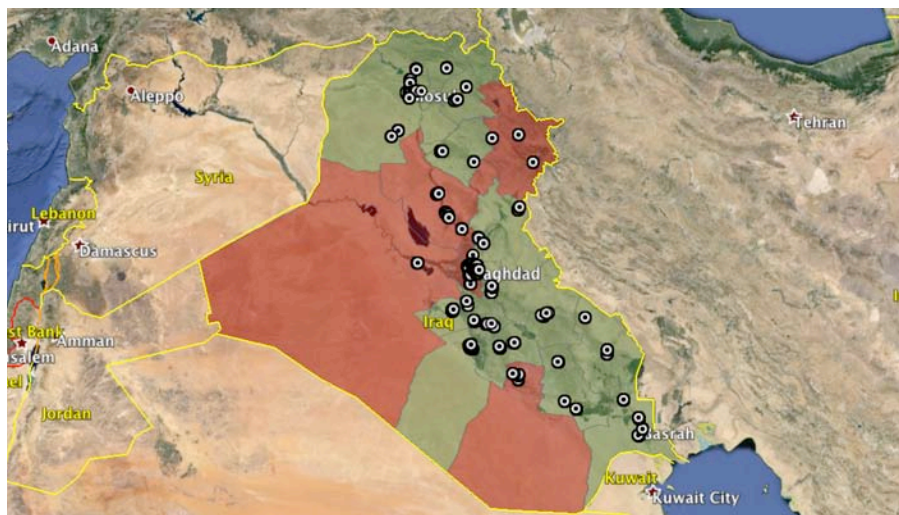


# Iraq Polio Campaign May 2014

Post-campaign monitoring



May 2014

Prepared by World Health Organization

## KEY RESULTS

**92.0%**

national polio campaign coverage  
(by recall)

**97.9%**

awareness of the polio campaign

**48.3%**

documented routine immunisation  
coverage of any polio dose

## IRAQ POLIO POST-CAMPAIGN MONITORING

Following the May 2014 national polio campaign in Iraq, the Iraqi Red Crescent Society, supported by WHO Iraq country office, conducted a post-campaign monitoring survey to determine routine and campaign polio immunisation coverage.

120 surveyors worked over three days to survey a total of 3,595 children under five and 2,326 households, in 19 provinces and 57 districts.

The results of the survey are presented in this report, as well as conclusions and recommendations to inform future rounds of polio immunisation in Iraq.



Figure 1. Heatmap of population areas not vaccinated (by recall) during post-campaign monitoring of the May 2014 polio campaign.

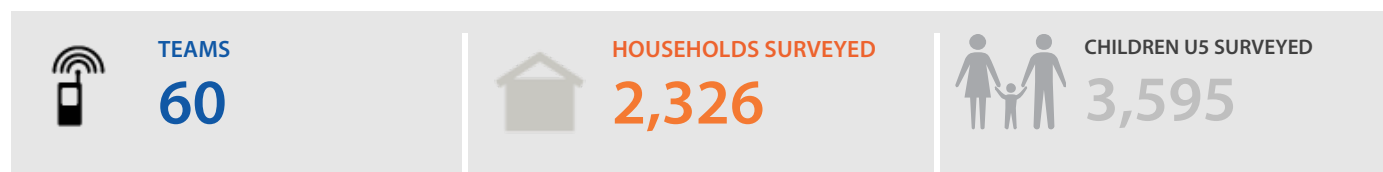
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## Timeline of programming

1. **3-4 May 2014:** Training of supervisors (Erbil)
2. **11-17 May 2014:** National polio immunisation campaign
3. **12-17 May 2014:** Intra-campaign monitoring
4. **17-19 May 2014:** Post-campaign monitoring

## METHODS



### Data Collection

60 teams (of two surveyors) were trained in the use and application of mobile information technology for polio post-campaign monitoring. The first stage of sampling (selection of clusters) was performed prior to training using probability proportional to size (PPS). Teams were allocated respective clusters during training and were responsible for the second stage of sampling (selection of households) using simple random sampling.

Each team surveyed 20 households each day and worked in two clusters over two days. A total of 120 clusters, 2,326 households and 3,595 children under five were surveyed across 57 districts and 19 provinces. Standard questions were used in the household survey. A paper version was completed if electronic data entry was not feasible within any household and entered electronically afterwards.

### Mobile information technology

Data were entered electronically using mobile information technology and GPS co-ordinates of each household recorded. Data were uploaded in real-time to a central server for data analysis and reporting. Mobile information technology enabled standardised, coded data to be collected, analysed and reported in real-time, and has the potential to inform polio planning and programming at different levels of decision-making, from district to national level and beyond.

### Statistical analysis

Data were downloaded from the server and restructured according to the number of children under five residing in each household. A relative index of socio-economic status for each household was calculated based on World Bank indicators. Principal component analysis was used to define an appropriate weight for each item. Associations between variables were considered significant at  $p$ -value  $< 0.05$  in univariable analysis. Odds Ratios, with associated 95% confidence intervals and  $p$ -values, are presented where appropriate.

## RESULTS

### Polio Campaign Coverage

- A total of 3,595 children under five, 2,326 households, 19 provinces and 57 districts were included in the post-campaign monitoring exercise.
- Reported May 2014 polio campaign immunisation coverage was 92.0% (95% CI 91.1 – 92.9) (by recall) was 80.2% (95% CI 78.9 – 81.6) (by finger mark), which varied by province and district.
- 8 districts (in 4 provinces) reported less than 80% polio immunisation coverage (Unacceptable) (Table 1).
- Children were more likely to be vaccinated if their household had prior awareness of the campaign (OR 7.2, 95% CI 4.6 – 11.2,  $p = 0.000$ ).
- Polio immunisation coverage (by recall) was equitable according to household socio-economic index (range 91.4 – 93.1%).

#### CAMPAIGN COVERAGE RESULTS

### 92.0%

of children under five were immunised according to recall during the polio campaign

### 80.2%

of children under five were immunised according to finger mark during the polio campaign

### Equitable

Polio immunisation coverage among socio-economic quintiles

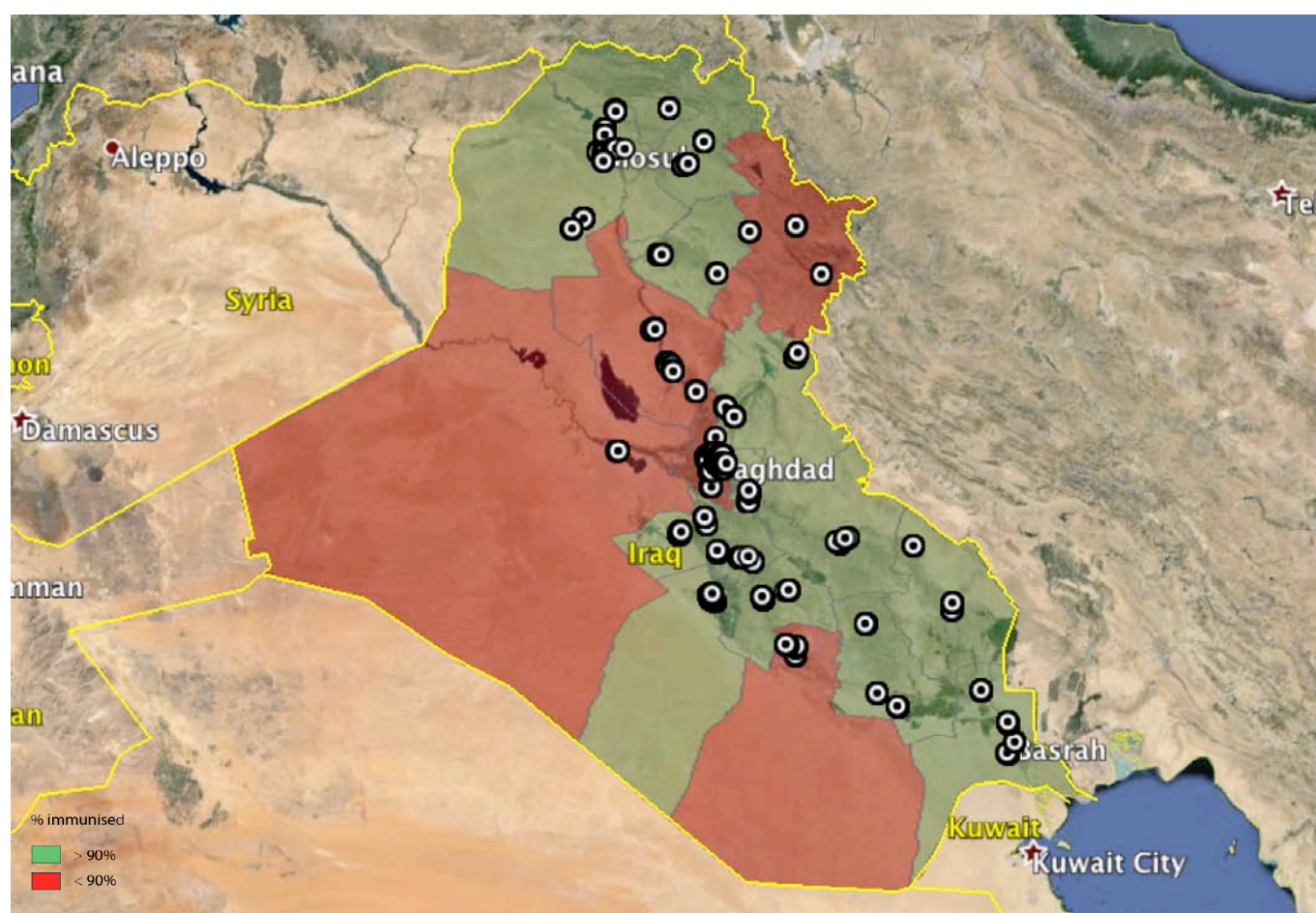


Figure 2. Iraq provinces highlighted in colours representing campaign reported polio immunisation coverage (by recall) (red < 90%, green > 90%, grey not reported). Dots represent GPS locations of households surveyed.

## District Polio Campaign Coverage

- 8 districts (in 4 provinces) reported less than 80% polio immunisation coverage (by recall) (Unacceptable) (Table 1).
- 48 districts reported more than 80% polio immunisation coverage (by recall) (Pass) (Table 1).
- 38 districts reported more than 90% polio immunisation coverage (by recall) (High Pass) (Table 1).
- Polio immunisation coverage (by recall) was equitable according to household socio-economic index (range 91.4 – 93.1%).

### DISTRICT RESULTS

## 0 Failed

districts failed (<60% coverage)

## 8 Unacceptable

districts unacceptable (<80% coverage)

## 48 Passed

districts passed (>80% coverage)

## 38 High Pass

districts with high pass (>90% coverage)

Province	District	Polio coverage (by recall) %	n/N
Salah Al-Din	Tikrit	70.27	52/74
Muthanna	Al-Rumaitha	72.86	51/70
Anbar	Ramadi 2	73.91	51/69
Baghdad-Karkh	Mahmudia	75	36/48
Anbar	Heet	75.38	49/65
Baghdad-Karkh	Alealaam	77.61	52/67
Muthanna	Warka	78.85	82/104
Salah Al-Din	Samarra	79.75	63/79

Table 1. Districts with less than 80% reported polio campaign coverage



Figure 3. Heatmap of population areas of Baghdad and surrounds not vaccinated during post-campaign monitoring of the May 2014 polio campaign (by recall)

## Polio Social Data

- 97.9% (95% CI 97.3 – 98.4) of households were aware of the April 2014 national polio campaign taking place.
- 33.5% and 47.9% of households heard about the polio campaign from the Ministry of Health and the Television / Radio respectively.
- 50.5% of children missed by the May 2014 polio campaign were not visited by a vaccination team.

### SOCIAL DATA RESULTS

**97.9%**

of households were aware of the May 2014 polio campaign taking place

**9.9 x**

more likely to be vaccinated if prior awareness of the polio campaign

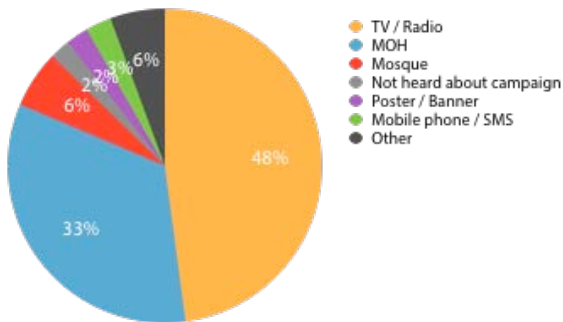


Figure 4. Sources of household information about the polio campaign

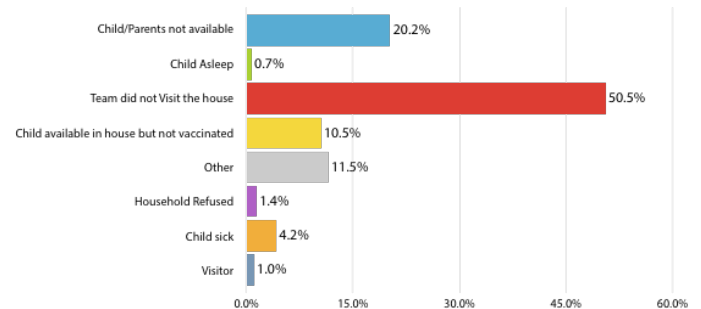


Figure 5. Reasons for missed vaccination during the polio campaign

## AFP Surveillance Data

- 50 (2.2%) of households reported an episode of acute flaccid paralysis among a household member under the age of 15 years in the previous two months.



Figure 6. Map highlighting locations of households surveyed with reported episode of acute flaccid paralysis among a household member under the age of 15 years in the previous two months. .

## Routine Polio Immunisation

- A total of 3,595 children under five, 2,326 households, 19 provinces and 57 districts were included in the post-campaign monitoring exercise.
- 76.6% of children under five had a vaccination card for routine immunisation.
- 63.1% (95% CI 61.3 – 64.9) of children with a vaccination card were reported to have received any dose of polio through routine immunisation.
- 48.3% (95% CI 46.7 – 49.9) of all children under five surveyed had documented evidence of receiving any dose of polio through routine immunisation.
- Tables of routine immunisation coverage and ownership of a vaccination card, disaggregated by age are included at the end of the report

### ROUTINE IMMUNISATION RESULTS

**76.6%**

of children under five had a vaccination card for routine immunisation

**63.1%**

of children with a vaccination card had documented evidence of receiving any dose of routine polio immunisation

**48.3%**

of children under five had documented evidence of receiving any dose of routine polio immunisation

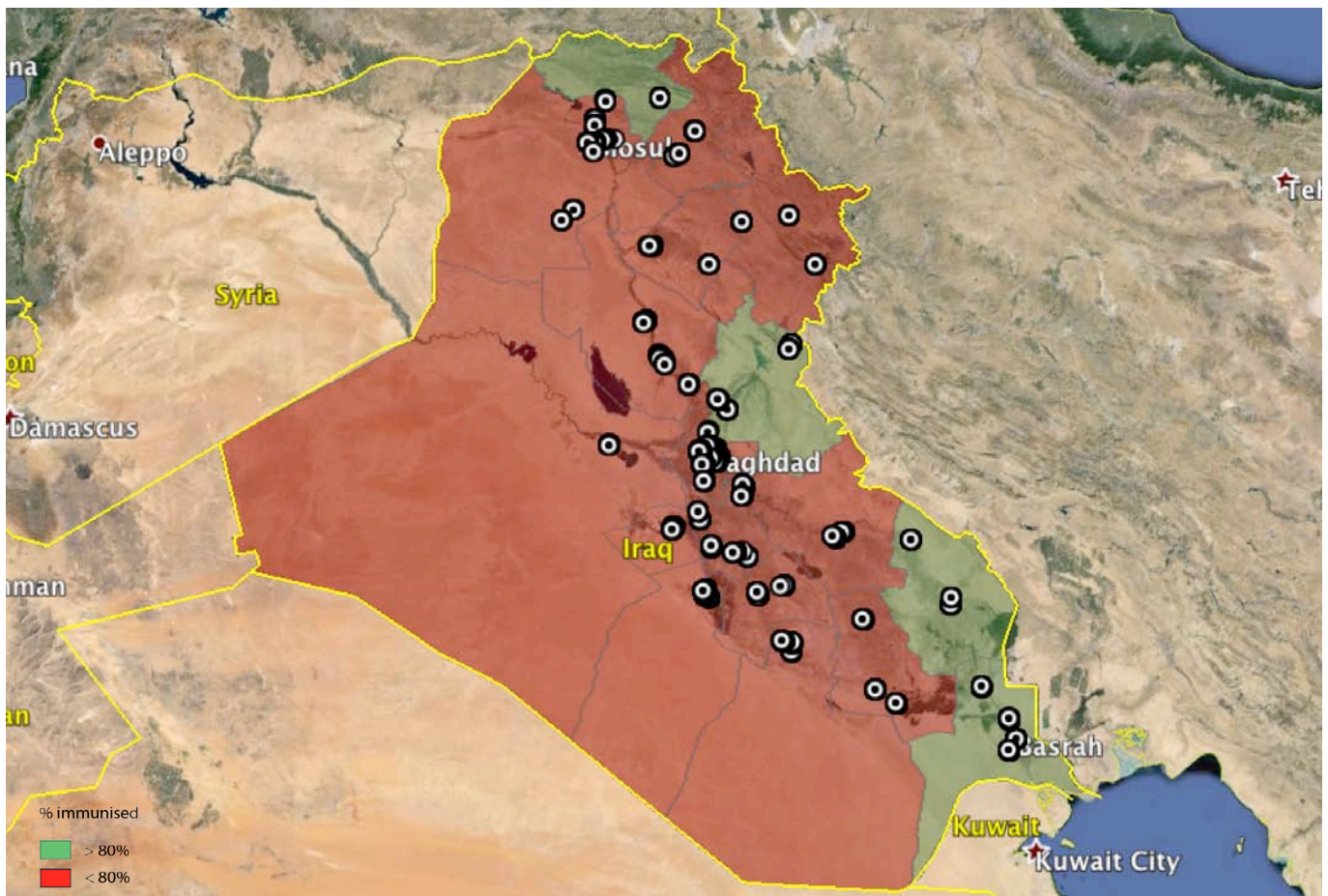


Figure 7. Iraq provinces highlighted in colours representing routine polio immunisation coverage (red < 80%, green > 80%, grey not reported). Dots represent GPS locations of households surveyed.

## CONCLUSIONS

1. National polio immunisation coverage following the May 2014 campaign is high (by recall) and equitable across household socio-economic quintiles.
2. 8 districts (in 4 provinces) reported less than 80% polio campaign coverage (by recall) (Unacceptable).
3. Household awareness of the May 2014 national polio campaign was high with most household information received from the Ministry of Health or Television / Radio.
4. Household awareness of the May 2014 national polio campaign significantly increased campaign participation and child vaccination.
5. Nearly half of children missed by the April 2014 national polio campaign were not visited by a vaccination team.
6. Routine immunisation is low and inequitable (the most poor households have lower rates of routine immunisation than the least poor).
7. May 2014 documented routine immunisation coverage estimates are lower than those reported in April 2014 because they are calculated against the whole population of children under five surveyed, not just those who have a vaccination card.

## RECOMMENDATIONS

1. To review programming in 8 districts reported to have less than 80% campaign immunisation coverage (Unacceptable).
2. To encourage adoption of finger marking across all Governorates as a gold standard of assessing polio campaign coverage.
3. To continue pre-campaign household awareness of polio to increase participation and immunisation coverage.
4. To strengthen routine immunisation and ensure equity according to geographic area and household socio-economic index.
5. To conduct an intra- and post-campaign monitoring in Mada'in district of Baghdad-Resafa Governorate, where a second case of polio was confirmed in April 2014, if access and the security situation permits.

## DATA TABLES

### Coverage results, by Province

Province	Polio campaign (Recall)		Polio campaign (Finger Mark)		Household awareness		Routine immunisation (Documented)	
	Coverage	n/N	Coverage	n/N	Coverage	n/N	Coverage	n/N
Anbar	83	166/200	82	164/200	97.5	195/200	57.5	115/200
Babylon	90.21	175/194	87.63	170/194	84.02	163/194	29.38	57/194
Baghdad-Karkh	84.7	321/379	51.19	194/379	91.56	347/379	59.37	225/379
Baghdad-Resafa	94.22	424/450	86	387/450	98.89	445/450	36.89	166/450
Basrah	96.43	216/224	94.2	211/224	100	224/224	83.48	187/224
Diwaniya	98.31	58/59	91.53	54/59	98.31	58/59	86.44	51/59
Diyala	98.51	132/134	98.51	132/134	100	134/134	0	0/134
Duhok	100	144/144	100	144/144	100	144/144	100	144/144
Erbil	100	110/110	26.36	29/110	100	110/110	34.55	38/110
Kerbala	90.44	123/136	72.79	99/136	97.06	132/136	27.21	37/136
Kirkuk	100	168/168	100	168/168	100	168/168	61.9	104/168
Missan	100	91/91	74.73	68/91	100	91/91	85.71	78/91
Muthanna	76.44	133/174	70.69	123/174	100	174/174	0	0/174
Najaf	95.28	121/127	95.28	121/127	95.28	121/127	78.74	100/127
Ninewa	94.95	376/396	73.74	292/396	100	396/396	44.19	175/396
Salah Al-Din	80.61	158/196	70.92	139/196	97.45	191/196	53.57	105/196
Sulaymaniyah	86.76	59/68	83.82	57/68	100	68/68	55.88	38/68
Thi-Qar	97.33	182/187	97.33	182/187	100	187/187	35.29	66/187
Wassit	95.57	151/158	95.57	151/158	100	158/158	31.65	50/158

### Vaccination card ownership, by Age Group

Age Group	No n (%)	Yes n (%)	Total n (%)
0-1 years	151 (30.1%)	350 (69.9%)	501 (100%)
1-5 years	691 (22.3%)	2,403 (77.7%)	3,094 (100%)
Total	842 (23.4%)	2,753 (76.6%)	3,595 (100%)

### Documented routine immunisation of any polio dose, by Age Group

Age Group	No n (%)	Yes n (%)	Total n (%)
0-1 years	283 (56.5%)	218 (44.7%)	501 (100%)
1-5 years	1,576 (50.9%)	1,518 (49.1%)	3,094 (100%)
Total	1,859 (51.7%)	1,736 (47.9%)	3,595 (100%)