percent were significantly more likely to report that the CMC belonged to their community in comparison to their Xr vaccinated at home counterparts (26.5%). Interestingly, these results showed that the Xr vaccinated at home respondents were least likely among the three Xr respondent types to report that the CMC belonged to their community. Further, validating the conclusion that CMCs are perhaps less effective in reaching the Xr vaccinated at home respondents in comparison to the Xr vaccinated at a booth and Xr to Xr respondents. Also, important to bear in mind are the findings that relatively low levels of awareness were observed among all types of Xr respondents regarding the fact that the CMC belonged to their community.

It is important to note that length of acquaintance with the CMC did not seem to have an impact on Xr vaccinated at booth or Xr vaccinated at home ($p < .01$). In fact, length of acquaintance with the CMC was lowest among the Xr vaccinated at home respondents (58.1%). Xr vaccinated at booth respondents were also less likely to report that they had known the CMC for more than one year (69.9%) than their Xr to Xr counterparts (71.8%). These results imply that effectiveness of the CMCs in terms of promoting OPV is not dependent on the length of service in the same community.

As was the case with the length of acquaintance with the CMC, the issue of the CMC belonging to the same village did not appear to have had an impact on Xr vaccinated at booth respondents. In fact, Xr vaccinated at booth respondents were significantly less likely ($p < .01$) to report that the CMC lived in their own village (46.6%), than their Xr to Xr counterparts (62.2%) or their Xr vaccinated at home respondents (63.8%).

It is further interesting to note that the religious background of the CMC appeared to be of less importance with significantly ($p < .05$) fewer respondents in the Xr vaccinated at a booth category (67.6%) and Xr vaccinated at home category (64.7%) indicating that the CMC belonged to the same religion as them in comparison to their Xr to Xr counterparts (77.6%). Religion of the CMC does not appear to be a major concern. However, this might be because the analysis of socio-demographics shown earlier reveals that the religion of the CMC and the majority of the three types of Xr HH were well matched across the districts covered in this study.

Caste, on the other hand, appeared to be marginally important with significantly higher ($p < .05$) percentages of Xr vaccinated at booth respondents also indicating that the CMC belonged to the same caste as themselves (28.1%), in comparison to some 27 percent of the Xr to Xr respondents. Only some 21.8 percent of the Xr vaccinated at home respondents reported that the CMC belonged to the same caste as them. It is worth considering if the

lower caste based compatibility between the Xr vaccinated at home and the CMCs results in lower levels of their acquaintance with the CMC and their belief that CMCs do not belong to their community.

Extremely, high percentages of all the three types of Xr respondents who knew the CMCs reported that they had participated in interpersonal communication (IPC) sessions with the CMCs (Table 2).

Table 2: Percentage having participated in IPC sessions with the CMC

Respondent Type	IPC Sessions
Xr vaccinated at booth	86.3
Xr vaccinated at home	84.5
Xr to Xr	87.7

Logistic regression controlling for SES, age and area of residence did not reveal any significant results in terms of respondent types with regards to participation in IPC sessions. Although Xr vaccinated at booth respondents appeared to have had lesser levels of interaction with the CMC in comparison to the Xr to Xr respondents, it is important to point out that the differences in this regard were not significant. When taken at face value these results might indicate that the IPC sessions are not contributing directly to behaviour change. However, it is important to point out that one major reason for these non-significant findings might be the very high levels of IPC interaction reported across all three types of Xr respondents.

With regards to the topics discussed with the CMC during IPC sessions as well as group interactions, the results indicate that Xr HH vaccinated at booth respondents were significantly more likely ($p < .05$) to report that one of the topics discussed was the need for repeated rounds (67.9%) in comparison to 61.1 percent of the Xr to Xr respondents and some 55.5 percent of Xr vaccinated at home respondents. Another topic of discussion that appeared to have some impact on changing behaviour is related to “the need to visit a booth” reported by 59.1 percent of Xr vaccinated at booth respondents in comparison to only 41.9 percent of the Xr vaccinated at home and 50 percent of Xr to Xr respondents. These results support the view that not only were the Xr vaccinated at home respondents least likely to be acquainted with the CMC they were also least likely to have discussed specific topics like the “need to visit a booth.” These results leads one to conclude and there might be a core group of respondents (Xr vaccinated at home) who are not openly demonstrating resistance to OPV hence they are willing to accept vaccination when provided at their doorstep but they are perhaps not provided with enough incentive and encouragement to go to a booth by the CMCs.

Surprisingly, Xr to Xr respondents were significantly more likely in comparison to the Xr vaccinated at booth and Xr vaccinated at home respondents, to report that they discussed myths and misconceptions with the CMC during their interaction with them, either interpersonally or in a group setting. When taken at face value these results seem to indicate that discussion of myths and misconceptions might instead of promoting positive vaccination behaviour serves as a barrier to getting children immunised. However, it is important to point out that the results also indicate that the CMC is considerably less likely

to initiate discussions on myths and misconceptions. While in 70 percent of the cases, the CMCs initiated discussions on the positive aspects of PPI, discussions on myths and misconceptions were initiated by the CMCs less than 20 percent of the time. It is possible to hypothesise that the failure to openly initiate discussions on myths and misconceptions by the CMCs might increase the discomfort that Xr respondents have about PPI.

There are two potential explanations that can be proposed as probable explanations for these results: First, as the data shows CMCs were indeed less likely to initiate discussions on myths and misconceptions. Second, irrespective of whoever initiates the discussions, it appears that the CMC might not be doing a convincing job. The second explanation is validated by the fact that many of the respondents who did go to the booth articulated that OPV is not completely safe. Further, some of the possible factors reported by the Xr to Xr respondents that would motivate them to change their minds included ‘Assure vaccine is safe’ (60.7%), ‘Assure vaccine has no side effects’ (60.1%), ‘Assure that the vaccine will not harm my child’ (60.1%), all of which are discussion topics that CMCs cover during their interactions with the respondents.

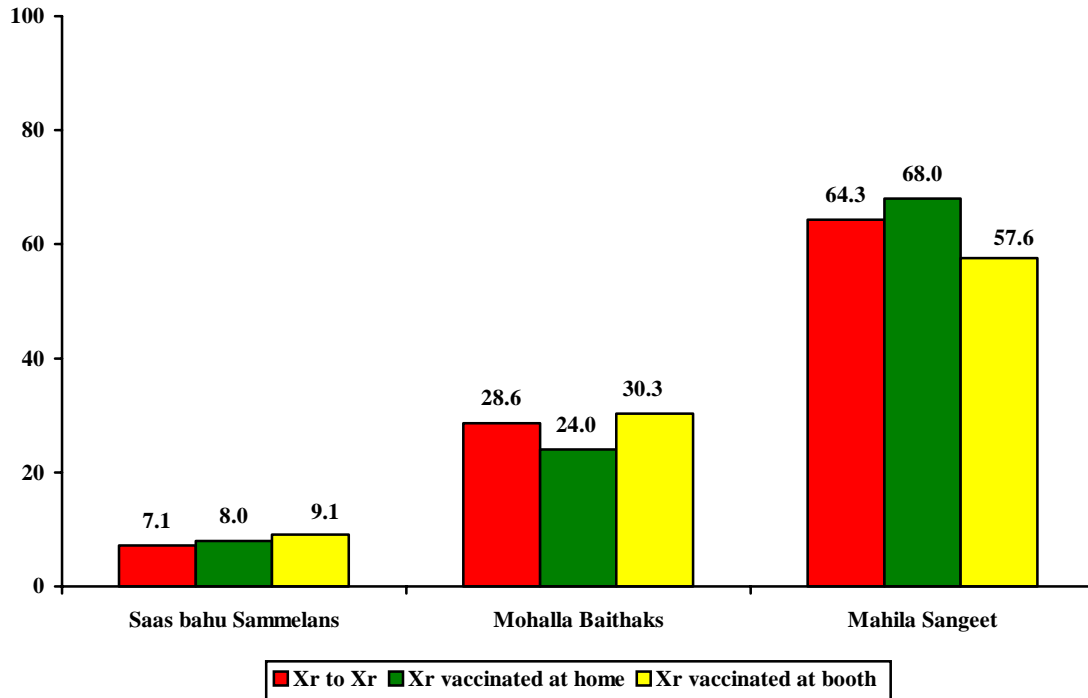
With regards to group meetings organised by the CMCs relatively smaller numbers of the three types of Xr respondents reported having participated in group meetings, specially in comparison to the substantially higher percentages who reported having engaged in IPC with the CMCs (Table 3). The differences in group meeting participation among the three types of Xr respondents were not significant. Surprisingly, as was the case with IPC interactions with the CMCs, the Xr vaccinated at home respondents were least likely among the three types of Xr respondents to report having participated in group meetings organised by the CMCs. These findings suggest that Xr vaccinated at home respondents were likely to get their children vaccinated at home regardless of their interaction with the CMCs either interpersonally or at group meetings.

Table 3: Percentage having participated in group meetings with the CMC

Respondent Type	Group Meetings
Xr vaccinated at booth	21.4
Xr vaccinated at home	14.4
Xr to Xr	17.4

With regards to the specific types of group meetings attended by the three types of Xr respondents, less than 10 percent of any of the three types of Xr respondents reported having participated in “Saas Bahu Sammelans”, thus suggesting that these types of meetings are relatively infrequent. “Mahila Sangeet” group meetings appeared to be the most commonly organised group events, with more Xr vaccinated at home respondents reporting participation in the same in comparison to the Xr to Xr and the Xr vaccinated at booth respondents. Slightly less than a third of the respondents in all three types of Xr categories reported having participated in “Mohalla Baithaks’ with the Xr vaccinated at house respondents least likely to report the same. It should however be pointed out that given the overall relatively low levels of reported participation in any group meetings results in a fairly small sample of respondents reporting on the specific types of group activities they have participated in, hence any generalisations regarding participation in group meetings become hard to make.

Figure 8: Participation in group meetings organized by the CMCs by post immunization status



Xr household = 42; Vaccinated at home = 25; Vaccinated at the booth = 66

Approximately 20 percent of all three types of Xr respondents reported that there were issues related to PPI that were still not clear to them. Among specific issues not clear to the Xr respondents, Xr to Xr respondents were significantly ($p < .05$) likely to report that they were concerned that OPV causes sterility (Xr vaccinated at a booth – 42.4%; Xr vaccinated at home-21.6%, - Xr to Xr – 47.3%). Surprisingly, significantly more ($p < .01$) Xr vaccinated at booth respondents reported that they were concerned that their child was already vaccinated (23.7%) in comparison to the Xr to Xr respondents (15.9%), at 43.2 percent the Xr vaccinated at home respondents were most likely to voice this concern. It is possible to hypothesise from these findings that it is this concern that their child is already vaccinated that is an inhibiting factor in getting the Xr vaccinated at home respondents to visiting a booth. However, lack of open resistance to OPV on their part results in their acceptance of the vaccine when the vaccinator shows up at their doorstep.

CMC Activities on Booth Day:

Xr vaccinated at booth respondents were considerably more likely to recall CMC activities such as organisation of “bulawa tolis”, “mosque clans” and personal interaction with CMCs on booth day in comparison to the Xr vaccinated at home and the Xr to Xr respondents (Table 4).

Table 4: CMC Activities on Booth Day

Respondent Type	Bulawa Tolis	Mosque Elan	Interaction with CMC
Xr vaccinated at booth	69.9	35.1	66.3
Xr vaccinated at home	31.1	20.9	26.9
Xr to Xr	40.5	20.3	39.9

It can be inferred that CMCs appear to be undertaking several activities during booth day that seem to be rather effective at least as far as exposure among Xr vaccinated at booth respondents is concerned. There is a need to increase visibility of CMC activities among Xr vaccinated at home and Xr to Xr respondents. CMCs obviously interact with Xr vaccinated at booth respondents. This leads us to infer that CMCs are effective in getting people to the booth. Moreover, the fact that CMCs have lower interaction with Xr to Xr respondents suggests that they need to do more. Surprisingly, interaction with Xr vaccinated at home respondents is the lowest, leading us to conclude that their effectiveness in encouraging vaccination at the booth among those who are likely to accept vaccination at home is less certain. On the whole, it appears that CMCs are effective in encouraging Xr respondents to go to the booth, but might not be doing enough to encourage Xr vaccinated at home respondents.

In terms of techniques used by CMCs to convince respondents to accept OPV on booth day, Xr vaccinated at booth respondents were more likely to recall specific techniques than Xr vaccinated at home and Xr to Xr respondents (Table 5). Specific techniques recalled include: information about time and date of the booth, promise to accompany them to the booth, polite behaviour and convincing people to visit the booth. Interestingly, Xr vaccinated at home were least likely to be aware of booth day activities such as information about time and date of booth, that is crucial information in promoting booth attendance. At the same time the Xr vaccinated at home respondents at 25.4 percent were least likely to report that CMCs engage in polite behaviour on booth day. The fact that Xr vaccinated at booth respondents were most likely to report that CMCs are polite indicates that polite behaviour on part of the CMCs might facilitate booth attendance.

Table 5: Techniques used by CMC to convince Xr respondents to visit the Booth on Booth day

Respondent Category	Information about time and date of booth	Accompany them to booth	Polite behaviour	Convince people to visit the booth
Xr vaccinated at booth	75.2	36.6	55.9	49.6
Xr vaccinated at home	63.5	30.2	25.4	46.0
Xr to Xr	73.2	27.6	44.7	39.0

CMC Activities During Post Round:

The Xr respondents who remained Xr after the round were asked whether they were aware of a HH vaccination day when the vaccinators came from door to door. An overwhelming majority (91.2%) of the Xr to Xr reported that they were aware of a HH vaccination day when the vaccinators came door to door. Around three fourths (75.6%) of them reported that the CMC accompanied the vaccinator when they went from door to door for Polio vaccination.

Opinions about CMCs

Surprisingly, the Xr vaccinated at home respondents and the Xr to Xr respondents were likely to report higher levels (67.2%) of respect for CMCs as well as greater appreciation of their communication skills (62.3%), in comparison to the Xr vaccinated at booth respondents (Respected-63.2%; Good communication skills- 57.1%) (Xr to vaccinated at home- Respected-.76.5%; Good communication skills-69.2%). A logistic regression model while controlling for SES, age groups, and area of residence revealed that Xr vaccinated at booth respondents were 1.5 times more likely to believe that the CMC was educated than their Xr to Xr counterparts (sig. @ .01 level). At the same time, Xr vaccinated at home were less likely even than the Xr to Xr respondents to report that CMCs were educated.

According to 42.4 percent of Xr vaccinated at booth respondents their decision to vaccinate their children was to a large extent dependent upon CMC behaviour. At the same time some 37.8 percent of the Xr to Xr respondents reported the same (Xr to vaccinated at home- 36.8%). In contrast, some 82.9 percent of the key influentials indicated that CMC behaviour is key in changing Xr HH behaviour. Given that more Xr to booth respondents attribute their decision on CMC behaviour leads to the conclusion that CMCs are effective with regards to improving booth attendance.

As far as religion and caste are concerned, a quarter of the key influentials indicated that religion and caste of the CMC are important considerations for individuals in deciding whether or not to get their children vaccinated. However, only a very small percentage of all three types of Xr respondents (< 5% overall) indicated the same.

Overall, respondents reported that CMCs are indeed successful in promoting OPV among children, as expected Xr vaccinated at a booth respondents were significantly ($p < .01$) more likely to attest to the success of the CMCs in promoting this behaviour change (71.5%) in comparison to Xr vaccinated at home (66.7%). The Xr to Xr respondents were least likely to report that CMCs were successful in promoting OPV. When asked about how successful the CMC was, an overwhelming majority of key influentials (94.4%) responded in the positive.

Role of Key Influentials

Xr vaccinated at booth respondents were significantly more likely ($p < .01$) to be aware of key influentials working for PPI (50.7%) in comparison to Xr vaccinated at home (41.5%) and Xr to Xr counterparts (39.0%). At the same time Xr vaccinated at booth respondents were also more likely to attest to the effectiveness of key influentials, reported by 79.2 percent Xr vaccinated at a booth respondents compared to 72.5 percent of Xr to Xr

respondents and 71.1 percent of Xr vaccinated at home. Overall, across all three types of Xr respondents there were fairly low levels of spontaneous recall with regards to the kinds of activities that key influentials perform for PPI.

It can be inferred from the results that relatively low levels of awareness of local key influentials' involvement in PPI and also the low levels of spontaneous recall of the specific activities they perform are contrary to the relatively high levels of acknowledgement of their effectiveness. These results suggest that social mobilisation and communication interventions to benefit from greater and more visible involvement of the key influentials.

Information Regarding Vaccinators

Xr vaccinated at a booth respondents were significantly more likely to report that a vaccinator's behaviour influences people regarding whether or not to get their children vaccinated to a large extent (37.6%) in comparison to the Xr vaccinated at home (35.5%) and the Xr to Xr respondents (27.6%).

Intention to Vaccinate and Motivators for vaccination during the Next Round

Among Xr to Xr respondents, 43.7 percent stated that they have no intention of vaccinating their children in the next round, where as 39.6 percent reported that they would go to a booth and an additional 13.2 percent reported that they would get their children vaccinated at home.

Among Xr vaccinated at home respondents some 50.9 percent reported that they would go to a booth for the next round of OPV. Some 37.2 percent reported they would get their child vaccinated but at home and almost 10 percent of the respondents reported that they were not sure of the location.

Among Xr vaccinated at booth respondents, some 84 percent reported they will return to the booth during the next round, of the remaining respondents 14.3 percent reported they would get their child vaccinated but do so at home.

Among the Xr to Xr respondents slightly less than half continue to resist OPV and do not intend to get their children vaccinated in the next round. It is this core group that the CMCs need to reach and promote behaviour change among.

The remaining Xr respondents are at a different stage of behaviour change in that they are at least willing to accept vaccination. Among X vaccinated at home respondents some 51 percent and among Xr vaccinated at booth some 84 percent reported that they would go to a booth, efforts on part of the CMCs with these individuals would take the form of encouragement and support to ensure that they follow-up on their intentions.

Among Xr vaccinated at home some 37 percent reported that they would continue to get their children vaccinated at home and among Xr vaccinated at booth some 14 percent indicated they intend to get their children vaccinated at home during the next round. CMCs' social mobilisation and communication activities among these respondents would require them to try and change their behaviour by encouraging and supporting them to come to a

booth, failing which CMCs would want to ensure that they at least follow-up on their intentions to get their children vaccinated even if it is at home.

Xr vaccinated at home respondents were asked what would motivate them to get their children vaccinated at a booth during the next round (N=234), the top five factors reported by them that would motivate them to change their minds included:

- Assure that the vaccine will not harm my child (70.5%)
- Assure vaccine has no side effects (70.5%)
- Assure that the vaccine is safe (68.4%)
- Explain the need for repeated PPI (65.4%)
- Convince the entire community (63.7%)

Xr to Xr respondents were asked what would motivate them to get their children vaccinated during the next round (N=308), the top five factors reported by that would motivate them to do so included:

- Assure vaccine is safe (60.7%)
- Assure vaccine has no side effects (60.1%)
- Assure that the vaccine will not harm my child (60.1%)
- Assure that it does not lead to sterility (51.8%)
- Explain the need for repeat PPI (49.1%)