



Immunisation supply chain interventions that enable coverage and equity and contribute to resilient systems

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16th TechNet Conference

Shaping a resilient and adaptive immunization program



Immunization supply chain interventions that enable coverage & equity & contribute to resilient systems

Michelle Seidel



16th TechNet Conference

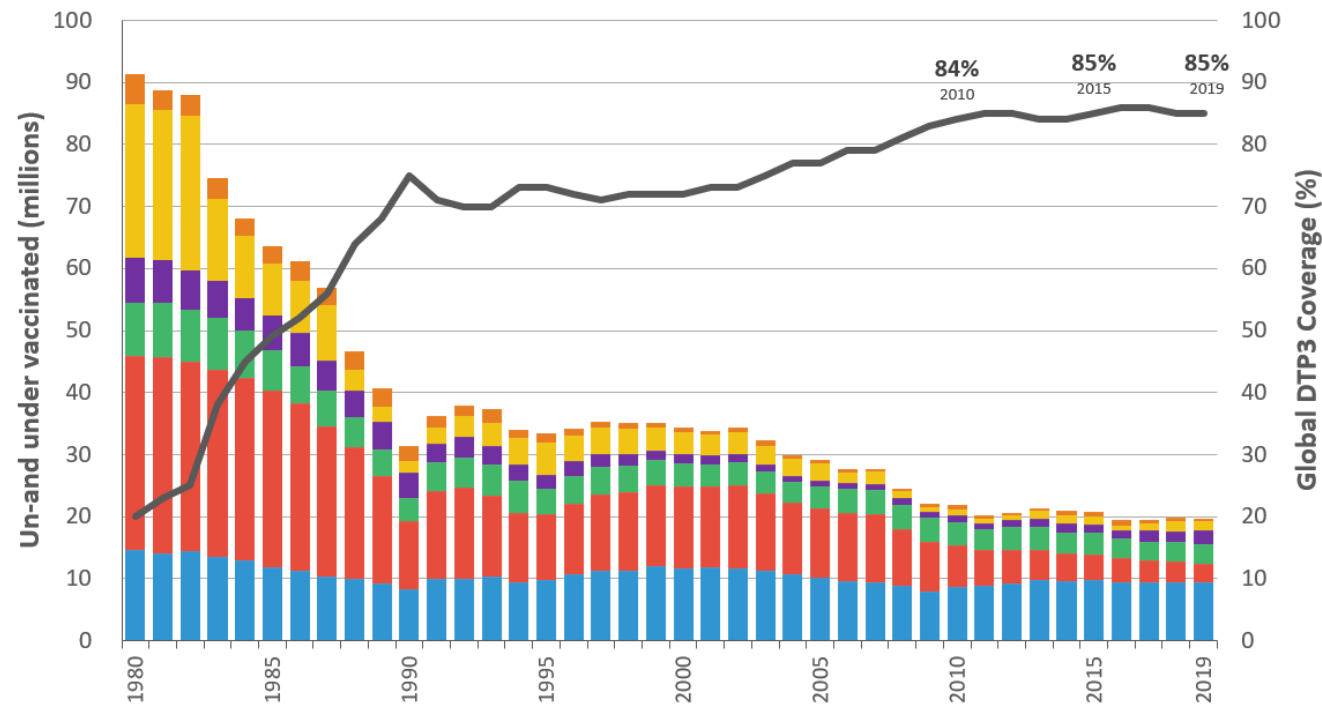
Shaping a resilient and adaptive immunization program

Against a backdrop of disrupted services due to COVID-19 - WUENIC 2019 data shows continued stagnation

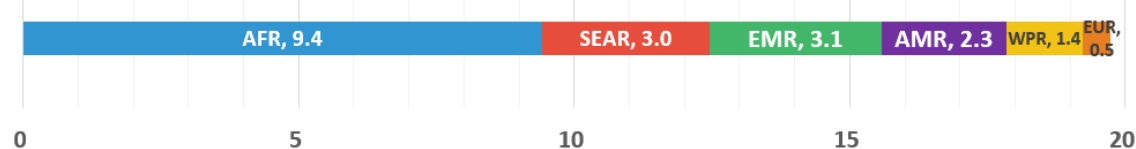
Release 15th July 2020



Almost 9 out of 10 children reached in 2019, but almost 20 million children un-or under vaccinated



19.7 million un-and under vaccinated children in 2019, by WHO region



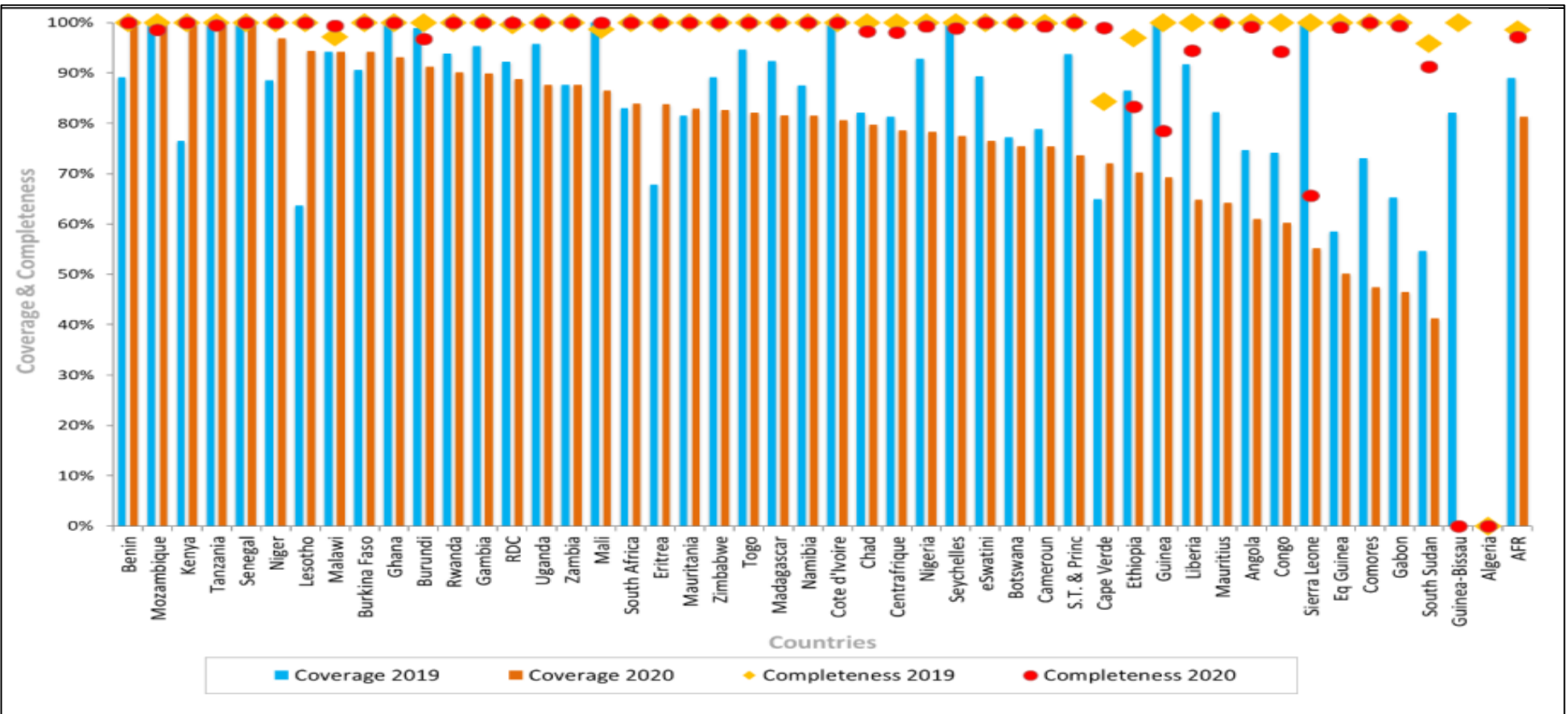
Coverage of a third dose of vaccine protecting against diphtheria, tetanus, and pertussis (DTPcv-3) remains at 85% in 2019, leaving 19.7 million children vulnerable to vaccine preventable diseases

The key goal of the Immunization Agenda 2030 is to make vaccination available to everyone, everywhere, by 2030.

While immunization is probably the most successful public health intervention, reaching 85% of infants is not enough. Coverage has plateaued over the last decade, leaving almost 20 million children unprotected. Almost half of these live in the African Region.



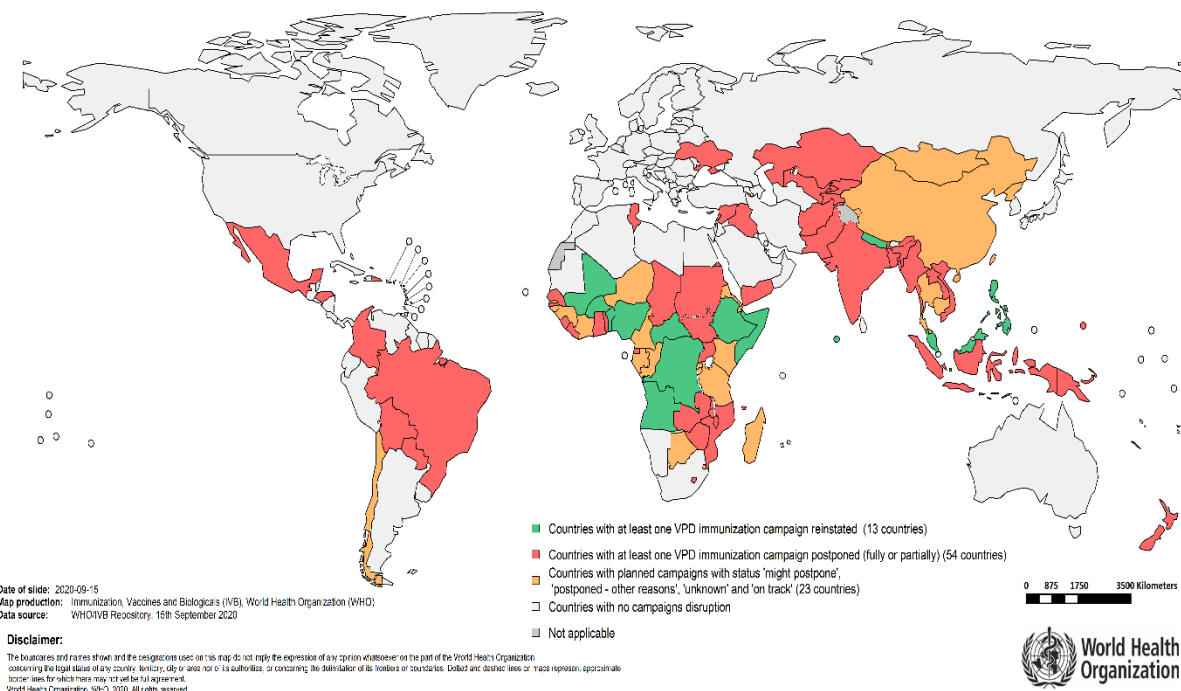
Impact on Immunization – Penta 3 Coverage (January- July 2019-2020)



- In AFR, ~ 1 million less children were vaccinated this year (first 6 months of 2020) compared to 2019
- 20 countries have >10% reduction in number of vaccinated children either for DPT3 or MCV1 for the first half of 2020 compared to the same period in 2019

Immunization Campaigns were also disrupted (as of 15th Sep)

Map showing countries where 1 or more immunization campaigns has been postponed as a result of COVID-19



48% measles campaigns (in **25 countries**) are still being postponed due to **COVID**, which has affected at least **74M** persons (*data as of 1 Sept).

Diseases/ Vaccines	No. of countries with postponed campaigns (fully or partially)	No. of campaigns postponed (fully or partially)	No. of campaigns postponed by regions					
			AFR	AMR	EMR	EUR	SEAR	WPR
Measles/ Measles Rubella/ Measles Mumps Rubella (M/MR/MMR)	25	26	5	8	2	5	2	4
Polio (IPV)	8	8	7					1
Bivalent Oral Poliovirus (bOPV)	11	13	4		4		3	2
Monovalent Oral Poliovirus Type2 (mOPV2)	8	13	7		3			3
Meningitis A (Men A)	2	2	2					
Yellow Fever (YF)	7	8	6	2				
Typhoid (TCV)	3	3	2		1			
Cholera (OCV)	5	6	3		1		2	
Tetanus (Td)	6	7	2		3			2
Total postponed	54*	86	38	10	14	5	7	12

*Total no. of countries with at least one VPD immunization campaign postponed (fully or partially)

THE WORLD IS TAKING A SERIOUS LOOK AT EQUITY

The Sustainable Development Goals
aim

**to reach the most
marginalized communities**

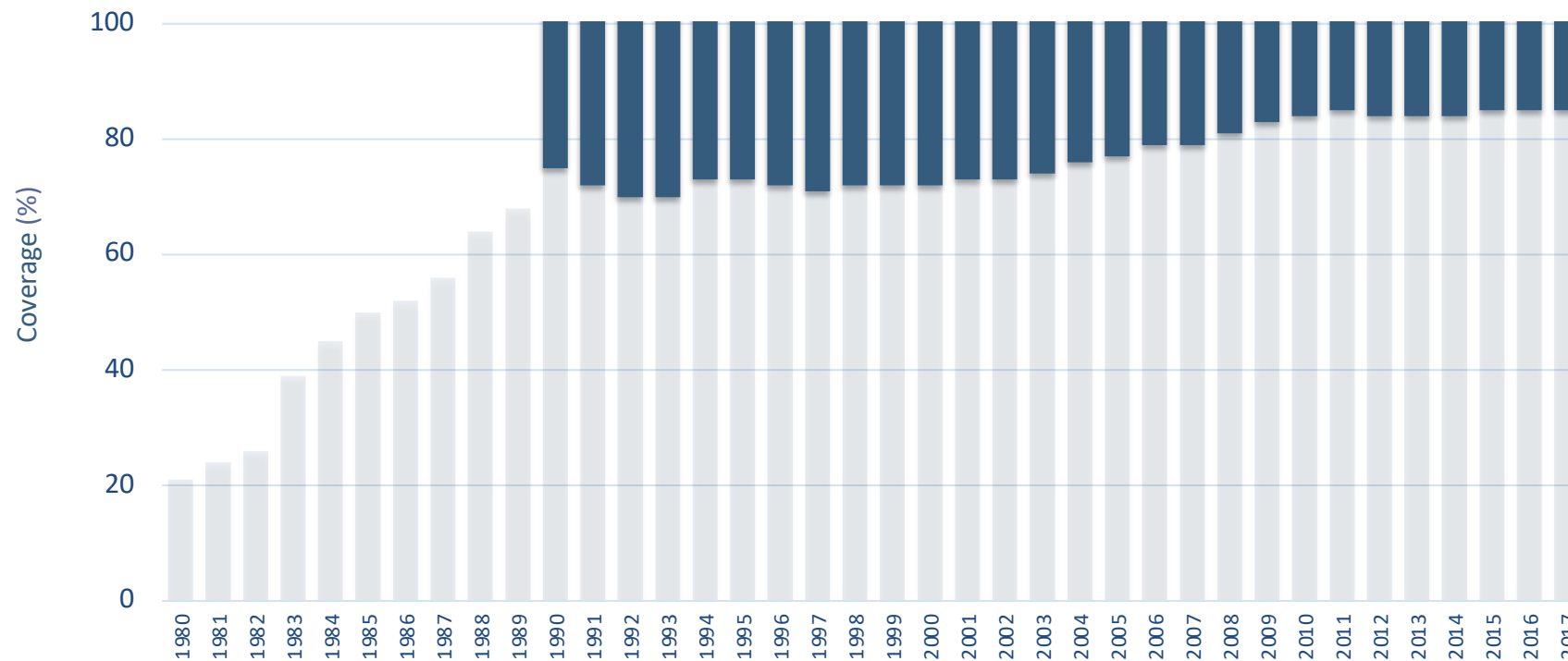




YET A CLOSER LOOK UNCOVERS PERSISTENT INEQUITIES

We continue to miss children
and we know very little about them.

GLOBAL IMMUNIZATION COVERAGE WITH THREE DOSES OF DIPHTHERIA,
TETANUS, AND PERTUSSIS (DTP3) CONTAINING VACCINES, 1980-2017



SUBNATIONAL DATA HELPS EXPLAIN WHERE THE CHILDREN ARE



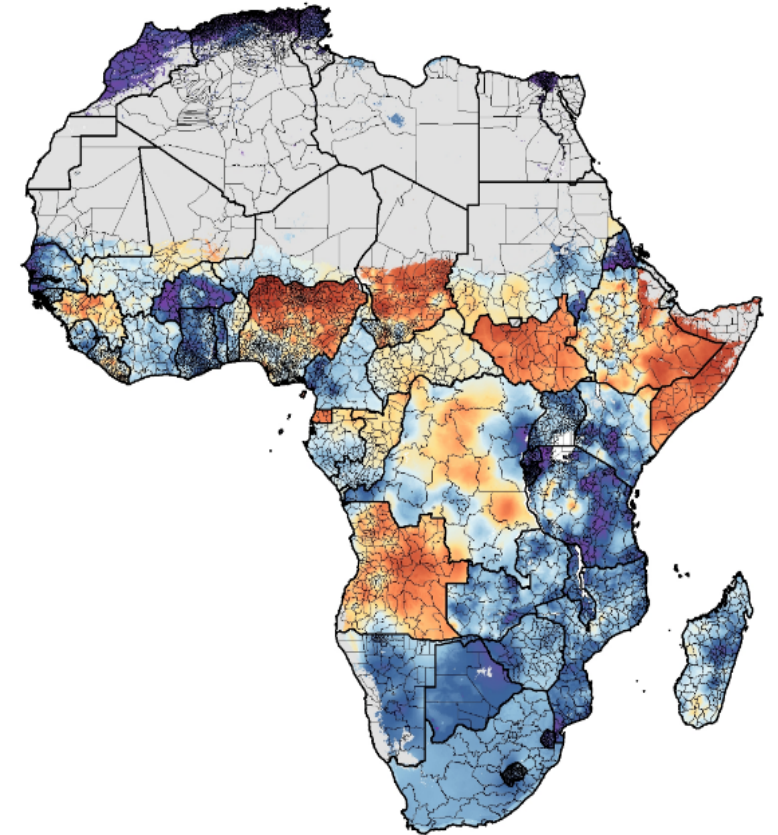
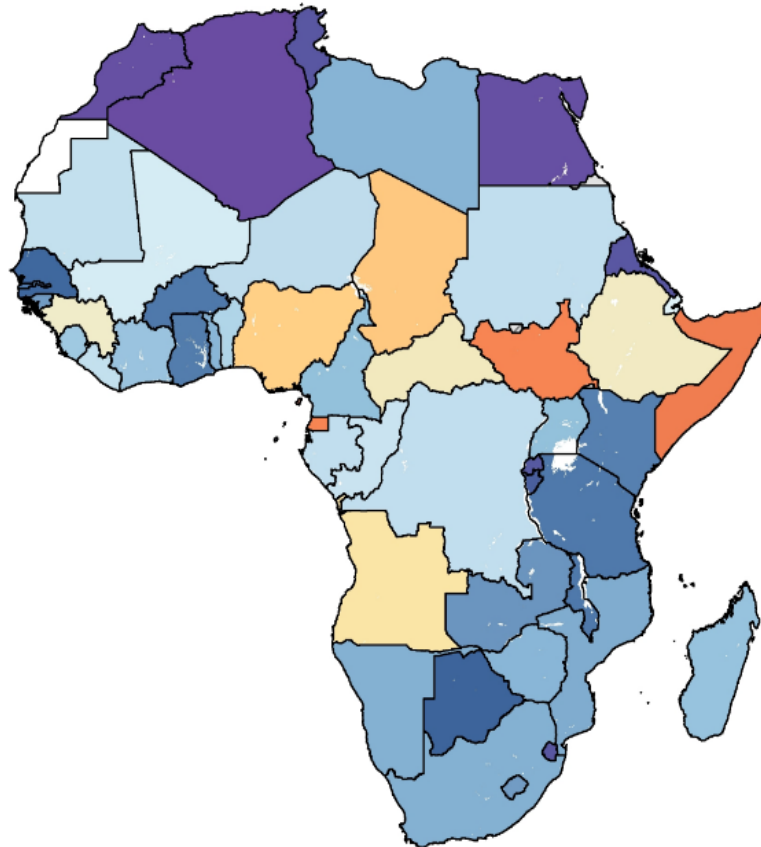
NATIONAL

5 KM

Proportion vaccinated:
DTP 3rd dose (%)



0 20 40 60 80 100



The ERG identified

FOUR PRIORITY AREAS OF IMMUNIZATION INEQUITY



REMOTE RURAL



URBAN



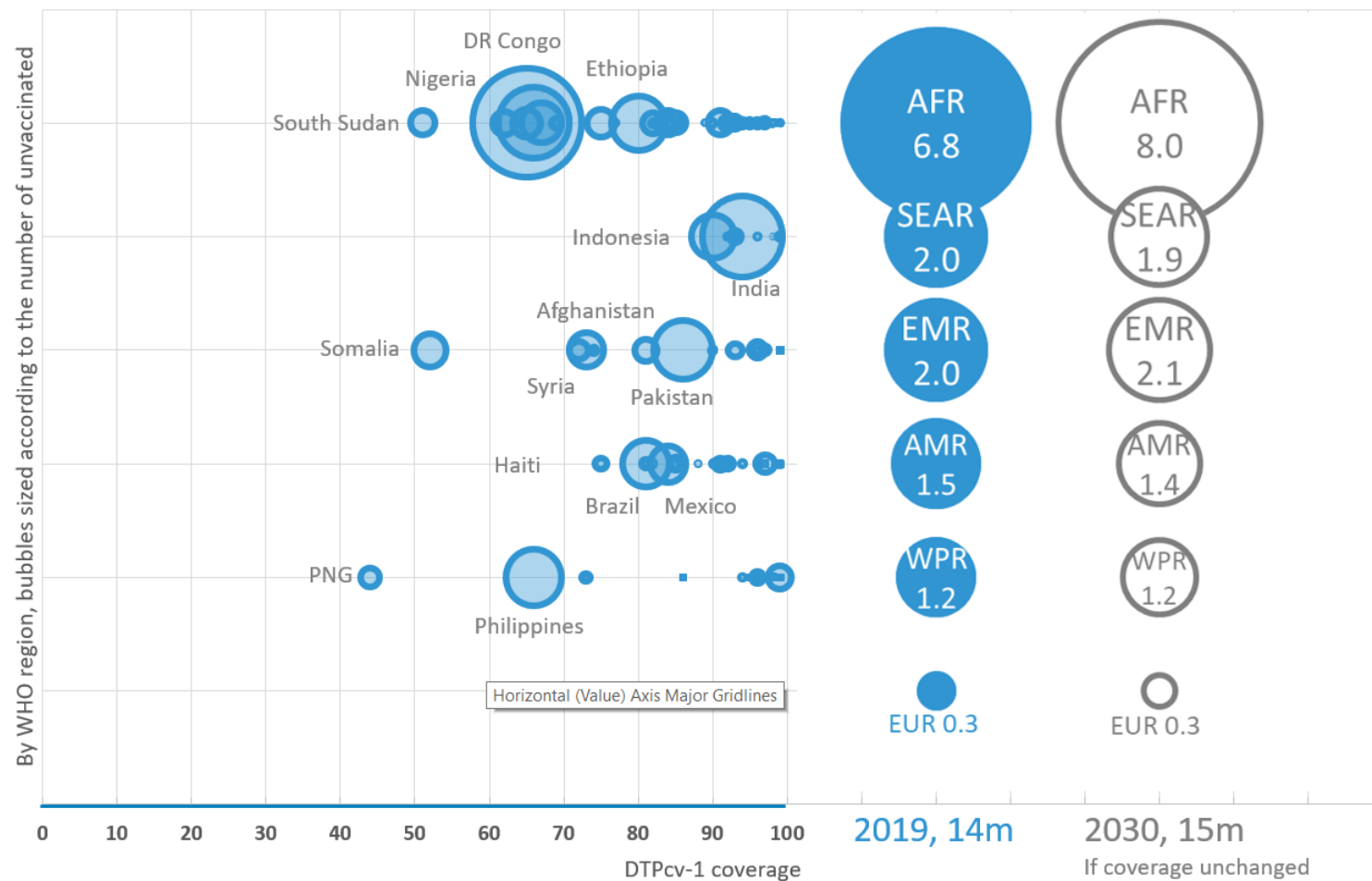
**AFFECTED BY
CONFLICT**



GENDER

Never reached children mostly live in Africa

The African Region and countries affected by conflict are home to large numbers of “zero-dose children*”



The 14 million children who didn't receive an initial dose of basic vaccines often lack access to immunization services and other health services.

Zero-dose children live disproportionately in the African continent and in countries affected by conflict. They are also likely to lack access to other health and welfare services and are subject to multiple deprivations.

Middle income countries such as the Philippines, Brazil, Mexico and Angola also have sizeable numbers of zero-dose kids.

If coverage is unchanged, by 2030, projected population increases in Africa will mean that 15 million children may be left out.

* Zero dose children defined as lacking DTP1

The challenging contexts to reach every child



Urban poor



- A lack of accurate, disaggregated data creates difficulty in identifying and tracking populations.
- Cultural differences and discrimination create social distance and disenfranchised communities, lead to a mistrust of the health system and influence health care-seeking behavior.
- Quality of services and lack of information impact access to immunization services, especially for low-income, working caregivers.
- A lack of political will to prioritize immunization services for disenfranchised communities.
- Residents of informal settlements may fear encountering public authorities, and authorities may be less interested in investing in residents of informal settlements.
- Multiple stakeholders and a lack of effective partnerships, particularly with private sector providers, reduce the ability to improve immunization equity.
- Insecurity and violent crime restrict access to public services, especially in slums.

Remote Rural



- The marginal cost of reaching remote rural populations is high, relative to other environments, due to low population density.
- Retention and motivation of personnel is impeded by resource-limited environments in rural areas.
- It is challenging to reach remote areas with potent vaccines at the right time due to the geographic remoteness.
- Remote rural populations have limited socio-political power, which limits access to health institutions and health services.
- Weak data and information on remote rural populations produce incomplete and underutilized data.

Conflict



- Damage to infrastructure, supply chain
 - Difficulty retaining health workers
 - Delivery of services amidst insecurity
 - Mistrust between authorities and communities
 - Population displacement and migration
-

Cross Cutting Levers in your supply chain which can be implemented with operational strategies



- Forecasts – increasing buffer stocks in targeted areas and adjusting forecasts to accommodate variations in target populations across the three settings
- Stratified budgets for each setting to ensure sufficient funding to meet the unique requirements of each setting
- Controlled Temperature Chain – using licensed vaccines outside of the cold chain
- Alternative vaccine presentations – utilizing smaller dose per vial presentations to encourage health workers to open vials and prevent missed opportunities where target populations are small
- Cold Chain Capacity – optimizing vaccine carrier and cold box carrier capacity for transportation and session sizes
- Cold Life/Range of passive devices- improving the range of passive devices to reach target populations
- Supply Chain Design- optimized to prioritize coverage and equity ahead of the usual efficiency indicators
- Integration of both services and commodities into EPI

Remote Rural Contexts



Challenges

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iSC Interventions

- Coordination with other programme interventions
- Community based involvement
- Cross-border teams and entry vaccination at border points or camps & establishment of temporary fixed site before the border for vx storage
- The use of long range passive containers and temporary storage sites to aid cross border teams and mobile teams
- Availability of mobile storage units
- Adequate storage capacity to accommodate buffer stock

Urban Poor Contexts



Challenges

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iSC Interventions

- Integration of services
- A focus on solarisation and larger storage capacity to manage the influx and uncertainty of the target population
- Partnerships with private sector
- System design to include increased distribution points
- Adaptation of health facilities operations to the context (i.e. flexible opening hours) will also provide opportunities for working caregivers to seek health services



Conflict Contexts

Challenges

- Damage to infrastructure, supply chain
- Difficulty retaining health workers
- Delivery of services amidst insecurity
- Mistrust between authorities and communities
- Population displacement and migration

iSC Interventions

- Resiliency in the supply chain
- The use of temporary storage sites and long range passive containers for “hit and run” teams
- Partnerships with military agencies
- Shock-proof passive containers

The full set of strategies can be found here



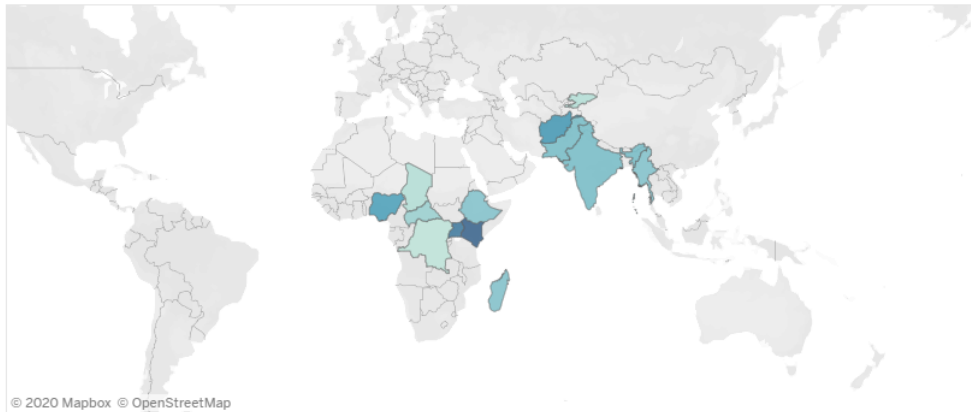
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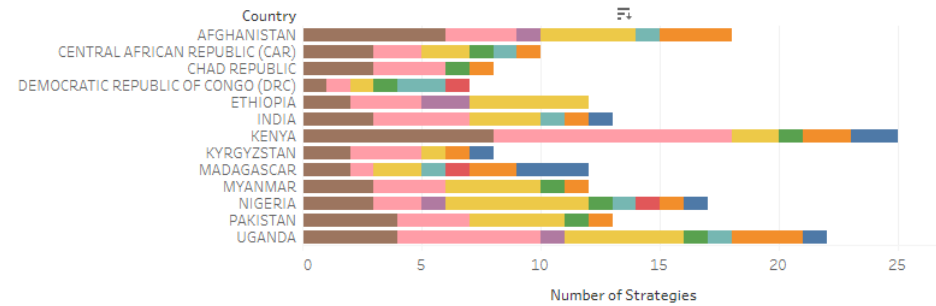
Pro Equity Strategies in select GAVI countries

CEA determinants of effective coverage: (All) Open Search

Primary Equity Domain: (All) Joint Appraisal Year: (All)



Frequency of Strategies by Country



CEA determinants of effective coverage

- Utilization
- Social norms
- Other
- Management & Coordination
- Legislation & Policy
- Human resources
- Environment
- Commodities
- Budget & Expenditures

Number of Strategies



Country	CEA determinants of effective cover..	Details	2016	2017	2018	
AFGHANISTAN	Commodities	Solar refrigerators temperature monitoring system with 30-day temp monitoring was installed (JA 2016, 2017, 2018)				
	Human resources	Using Non-financial incentives to reward vaccinators and encourage accurate reporting (JA 2018)			2018	
	Management & Coordination	Immunization Communication Network help with polio eradication, tracking of children who have missed their vaccines and community mobilization (JA 2018)				2018
		Immunization micro-planning conducted for urban slums and return camps in Kabul province (JA 2018)				2018
		Public Private Partnership (PPP) model as an innovation which provides basic reproductive and immunization services in the remote and insecure districts of six provinces in the country where both..				2016
		Revision of micro plans through GIS is close to completion (JA 2016)				2016
	Other	Operational research on Implementation of the data quality improvement plan (JA 2016)				2016
	Social norms	Dialogue with and engagement of local community and religious leaders is an effective bridge and link between HF and community (JA 2017)				2017
		Health workers use dialogue with, and engagement of local community and religious leaders as an effective bridge and link between HF and the community (JA 2017)				2017
		Specific training for female vaccinators so that women due for tetanus toxoid vaccines can receive their shots since males vaccinators are a barrier in this setting (JA 2018)				2018
Utilization	Establishment of additional community based outreach vaccination (CBOV 2) improving immunization service delivery in urban setting (JA 2018)				2018	
	High risk mobile populations are vaccinated by the 378 permanent transit teams (JA 2017)				2017	
	Immunization communication network - ICN (JA 2017 & 2018)				2017 2018	
	Supporting micro-planning through RED strategy using CHWs and BASIC tools to improve the immunization services (JA 2016)				2016	

<https://public.tableau.com/profile/unicef.health#!/vizhome/Pro-EquityImmunizationStrategies/Pro-EquityStrategies>

Conclusion



- COVID-19 provides the opportunity/necessity to push for “real” integration between the various immunization initiatives & into PHC for the most underserved:
 - At the global level (e.g. GPEI, M&RI, etc.)
 - At implementation level (routine fixed post & outreach; PIRI; multi-antigen SIA’s)
- The need to deliver services in a safe manner through a human centered design could enhance quality of services and enhance service experience and trust
- Immunization Agenda 2030 provides a framework to structure this under, including the linkages to PHC and UHC
- The cost to reach zero dose children will be more and needs to be considered in the budgeting processes
- Supply chains needs to be designed to maximise programmatic outcomes



“Immunization supply chain interventions that enable coverage and equity and contribute to resilient systems”

Eshioramhe Kelobo
Naeem Asghar



16th TechNet Conference
Shaping a resilient and adaptive immunization program

Four Priority Areas for Immunization Inequity



REMOTE RURAL



URBAN



**AFFECTED BY
CONFLICT**



GENDER

Using Supply Chain Interventions to address Equity



- Four major interventions have been used to reduce inequity in Pakistan
 - CCEOP priority consideration to reach unimmunized children
 - System design consideration to address equity
 - Through Urban profiling
 - Equity analysis of all districts that identified districts with large number of zero dose & unimmunized children
- While the CCEOP & System design were direct intervention, the other 2 provided the platform targeted iSC intervention address inequity



CCEOP Considerations & prioritization

- Identified districts with immunization coverage <50%
- Identified Polio endemic districts
- Using this 2 parameters, we identified 65 districts in 6 districts with **1,000,769** unimmunized children (comprising 30% of the total birth cohort in these districts).

Unimmunized children in 65 districts

Province	# of districts	Birth cohort	Unimmunized (UI)	% UI children
AJK	5	61,287	6,508	11%
BALUCHISTAN	13	128,700	72,702	56%
FATA	5	58,429	42,668	73%
KP	7	240,040	85,548	36%
PUNJAB	4	201,329	24,176	12%
SINDH	31	958,260	268,781	28%
Total	65	3,296,090	1,000,769	30%

CCE Allocation to address gap for the 65 districts for yr1



Province	# of districts	# of facilities	Ice-lined Refrigerators				Total
			<50ltrs	50-100ltrs	>100ltrs	SDDs	
AJK	5	7	3		2	3	8
BALUCHISTAN	13	88	33	3	4	52	92
FATA	5	10				10	10
KP	7	132	75	4	4	52	135
PUNJAB	4	243	185	7	76	72	340
SINDH	31	379	201	76	102	67	446
Total	65	859	497	90	188	256	1,031

Pakistan System Design & Equity Consideration



Generally

- Equity is not a major consideration for allocation of resources in government
- Existing facilities are given priorities over equity (implication is that same target are reach with services all the time)
- CCE allocation was prioritized for existing equipment
- *From the system design study it was observed that*
 - *Cold chain per infant is relatively high, but moving vaccine storage closer to service delivery points could help alleviate geographic barriers to vaccine availability*
 - *This is so because the CCE are concentrated in urban and placed with average to high population densities*
 - *Areas with sparse population are usually left out*










Pakistan System Design & Equity Consideration



- Three supply chain equity metrics were used
 - **Cold chain coverage:** Liters of cold chain per surviving infant (estimated birth cohort surviving, from target populations in model)
 - **Inbound resupply distance of vaccines to district store:** Kilometers to the district store from the store from which it received vaccines directly (province or division)
 - **Average resupply distance of vaccines to EPI Centers:** Kilometers traveled by each dose to EPI centers from resupply store (district, town, or tehsil) divided by total number of doses allocated to the district
- Immunization coverage (such as DTP3 coverage) and socio-economic indicators (such as rural-urban spread, women's primary school attainment) were also compared with supply chain equity metrics



Equity: Supply chain metrics from modelling outputs

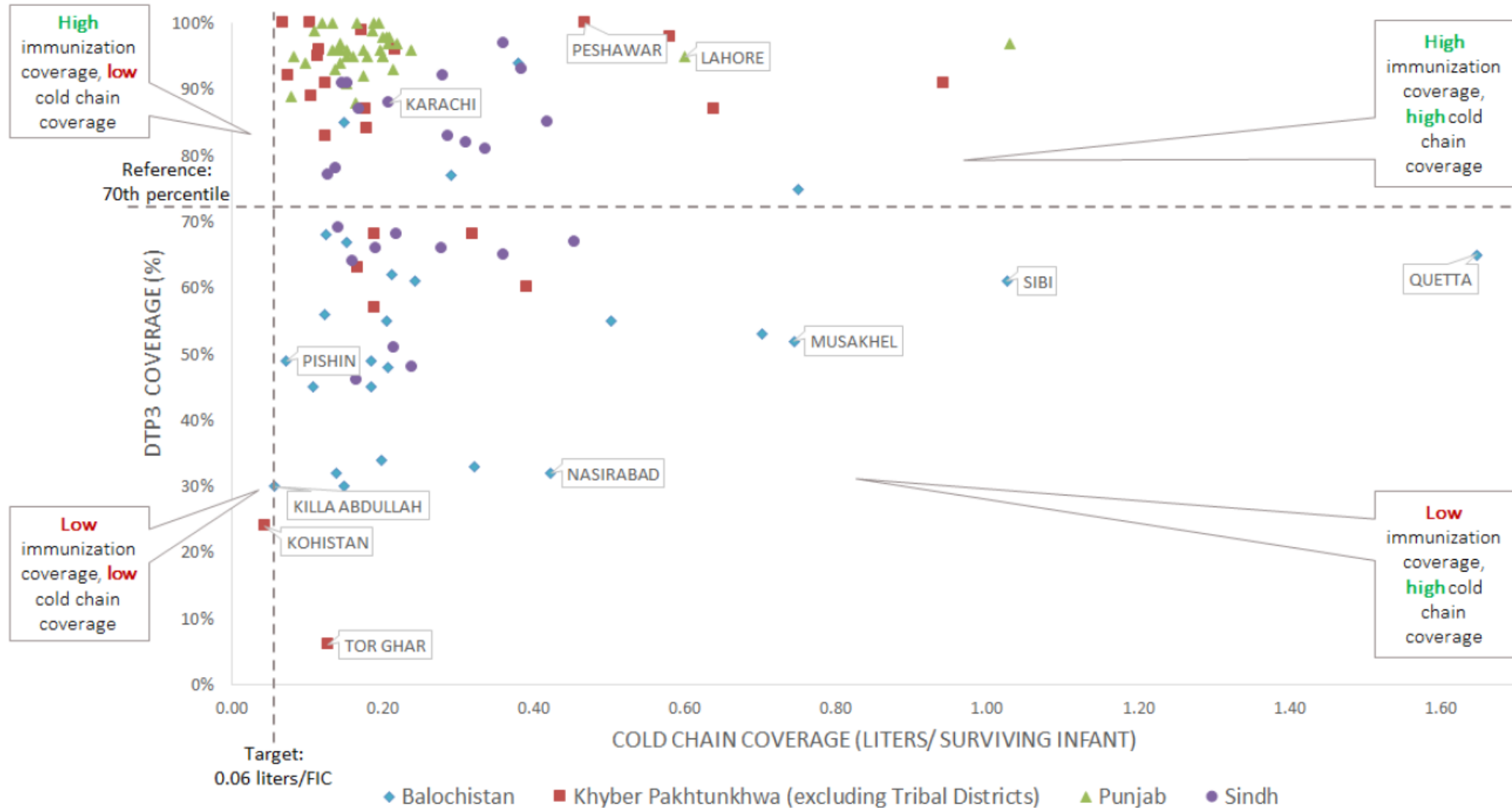
Cold chain coverage	Definition	<i>Net cold chain volume for the district divided by surviving infants in the district</i>		
	Benchmark	0.06 liters (vaccine volume required per fully immunized child (FIC) at district level and below (1 month cycle stock, 1 month buffer stock), includes HPV & Typhoid)		
	Visualization	 Greater than 0.09 liters/surviving child	 0.06 to 0.09 liters/surviving child	 Less than 0.06 liters/surviving child
Inbound resupply distance of vaccines to district store	Definition	<i>Distance from the resupply point (provincial or division store) to the district store</i>		
	Benchmark	120 km (average distance that can be traveled in four hours)		
	Visualization	 Less than 90 km	 90 km to 120 km	 Greater than 120 km
Average resupply distance of vaccines to EPI Centers	Definition	<i>Kilometers traveled by each dose to EPI centers from resupply store (district, town, or tehsil) divided by total number of doses allocated to the district</i>		
	Benchmark	60 km (average distance that can be traveled in four hours)		
	Visualization	 Less than 45 km	 45 km to 60 km	 Greater than 60 km

Equity: Immunization coverage and socioeconomic indicators at the district level



Category	Indicator	Measurement	Groups		
Immunization Coverage Indicators	DPT3 coverage (%)	Range from 100% to 6%. <ul style="list-style-type: none"> 90th percentile = 91% 70th percentile = 72% 	91% - 100%	73% - 90%	6% - 72%
	Disparity in DPT3 coverage (% difference in urban vs. rural)	Range from 0 to 74 percentage points : <ul style="list-style-type: none"> 90th percentile = 7 percentage points 70th percentile = 22 percentage points 	0 - 7 points	8 - 21 points	22 - 74 points
Socio-economic Indicator	Women's primary school attainment (%)*	Range from 73% to 3%: <ul style="list-style-type: none"> 90th percentile = 66% 70th percentile = 52% 	66% - 73%	53% - 65%	3% - 52%

Cold chain capacity per surviving infant against immunization coverage for all provinces.





Weighted average resupply distance to health facilities against third-dose pentavalent vaccines for all provinces



Changing supply source would reduce resupply distance



Indicators		Battagram		Kohistan		Shangla		Tor Ghar		Karak		Lakki Marwat		Tank	
		Baseline (Peshawar)	Scenario (Mansehra)	Baseline (Peshawar)	Scenario (Mansehra)	Baseline (Peshawar)	Scenario (Mansehra)	Baseline (Peshawar)	Scenario (Mansehra)	Baseline (Peshawar)	Scenario (Bannu)	Baseline (Peshawar)	Scenario (Bannu)	Baseline (Peshawar)	Scenario (D I Khan)
Supply Chain Equity Metrics	Cold chain/surviving infant (liters, including new CCE)	0.19	No change	0.04	No change	0.11	No change	0.13	No change	0.17	No change	0.14	No change	0.19	No change
	Inbound resupply distance of vaccines to district store (km)	259	47	250	146	181	96	156	107	180	59	228	62	308	73
	Average resupply distance to health facilities (km)	33	No change	48	No change	75	No change	24	No change	34	No change	43	No change	14	No change
Immunization Coverage Indicators	DTP3 coverage (%)	57	No change	24	No change	49	No change	6	No change	63	No change	50	No change	68	No change
	Urban-Rural Gap in DTP3 coverage (%)	Rural only	No change	Rural only	No change	Rural only	No change	Rural only	No change	75-62	No change	38-51	No change	78-65	No change

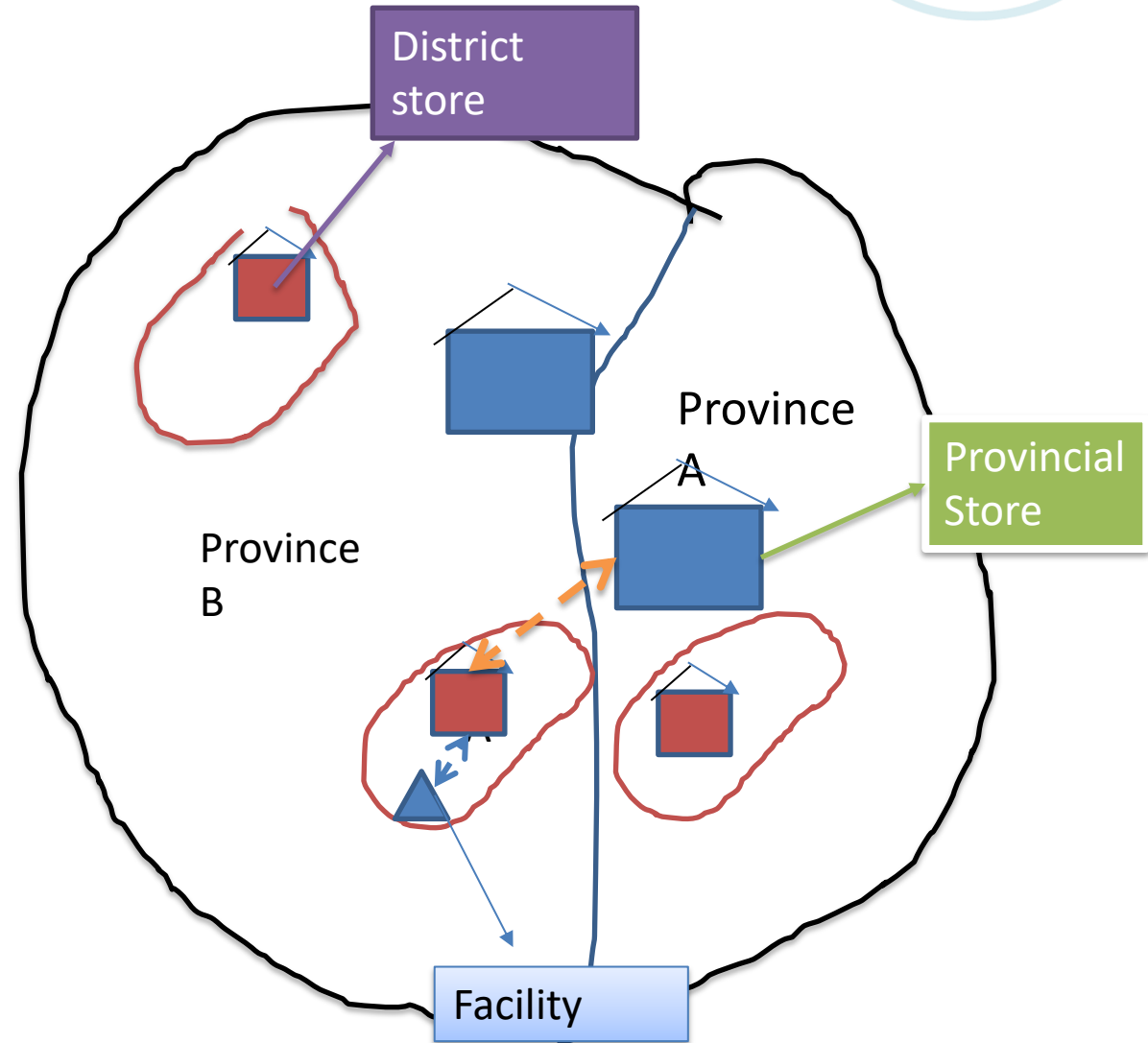
Key Message:

- For this scenario, reducing resupply distance of district stores would improve reliability and responsiveness of supply chain, and contributing to improved immunization coverage. And equity
- This was applied to all districts & HFs and guided in prioritizing locations for our year 3 CCEOP equipment

Changing Supply source include

- Provision of CCE in facility (districts & HFs)
- Changing source of vaccines/supplies across boundary lines (districts collecting from nearby Provinces)
- Facilities distance communities collecting supplies from nearest supply hub/districts outside its own districts

Cross border dist. route ← - - - - - →
District facility distr. route ← - - - - - →

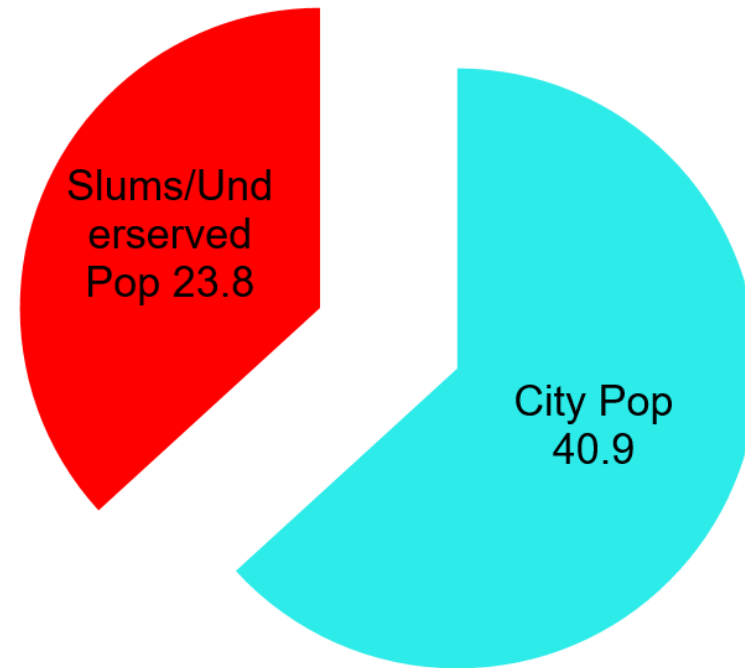




Other indirect supply chain interventions

- Through the urban informal settlement (slumps) profiling
- Using equity assessment to identify districts the highest risks districts (highest numbers of zero doses & unimmunized children)
- 43 districts have been identified as very high risk districts with the highest number of zero dose

Other indirect supply chain interventions



Key Highlights

Urban
Immunization



11.9 Million
People Live in
Slums/Underserved Areas

97%
Slums/Underserved Areas
Report **No**
Access to any
Health Facilities

93%
Slums/Underserved Areas
Report **No**
Access to EPI
Facilities

58%
Slums/Underserved Areas
are not **Covered** by
LHWs

29%
Slums/Underserved
Report No
Coverage for
Outreach



Key Highlights

Urban
Immunization



4 Million
Children
(Under Five Years)
Live in
Slums/Underserv
ed Areas

44%
Children have
Vaccination Cards

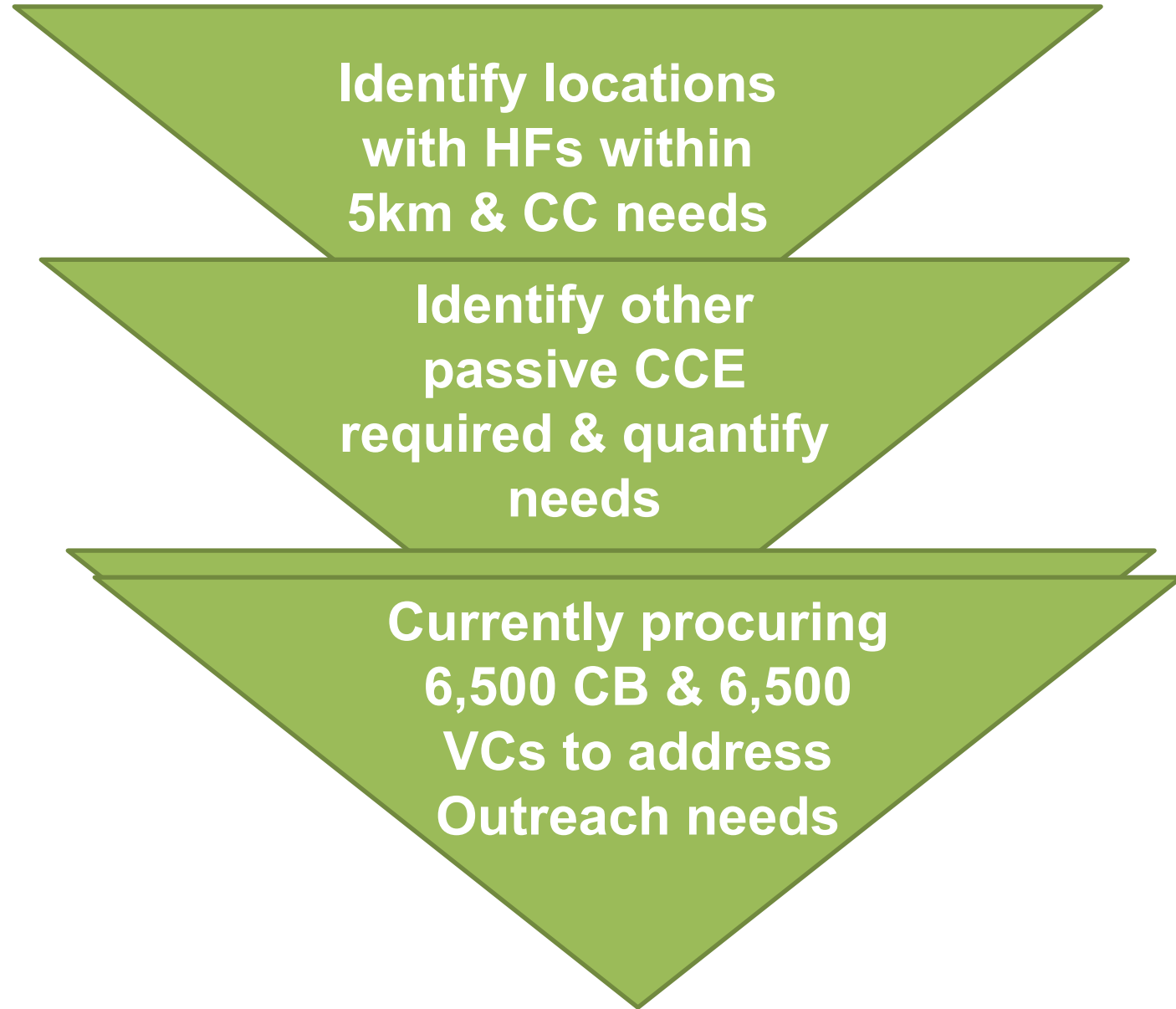
53%
Children are
Fully Immunized
Records/Recall
Basis

47%
Children are
either
Unimmunized or
Under Immunized

70%
Reasons of Zero
Dose Relates to
Unawareness



What is the supply chain intervention to improve equity?





Thank you



Immunization supply chain interventions that enable coverage and equity and contribute to resilient systems in Nigeria

Hajia Kubura Daradara



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Shaping a resilient and adaptive immunization program

Nigeria's iSC transformation strategy is aimed at providing equitable access to immunisation



AFFECTED BY CONFLICT
(e.g. Borno, Zamfara)



REMOTE RURAL (e.g.
Bayelsa, Sokoto)



URBAN (e.g. Lagos,
Kano)

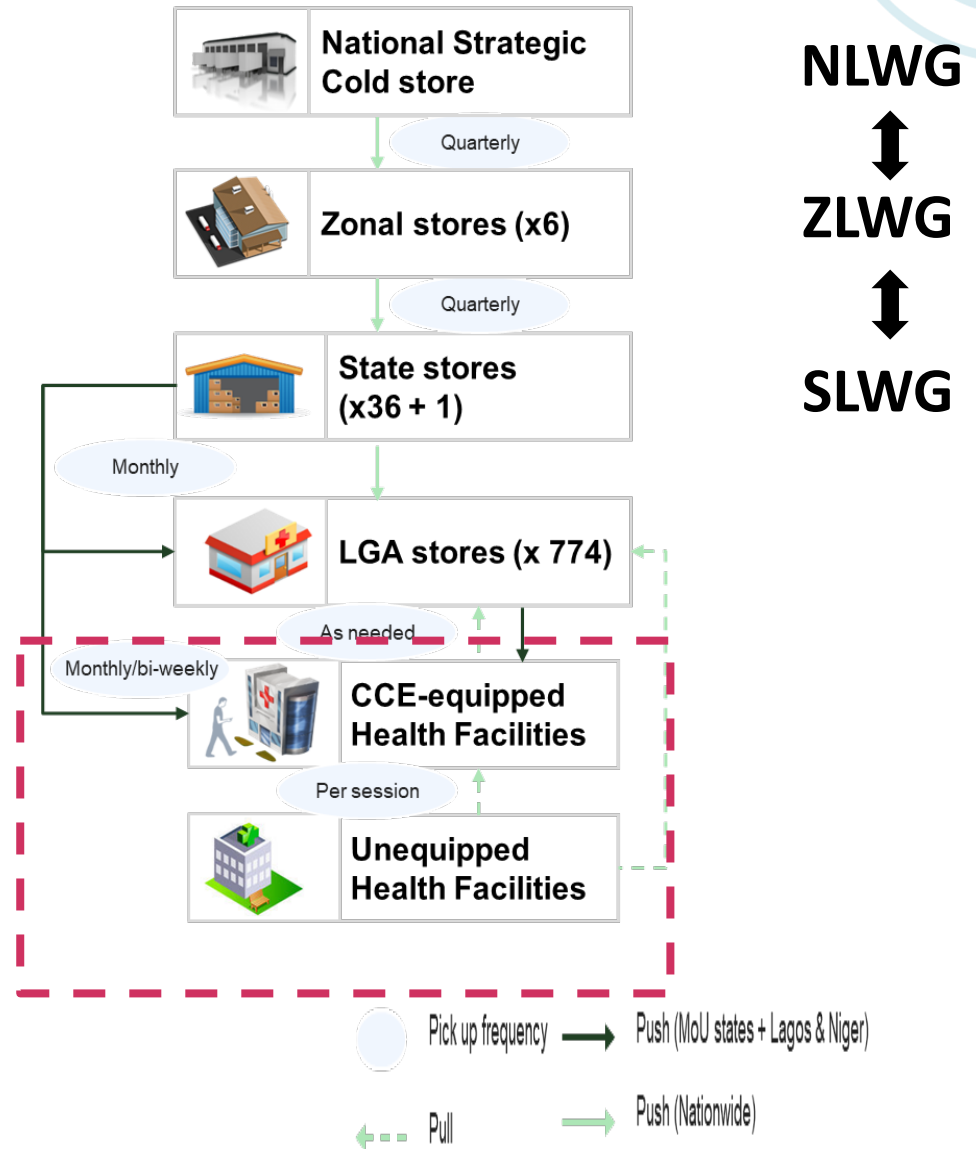


GENDER (all states)

Nigeria has a 5-tier immunisation supply chain structure



Figure1: Location of National and Zonal stores





Last mile vaccine availability

Immunisation supply chain sub-optimally responsive to programmatic needs

- Outsourced distribution of vaccines and devices from national level, through the zones, to the state cold stores under long term agreements
- Direct vaccine delivery from state/state-satellite cold stores to equipped apex facilities in 8 states
 - Cascade deliveries from equipped apex facilities to unequipped facilities within catchment area
- Ensuring availability of potent vaccines in security compromised and hard-to-reach areas (e.g. Borno, Yobe)
 - Collaboration with the military
 - Use of long-holdover active and passive devices
- Oversight provided by LWGs at national, zonal and state levels



Cold Chain Expansion

- Inadequate storage capacity at all levels
- Country's policy of *at least* one functional vaccine refrigerator per ward to provide equitable access to vaccines

- Cold Chain Expansion and Rehabilitation Plan developed by NLWG
- Procurement of additional cold rooms at national and 6 zonal stores (*long term plan is to have 3 mega-hubs*)
- Procurement of cold rooms to fill state-level gaps (*e.g. Borno, FCT, Kano, Katsina, Lagos, Sokoto, Zamfara*)
- Leveraging Gavi Cold Chain Equipment Optimisation Platform (CCEOP) support up to 2028 capacity requirements to close all LGA and ward level gaps
 - All CCE equipped with RTMDs to monitor equipment performance and proactively trigger maintenance activities
 - 36+1 state maintenance units that are being equipped with the necessary resources



State-specific vaccines and devices forecast

Vaccine accountability concerns against the background of 2016/17 NICS/MICS (33% national immunisation coverage ranging from 3% in Sokoto to 80% in Lagos states)

- Demand planning and forecasting informed by coverage projections modeled in the NSIPSS: 2018 – 2028
 - States categorized based on coverage
 - Buffer stock categorized according to modeled target coverage (*50% for <60% coverage and 25% for >60% coverage*)
- Country-specific wastage rates guided by WHO indicative wastage rates
- State Engagement and review of forecast parameters vis-à-vis consumption and physical stock count



Institutionalising continuous improvement systems

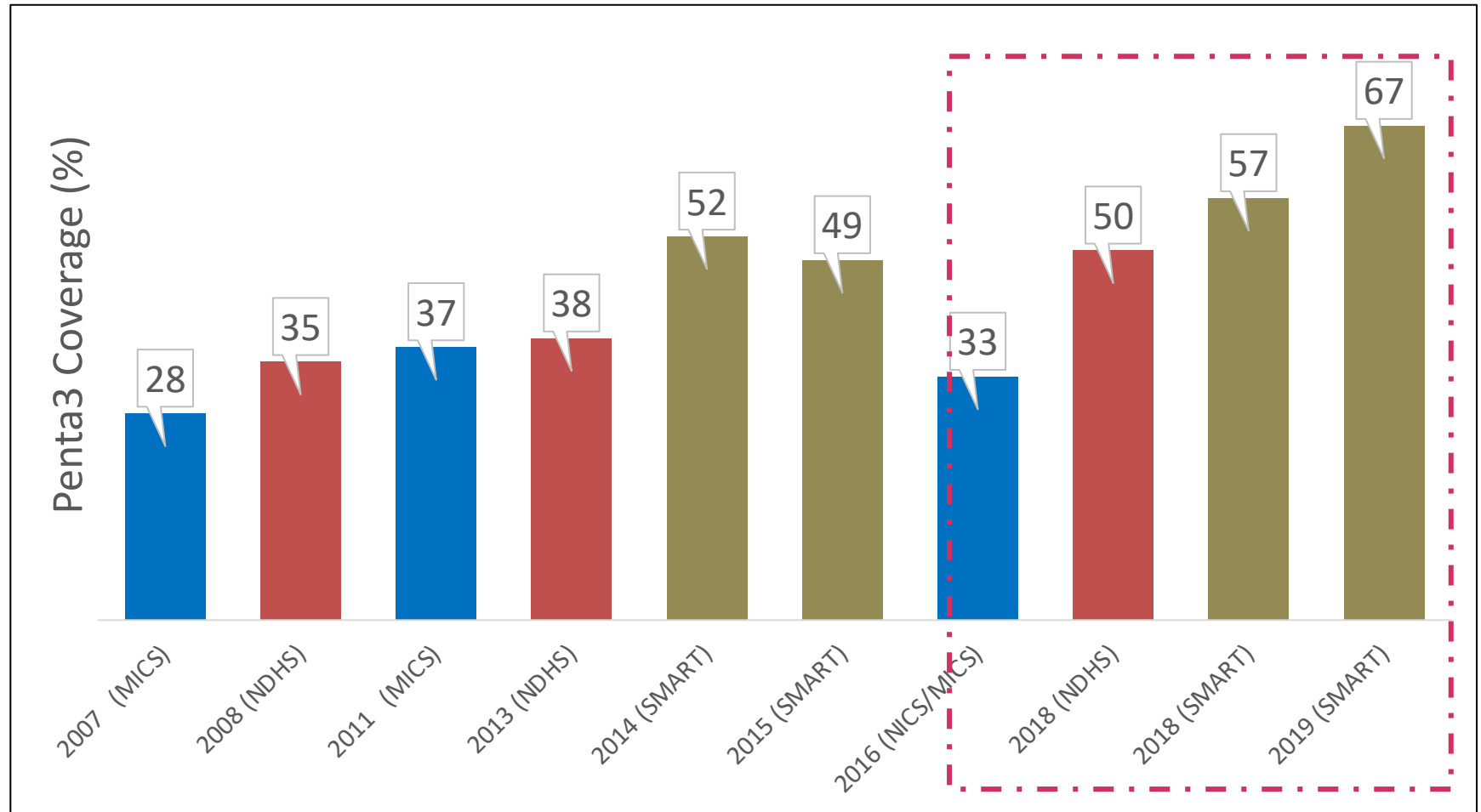
2017 Effective Vaccine Management Assessment findings (68% score)

- Development of 3-year national, zonal and state-specific EVM continuous improvement plans
- Quarterly evaluation of progress with implementation of EVM cIPs
- Conducted EVM2.0 onboarding
- Quarterly supportive supervision, using EVM2.0 tool, at all levels
- Reviewing and updating Vaccine Management Standard Operating Procedures (SOPs) in line with EVM2.0 guidelines
- Development of Nigeria Immunisation Supply Chain policy

Conclusion



Immunisation supply chain interventions have contributed to Nigeria's demonstrable improvement in RI coverage and equity while building system resilience





BUILDING RESILIENT Immunization Supply Chain in Afghanistan 2020-2025

Dr Dastagir Nazary, National EPI Director,
Ministry of Public Health, Afghanistan

Ranjit Dhiman, Immunization Specialist (Supply Chain),
UNICEF, Afghanistan



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Shaping a resilient and adaptive immunization program

COUNTRY CONTEXT AND BACKGROUND



INFORMATION



- 32 million population
- 34 provinces
- 3500 HF^s providing vaccinations
- NGO contracts at province level for all health services
- World Bank, GAVI, Govt. of Japan, Gates Foundation, UNICEF & WHO support

CHALLENGES



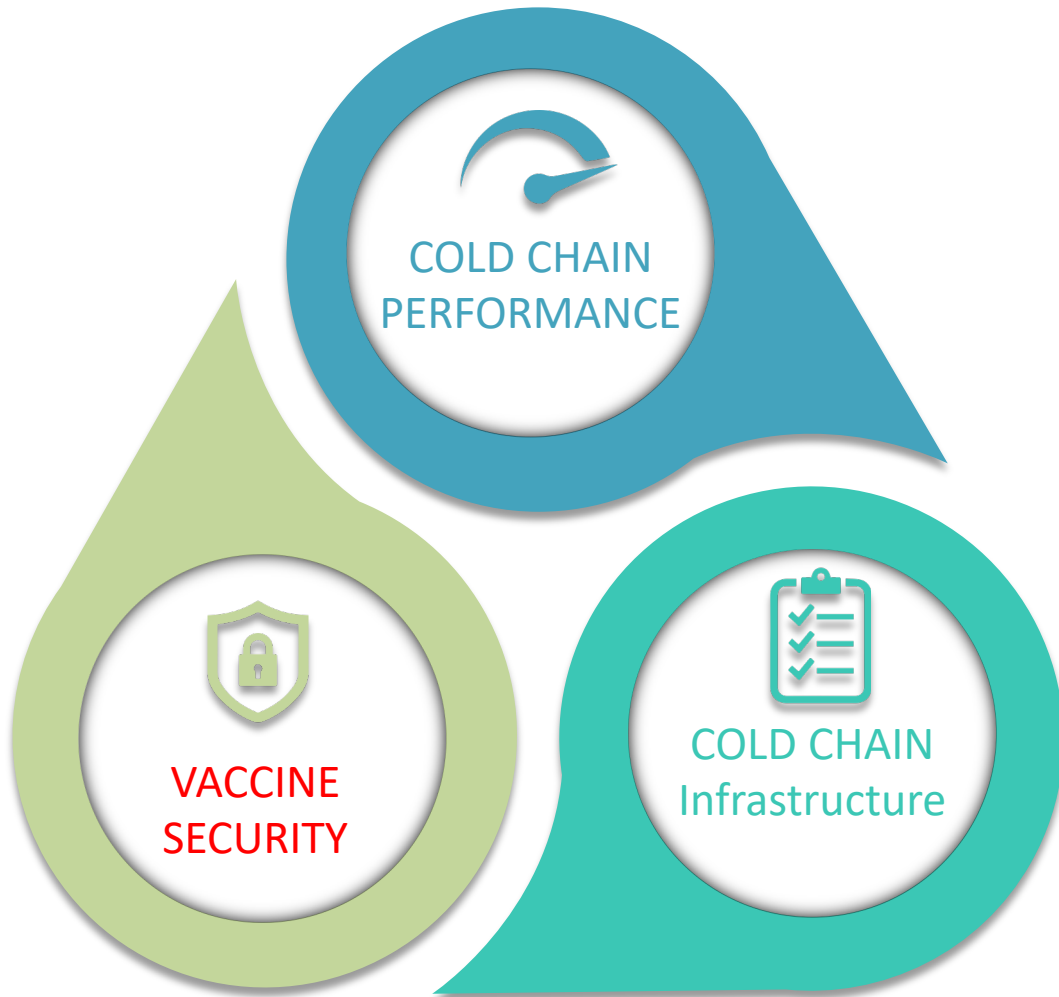
- Polio endemic
- Low immunization coverage (51% FIC)
- Insecurity- restricted access to half of country
- Difficult geographical terrain
- No population census **since last 41 years**
- Electricity infrastructure

STRENGTHS



- Vaccine security (assurance)
- Strong Cold chain infrastructure
- Strong partner and donor support

WHAT IS WORKING WELL



Temperature within +2 to +8°C throughout supply chain



Temperature monitoring study confirmed WHO compliance of supply chain for more than 96% and 99% of time (both seasons)

[Download immunization supply chain documents](#)

VACCINE FUNDED BY GAVI AND GOVT. OF JAPAN

- No lapse in vaccine supply, no national level vaccine stock out
- Rationalization of vaccine distribution to lower levels

COLD CHAIN FUNDED THROUGH CCEOP + HSS + UNICEF

- National, regional and province vaccine store buildings
- Countrywide Upgrade from Gas based refrigerator to SDD
- 1,850 HF with SDD (by 2021)
- 60% of plan implemented by 2020



Supply chain leadership



Planning and improvements



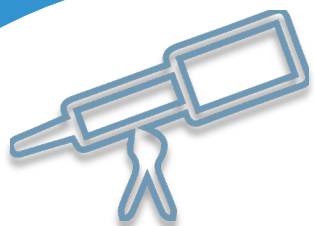
Data management



Cold chain infrastructure

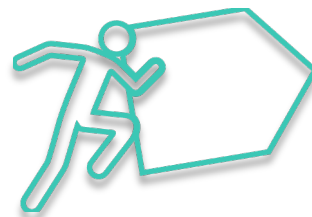


Supply chain optimization



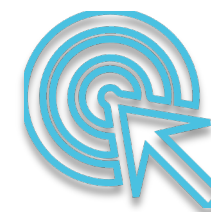
VISION

- ISCL on top agenda of EPI management
- Leadership on SC at National, regional and province level
- M&E of action plans



ACTION

- Establishment of National and regional Vaccine logistics working groups
- EVM IP and ISC strategy as anchor guide for LWGs annual plans and focus of meetings



IMPACT

- Focus on service delivery, **EQUITY**
- Vaccine delivery, cold chain for hard to reach areas
- Solutions for persistent problems (security, logistics, service delivery)



Supply chain leadership



Planning and improvements



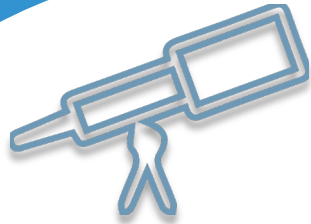
Data management



Cold chain infrastructure



Supply chain optimization



VISION

- cEVM improvement plan for 2021-25, aligned with national strategy
- Annual Implementation, M&E
- Government and partner collaboration for governance



ACTION

- EVM IP built around 5 supply chain fundamentals
- Detailed EVM IP for each province
- EVM IP tracking by N/RVLWG for each region



IMPACT

- Reaching the un-reached, with supply chain solutions
- **Resilient supply chain for routine & SIA immunization program**
- *Tailor solutions for Hard to reach zones*



Supply chain leadership



Planning and improvements



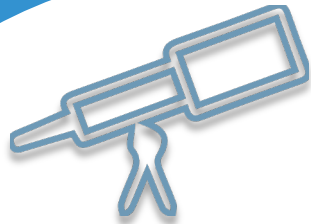
Data management



Cold chain infrastructure



Supply chain optimization



VISION

- Quality data: data collection at source
- Availability, use of timely and accurate data for decision making



ACTION

- Single platform mobile-phone based app for supply chain data (cold chain inventory, stock management and coverage)
- Online Dashboards access to all stakeholders



IMPACT

- Improvements in data quality and availability
- Planning tools for logistics and program implementation (*addressing equity – identify poor performing zones*)
- Informed decisions



Supply chain leadership



Planning and improvements



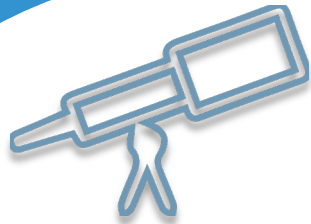
Data management



Cold chain infrastructure

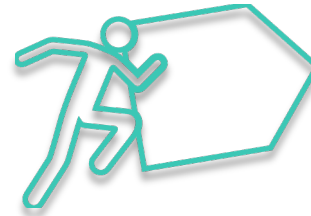


Supply chain optimization



VISION

- Adequate cold chain capacities all levels of supply chain
- Infrastructure to store and transport vaccine
- Freeze free cold chain (storage and transport)



ACTION

- Cold chain equipment plan in EVM IP (5 years)
- Buildings for provinces (EVM standards and capacities)
- *Infrastructure for Urban and hard to reach areas* (EVM IP)



IMPACT

- Resilient cold chain
- Improved access, addressing Equity (service delivery enabler)
- *Vaccine availability and quality*



Supply chain leadership



Planning and improvements



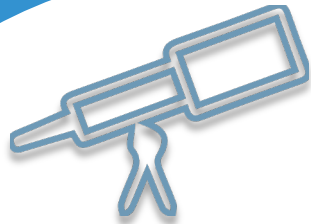
Data management



Cold chain infrastructure



Supply chain optimization



VISION

- Maintenance of temperature and equipment
- Optimum vaccine distribution networks
- Supply chain for addressing pandemic and seasonal vaccinations



ACTION

- Center of excellence – Establishing maintenance infrastructure, use of RTM for maintenance
- Engagement with NGO and private players for service delivery (urban & HTR)

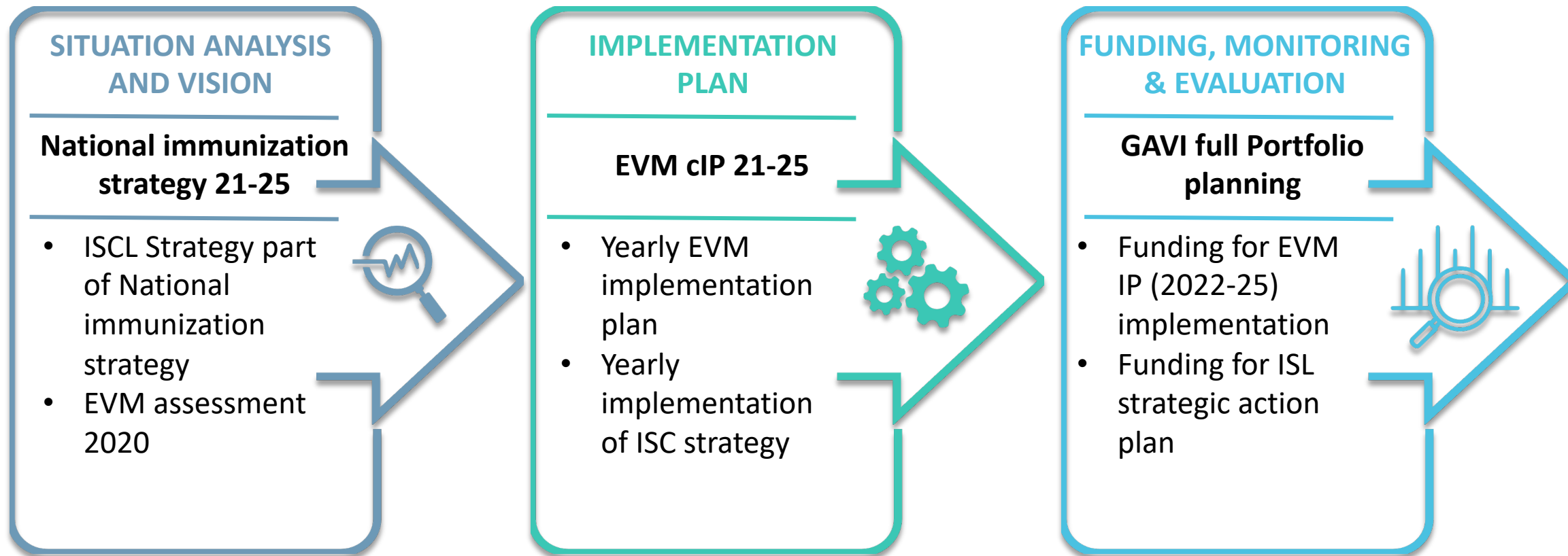


IMPACT

- Improved access, logistics for reaching the most difficult targets
- Service Delivery of Covid-19 vaccine
- Reduced recurring investments in cold chain



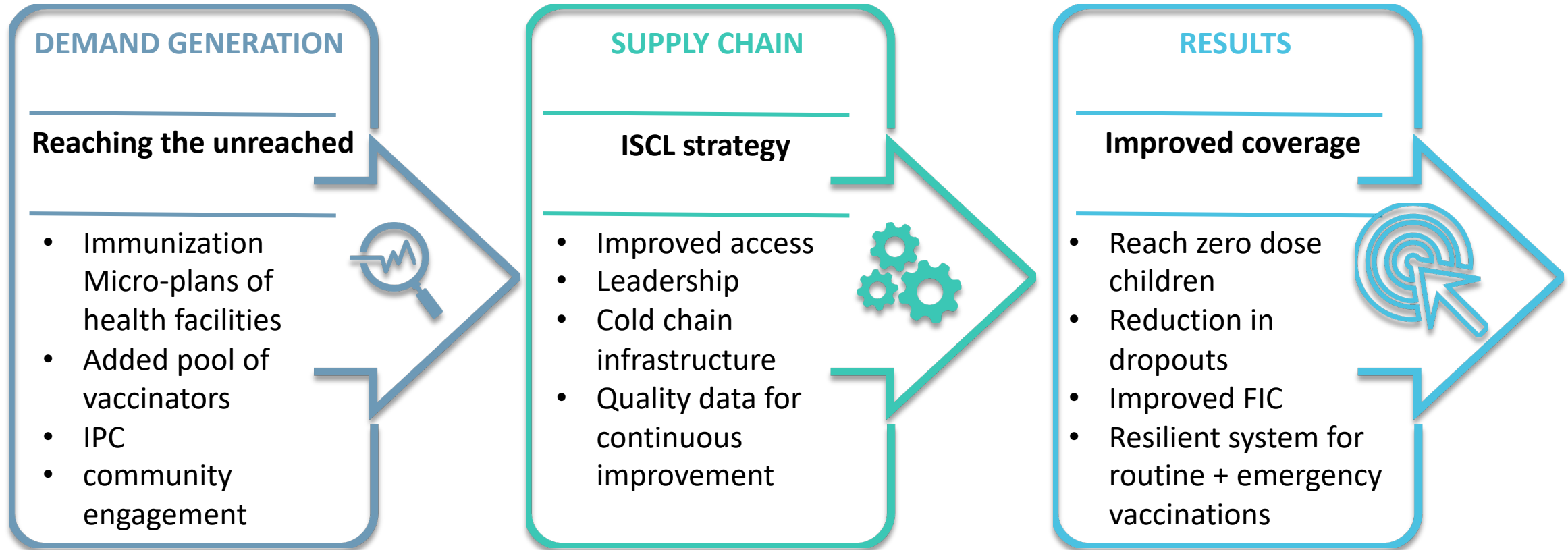
ACTION PLAN



Partnerships: Government, UN agencies, GAVI, Govt of Japan, Gates foundation, NGOs

Continued Dialogues: service agreements and IPC with AGE (Anti-Government-Elements, Taliban)

Contributors for addressing equity and coverage





For the children of Afghanistan

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