Objective 1: increase in seasonal vaccine use

**ACIP recommends changes in pneumococcal, influenza vaccines**  
25 June 2015 / Heliao  
The Advisory Committee on Immunization Practices in the US voted to accept recommendation proposals concerning changes to the viral strains and pediatric dosage of the seasonal influenza vaccine.

**Swine flu vaccine for pregnant women in Maharashtra**  
17 July 2015 / Times of India  
The state government has decided to vaccinate pregnant women against swine flu across the state. The vaccines will be made available at state-run hospitals, medical colleges as well as municipal corporation run hospitals for free within a few days. The 12-member Maharashtra Communicable Diseases Prevention and Control Technical Committee constituted by the state government had proposed vaccination of high-risk individuals to reduce morbidity and mortality associated with the contagion.

**Communication training does not influence vaccine hesitancy**  
28 July 2015 / JAMA  
Thomson A  
Training physicians on a novel communication strategy designed to reduce maternal vaccine hesitancy had no effect on mothers’ decisions to delay or refuse immunizations, nor did it improve physicians’ confidence in communicating with parents about early childhood vaccines.

Objective 2: increase in vaccine production capacity

**FDA grants 12-year regulatory exclusivity to Flublok**  
04 June 2015 / CIDRAP News Scan  
Protein Sciences Corp. announced that, in a rare move, the Food and Drug Administration (FDA) is granting exclusive marketing rights to its Flublok influenza vaccine for 12 years, the first vaccine awarded this status, the company said in a press release yesterday. The decision is only the third such exclusivity granted by the FDA under the Affordable Care Act, the company said.

**WHO approves China flu vaccine, lauds growing industry**  
12 June 2015 / Reuters  
The World Health Organization (WHO) has approved a Chinese influenza vaccine as being safe and effective, only the second Chinese vaccine to receive such status reflecting the growing clout of the country's drug makers. The WHO said in a statement on Friday that it had "prequalified" a vaccine made by Hualan Biological Bacterin Corp, a subsidiary of Hualan Biological Engineering Inc.

**CSL wins European approval to buy Novartis flu vaccine business**  
21 July 2015 / CIDRAP Flu Scan  
Australia-based CSL Ltd. has won European approval to buy the influenza vaccine business of Swiss-based Novartis. The European Commission approved the deal after concluding that it would not hurt competition, according to a story today from PharmExec.com. The story said the commission determined that the market share of CSL will remain moderate and that strong competitors will
remain active in the market after the merger. Included in the deal is Novartis’s recently built cell-based vaccine facility in Holly Springs, N.C., constructed with the help of $487 million from the US Department of Health and Human Services.

**Avian Flu Forces Manufacturers to Find Egg Replacements, Many Turn to Soy**
30 July 2015 / PR Newswire (US)
U.S. Agriculture Secretary Tom Vilsack testified before Congress on July 22 that the federal government is ‘planning for a circumstance where we are simultaneously having to deal with 500’ detections of bird flu this fall. That on top of the deaths this spring of 35 million egg-laying hens, which represents a loss of about 12 percent of the U.S. egg industry, will put a significant burden on the food industry.

**GSK upgrade delays supply of adjuvanted H5N1 vaccine**
02 July 2015 / CIDRAP News
The first batch of an adjuvanted H5N1 influenza vaccine intended for US pandemic preparedness won’t arrive for another 2 years, officials revealed last week at a meeting of the Advisory Committee on Immunization Practices (ACIP).

**Objective 3: research and development**

**VaxInnate advances quadrivalent seasonal influenza vaccine candidate, VAX2012Q, into Phase 2 study**
03 June 2015 / Nasdac Newswire
VaxInnate Corporation, a biotechnology firm pioneering a breakthrough vaccine technology platform, today announced the initiation of a double-blind, randomized, active comparator controlled Phase 2 study to evaluate the safety and immunogenicity of its VAX2012Q quadrivalent seasonal influenza vaccine candidate.

**MIT investigates better methods for preventing and responding to flu outbreaks**
11 June 2015 / Vaccine Daily News Reports (US)
Researchers from MIT recently published a paper that evaluates the best methods of reducing the likelihood of contracting the flu by regularly using non-pharmaceutical interventions (NPIs) and effectively deploying the vaccine. The researchers cited the 2009 H1N1 outbreak to show that flu vaccine deployment tend to arrive late and in limited quantities for novel flu viruses.

**Four in 10 Britons immune to flu symptoms, leading to hopes of a new vaccine**
16 June 2015 / The Independent (UK)
Almost half of Britons are immune to flu symptoms, according to new research, boosting anticipation of a new vaccine that could use our natural resistance to fight epidemics. A four year study, carried out by researchers at University College London and Oxford University, found that 43 per cent of the unvaccinated people tested had immune cells, meaning they will not experience influenza symptoms such as coughs, headaches and fever.

**Scientists pinpoint mutations responsible for ineffective 2014-2015 flu vaccine**
25 June 2015 / Science Daily (US)
Viruses like influenza have the ability to mutate over time, and given that the flu vaccines administered during the 2014-2015 season were largely ineffective at preventing the spread of the flu, it appears the virus that recently circulated had taken on mutations not accounted for when last year’s vaccine was developed.
Discovery points to a new path toward a universal flu vaccine
2 July 2015 / EurekAlert
By taking advantage of a previously unknown mechanism within the immune system, researchers think they may be able to improve the vaccine. In a paper published July 2 in Cell, the team describes a new strategy that revolves around antibodies, immune proteins that target specific foreign proteins, called antigens. One end of the antibody latches on to an antigen, the other end, called the Fc region, binds to immune cells and so helps coordinate the immune response.

Study offers clue to link between swine flu shot, narcolepsy
01 July 2015 / Associated Press
One vaccine used in Europe during the 2009 swine flu pandemic was linked to rare cases of a baffling side effect - the sleep disorder narcolepsy. Now new research offers a clue to what happened.

Effect of varying doses of a monovalent H7N9 influenza vaccine with and without AS03 and MF59 adjuvants on immune response: A randomized clinical trial
21 July 2015 / JAMA
Jackson L. et al.
Objective was to evaluate the immunogenicity and safety of an inactivated H7N9 vaccine with and without AS03 adjuvant, as well as mixed vaccine schedules that included sequential administration of AS03- and MF59-containing formulations and of adjuvanted and unadjuvanted formulations. The AS03 and MF59 adjuvants augmented the immune responses to 2 doses of an inactivated H7N9 influenza vaccine, with AS03-adjuvanted formulations inducing the highest titers. This study of 2 adjuvants used in influenza vaccine formulations with adjuvant mixed on site provides immunogenicity information that may be informative to influenza pandemic preparedness programs.

BARDA: Recent 'universal' flu vaccine proposals fell short
23 July 2015 / CIDRAP News
The quest for a broadly protective or "universal" influenza vaccine suffered a setback recently when the US Biomedical Research and Development Authority (BARDA) determined that industry plans submitted in response to a formal request for proposals (RFP) fell short of the government's requirements, according to BARDA Director Robin Robinson, PhD.

AS03-adjuvanted H7N1 detergent-split virion vaccine is highly immunogenic in unprimed mice and induces cross-reactive antibodies to emerged H7N9 and additional H7 subtypes
31 July 2015 / Vaccine
Mallet C et al.
An investigational detergent-split H7N1vaccine adjuvanted with AS03 was immunogenic in mice down to nanogram levels of HA antigen per dose.The non-adjuvanted H7N1 vaccine was poorly immunogenic, which demonstrated the requirement of AS03 to induce robust antibody titers. The AS03-adjuvanted vaccine also induced robust antibody responses that cross-reacted with the recently emerged H7N9 and highly pathogenic H7N7 and H7N3 viruses. These preclinical data suggest that AS03 adjuvant technology may be effective for formulating antigen-sparing vaccines against avian influenza A virus subtypes such as H7.

Outbreak news

H5
TIMELINE-Tracing the bird flu outbreak in N. American poultry flocks
12 June 2015 / Reuters
The United States is facing its worst outbreak on record of avian influenza in poultry as three deadly strains have hit North American flocks since December. More than 47 million chickens and turkeys have been killed or will be culled, and U.S. egg prices are projected to set an annual record high because of the losses. So far, highly pathogenic avian influenza (HPAI) has been confirmed in 21 U.S. states, either in commercial flocks, wild birds, or both. Four states have declared an emergency: Iowa, Minnesota, Nebraska and Wisconsin. The virus has also been confirmed in the Canadian provinces of British Columbia and Ontario. This is a timeline of the spread of the disease, according to the U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS), Canada’s Food Inspection Agency (CFIA), and responses by the industry and trade partners.
Wild birds are thought to be carriers of the virus, which also can be tracked onto poultry farms by people or trucks that come into contact with contaminated feces. It may also be carried into poultry barns by wind blowing in contaminated dirt or dust.

H6

H7

H9

H10