

CAMPAIGNS WITH ORAL POLIO VACCINE'S IMPACT IN ERADICATION OF POLIOMYELITIS IN PUNJAB, PAKISTAN

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INTRODUCTION

Global polio eradication initiative launched in Pakistan in 1988 with collaborative efforts of WHO, UNICEFF, Rotary and other allied. With all endeavors, Pakistan is still having high number of cases in the world which is 80% of total. Total 306 polio cases reported in Pakistan in 2014 and 19 cases reported till 20 March in 2015

Pakistan is among one of the three endemic countries. Efforts for eradication started in 1994. The world Health Organization reported that Lahore, Rawalpindi, Peshawar and Karachi have indigenous circulation of poliomyelitis virus as environmental samples came out positive number of times in 2014.

PROVINCE	District Name	No. of Cases	Total Districts	Total Cases
FATA	North Waziristan	70	4	179
	South Waziristan	24		
	Khyber*	76		
	FR Bannu	9		
Khyber Pakhtunkhwa	Bannu	11	12	68
	Peshawar	29		
	Mardan	5		
	Lakki Marwat	3		
	Tank	7		
	Buner	3		
	Torghar	1		
	Nowshera	4		
	Charsadda	1		
	Karak	1		
	Swat	2		
	Kohat	1		

SINDH	Baldia Town Karachi	1	15	30
	Bin Qasim Town Karachi	2		
	Liaqat Town Karachi	1		
	North Karachi Town	1		
	Orangi Town Karachi	2		
	Gadap Town Karachi	10		
	Korangi Karachi	2		
	Landhi Karachi	2		
	Site Town Karachi	2		
	Badin	1		
	Dadu	1		
	Larkana	1		
	Sanghar	2		
	Khiliaqat	1		
	Noshero feroze Karachi	1		
BALUCHISTAN	Killa Abdullah	13	9	25
	Quetta	5		
	Zhob	1		
	Khuzdar	1		
	KillaSaifullah	1		
	Pishin	1		
	Chaghai	1		
	Nasirabad	1		
	Jafarabad	1		
PUNJAB	Chakwal	1	4	4
	Bhakkar	1		
	Sheikhupura	1		
	Dera Ghazi Khan	1		
PAKISTAN			43	306

NIDs, SNIDs and SIADs are conducted to stop circulation in outbreak areas and to protect non infected areas from polio virus circulation

National Emergency Action Plan launched in 2011 in Pakistan. It is being updated every year. It is only document which providing guiding principles to achieve target and set target to achieve quality of campaign work

Key elements in NEAP 2014 are

- Tracking of missed children with special focus on clusters. Analysis will be conducted to determine underlying causes to be addressed through appropriate and targeted strategies. The analysis and the actions will be disaggregated down to UC level.
- Where appropriate utilize Short Interval Additional Dose Strategy (SIADs) to rapidly boost population immunity levels.
- Implementing special strategies for high risk populations such as Pashtun communities, nomads, brick kiln worker families, migrant and transit populations. Focus on implementing high risk population strategies nationwide to map, track and reach these populations consistently and effectively. Strengthen the transit strategy to ensure all the children on the move and those that reside in inaccessible areas are identified and vaccinated against polio
- Ensuring effective polio control/operations rooms at provincial level and district/agencies/town levels
- Strengthening monitoring and evaluation mechanisms
- Focusing on high risk UCs in implementing all new strategies (including polio plus for selective communities/areas) that improve quality of operations, communications and data.
- 9 Strengthening partnerships at all levels to ensure every child is reached in FATA
- Enforcing zero tolerance for data misreporting/hiding and financial misappropriations
- Implementing the Direct Disbursement Mechanism (DDM)
- Strengthening cross border coordination with Afghanistan
- Improving vaccine management at provincial, district and sub-district levels to ensure efficient utilization of this important resource
- Optimizing the polio eradication operations for strengthening routine immunization
- Ensuring safety and security of the polio eradication workers will be critical to keep their confidence and hence the performance

OBJECTIVES

To identify gaps in polio eradication program in Pakistan during 2014

To compare performance between Punjab and other provinces of Pakistan in 2014

To explain reason of high number of polio cases reported in 2014

EXECUTIVE SUMMARY

Pakistan is one of endemic country of world. In 2014, highest no. of polio cases reported from Pakistan. 99% polio cases stopped in world but due to certain factors, it cannot be eradicated in Pakistan. There are some inaccessible areas, in FATA, KPK, Karachi which are main nodals areas to spread polio virus in Pakistan. It is happened due poor law and order situation and political stability. Refusal communities who have religious background, are also barrier in polio eradication in Pakistan. Major bulk of cases reported from FATA and KPK out of total polio cases 306 in 2014. All cases are P1 variety. 21 VDVPc cases are also reported

Some proportion of population is highly mobile i.e., nomads, pushtoon communities and laborers are main carriers who usually responsible to spread polio virus from one place to another place

Routine vaccination program is not effectively catering services which provides space for polio virus transmission in Pakistan

Punjab is having 56% total population of Pakistan. More than 50 workers have been killed when they were working in polio campaign. Balochistan coverage was 74%, FATA 54%, KPK 95%, Sindh 97% and Punjab 104%

STATEMENT OF THE PROBLEM

Pakistan one of the endemic country out of three in world. Highest number polio cases reported in Pakistan during 2014 which are 80% of total world polio cases

TOP 3 CHALLENGES

1. Inconsistent campaign quality due to unsustainable government ownership & meaningful accountability
2. Insufficient NEAP appropriate vaccination teams
 - a. Especially in large cities & slums
 - b. Dependency on line departments
3. Migrant & mobile populations
 - a. Lack of community appropriate teams
 - b. Massive population movement

METHODOLOGY

Four National Immunization Days and 5 Sub National Immunization Days were celebrated in Punjab.

SIAs are comprised of pre campaign activities, campaign activities and post campaign activities

NIDs were conducted each district of Punjab. Access was 100% in all the areas. No area was left without vaccination

In 3511 union councils, 39403 teams and 6873 supervisors worked for 16.5 million less than 5 year children

Campaigns are conducted in each union council. Data first compiled at UC tevel, then at tehsil level, finally it is compiled at District level. Then data is analysed and disseminated to provincial office. From provincial office data is disseminated to federal office for planning and record keeping

Data collected from provincial EPI cell. Data compile National Immunization Days wise. Data was used to analyze target children coverage and identified gaps. Data was sorted district wise

Data was segregated into district wise total coverage, defaulter children coverage, refusal children coverage moving children coverage and number of houses visited

DISCUSSIONS

306 cases reported in Pakistan in 2014. This is highest number in history of Pakistan

179 polio case reported from FATA where thousands of children are unvaccinated due to inaccessible areas. This is place of terrorist where teams cannot go there. War is going on against terrorist. Current circulation cannot be stopped till end of this war

68 polio cases reported in KPK province. Target killing and suicidal bombing is common in these areas. KPK is adjacent with FATA. Campaign quality is poor due to security threats. Environmental samples are positive. This also indicate heavy polio virus circulation in these areas

30 polio cases reported in Sindh, mostly from Karachi, Law and order situation is main concern in these areas

Polio virus importation occurred

25 polio cases reported in Balochistan. polio virus importation happened in this province

04 polio cases reported in Punjab, all are imported from FATA Data indicated that all districts coverage is more than 100% in Punjab, 74% in Balochistan, FATA 54%, Sindh 97%, KPK 95% and Punjab 104%.

SIAs coverage is very good. It shows that target are being achieved. Environmental came out positive from Peshawar, Quetta, Karachi, Rawalpindi and Lahore.

CONCLUSIONS

There is need to plug inaccessible areas in FATA by implementing good transit strategies and initiating fix site vaccination till end of internal war as campaign coverage is less than 60%

Micro planning in Karachi and Quetta need to be reviewed to achieve optimum level of immunity as campaign coverage is below 80% in these areas

Polio virus is persistently infecting other areas of Pakistan from FATA through migrant population

Migrant population is main source to transfer polio virus from reservoir areas to non infected areas

Campaign coverage is high which is about 100%. Because of that there are only 4 cases reported in Punjab during 2014. It indicates that high quality polio campaign coverage can combat heavy polio virus circulation in Pakistan.

Punjab is most attractive place for migrant population. With current quality of campaigns in Punjab if high immunity level achieved and sustained by improving routine EPI OPV coverage and migrant population is vaccinated at transit sites and at their places of residences

Punjab can be made polio free in 2015. In Pakistan, protected Campaigns in areas of threat-Peshawar, Karachi, Bara and negotiated Access in areas of bans-North Waziristan, South Waziristan

WHY PAKISTAN IS STILL ENDEMIC FOR POLIOMYELITIS

1. Inaccessible areas/pockets for polio vaccination
2. Free movement of population between polio cases reservoir and non polio cases reservoir areas
3. Poor routine immunization coverage
4. Small proportion of population refusal to polio vaccination
5. Fake high coverage reports
6. Filth hygienic condition in rural areas
7. Dishonesty in reporting in some areas
8. No sustainability of high polio vaccination coverage in most of the areas
9. Meager political commitment

10. Religious community has false belief about polio vaccination as 16000 families are refusal
11. There is no proper legislation against polio vaccination refusal communities
12. Suicidal bombing and target killing impede achievement of high immunization coverage
13. Deployment of untrained staff for polio vaccination
14. Excessive power failure hamper maintenance of cold chain of polio vaccine

RECOMMENDATIONS

- *Intensified monitoring of vaccinator training & feedback to DPEC for action*
- Formulate firm rules to address refusal communities
- Develop uniform political ownership throughout Pakistan
- There should be no inaccessible areas
- *Data for emergency action in Emergency Operation Centers*
 - *Mobile phone technology to collect critical real-time data*
 - *People in EOC must have decision making authority*

SIA Campaign General Information, 2014

Dist ID	District	3 days Plan Target	Total UCs	Campaign UCs	Fixed Teams (n)	Transit Teams (n)	Mobile Teams (n)	Total Teams (n)	Area Incharges (n)
112	ATTOCK	253,819	75	75	100	35	547	682	111
171	BAHAWALPUR	545,198	108	108	145	120	1019	1284	228
173	BAHWLNAGAR	436,062	118	118	126	59	860	1045	202
144	BHAKKAR	233,639	42	42	60	41	539	640	106
113	CHAKWAL	183,169	68	68	87	37	405	529	80
154	CHINIOT	222,113	44	44	50	21	413	484	95
181	DGKHAN	502,867	59	59	69	36	1074	1179	214
151	FAISALABAD	1,188,067	289	289	370	155	2238	2763	458
121	GUJRWALA	773,338	189	189	155	72	1458	1685	296
123	GUJRAT	396,235	119	119	119	31	781	931	164
122	HAFIZABAD	185,606	42	42	47	38	369	454	81
153	JHANG	408,652	85	85	95	34	869	998	185
114	JHELUM	168,175	51	51	64	22	352	438	80
132	KASUR	519,081	112	112	118	40	966	1124	201
162	KHANEWAL	440,081	100	100	105	66	946	1117	213
142	KHUSHAB	171,390	51	51	65	26	422	513	90
131	LAHORE	1,493,499	165	165	263	116	2632	3011	437
184	LAYYAH	263,332	44	44	35	69	600	704	122
164	LODHRAN	278,064	73	73	60	20	549	629	122
124	MBDIN	226,960	65	65	63	73	517	653	118
143	MIANWALI	213,107	58	58	72	33	512	617	109
161	MULTAN	721,871	131	131	165	119	1511	1795	299
183	MUZFARGARH	720,800	93	93	109	96	1500	1705	327
135	NANKANASAHIB	219,405	57	57	66	22	445	533	112

126	NAROWAL	267,430	74	74	77	34	568	679	113
134	OKARA	511,336	115	115	137	50	965	1152	208
166	PAKPATTEN	280,189	63	63	60	40	551	651	123
182	RAJAN PUR	355,176	44	44	66	83	804	953	157
111	RAWALPINDI	711,354	192	192	260	95	1408	1763	271
172	RYKHAN	797,557	122	122	201	121	1549	1871	367
165	SAHIWAL	393,141	89	89	109	70	791	970	162
141	SARGODHA	538,197	167	167	184	75	1140	1399	226
133	SHEIKHUPURA	540,222	112	112	122	46	997	1165	209
125	SIALKOT	571,297	124	124	130	62	1032	1224	216
152	TTSINGH	326,122	82	82	97	33	735	865	160
163	VEHARI	465,104	89	89	102	83	1013	1198	211
Grand Total		16,521,655	3511	3511	4153	2173	33077	39403	6873

NID FEBRUARY RESULTS								
District	Overall Coverage							
	Total Reported Target (n)	Total Covered (n)	Total % Covered among Reported Target	Avg. children vaccinated per vial	Vaccine Wastage (%)	Still Missed after 14 days (n)	Mobile Children Covered (n)	House-hold Visited (n)
BAHAWALNAGAR	456,722	474,831	104.0	17.6	11.8	155	3,635	376,014
BAHAWALPUR	584,401	588,692	100.7	18.4	8.1	14	4,856	394,210
RY KHAN	820,664	849,918	103.6	18.0	9.9	1,732	6,811	507,858
DG KHAN	520,240	550,574	105.8	17.7	11.4	13	9,503	218,024
LAYYAH	291,427	299,877	102.9	18.1	9.5	47	3,610	178,534
MUZAFFARGARH	775,832	798,527	102.9	17.7	11.3	731	2,853	421,528
RAJAN PUR	380,171	382,776	100.7	18.0	10.1	33	3,431	133,994
CHINIOT	236,478	248,797	105.2	17.6	11.8	53	2,832	173,250
FAISALABAD	1,211,921	1,310,202	108.1	17.8	10.8	1,809	10,067	1,019,563
JHANG	434,630	449,047	103.3	18.2	8.9	136	4,802	305,216
TT SINGH	357,645	375,375	105.0	18.5	7.6	315	2,596	321,424
GUJRANWALA	821,602	869,373	105.8	17.9	10.3	10	7,050	633,729
GUJRAT	396,903	421,703	106.2	17.9	10.6	36	6,247	353,542
HAFIZABAD	195,890	199,405	101.8	17.3	13.3	358	2,427	149,772
MB DIN	226,960	244,362	107.7	18.4	8.1	5	5,321	207,310
NAROWAL	267,431	297,804	111.4	17.9	10.5	219	1,131	200,357
SIALKOT	571,297	633,350	110.9	18.6	6.9	476	5,781	446,912
KASUR	519,081	563,384	108.5	17.8	11.0	186	4,896	378,162

LAHORE	1,585,124	1,657,034	104.5	18.3	8.6	4,357	42,287	1,269,712
NANKANASAHIB	239,437	242,445	101.3	18.2	8.8	587	2,275	170,879
SHEIKHUPURA	540,222	556,449	103.0	18.3	8.7	790	13,111	395,496
KHANEWAL	476,290	496,738	104.3	17.7	11.3	23	3,385	358,409
LODHRAN	288,775	298,637	103.4	17.9	10.4	1,219	515	179,955
MULTAN	783,783	821,754	104.8	18.0	10.1	689	11,187	606,994
VEHARI	499,722	520,370	104.1	18.7	6.4	400	3,074	377,206
ATTOCK	259,317	261,390	100.8	18.2	9.1	52	5,444	258,648
CHAKWAL	183,169	190,266	103.9	18.6	7.0	0	10,563	198,447
JHELUM	170,055	170,615	100.3	18.0	10.1	11	2,076	163,578
RAWALPINDI	749,359	786,387	104.9	18.0	9.8	2,772	21,681	599,014
OKARA	526,293	552,118	104.9	17.5	12.6	1,112	11,751	406,026
PAKPATTEN	294,582	306,545	104.1	18.0	10.2	1,955	3,276	242,549
SAHIWAL	413,850	433,047	104.6	18.0	9.8	0	6,194	359,874
BHAKKAR	255,241	261,761	102.6	18.1	9.5	252	3,072	154,565
KHUSHAB	176,251	184,876	104.9	18.7	6.5	0	3,919	172,207
MIANWALI	229,297	240,550	104.9	18.1	9.5	159	4,348	162,669
SARGODHA	562,140	570,683	101.5	18.2	8.9	74	9,019	463,652
	17,302,202	18,109,662	104.7	18.0	9.8	20,780	245,026	12,959,279

NID MARCH 2014						
District	Overall Coverage					
	Total Reported Target (n)	Total Covered (n)	Total % Covered among Reported Target	Still Missed after 14 days (n)	Mobile Children Covered (n)	House-hold Visited (n)
BAHAWALNAGAR	456,722	476,813	104.4	187	2,749	380,179
BAHAWALPUR	584,401	590,822	101.1	11	4,693	394,348
RY KHAN	837,595	866,884	103.5	5,192	7,715	525,790
DG KHAN	520,793	551,986	106.0	14	5,385	217,338
LAYYAH	275,956	292,416	106.0	14	3,667	181,019
MUZAFFARGARH	773,769	796,837	103.0	1,012	3,039	426,956
RAJAN PUR	380,171	380,839	100.2	19	2,314	132,090
CHINIOT	236,478	245,361	103.8	55	1,614	178,617
FAISALABAD	1,248,704	1,294,837	103.7	775	10,072	1,023,617
JHANG	434,630	447,413	102.9	164	4,835	304,443
TT SINGH	357,640	370,526	103.6	78	2,623	322,949
GUJRANWALA	825,856	873,524	105.8	9	6,365	641,993
GUJRAT	411,487	418,396	101.7	38	6,675	355,064
HAFIZABAD	195,890	198,223	101.2	541	2,691	150,591
MB DIN	240,021	256,836	107.0	7	6,616	209,231
NAROWAL	292,024	308,064	105.5	257	1,156	200,223
SIALKOT	597,924	638,716	106.8	428	7,266	462,296
KASUR	542,725	559,249	103.0	218	6,039	375,145
LAHORE	1,567,761	1,606,981	102.5	5,449	37,494	1,257,948
NANKANASAHIB	228,642	234,830	102.7	543	2,361	170,475

SHEIKHUPURA	568,400	592,259	104.2	970	16,451	408,010
KHANEWAL	473,866	494,977	104.5	89	3,813	357,407
LODHRAN	288,775	293,646	101.7	5,565	515	180,092
MULTAN	796,473	829,080	104.1	721	11,430	611,607
VEHARI	499,722	518,624	103.8	57	2,602	375,415
ATTOCK	259,317	262,530	101.2	52	5,765	236,648
CHAKWAL	188,640	190,662	101.1	92	8,492	197,949
JHELUM	168,267	170,624	101.4	11	1,918	163,578
RAWALPINDI	749,034	786,366	105.0	2,571	21,267	596,751
OKARA	526,293	547,719	104.1	1,010	9,799	394,909
PAKPATTEN	294,582	306,536	104.1	290	3,538	240,564
SAHIWAL	413,850	431,250	104.2	0	5,891	358,890
BHAKKAR	255,241	261,062	102.3	347	3,727	156,795
KHUSHAB	176,251	183,243	104.0	26	4,442	173,093
MIANWALI	228,814	239,839	104.8	263	4,512	166,481
SARGODHA	562,197	578,070	102.8	34	7,874	467,340
	17,458,911	18,096,040	103.6	27,109	237,405	12,995,841

NID OCTOBER RESULTS						
District	Overall Coverage					
	Total Reported Target (n)	Total Covered (n)	Total % Covered among Plan Target	Still Missed after 14 days (n)	Mobile Children Covered (n)	House-hold Visited (n)
BAHAWALNAGAR	465,025	488,448	105.0	59	4,138	380,636
BAHAWALPUR	587,538	589,072	100.3	27	4,658	404,059
RY KHAN	835,443	855,763	102.0	12,388	7,371	526,432
DG KHAN	515,712	552,534	106.9	14	5,551	221,624
LAYYAH	275,956	289,674	105.0	55	3,544	180,713
MUZAFFARGARH	776,658	787,718	101.6	459	2,472	421,065
RAJAN PUR	383,385	384,701	101.2	2,406	4,077	137,065
CHINIOT	237,327	249,587	105.5	56	2,132	172,218
FAISALABAD	1,295,161	1,329,820	102.7	203	11,282	1,013,486
JHANG	434,630	445,340	101.9	360	4,293	296,089
TT SINGH	357,640	371,024	103.7	166	2,800	322,129
GUJRANWALA	847,336	887,662	104.5	223	11,392	624,563
GUJRAT	414,737	427,454	102.7	33	6,209	367,796
HAFIZABAD	195,890	198,343	101.3	461	2,847	148,804
MB DIN	241,953	257,256	106.3	5	5,871	208,640
NAROWAL	291,824	302,051	103.5	2	1,289	200,656
SIALKOT	597,924	645,384	103.7	538	7,192	453,615
KASUR	542,725	559,520	103.1	344	6,362	368,658
LAHORE	1,571,012	1,663,749	106.0	3,417	36,129	1,325,475
NANKANASAHIB	228,649	234,426	102.5	568	2,100	170,388

SHEIKHUPURA	568,400	585,597	104.8	934	17,042	395,796
KHANEWAL	475,993	494,801	104.0	145	4,210	366,676
LODHAN	288,777	298,199	103.3	553	1,580	188,867
MULTAN	796,472	826,485	103.8	2,504	10,539	623,069
VEHARI	499,722	521,439	104.3	27	2,890	378,216
ATTOCK	259,317	260,579	101.4	1,137	5,926	261,302
CHAKWAL	181,169	195,379	103.6	5	10,695	206,756
JHELUM	168,273	171,639	102.0	0	1,615	162,771
RAWALPINDI	750,969	789,803	105.2	1,744	21,682	596,978
OKARA	526,293	553,333	104.3	730	13,436	394,080
PAKPATTEN	294,581	306,186	103.7	377	4,253	241,589
SAHIWAL	412,845	431,440	104.5	0	6,115	361,517
BHAKKAR	260,057	268,381	105.2	3,306	3,293	160,824
KHUSHAB	176,251	185,648	101.3	0	3,594	175,313
MIANWALI	226,974	240,724	103.6	497	7,277	165,870
SARGODHA	562,138	577,042	102.6	47	8,840	464,543
	17,544,756	18,226,201	103.7	33,790	254,696	13,088,278

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