Influenza is an acute viral infection transmitted by air. It’s a highly contagious disease that can cause serious complications, especially among vulnerable people, it presents a major public health issue with a considerable socio-economic impact.

The purposes of this work are to:
- Review the epidemiological situation of influenza in Tunisia in The 2015-2016 season;
- Determine if the A (H1N1) virus has a particular virulence in Tunisia during the 2015-2016 season;
- Make recommendations to overcome challenges.

II. MATERIALS AND METHODS:
This retrospective study is based on data issued by the National influenza surveillance unit; it relies on a descriptive analysis of influenza surveillance data provided by the network of sentinel sites and National Influenza Center (NIC).

III. RESULTS AND DISCUSSION:
Influenza surveillance in Tunisia has been established since 1999 with the creation of network of sentinel sites, but it significantly developed on March 2014, by the enhancement of the national influenza surveillance system. In Tunisia, clinical, epidemiological and virological surveillance of influenza began in week 40/2015 (1st of October 2015) and ended in week 18/2016 (30th of April 2016), since the Seasonal influenza outbreak occurs between October and April in the northern hemisphere and between April and September in the southern hemisphere. During the study period: 96,240 cases of ILI (Influenza-like illness) were collected from a total of 1,394,782 patients seen at sentinel ILI sites, representing 6.9% of total patients versus 7.7% during the 2014-2015 season.

Influenza cases occurred at a little annual attack rate estimated at 3.3% to 10% in Belgium and 1.6% to 6% in the USA [1,2].

Virological surveillance
Virological surveillance is ensured by the National Influenza Centre (Charles Nicolle Hospital), by analysing samples taken from sentinel sites. The laboratory uses RT-PCR technique to subtype strains of influenza virus. During the 2015-2016 season: 1518 samples were collected (vs only 700 in the last season) with a positivity rate of 24.4% vs 25.6% during the previous season, and the virus circulation was relatively higher (p<0.010) (Table 2).

The virus A (H3N2), A (H1N1) and type B circulated during the flu season, with a dominance of virus type A. Indeed, the seasonal distribution of the positive specimens of flu virus was: Virus A (H3N2): 38.5% vs 23% during last season; A(H1N1) positive cases: 57.4% vs 40% in previous season, A (non-subtyped): 1% vs 0% and B virus: 3.5% vs 6.2%.

The knowledge of influenza virus circulation in season is so important since it ensures the adequacy of the vaccine composition, assessed annually and evaluated the in the search for the emergence of a new influenza virus with pandemic potentiality.

IV. RECOMMENDATIONS:
During the 2015-2016 season, there was a good coordination thanks to the regional focal points, with a regular coordination reports to the FIC, directorate, and since the kick off of the influenza surveillance in Tunisia, and for the first time, an Epidemiological Bulletin was monthly edited and a seasonal influenza surveillance guidance was elaborated. But, we should:
- Strengthen the capacity of the epidemiologists in the surveillance and responding to outbreaks;
- Review national epidemic threshold of flu;
- Define the national alert threshold of morbidity imputable to flu to assess the severity of the epidemic in the population;
- Strengthen the capacity of biological analysis by adding other virology laboratories in the system;
- Elaborate a communication strategy;
- Improve network monitoring to emergency services and intensive care in major hospitals through computerization;
- Involve more hygiene services either in hospitals or in community medicine, in the data collection and ensure its transmission to the monitoring network;
- Extend the vaccination program to pregnant women systematically.

V. CONCLUSION:
- The 2015-2016 influenza epidemic started little later than the previous season, marked by the co-circulation of three influenza viruses and the predominance of the virulent type A (H1N1) pdm09 virus, the ineffectiveness of the immune system of ill consultations and hospitalizations was comparable to the previous season, but the lethality of severe cases was significantly higher.
- Viruses know no borders, control and fight against the influenza require a global vision of the dynamics of their transmission to the monitoring system.
- The circulation of the three influenza viruses began in late January (W4) with a gradual increase in the circulation of the type A (H1N1) pdm09 virus. During the week W12, the type A (H1N1) pdm09 virus was more common than the type B whereas in England the virus B, started to increase in week 09 of 2016, co-circulating with influenza A(H1N1)pdm09, and peaking at 15.5% in week 12 (4).
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- Vaccination Status:

VII. BIBLIOGRAPHIC REFERENCES:

The regions where the most deaths were recorded are: Gafsa, Ariana, Sousse and Tunisia.
Note that it seems necessary now to define the mortality threshold alert caused by flu in Tunisia to better assess the severity of influenza. We note that, the flu epidemics threshold hasn’t been reviewed in Tunisia for 16 years, so it’s time to revise it in order to adapt it to the epidemiological transition.

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- Viruses know no borders, control and fight against the influenza require a global vision of the dynamics of the disease in our country, as well as around the Mediterranean in order to better contain any unusual event.

X. BIBLIOGRAPHIC REFERENCES: