



Global Influenza Hospital Surveillance Network



SPC for Sanitary-Epidemiological Expertise and Monitoring, Public Health Committee
Ministry of Health of the Republic of Kazakhstan

The system of epidemiological surveillance of influenza and other ARVI in the Republic of Kazakhstan.

The introduction of a system of hospital epidemiological surveillance of influenza in hospitals of Almaty, Kazakhstan

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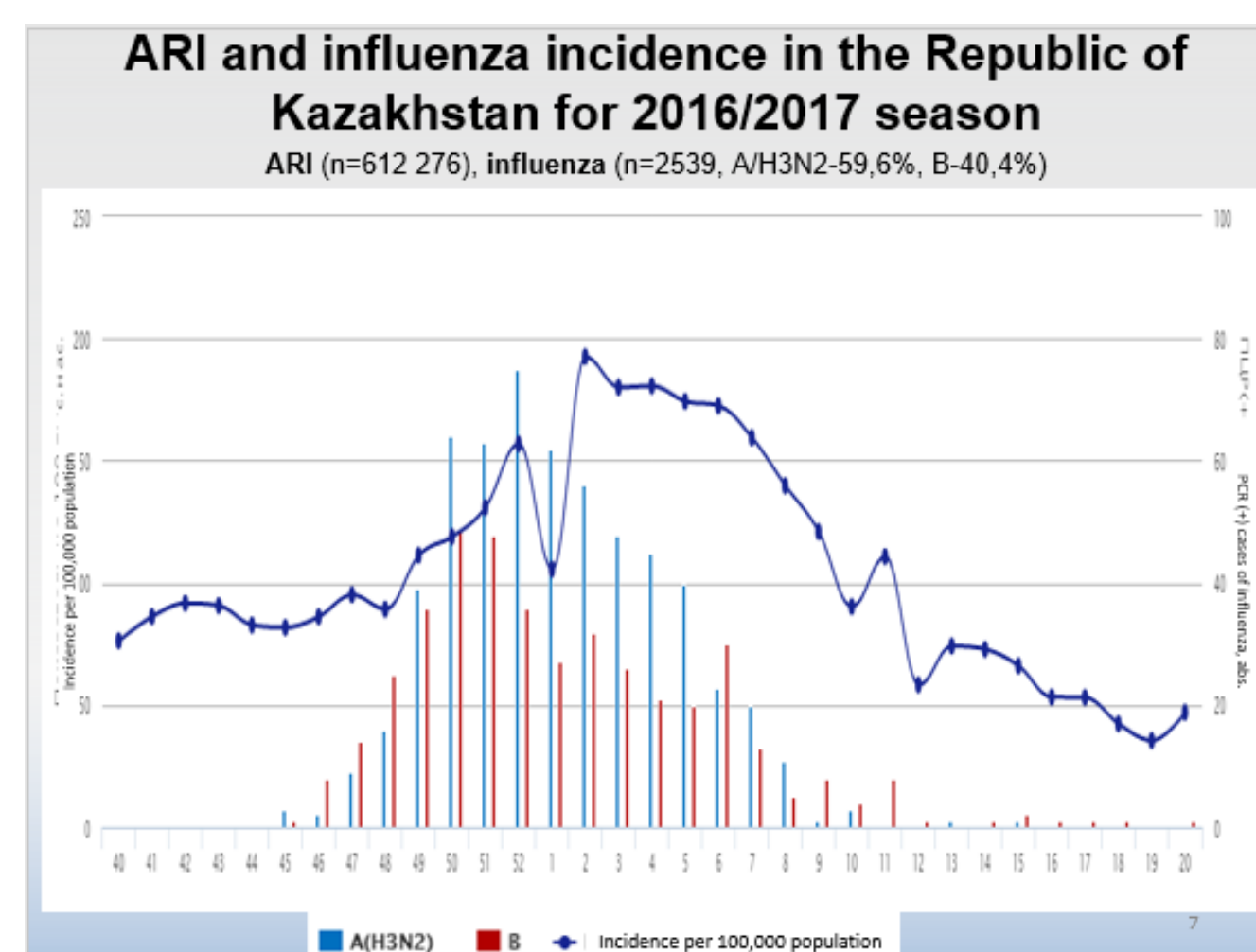
ARI and influenza surveillance in the Republic of Kazakhstan

Sentinel surveillance

- is epidemiological surveillance over the dynamics of influenza incidence among selected groups of patients – ILI and SARI in selected sentinel sites on the basis of sentinel hospitals and outpatient clinics with the use of the standard case definition in selecting patients and collection of specimens from them for laboratory confirmation.
- There are 9 sentinel regions (Almaty, East-Kazakhstan, Zhambyl, West-Kazakhstan, Mangistau, North-Kazakhstan, South-Kazakhstan, oblasts and the cities of Almaty and Astana)
- 53 sentinel centers (28 outpatient clinics, 25 hospitals)
- Conduction period: all year round

Routine surveillance

- Monitoring of the level and dynamics of incidence and mortality from ARI, influenza and their complications (pneumonia) based on accounting the number of registered cases throughout the territory of the country by visits for clinical signs of an acute respiratory influenza-like illness and/or pneumonia;
- Monthly collection of specimens for laboratory testing at least from 10 ARI patients with clear clinical signs during pre-epidemic and epidemic seasons;
- Conduction period: 40 to 20 week of epidemiological season



Site presentation

This study was funded by the Foundation for Influenza Epidemiology:

1. Infectious diseases municipal hospital - 300 beds,
2. Pediatric infectious diseases municipal hospital 360 beds.

Staff working for the study: 8am on Monday and 8am on Saturday each week.

Before conducting and during the investigation the coaching staff.

The number of that population for hospitals: 1 349 282 and 161811 people

Methods

Data Collection: questionnaire

The main criterion for inclusion in the study[^]

European Centre for Diseases Control (ECDC) definition of influenza like-illness (ILI): - A Combination of:

At least one of the following four ILI systemic symptoms :

- Fever or feverishness
- Headache
- Myalgia
- Malaise

At least one of the following three ILI respiratory symptoms:

- Cough
- Sore throat
- Shortness of breath

Informed consent

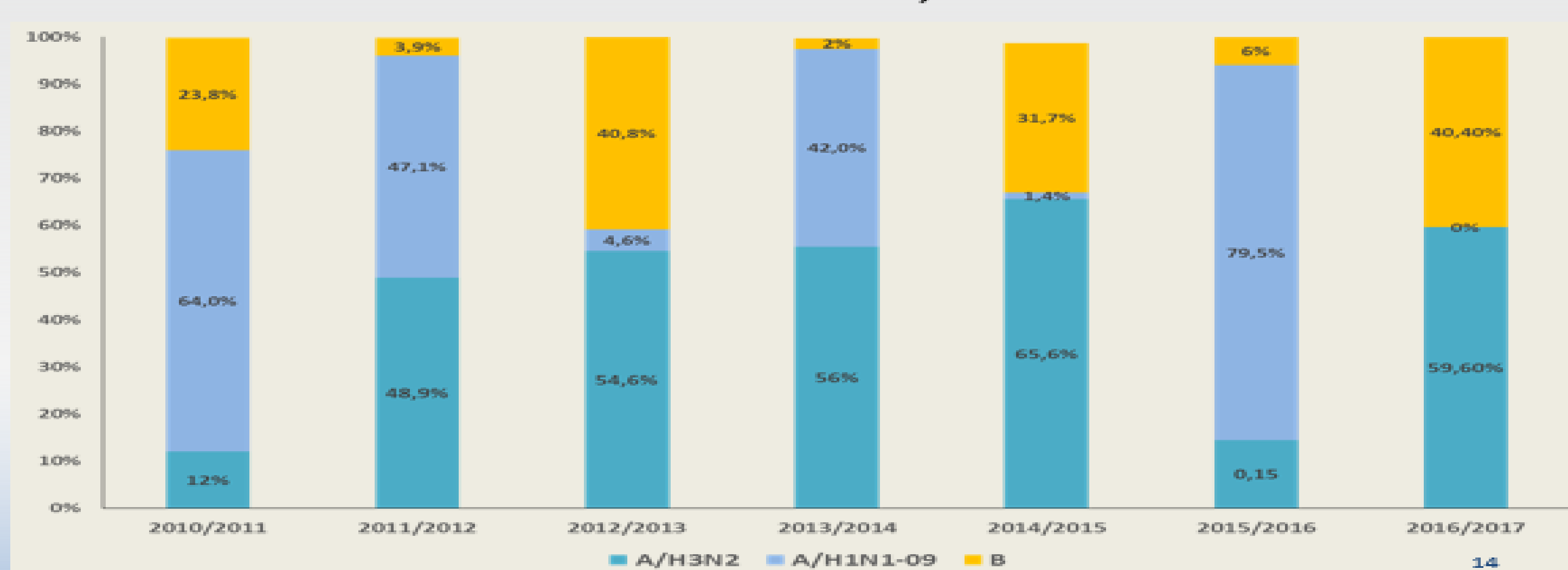
Informed consent is required for all patients.

Laboratory examination

Was performed 1 year and older.

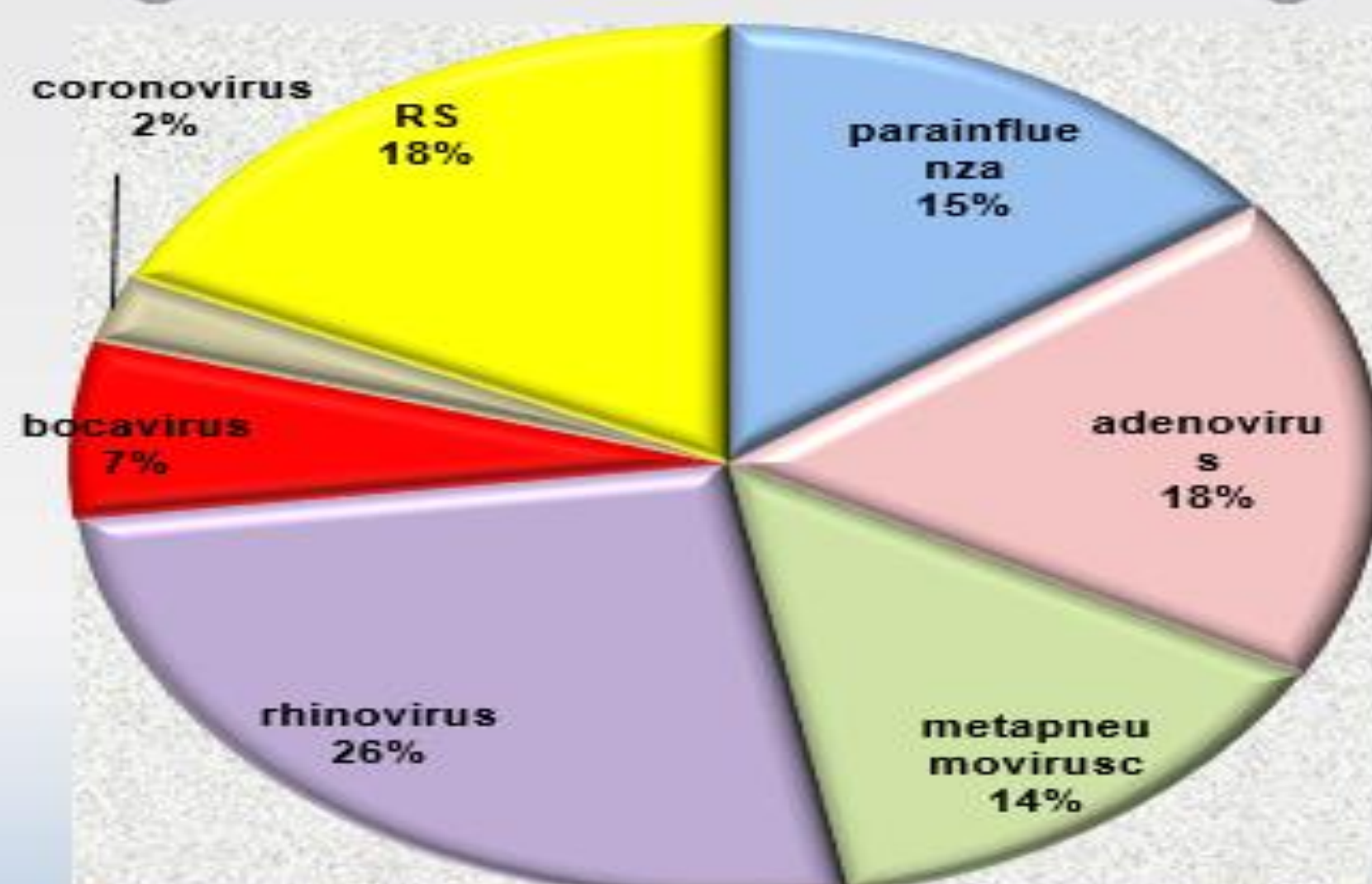
Results

Etiological structure (PCR +) of influenza viruses by subtype for 2010-2017, Republic of Kazakhstan, %

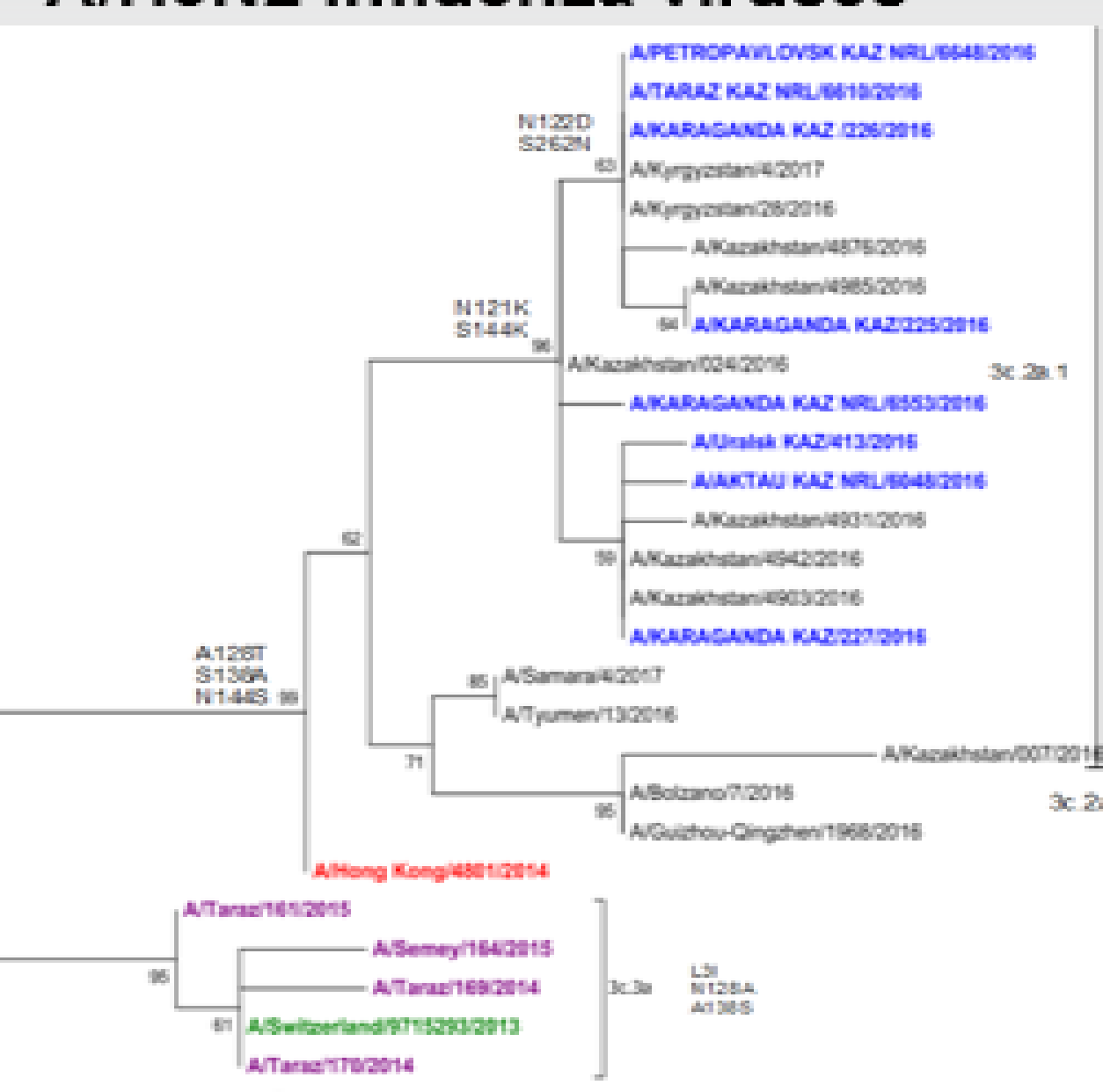


Circulation of non-influenza viruses in the Republic of Kazakhstan in 2016/2017

- Totally 1,702 specimens tested
- Positives – 604 (35,5%)



Phylogenetic tree for hemagglutinin gene of A/H3N2 influenza viruses



Phylogenetic tree of neuraminidase sequences of influenza type B viruses

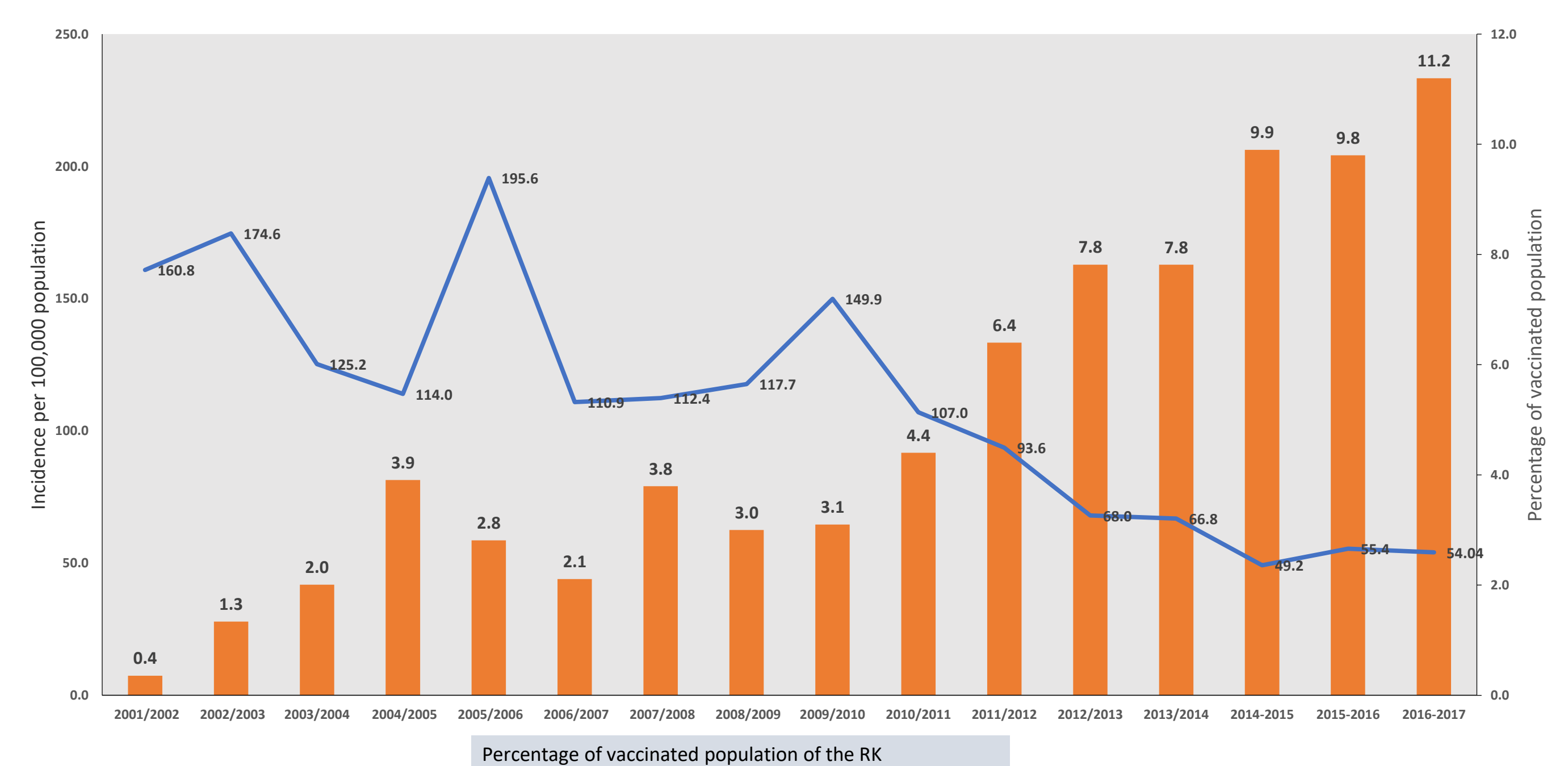


Vaccination

The target population for the influenza vaccine in Kazakhstan.

Health Care Practitioners, Pregnant, Children and Adult with underline chronic conditions, children living in orphanages, elderly after 65 living in nursing houses. used in your country. In Kazakhstan are using 4 vaccine.

Comparison of ARI incidence and percentage of influenza vaccinated population in 2001/2002 - 2016-2017 seasons



The results of the study in the hospitals of the city of Almaty, Kazakhstan

5y_ and more	All excluded	comp_ili	man	ili_sys_fever	ili_sys_malaise	ili_sys_headache	ili_sys_myalgia	ili_rescough	ili_res_sore	ili_resbreath	pregstatus	chronic diseases	av_current	lab_h3n2	lab_B	lab_rs	lab_adeno	lab_rhino								
																			398	249	62.6	149	59.8	53	35.6	72
											51	34.2	42	28.2	42	18.8	11	7.4	11	7.4	2	1.3	1	0.7	1	0.7

less th_5y	All excluded	comp_ili	breastfed_yn	chronic diseases	av_current	lab_h3n2	lab_B	lab_rhino									
	263	153	58.2	110	41.8	102	92.7	22	20.0	21	19.0	4	3.6	5	4.5	2	1.8

Key aspects & challenges

Earlier rise in ARI incidence as compared to the previous season (50 – 2 weeks);

The republican incidence threshold was not exceeded;

Exceed in the own control ARI incidence levels in Akmola, Almaty, Kostanay, East-Kazakhstan and North-Kazakhstan oblasts between 51 and 03 weeks of the season;

Activity of A(H3N2) and B influenza viruses (beginning of the season with greater activity of influenza B virus and end of season with dominating A(H3N2). No circulation of A(H1N1) pdm09 virus;

11.2% of the total population were vaccinated;

The country is taking measures to increase vaccination coverage against influenza.

Circulation of strains similar to vaccinal ones (A/Hong Kong/4801/2014 and B/Brisbane/60/2008);

Sensitivity to oseltamivir and resistance to amantadine and rimantad

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