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Assessment of Knowledge and Implementation of Reaching Every Ward strategy of Routine Immunization among Service Providers in North Central State of Nigeria

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Abstract: Background and Objective: Reaching all children with routine immunization in difficult access areas presents many challenges especially in developing countries. The objective of the study was to assess the knowledge and implementation of Reaching Every Ward (REW) strategy of routine immunization. Materials and Methods: This cross-sectional study carried out in Kwara State, North Central Nigeria among the health workers involved in routine immunization services. Self administered questionnaire and observational checklist were used as research instruments. Data was analyzed on a microcomputer using Epi Info 2002 software package. Results: About a third 154 (39.7%) knew all the methods of improving access to immunization service delivery. Very few respondents 33 (9.0%) knew the distance required for outreach immunization services and 47.0% knew the criteria for outreach immunization services. One quarter of the respondents were not visited by supervisor in the last six months and 20.1% of the respondents mentioned that supervisors did not solve any problem identified during the visit. Some health facilities held meeting with catchment communities however, only 5.9% showed minutes of meeting. Of the 169 outreach immunization sessions planned, 44% were conducted. Observational checklist revealed that some of the reference documents were not available at the health facility. Conclusion: In order to build capacity of health workers on REW strategy, perhaps another option of on-the-job training may improve the service delivery. The logistics needed for quality implementation of REW should be provided by the appropriate authorities.

Key words: Knowledge, implementation, routine, immunization, Reaching, Every Ward, service providers

INTRODUCTION

The Reaching Every District (RED) approach of improving immunization was first recommended by the *Task Force on Immunization* (TFI) in December 2003 at its meeting in Luanda, Angola as a strategy for strengthening Routine Immunization (Office of the Country Representative, 2005). The "RED" approach includes a combination of strategies to assist in improving routine immunization at the district level. The strategy has five basic components (Office of the Country Representative, 2005; Lora Shimp, 2008; Stanley Diamenu and Dr Messret Eshetu, 2005) 1) Improving access to immunization service delivery (*regular outreach for communities with poor access*), 2) Supportive supervision (*on site training by supervisors), 3)* Community links with service delivery (*regular meetings between community and health staff*), 4) Monitoring and use of data for action (*chart doses, map population in each health facility*), as well as 5) Planning and management of resources (*better management of human and financial resources).* The RED approach aims at improving organization of immunization services so as to guarantee sustainable and equitable immunization for every child. It is not a new intervention, but emphasizes on the strategies that will contribute to the achievement of the fourth Millennium Development Goals (MDG) of halving child mortality by 2015 (Lora Shimp, 2008; Stanley Diamenu and Dr Messret Eshetu, 2005).

Nigeria's Routine Immunization (RI) coverage has remained low since the early 1990s. The weak health structures and systems, and a lack of ownership at the community levels are some of the factors responsible for the low coverage among others. The National Immunization Coverage Survey (NICS) of 2003 showed a national DPT_3 coverage of 24.8% with variations across the zones in the country. As at the end of third quarter 2007, coverage was 66%. This is still far from 80% average required for herd immunity against vaccine

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preventable diseases (Federal Ministry of Health, National Programme on Immunization, 2006). The general slow progress has also been a threat to various disease control initiatives and the realization of one of the Millennium Development Goals (MDGs) of reducing child mortality by two-thirds in 2015.

This therefore raised the need to implement accelerated activities and strategies that will lead to sustained high RI coverage in order to support the ongoing accelerated disease control initiatives. In line with the recommendations of the 12th *Task Force on Immunization* (TFI) meeting held in Bamako, Mali in 2004, on increasing RI coverage, Nigeria adopted the *Reach Every District* (RED) approach in December of the same year (Federal Ministry of Health, National Programme on Immunization, 2006). However, in Nigeria, the lowest administrative and political levels are called wards. 'REACHING EVERY WARD' (REW) was therefore adopted as the operational focus. The Reach Every Ward approach is a strategy aimed at provision of regular, effective, quality and sustainable routine immunization services in every ward (Federal Ministry of Health, National Programme on Immunization, 2006; NHS Information, EPI, 2008). The Reach Every District strategy helped to increase routine immunization coverage for DPT3 in Ethiopia, Ghana, DRC and Gabon.3,6,7

Towards the attainment of these targets there was a felt need to retrain and reorient the health workers particularly at the Ward and LGA levels. The training took place in a cascaded manner- National, Zonal, State, LGA and Ward levels. In Kwara State, the REW training for service providers was conducted between October 7th and December 5th 2007.

There is a need to evaluate the level of practical understanding of the REW strategy by the trained health workers as well as the extent to which the strategy is being implemented. This is with a view to proffering solutions to whatever shortcomings are perceived. This will also be of value for program planning in places where it is not being implemented. This study can also serve as a baseline, for other studies on the REW strategy in Nigeria.

MATERIALS AND METHODS

This is a cross-sectional study carried out in Kwara State, North Central Nigeria among the health workers involved in routine immunization service delivery and who were trained on Reach Every Ward approach towards effective service delivery in 2007. The study assessed the knowledge of service providers and implementation of REW in the State. The list of all these officers was obtainable at the State and LGA immunization offices. All the 397 respondents involved in the training were considered for the study; however 367 respondents completed the questionnaire and were used for analysis. Verbal consent was obtained from the respondents for participation in the study.

A self administered structured questionnaire was used for the study. The questionnaire contained questions to elicit the respondent's socio-demographic variables. Questions were also asked on the various components of the Reaching Every Ward strategy to determine their understanding of the operational concept as well as to determine their level of implementation of the strategy. An observational checklist was used by trained research assistants to enable them assess some indicators of implementation of REW in the health facilities (HFs). Pre testing and validity of the questionnaire was done before administration. Data was analyzed on a microcomputer using Epi Info 2002 software package. P-value of ≤ 0.05 was set as significance for the study.

Results:

The mean age of the respondents was 37 $\pm$ 0.83 SD years. There were more female respondents 224 (61%) than male. More than half of the respondents 195 (53.1%) were Senior Community Health Extension Workers (Senior CHEW). All the respondents had at least one year experience in immunization service delivery, and about one third (30.8%) had three years experience (table 1). The respondents had attended a number of training on RI service delivery and about one quarter (25.9%) had four trainings since assuming current position and duties. Of the 367 respondents who were initially trained on REW strategy of immunization service delivery and completed the questionnaires, 352 (95.9%) were still actively involved in routine immunization, while some have been transferred to other units within the health facility.

Two thirds 242 (65.9%) of the respondents knew the full meaning of REW, but only 100 (27.2%) can remember the number of REW components and 94 (25.6%) were able to list correctly the components of REW. About a third 154 (39.7%) knew all the methods of improving access to immunization service delivery (table 2). Very few respondents 33 (9.0%) knew the distance required for outreach immunization services. Less than half (47.0%) knew the criteria for outreach immunization services. Few respondents 62 (17.0%) correctly defined supportive supervision and what it involved 53 (14.4%). Less than one quarter 66 (23.3%) knew the meaning of linking services with community and only 52 (14.2%) have an idea of ways of linking services with community.

Table 1: Socio-demographic characteristics of the respondents N= 367

Variable	Frequency	(%)
Age groups		
25-29	34	(9.3)
30-34	102	(27.8)
35-39	123	(33.5)
40-44	56	(15.3)
45-49	52	(14.2)
Qualifications/cadre		
Junior CHEW	36	(9.8)
Senior CHEW	195	(53.1)
Medical Doctor	1	(0.3)
Nurses	119	(32.4)
Others	16	(4.4)
Years of experience in immunization unit		
1	19	(5.2)
2	52	(14.2)
3	113	(30.8)
4	111	(30.2)
5	72	(19.6)
Number of trainings attended in immunization since employment		
1	16	(4.4)
2	45	(12.3)
3	74	(20.2)
4	95	(25.9)
≥ 5	137	(37.3)

Table 2: Knowledge of the respondents on reaching every ward approach in immunization

Variable	Frequency (%)	
Basic/general knowledge N=367	Correct (%)	Incorrect (%)
Full meaning of REW	242 (65.9)	125 (34.1)
Number of REW components	100 (27.2)	267 (72.8)
Listing of components	94 (25.6)	273 (74.4)
Improving access to immunization Services N=367		
Fixed immunization only	32 (8.3)	
Mobile services only	18 (4.7)	
Outreach service only	50 (12.9)	
Fixed, mobile and outreach	154 (39.8)	
Fixed and outreach services	53 (14.9)	
Outreach and mobile services	55 (14.2)	
Fixed and mobile services	20 (5.2)	
Distance requirements for outreach and mobile services N=367		
Outreach		
Correct (5-10km)	33 (9.0)	
Incorrect	334 (91.0)	
Mobile N=367		
Correct (above 10km)	37 (10.1)	
Incorrect (< 10km)	330 (89.9)	
Criteria for outreach N=367	Yes	No
Hard to reach population	175 (47.0)	192 (53.0)
Large population size	143 (39.0)	224 (61.0)
Scattered/ migrant population	200 (54.0)	167 (46.0)

Half of the respondents knew the category of people involved in monitoring. Most of the respondents knew their health facility target populations 308 (83.9%) and their coverage objectives for the current year 336 (91.6%). Only 130 (35.4%) believed micro-planning for RI services should be done at Health Facility level. Respondents mentioned that the implementation of REW has commenced and more health facilities were carrying out outreach services. There was significant increase in the proportion of health facilities carrying out outreach services after the REW training (p=0.0004037). One quarter of the respondents 93 (25.3%) were not visited by supervisor in the last six months. Some of the supervisors did not give the feedback of the supervision and 74 (20.1%) respondents mentioned that supervisors did not solve any problem identified during the visit.

Less than three quarters 268 (73.0%) respondents mentioned they had meeting with catchment communities since the implementation of REW and less than two third 228 (62.1%) held meeting in the last one month. More than three quarter 288 (78.5%) of the health facilities had the micro-plan document which includes plan

for social mobilization activities. Only one tenth 40 (10.9%) of the health facility has the previous month performance monitoring chart. Only 209 (57%) of planned fixed immunization sessions were conducted in the last three months. The reasons given were too busy with other PHC activities and bundled vaccines being out of stock. Of the 169 outreach immunization sessions planned, 74 (44%) were conducted and reasons given were lack of transport support, non-availability of vaccines and other activities coinciding with scheduled sessions. However, in 55.0% of cases lack of transport is responsible for inability to carry out outreach services.

Observational checklist used revealed that some of the reference documents were not available at the health facility. The REW field guide was present in only 64 (31.2%) of the health facilities, 82 (40.6%) did not have the basic guide for service providers and forms for RI data management were available in only 52 (25.7%) of the health facilities. Very few health facilities 12 (5.9%) were able to show minutes of previous meetings between the health workers and catchment communities. There were very few documentary evidences 15 (7.4%) of supervisors' comments and observations during visits. Only 6 (3.0%) health facilities displayed the monitoring chart for immunization in the health facility. The completed copies of micro-plan was sighted in 12 (5.9%) of the health facilities. Of the health facilities visited for observation 10 (5.0%) had list of settlements with planned immunization sessions and 6 (3.0%) indicated sessions conducted. The catchment area map was available in only 10 (5.0%) of the health facility and none of them reflect the target population.

Discussions:

Of the 367 respondents, only 27.2% knew the number of components and 25.6% were able to list the components correctly. Respondents believed hard to reach populations and large populations should have priority in planning of outreach immunization service. This agrees closely with the findings in an in-depth evaluation of the RED strategy in nine countries carried out in 2007 by WHO/HQ, UNICEF, CDC and USAID's IMMUNIZATIONbasics which also showed that health facilities cited in hard to reach populations and population size as their top two selection criteria (AFRO, 2007). Terrain and population are universal determinants of access to immunization and they thus influence outreach services planning.

Only 17.0% of the respondents had an idea of what supportive supervision meant while 14.4% respondents knew the processes of supportive supervision. The knowledge gap on supportive supervision among the respondents will affect the quality of REW implementation because many of them will not appreciate supervision when it is provided. While 23.3% of respondents knew what linking services with community meant, only 14.2% knew how it is done. In a related study, strengthening of community participation in Zambia led to improvement in the practice of integration of child health interventions in planning, implementation and monitoring (Mary Kaoma., 2008).

Among the respondents in this study, 74.7% mentioned that the micro-plan for RI included plans for social mobilization. In 73% of districts visited in the in-depth assessment of RED in nine African countries (AFRO, 2007), the district micro-plans included social mobilization work plans and other community activities. Thus the two studies agree on the issue of inclusion of social mobilization activities in micro-plan for RI.

On assessment of implementation of REW strategy, there was statistically significant increase in the number of health facilities carrying out outreach immunization from 70.3% to 81.5% (p-value = 0.0004037). The respondents reported carrying out only 57% of planned fixed site immunization sessions. However, in 2006, as reported in the RED assessment report, over half (62%) of the health facility conducted more than 80% of planned outreach sessions (AFRO, 2007). The failure of health facilities to carry out planned sessions may be attributed to logistic problems or a lack of supervision of immunization activities by program managers.

Supervisors had visited only 28.9% of respondents within the last one month and more supervisory visits were noted in the study by WHO and other development agencies. In the WHO study, 59% of health facilities received visitors from the district level in the previous month (AFRO, 2007). This lack of regular supervision may be due to logistic constraints on the part of supervisors. While 78% of the 133 HFs interviewed in the WHO study reported receiving immediate verbal feedback; 38% reported receiving written feedback in supervisory logbooks or notebooks and 11% reported receiving formal reports following supervision visits (AFRO, 2007). In this study, most respondents, 63.6%, received verbal feedback from their supervisor, while some, 23.1%, received written feedback. A few of them, 13.4%, received both oral and written feedback. The feedback system as found in this study was less than that found by the WHO evaluators. This may have been due to inadequate logistics support for supervision or limited knowledge of the supervisors.

Only 5.9% health facilities out of 202 involved in this study could produce microplans and 5.0% of the microplans had lists of settlements with session plans and catchment area maps but none of the maps showed

Table 3: Knowledge of the respondents on REW Components

Variable	Frequency (%)		
Supportive supervision			
Correct definition	62 (17.0)		
Incorrect definition	305 (83.0)		
Total	367 (100)		
What supportive supervision entails			
Correct	53 (14.4)		
Incorrect	314 (85.6)		
Total	367 (100)		
Meaning of linking services with community			
Correct definition	86 (23.3)		
Incorrect definition	281 (76.7)		
Total	367 (100)		
Ways of linking services with the community			
Planning meeting with community	31 (8.4)		
Feedback on activities	18 (4.9)		
Mobilization and sensitization	2 (14.2)		
Meeting, feedback, mobilization/sensitization	52 (14.2)		
Don't know	214 (58.3)		
Total	367 (100)		
Category of people involved in monitoring	Yes	No	Total (%)
Service providers	180 (49.0)	187 (51.0)	367 (100)
Superior officers	181 (49.3)	186 (50.7)	367 (100)
External monitors	147 (40.1)	220 (59.9)	367 (100)

Table 4: Level of implementation of Reach Every Ward (REW) strategy for routine immunization at the Health facility level in Kwara state (N=367)

Variable	Frequency (%)	
	Yes	No
Increasing access to immunization services		
Health Facility carrying out outreach immunization service before REW training	258 (70.3)	109 (29.7)
Health Facility carrying out outreach immunization service after REW training	299 (81.5)	68 (18.5)
REW training has led to an increase in outreach immunization service delivery	269 (73.3)	98 (26.7)
Supportive supervision		
Respondent visited by supervisor in last 6 months	274 (74.7)	93 (25.3)
Supervisor gave a feedback on the visit	247 (67.3)	120 (32.7)
Supervisor helped to solve any problems during the visit	219 (59.7)	148 (40.3)
Linking services with communities		
Meetings held with members of catchment communities	268 (73.0)	99 (27.0)
Meeting in the past one month	228 (62.1)	139 (37.9)
Minutes of meetings held available	191 (52.0)	176 (48.0)
Planning and management of resources		
Microplan for RI Service Delivery available at respondents' Health facility	288 (78.5)	79 (21.5)
Microplan includes plans for social mobilization	274 (74.7)	93 (25.3)
Monitoring and use of data for action		
Performance monitoring chart for current month available in Health Facility	40 (10.9)	327 (89.1)

the settlements' target populations. This is at variance with findings in the WHO RED assessment in which 75% of the 68 districts visited had microplans though only about half of the microplans specifically identified the hard to reach populations, and session plans for reaching them (AFRO, 2007). Only 6 (2.9%) health facilities had monitoring charts, though 10.9% of the respondents claimed to be using such charts. In contrast, immunization monitoring charts were displayed in 76% of health facilities visited in the assessment by WHO and others, of which 83% were up to date and 75% were charted correctly (AFRO, 2007).

While 66.4% of respondents claimed to have the Field guide at their health facilities, only 31.2% of the health facilities were confirmed to have the field guide. Data forms and the guideline on filling the forms were seen in 25.7% of health facilities visited though 79.8% of respondents claimed to have them in their facilities. Seventy three percent of respondents claimed to have been meeting with their communities to plan activities with a view to linking services with the community. However, only 5.9% of the health facilities could produce minutes of such meetings held. The documentation gaps seen in this study will affect quality of RI services.

The National Primary Health Care Development Agency and development partners should consider on-the-job training to develop the capacity of these category of health workers towards quality RI services.

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