

Preventing Disease in the Time of War: Immunizations for immigrants and refugees, and challenges during humanitarian emergencies

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Outline

- Current public health context in the region and impact on immunizations
- WHO framework for immunizations in humanitarian emergencies
- Current activities in the region and challenges
- Conclusions

World Immunization Week, 24-30 April, 2018 #VaccinesWork

World Immunization Week, 24-30 April 2018

Protected Together, #VaccinesWork

20 February 2018 – World Immunization Week – celebrated from 24-30 April 2018 – aims to highlight the collective action needed to ensure that every person is protected from vaccine-preventable diseases. This year's theme: "Protected Together, #VaccinesWork", encourages people at every level – from donors to the general public – to go further in their efforts to increase immunization coverage for the greater good.

[Campaign essentials](#)

Protected Together

#VACCINESWORK

WHO

116.5 million

During 2016, 116.5 million infants worldwide received 3 doses of diphtheria-tetanus-pertussis vaccine, protecting them against infectious diseases that can cause serious illness and disability.

84% drop

In measles deaths between 2000 and 2016 worldwide, due to measles vaccination.

3 countries

Polio cases have decreased by over 99% since 1988. Today, only 3 countries (Afghanistan, Nigeria and Pakistan) remain polio-endemic, down from more than 125 in 1988.

Emergencies in the Region

- **62 million** people in need of health care as a result of emergencies – 50% of all people in need globally
- **30 million** people displaced (internally and in neighboring countries)
 - 9 million refugees originate from EMR
 - 21 million internally displaced in EMR
- **3 Level 3** emergencies in Syria, Iraq, Yemen
- Greatest number of **longstanding** emergencies
- **Factors** associated with mass population movements and resettlement increasing **risk** for VPDs:
 - overcrowding;
 - poor hygiene and sanitation,
 - lack of safe water;
 - Poor nutrition
 - Poor access to health care)

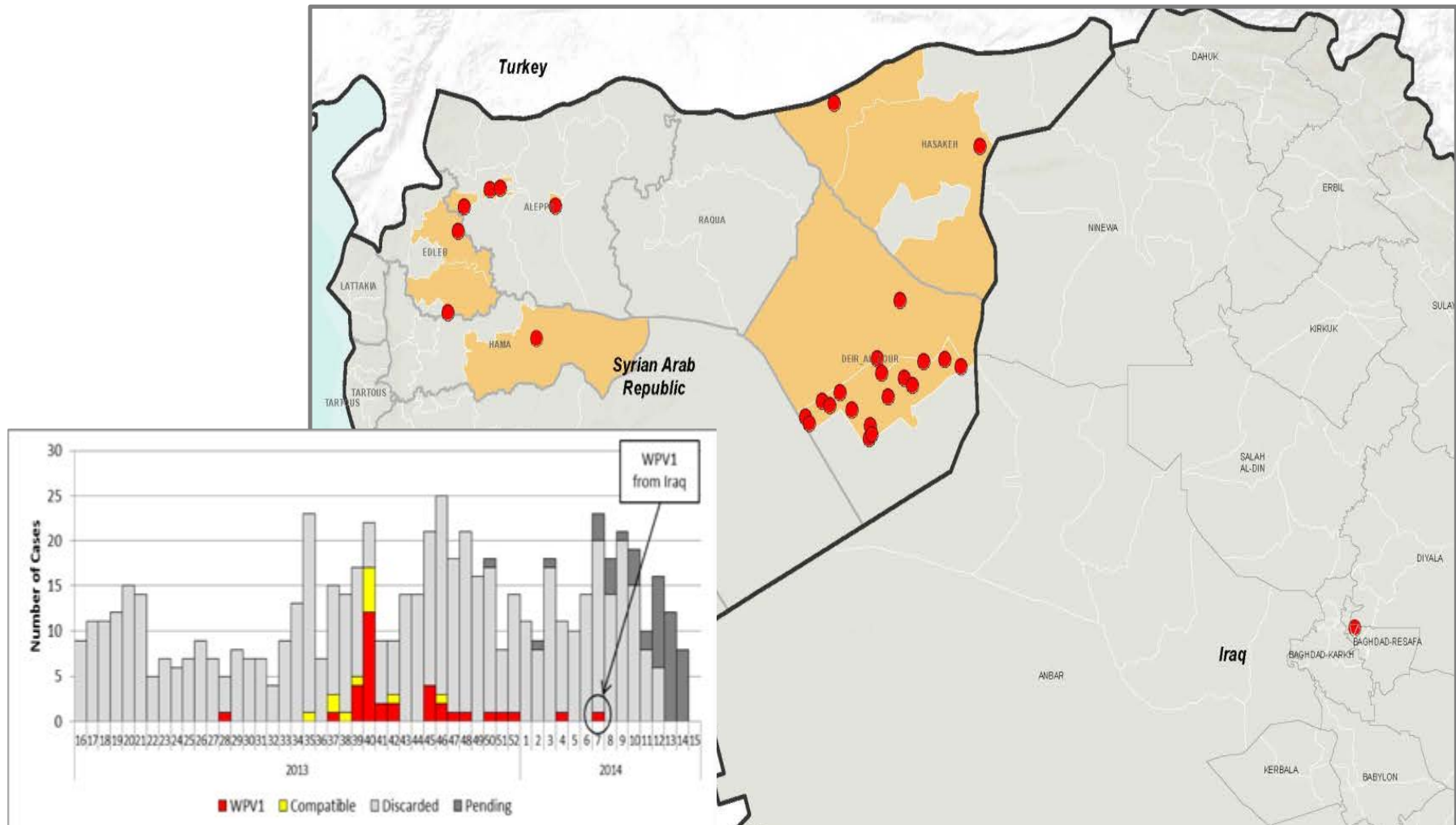


Immunization Program under the Humanitarian Emergency in the EMR

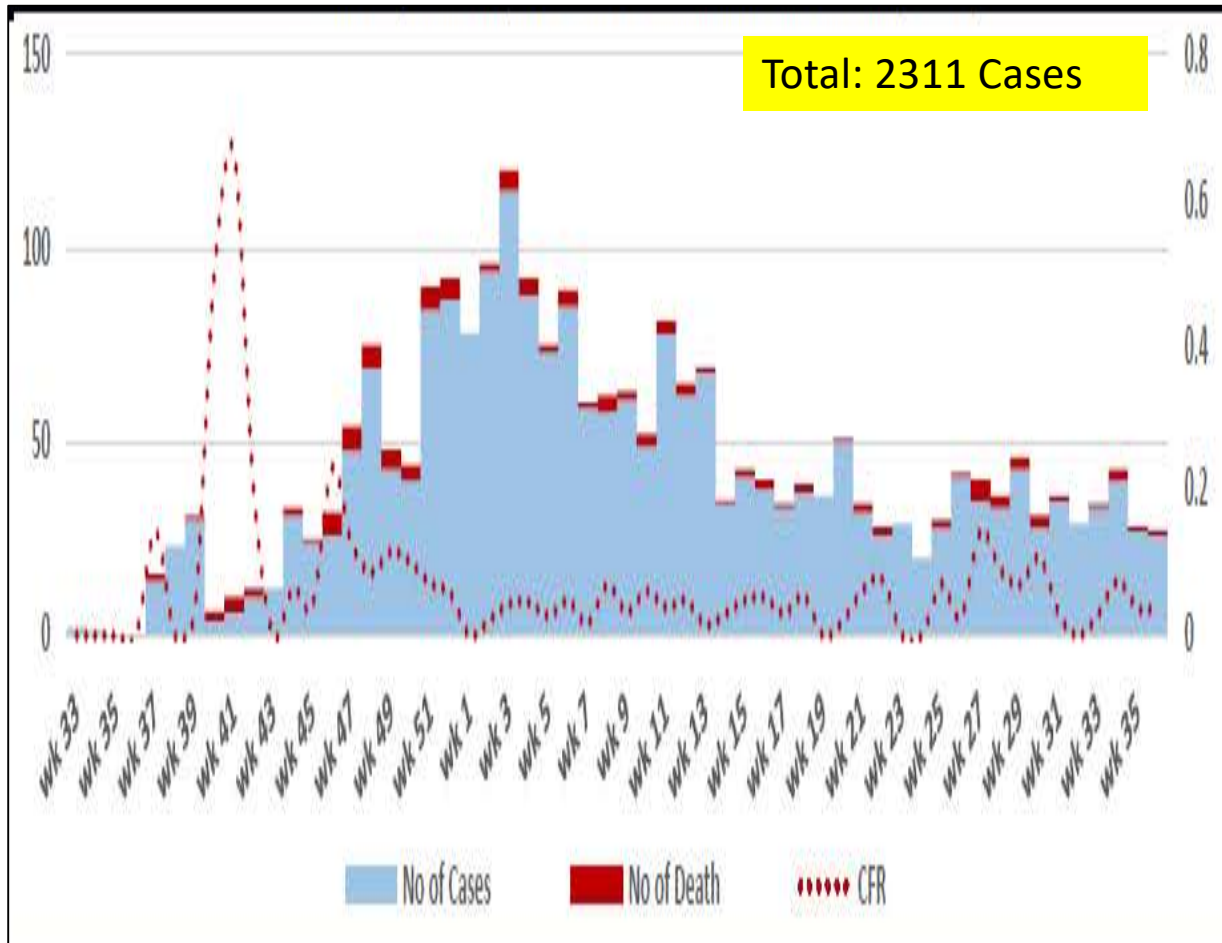
- Massive refugee influx to neighboring countries stretched the health system
- Remarkable efforts to maintain immunization programs in conflict affected countries and to reach every child with life-saving vaccines, even under the active war
- Successful interventions in Syria, Yemen, Iraq, Libya, Egypt,...
- Almost all EMR countries that have not achieved the GVAP target of routine immunization coverage are those affected by acute or protracted emergency situation



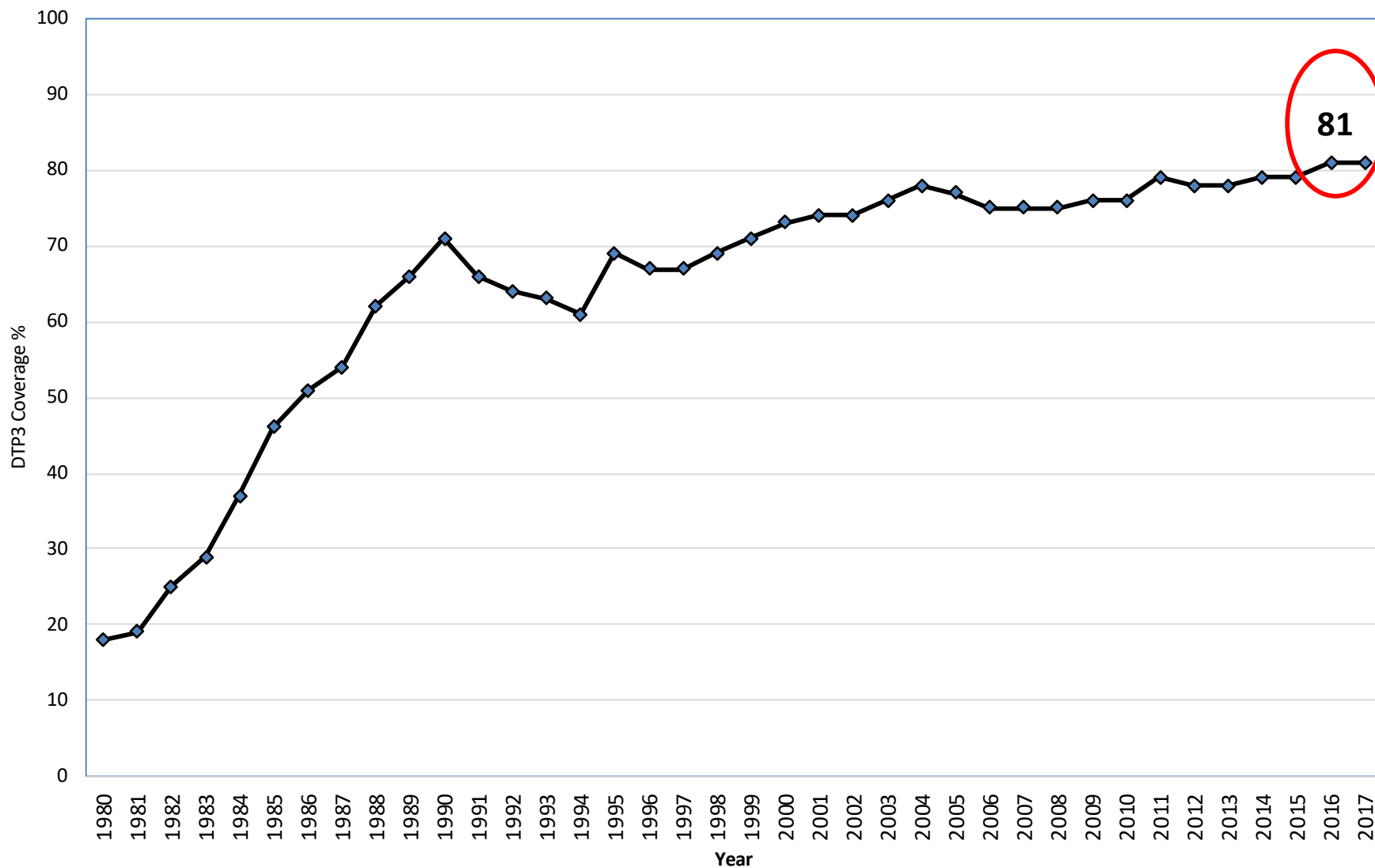
WPV Cases in Syria and Iraq, April 2013 – March 2014



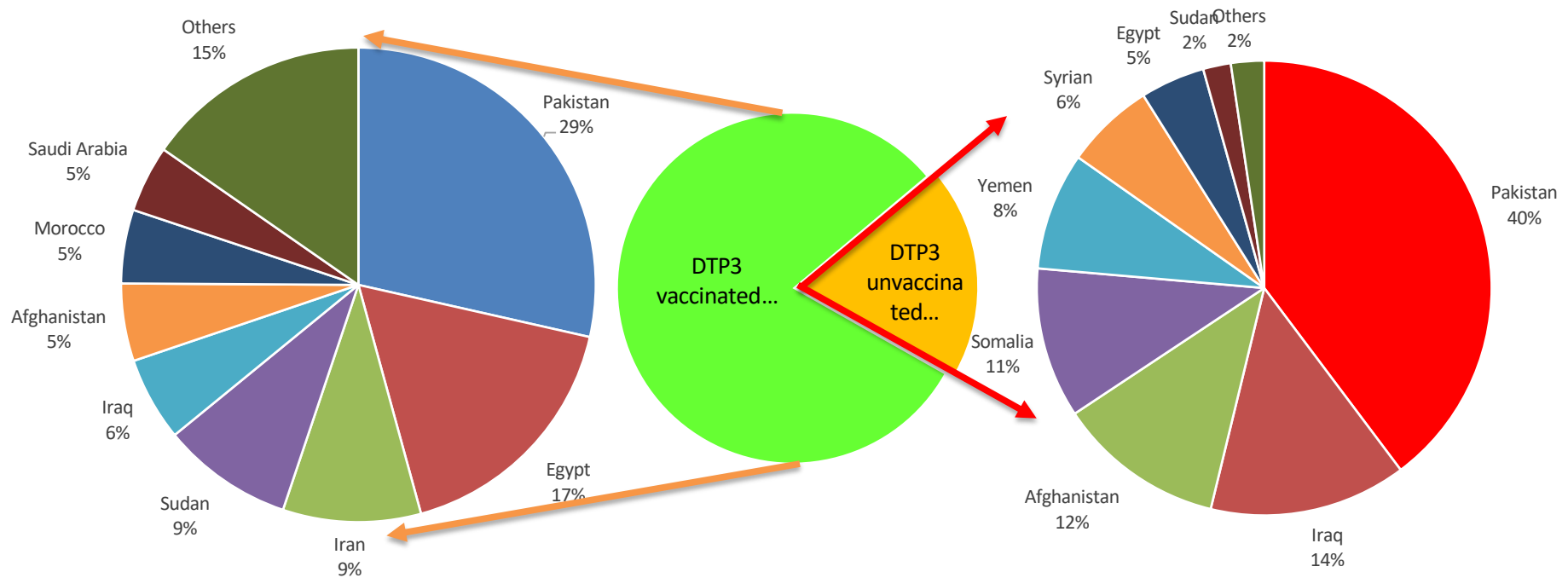
Diphtheria outbreak, Yemen, Oct. 2017-Sept. 2018



**Immunizations - Impact of conflict:
WHO-UNICEF estimates of DPT3 coverage in the Eastern Mediterranean
Region, 1980-2017**

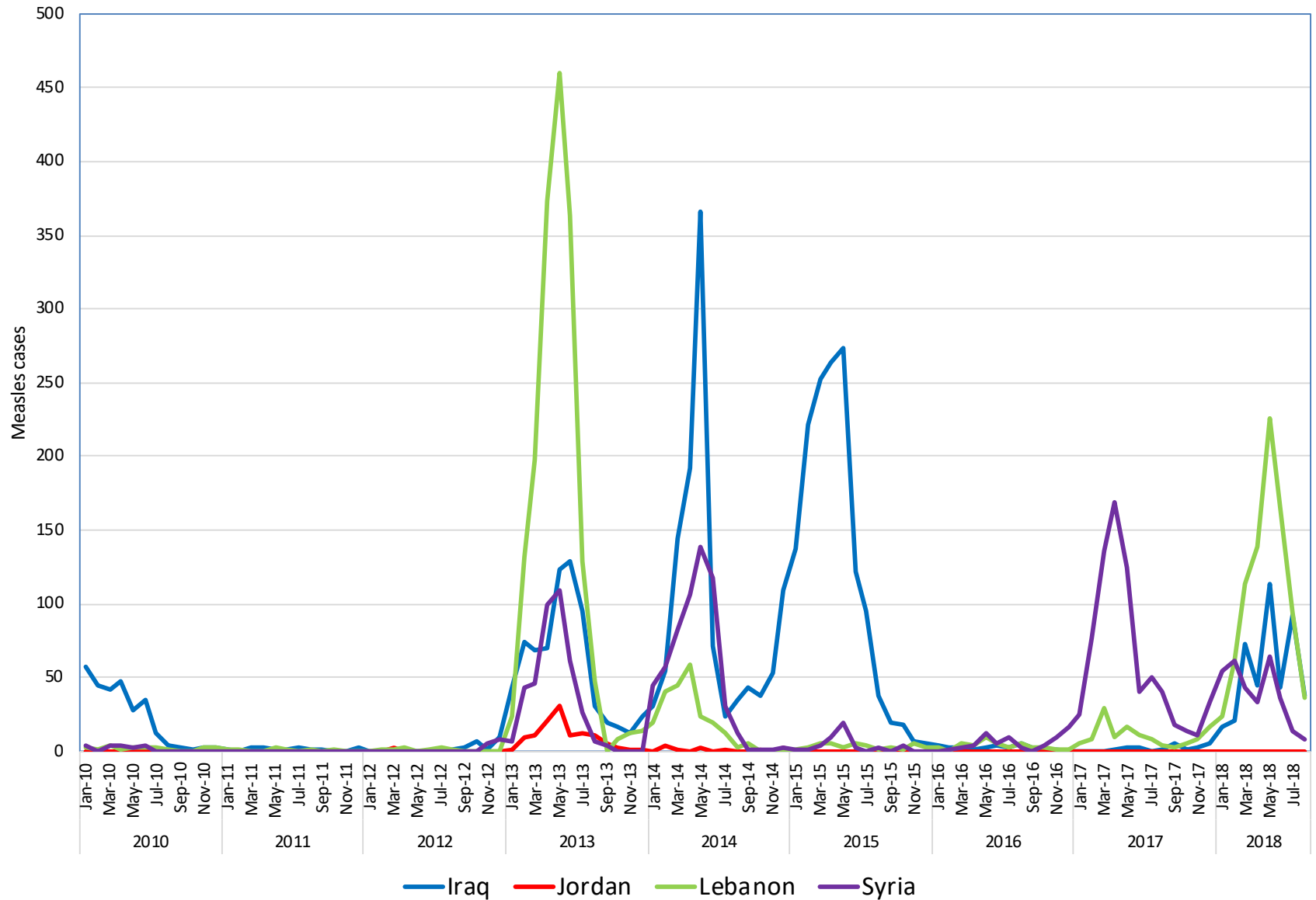


3.2 million infants have not received their third dose of DTP vaccine in the EMR in 2017, >90% of them are in the conflict-affected countries



Source: WHO–UNICEF estimates

Trend of Measles in Iraq, Syria, and neighbouring countries, 2010-2018 August



Source: EMRO measles/rubella surveillance data base

Vaccination in acute humanitarian emergencies: A framework for decision making

(http://www.who.int/immunization/documents/who_ivb_17.03/en/)

The Strategic Advisory Group of Experts (SAGE) on Immunization stressed the need to develop guidance on use of vaccination in humanitarian emergencies to:

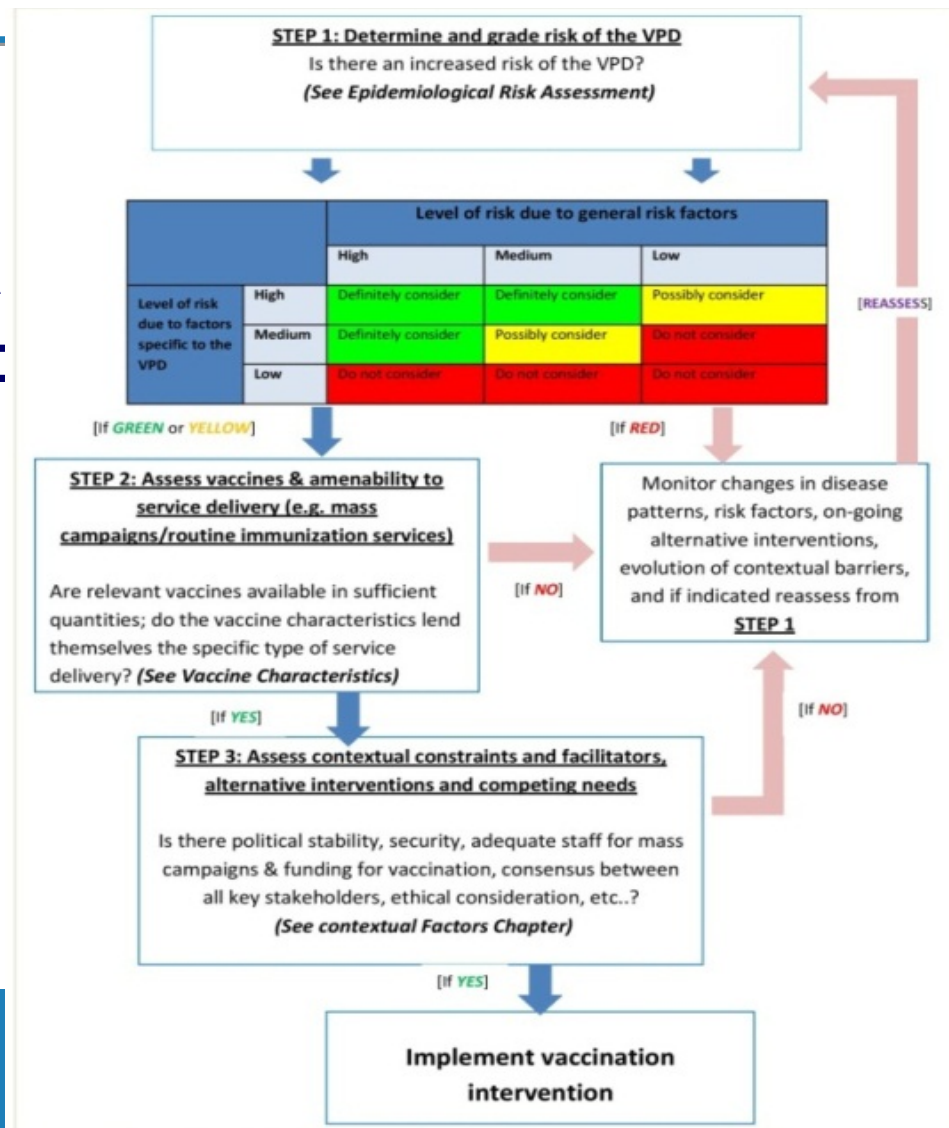
- **Provide an evidence-based approach to assist decision-makers on the use or non-use** of vaccines
- **Foster agreement among stakeholders** on vaccines to use
- Framework developed by SAGE working group, **released 2013**
- Package of documents to guide implementation in development



Vaccination in acute humanitarian emergencies: A framework for decision making

3-step approach to assess which vaccine(s) to use in the context of a humanitarian emergency:

- All potential vaccines (including routine if disturbed)
- Short term impact unless protracted crisis



Vaccination in acute humanitarian emergencies: A framework for decision making

- STEP 1: Assessment of **general risk factors** and assessment of **risk factors specific to the vaccine-preventable disease**.

		Level of risk due to general factors		
		High	Medium	Low
Level of risk due to factors specific to the VPD	High	Definitely consider	Definitely consider	Possibly consider
	Medium	Definitely consider	Possibly consider	Do not consider
	Low	Do not consider	Do not consider	Do not consider

Table 3

Worksheet for determining the presence of key general risk factors

Risk factor	Main effects on VPDs	Key questions to ask	Possible indicators to consider
High prevalence of malnutrition	Increased risk of infection, disease progression and case fatality	<p>Is there evidence of a nutritional crisis, either already established or unfolding?</p> <p>Is there an unusually high prevalence of acute and/or chronic malnutrition, among young children or the general population (e.g. history or reports of specific micronutrient deficiencies especially vitamin A)?</p>	<ul style="list-style-type: none"> Prevalence of acute malnutrition among children 6–59m old $\geq 15\%$ or $\geq 2\%$ measured within the last three months, above and beyond seasonal levels Average nutritional intake or food ration < 2100 kcal per person per day <ul style="list-style-type: none"> Deteriorating food security indicators (e.g. price of staple foods or livestock; yield of last harvest)
High burden of chronic diseases	Increased risk of infection, disease progression and case fatality	Is there an unusually high burden of chronic diseases in the general population?	<ul style="list-style-type: none"> Prevalence of chronic diseases including diabetes, cardiovascular, cancer, immunosuppressive drugs and renal diseases in the general population Medium- to high-income population
Young population and/or high birth rate	Greater pool of susceptibles for VPDs mainly affecting children. Higher herd immunity threshold	Are there a high number of children? Is there an increase in deliveries?	<ul style="list-style-type: none"> Proportion of children aged under 5y $\geq 15\%$ Crude birth rate ≥ 30 per 1000 people per year



Vaccination in acute humanitarian emergencies: A framework for decision making

- STEP 2: Consideration of **vaccine characteristics** and **amenability to the envisaged service delivery**
 - Vaccine availability in sufficient quantities
 - Time till protection
 - Vaccine efficacy at full schedule and efficacy at less than full schedule as well as vaccine effectiveness
 - Vaccine safety
 - Storage and cold-chain requirements
 - Implementation considerations



Table 12: Characteristics of potential vaccines to be considered as part of the intervention^{1,2}

Antigen ³	Presentation ⁴	Full course	Efficacy at full course ⁵	Efficacy at 1 dose	Efficacy at 2 doses	Target age ⁶	Packaging	Stability	Cold-chain volume (cm ³ /dose)
BCG	BCG	1	50% all TB. Fulminant TB in infancy >70%	50% all TB. Fulminant TB in infancy >70%	n/a	Neonates	10,20 dose vial	VVM14-30	10 dose: 1.33-2.25 20 dose: 0.54-2.6
Cholera	<u>Dukoral</u> ®	2-3 doses	~70%	-	~70%	≥2 years	1 dose	-	1 dose: 136
	<u>Shanchol</u> ®	2 dose	≥ 65%	-	≥ 65%	≥1 year	1 dose	-	1 dose: 16.8
	<u>Euvichol</u> ®	-	-	-	-	≥1 year	1 dose	-	1 dose: 11
Diphtheria, Tetanus, Pertussis, Hib, and <u>HepB</u>	DTP (liquid)	3	>90%	Varies with antigen. For the pertussis antigen, a primary series of both whole-cell (wP) and acellular (aP) pertussis vaccines significantly decrease disease-related mortality in the first year of life though the use of aP vaccines may result in a resurgence after	-	≥6 weeks to <7 years, pregnant	1,10, 20 dose vial	Do not freeze	1 dose: 2.53- 26.1 10 dose: 2.11-2.46 20 dose: 2.43

Vaccination in acute humanitarian emergencies: A framework for decision making

- STEP 3: Assessment of **contextual constraints** and **facilitating factors**.

- Ethical considerations
- Political considerations
- Security considerations
- Human resources
- Financial considerations
- Alternative interventions
- Add-on interventions
- Research considerations



8.2 Risk-assessment worksheets

8.2.1 *Cholera disease-specific risk factors*

Factor	Risk level			Comments
	High	Medium	Low	
Population immunity	<ul style="list-style-type: none"> The population does not experience year-round cholera transmission, <u>and</u> No vaccination has taken place before <u>or</u> A vaccination campaign was conducted ≤ 3 years ago with coverage $< 50\%$; <u>or</u> > 3 years ago and no booster dose ≤ 3 years ago/booster dose ≤ 3 years ago with coverage $< 50\%$ 	<ul style="list-style-type: none"> A vaccination campaign was conducted ≤ 3 years ago with a coverage of $50\% - 79\%$; <u>or</u> > 3 years ago with coverage of $\geq 50\%$ and a booster dose campaign ≤ 3 years ago with coverage of $50\% - 79\%$ 	<ul style="list-style-type: none"> All other situations, i.e. absence of criteria warranting "high" or "medium" classification 	Current vaccines afford, cumulative protective efficacy of the vaccine at 5 years was 65% (95% CI 52–74; $p < 0.0001$) and confer strong transmission reduction effects, even at low coverage. Most cholera vaccines require more than one dose and efficacy varies according to doses received
Burden of disease	<ul style="list-style-type: none"> The area has experienced one or more large outbreaks in the past 5 years An outbreak is currently ongoing 	<ul style="list-style-type: none"> The area has experienced one or more outbreaks in the past 5 years, but none of them large 	<ul style="list-style-type: none"> Non-endemic area with no obvious mechanism of introduction. 	The area refers to where emergency-affected people are currently living, and could be a city or a district/region. A large outbreak could consist of > 100 cases or > 10 deaths ($> 1\%$ CFR).
Geography, climate and	<ul style="list-style-type: none"> Widespread flooding resulting in potential large-scale contamination of water supply with excreta; dry weather 	<ul style="list-style-type: none"> The population lives alongside and gets water from a large body of water (river, estuary, lake) Warm surface water 	<ul style="list-style-type: none"> Minimal contamination of water supply; good water and 	

Implementation guide

1. Defining acute humanitarian emergency and target audience
2. Architecture of the response structure: Leadership, management, coordination and partnership
3. Planning and implementing of the immunization intervention
4. Reporting and periodicity
5. Monitoring, evaluation and supportive supervision
6. Exit strategy and early recovery of immunization services
7. Annexes: (Example of micro plan, Country case studies)

Issues to consider



- Vaccine Supply: Introduction of vaccines in accordance with the country regulatory framework:
 - Timelines of standard regulatory pathways not appropriate
- Specific alternative procedures can be considered in such cases:
 - Waiving of registration requirements for vaccines supplied by the UN
 - Waiving of registration requirements for vaccines produced and registered by countries with a functional NRA
- Regulatory planning required
- Customs considerations for timely importation
- Mechanism for access to vaccines at lowest price for use in emergency (compassionate use, strictly for emergencies, flexibility ...)

Case study – PCV for Syria

- A large NGO wanted to introduce PCV in Northern Syria:
 - Risk assessment: kids under 5 at increased risk for pneumonia due to poor nutrition and housing situation
 - Vaccine characteristics: PCV very effective for pneumonia, Hib already in routine EPI, safe
 - Country context: PCV not in routine immunizations
 - Cost: NGO negotiated low price
 - Ethical issues: could it be given to all kids in affected areas?
 - Logistics: will need to train HCW, but not too difficult
 - Demand: OK

Efforts for strengthening immunization programmes and achieving the targets under difficult situations

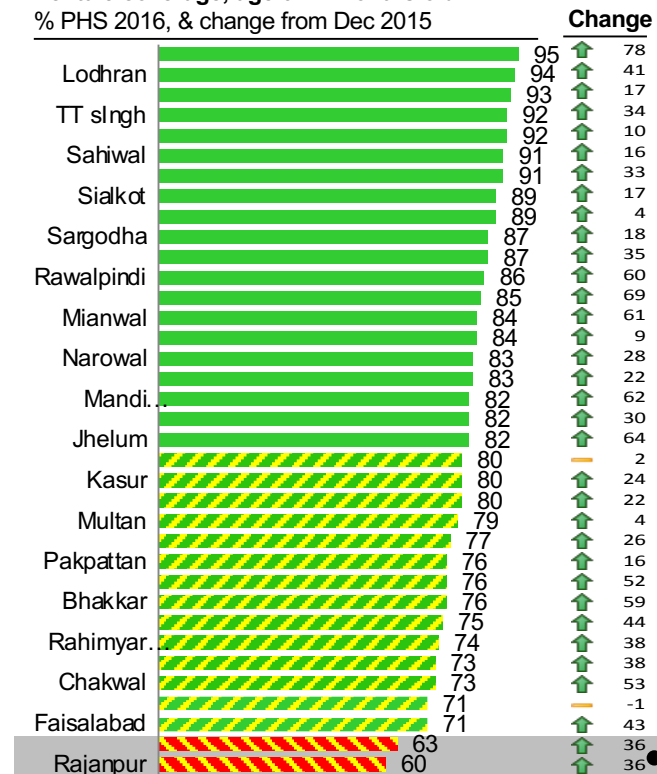


Striving to overcome long standing challenges in low performing districts - Pakistan



- Increase in HR
- Priority for capacity building
- Vaccine and logistic supplies
- Cash incentives for vaccinators and managers

Penta 3 coverage, age 6-11 months old
% PHS 2016, & change from Dec 2015



Multi antigen immunization campaign in hard to reach areas, Syria 2016



Supporting capacity through training and country plan (cMYP) development

Providing Pentav., MR, OPV and IPV

Reaching >90% coverage in cross border activities despite the active war

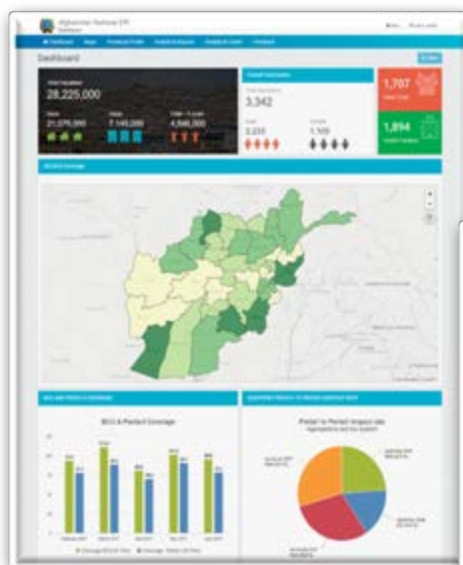
Rebuilding the system of RI in N. Syria: Service Providers Guidelines 2017

[illegible][illegible]

Integrated interventions, Syrian settlements in Lebanon



Afghanistan: identified the unreached populations to improve RI EPI Dashboard



EPI Dashboard provides real-time user access to analysis, reporting and to generate trends and analysis which will help in making evidence based planning and reporting

Measles SIAs in Pakistan Oct. 2018 - 32 million children targeted! >90% coverage reached in most areas



Yemen: response to outbreaks and multi antigens campaigns – example of strong demand !

- 3 rounds of intensified multi antigens activities in 2018
- 3 rounds of vaccination campaigns in response to diphtheria outbreak



Iraq: Facing multiple challenges

Iraq: A complex of deserted government buildings hosting IDPs



Iraq: SIAs in IDPs and refugee Camps



Iraq: RI in IDPs and refugee Camps



National MR SIAs
September 2015:
coverage 94%



World Health
Organization

Reaching the hard to reach in Sudan



Somalia, 24 years of conflicts

IDPs



CHDs



MCV



DTP



Vit A



Deworming



TT



Conclusions

- Conflicts and humanitarian emergencies lead to reemergence and increase risk for VPDs
- A framework for use of vaccines during emergencies is available
- Need careful situation analysis and coordination among key stakeholders to ensure rapid access to life saving vaccines

*“The deterioration in the public health situation in the Eastern Mediterranean Region is of an **unprecedented and dramatic scale**..... an immense threat to health security globally...”*

*Sustaining immunization activities and preventing VPD outbreaks during conflicts is very difficult and requires **massive and adequately coordinated efforts** by all parties, **since the health of populations and children should transcend all political considerations.***



Editorial

Vaccine preventable diseases and immunization during humanitarian emergencies: challenges and lessons learned from the Eastern Mediterranean Region

N. Teleb¹ and R. Hajjeh²

The last few years have seen the WHO Eastern Mediterranean Region suffer from multiple wars and conflicts leading to humanitarian emergencies of

2014, other VPDs resurged in the Syrian Arab Republic, including measles and pertussis. Both Jordan and Lebanon faced large outbreaks of measles due to

as well as countries hosting refugees in the Region (5).

While concerted partners' support was a key factor for accessing required



*Much appreciation to the health workers
who work hard to ensure continuity of EPI
under
very difficult circumstances*



THANK YOU



**No Child
should die
from a
vaccine
preventable
disease.....**