

# CDSS Scale up & Sustainability: ALMANACH Experience in Adamawa State, Nigeria



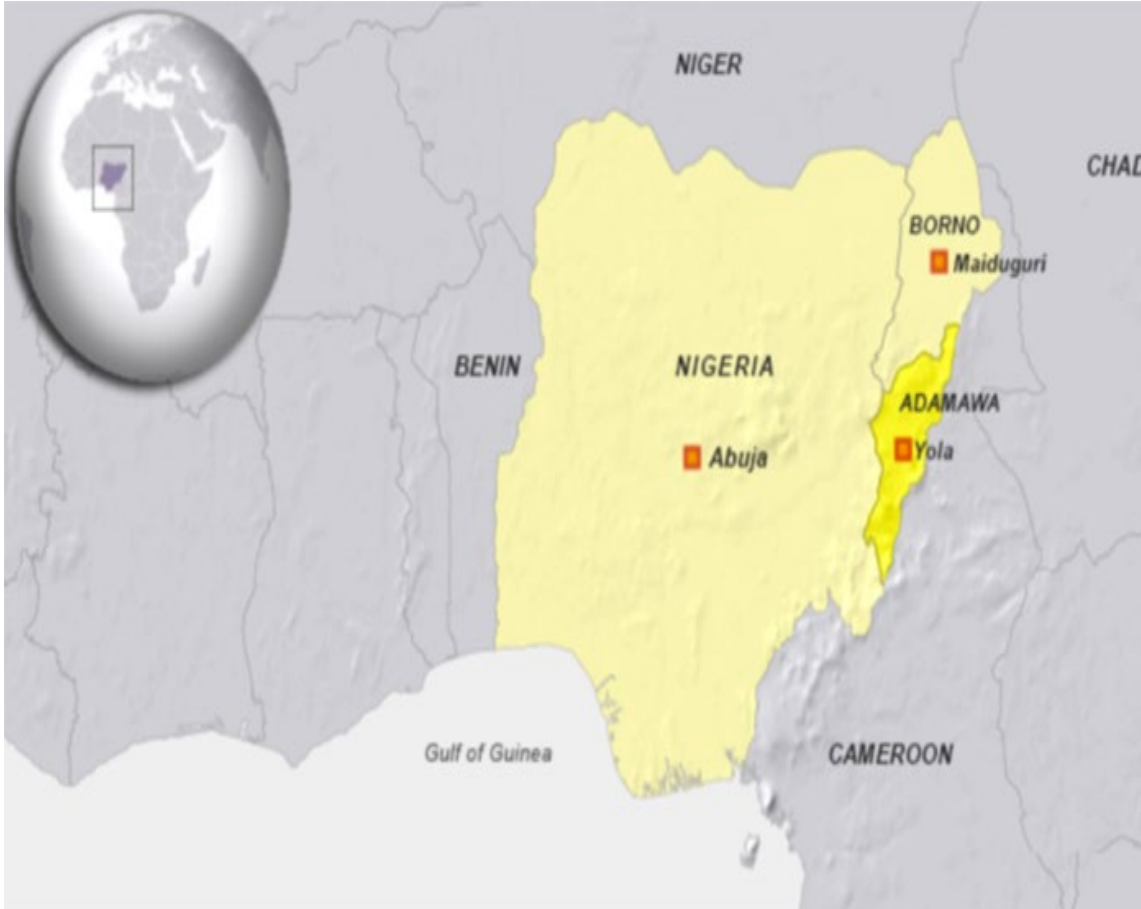
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# Outline

- Background
  - Health system: structure, challenges, prospect for CDSS
- **AL**gorithm for the **MANA**gement of **CH**ildhood illnesses (**ALMANACH**): Architecture, Deployment, Scale up
- Challenges
- Way forward: Sustainability
- Conclusion

# Background



## Adamawa State:

- Population: 4.9 million
- 3-tier health Care system; Primary, Secondary, Tertiary
- Primary Health Care (PHC) is anchored on effective referral
- High morbidities and mortalities rates: wide variations (rural >>urban), women & children are most vulnerable
- Low skilled workforce at PHC level
- National E-health and mobile health policy, not linked to practice

# Algorithm for the **MANA**gement of **CH**ildhood illnesses (**ALMANACH**)

- Project Highlights
  - A partnership: the Swiss TPH, ICRC and Adamawa state Government
  - Integrated into ADSPHCDA/ National Health data system: DHIS 2
  - Targets 2month to 5 years
  - Improved outcome of care (AOR 2.7, BMJ Open, 2020): Well accepted by the community
  - Capacity built/transfer of skills: server maintenance, system upgrade
- Project Limitations
  - Only public sector (primary and secondary level): exclude private sector
  - Inadequate engagement national authorities (FMOH, NPHCDA) during project implementation
  - Project close-out: at peak of effect of COVID on economy and health system
  - Excludes other key age groups, neonates, maternal health

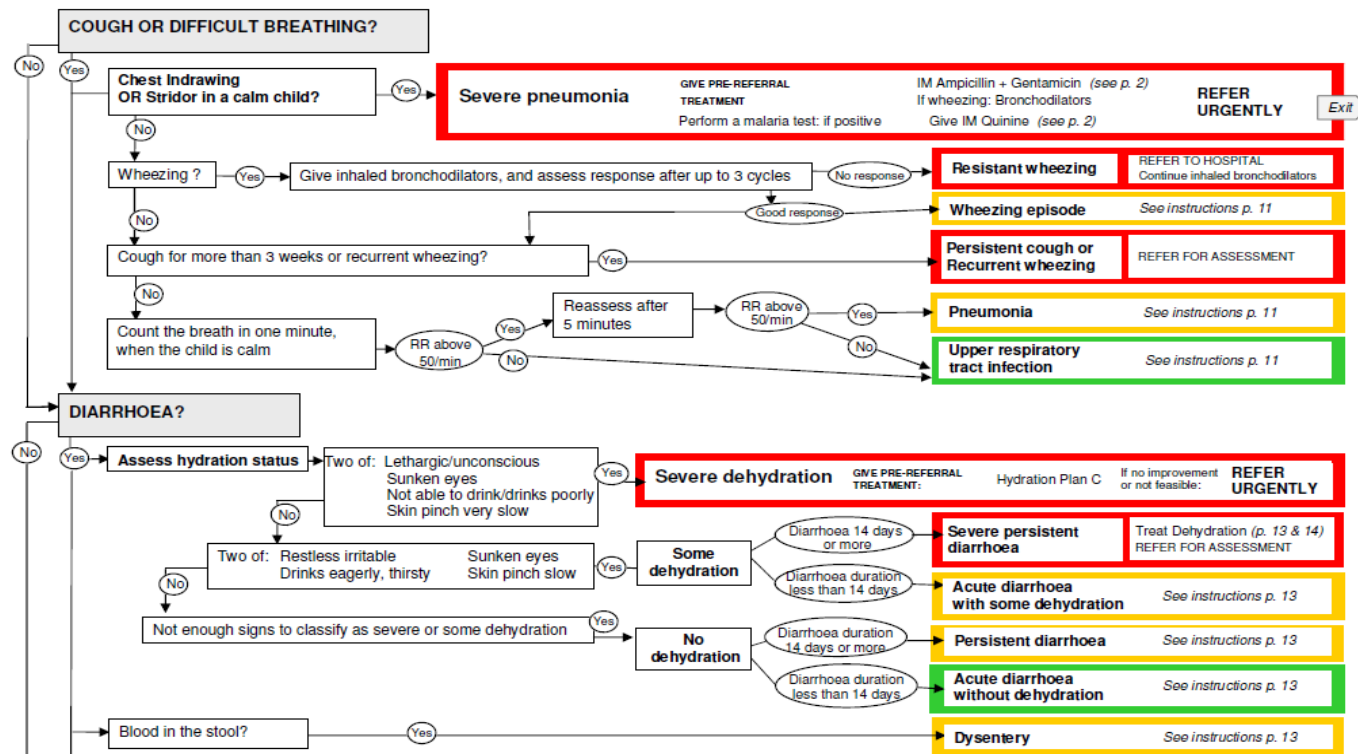
# Algorithm for the MANAgement of CHildhood illnesses (ALMANACH)

- A CDSS project implemented from 2016- October

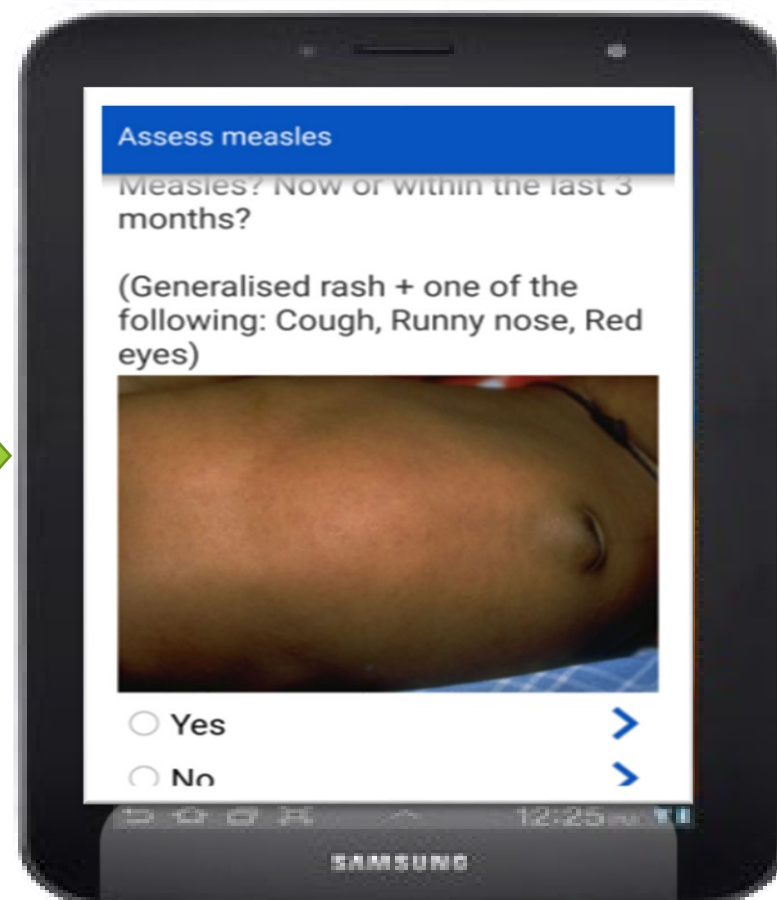
ALMANACH — ALGORITHM FOR MANAGEMENT OF CHILDHOOD ILLNESSES — V1.6 — CRA - 21<sup>st</sup> March 2012

3

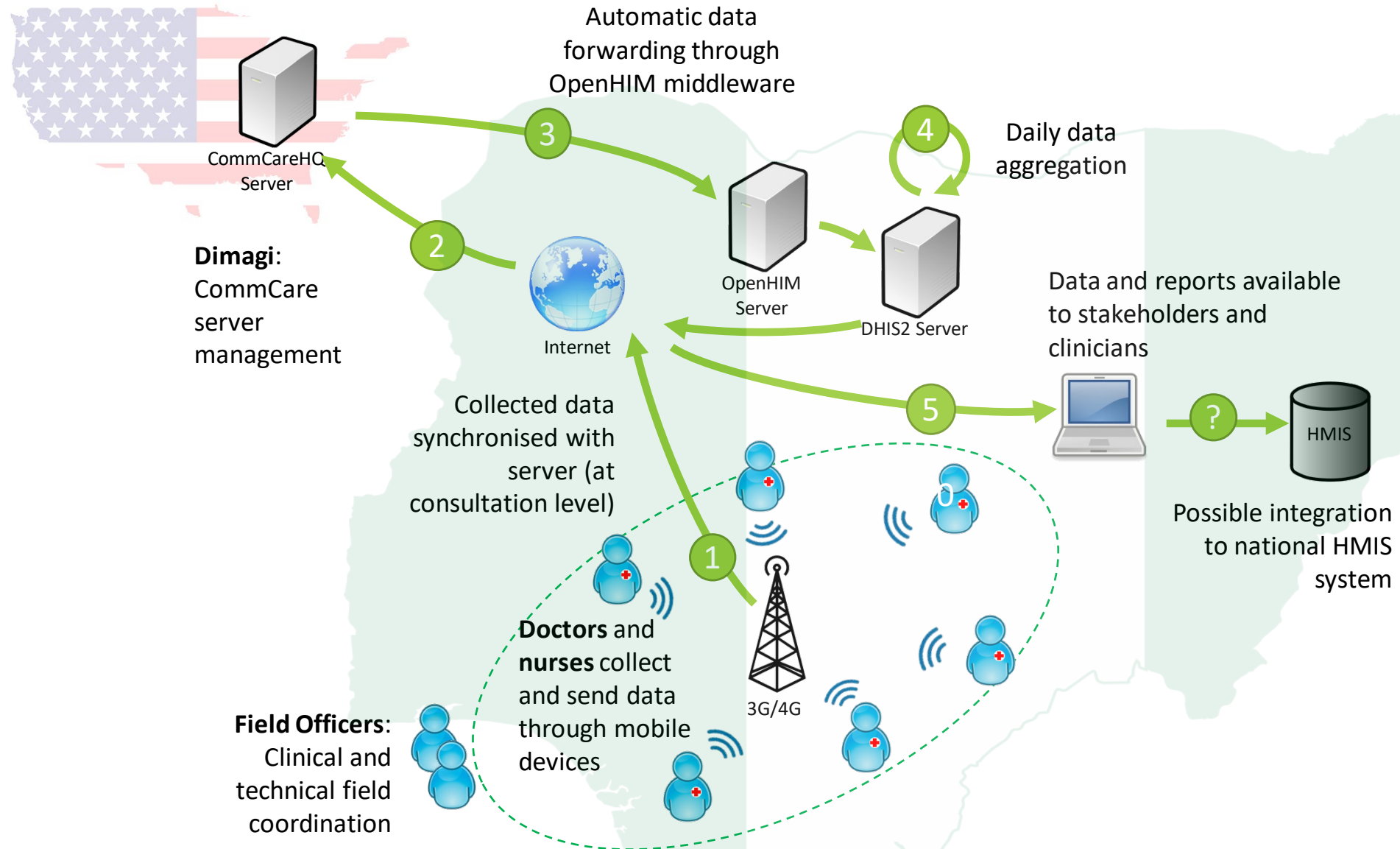
## ASSESSMENT OF FEBRILE CHILDHOOD ILLNESSES



Complete assessment of febrile illnesses p. 4

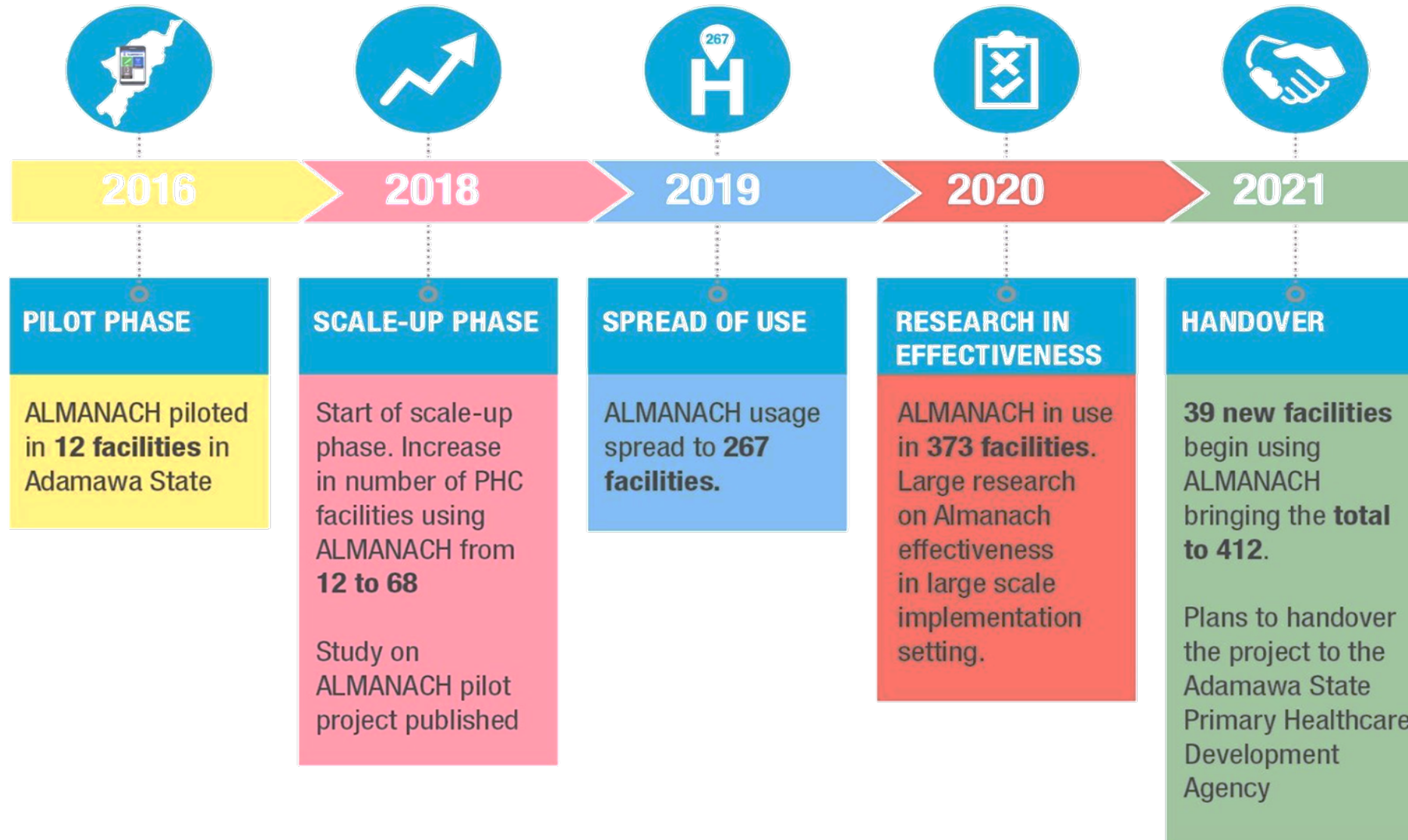


# ALMANACH System architecture

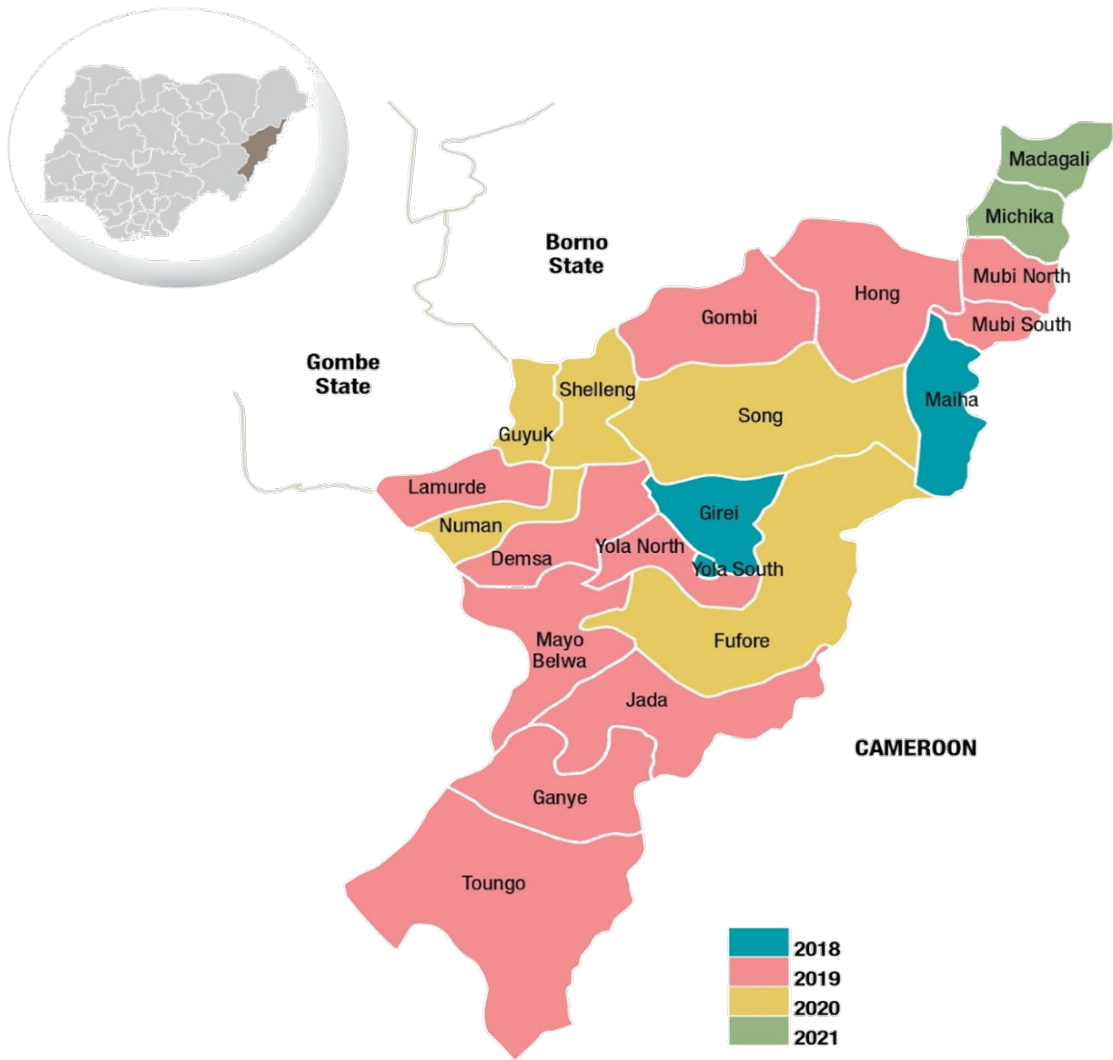




# Deployment Timeline



# ALMANACH: Scale-up



Numbers included are the number of health facilities using the ALMANACH per LGA. These numbers also include some cottage hospitals.

YEAR	LGA	PHCCs
2016-18	Pilot in 5 LGAs	12
2018	Maiha	20
2018	Girei	17
2018	Yola South	19
		<b>68</b>
2019	Mubi North (DFF)	18
2019	Mubi South	12
2019	Gombi (DFF)	16
2019	Hong (DFF)	26
2019	Jada (DFF)	21
2019	Ganye (DFF)	18
2019	Yola North (DFF)	15
2019	Larmurde (DFF)	16
2019	Mayo Belwa	24
2019	Toungo (DFF)	15
2019	Demsa	18
		<b>199</b>
2020	Fufore	23
2020	Numan	14
2020	Guyuk	23
2020	Shelleng	21
2020	Song	25
		<b>106</b>
2021	Michika (DFF)	21
2021	Madagali	18
		<b>39</b>
Total		<b>412</b>



# ALMANACH: as at 31st December 2022

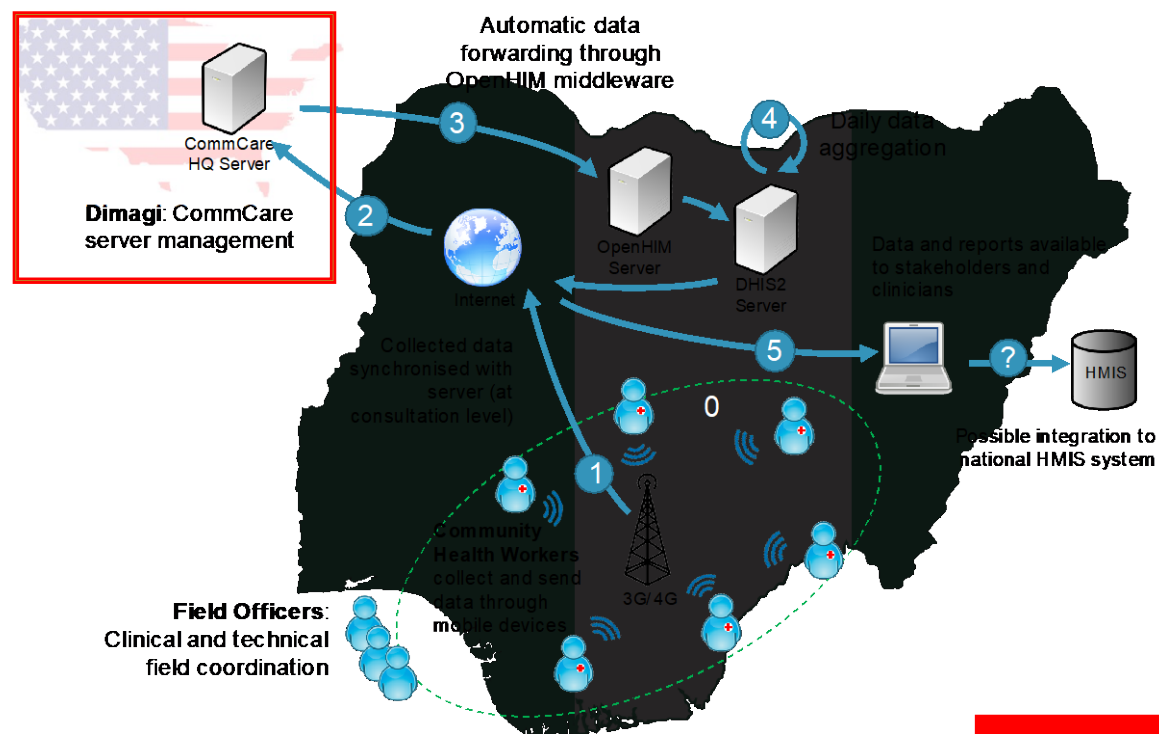
- 413 facilities using ALMANACH
- 167 staff of ADSPHCDA, LGA, ICRC & health training institutions trained
- 2371 joint on-site supervisions: training, coaching, data validation
- Release of new app version: July 2021
- 300,645+ Children consultations using ALMANACH (aged between 2 and 59 months):
  - 69,500+ in 2019
  - 75,500+ in 2020
  - 74,709+ in 2021
  - 80,936+ in 2022

# Challenges

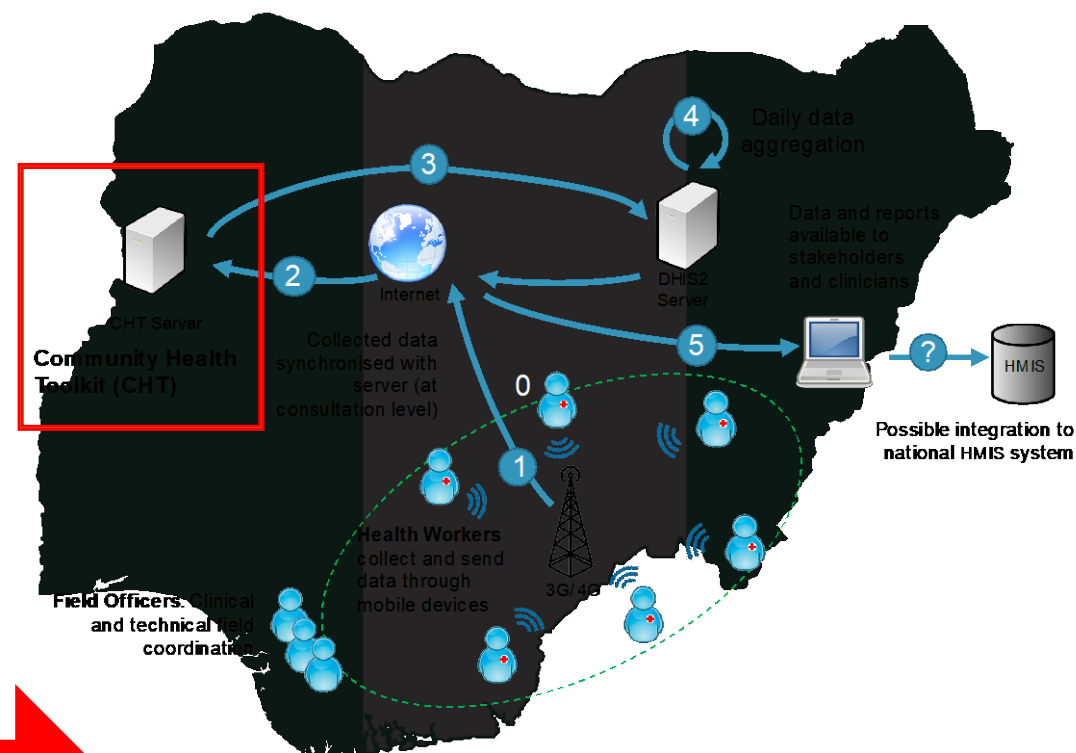
- Resistance to change
- Poor internet access, network connectivity: delayed/no submission
- Unclear, huge cost implication: delays decision to implement by some state
  - CommCare Application and Support Management (Dimagi)
  - DHIS2 Server (HMIS) costs (Mainone MDXi)
  - Backup, Performance storage & DHIS2 development servers costs (Mainone MDXi),
  - OpenHIM (Mediator) costs (Mainone MDXi)
  - Public IP address for DHIS2 (URL) costs (Mainone MDXi),
  - Mobile Device Management platform (Miradore) subscription,
  - Issue Management platform (Trello) subscription
  - Algorithm development (SwissTPH)

# Way Forward: Proposed ICT Infrastructure Architecture

## Existing ALMANACH System architecture



## Proposed ALMANACH System architecture



**MIGRATION**

# Way forward: sustainability

- Explore for open-source and less expensive alternative technologies : Community Health Tool (CHT) to reduce huge subscription costs
- Engagement of national bodies/authorities (NPHCDA, NITDA, NASDRA/GRID3) from inception to implementation and evaluation of CDSS
- eCDSS to target more vulnerable groups/related programme: neonates, maternal health (ANC, use of partograph, family planning etc.), mental health
- Training of newly recruited staff on CDSS
- More funding and ownership by Government:
  - Increase local budget allocation for CDSS: advocacy, knowledge synthesis event
  - Plan for additional tablets/devices to replace aged ones, more units activated
- Clarity/sustainable cost of implementation to fast-track adoption of CDSS by interested states
- Capacity building for local personnel

# Conclusion

- Digital CDSS can make a significant contribution to achieving universal health coverage
- ALMANACH (eCDSS) has prospects for the National IMCI and other protocols



THANK YOU

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[www.adsphcda.org.ng](http://www.adsphcda.org.ng)

ENSURE YOUR CHILDREN UNDER 5 YEARS ARE CHECKED WITH THIS DEVICE

This Health Facility is implementing ALMANACH



ADAMAWA STATE PRIMARY HEALTH  
CARE DEVELOPMENT AGENCY



ICRC

SwissTPH   
Swiss Tropical and Public Health Institute  
Schweizerisches Tropen- und Public Health-Institut



# Key IT service entities (SW and server):

## Cost and maintenance relevance

**CommCare:** a mobile application platform designed for data collection on which ALMANACH is coded.

**DHIS2:** an open source platform for health data management

**OpenHIM:** a platform for data integration used as an interface between CommCare and DHIS2

**Miradore:** a mobile device management Platform

**Trello:** an issue management platform

**Mainone MDXi:** a data hosting company where all the servers and backups are hosted