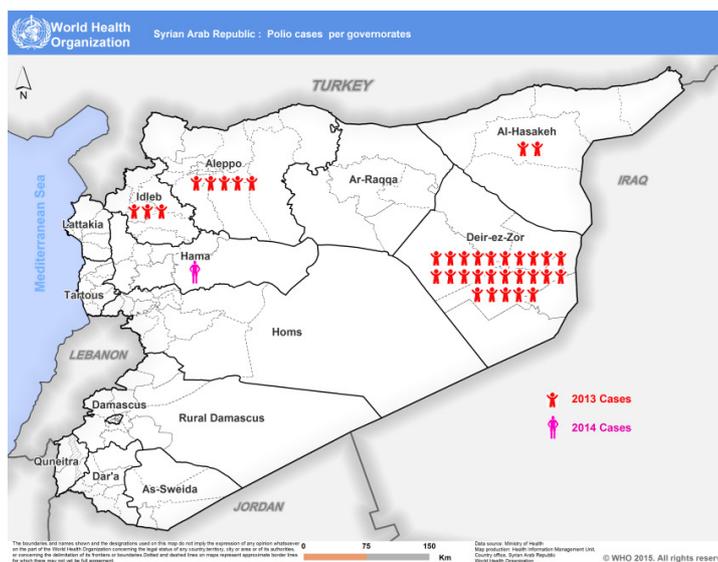


Background:

Syria remained free of Polio since 1995, one case reported in 1999 in Aleppo and it was imported from India , full measures have been taken to interrupt the transmission of the disease, and then unfortunately wild polio cases were confirmed in north Syria, following an importation of wild poliovirus closely related to strains circulating in Pakistan. The total numbers of confirmed polio cases were 35 for the year 2013 and one confirmed polio case in January 2014.

The polio cases were detected in Deir Al Zour (25 cases), Aleppo (5 cases), Idleb (3 cases) and Al-Hassakeh (2 cases). The 2014 polio case was reported from Hama governorate. (See below map)



Syria Expanded Programme on Immunization (EPI) was considered as one of the best in the whole region; the administrative coverage rate of the third polio vaccine dose was above 90% until the year 2010 and then declined sharply to 68% in 2012 due to the crisis.

As a response to the polio outbreak, MOH in collaboration of partners, mainly WHO and UNICEF developed a multi-phase response plan. The main objective of the plan was to conduct mass immunization campaigns to stop the outbreak, Seventeen Supplementary Immunization Activities (SIAs) were conducted between October 2013 & November 2015. The administrative coverage varied from 77% to 102% depending on the areas reached. (Table 1)

	Date	Vaccine	SIAs type	Status	Reported Coverage
1	24-Oct-13	tOPV	NID	Completed	%80
2	8-Dec - 2013	bOPV	NID	Completed	%77
3	5-Jan - 2014	bOPV	NID	Completed	%87

4	2-Feb - 2014	bOPV	NID	Completed	%94
5	2-Mar - 2014	bOPV	NID	Completed	%100
6	6-Apr - 2014	bOPV	NID	Completed	%100
7	5-May - 2014	bOPV	NID	Completed	%96
8	15- Jun - 2014	tOPV	NID	Completed	%95
9	31-Aug- 2014	bOPV	SNID	Completed	%97
10	19-Oct - 2014	bOPV	NID	Completed	%94
11	30-Nov - 2014	bOPV	NID	Completed	%101
12	4 – Jan - 2015	bOPV	SNID	Completed	58%
13	15-Feb - 2015	bOPV	NID	Completed	102%
14	22-Mar-2015	tOPV	NID	Completed	89%
15	31-May-2015	tOPV	NID	Completed	78%
16	18-Oct-2015	tOPV	NID	Completed	80%
17	22-Nov-2015	tOPV	SNID	Completed	35%

SIA's Administrative coverage

It is now 2 years with no reported cases in Syria, which is a significant attainment that has galvanized commitment of all partners, despite the challenges of operating within a severely disrupted public health system. Local authorities are very supportive, and the strong culture of the population seeking out immunization services increased the uptake of the vaccine.

The key surveillance indicators have reached the global standard at the national level in 2015, the non-polio AFP rate has reached 3 and stool adequacy reached 91%. At sub-national level: only 2 governorates had stool adequacy rate less than 80% (Al Raqqa & Dier Al Zour).

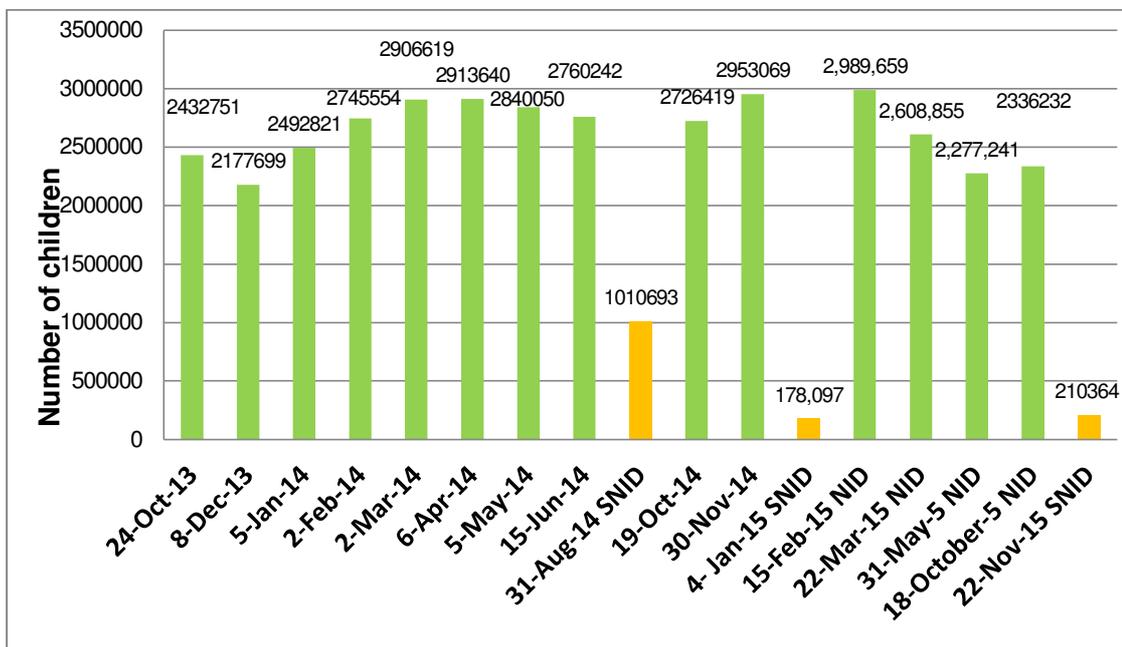
The Review Meeting of Phase III of the Middle East Polio Outbreak Response that was conducted in Beirut during October 2015 concluded that Phase III plans were successfully implemented and most of the targets were achieved despite ongoing conflict and challenges with evidence of improvement of surveillance quality and immunization status; it was stated that time lapse, surveillance data & country reviews provide evidence for interruption of polio virus transmission in ME.

However, the risk of poliovirus importation remains, due to inaccessibility of certain areas for immunization activities and the continued presence of the poliovirus in Afghanistan and Pakistan with uncontrolled population movement from both countries to other countries in the

region. The risk of emergence of VDPV is also high in the region particularly in conflict affected countries due to deteriorating routine immunization coverage

During 2015, WHO Country Office (WCO) Syria was able, in coordination with MoH, to train 1504 participants from all governorates as part of the strengthening routine vaccination activity plan. WHO and MOH conducted 44 training courses and workshops to improve the quality of polio campaign, AFP surveillance and routine vaccination activities.

From 2013 till 2015, 17 SIAs activities were conducted, the administrative coverage varied from 77% till 102% depending on the areas reached, starting from March 2015 some governorates under opposition control suspended the SIAs activities (Al Raqqa, Dier Al Zour, Idleb & some parts of Homs).



Number of children vaccinated according to Administrative coverage

SIAs Progress in Syria 2015

In 2015, four NIDs & two SNIDs were conducted in Syria, estimated target for NIDs was 2.9 M while estimated target for January SNIDs was 308,000 & November SNIDS was 597,000 under 5 children; the increased target number in November SNIDs was due to the suspension of NIDs activities in some governorates.

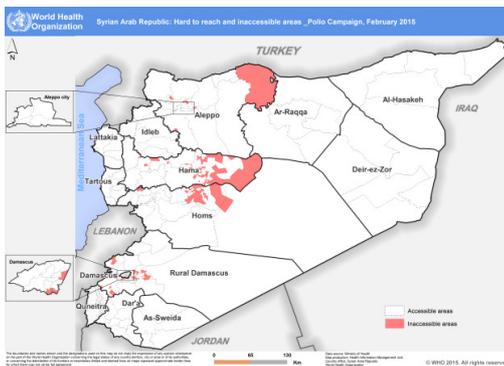
Insecurity in certain areas remains the biggest obstacle, resulting in delayed or missed campaigns. Al Raqqa governorate which is not under the government control, suspended any polio campaign activities since March 2015. In October NIDS & November SNIDs and as a result of the changes going on ground in Al Raqqa there was a possibility to reach the northern area of Tell Abyad through Al Hasaka teams. Al Hasaka team succeeded to reach Tell Abyad area & vaccinated 3645 under 5 children in 60 villages with tOPV for the first time since February 2015.

On the other hand in Kobani Ain Al Arab area due to road cuts; Aleppo health authorities were not able to deliver vaccines; through the same way Al Hasaka team delivered 10000 tOPV doses which resulted in vaccinating 6187 children in the area.

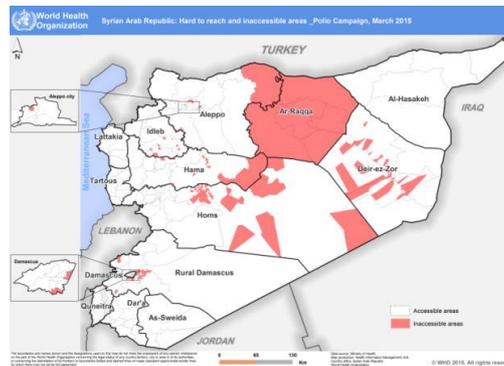
Also we sent Routine vaccine to rural Deir Elzour in Dec 2015 and vaccinated children (RI and OPV)

The cooperation between governorates to cover border areas was exemplary. During the preparatory meetings; a special session was dedicated to discuss the borders issues between governorates which resulted in redistributing areas to governorates that can access it more easily, that was obvious between Al Hasaka, Dier Al Zour, Al Reqqa & Aleppo; also Idleb/Lattakia & Dera'a/AI Swaida.

SNIDs were directed towards hard to reach areas & areas with weak performance. January 2015 SNIDs target was 308,000 children under 5, only 178,000 children were vaccinated that was due to the nature of the areas targeted being hard to reach, the security situation & the weather during the campaign. In November 2015 SNIDs the target was 597,000, the target was raised due to the increase in inaccessible areas that happened during 2015 (Al Reqqa, Dier Al Zour, Idleb & Palmyra in Homs). Only 210,000 children were reached due to continued suspension of activities by ISIS & security situation due to the actions of war in other areas. During SNIDs; Routine immunization was given in the reached areas.

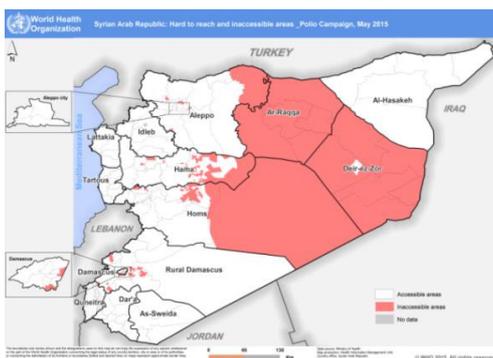


February 2105 NIDs

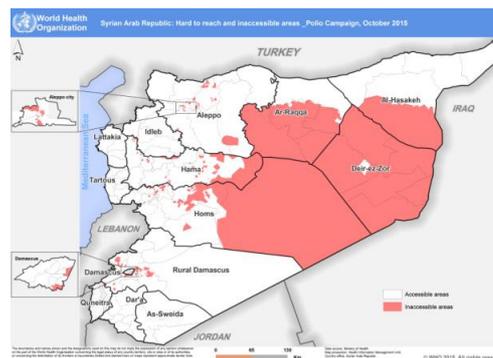


March 2105 NIDs

Reported Inaccessible areas, , Syria

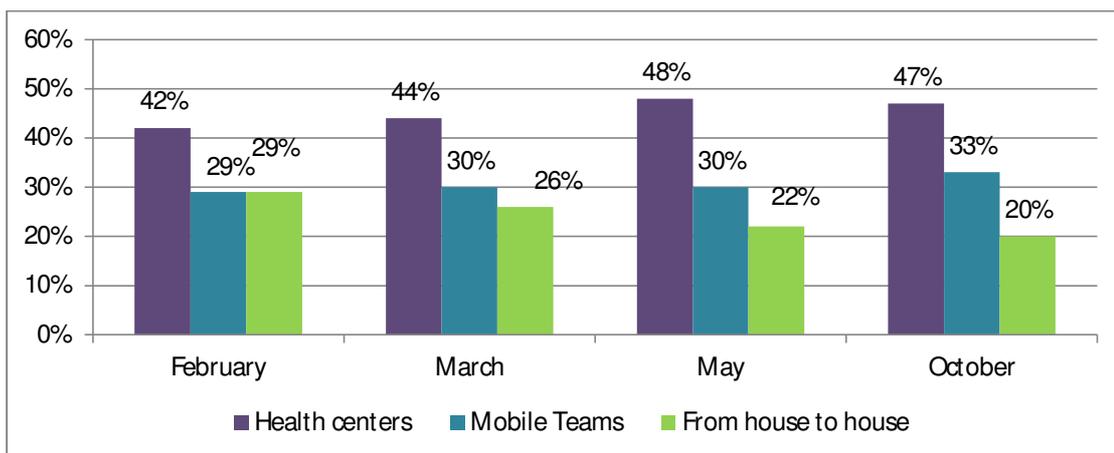


May 2105 NIDs



October 2105 NIDs

Reported Inaccessible areas, Syria



Percentage of vaccinated children according to strategy

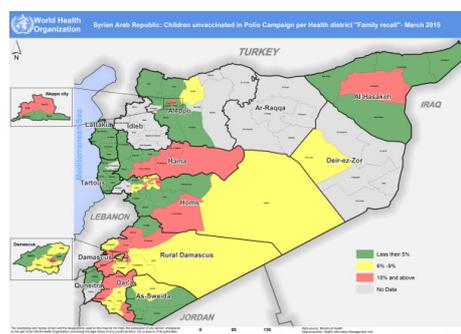
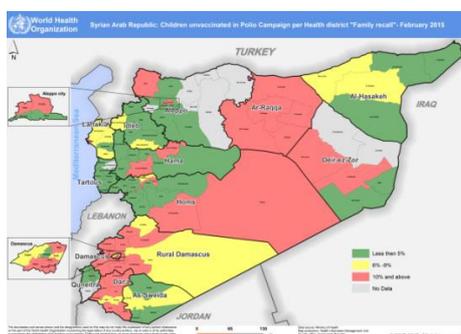
Syria Polio SIAs, January- October 2015

Post campaign Monitoring PCM in Syria:

The post campaign evaluation by independent monitors has been implemented using standard WHO guideline. The finger mark coverage varied between 79 & 90 % while the re-call coverage was between 90 & 94%.

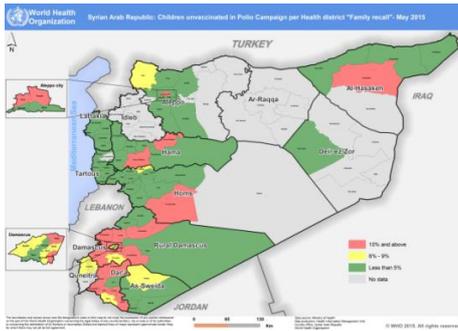
PCM has been conducted in all implementing governorates; the monitors were selected from NGOs, volunteers and youth association. The duration of the monitoring was 2 days in each district. The sample selection was biased toward the high risk areas, difficult to reach areas and previously reported poorly covered areas. The monitors collected data concerning the coverage by age (<1 year and 1-5 years), reasons for none vaccination, level of family awareness, reasons of refusing, type of illness and the most 3 popular sources of information.

The most two common reasons for unvaccinated children were “family is busy/lack of interest” (31-38%) & “families unaware of NIDs” (16-27%). The percentage of refusals among unvaccinated children ranged between 5-15% The main reasons for refusals was campaign repetition (38%).

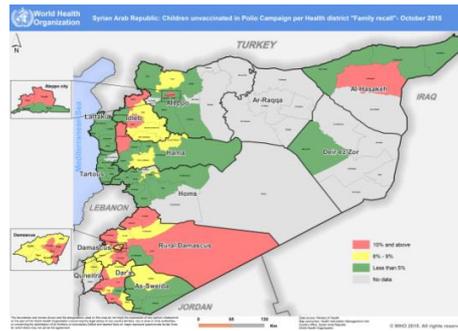


IM Results by District (Family Recall) Feb 2015

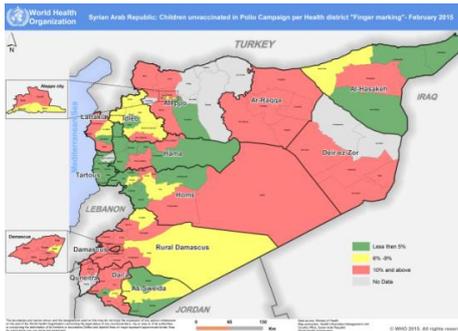
IM Results by District (Family Recall) March 2015



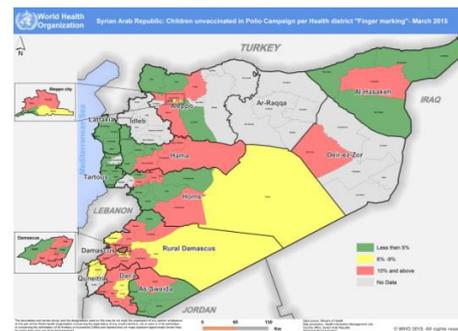
IM Results by District (Family Recall) May 2015



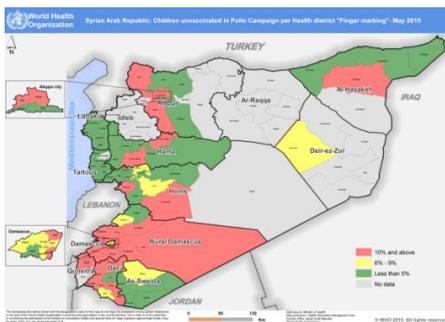
IM Results by District (Family Recall) Oct 2015



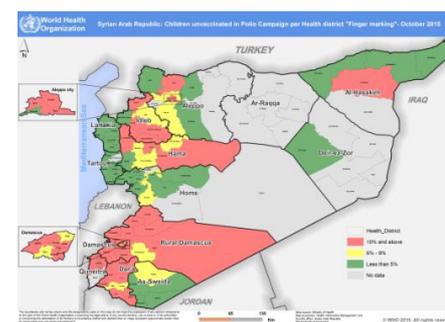
IM Results by District (FM) Feb 2015



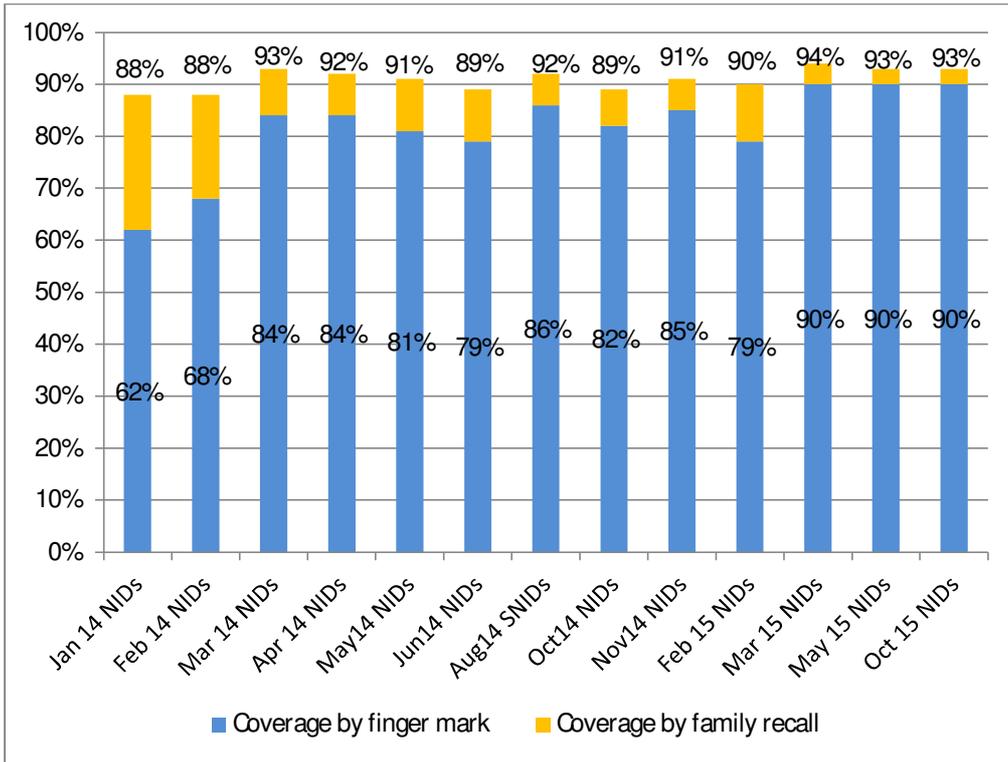
IM Results by District (FM) March 2015



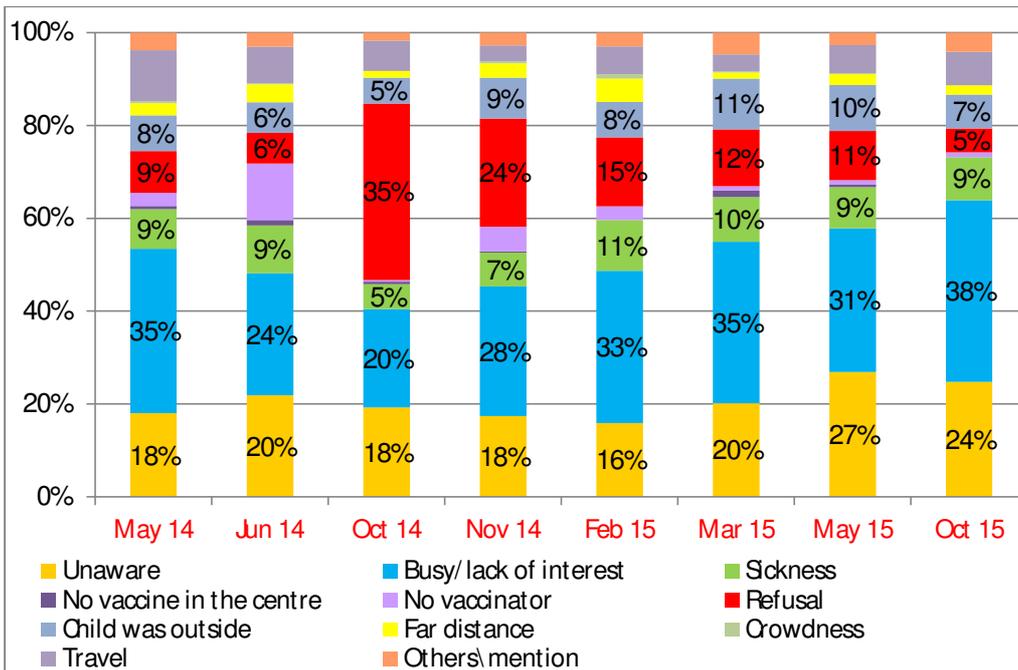
IM Results by District (FM) May 2015



IM Results by District (FM) Oct 2015



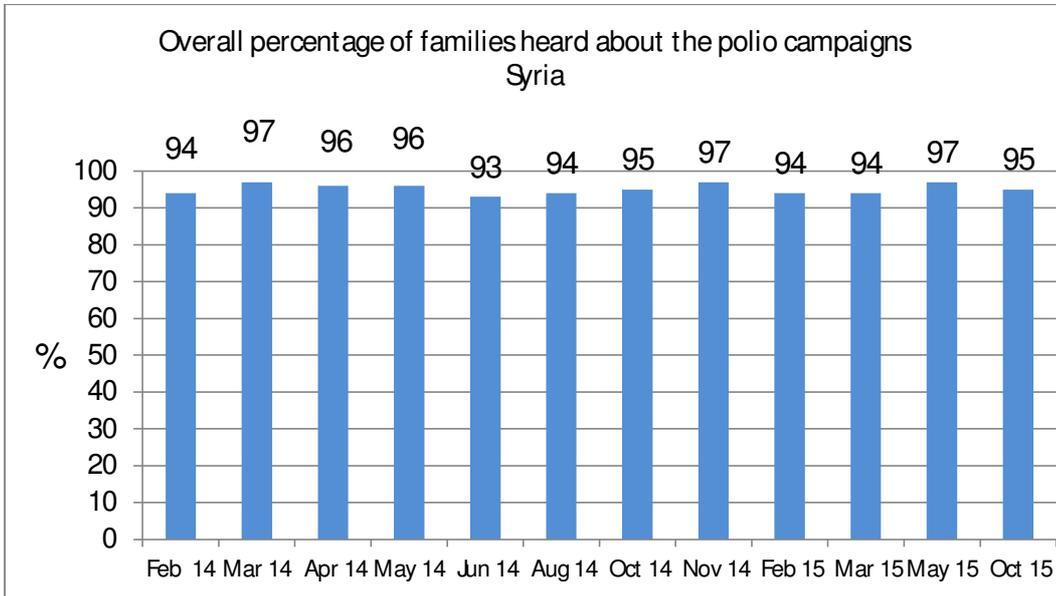
PCM result by Finger Marking & Family Recall, Syria 2014-15



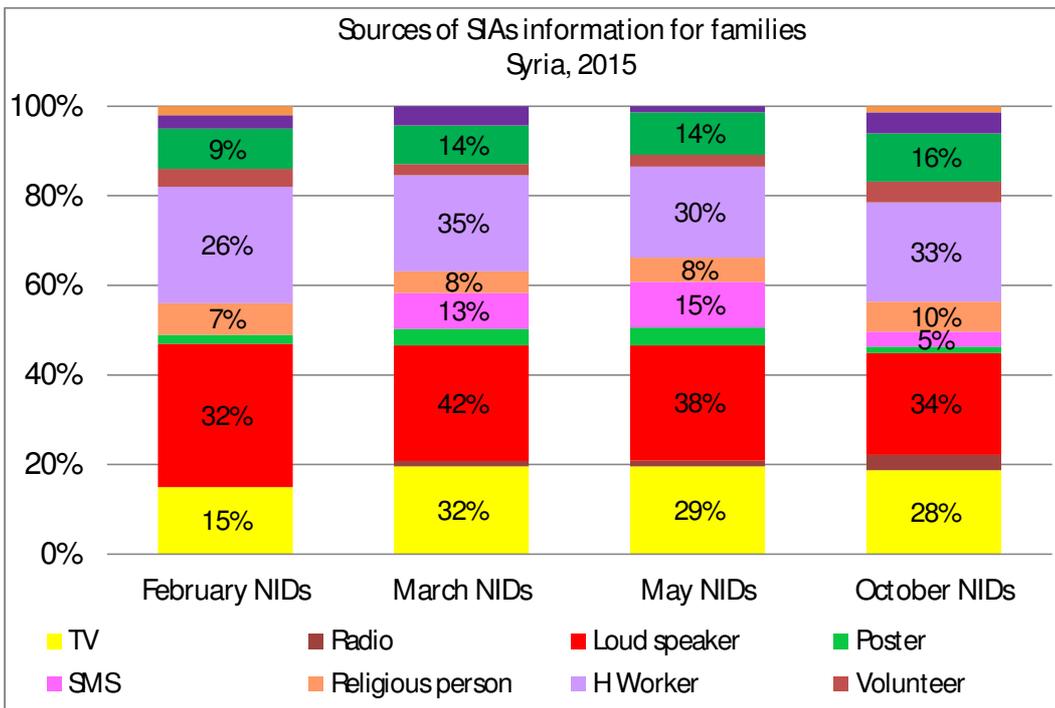
Reasons for unvaccinated children May 14-Oct 15, Syria

Family knowledge and source of information:

Between 94 & 97% of families interviewed heard about the campaign. Percentage of families that knew about the NIDs by loud speaker was the highest & ranged between 32 to 42 %, while by Health worker was between 26 & 35 % & by TV 15 & 32 %.



Family knowledge Feb 14-Oct 15, Syria



Source of Information

Routine vaccination (RI):

Immunization coverage trend in Syria:

Before the current crisis began, the immunization programme in Syria was one of the best in the Eastern Mediterranean region. According to national reports, coverage rates for polio, DPT and measles were above 90% until the year 2010. Syria was declared polio-free since 1995. The last confirmed polio case due to an imported wild poliovirus was in 1999 and measles endemic cases reached zero level in the years 2011. Maternal and neonatal tetanus was eliminated in Syria since many years

Vaccination rates declined sharply when the conflict began in 2012. (According to the MOH; routine vaccination coverage has dropped from 95 % to 60%. WHO and UNICEF estimate that vaccination coverage may have fallen even lower, to below 50%. Routine immunization has even completely stopped in some of the contested areas.

WHO and UNICEF estimates of immunization coverage, 2014 revision:

DTP3

	2009	2010	2011	2012	2013	2014
Estimate	80	80	72	45	41	43
Administrative	99	99	91	64	60	62

Polio3

	2009	2010	2011	2012	2013	2014
Estimate	83	83	75	52	52	52
Administrative	99	100	91	68	80	68

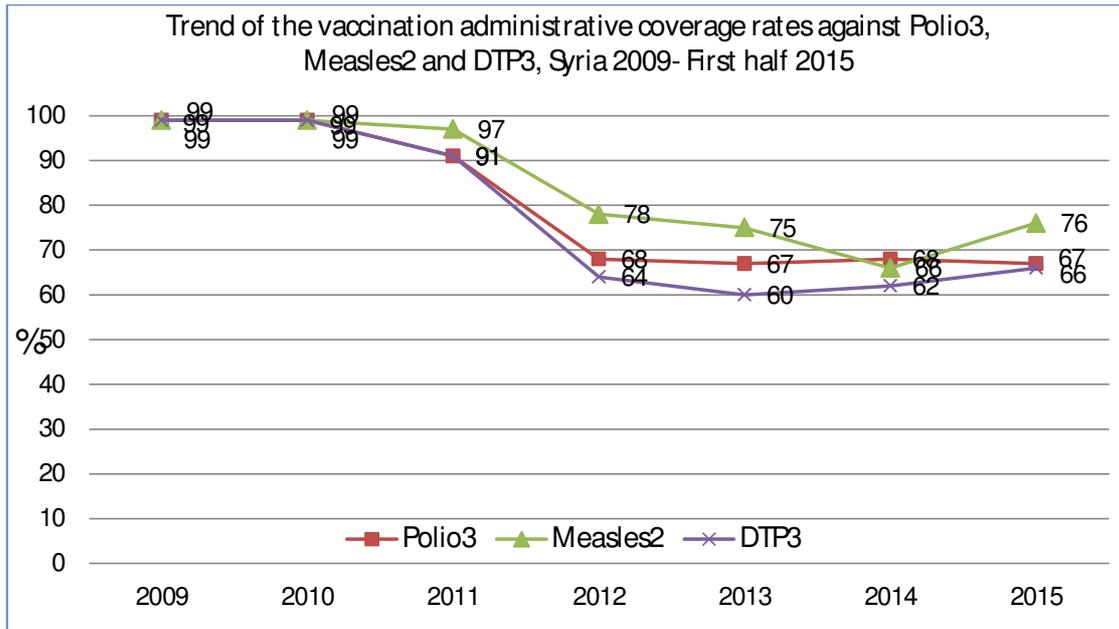
Measles 2

	2009	2010	2011	2012	2013	2014
Estimate	82	82	71	53	51	49
Administrative	99	99	88	70	75	66

Syrian government is responsible for all vaccine procurement, School children vaccination was integrated in EPI in coordination with Ministry of Education, Security situation is changing every day that forced the EPI team to implement a short term plans. Mapping of hard to reach and inaccessible areas continued after each SIAs round. Data was used to improve access in both SIAs & RI.

RI Strategies:

- Fixed Sites
- Mobile Teams (Reach out);



Routine Immunization Strengthening Plan (Fix and Outreach):

MoH with the collaboration of WHO and UNICEF developed a plan to strengthen RI starting from second half of 2014 through Fixed centres & outreach teams, implementation of outreach was in all Hard to Reach Areas except Al Reqqa & Dier Al Zour due to isis which suspend mobile team activities.

The plan was focusing on:

- Mapping of the high risk areas with low routine immunization performance and develop special strategies to close the gaps.
- Training of new vaccinators and refresher courses for the old vaccinators.
- Outreach activities, especially among nomadic population, IDPs and hard to reach communities

EPI fixed centers are still functioning in most of governorate. Regular visits to IDPs are conducted by the nearest HC for RI activities. Special efforts have been conducted in Dera'a to

vaccinate children in the south east area through Reach out teams. Regular risk assessment on district & governorate levels is done to help in situation analysis & planning. In Damascus, Rural Damascus, Hama & Homs some besieged areas are not reached regularly due to security situation .

The administrative coverage is still low due to :

- Number of children under 5 is not clearly identified due to internal & external pop movement.
- irregularity of providing services due to security & sometimes vaccine availability e.g. (Al Raqqa, Dier Zour & Idleb).
- Reporting of vaccination activities is not regular/complete.
- Impact of situation on people's demand for vaccines.

World Immunization Week & MCV campaigns in Syria

In 2013 two measles campaigns (national and sub-national) were conducted in PHC centers, mobile clinics and IDPs shelters as response to measles outbreak, the coverage rate was around 65% .

In 2014 one subnational MCV campaign targeting children between 7 months & 5 years and all under 15 years old children in IDPs shelter; the coverage rate reached 74%, and then subnational MCV campaign targeting children between 5 years & 15 years (3 rounds at school) were done

MOH has started raising awareness activities about the importance of immunization and started giving Vit A in all measles campaigns and to all measles suspected cases. MOH has recommended giving measles vaccine to children between 6 months to 15 years in shelters, measles surveillance activities were with involvement of the private sector.

in 2015 MoH adopted the implementation of the Regional vaccination week together with Measles and MMR campaign during the period 19-30/4/2015 to achieve the national goals in decreasing the morbidity and mortality rate among children under the age of five to keep their lives free of childhood diseases .The campaign was implemented in all MoH health centers in governorates and districts except for Al Raqqa (due to suspension by controlling authorities) with 1094 fixed centers and 115 new additional centers, Measles vaccines was delivered to 7 months children up to 1 year in addition to giving them vitamin A (100,000 unit) ,but MMR was delivered to children from the age of 1 year in addition to giving them vitamin A (200,000 unit). The national coverage rate reached 61%.

World immunization week is conducted on regular basis aiming to increase RI coverage, to follow up dropouts & increase awareness about importance of vaccines.

Comprehensive EPI Review Syria 2015:

The comprehensive EPI review was supported by WHO as per request of the MOH, Government of Syria. The aim was to systematically review the different components of the

Expanded Programme on Immunization (EPI), using WHO EMR EPI review tool, the review was done to all administrative levels (national, governorate, district and health facility levels) in order to identify strengths and weaknesses of planning and undertaking necessary actions for further improvement of the programme .

The specific objectives of the comprehensive EPI review were to assess the following areas:

- Political commitment and legal basis of EPI
- Programme planning and management.
- Programme Operations and vaccination service delivery system
- Cold chain and vaccine supply and logistics through Effective Vaccine Management Assessment (EVMA) as per WHO/UNICEF protocol.
- Monitoring and evaluation of EPI, including reporting system and data quality
- Vaccine preventable diseases surveillance.
- User satisfaction.

The review included all the governorates besides the National level. However data collection could not be completed from two Governorates (Al Hasaka and Dier Al Zour) due to security limitations.

Comprehensive Multiyear Plan (cMYP) for immunization:

Following one of the key recommendations of the EPI review to develop and implement a comprehensive multiyear plan for immunization, a mission from EMRO to assist EPI Syria in development of comprehensive multiyear plan (cMYP) for immunization for the duration 3-5 years as per EPI requirement, through a consultative process involving key stake holders.

During the mission consultation with MoH team on the process of cMYP development, agreeing on the duration of cMYP i.e 2016-2018 and gathering the baseline information for situational analysis and vaccine price information for currently procured vaccines by Government of Syria for future projections. Based on the outcomes of discussions and in consultation with the national EPI, a draft of cMYP for Syria EPI for the period 2016-2018 was developed. Cost estimation was also included in the cMYP for vaccines needed for RI, Cold chain and Capacity building.

Surveillance:

Background:

MoH continued commitment to strengthen the AFP surveillance system. WCO Syria provided the technical and financial support.

AFP surveillance in Syria has been affected by the continued complex emergency and conflict in the country reaching NP-AFP rate of 1.3 & 1.7 & Adequacy rate of 84% & 68% for 2012 & 2013 respectively; as a result, the need for continued efforts to strengthen the quality of surveillance, in order to increase assurance that the outbreak has ended was emphasized. Several missions were undertaken to follow up on the status of implementation of recommendations made specifically on strengthening of AFP surveillance in areas accessible to Syrian MoH.

Year	AFP rate	Adequacy rate	NPEV rate	SL rate
2010	2.4	95%	10%	1.5%
2011	2.1	94%	8%	1.8%
2012	1.3	84%	6%	0%
2013	1.7	68 %	8.7%	4.8%
2014	4	84%	11%	4.9%
2015	3	91%	6%	4.5%

National AFP indicators 2010 – 2015, Syria

Surveillance activities 2014/15

AFP surveillance quality: The two AFP quality indicators in 2014 & 2015 still reach the expected standard at the national level (NP-AFP rate of 4 & 3, with 84 & 91% adequate specimens respectively). However, there are some governorates with substandard indicators specially the northern governorates, NP-AFP reporting in the northern governorates which is not fully under government control (Aleppo, Deir-al-Zour, Hasakeh, Idleb & Al Raqqa) did not reach the 2/100.000 cutoff, and stool adequacy rate was lower than 80% in two governorates (Deir-al-Zour & Al Raqqa). The proportion of specimens positive for non-polio enterovirus was quite low for 2015 (6%); it had been 11% overall for 2014, but low also for the period from September to December 2014, but it is worth mentioning that the Sabine Like (SL) was 4.5%.

Contact sampling: Stool sampling from contact children of AFP cases has increased in 2015 compared to 2014. In 2015, 451 contact samples had been collected from 235 reported AFP cases (average of 1.9 contacts per AFP case; policy is to collect 3 contacts for each case), while this ratio was 1.1 in 2014 (341 contacts for 306 AFP cases). However, as expected, the frequency of contact sampling was much lower than average in the northern governorates with difficult access. These hundreds of (negative) contact specimens considerably boost AFP sensitivity which is particularly important for difficult and inaccessible areas.

Active surveillance and zero-reporting: The review of existing network of facilities and sites for both zero reporting and active surveillance is done on regular basis by MoH. The reviewed network for 2016 is planned to be around 1800 zero reporting sites & 130 active surveillance sites. Conduction of high quality active surveillance visits is of great importance, WHO continue the support of transportation for conduction of active visits, MoH assigned Surveillance focal point on central & peripheral levels & also conducting national quarterly surveillance review meetings

The Zero reporting timeliness & completeness rate for 2015 was 80% respectively while the active visits conducted rate was 76%; the un-conducted active visits were mostly related to security issues.

Arrival of stool specimens within 3 days from collection to lab is still below standard WHO support the transportation of specimens through courier companies specially from hard to reach areas to reduce storage time on the governorates level.

Log Tags: The use of temperature log tags to monitor the reverse cold chain started in 2015; trainings for EPI & Public Health Lab staff were completed, regular analysis of data obtained from Log Tags is done in collaboration with MoH.

AFP training and sensitization sessions targeting pediatricians and health workers continued through 2014 & 2015

Development and distribution of the AFP surveillance wall posters to all governorates to be posted in health facilities also **Updating, printing & distribution** of the Surveillance guide lines was done in December 2014.

Particular Surveillance Challenges:

- Security situation in some areas hampering surveillance activities.
- Sensitivity:
 - AFP rate exceeded the target nationally, but there are subnational gaps in Al Raqqa, Dier Al Zour, Idlib, Aleppo, and Al Hassakeh.
 - Stool adequacy rate achieved nationally. Only 2 governorates (Deir Al Zour, Al Raqqa) did not achieve the target in 2015.
- Coordination with GZ hub to include AFP cases in one line list for whole Syria.

Facilitating Factors:

The main facilitating factors could be summarized in Political commitment, Strong partnership, Community demand for vaccination which is still intact, Technical and financial support from WHO and UNICEF, Strong commitments of EPI staff at all level especially field vaccinators, Strong community trust in MoH vaccines & The mapping of hard to reach and areas where children are at risk of being missed are continued after each SIAs round ,also using data from IM in order to take appropriate action to raise the coverage rate.

The WHO country office in Syria has recruited 12 Focal Points responsible for EPI/PEI activities in 12 governorates except Tartous & Lattakia which are covered by MoH. They are respected and accepted by the community. WHO Focal Points used to support technically & financially the NIDS activities, RI & surveillance & also following on vaccine delivery. The Focal points submit weekly reports on the activities to WRO.

Implementation & activities are mainly monitored by WHO Focal Persons, NGOs working in non-health activities are indirectly reporting the missed areas Through AFP indicators, Post Campaign Monitoring & through EPI regular reporting

Difficulties & Challenges

- Difficulties in estimating the accurate number for under 1 children & under 5 children inside the country at all levels. NIDs info is used for the estimation.
- Inaccessibility: The situation is unpredictable; this leads to difficulties in planning to reach all targeted children .
- Insecurity which leads to movement difficulties of mobile teams & weak supervision in high risk areas.
- Change of administrative borders in conflict areas: The areas are changing according to the group controlling therefore some pockets might be missed

- Internally displacement and continuous movement of population from hot areas lead to difficulty in vaccinating them & also improper calculation of target children.
- Shortage of vaccines at national level, UNICEF is trying to fill the gap but remains the global shortage of vaccines
- Difficulties in vaccines delivery especially to hard to reach areas WHO & MoH are working hard to facilitate vaccine delivery through innovative processes using official & non official channels (by plane to Al Hasaka then by road to DZ, by road to Al Raqqa then to DZ, From Al Hasaka to Aleppo by road).....,
- The inappropriate benefit package to the health workers in the program, a considerable numbers of personnel leaving the program for various reasons due to migration, transfers to other programs or to other health facilities.
- Health centers that became out of service 539 out of 1622, only 824 are fully functioning while 438 are partially functioning, which is compensated by Reach out teams covering the same area.
- Supervision related problems: The reduced supervision at all levels (i.e. central, district & area), leading to the deterioration of program quality level in some areas. WHO supports supervisory visits at all levels.
- Negative perceptions and rumors compromising the program. That was compensated by communication activities through media & pediatricians association.
- Weak reporting for RI activities from some districts.

Role/coordination of partners' input:

The main Partners are Ministry of Higher education, Ministry of education, UNRWA, Syrian Arab Red Crescent (SARC), Women's Union, Youth Union , religious affairs Pediatricians Association, some partners facilitate Vaccine delivery like SARC, Social Mobilization is supported by UNICEF, while Reaching local communities specially in HRAs & monitoring are done by NGOs, Access to camps is supported by UNRWA. Also OCHA helps in interagency convoys delivering vaccines to HRA & besieged areas. A monthly meeting led by MoH is held with all partners to discuss activities and responsibilities.

Cross border coordination

The weak coordination with cross border operations through WHO sub offices leads to improper estimation of targets & vaccination rate, Due to political reasons NGOs not inclined to work with MoH in selected districts, in the ISIS controlled areas there is an inconsistent policies regarding vaccination.(Al Raqqa & DZ did not conduct any SIAs in the second half of 2015 through MoH. Although we have hold tOPV campaign at 2\2016

Working in ISIS controlled areas has its challenges and impediments which can be summarized in the following points; Routine immunization & NIDs are only conducted irregularly through fixed sites as per ISIS instructions; taking in consideration that mobile teams is the best strategy to reach all children in hard to reach areas e.g. Al Raqqa & Dier Al Zour, There is difficulty in vaccine delivery from Damascus to ISIS controlled areas, Lack of supervision in these areas & Lack of reporting data is a big challenge, Shortage of trained staff,

weak vaccine management & disruption of service delivery in ISIS areas; all are clear challenges facing EPI in ISIS controlled areas.

Way forward

- Adopting a dynamic strategy to deal with the rapid changing environment (e.g. pop movement, alternating accessibility of areas, peace windows...).
- Engagement of community leaders in the insecure areas.
- Continue negotiation with conflicting parties on the ground.
- Estimate inaccessible children and calculate the adjusted coverage.
- Allocate check point teams and at the border of insecure areas.
- Implementation of national multi-antigens vaccination campaigns as a temporary measure to improve immunity until routine immunization is fully restored