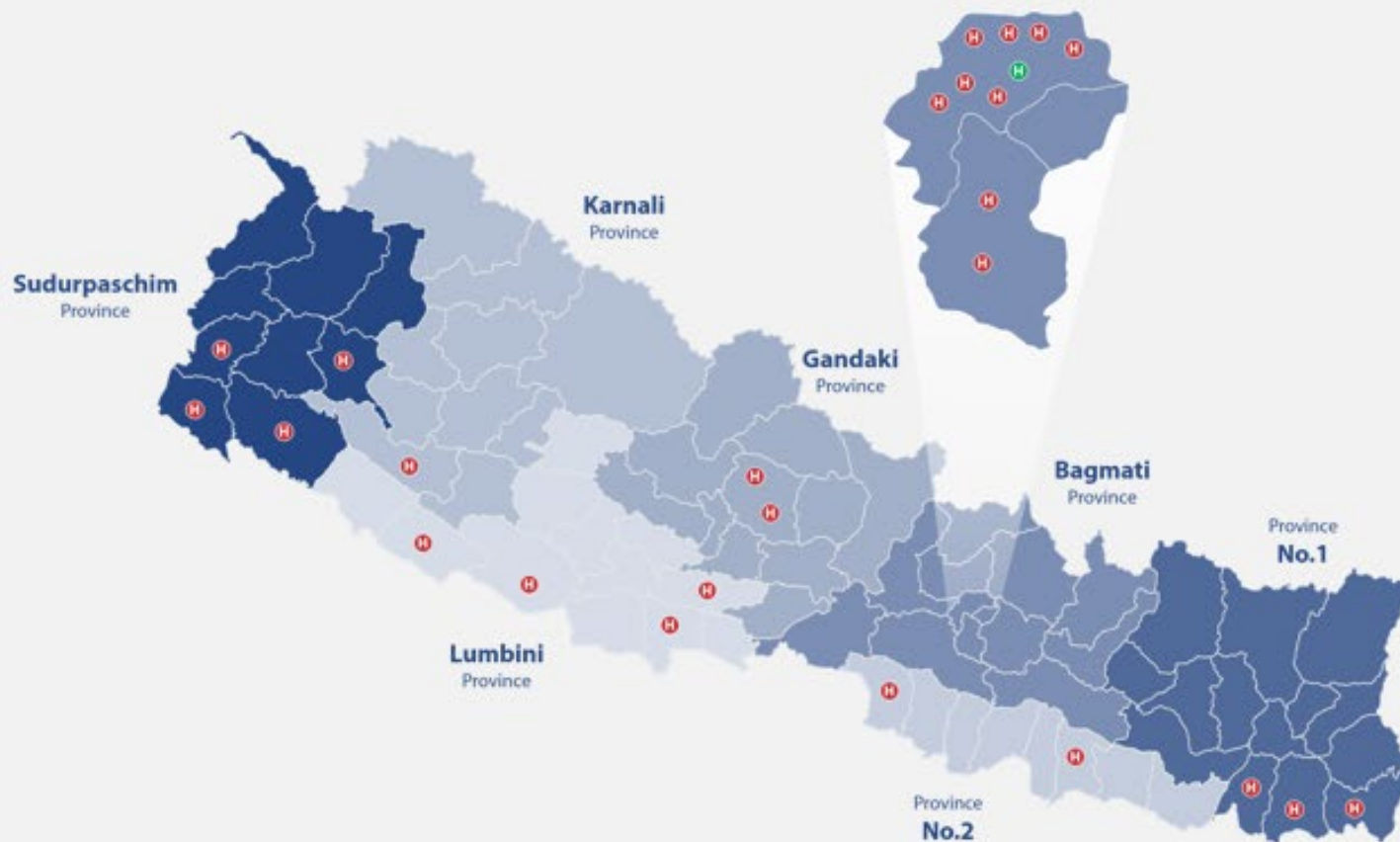




Government of Nepal
Ministry of Health and Population

Expansion of AMR Surveillance Network

Presented By
Dr. Madan Kumar Upadhyaya
Chief
Quality Standard and Regulation Division
Ministry of Health and Population
Member Secretary
AMRSC



Background



Laboratory based AMR surveillance started in 1999A.D.



NPHL is the NATIONAL Reference Laboratory and National Coordinating Center for AMR surveillance.

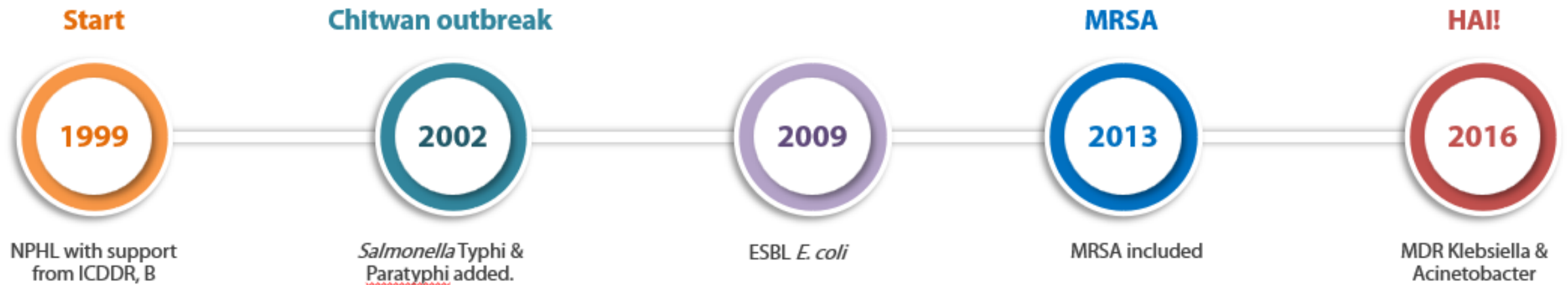


Currently there are 26 sites participating in the surveillance.

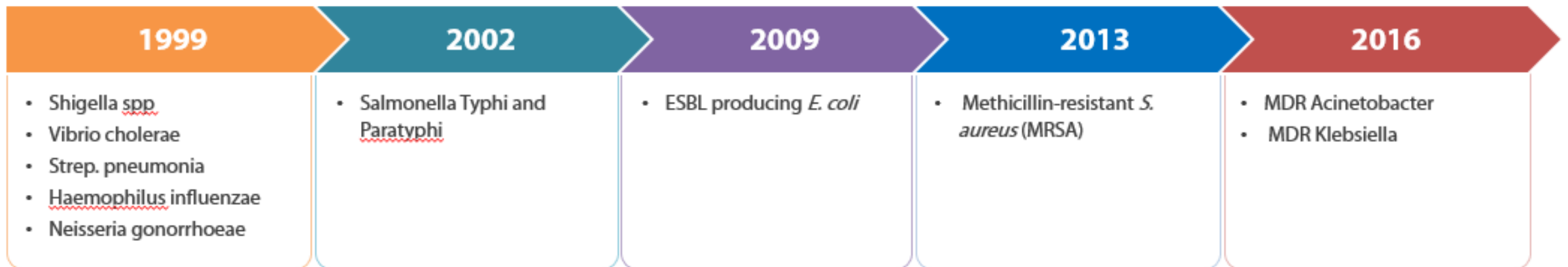


There are 10 organisms of interest in National AMR surveillance which are also the priority pathogens in GLASS

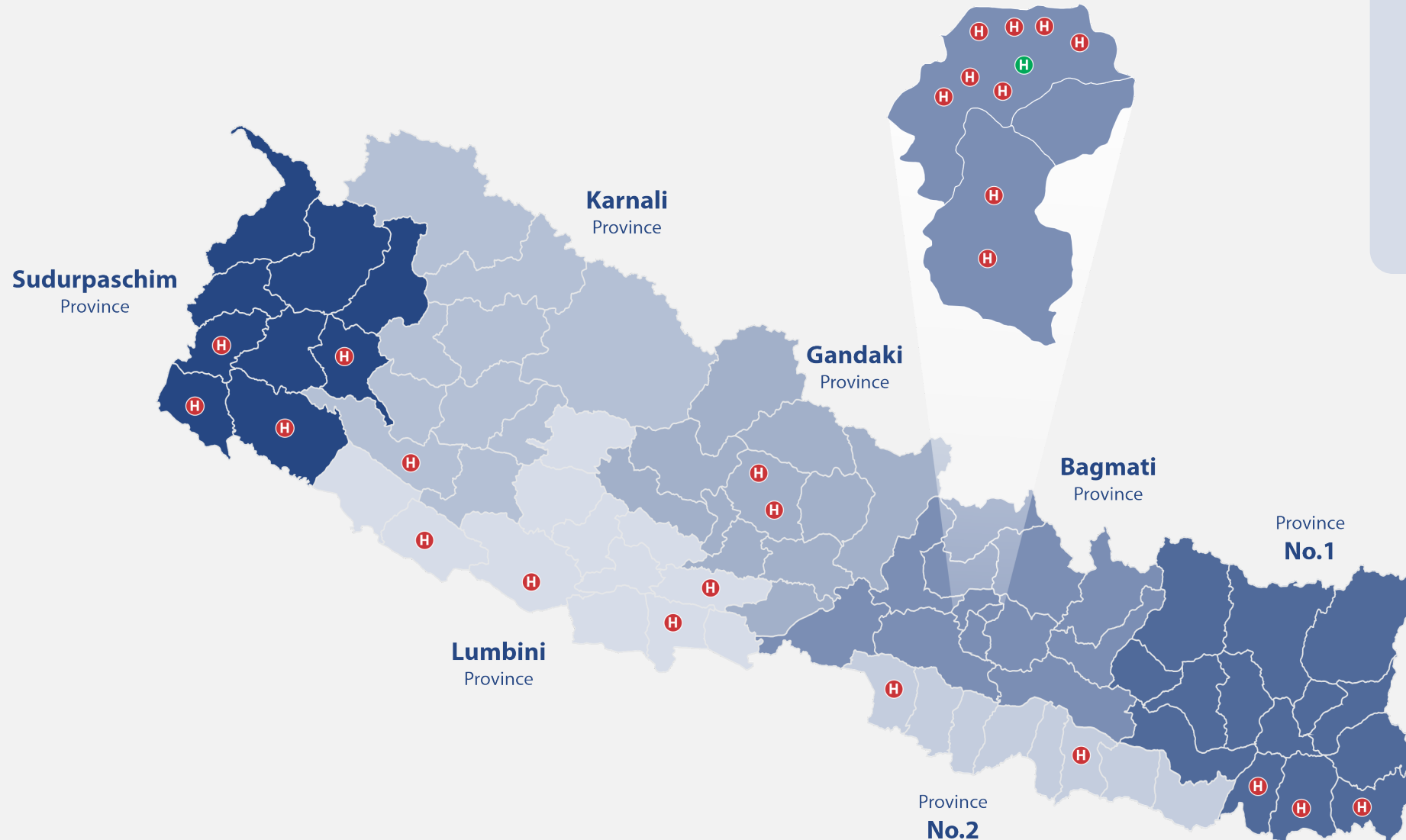
History of AMR Surveillance



Pathogens in The Surveillance

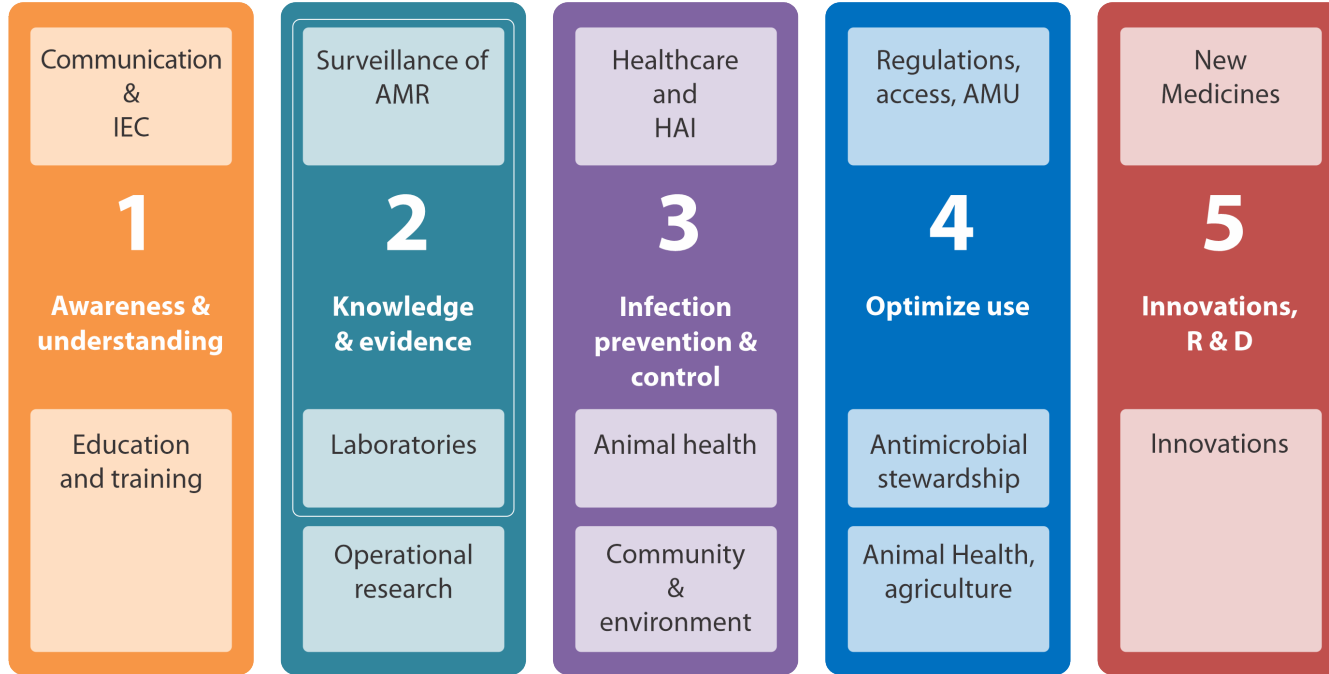


AMR surveillance sites (26 sites)



- Bacterial culture facility
- The higher volume of data generated (but not exactly defined)
- Voluntary participation

Global Action Plan (GAP)-AMR



Nepal Population 28.61 million

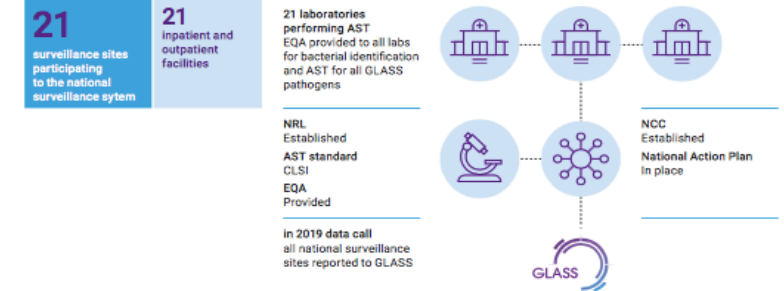
Antimicrobial surveillance started in Nepal since 1999 with six participating laboratories/hospitals. The network has extended and includes twenty-one hospitals/laboratories apart from National Public Health Laboratory (NPHL). NPHL has been designated as NCC and NRL for AMR surveillance in Nepal.

SURVEILLANCE ACTIVITIES	IMPLEMENTATION
GLASS-AMR	✓
GLASS-AMC	
HIV DR ¹	✓
DR TB ²	✓
Malaria TES ³	✓
Tricycle	✓
EGASP	

1. HIV Drug-Resistance
2. Drug-Resistant TB
3. Malaria Therapeutic Efficacy Studies

National AMR surveillance systems key indicators

Indicators reported to GLASS



Glass Data Submission

- GLASS (Global Antimicrobial Resistance Surveillance System) is a system that enables standardized global reporting of official national AMR data.
- Nepal has been enrolled in GLASS since 2017
- Data has been submitted for the years 2017, 2018, 2019 and 2020

HIV drug resistance surveillance	
Priority country for HIV: Tier ¹	
Year of most recent survey	2016
Type of survey	pretreatment HIV drug resistance (adults)

1. Countries categorized in the Tier 1 (high-priority country for HIV) are those comprising the 65% of global disease burden; countries categorized in the Tier 2 (medium priority country for HIV) contribute with an additional 15% of global disease burden.

Drug-resistant TB surveillance	
High burden country ²	No
Source of data	Survey
Surveillance coverage	National
Year of most recent activity	2011
Number of data points (1995-2019) ²	5

1. This indicates whether the country has been defined by WHO for the period of 2016-2020 as having a high burden of TB and/or multidrug-resistant TB (MDR-TB).
2. Number of years from which data are available between 1995 and 2019.

AMR data submission to GLASS (2019 data call)						
Specimen type	Pathogen	AST results	Age	Gender	Infection origin	Data on number of tested patient
Blood	Acinetobacter spp.	●	●	●	●	
	E. coli	●	●	●	●	
	K. pneumoniae	●	●	●	●	
	Salmonella spp.	●	●	●	●	●
	S. aureus	●	●	●	●	
Stool	S. pneumoniae	●	●	●	●	
	Salmonella spp.	●	●	●	●	●
Urine	Shigella spp.	●	●	●	●	
	E. coli	●	●	●	●	●
Genital	K. pneumoniae	●	●	●	●	
	N. gonorrhoeae	●	●	●	●	●

● 70-100% data reported ● <70% data reported ● No data reported

Ministry of Health's Leadership for implementation of CAPTURA Government of Nepal Ministry of Health and Population

- The Consortium engaged with AMR "One Health" Secretariat at QSRD from early inception phase for successful implementation of the project
- Country Implementation Plan was prepared by CAPTURA
- Plan approved and supported by MOHP
- Engagement with DDA for AMU/C activities
- NPHL provided technical support and shared laboratory data systematically collected through national AMR surveillance system over the years
- WHO Nepal CO supported



Facilities covered in Project

Total AMR data collected from Nepal: 602,307

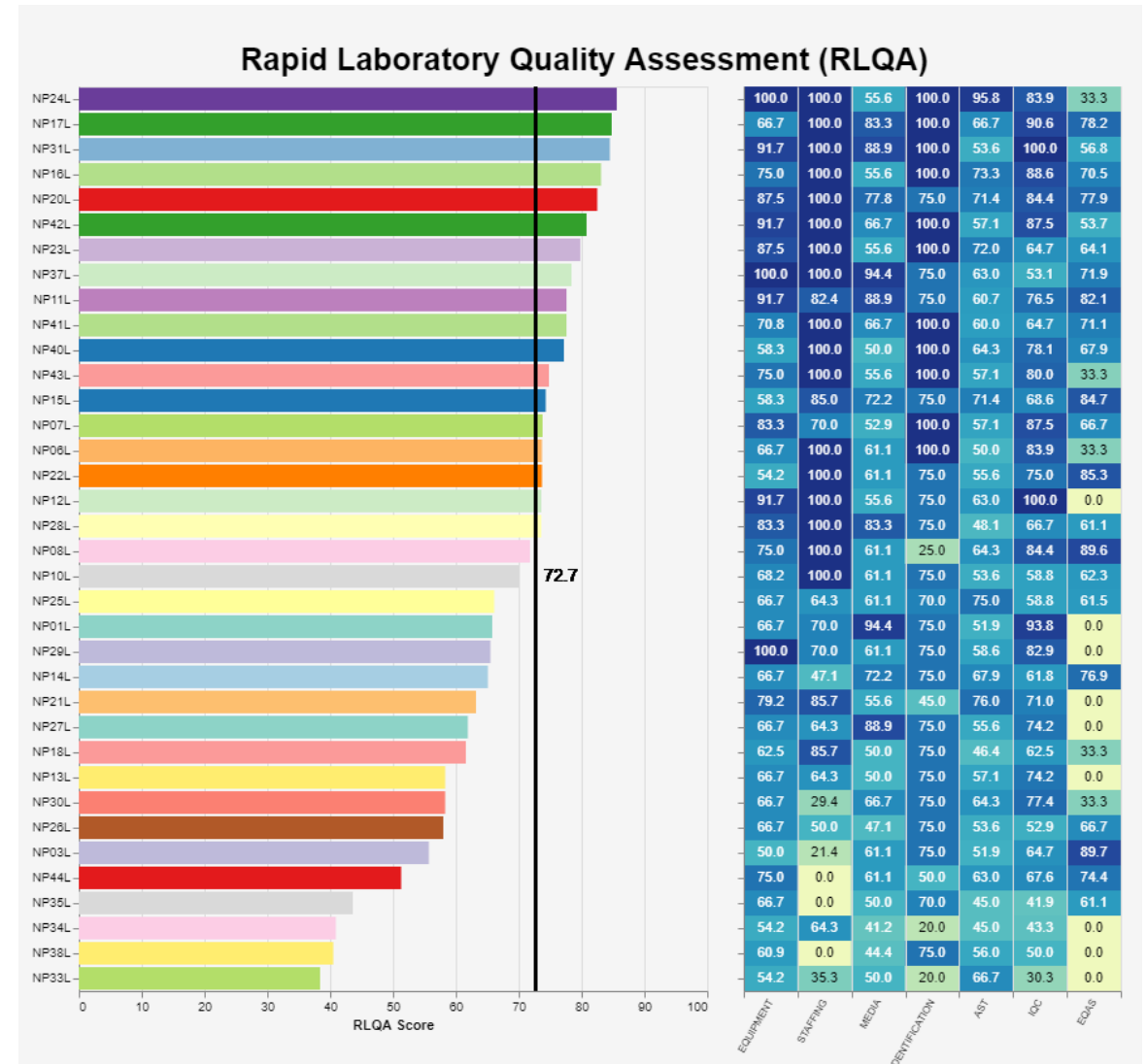
	Type of hospital						
	NPHL network			Outside network			Total
	Government hospital	Private hospital	Public-private	Government hospital	Private hospital	Clinic/Laboratory	
Province 1	1	0	0	0	2	0	3
Bagmati province	2	1	2	4	7	2	18
Gandaki province	0	1	0	0	0	0	1
Lumbini province	2	1	0	0	1	0	4
Sudurpaschim province	0	0	1	1	0	0	2
Total	5	3	3	5	10	2	28

Metadata: RLQA

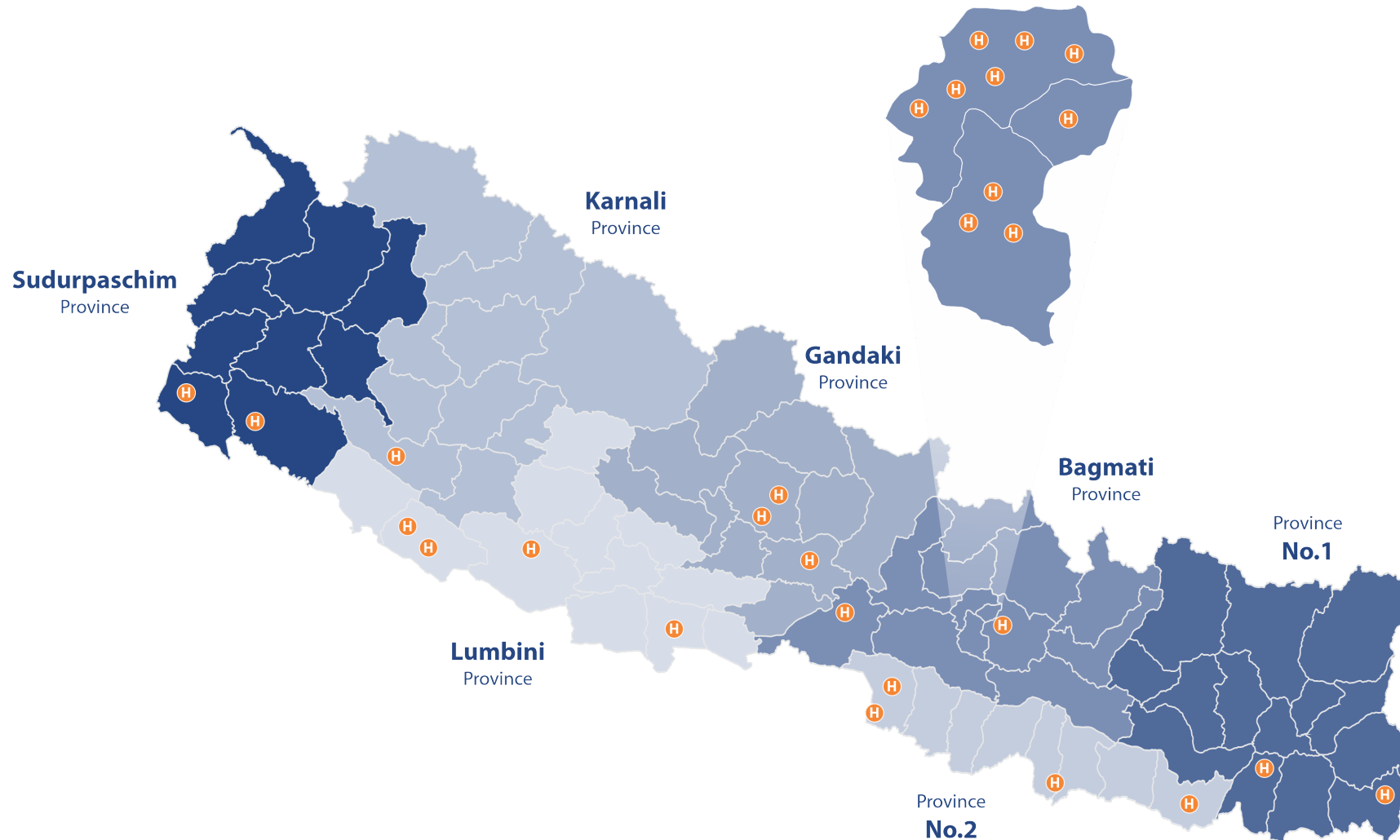
Assessment conducted n=36



*RLQA developed to grade the quality of data; the results to be interpreted cautiously



Expanding the AMR surveillance sites



- There are data. It is now time to collect, collate and put it to use for evidence-informed policy making.
- Unique way to create baseline data for Nepal to develop its plans and policy.
- We also can now conduct a retrospective analysis of other facilities too to know what has happened and identify gaps that need to be addressed in upcoming years by MOHP.
- Identified potential sites for surveillance network expansion.

Way Forward



The findings from Nepal will guide our future plans and policies



High time to increase the number of surveillance sites. Priority shall be given to the ones that are identified here.



Antimicrobial resistance is dynamic and unpredictable; needs constant surveillance



There is a need of data standardization among all the health institutes and laboratory with AMR data records



Based on AMR surveillance data Antibiotic prescribing guidelines should be updated annually to prevent AMR



Data sharing and timely data review from all the surveillance sites should be conducted periodically



Improved international collaboration and capacities for antibiotic resistance prevention, surveillance, control and antibiotic research a development



Further support is expected during the implementation of NAP AMR.

Thank you!



**Government of Nepal
Ministry of Health and Population**