

Vaccines

Seeking reliable franchises to support earnings, pharma has made vaccines a key part of the biologics portfolio. **Marc Iskowitz** scopes out the immunity boosting potential, how the main players maintain share of voice and what's next

Vaccines boost the body's resilience to a host of biologic invaders, making them the ultimate disease-prevention tool. Several pharmas have made vaccines a key part of their biologics portfolios, hoping to bolster their own defenses against high-margin blockbuster losing patent protection.

The three established vaccines players—GlaxoSmithKline, Sanofi-Aventis and Merck—all have “broad, diversified portfolios,” observes Sanford Bernstein analyst Tim Anderson, MD. Novartis is a new-comer to the space and “doesn't have the critical mass in vaccines yet,” Anderson says, while Pfizer gained a foothold by acquiring Wyeth last year for \$68 billion and with it the world's biggest vaccine, Prevnar. However, “this is all they [Pfizer] have essentially.”

No patent cliff

What potential do Pfizer and others see? Wolters Kluwer Pharma Solutions estimates the US vaccine market at \$2.3 billion, although it remained largely flat compared to 2008. Nevertheless, from 2003-2010 the sector overall is expected to grow at a compound annual growth rate of 16% for revenues, jumping to 38% for non-traditional and improved vaccines, notes *The Wall Street Journal*.

Moreover, vaccines do not have a patent cliff to contend with, at least not in established markets. As such, they can aid companies in supporting earnings and revenues during generic-expiry windows. About 50 blockbuster products, worth billions in sales, are set to lose patent protection through 2015.

Intense advertising

Big Pharma has dialed up the marketing intensity on these products. Vaccine advertising to consumers and professionals, in both branded and non-product-specific ads, rose 38.8% to \$174.9 million during December 2008-November 2009 vs. the previous 12 months, according to SDI and Kantar Media.

Some vaccine makers choose to maintain share of voice in other ways. In the 12 months ending Nov. 30, Prevnar 7 was promoted via detailing, events and ePromotion to the tune of \$6.5 million, according to SDI. The FDA in February approved a new version, called Prevnar 13, which protects against more strains of pneumococcal illness and is projected to capture more sales. Pfizer plans to charge a 30% premium and to file for an adult indication before year's end. (Anderson thinks the adult indication, should it pass muster, may eventually reach \$1.5 billion.)

“Prevnar, both for infant and adult...is a vaccine that can really provide an expanded coverage,” Mikael Dolsten, Pfizer's head of biotherapeutics research, has commented during an earnings call.

HPV vaccine shootout

Some of the most significant innovation—and promotion—has taken place in human papillomavirus (HPV) vaccines, where Merck's Gardasil, approved in 2006, is seeing fresh competition. GlaxoSmithKline's entrant in the category, Cervarix, gained approval in October for treating girls and women aged 10-25, and the firm started airing non-branded TV ads during the Academy Awards broadcast in March. GSK says awareness is still needed among young women about the need for testing and vaccination. “Cervical cancer has not been on their radar and yet,” a spokesperson says about 20- and 30-year-olds. It's also using social media to generate buzz.

While Cervarix and Gardasil are priced within a few dollars of each other, GSK's bivalent vaccine, according to data, produces higher antibody levels than Merck's quadrivalent HPV vaccine. GSK claims this could lead to a better and more enduring immune response. “The majority of cervical cancers in North America are caused by HPV types 16 and 18,” the two strains included in Cervarix, the spokesperson explains, but “approximately 25% are caused by other cancer-causing HPV types.” Cervarix has efficacy against cancer-causing HPV types not included in the vaccine.

Cervarix may guard against more subtypes, yet Gardasil is indicated for use in females 9-26 for preventing cervical cancers and genital warts, an indication for which it also secured approval among males. Cervarix lacks coverage of the HPV types that cause genital warts. “Gardasil will continue to dominate,” predicts Anderson. “It covers two diseases in one, and the antibody argument that GSK talks about may (or may not) translate into a clinical difference.”

Components of Merck's female-oriented “One Less” launch campaign can still be found in print and online, and it has started educating physicians and other scientific leaders on the male burden of disease, a spokesperson says. US sales of Gardasil have been drifting, though, despite a \$77 million media push. Anecdotal reports of adverse events have haunted the vaccine, although health agencies have vouched for its safety and effectiveness.

Influenza and future game-changers

For firms with vaccine platforms, the recent swine flu pandemic has driven growth. “Everybody got a boost from the H1N1 outbreak,” says Ben Weintraub, PhD, director of research, Wolters Kluwer Pharma Solutions.

Now that pandemic virus is waning in most areas, per the World Health Organization, and



TOP 25 VACCINES, 2009

The top vaccines ranked by 2009 US sales, and their media spend for the 12 months ending November 30

Rank	Product	Manufacturer	US sales dollars (thousands)*	% change vs. prior yr.	US media spend dollars (thousands)**	Media spend % change vs. prior 12 mos.	Type
1	Prevnar 7	Pfizer	\$526,168.2	-11.5%	0	N/A	Pneumococcal
2	Engerix-B	GlaxoSmithKline	\$241,596.3	10.8%	0	N/A	Hepatitis B
3	Zostavax	Merck	\$183,659.7	22.0%	\$72,846.9 [†]	824.1%	Zoster
4	Havrix	GlaxoSmithKline	\$167,326.8	-27.5%	0	N/A	Hepatitis A
5	Pneumovax 23	Merck	\$152,883.9	24.1%	0	N/A	Pneumococcal
6	Fluvirin	Novartis	\$143,240.4	73.3%	\$920.5 [†]	122.5%	Influenza virus
7	Gardasil	Merck	\$108,822.0	-29.1%	\$77,696.8 [†]	-27.5%	Human papilloma virus
8	FluLaval	ID Biomedical	\$106,015.2	-9.2%	0	N/A	Influenza virus
9	Twinrix	GlaxoSmithKline	\$95,460.8	-11.5%	0	N/A	Hep. A + B
10	Fluarix	GlaxoSmithKline	\$74,457.9	-16.4%	0	N/A	Influenza virus
11	Menactra	Sanofi Pasteur	\$74,070.1	4.4%	\$20,653.5	238.5%	Meningococcal
12	Varivax	Merck	\$63,679.6	9.3%	\$372.4	-24.3%	Varicella virus
13	M-M-R II	Merck	\$58,054.6	9.0%	0	N/A	Measles, mumps, rubella
14	Rotarix	GlaxoSmithKline	\$49,900.1	440.3%	\$198.8 [†]	-49.6%	Rotavirus
15	FluMist	MedImmune	\$46,819.6	42.7%	\$549.2	-71.8%	Influenza virus
16	Recombivax HB	Merck	\$38,881.5	-47.9%	0	N/A	Hepatitis B
17	RotaTeq	Merck	\$38,223.4	-14.2%	\$558.9 [†]	-36.4%	Rotavirus
18	RabAvert	Novartis	\$34,885.9	98.6%	0	N/A	Rabies
19	Typhim VI	Sanofi Pasteur	\$34,348.6	-1.8%	0	N/A	Typhoid VI
20	Afluria	CSL Ltd.	\$31,493.2	27.4%	\$118.8 [†]	-61.4%	Influenza virus
21	Fluzone	Sanofi Pasteur	\$29,963.7	-11.5%	0	N/A	Influenza virus
22	Ipol	Sanofi Pasteur	\$16,016.0	-1.9%	0	N/A	Poliovirus
23	Vivotif	Berna	\$7,567.8	-11.4%	0	N/A	Typhoid
24	Vaqta	Merck	\$5,395.0	63.6%	0	N/A	Hepatitis A
25	Hiberix	GlaxoSmithKline	\$5,375.3	100.0%	\$15.1	>999	Haemophilus b

* Integrated wholesale acquisition cost (WAC) sales, which include retail and institutional. ** DTC/journal spend between 12/08 and 11/09 inclusive.
[†] Includes non-product specific communications
Note: Sales totals include projected retail pharmacy sales and unprojected non-retail sales volumes. Coverage of 60-70% of US vaccine activity reflected; variability due to vendor reporting.
Sources: Sales, Wolters Kluwer Pharma Solutions; media spend, SDI & Kantar Media.

little seasonal flu remains in circulation, that trend may end. Novartis, for instance, says it sold \$1 billion worth of H1N1 pandemic vaccine to governments last year but reports that 2010 sales estimates are well below 2009 levels. “It will be back to business as normal for flu vaccine,” says Weintraub.

One area where analysts see business picking up involves vaccines to prevent meningitis. Novartis received approval for Menveo in

February, and GlaxoSmithKline has a June PDUFA date for Hib-MenCY. Sanofi-Aventis’ own meningococcal vaccine, Menactra, has been on the market for several years.

The big opportunity for these players is in infant meningitis B, says Anderson, yet none of the commercially available vaccines are approved in infants or protect against subtype B, the one responsible for the majority of infant meningitis cases. Meningococcal vaccines that target this strain, present a potential “multi-billion dollar category,” writes Anderson in a recent research note.

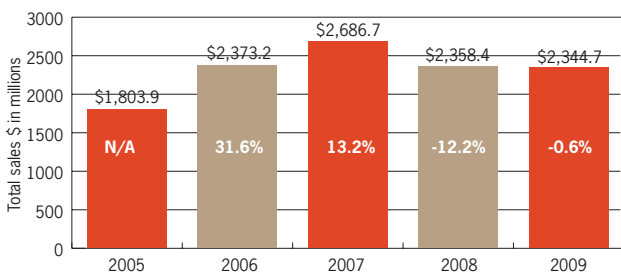
Novartis has the most advanced meningitis-B vaccine program, according to Anderson, and may begin phase 3 US trials later this year, although there appear to be regulatory “stumbling blocks.”

Another potential game-changer could be Dendreon’s Provenge prostate-cancer vaccine. Provenge is “like a vaccine in that you’re trying to boost an immune response against a specific set of antigens,” in this case tumor antigens, Weintraub explains.

“Provenge is the poster child,” says Weintraub, “and if it doesn’t make it, there are 50-60 in development behind it.” ■

This is the second in a series of bi-monthly features examining different therapeutic categories. The next installment will be June’s focus on rheumatology products.

The market: Vaccine sales over the last five years*



* Integrated wholesale acquisition cost (WAC) sales
 Source: Wolters Kluwer Pharma Solutions