

PHARMA TRAX

SALES, MARKETING,
AND R&D TRENDS AFFECTING
THE HEALTHCARE INDUSTRY



Market Education Should Start Early in **ONCOLOGY DRUG DEVELOPMENT**

Organizations with new oncology products are closely scrutinizing their strategies and tactics to support physician, payer, and patient education as the biopharmaceutical marketplace grows increasingly more competitive.

According to Best Practices' recent report, Shaping the Marketplace to Support Successful Oncology Product Launches: Tactics for Educating KOLs,

Physicians, Patients and Payers, thought leaders are the bellwethers of market trends, key influencers, and key

For more information, visit best-in-class.com.

SALES CALL VOLUME Posts Slight Decline in First Half of 2010

Overall, sales calls by the pharmaceutical industry to practitioners decreased 1% in the first half of 2010 compared with the six-month period ended December 2009, according to SDI research.

Calls made by Novartis sales representatives to physicians, nurse practitioners, and physician assistants increased 7% in the six-month period ended in June 2010. Pfizer, Merck, and GlaxoSmithKline, which made the most sales calls in the first six months of 2010, each registered declines from the second half

of 2009, with Merck posting the largest decrease, at 16%.

The product most often discussed during Novartis sales calls was newly launched Valturna, a combination of the active ingredients in Novartis' Diovan and Tekturna approved to treat hypertension in December 2009. Valturna accounted for 19% of Novartis call mentions.

"With the number of pharmaceutical sales reps being scaled back dramatically over the last few years, it's no surprise that sales calls across the industry are also declining," notes Jason Fox, associate director of syndicated analytics at SDI.

For more information, visit sdihealth.com.



Companies with new drugs or newly approved indications for existing drugs need to get the information into the hands of physicians and other practitioners, says Jason Fox.

SALES CALLS FOR TOP PHARMA COMPANIES

Company	FIRST HALF OF 2010	
	Call volume for 6 months ended June 2010	% change from 6 months ended December 2009
Pfizer	3.4 million	-6.6%
Merck	2.7 million	-19.5%
GlaxoSmithKline	2.7 million	-8.9%
AstraZeneca	2.2 million	-2.2%
Novartis	2.0 million	6.5%

Source: SDI. For more information, visit sdihealth.com.

DEVELOPING THOUGHT LEADERS

Q: Please check when you should start each activity for educating thought leaders.

TOTAL BENCHMARK CLASS	DEVELOPING INTEGRATED THOUGHT LEADER STRATEGIES	CONDUCTING ADVISORY BOARDS	PROVIDING MEDICAL SCIENCE LIAISON SERVICES	ENGAGING THOUGHT LEADERS & KEY INVESTIGATORS IN CLINICAL TRIAL PROTOCOL DEVELOPMENT	COMMUNICATING CRITICAL INFORMATION AND SHARING RESEARCH INSIGHTS
Preclinical	6%	18%	3%	18%	12%
Phase I	15%	12%	12%	24%	9%
Phase II	41%	26%	6%	47%	29%
Phase III-3 Years	21%	24%	15%	6%	26%
Phase III-2 Years	15%	6%	21%	3%	12%
Phase III-1 Year	3%	12%	32%	0%	6%
NDA thru Launch Year	0%	3%	12%	3%	6%

Source: Best Practices, Shaping the Marketplace to Support Successful Oncology Product Launches: Tactics for Educating KOLs, Physicians, Patients and Payers. For more information, visit best-in-class.com.

Companies Examine **DRUG REPURPOSING AS PIPELINE STRATEGY**

Drug repurposing — a strategy that calls for reinvestigating drug candidates that, for reasons other than safety, have not succeeded in advanced clinical trials for potential new therapeutic applications — has become the focus of intense interest over the past few years, as pharma companies seek new sources of revenue in a shifting marketplace.

According to the recent Insight Pharma Reports study, Drug Repositioning: Extracting Added Value from Prior R&D Investments, drug repositioning or repurposing can have very different commercial

implications depending on where the drug comes from, how much accessible data exist, and how well a company can exploit the new value chain created by a successfully repurposed drug. This will, to a large extent, depend on what sort of intellectual property can be secured for the drug's new use.

In the more conservative approach, termed "on-target repurposing," the drug's known pharmacological mechanism is applied to a new therapeutic indication, which in clinical terms might be far removed from the original one but is known to have the same pharmacological underpinning. About 80% of drug repurposing efforts that are currently ongoing, or have already resulted in a successful relaunch, have followed this route. The report notes that this approach should not be confused with simple line extensions, such as a cancer drug obtaining additional approvals for other types of cancer.

Even more innovative is "off-target repurposing," which looks at known molecules without prerogatives, looking for pharmacological mechanisms that have not yet been described for a known molecule. This approach uses what has been termed "systematic serendipity." In either case, having failed is not a criterion; the avenue is equally open to drugs that are being marketed or have once been on the market.

For more information, visit insightpharmareports.com.

According to the report, general health content sites such as WebMD.com and About.com Health reached 75% of physicians in the first quarters, and association web sites reached 67%. Pharma support and pharmaceuticals sites both reached roughly half of physicians, 51% and 50%, respectively.

For more information, visit comscore.com.

Mobile Browsing a Key Component of PHARMA MARKETING STRATEGY

Although mobile-device browsing is still just a small portion of total pharma website traffic, it has more than doubled since 2009, with an average of 2.3% of traffic coming from mobile devices.

Yet, according to benchmark data from TGA's Advisors, 34% of pharma websites have problems displaying some of their content when viewed through a mobile device, creating potential regulatory issues for the company in question.

PERCENT REACH OF TOP SITES IN EACH HEALTH CATEGORY AMONG PHYSICIANS, 1Q2010

TOTAL U.S. HOME/WORK/UNIVERSITY LOCATIONS	TOP SITE PER CATEGORY BY % REACH	% REACH OF PHYSICIANS ONLINE
HCP Content	Medscape.com	57.0%
General Health Content	WebMD.com	20.5%
Association	AAP.org	17.0%
Pharma Support	DoctorDirectory.com	22.0%
Pharmaceuticals	Wyeth.com (now part of Pfizer)	6.3%
Government	NIH.gov	30.5%
Health & Wellness	Thatsfit.com	8.3%
Social Media	SERMO.com	21.3%
Insurance	Ucomparehealthcare.com	11.3%
Physician Locator	Healthgrades.com	26.0%
Clinic	Clinicaloptions.com	3.5%
Medical Journal	NEJM.org	13.0%
Pharmacy Services	Allscripts.com	3.5%

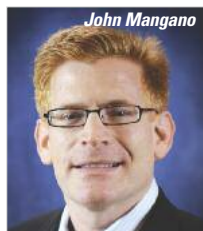
Source: comScore. For more information, visit comscore.com.

U.S. Physicians Online Visit HEALTHCARE PROFESSIONAL SITES

More than 80% of physicians online visited healthcare professional (HCP) content sites in the first quarter of 2010, making them the most-visited health-related content category for this audience.

According to a report from the comScore/ImpactRx Physician Behavior Measurement solution, HCP sites also captured 48% of physicians' overall time spent on health-related sites, the largest share of any category.

"Physicians are increasingly turning to digital media as a source of health-related information to supplement their practice," observes John Mangano, comScore's VP of pharmaceutical marketing solutions. "The ability to understand physicians' actual online behavior rather than relying on recall-based surveys provides a more accurate view of how physicians use the Internet as a health information resource."



By understanding which health-related destinations are frequented by physicians, brand marketers and advertisers can effectively reach and engage this influential audience segment, says John Mangano.

SUGGESTIONS FOR BUILDING MOBILE APPS

- See if you can build a smartphone-friendly app on your website instead. This will get you more traffic and be compatible with all devices rather than just smartphones.
- Consider that there's probably already "an app for that" among the zillions available. This could either provide you with a partner, or mean that you shouldn't bother.
- Make sure that the possible/probable volume for your application is worth the effort. If there are a million users of a device, and you estimate 20% of them are in your target, is that sufficient to develop a special application for them? What other tactics might have more reach?
- Ensure you have the means of promoting your app, just as you would promote a website.

Source: TGA's Advisors, State of the Industry: Mobile Marketing What Every Brand Should Know. For more information, visit tgas.com.

In its recent white paper, State of the Industry: Mobile Marketing: What Every Brand Should Know, TGA's advises brand managers to check all of their marketing websites from at least two types of smartphones to make sure there are no medical, legal, or regulatory issues with how content is displaying to mobile users. When creating or updating websites, brand managers should take into account user experience through mobile devices, as well as the opportunity to capitalize on the mobile channel in a way that cuts through the marketing clutter and

best serves consumers and healthcare professionals (HCPs).

The report also notes that for those companies considering development of a mobile application, a basic website application that serves all users is cheaper than creating separate apps for each smartphone brand. In addition, using an existing HCP framework such as ePocrates or Skyscape remains an option for brands that have the budget and want a larger reach.

For more information, visit tgas.com.

SUCCESSFUL PATIENT-RECRUITMENT Strategies Go Beyond Demographics

While patient recruitment isn't the first step in a clinical trial, well-designed recruiting could be a trial's most important piece. Recent research from Cutting Edge Information suggests companies have only scratched the surface of the potential benefits of deep patient understanding to more accurately develop protocols that meet enrollment targets.

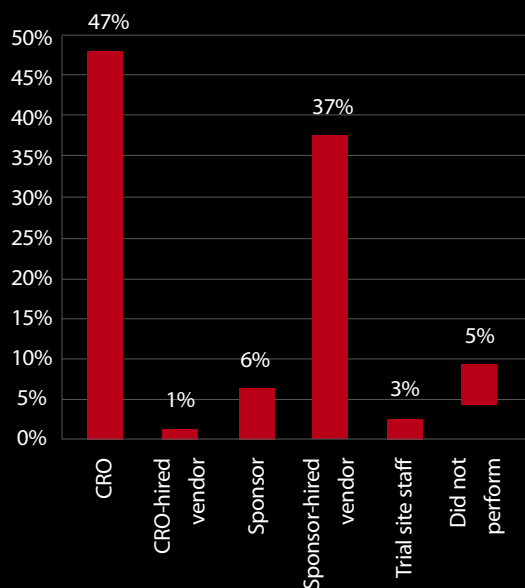
According to the report — Clinical Trial Patient Recruitment: Accelerate Enrollment, Increase Retention, and Reduce Costs — 72% of respondents perform pre-project research into patient emotion and motivation, but industry participants say much of that research is only surface-deep.

"The more information trial designers have about the patient population, the more likely you are to design a study that meets all enrollment goals," says Jason Richardson, president of Cutting Edge Information. "More nuanced demographic research saves dollars, as coordinators put limited funds into the right recruiting channels."

Project partners pointed to geographically focused recruitment as a significant potential advantage in patient enrollment. Identifying patient clusters aids in site management helps determine ideal patient incentives, and lets the clinical team communicate directly with local advocacy groups.

For more information, visit cuttingedgeinfo.com.

PERCENTAGE OF PARTICIPANTS RELYING ON KEY STAKEHOLDERS TO EVALUATE SITES AND INVESTIGATORS



Source: Cutting Edge Information, Clinical Trial Patient Recruitment: Accelerate Enrollment, Increase Retention, and Reduce Costs. For more information, visit cuttingedgeinfo.com.

QUICK FACTS

- The value of the market for ubiquitin proteasome drugs was an estimated \$1.4 billion in 2009, but is expected to increase to \$3 billion in 2015, for a six-year compound annual growth rate (CAGR) of 13.5%. The only approved drug currently on the market, Velcade, is projected to increase at a CAGR of 13.5% to \$1 billion in the United States in 2015, after being valued at \$468 million in the U.S. in 2009. On the global market, Velcade was valued at \$933 million in 2009, and sales are expected to increase at a six-year CAGR of 13.6% to reach \$2 billion in 2015.

Source: BCC Research, Ubiquitin Proteasome Drugs: Cancer and Neurodegenerative Disorder Markets. For more information, visit bccresearch.com.

- For Pfizer, a key success factor in bringing Viagra successfully to market involved effectively naming and clarifying the condition that the drug was designed to treat. In this process, the brand team was able to shift the nomenclature for the condition from "impotence," with its negative connotations and somewhat judgmental overtone, to the more clinical-sounding "erectile dysfunction," and, finally, to the more casual and conversationally appropriate "ED."

Source: Best Practices, Best Practices for Internal Communications Regarding Brands & Disease State. For more information, visit best-in-class.com.

- The seven major inflammatory bowel disease markets are anticipated to grow by more than 60% to \$5.6 billion in 2019, driven by the launch of seven pipeline drugs for Crohn's disease, ulcerative colitis, or both indications, some with new mechanism of action.

Source: Datamonitor, Commercial Insight | Inflammatory Bowel Disease. For more information, visit datamonitor.com.

- In 2019, the value of the seven major insomnia markets is forecast to reach \$3.5 billion. While growth of the U.S. market is set to be inhibited by further generic erosion from 2011 onwards, Japan will represent the key growth region over the next 10 years.

Source: Datamonitor, Pipeline and Commercial Insight: Insomnia: Future of innovative orexin drug class in doubt. For more information, visit datamonitor.com.

- When treating asthma, safety-minded physicians may be the most rapid adopters of emerging brands with a novel mechanism of action. Of those physicians surveyed, 30% fall into the safety-minded physician segment. These physicians report their top drivers of

brand choice when prescribing a drug for asthma include the drug's risk of life-threatening side effects, risk of severe side effects, and long-term safety record. But safety-conscious physicians were also found to more readily prescribe recent market entrant Sepracor/Nycomed's Alvesco, despite its lack of a long-term safety profile.

Source: Decision Resources, Brand Perception Series: Physician Segmentation in Asthma. For more information, visit decisionresources.com.

- Sales of therapies to treat hepatocellular carcinoma (HCC) in China are projected to nearly triple from \$53 million in 2009 to \$144 million in 2014. Fueling this growth will be greater access to medical care, a growing drug-treated patient population, and a rising number of higher-income HCC patients requesting more-efficacious and costly targeted agents, such as Bayer's Nexavar.

Source: Decision Resources, Emerging Markets report, Liver Cancer in China. For more information, visit decisionresources.com.

- Because of the emergence of new agents that have the potential to affect disease progression, the Alzheimer's disease drug market is expected to more than triple, from \$4.3 billion in 2009 to \$13.3 billion in 2019, in the United States, France, Germany, Italy, Spain, the United Kingdom, and Japan. Growth will be driven primarily by the first biologic agents to enter the market: Lilly's solanezumab and Johnson & Johnson/Pfizer's bapineuzumab. These anti-beta-amyloid monoclonal antibodies, which have the potential to slow the rate of neurodegeneration and cognitive decline, together are projected to earn more than \$6.9 billion in the world's major pharmaceutical markets in 2019.

Source: Decision Resources, Pharmacor 2010 findings on Alzheimer's Disease. For more information, visit decisionresources.com.

- Increased generic erosion of key drugs such as lamotrigine (GlaxoSmithKline's Lamictal) and divalproex (Abbott/Sanofi-Aventis's Depakote, Abbott's Depakote ER), combined with projected generic erosion of the atypical antipsychotic drug class, is projected to cause a \$2.3 billion decline in the bipolar disorder drug market over the next decade.

Source: Decision Resources, Pharmacor 2010 findings on Bipolar Disorder. For more information, visit decisionresources.com.

- An expanding aging population and increas-

es in diagnosis and drug treatment will fuel steady 4.6% annual growth in the chronic obstructive pulmonary disease (COPD) drug market through 2019. The COPD market, which totaled almost \$8.4 billion in 2009, is projected to exceed \$13 billion in 2019 in the United States, France, Germany, Italy, Spain, the United Kingdom, and Japan.

Source: Decision Resources, Pharmacor 2010 findings on Chronic Obstructive Pulmonary Disease. For more information, visit decisionresources.com.

■ Increasing use of Pfizer's Lyrica, Lilly/Boehringer Ingelheim's Cymbalta/Xeristar, and Forest Laboratories' Savella, is expected to drive 4.2% annual growth in the fibromyalgia drug market from 2009 to 2018. But because of the generic entry of sales-leading Lyrica's active ingredient, pregabalin, the market is projected to decline from \$1.8 billion in 2018 to \$1.4 billion in 2019 in the United States, France, Germany, Italy, Spain, the United Kingdom, and Japan.

Source: Decision Resources, Pharmacor 2010 findings on Fibromyalgia. For more information, visit decisionresources.com.

■ Although increased uptake of currently available therapies will drive modest \$400 million growth in the Parkinson's disease drug market through 2019, generic erosion of key agents will constrain overall market growth in the United States, France, Germany, Italy, Spain, the United Kingdom, and Japan. The majority of sales will continue to be fueled by the leading dopamine agonists, driving the market from \$2.6 billion in 2009 to \$3 billion in 2019.

Source: Decision Resources, Pharmacor 2010 findings on Parkinson's Disease. For more information, visit decisionresources.com.

■ For the treatment of rheumatoid arthritis (RA), 44% of surveyed rheumatologists who expect to prescribe Genmab/GlaxoSmithKline's Arzerra say they will prescribe Arzerra before Biogen Idec/Roche/Chugai/Zenyaku Kogyo's Rituxan. Only 22% of surveyed rheumatologists who do not expect to prescribe Arzerra cited their satisfaction with Rituxan as a reason they do not expect to prescribe Arzerra, following its expected launch for the indication in 2013.

Source: Decision Resources, Physician & Payer Forum report, Emerging Biologics and Novel Oral Agents in RA: How Will New Agents Secure Market Share and Payer Acceptance in

a Crowded Market? For more information, visit decisionresources.com.

■ Demand for vaccines in the United States is anticipated to grow 5.6% annually to \$14.2 billion in 2014, as ongoing introduction of new products to prevent or to treat complex human diseases, such as cancer, will continue to advance vaccine sales. Pediatric vaccines sales are expected to increase 4% annually, exceeding \$4.9 billion in 2014. Vaccines for adults and adolescents are forecast to post annual growth of 5.3%, surpassing \$4.4 billion in 2014.

Source: The Freedonia Group, Vaccines. For more information, visit freedoniagroup.com.

■ The worldwide market for human embryonic stem cells (hESCs) is estimated at \$3.8 billion in 2010 and is projected to reach \$10.7 billion by 2015, for a robust CAGR of 24.8% during the 2007-2015 period.

Source: Industry Experts, Human Embryonic Stem Cells (hESC): A Global Market Overview. For more information, visit industry-experts.com.

■ As the GDP growth rate in India nears 9%, diagnostic manufacturers are gearing up to collect their share of the in vitro diagnostics (IVD) market, which is expected to enjoy a 15% growth rate through 2014, driven by a shortage of reagents on the market.

Source: Kalorama Information, Clinical Diagnostics in India: Market Analyses and Participant Directory. For more information, visit kaloramainformation.com.

■ The approval of Dendreon's prostate cancer vaccine Provenge in April 2010 was a boon for a nascent cancer vaccine industry that had suffered several setbacks and should lead to an influx of market opportunities and a surge in regulatory activity. By 2015, the market for cancer vaccines is estimated to reach \$7.7 billion.

Source: Kalorama Information, Emerging Cancer Vaccines: Forecasts, Developments and Pipeline Analysis, 4th Edition. For more information, visit kaloramainformation.com.

■ Brazil's in vitro diagnostics (IVD) market nearly doubled since 2003 and is growing at a faster than average rate compared to the IVD market worldwide. With a population of 191 million, Brazil is by far the largest country in South America, and its growing economy and multi-billion dollar spending on health-care have brought most of the significant IVD companies to the region.

Source: Kalorama Information and McEvoy and Farmer, McEvoy and Farmer's Complete Guide to IVD Distribution in Brazil. For more information, visit kaloramainformation.com.

■ Despite an economy challenged by a recession, oil prices, and a falling exchange rate, Mexico is still attracting clinical diagnostic companies and posting modest growth in the sector. Mexico's in vitro diagnostics (IVD) market grew 75% between 2004 and 2009.

Source: Kalorama Information and McEvoy and Farmer, McEvoy and Farmer's Complete Guide to IVD Distribution in Mexico. For more information, visit kaloramainformation.com.

■ The cost-savings associated with early disease detection and clinicians' demand for better, more accurate diagnostic tools are key drivers for a predicted 5.8% annual increase in the market for molecular imaging devices.

The molecular imaging market is expected to reach \$6.6 billion by 2014.

Source: Kalorama Information, Molecular Imaging Markets (Market Intelligence Analysis of Market Opportunities in Molecular Imaging). For more information, visit kaloramainformation.com.

■ The global bioinformatics market is expected to reach \$8.3 billion by 2014 at a high CAGR of 24.8% from 2009. While knowledge management formed the largest submarket in 2009 at \$1.3 billion, the bioinformatics platforms market is expected to have greatest market share in 2014, at an estimated \$3.9 billion, because of rising demand from the U.S. and Europe.

Source: MarketsandMarkets, Bioinformatics Market: Advanced Technologies, Global Forecast and Winning Imperatives (2009-2014). For more information, visit marketsandmarkets.com.

■ The bioinformatics sector offers an indispensable technology for function assignment and is widely used for gene annotation. With the increasing R&D investment by companies on bioinformatics and the regulatory support in various countries, the global market for bioinformatics is expected to surge at a CAGR of almost 26% from 2011-2013, to an estimated value of \$6.2 billion.

Source: RNCOS, Global Bioinformatics Market Outlook. For more information, visit rncos.com.

■ Regenerative medicine is a technique to treat injuries and diseases with specially grown tissues by way of several different methods, including stem cell therapy and tissue engineering. The global market for regenerative medicine products is forecast to exceed \$3 billion in 2010 and to reach \$4.5 billion by 2014.

Source: TriMark Publications, Regenerative Medicine Markets. For more information, visit trimarkpublications.com