Influenza vaccines – more options but don't lose sight of longer term

LONDON, UK----10th November 2014----ExpertREACT. Life-cycle management initiatives in influenza vaccines are yielding higher efficacy, products with better convenience and coverage. Manufacturers enjoy better prices but may lose focus on the longer term.

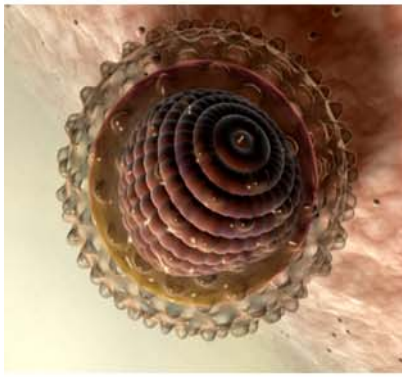
Although current US influenza activity is currently low (week ending November 1st), activity is expected to pick up as the year 2014 closes. The US Centers for Disease Control and Prevention predicts as many as 151 million to 156 million doses of influenza vaccine will be supplied this season, a sharp increase on the actual 134 million doses distributed last season **(1).** More so than ever – the US influenza vaccine market is composed of many different types of influenza vaccine from five different suppliers, bearing in mind Novartis Vaccines influenza business has now been acquired by BioCSL of Australia **(2).** This **ExpertREACT** article will discuss current market dynamics within the highly competitive US influenza market and comment on future trends.

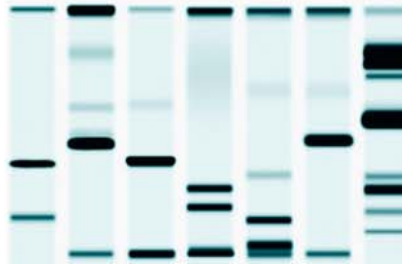
In the 2013/14 season, the US influenza vaccine market began the switch to quadrivalent (QIV) vaccines with some 23% of volume (~31m doses) being QIV form. Medimmune's live-attenuated product (LAIV), Flumist led the manufacturer switch with some 13 million doses supplied. This coming season the switch to QIVs has increased further to ~54% of volume (76 million doses) with major player Sanofi now being the dominant QIV supplier with an estimated 41.5m doses. The US ACIP still does not express any preference for QIV forms over their trivalent (TIV) counterparts, although for the first time, starting in 2014-2015, it recommends *the use of the nasal spray vaccine, Flumist for healthy* children 2 years through 8 years of age when it is immediately available and if the child has no contraindications or precautions to that vaccine.* **(3)** Fluzone QIV continues to be the only influenza vaccine able to be administered to infants > 6 mos.

The US switch to QIVs has improved unit prices of inactivated influenza vaccines between 30-44% per dose for the private sector. Such strategies have improved the attractiveness of the sector and have fed through to US franchise revenue increases for GSK Biologicals, Medimmune and Sanofi Pasteur in FY 2013. Sanofi is driving the move away from influenza vaccines being commodities further with its licensure of Fluzone HD (US, 2010) and Fluzone ID (US)/Intanza (EU). The company states that these "differentiated" vaccines made up 41% of its US sales in FY 2013 compared with 26% in FY 2012 **(4)**. Sanofi has already submitted VaxiGrip QIV in the EU market and plans to switch Fluzone ID to a QIV form for the 2014/15 season.

Fluzone HD, which contains 4 times (60mcg) the hemagglutinin (HA) content of standard Fluzone is designed to improve antibody responses and better protect older adults (> 65yrs) against influenza. The product, which costs around ~$26 per dose, has also recently strengthened its claim with the publication of the FIM12 study results which showed that Fluzone High-Dose vaccine reduced all clinically relevant influenza disease, caused by any viral type or sub-type, by a further 24.2% compared to Fluzone vaccine (n=15,892) **(5).** Sanofi states that these data indicate that about one in four breakthrough cases of influenza could be prevented if the high-dose vaccine was used.

Sanofi has stated that they sold 8 million doses of Fluzone HD in the US (2013/14) **(6)** season and anticipate that one in three elderly could receive the vaccine in the 2014/15 season. If the company can drive Fluzone HD penetration to the majority of those US >65 yrs vaccinated, our preliminary calculations suggest Fluzone HD could be a blockbuster product **(7).** Fluzone HD, which is yet to realize any potential outside the US, is perfectly positioned to take advantage of a global ageing population and the need to reduce a high burden of influenza in this category.





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Relative newcomer to the US influenza vaccine market, Protein Sciences Corporation, which gained FDA approval of its baculovirus produced vaccine FluBLOK in 2013, also markets its product as a "triple strength" vaccine, now approved for adults 18 and older (8). Theoretically, if the company conducts the necessary studies and expands production sufficiently, FluBLOK could also tap into the lucrative >65 yrs segment with a higher efficacy claim. Protein Sciences Corporation only plans to supply 500,000 doses to the US 2014/15 season.

Among the major players, public mentions of any work pursuing a universal influenza vaccine development programme have been very few. Sanofi stated briefly an interest at the US 2013 National Influenza Vaccine Summit, 2014. US BARDA/HHS and Israeli-based Biondvax remain interested (9), along with some key groups in the academic sector but looking at recent success at influenza vaccine cycle management, it does beg the question – does the industry think it needs to bother? Sometimes short term success inhibits long term progress.

*__Top 4 companies:__ GSK Biologicals, Sanofi Pasteur, Merck & Co, Pfizer (Wyeth)

References and Notes:

1. The US Centers for Disease Control and Prevention. Key Facts About Seasonal Flu Vaccine Available at: http://www.cdc.gov/flu/protect/keyfacts.htm Accessed November 2014=
2. CSL to acquire Novartis' influenza vaccine business
bioCSL to take on expanded role in global influenza vaccine industry. BioCSL press release 27th October 2014. Available at: http://www.biocsl.com.au/s1/cs/aucb/1196562673379/news/1252899900683/prdetail.htm Accessed November 2014
3. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP) — United States, 2014–15 Influenza Season. MMWR Weekly. August 15, 2014. Available at:http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a3.htm#Considerations_Use_Live_Attenuated. Accessed November 2014
4. Sanofi Pasteur. FY Results 2013. Available at: www.sanofi-aventis.com. Accessed November 2014
5. Sanofi Pasteur press release August 13, 2014. SANOFI PASTEUR ANNOUNCES PUBLICATION OF POSITIVE DATA FOR FLUZONE® HIGH-DOSE VACCINE IN THE NEW ENGLAND JOURNAL OF MEDICINE. Available at: www.sanofipasteur.com. Accessed November 2014
6. Fluzone®High-Dose Vaccine and FIM12 Efficacy Trial Results. Presentation by Corey A Robertson. Sanofi Pasteur. National Influenza Vaccine Summit, 2014.
7. **MarketVIEW:** Quadrivalent influenza vaccines (CAT No: VAMV036), to be updated January 2015
8. Flublok influenza vaccine. Available at: http://www.flublok.com/index.html. Accessed November 2014
9. BiondVax Meets with the US Biomedical Advanced Research and Development Authority (BARDA) to Present the Use of its Universal Flu Vaccine against Global Pandemic Influenza Outbreak. Available at: www.biondvax.com. Accessed November 2014

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