



# 8<sup>th</sup> MENA Influenza Stakeholders Network Meeting

April 10-11, 2018

Marriot MENA House Hotel, Cairo, Egypt

## **KENYA COUNTRY PRESENTATION**

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# Focus of presentation

- 1. Influenza burden and surveillance surveillance**
- 2. Influenza diagnostics and vaccination**
- 3. Influenza related social mobilization and  
other activities planned at country level**

# Overview of Kenyan Situation

- Influenza viruses circulate in Kenya for most of the year
- In 2013, Ministry of Health released its first ever influenza vaccination policy
- In Kenya, from the national sentinel surveillance sites in 2013
  - Reported 1254 specimens were received from entire country,
  - Of which 178 were positive for influenza;
  - 42 (3%) were positive for influenza A and 136 (10.8%) were influenza B positive.
- The surveillance is ongoing for influenza like illnesses.
- Influenza surveillance was established partly in response to the global emerging threat of avian influenza A(H5N1)

# Overview of Kenyan Situation

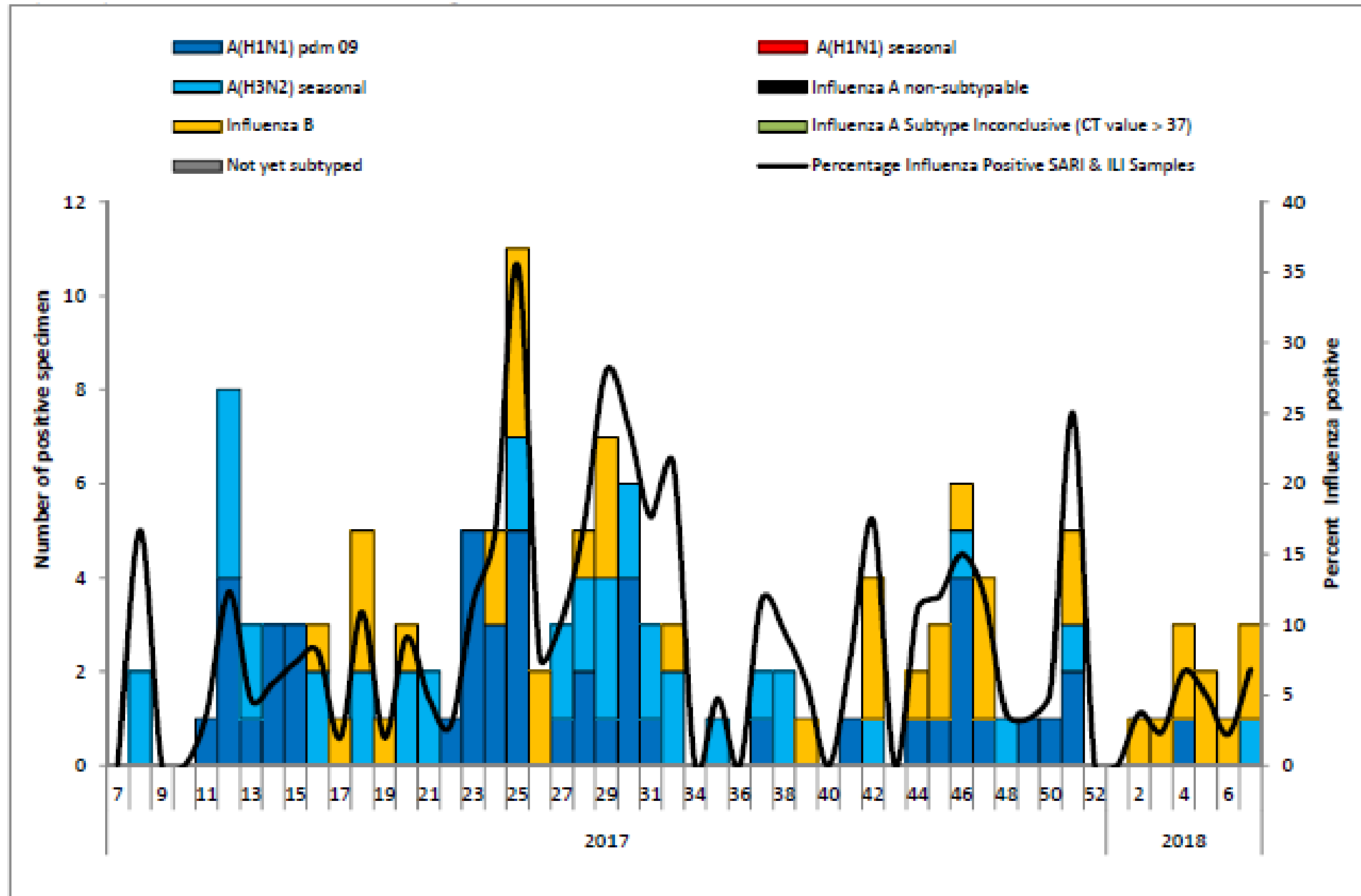
- In pandemics, Kenya recommends that all individuals should have the opportunity for immunization, with prioritization
  - for children < 5 years and elderly >65 years.
- Occasionally, animal influenza strains may infect humans and cause serious illness, such as the Avian flu virus. In such situations, international measures of outbreak control should be observed.
- When need arises, special influenza vaccines are made available in response to emergence of newer viruses of combination of existing viruses.
  - Some of these viruses include: avian influenza (H5N1) and H1N1 viruses.
- **Guidelines on the use of these vaccines will be provided by the Ministry of Health as necessary.**

# Summary of current surveillance Program in Kenya

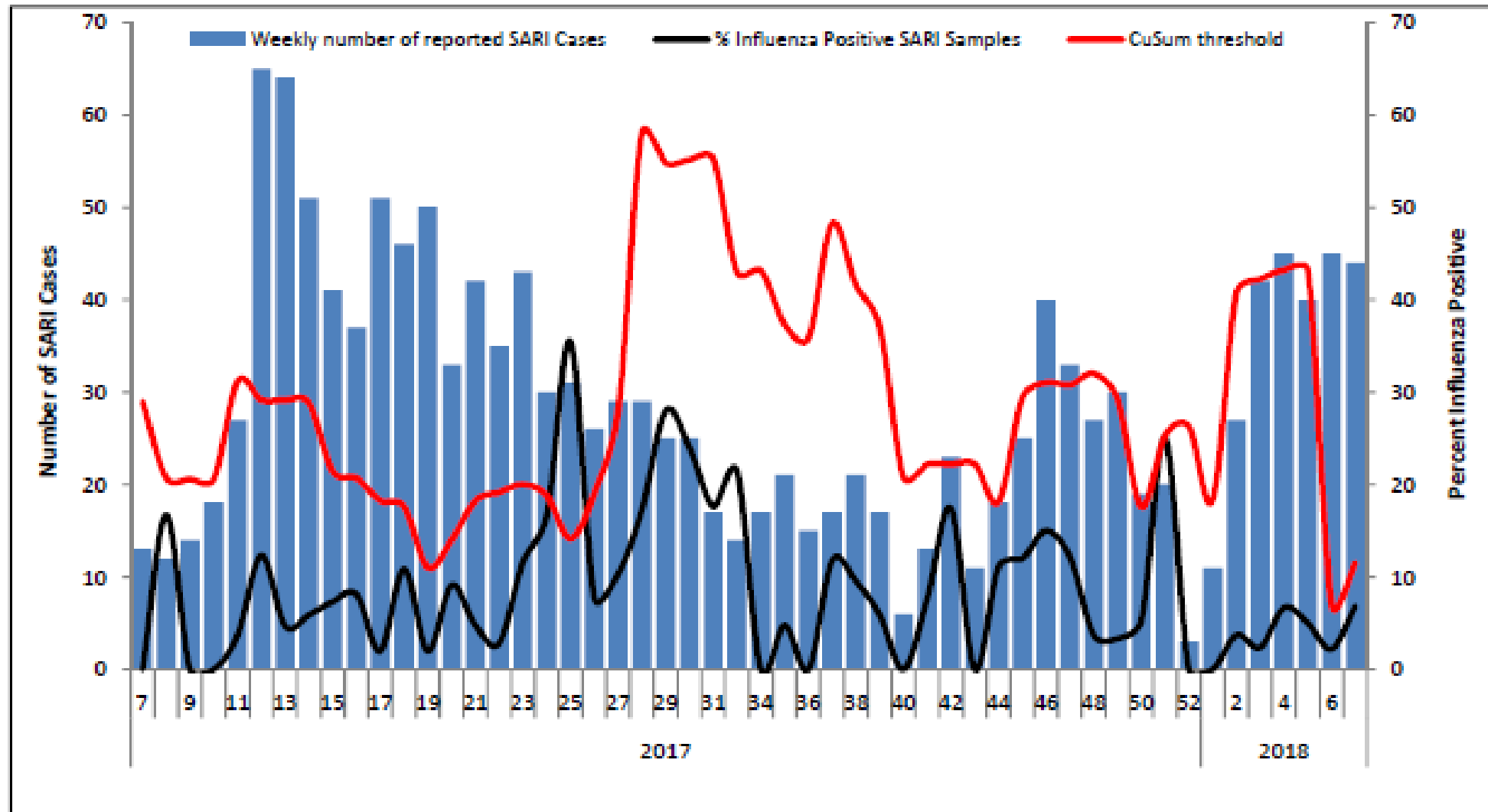
- 3 main types in Kenya : seasonal, zoonotic and pandemic influenza
- Weekly reports are generated from data collected from six influenza sentinel surveillance sites run by the Kenyan Ministry of Health in collaboration with the Kenya Medical Research Institute and Centers for Disease Control and Prevention, Kenya.
- The sites are; Mombasa CRH, Kakamega CRH, Kakuma Refugee Camp Hospital, KNH, Nakuru CRH, Marsabit CRH and Nyeri CRH.
- We collect epidemiological data and respiratory specimens (oropharyngeal and nasal swabs) from all SARI cases and test the specimens for the presence of influenza virus using real-time RT-PCR.
- Specimens positive for Influenza A are sub-typed using the same test.

# Circulating influenza viruses in Kenya –

No. of specimens testing positive for influenza types, subtypes and %age testing positive



# Weekly number of hospitalized SARI patients, and percent of SARI specimens testing positive for influenza from six sentinel sites, epi-week 07/2017 through epi-week 07/2018

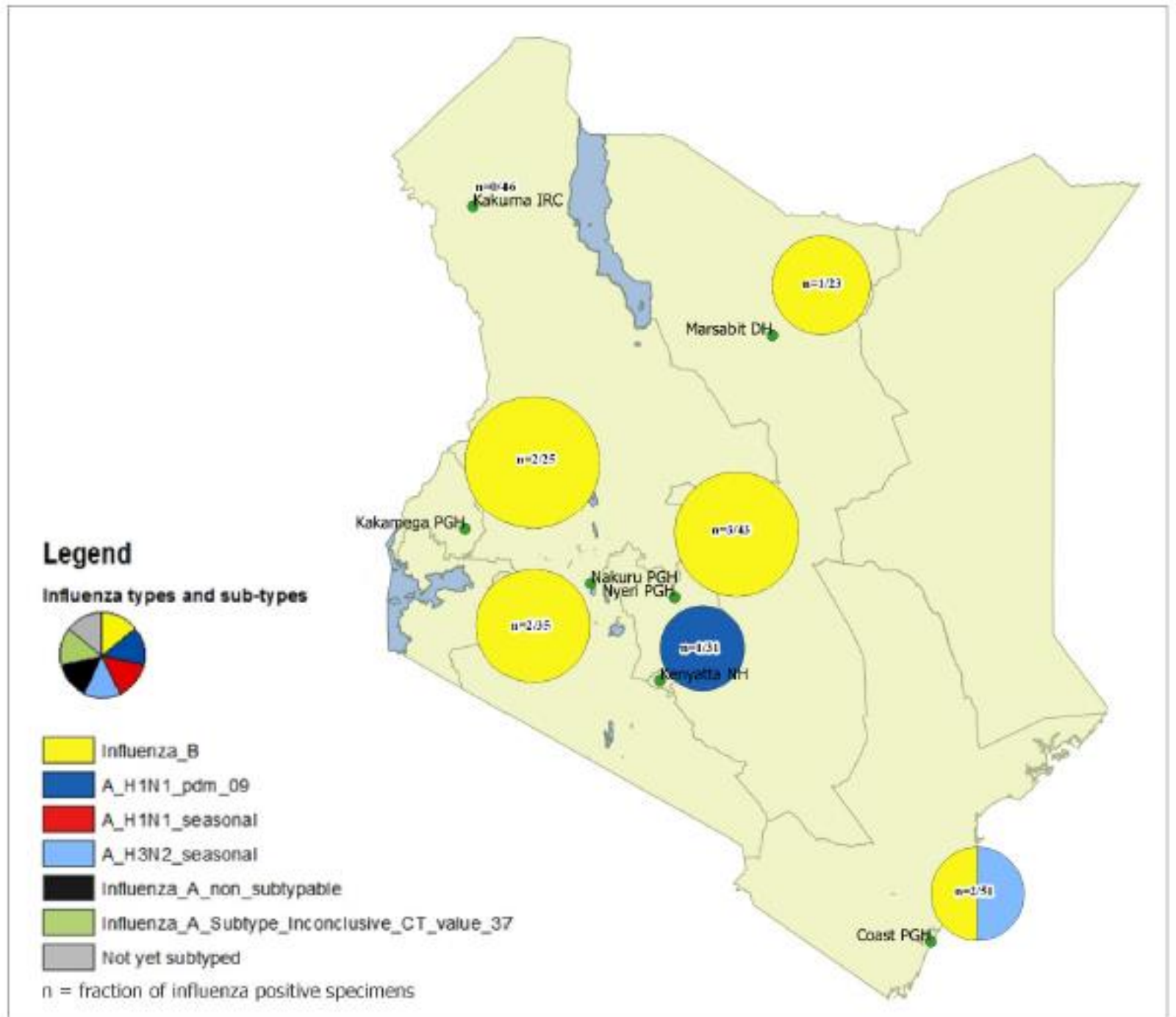


# Summary of number of specimen tested, types and subtypes of influenza isolated from sentinel sites, epi week 01, 2018

Data Summary from All Sites (7 Sites)	Current epi week (07)		Cumulative since epi week 1 2018	
	Number	Percent (%)	Number	Percent (%)
Number of specimens Received:	44		254	
Number of specimens Tested:	44	100.0	254	100.0
<b>Number of specimen positive for influenza virus(es):</b>				
Influenza A	1	2.3	2	0.8
Number of samples with subtyping tests done	1	100.0	2	100.0
A (H1)	0	0.0	0	0.0
Pandemic A (H1N1)	0	0.0	1	50.0
A (H3)	1	100.0	1	50.0
Influenza A non-subtypeable	0	0.0	0	0.0
Influenza A Subtype Inconclusive (CT value > 37)	0	0.0	0	0.0
A (Not yet Subtyped)	0	0.0	0	0.0
Influenza B	2	4.5	9	3.5
Total number of specimen positive for both influenza virus(es) A and B:	0	0.0	0	0.0
<b>Total number of specimen positive for influenza virus(es) A or B</b>	<b>3</b>	<b>6.8</b>	<b>11</b>	<b>4.3</b>



# Types and subtypes of influenza wef 1/1/2018



## RESEARCH ARTICLE

# Influenza-Associated Disease Burden in Kenya: A Systematic Review of Literature

Gideon O. Emukule<sup>1\*</sup>, John Paget<sup>2,3</sup>, Koos van der Velden<sup>3</sup>, Joshua A. Mott<sup>1,4,5</sup>

Ten studies reporting the incidence of medically-attended and non-medically attended influenza were reviewed. For all age groups, the influenza positive proportion ranged from 5–10% among hospitalized patients, and 5–27% among all medically-attended patients (a combination of in- and outpatients). The adjusted incidence rate of hospitalizations with influenza among children <5 years ranged from 2.7–4.7 per 1,000 [5.7 per 1,000 in children <6 months old], and were 7–10 times higher compared to persons aged  $\geq 5$  years. The adjusted incidence of all medically-attended influenza among children aged <5 years ranged from 13.0–58.0 per 1,000 compared to 4.3–26.0 per 1,000 among persons aged  $\geq 5$  years.

**Table 1. Average annual incidence rates of hospitalization with influenza for different respiratory syndromes (per 1,000 persons or person-years) in Kenya.**

Author(s)	Syndrome type	Adjustment used	Study site	Age group	Incidence <sup>a</sup> Range <sup>b</sup>
Berkley et al. (2010)[15] and Onyango et al. (2012) [16]	Hospitalized Severe or very severe pneumonia	None stated	Kilifi	< 1 yr	1.5–2.4
				<5 yrs	0.6–0.8
Ahmed et al. (2012)[17]	Hospitalized SARI	None stated	Kakuma & Dadaab refugee camp	< 1 yr	10.3–12.3
				< 5 yrs	4.2–5.6
Fuller et al. (2013)[10] and Emukule et al. (2014)[18]	Hospitalized SARI	Healthcare seeking; those with syndrome who did not have swabs tested for influenza virus	Siaya, Western Kenya	<6 mos	5.7
				<5 yrs	2.7–4.7
				≥5 yrs	0.2–0.4
Feikin et al. (2012)[12]	Hospitalized ARI	Rates adjusted for those hospitalized with ARI who did not have swabs tested for influenza	Bondo, Western Kenya	All ages	0.7–1.1
				<1 yr	1.4
				<5 yrs	1.4
All studies	All syndromes	With or without any adjustment	All study sites	All ages	0.6
				<6 mos	5.7
				<1 yr	1.4–12.3
				<5 yrs	0.6–5.6
				≥5 yrs	0.2–0.4
				All ages	0.6–1.1

**Table 2. Average annual incidence rates of medically-attended influenza A and/or B (hospitalized and outpatient) per 1,000 persons or person-years in Kenya.**

Author(s)	Syndrome type	Adjustment used	Study site	Age group	Incidence <sup>a</sup> Range <sup>b</sup>
Katz et al. (2012)[11]	In- and outpatient ALRI	Adjusted for those with ALRI who were not tested for influenza	Kibera and Lwak	< 1 yr	32.8–42.1
				<5 yrs	22.0–40.5
				≥5 yrs	12.0–15.8
				All ages	13.7–23.0
Feikin et al. (2013)[14]	In- and outpatient SARI	Adjusted for healthcare seeking by extrapolating from those with ARI <sup>†</sup> at household visit who sought care at a clinic besides the study clinic and for the pathogen-attributable fraction (PAF <sup>y</sup> )	Lwak, Western Kenya	<5 yrs	58.0
Breiman et al. (2015)[20]	Outpatient SARI	Adjusted for healthcare seeking for SARI at the study clinic and for the pathogen-attributable fraction (PAF <sup>y</sup> ).	Kibera	<5 yrs	13.0
Feikin et al. (2012)[13]	In- and outpatient ARI	Adjusted for healthcare seeking by extrapolating from those with ARI <sup>†</sup> at household visit who sought care at a clinic besides the study clinic and for the pathogen-attributable fraction (PAF <sup>y</sup> )	Lwak, Western Kenya	≥5 yrs	26.0
Emukule et al. (2014)[18]	Outpatient ILI	Adjusted for those with ILI who were not tested for influenza	Ting'wang'i, Western Kenya	<6 mos	16.2
				<5 yrs	21.8
				≥5 yrs	4.3
				All ages	7.2
All studies	All syndromes	With any adjustment	All study sites	<6 mos	16.2
				< 1 yr	32.8–42.1
				<5 yrs	21.8–58.0
				≥5 yrs	4.3–26.0
				All ages	7.2–23.0

# Challenges facing Program in Kenya

- Poor awareness in the public and health workers about influenza/or vaccine
- Burden of influenza disease not well understood – morbidity, mortality, loss of working hours.
- Lack of clear messaging and social mobilization
- Risk of hesitancy and negative messaging and lack of clear message as to vaccine benefits
- Yet to customize and translate WHO recommended tools for surveillance
- Inadequate funding for research on influenza
- Lack of finances to procure vaccine – Mostly vaccine is available in private, vaccine not routine in government facilities

# Country objectives for the upcoming 3 years

- Improve uptake and coverage of influenza Vaccine Coverage – through roll out for special/at risk groups
- Promote education of community, village health teams and HCW training on old and current recommendations of influenza and vaccines
- Increasing general population awareness on yearly influenza vaccination
- Increasing HCWs awareness on yearly influenza vaccination and indications
- Increasing awareness for high risk target groups, and educate them on vaccine indications
- Conducting researches related to vaccination (demand, barriers, uptake, hesitancy...)

# Recommended Solutions

- More Government/MOH involvement
- Health education/promotion – training for HCWs, VHT, VVTs, general public
- Improve rapid response during outbreaks
- Need for tailored communication messages and IEC materials in local languages/Language barrier
- Public-private partnerships
- More research to clearly define burden of disease and prevention approaches
- GAVI sponsor vaccine for at risk groups