Title: **Measles elimination in Ethiopia**

21th ARM, Immunization side meeting

October 15-18, 2019

Addis Ababa, Ethiopia.

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Outline

- Overview of measles elimination
- MCV1 coverage from different sources
- MCV2 coverage
- Measles cases distribution over time
- Challenges for measles elimination in Ethiopia
- Way forward

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Overview of measles elimination in Ethiopia

- Measles vaccine is given through RI starting at 9 months or shortly after and MCV2 at 15 months introduced (launched Feb, 2019)
- Ethiopia adopted the accelerated measles control strategy in 2001
- Initiated measles case based surveillance in 2003 integrated with AFP surveillance.
- Measles catch up, & preventive follow up SIAs were implemented
- In 2012 the country adopted the regional measles elimination strategy (Resolution AFR/RC61/R1)

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Measles elimination goal

- **Achieve and maintain measles incidence <1 cases per million populations,**
- **Achieve and maintain MCV1 coverage ≥95% at National and District levels,**
- **Achieve at least ≥ 95% SIAs coverage in all Districts,**
- **Achieve non-measles febrile rash illness rate ≥ 2/100,000 population /year,**

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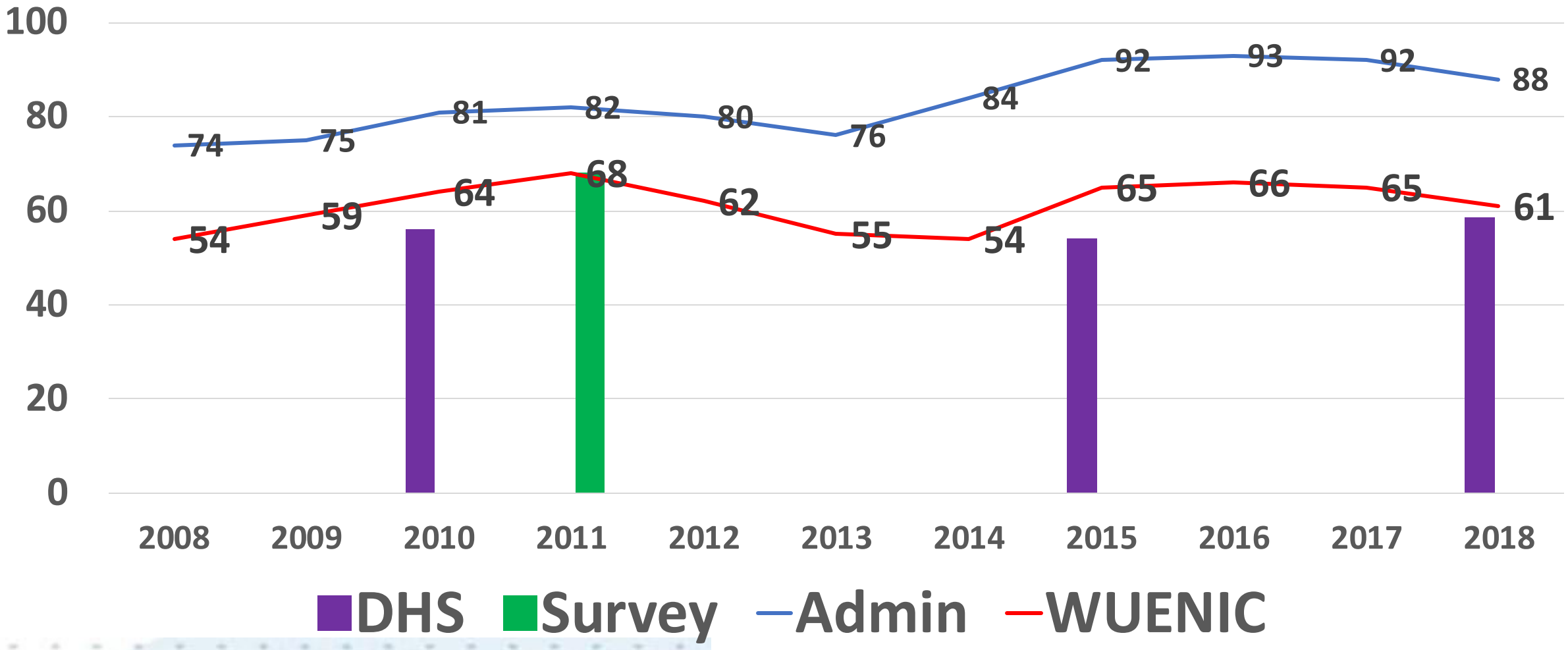
MCV1 Coverage by different sources 2008-2018



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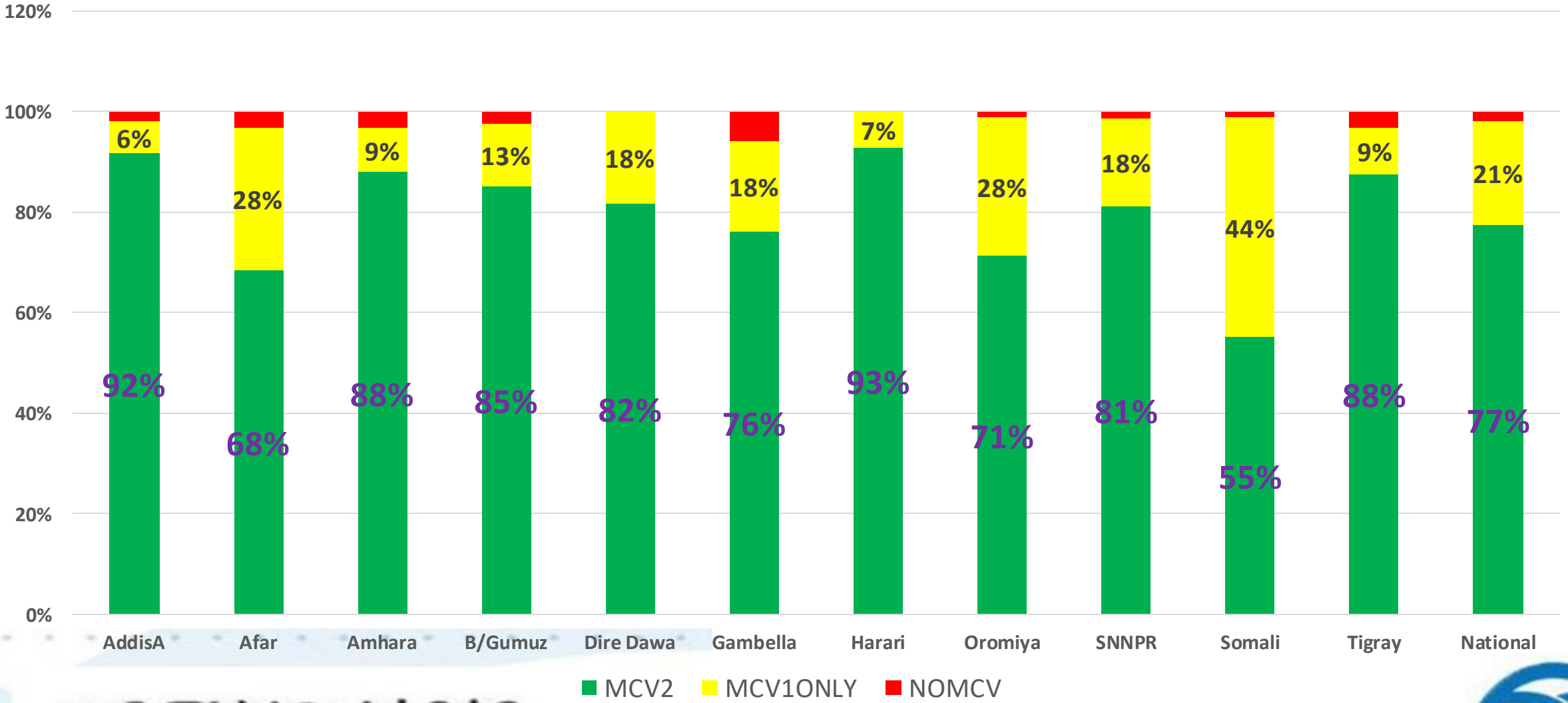
Number of MCV2 vaccinated and coverage by region

MCV2 introduced On Feb 2019. In 8 months 1.45 million vaccinated.

Region	MCV2 vaccinated	MCV2 %
Addis Ababa	56,239	49%
Afar	7,203	14%
Amhara	392,662	57%
B/Gumuz	17,335	52%
Dire Dawa	4,222	28%
Gambella	3,525	27%
Harari	3,657	49%
Oromiya	488,069	41%
SNNP	395,103	65%
Somali	25,501	14%
Tigray	59,394	34%
National	1,452,910	47%

Health facility MCV2 roll out by region, Sept, 2019



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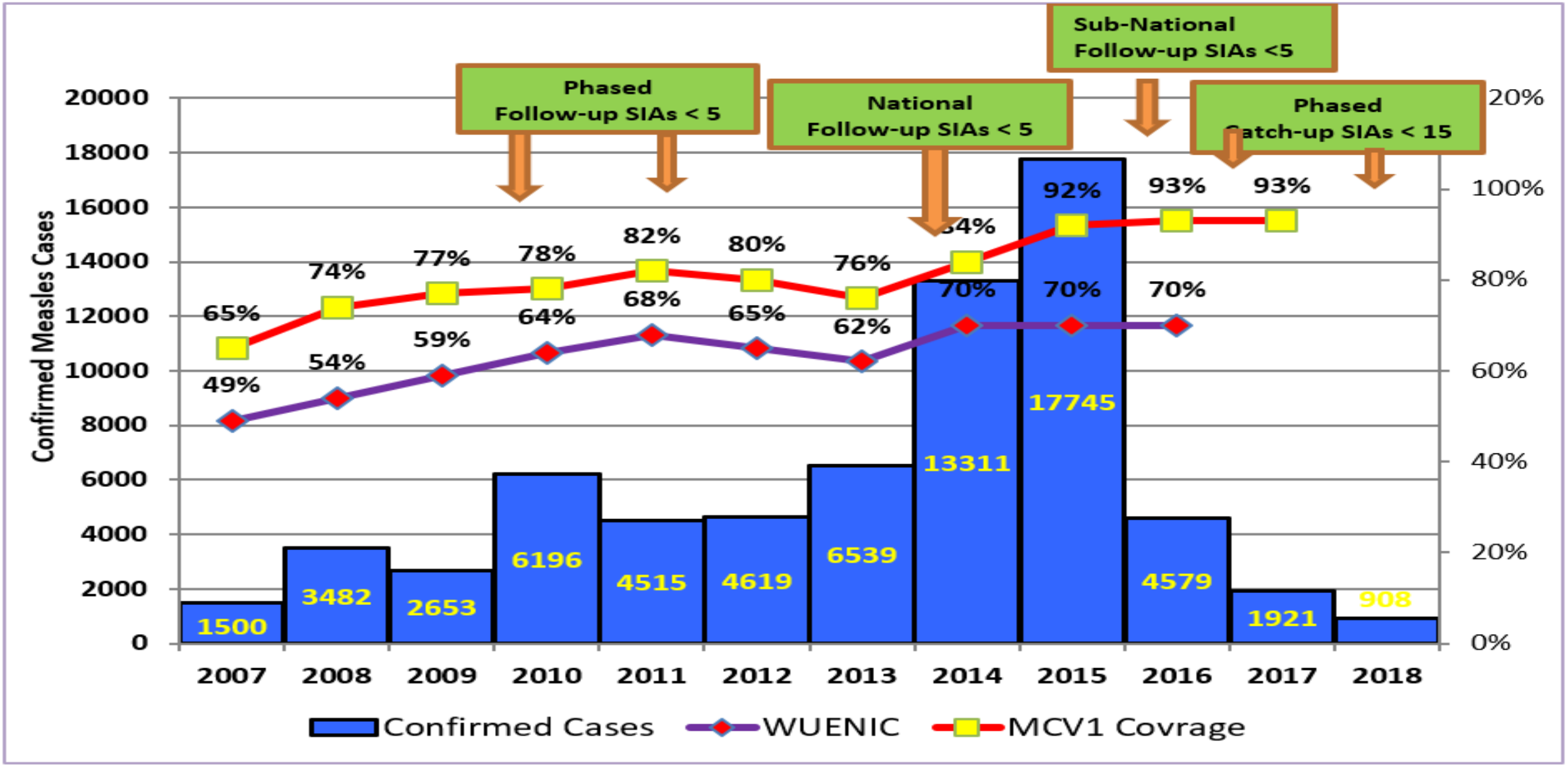
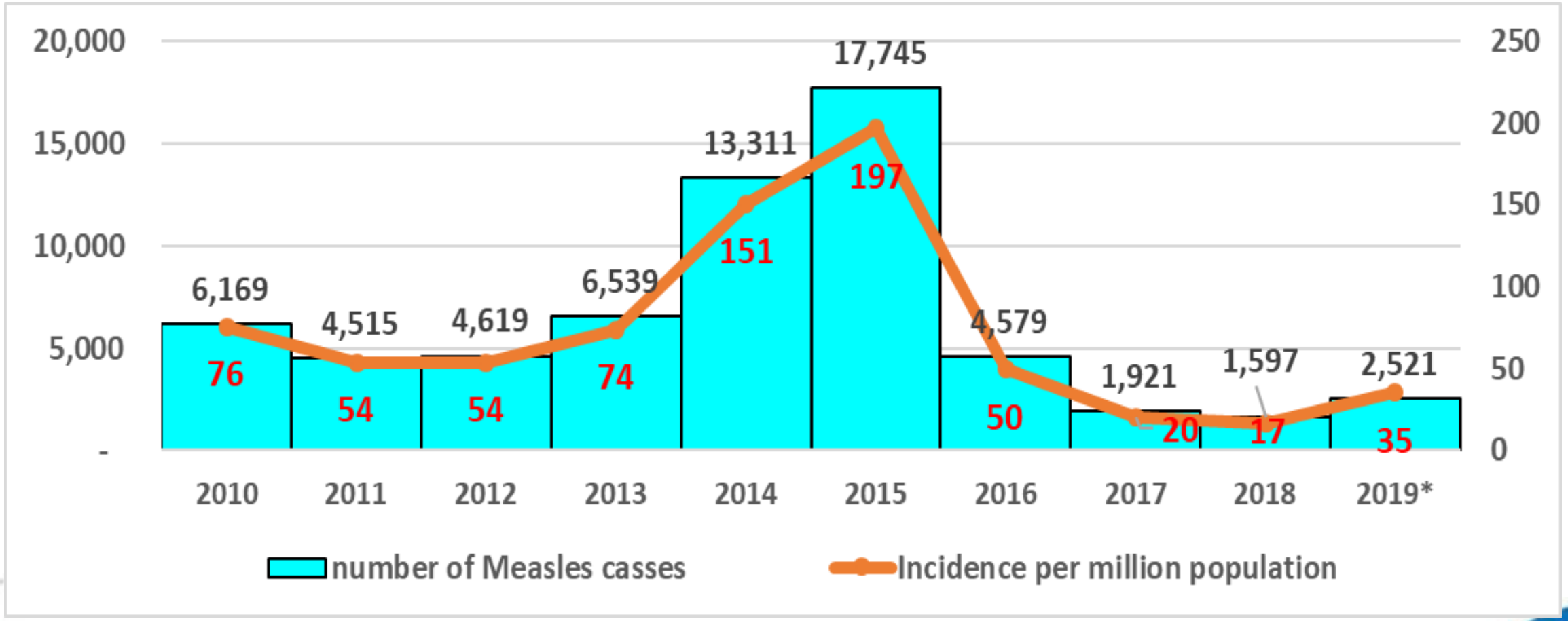
Confirmed measles reported cases, SIAs and RI coverage



Measles cases and incidence 2010-2019*



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2019* =37th week of 2019

Challenges (1)

- **Data quality**
  - JRF 2017 report:
    - **28% of woredas have MCV1 coverage of >=100%**
    - **Three regions had coverage >=95%**
    - **Difficult to identify communities with immunity gap (high risk population) using MRA tool to prevent outbreaks**

      Data triangulation shows :
    - **MCV1 coverage not consistent with proportion of vaccinated cases (PCV)**. In regions with >=95% coverage, the PCV should be 74% or more.
    - Outbreaks in woredas with high measles coverage

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Challenges (2)

- **Sub optimal routine MCV1 coverage**
  - **EDHS 2016 measles coverage 54%:**
    - **with 85% sero conversion only 46% protected**
  - **Proportion of vaccinated confirmed under five years age measles cases in 2019 (23%)**
  - **Proportion of under five confirmed measles cases in 2019 is increasing (51%)**
- **Invalid dose administration:**
  - **About 25-28% administered measles doses are invalid in some regions, up to 40% in valid measles dose administration**

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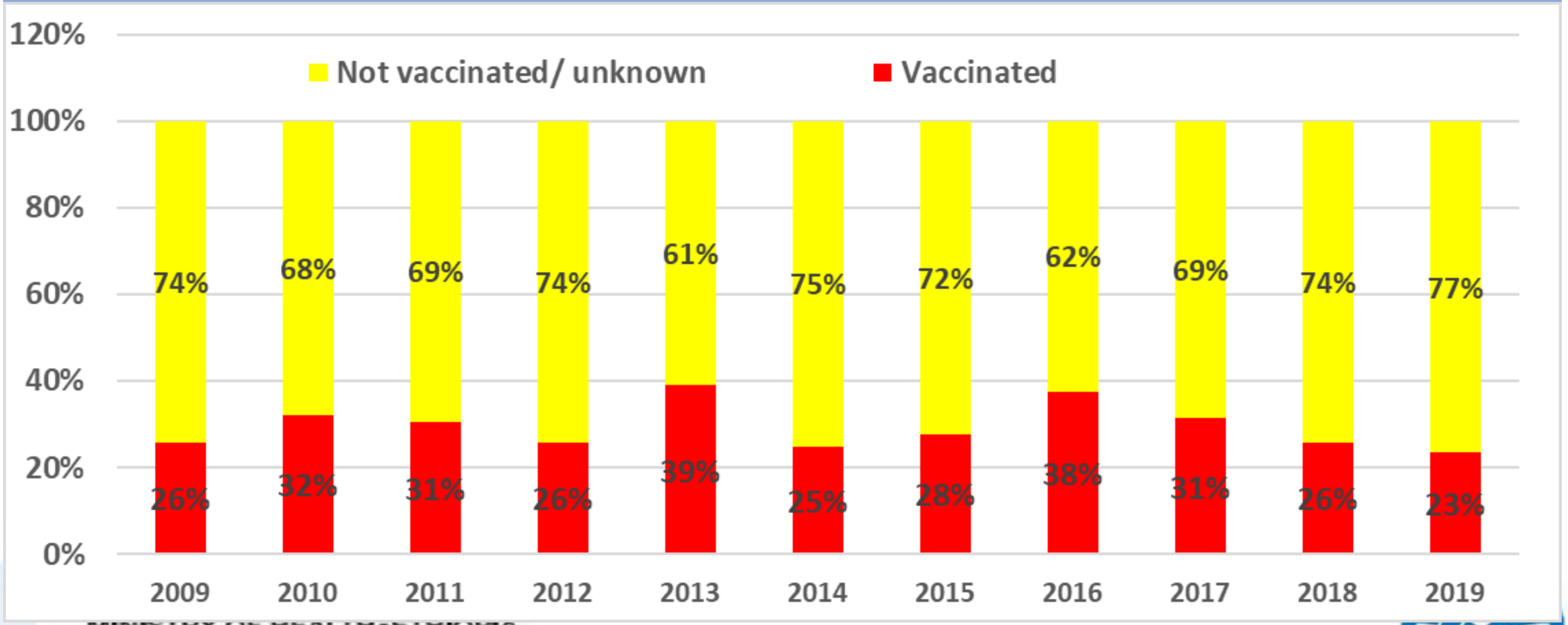
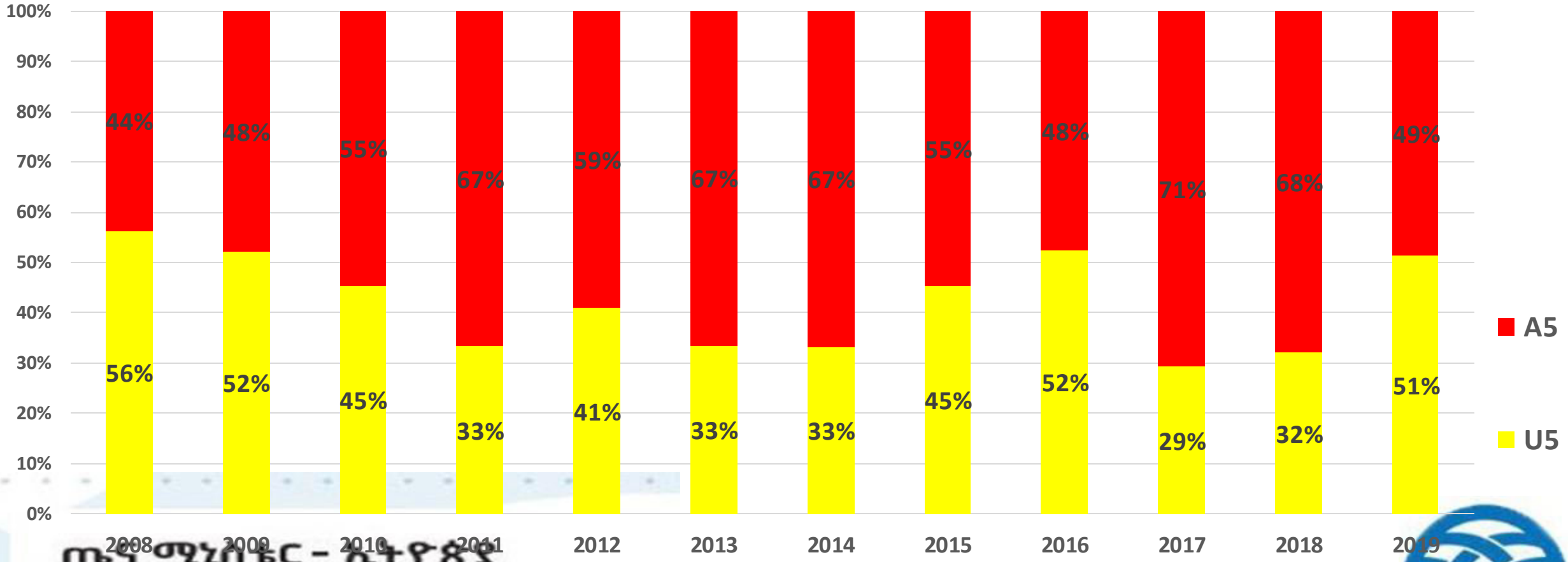
Sub optimal immunity: Proportion of under five confirmed measles cases vaccinated with at least one dose of measles vaccine (2008-2019*)



2009*=31wk of 2019

Sub optimal coverage(U5yrs): Proportion of confirmed measles cases under 5 years (U5) and above 5 years (A5) by year



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Proportion of measles age invalid measles doses (among 12-23 months old children with recorded date of vaccine receipt, from EDHS-2016 analysis)

Region	<270 days	270-365 days	>365 days	Total	Proportion of invalid dose
Addis Adaba	8	80	2	90	9%
Afar	2	13	5	20	10%
Amhara	20	53	7	80	25%
B-Gumuz	28	40	6	74	38%
Dire Dawa	14	52	13	79	18%
Gambela	9	22	6	37	24%
Harari	6	38	5	49	12%
Oromia	17	32	13	62	27%
SNNPR	39	49	10	98	40%
Somali	18	19	6	43	42%
Tigray	36	93	13	142	25%
	197	491	86	774	28.6%

Sub optimal SIAs immunization coverage

- In 2017 post measles coverage survey:
  - 22 of the 99 Zones (22.2%) achieved the 95% coverage threshold.
  - 29 of the total 99 (29.3%) surveyed zones were classified as fail, since their upper confidence bound was below the desired 95% coverage threshold.
  - 48 (48.5%) of the zones were classified as intermediate

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Challenges for currently available MCV vaccine

- Being injectable measles vaccine make house-to-house strategy for measles campaigns and outbreak response very difficult
- Multi-dose vials (10-dose and 5-dose) identified as a major cause for missed opportunity for timely vaccination
- Vaccine has to be discarded after 6 hours of reconstitution
- Errors leading to AEFI negatively impact coverage
- Batching of children – asking mothers to come back another time leads to delayed vaccination and invalid doses

Way forward

- Operational research on underlying reasons for administration of invalid measles doses, data quality issues, and switch to smaller dose containing vial (5 dose switch)
-
- Establishing 2nd year of life platform immunization and providing missed MCV1 and MCV2 doses, linking MCV2 delivery to other child health programs:
- LQAs in poor performing woredas and developing and implementing improvement plan, and with follow up LQAs to monitor progress
- House to house registration of under two children and mobilizing for MCV1 and MCV2 vaccination though PIRI in hard to reach areas
- Collaboration with Ministry of education for screening and linkage for vaccination
- Avoiding missed opportunities through training of health workers to open measles vaccine vial to vaccinate all children coming to health facilities and outreach sites

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I Thank you

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