



Influenza vaccination situation in Middle-East and North Africa countries

Report of the 7th MENA Influenza Stakeholders Network (MENA-ISN)

9-10 September 2017

Riga-Latvia

Meeting Report

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The 7th MENA-ISN meeting was held on 9-20 September, 2017 in Riga. A total of 25 participants from 8 countries attended the meeting. In addition to MENA-ISN country representatives, experts from the WHO global influenza program, the college of General Practitioners (UK), the Hannover Veterinary University (Germany), and Hellenic Centre for disease prevention and control (Greece) were also present. The meeting was organized by Foundation Mérieux and Dr Salah Al Awaidy was nominated as MENA ISN chairman for the next year period.



Members at 7th MENA-ISN meeting, Riga, Lithuania

During the 7th meeting, each country representative summarized the current situation of influenza surveillance, influenza vaccine coverage (VC), actions achieved, and provided a list of country objectives for the upcoming 3 years. A panel discussion on the second day allowed the participants to discuss how to strengthen the network and its visibility and how to reinforce between country research and publications.

External speakers were Dr George Kassianos (UK), Pr. Helena Maltezou (Greece), Dr Wenging Zhang (WHO-Geneva) and Pr. Ab Osterhaus (Germany).

Dr Kassianos shared the UK experiences on how the NHS England managed to achieve one of the highest seasonal influenza vaccination rates in Europe. He stressed the fact that a successful influenza vaccination is possible if i) the experts, the government and committed health care professional (HCPs) are involved; ii) the target group is clearly identified; iii) influenza vaccine is free for patients at risk; and iv) vaccinators receive incentives. In the UK, decisions are reached and debated by experts of the Joint Committee on Vaccination and Immunization (JCVI) and the government carries out the JCVI recommendations. Dr Kassianos stressed the key role of general practitioners (GPs) during influenza vaccine campaigns. To increase vaccine uptake rates, GPs organize open vaccination days (week-end or evening) and opportunistic vaccination while patients are waiting for or attending a consultation. There is a monthly prize for the highest opportunistic vaccinator. The importance of vaccinating children to decrease the overall burden of influenza was illustrated by a piloted program of vaccinating primary (4-11 years) and secondary (11-13 years) age children. The vaccination program resulted in population-level impact. Indeed, significant INDIRECT reduction in GP ILI consultations was reported in individuals aged 17 years and over.

Pr. Maltezou provided a review of influenza vaccination for HCPs and the concept of cocoon strategy. She reminded that vaccination of HCPs is justified because in addition to personal protection, it will also indirectly protect the patients from nosocomial transmission of influenza that can be associated with high morbidity, mortality and cost in vulnerable patients. However, influenza VC among HCPs is still low. She concluded that voluntary influenza vaccination policies for HCPs have not achieved and sustained high immunization rates. Healthcare commitment is required in order to eliminate HCPs misconceptions about influenza and influenza vaccine and raise vaccination rates, especially if mandatory vaccination policies are widely implemented. She emphasized on the fact that mandatory vaccination policies should be considered for diseases that can cause significant morbidity and mortality to patients, in order to induce immunity and promote safety both at the level of HCPs and at the level of healthcare facility (herd immunity).

Pr. Maltezou presented also the results of a study that aimed at determining the effect of post-partum influenza vaccination and cocooning strategy to protect neonates and young infants from infection by vaccinating their household contacts. Episodes of healthcare seeking and morbidity (i.e. fever, ILI, antibiotic prescription, etc.) were significantly reduced in children

of vaccinated mothers. On the contrary, vaccination of fathers and other household contacts had no statistically significant impact on morbidity of their infants.

Dr Zhang delivered clarifications on the current WHO influenza strategy including research priorities on influenza vaccines. Dr Zhang drew attention to the 3 main areas to fight against influenza: seasonal, zoonotic and pandemic influenza and highlighted that these domains are highly interconnected. She also stressed that we are not able to “prevent” future pandemics but at upstream, we can mitigate the risk by intensive research on pathogenic influenza virus with potential pandemic, by strengthening influenza surveillance and by reinforcing “early case detection”.

Pr. Osterhaus gave an overview of influenza viruses and stated that all are of animal origin specially birds. He noted that Asia is the epicentre for both influenza A/H1N1 and A/H3N2 but not for influenza B viruses. He also presented new generation of influenza vaccines that are improved in terms of better strain selection and prediction, shorter vaccine production time and egg-independent production systems. Recombinant technology will allow pandemic influenza vaccines to be available much sooner than those produced with egg-based technology, he said. By presenting several studies, Pr. Osterhaus provided evidence that seasonal influenza vaccines are safe, effective and cost-saving, have 70-90 % protection in healthy adults (e.g. HCWs) but only 30-40% in frail elderly. He stated that novel and more universal vaccines are being developed that will induce broader and longer protection against both epidemic and pandemic influenza.

The main topics of the panel discussions concerned the way to increase influenza VC (e.g. increasing influenza literacy, understanding the barriers, etc.) in the participating countries, and how to bring in board the ministries of health (MoH).

From various presentations, it was evidenced that low awareness about influenza infection, its consequences in terms of morbidity, mortality and economical impact is quite high in MENA-ISON countries and could be one of the determinants of low influenza VC. Indeed, it is well known that lack of knowledge can lead to vaccine hesitancy/refusal. As stressed by participating countries, influenza illiteracy could be related to communication gaps and the

lack of targeted communication strategies. Tailored communication messages to the community to promote influenza vaccination and to increase awareness on influenza infection have been put in place in several countries. This includes advertising panels in the street, lay public activities in shopping malls and airports, ATM messages, social media campaigns, etc., but more need to be done.

Besides lack of knowledge, other factors such as beliefs and personal experiences could lead to low influenza vaccine uptake. One early step in increasing VC could therefore be to better understand factors related to hesitancy and acceptability. Dr Zhang (WHO) encouraged the participating countries to use the WHO available tools. Indeed, a set of questions to determine the underlying determinants of vaccine hesitancy was developed by the WHO-SAGE working group and can be modified/adapted to each country.

Financial barrier for influenza vaccine supply is another key factor that could be related to low VC. This financial barrier can concern the population i.e. they do not have the ability to buy the vaccine. It can also concern the government that cannot provide sufficient supply.

As a consequence, the aim to increase VC should primarily focus on increasing VC among known high-risk groups (diabetics, pregnant women, people with underlying chronic diseases, etc.). Some countries believed that even within the high-risk group, a priority list should be drawn for each country according to influenza burden in each group and each country.

From country presentations, it was evidenced that MoH are not fully involved. Strategic communication by MENA-ISN and the use of uniform terms of references for local stakeholders could help in enhancing the involvement of MoH, thereby improving the situation for vaccine implementation.

In several MENA-ISN countries, the use of private health care facilities is much usual than the public facilities. Nevertheless, there is a lack of communication between these two sectors.

MENA-ISN members stated that a more direct connection with the WHO could reinforce the implementation of the action plans. In response to this proposal, Dr Zhang said that MENA-ISN should at first work more on the burden of diseases in their respective countries as currently there are huge gaps on this point. She also believed that the network should be more visible via a website that reports on action plans and actions achieved at country and network level.

Concluding remarks

As reflected by individual country presentation, good progresses have been reached in all participating countries. This is in particular reflected by recommending the influenza vaccine among HCPs and pregnant women. Yet, more work should be done to reach optimal VC.

Country representatives believe that it is time to quantify the actions accomplished so far by gathering the number of vaccine used, the impact of vaccination on hospitalization, mortality, herd immunity, etc. These quantitative results can be presented to MoH and even to the public to increase their awareness and interest on influenza vaccination.

It is clear that all MENA-ISON countries have the common goal to reduce influenza related morbidity and mortality, even if they act in different ways. Indeed, while sharing common cultural traditions, national health priorities are different between MENA-ISON countries and influenza is not a priority for most MoH.

As highlighted by Dr Kassianos and MENA-ISON country representatives, GPs have a fundamental role in vaccine uptake because without convinced and convincing physicians it is hard to increase VC. Therefore, they should be much more involved in vaccination campaigns. In parallel, we should provide them more information about vaccine efficacy, economic impacts of influenza (absenteeism, hospitalization, etc.) in order to give them more confidence about influenza vaccine. Incentives for GPs could also be useful in MENA-ISON countries and should be considered.

The way to move forward

- Build steps tailored to each country situation but focusing on four main areas including
 - i) epidemiological and virological surveillance;
 - ii) vaccination;
 - iii) communication/awareness and
 - iv) advocacy
- Set-up an influenza stakeholder roadmap in order to involve more decision-makers and MoH and have clear indicators at country level
- Set-up local influenza network
- Review the MENA-ISON profile in terms of membership: MoH, GPs, patients, industries....

- Set-up research agenda: priority needs should be identified to investigate the best way to move forward
- Increase between country research and publication
- Increase the publication of existing data
- Set-up an open MENA-ISN website to increase its visibility at national and international level
- Improve/reinforce the link between MENA-ISN and WHO-EMRO Pandemic Influenza Preparedness Framework

It is important to bear in mind that Fighting against influenza should involve ALL stakeholders i.e. patients, associations of patients, MoH, GPs, industry and scientific communities.

Appendix

Country presentation: Action achieved and objectives for the upcoming 3 years

Egypt



Dr Hesham Tarraf presenting country action plan and achievement for Egypt

Seasonal Influenza vaccination is not considered a top priority by MoH in terms of funding or obligatory immunization. However, the MoH make all efforts to monitor Influenza (SARI surveillance) and make public recommendations to the benefit of Influenza vaccination particularly in high risk groups or in face of epidemics. Influenza prevention is therefore a responsibility shared by MoH and HCPs who prescribes mean of prevention. Studies on influenza burden and increasing efforts in vaccinating HCPs are a priority.

Vaccination against seasonal Influenza is therefore motivated mainly by HCPs who are indeed the sole prescribers of seasonal influenza vaccines and who carry the task of explaining the Benefit/Risk of such vaccines to their patients.

Epidemiological update

Vaccination coverage rates in Egypt remains at very low rates which does not meet the WHO GAP recommendations which aim at fighting Influenza and preventing pandemic spread

Egypt is one of the countries that have experienced a large epizootic of highly pathogenic avian influenza in poultry caused by the influenza A (H5N1) virus. From 2003 to 2017, a total number of 358 cases and 120 deaths related to the avian influenza A (H5N1) have been reported to the WHO. An integrated national plan for avian and pandemic influenza was developed in response to the rapid spread of avian influenza in this country.

A national influenza centre equipped with tests such as virus isolation, PCR, serology and sequencing exist and are currently functioning.

Key actions achieved

The surveillance of severe acute respiratory infection (SARI) is enhanced and there is also a significant increase in the number of doses of influenza vaccines. Furthermore, several social mobilization and advocacy campaigns have been conducted.

Country objectives for the upcoming 3 years

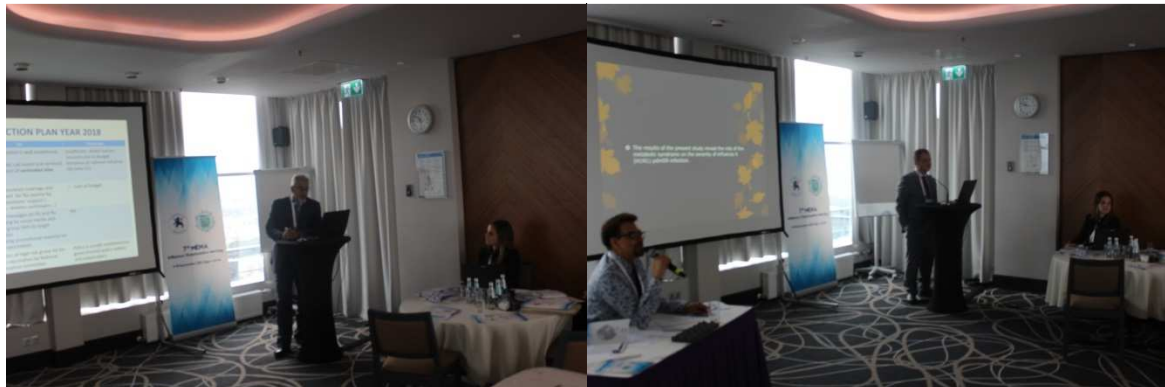
The main objectives are listed below and detailed in Table 1:

- Improve surveillance and disease burden data
- Improve evidence-based communication on Influenza burden and benefits of vaccination
- Inclusion of Influenza vaccination in National Vaccination program and in National disease guidelines for high risk population
- Vaccination of HCPs
- Increased Influenza vaccine coverage rates to achieve protection of high risk groups.

Table 1: Progress achieved and action plan for Egypt

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|---|---|--|---|
| Surveillance | National influenza centers functioning well Good epidemiological data by SARI and ILI surveillance system Support from the Partnership contribution funds | Egyptian government to enhance the capacity of national public health system to respond rapidly to potential highly pathogenic influenza virus transmissible between humans | New mutation Avian influenza |
| Vaccination | Increased from 800 000 to 1 400 000 in 2017 | Improve coverage rates particularly high risk groups & HCPs | Priority Under awareness of HCP and public Safety issues |
| Social mobilization/education /awareness | Medical Societies meetings TV programs Media Posters | Influenza Advisory Board to include Medical Societies dealing with high risk groups , EMRO and MoH | Priority Financial & Political issues |
| Advocacy and policy | Several Press conferences including MoH and decision and policy makers | Inclusion of vaccination in National guidelines and National vaccination programs | Priority Financial issues Influenza literacy |
| Research | | Design a number of Burden studies to measure the true impact of Influenza on different high risk groups. Initially involving: * Pregnant women * COPD patients * Diabetics * Cardiovascular diseases | |

Iran



Dr. Esteghamati & Dr. Mardani Presenting country action plan and achievement

Epidemiological update

Influenza A/H1N1pdm09 and A/H3N2 viruses collected in Iran during the 2014-2015 influenza season were genetically characterized. Of the 200 specimens, 80 were influenza A-positive, including 44 A/H1N1pdm09 and 36 A/H3N2, while 18 were influenza B-positive. Analysis of the A/H3N2 viruses showed a genetic drift from the vaccine strain A/Texas/50/2012 with 5 mutations. The results provided evidence of co-circulation of several influenza A virus strains in Iran during the 2014-2015 influenza season.

Serological study among poultry workers from Fars province of Iran showed that exposure to avian H9N2 viruses had occurred in this population. .

Key actions achieved

Establishment of influenza surveillance system since 2004 and an increased number of publications on influenza in peer-review journals are among the most key actions achieved.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 2:

- Increasing Influenza Vaccine Coverage Rate
- Increasing general population awareness on yearly influenza vaccination
- Increasing HCWs awareness on yearly influenza vaccination
- Increasing awareness for high risk target groups

- Conducting researches related to vaccination (demand, barriers, ...)

Table 2: Progress achieved and action plan for Iran

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|---|--|
| Surveillance | Surveillance system I established since 2004. (Hospital -based, Lab-based and sentinel) | <p>Reestablishment of sentineled sites</p> <p>Communication with WHO country office for nomination of a focal point for permanent attendance in IPWI meetings</p> <p>Developing ILI reporting guideline for private sector</p> <p>Involvement a group of physicians in private sector</p> <p>Expansion of private sector in reporting ILI and regular meeting with them</p> <p>Involvement of medical associations for strengthening surveillance</p> <p>Data Sharing with private sector, enhancement of IT system to increase awareness in this regard</p> | <p>Insufficient skilled human resource due to budget imitiation at national influenza lab (who CC)</p> <p>Limited trust between private sectors and MOH</p> <p>Budget</p> |
| Vaccination | | <p>Encourage insurance coverage and reimbursement for flu vaccine by Medical associations' support</p> <p>Increasing vaccine availability in public and private sectors Promotion vaccination on WHO Vaccination day on May</p> <p>Promotion of flu vaccination by social media</p> <p>Increasing awareness on vaccination and right timing for high risk groups through related medical associations (pregnant women, diabetic pts, elderly)</p> <p>Promotion of vaccination on Flu vaccination day on 30th of Nov</p> | <p>Budget</p> <p>Lack of budget</p> <p>Lack of tracking system for the immunized/non-immunized individuals in the target groups</p> <p>Anti-vaccine activities by Social media (safety and efficacy)</p> <p>No follow-up programs to evaluate VC</p> |
| Social mobilization/education/awareness | | <p>Periodic messages on flu and flu vaccinating by social media and sending group SMS to target population</p> <p>Developing promotional material on flu and vaccination</p> <p>Annual international pediatric congress in May</p> <p>Continue on providing Pamphlet and brochures on flu vaccination</p> <p>IPWI annual meeting , New members in IPWI from MOH, National influenza lab, Gynaecology and pulmonology association</p> <p>Awareness campaign for pharmacist on right timing of flu vaccination in pharmacy congress on Sept</p> <p>Awareness campaign in : Annual National Influenza symposium in Oct</p> | |

Lebanon



Dr Zaraket Presenting country update from Lebanon

Epidemiological update

Influenza surveillance has continued through the 2016-17 influenza season, during which nasopharyngeal swabs from 518 influenza-like illness (ILI) cases were analysed. The results showed circulation of both influenza B Yamagata and Victoria lineage viruses in addition to influenza A/H3N2 and A/H1N1pmd09, emphasizing the importance of introducing the quadrivalent influenza vaccine. Among the study population, only 28% were vaccinated.

Analysis of influenza vaccination uptake overtime showed relatively high VC (40% to 60%) until 2011 with a peak during the 2009 pandemic and decreased subsequently to reach 28% in 2016-17. However, these figures mostly reflect the VC of the population served by one major hospital in Beirut. It was noted that further studies to include more representative population from throughout the country are needed to accurately reflect the VC in the country. Based on vaccine dose distribution, VC in Lebanon is estimated at 6%.

Key actions achieved

Increased influenza vaccine coverage and increased laboratory capacity to isolate and detect influenza are the main successes that have been so far achieved. Although vaccine uptake is

improving, there is still a long way to reach optimal VC. The search for advocacy continues and includes representatives from academic, public and the government. Surveillance data showed that there is a possible difference between inpatient and outpatients with regard to the distribution of influenza subtypes.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 3:

- Surveillance study: Finalize Flu51 and report, Manuscript and publication, Communication on B strain circulation in Lebanon and region
- Increase VCR and widen protection: QIV launch, New target groups, New vaccination channels (companies and pharmacies)
- Initiate and implement recommendations for high risk groups (diabetes, chest asthma, pregnancy)
- Awareness and education

Table 3: Progress achieved and action plan for Lebanon

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|---|---|
| Surveillance | 1650 specimen analysed since 2008 | Continue SARI & sentinel surveillance Analyse data and prepare report Report/manuscript & poster on circulation of B strain ID online bulletin Continuous communication through ID online bulletin | Primers are being adapted to identify unsuptyable strains |
| Vaccination | 28% vaccination among 522 ILI cases in 2016-17 flu season | Increase VC in total population (6%), children (7%) QIV introduction in children New target group Extended flu vaccination season QIV expansion: infants, children & elderly | Get differentiated recommendation QIV/TIV |
| Social mobilization/education/awareness | | Initiate action plan with flu vaccine companies Workshop on various target groups (army, diabetes, etc.) Focus on pharmacies to increase ease of access to vaccine Educational and awareness campaigns to & through pharmacies Communication on recommendations issued by societies for specific high-risk groups | Need of dedicated time & personnel Company support to initiate and fund awareness sessions and materials |

| | | | |
|----------------------------|--|--|---|
| Advocacy and policy | | Partnership with societies Prospect for untapped target group Initiate and implement tailored action plan per target group Advisory board for local insight & recommendation from HCPs Communication in region about B strain & need for QIV based on Flu51 study Advisory board for local and regional insight on B strain and need for QIV recommendation | Funding Dedicated team Collaboration with private companies Need of dedicated time & personnel |
|----------------------------|--|--|---|

Libya



Professor Abusrewil from Libya updating the country situation

Key actions achieved

The number of available doses of influenza vaccine has increased by more than 5 folds since 2012. Also, good progress has been achieved in surveillance, social mobilization and advocacy.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 4:

- To Increase coverage rate gradually
- To improve seasonal influenza surveillance
- To hold Public awareness campaign

- To improve health care workers understanding benefits of influenza vaccine
- To disseminate facts and true information concerning seasonal influenza
- To fight misconception regarding influenza vaccine

Table 4: Progress achieved and action plan for Libya

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|--|---|
| Surveillance | Availability of a database for influenza vaccination target group | Design sentinel sites Lab Surveillance (National Influenza Centre) Widening surveillance | Human resources Technical communications |
| Vaccination | Huge growth in vaccine doses available from 200,000 in 2012 to 1,100,00 in 2016 | Increase coverage | Funding |
| Social mobilization/education/awareness | Educational materials for HCPs, schools, etc. | Public health campaigns Health professional campaigns Whole media manipulation | Convincing especially healthcare workers |
| Advocacy and policy | Influenza campaign in Nov 2016 2017-2018 influenza seasonal preparation | Guideline for HCPs Posters and pamphlets | Well trained health educators |

Morocco



Dr Nourlil presenting country update from Morocco

Influenza is one of the MoH priorities in Morocco. Sentinel surveillance exists since 1995. The burden of influenza in this country is not well understood. Communication strategies and implementation of vaccination for high risk groups need to be done.

Epidemiological update

Overall, 8 Regional laboratories are in charge of detection and identification of influenza strains by RT-PCR. The National Institute of Hygiene (Rabat) and the Pasteur institute (Casablanca) have the capacity to perform RT-PCR, sequencing, virus isolation and antiviral susceptibility screening.

In 2004, surveillance of ILI has been conducted in 378 Health Centres in all districts and 80 private physicians in 9 Cities.

Of the overall 178 samples analysed in Casablanca during the 2016-17 influenza season 95.5% belonged to type A(H3N2) and 4.54% were Victoria B lineage.

Key actions achieved

Currently, 378 health centres in all districts and 80 private physicians in 9 cities are involved in the ILI surveillance system.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 5:

- Promotion of influenza vaccination
- Increase Influenza vaccine coverage rate(HCWs)
- Strengthening Influenza surveillance
- Strengthening pandemic preparedness and response capacities
- Conducting public health research

Table 5: Progress achieved and action plan for Morocco

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|-------------------|---|---|
| Surveillance | | <ul style="list-style-type: none"> Strengthening surveillance of influenza and SARI *Development of a comprehensive SARI monitoring manual * Staff training * Implementation of an electronic database for surveillance * National disease burden estimates <ul style="list-style-type: none"> Strengthening Virological Diagnostic Capacities *Decentralization of molecular diagnostic in 4 additional regional labs * *Enhancing lab management *Update of virological surveillance guide *Sending representative virus isolates to one of the WHO CCs for further characterization in a timely manner * Conduct routine antiviral resistance testing | <p>Involvement of the regions</p> <p>Stable & long term funding</p> |
| Vaccination | | <ul style="list-style-type: none"> Produce evidence based studies *Conduct KAP study for Pregnant women (collaboration with CDC) <ul style="list-style-type: none"> Increase VC among *HCPs (60000,<40%) *People with chronic diseases (20000diabetics) <ul style="list-style-type: none"> Expand immunization for other risk groups *Pregnant women, Children, elderly | <p>Low level of vaccine acceptability</p> <p>Communication strategy</p> <p>Financial barriers</p> |
| Social mobilization/education/awareness | | <ul style="list-style-type: none"> Improve communication for general public *Flyers with key messages on influenza & vaccination *TV spot during flu vaccination campaign *Prevention messages in print media <ul style="list-style-type: none"> Educational efforts among HCPs * Awareness posters * Seminars during the immunization campaign | <p>Vaccine acceptability</p> <p>Perceptions and beliefs difficult to change</p> |
| Advocacy and policy | | <ul style="list-style-type: none"> Conferences, press release: starting of Flu Season MoH,Pasteur Institute *Policy required to introduce influenza vaccine into the national immunization schedules? *Involve scientific societies (Paediatrics, obstetrics, Cardiology) and NGOs | <p>Financial barriers</p> |

Oman



Dr Al-Awaidy presenting country update from Oman

Epidemiological update

In 2017, 648 patients were enrolled in SARI surveillance. More than 1800 influenza (≥ 1500 ILI) turn-up to hospital and more than 700 SARI cases were hospitalized. The highest numbers of SARI cases were recorded among children 0-2 years old followed by those 2-4 years of age. The overall mortality rate due to influenza was 9.3% but no death was reported among pregnant women. Influenza strains A (H1N1)pdm09, A(H3N2), and B viruses were detected during this season.

Influenza vaccine is recommended for HCPs working in critical and non-critical units, administrative agents and educational institution staff.

Key actions achieved

SARI surveillance has been launched at sentinel sites since 2008 and Central Public Health Lab is recognized by the WHO as national influenza centre since March 2009.

Pre-vaccination awareness emails sent to HCPs to inform them about the availability of the vaccine and the beginning of the vaccination campaign at the hospital. In addition, the awareness campaign includes presentations, person-person communication, pamphlet,

banner, etc.). Vaccinators visit the wards to offer the vaccine. Flu VC in HCPs reached 85% in 2017. Electronic and manual records are maintained at the institutional, governorate and national level.

Electronic & Manual records are maintained at the institutional, Governorate and national level.

Regarding pregnant women, influenza vaccination is integrated into the antenatal programme and administered during antenatal visits. Pre-vaccination counselling is also provided. Furthermore, influenza advocacy campaigns provide awareness to the family and pregnant woman.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 6:

- Introduction of influenza Vaccine to Paediatric and diabetes
- Assess influenza Vaccine hesitation
- Community awareness & mobilization among population through private sectors
- Increase community demand

Table 6: Progress achieved and action plan for Oman

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|--|--|
| Surveillance | Maintaining surveillance implemented Surveillance data (ARI/SARI/virological trend to be widely disseminated including non-MOH and private sector institutions | Continue MOH national NEWSLETTER to be used to widely circulate the surveillance data | Nil Private sector not reached |
| Vaccination | Extend the vaccination to other high risks i.e. paediatric & diabetes | NITAG to approve the introduction | Limited resources Prioritization BD |
| Social mobilization/education/awareness | Community awareness & mobilization among population through private sectors | Involve the private sector in Awareness as 40% of the population utilize private establishment | How to do it? |
| Advocacy and policy | | Involvement of NITAG No evidence-based influenza burden and benefits of vaccination among these groups (ieDM) | Interest and empowerment of the association Reaching high risk communities Limited resources |

| | | | |
|--|--|--|--|
| | | Meeting to be held with the national medical societies (DB and other related associations) | |
|--|--|--|--|

Pakistan



Dr Bashir updating the country situation

Currently, influenza is not considered as a health priority in Pakistan. Highly vulnerable population groups for influenza vaccination include young children, pregnant women, diabetics, people with COPD and asthma. Country specific vaccination priorities must be determined for policy recommendations.

Epidemiological update

There is a distinct seasonality with peak activity levels observed in most regions. Available data indicates that there is a sizeable burden of influenza. However, influenza related morbidity and mortality estimates are not well known.

In 2017, influenza epidemics started on Oct 1st and ended on March 31st with a peak in December. Influenza virus strains belonged to i) influenza A/H3N2 (A/Hong Kong/4801/2014-like, HA Genetic Group: 3C.2a1), ii) influenza A/H1N1pdm09 (A/Michigan/45/2015 Sep, HA

Genetic Group: 6B.1), and iii) Influenza B both Yamagata (Y3) and Victoria(V1A). All analysed recent viruses were susceptible to Neuraminidase Inhibitors.

Key actions achieved

Sentinel influenza surveillance networks were implemented. In addition, social mobilization and advocacy are reinforced.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 7.

- Continue Sentinel lab based Surveillance for seasonal Influenza viruses
- Maintain molecular capacity for detection & diagnosis of seasonal and potential novel strains
- Increase awareness among physicians and HCPs about the influenza
- Strengthening Laboratory and Epidemiology Collaboration Support capacity building on key aspects including uniform case definitions for ILI & SARI; sample collection and Transport, detection and reporting, rapid Response protocols and collaboration with Veterinary and allied sectors in case of novel/avian/swine Influenza outbreaks
- Prospective targeted surveillance at POEs (Airports, land crossings)
- Take forward 'Burden' of Influenza studies
- Include other respiratory pathogens (RSV, HmPV, AdenoV) in ILI/SARI surveillance
- Focus on identification of high risk groups (pregnancy, co-morbidities; COPD, IHD DM) and country specific guidelines for preventive intervention

Table 7: Progress achieved and action plan for Pakistan

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|---|---|
| Surveillance | Sentinel based influenza surveillance network in place and supported by NIC at NIH Islamabad. | Investigate How useful is current surveillance data & can it be used for-Identifying high risk groups by age, health status, geographic special needs | ILI/SARI reporting Laboratory facility is limited to a few labs |
| Vaccination | | Provide/increase official recommendations for influenza vaccination Starting campaigns like RTDs or SPPs during flu season through materials provided by regional team | Raise VC among identified high risk groups particularly in adult populations (diabetic, COPD and IHD) |
| Social mobilization/education/awareness | Increasing public awareness through press and print media ahead of the flu season | Use available data to support maternal education for childhood influenza Identify key social factors that must be targeted for effective messages | Incorporate effective communication in to response capacity in case of surge or outbreaks |
| Advocacy and policy | First in country meeting of Local Influenza Stakeholder Network (LISN) planned in Pakistan in 3rdweek of October 2017 Three symposia in 3 major cities of Pakistan | Inclusion of Influenza Associated SARI in National Priority disease list Support post vaccination impact evaluation for other key pathogens such as Strep. Pneumoniae | Logistic & financial |

Saudi Arabia



Dr Muslim updating the country situation

Epidemiological update

Historically VC has been low in Saudi Arabia (less than 2%). 3P initiative launched in 2014, is a 3 phases strategic project aiming at transforming influenza market to reach 30% VC among at-risk population in 5 years scope.

Key actions achieved

Influenza surveillance system is in place and will support the plan by generating local epidemiological data. Vaccination is higher among HCPs, pregnant women, elderly, Haji and patients with chronic diseases. Several lay public awareness campaigns have been conducted and the MoH is funding flu vaccination.

Country objectives for the upcoming 3 years

The main objectives are listed below and detailed in Table 8.

- To reach 30% VC among whole population
- To have a WHO certified labs included in the global report for strains recommendation
- To have a tracker to define the VC among each target group
- To raise the educational level of HCPs to reach more than 85% VC among HCWs

- To raise the public awareness level to reach the targeted VC

Table 8: Progress achieved and action plan for Saudi Arabia

| Components/action | Progress achieved | Objectives for upcoming 3 years | Challenges |
|--|---|--|--|
| Surveillance | Started in Jan 2017 in 5 regional labs; 6 regions (hospital and PHC) | Enhance the performance of the labs by enrich the practitioner with the required data & trainings | Lack of experience |
| Vaccination | HCWs Pregnant women Chronic Patients Young Children Elderly Pilgrims | Link Hajj permission to the vaccination certificate Start to track the VCR through digital tool Reach 30% VC in 3 years | Increasing the VCR Lack of tracking system Public awareness level still relatively low |
| Social mobilization/education/awareness | Public awareness level raised Educational level of HCPs raised Improve Vaccination channels | Launch a mega public awareness campaign Conduct a series of educational meetings for HCPs Launch In Pharmacies vaccination | Vaccine hesitancy Legalization change for In Pharmacies vaccination |
| Advocacy and policy | Saudi MOH is funding the vaccination in its facilities plus adding Flu vaccine under health insurance requirement | | |

List of participants

| Nom | Prénom | Pays | Organisation / Institution |
|-------------|-------------|---------------|--|
| AbuHasan | Muslim | Saoudi Arabia | MOH |
| Abusrewil | Suleiman | Libya | Medical school tripoli university |
| Akcay | Meral | Turkey | Sanofi Pasteur |
| Al Awaidi | Salah | Oman | MOH |
| Bashir | Uzma | Pakistan | National institute of health |
| Elahmer | Omar | Libya | National Centre for Disease Control |
| Esteghamati | Abdoulreza | Iran | Iran University of Medical sciences |
| Gahwagi | Milad | Libya | Sanofi Pasteur |
| Grasso | Cindy | France | Fondation Mérieux |
| Kassianos | George | UK | Immunisation Lead for the Royal College of General Practitioners |
| Khris | Mouloud | Morocco | Sanofi Pasteur |
| Maltezou | Helena | Greece | Hellenic Center for disease control and prevention |
| Mardani | Masoud | Iran | Shahid Behest University Of Medical Sciences |
| Mirza | Yusuf Kamal | Pakistan | Agha khan university |
| Nourlil | Jalal | Morocco | Institut Pasteur du Maroc |
| Osterhaus | Ab | Germany | Erasmus, RIZ Tiho Hannover |
| Oumzil | Hicham | Morocco | MOH |
| Pehlivan | Tamer | Turkey | Sanofi Pasteur |
| Picot | Valentina | France | Fondation Mérieux |
| Saadatian | Mitra | France | Fondation Mérieux |
| Tali | ilham | Morocco | Sanofi Pasteur |
| Tarraf | Hesham | Egypt | Faculty of Medicine, Cairo University |
| Ugur | Baris | Turkey | Sanofi Pasteur |
| Zaraket | Hassan | Lebanon | The American University of Beirut |
| Zhang | Wenqing | Switzerland | WHO |