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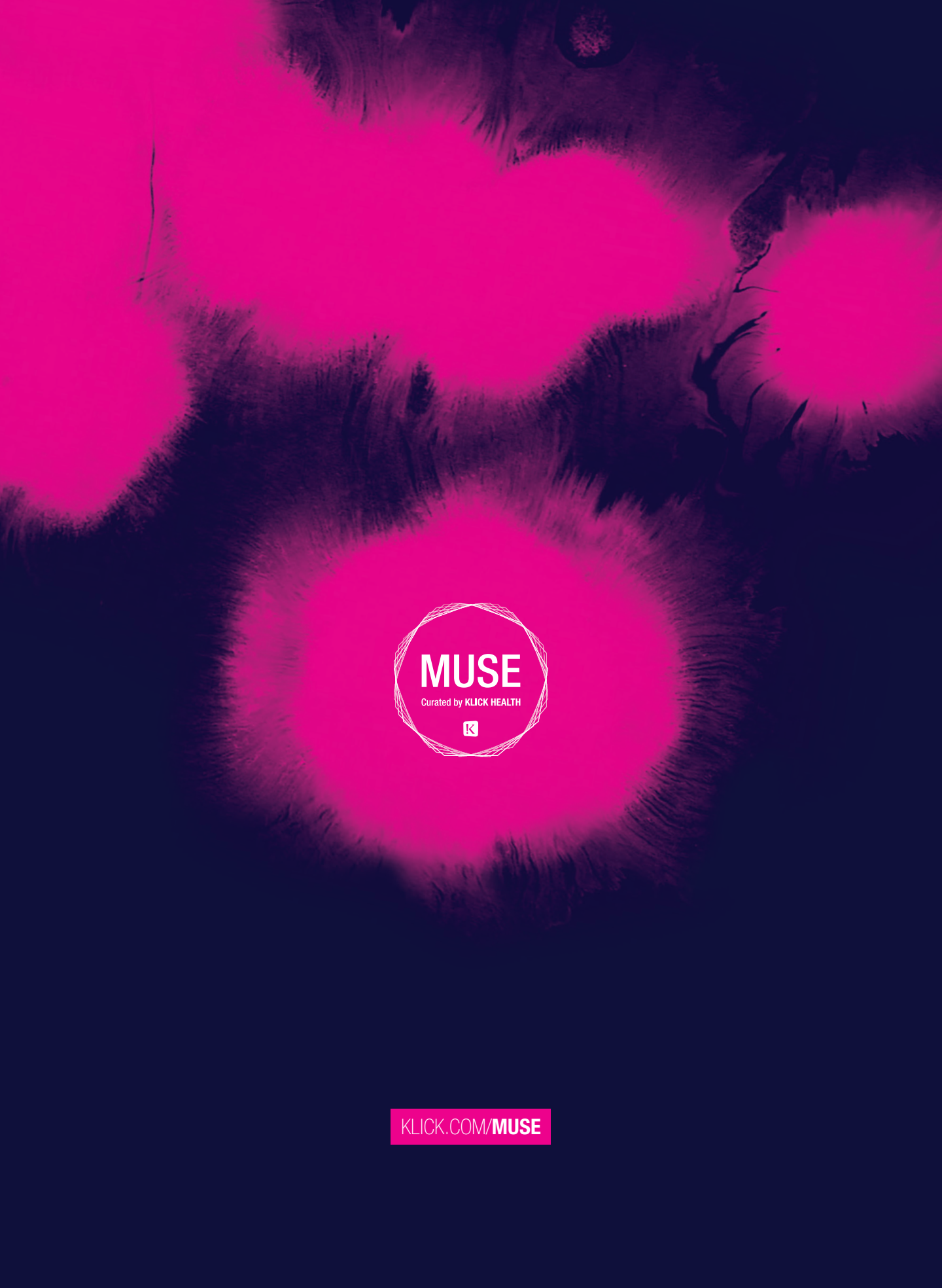
Pharmaceutical Executive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VOLUME 36, NUMBER 4

2016 HBA Woman OF THE Year

JENNIFER COOK
FROM BENCH TO BOARDROOM

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The Odd Couple

THERE IS BIG MONEY IN MEDICINES. Marketing them to a widening circle of stakeholders is critical to big Pharma's future health. That's why we found ourselves as observers at the US advertising industry's annual gathering of creative types, media buyers, and policy leaders—the "4A" trade group Conference on Transformation, held last month in Miami.

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Years of contact have made advertising and medicines a familial codependency. Both industries are struggling to maintain their value in the eyes of decision-makers, whether it be a drug formulary committee or an agency client's purchasing department.

Neither does a particularly good job at selling itself to the public. It's counter-intuitive but true: Client-side marketers marginalize agencies by avoiding any semblance of risk on the creative side, ignoring the merits of strong messaging and high-quality content that can multiply brand value. Elaborate campaign pitches are expected to be given on spec. And the battle is on to replace the standard agency hourly bill rate with a procurement-led purchasing model that contends "creative" should be cheap, too. For its part, the ad industry seems unable to confront a race to the bottom on digital display, despite the reputational hazards induced by pervasive viewability problems, fraudulent bots, malware, and all those other pachinko parlor pathways to click-bait hell.

So it was no surprise to see the challenges facing the ad industry and big Pharma are remarkably similar. To prove the point, just consider four themes dominating the conference discussions:

Disintermediation. This $100 word about supply chain disruption was on everyone's lips in Miami, as agencies face an influx of new competitors seeking to hive off big parts of the advertising service portfolio. The spotlight was on tech companies and the Big Four professional services firms, which have data that can shine a brighter light on audience engagement. These groups attack the agencies' weak point—at the intersection between brand messaging and user need. New players like Google, IBM and Deloitte have the capacity to handle both. To big Pharma companies struggling with how to deploy and manage information as a business, this is a familiar refrain.

Technology tsunami. The advent of digital media was likened to a "wild west" situation, with few experts admitting to having a handle on how to address the proliferation of platforms and outlets that democratize content through the power of social media. Ad-blocking software, which cost the industry an estimated $20 billion in lost revenue last year, is an embarrassing stain on the idea that an investment in sponsored branding yields higher audience engagement. The long-term business implications of autonomous, self-empowering user technology are profound: whoever said it was necessary to advertise to build a brand?

Diversity and talent. Like pharma, advertising is a high-visibility sector whose leaders are representative of an older, white male demographic in decline. How to open the "c-suite" to women produced some tense moments in Miami, with the CEOs of the two biggest agency holding companies—Publicis and WPP—disagreeing publicly on whether the industry has a "gender problem." Nevertheless, diversity in talent helps clients make their best case to the public. The message to the top ranks? If your creative people don't *look* like you, they certainly won't *think* like you. And as advertisers confront a fragmenting audience with vast choices among platforms and content, that contrast is a good thing.

Business ethics. Margin pressures are forcing agencies to combine creative guidance on brand messaging for individual clients with separate capabilities as a principal in coordinating group digital media buys—what's known as programmatic advertising that replaces direct, client-negotiated RFPs with automated software systems. Rebates—some call these kickbacks—to win access to prime media spots raise issues of transparency, particularly on the impact this might have on other clients' business interests or the confidentiality of agency contracts. A client-side trade group, the Association of National Advertisers (ANA), has launched an investigation to gauge the extent of the problem —a move that others in the industry see as premature.

The bright spot for pharma at the 4A Conference was the fresh shout-out to healthcare. For the first time, the 4As included a Health and Wellness category in its annual **Partner Awards**, which honors creativity and collaboration in advertising. "Not only is health and pharma a sizable market of its own, agencies recognize that no other category has such a direct impact on people's lives," said award juror Christian Bauman of Health4Brands. "It's the last bastion in advertising where a simple, visual metaphor can drive positive behavioral change in physicians and patients."

More on those awards next month.

Pharmaceutical Executive

VOLUME 36, NUMBER 4

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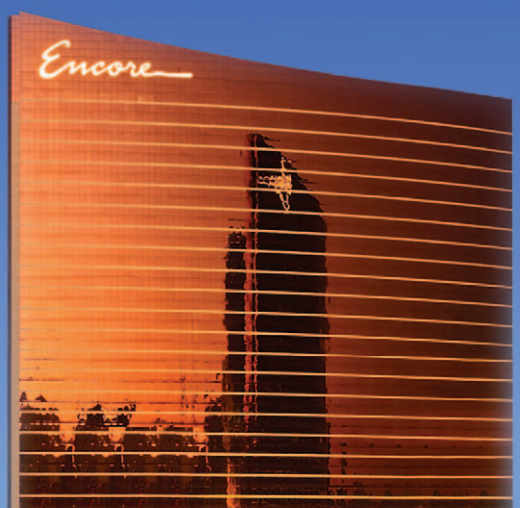

2016 WOTY: From Bench to Boardroom

By Kathleen Raven

Pharm Exec profiles Roche's Jennifer Cook, this year's winner of the Healthcare Businesswomen's Association Woman of the Year award, who has built a career in close parallel to the rise of biotech as a mainstream and integral driver of global health innovation.

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Cover Photo: Rene Rickli (through F. Hoffmann-La Roche AG)

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The Diversity Dearth in Pharma

By Ian Wilcox

Beyond equal-opportunity factors, the industry needs more women in senior management roles to drive business performance. Three strategies are presented to help close the gap.

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From the Editor

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Country Report: Egypt

Egypt is not just a sun-soaked paradise defined by pyramids and tombs, or—alternatively—a hotbed for political turmoil and revolution. It's also a vibrant and growing market for pharmaceuticals, experts contend.

PHARMACEUTICAL EXECUTIVE VOLUME 36, NUMBER 4 (Print ISSN 0279-6570, Digital ISSN: 2150-735X) is published monthly by UBM Advanstar 131 W. First St., Duluth, MN 55802-2065. Subscription rates: $70 (1 year), $125 (2 years) in the United States and Possessions; $90 (1 year), $145 (2 years) in Canada and Mexico; $135 (1 year), $249 (2 years) in all other countries. Price includes air-expedited service. Single copies (prepaid only): $7 in the United States, $9 in all other countries. Back issues, if available, are $20 for the United States and Possessions, $25 for all other countries. Include $6.50 per order plus $2 per additional copy for US postage and handling. If shipping outside the United States, include an additional $10 per order plus $3 per additional copy. Periodicals postage paid at Duluth, MN 55806 and additional mailing offices. POSTMASTER: Please send address changes to PHARMACEUTICAL EXECUTIVE, PO Box 6180, Duluth, MN 55806-6180. Canadian G.S.T. Number: r-12421 3133rt001, Publications mail agreements NO. 40612608. Return Undeliverable Canadian Addresses to: IMEX Global Solutions, P. O. Box 25542, London, ON N6C 6B2, Canada. Printed in the USA.

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Shared Platform Eases Investigators' Burden
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Readers Weigh In

Unfortunately, this article reflects a lack of understanding of the perverse financial incentives embedded in the hospital supply chain. There is one underlying cause of the artificial shortages and skyrocketing prices of generic prescription drugs: the anticompetitive contracting and pricing practices, self-dealing, and "legalized" kickbacks of giant hospital group purchasing organizations (GPOs).

Phillip L. Zweig, 2/24/16
"Can FDA Control Drug Prices?"
bit.ly/1Lfng7Y

We were poorly treated by the "old" CDF, which clearly discriminated against rarer diseases and treated us with disrespect. Their sole action for WM (Waldenström's macroglobulinemia) was to remove Bortezomib from the list—the only specific indication for WM—against the recommendation of specialist clinicians and national treatment guidelines.

Roger Brown, Chair, WMUK, 2/29/16
"Stakeholders React to England's Cancer Drugs Fund Proposals"
bit.ly/1T9RkE5

Wow, what a long and tortuously boring way to say, "overaggressive activists in California are trying to force the state to pay less."

Oscar, 12/19/15
"'Ground Zero' for American Rx Price Controls: California"
bit.ly/1NbpRgA

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Brand of the Year
Pharm Exec selects the one brand with staying power in an era of mounting pressure to demonstrate real clinical differentiation.

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Larry Brilliant, MD, MPH
Monday, June 27 | 2:30–4:00PM

Larry Brilliant is the acting Chairman of the Board of the Skoll Global Threats Fund, whose mission is to confront global threats such as Pandemics, Climate Change, Water, Nuclear Proliferation, and the Middle East Conflict.

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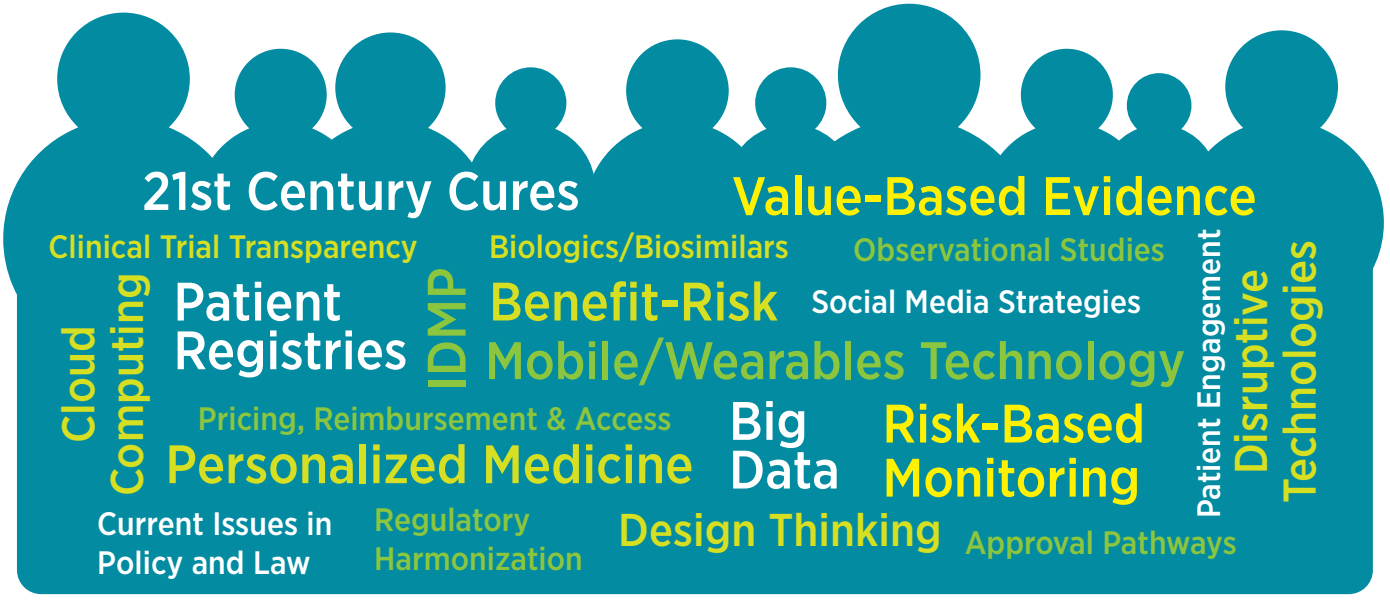

Front & Center

The Goldilocks Hub

The gap is continually growing between high-priced specialty therapies and retail pharmaceuticals. At CBI's 6th Annual Hub and SPP Model Optimization Conference in Philadelphia this February, Triplefin's Myra Reinhardt, Vice President of Product Strategy, discussed how Hub services can be tailored to fit "just right" for brands with price points and patient service requirements that are neither too big nor too small.

Specialty pharmaceutical products with staggering prices dominate headlines and paint the public's image of growing healthcare costs. However, an emerging segment in the prescription drug market consists of mid-range therapies with higher price tags than traditional retail pharmacy—but significantly lower than expensive specialty pharma.

Many new brands are entering this mid-range market, but existing patient service models are not well suited. Patient service Hubs have "grown up" around high-priced specialty products, which have traditionally demanded high-touch, all-encompassing patient services. Traditional Hub models have been in place for more than 15 years, founded on centralization and optimization of manual processes. Services are structured to support complex reimbursement and to minimize access barriers for buy and bill products in order to mitigate issues such as high-cost share scenarios, high prior authorization required rates, closed distribution networks and coordination access in the community setting. Over the years, the emergence of specialty pharmacy, REMS and increasing cost share for patients, have extended services provided in traditional Hub models. Consequently, delivering necessary patient services for specialty pharmaceutical products is exceedingly labor intensive and costly.

Drug technologies continue to change. Oral oncolytics, for example, were not common ten years ago, explained Triplefin's Reinhardt. Many novel drugs across many indications have come into the market, similar in standing to IV-infused therapies of the past, but with oral or subcutaneous formulations. These drugs can be self-administered at home rather than given at an infusion center, and thus the whole approach to patient services is altered. Novel oral medicines are not necessarily filling the middle ground, as many of them also warrant specialty pricing, but the patient services required are clearly diverse, given the variable levels of patient burden.

Hub-Lite™ steps in

Triplefin intends to streamline Hub program design to meet the needs of mid-level therapies with its Hub-Lite™ service model approach that can be customized to fit a brand's unique needs.

Critical to Triplefin's Hub-Lite™ approach is benefit verification services. Solutions must mitigate challenges presented when major medical benefits are a factor, Reinhardt noted. Additionally, mid-ranged drugs still require solutions for electronic prior authorization (ePA), and Hub-Lite™ will leverage current industry capabilities to provide viable options for managing the gaps that exist in ePA.

Triplefin's Hub-Lite™ service model also focuses on co-pay and voucher program design—recognizing that this must align with the strategic intent of a brand's overall program. It allows brands to focus on key aspects like perception of affordability and barriers to initiation, as well as coverage conversion and adherence, with key measures being fulfillment and persistence.

Case study: Overcoming launch failure

"We applied the Hub-Lite™ model to a drug that failed to meet expectations at launch," Reinhardt explained. The therapy is prescribed to patients who have had an acute episode, bringing them to the hospital, and upon discharge, they now have a chronically treated condition and must initiate therapy within 24 hours. On top of the fact that patients are heavily burdened by a significant life-altering episode, and a new outlook for managing their own care at a level that is new to them, patients were challenged with confusing and fragmented patient support. For example, they were given eight separate 1-800 lines for disparate services. On top of this, co-pay cards

	Retail	"What's in Between"	Specialty
Price	<$400 / month	$400 - $1500 / month	$1600 - $4K + / month
Product Type	Small Molecule	Small molecule, self injectable	Infused, cold-chain, provider administered
Patient Engagement	Transactional		Case Management
Channel	Retail Pharmacy	Retail Pharmacy Networks Direct To Patient	Specialty Dispense Networks Site of Care

Pharmaceutical brands in transition

were made available at retail pharmacies, but they were frustrated by low stocking levels. As a result, the brand saw high script abandonment at initiation, and low levels of patient compliance once initiated. The brand's initial hub also had minimal focus on patient engagement or followup outreach, she added.

Triplefin's Hub-Lite™ brought forward solutions to enhance patient engagement while eliminating barriers. Clearly, there was a need to consolidate 800 lines into a single "Care Manager" point of contact with a strong emphasis on empathy and a directive to personalize service offerings. The new approach also seeks to leverage co-pay and offered a free trial to drive Hub-Lite™ enrollment. The program sought to improve patient access to the brand by eliminating reimbursement barriers. "Key in the new efforts has been implementation of a pharmacy finder service, which is capable of confirming that a given pharmacy has the drug in stock," Reinhardt said.

Following the Hub-Lite™ efforts, stocking became less of a roadblock. As more prescriptions were written, pharmacies began stocking it at higher frequency, she commented.

Triplefin was able to significantly alter patient adherence with monthly proactive follow-ups for 90 days, post-initial call and ongoing patient engagement efforts. Patients opted in to the Hub-Lite's "coaching" service, which has key differences from a more "heavy" Hub adherence service. A "heavy service" might require fully accredited healthcare professionals, like registered nurses. Coaches are trained to follow certain script criteria, but are also trained comprehensively to empathize with patients. A key to the patient engagement modification is the recognition of patient segments to drive engagement. The process looks at four levels toward increasing patient activation from "disengaged and overwhelmed" to "becoming aware" to "taking action" and finally, "maintaining behaviors and pushing further."

Triplefin's results were impressive, Reinhardt asserted. In the first nine months of the program, the brand experienced increased in-bound calls indicating greater patient engagement and an 84 percent increase in second prescription fills for enrolled patients. The service changes also saw a 2.5 day increase in patient days on therapy.

In summary, Triplefin showcased that its Hub-Lite™ approach can be optimal for improving a brand's metrics through tools designed for less-than-specialty pharmacy products. Clearly, Reinhardt noted, the market is in transition to put greater emphasis on patient engagement and Hub-Lite™ will seek to underscore this change. Finally, channel models are in flux, with increased need for retail or local pharmacy support and Hub-Lite™ can be nimble and responsive to this trend.

Visit www.triplefin.com for more information.

Pressure Builds to Revamp Off-Label Marketing Rules

The courts, pharma, and policymakers push FDA to rethink communications policy

Legal decisions and the Internet have altered the landscape for exchanging information on drugs and devices in the decades since FDA established its rules governing what manufacturers can say about regulated products. But the agency has not kept pace in updating its rules governing medical product promotion; FDA has yet to issue new guidance or to hold a public meeting on the subject, something that top officials said they would do more than a year ago.

The resulting inconsistent policies have led manufacturers to seek clarification in the courts, generating a "cycle of litigation" that diminishes FDA's authority over communications about drugs and medical products.

FDA unofficially acknowledged its difficult situation in the March 8 settlement that permits Amarin Pharma to discuss unapproved uses of its fish-oil pill *Vascepa* with health professionals, so long as the information is truthful and non-misleading. FDA signaled that it will not appeal the court's ruling in this and other similar cases, but sought to limit the impact of the agreement by stating that it is "specific to this particular case and situation" and "does not signify a position change" on the First Amendment or commercial speech.

But pharma clearly is winning the legal contest. Last December, FDA settled a complaint filed by Pacira Pharmaceuticals that permits the company to discuss the use of *Exparel* in a broader array of surgical procedures, including those not specifically indicated in its approved label. And just before the Amarin settlement, a federal jury in Texas decided that a medical device maker, Vascular Solutions, did not violate federal law in distributing off-label—but truthful—information on its products.

It's not yet clear whether these court rulings will deter FDA and the Department of Justice (DoJ) from seeking further criminal misbranding charges related to a firm's truthful, but unlabeled, speech. Legal experts advise marketers to be cautious in promoting products beyond approved indications, downplaying the prospect of a flood of unapproved marketing claims. Pharma critics, however, predict that Amarin opens the floodgates to unsubstantiated claims that will harm patients and undermine FDA regulation of prescription drugs.

What's 'truthful'?

A main question is how and who will determine whether a product claim is, in fact, truthful and non-misleading. The Amarin settlement sets up a process for the company to seek FDA's opinion on future off-label messages and for settling any resulting disputes. But because FDA lacks the resources to provide such vetting to everyone, marketers are looking for other strategies to evaluate off-label communications.

A stakeholder group headed by Mark McClellan, who now directs the Duke-Margolis Center for Health Policy, issued a white paper in February on "Policy Options for Off-Label Communication," (**see http://bit.ly/1Za7u0N**) which offers a range of proposals for addressing the off-label use landscape. It's most contentious proposal is to establish an independent entity to accredit marketer communications. It would review company evidence associated with off-label use and possibly set timeframes for a sponsor to develop further information to support additional indications.

The group also seeks more consistent enforcement of off-label communication policy within FDA and across federal and state agencies. A controversial idea is to authorize FDA to revise approved labeling to include information based on lower-level "tiers" of supporting evidence that could be communicated "within certain circumstances or to particular audiences."

FDA pilot programs would test processes for adding modifications or efficacy claims to the label and for using the agency's Sentinel System to develop evidence on new indications or to evaluate the use of unapproved claims in value-based payment models that reimburse

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sponsors based on impact on patient health.

Economic information

That last item reflects interest in addressing how curbs on off-label communication may limit the scope of economic information that pharma companies can provide payers and formulary committees. Marketers have long sought FDA clarification of what healthcare economic information manufacturers may share with certain knowledgeable parties, based on a policy established by section 114 of the FDA Modernization Act of 1997, which was never fully implemented.

Now the emergence of more high-cost specialty medicines, along with greater interest in comparative effectiveness research (CER), has renewed efforts to clarify and expand 114. The House-passed 21st Century Cures legislation includes a provision that encourages the sharing of pharmacoeconomic information, and the Academy of Managed Care Pharmacy (AMCP) is spearheading an effort to develop recommendations on this topic.

Following a March meeting, a stakeholder panel organized by AMCP, which includes pharma companies, health systems, and insurers, said it would publish its report in the July issue of the *AMCP Journal* and also send FDA its recommendations in a format that could help the agency develop long-awaited guidance on section 114. The panel proposes to expand the range of healthcare decision-makers qualified to receive pharmacoeconomic information and to clarify that such data may be supported by "competent and reliable scientific evidence," as opposed to the "substantial evidence" required for new drug approval.

A controversial idea is to authorize FDA to revise approved labeling to include information based on lower-level "tiers" of supporting evidence that could be communicated "within certain circumstances or to particular audiences"

The AMCP panel also said that patient groups should have "appropriate access" to "a full range of information about their medications"—raising the prospect of even broader dissemination of economic assessments.

Clarification of section 114 is important for marketers looking to negotiate value-based contracts with payers, a process now complicated by uncertainty about linking price and reimbursement to patient response to indications outside the approved label. Benefits and costs related to increased worker productivity or time out of the hospital may not have support from clinical trial data, but are important for health plans and PBMs.

Growing enthusiasm for value-based purchasing by all components of healthcare speaks to the need for pharma companies to be able to include wider benefits in risk-based analyses of drug use, especially for off-label uses critical to patients. PE

Tapping real-world evidence to support off-label uses

FDA officials and industry experts are examining ways to more effectively utilize real-world evidence (RWE) from healthcare systems and claims databases to assess patient response to treatment and to support FDA regulatory decisions and postmarket monitoring. Highly-controlled clinical trials provide credible information for determining that a therapy is sufficiently safe and effective for market approval, but data from observational studies and CER may be more germane to understanding how to use a medicine in medical practice. FDA has tapped observational data, for example, to assess higher doses of flu vaccine and reduced administration of a rabies vaccine in short supply.

And RWE can be helpful in assessing the effectiveness of therapies for rare diseases or critical conditions such as cancer, where it's difficult to conduct additional clinical trials.

Janet Woodcock, director of the Center for Drug Evaluation and Research (CDER), noted at a March seminar on RWE sponsored by Duke-Margolis that outcomes data can help answer questions about a drug's additional uses and what may be valid beyond that indicated on the label. She and others emphasized the need for standards and methods to ensure the reliability of RWE, while also acknowledging that additional information on certain patient responses may help address off-label issues.

R&D Model Mixes Compassion, Calculation

Altruism and self-interest are at the heart of European thinking on neglected diseases

Of course everyone cares, and of course plenty gets done to tackle the problem — but the result is still alarming, and over the long term, alarming for the rich countries of Europe and the rest of the developed world. Tools are needed—many tools, and better tools than the current ones—to diagnose, prevent, and treat poverty-related and neglected diseases, such as HIV/AIDS, malaria, tuberculosis, sleeping sickness, and worm and parasitic infections. These diseases cause more than 6.5 million deaths in low- and middle-income countries every year, and are responsible for more than 300 million disability-adjusted life years there. Increasingly, however, the failures in developing treatments for these diseases is perceived as a demonstration of the failure of the development model that richer countries have depended on until now, and which may also prove deficient in the face of evolving challenges.

Committed to cause

Plenty is being done for poverty-related and neglected diseases. The US is way ahead in terms of funding research—accounting for nearly half of the world's total public investment. A long way behind is the UK, which puts in less than 4% of the total, just pipping the EU into third place with a little more than 3% —although if the EU and its member states are taken together, the aggregate investment amounts to a slightly more credible 15% of the world total. The EU has made explicit commitments, based largely on humanitarian principles, to step up to the problem. As far back as 2010, the Council of the European Union resolved to promote "effective and fair financing of research that benefits the health of all," and to focus on those interventions with the "biggest impact on public health." And since then it has pumped more than a billion dollars into supporting research specifically oriented towards these diseases.

The EU has recently expanded its Africa-focused clinical trials program, EDCTP2, with an emphasis on reinforcing Africa's own science base and on boosting local clinical research expertise. Bringing countries together to reduce duplication and fragmentation helps get the best value of available resources for expensive clinical trials, it says.

In March, the EU Commissioner for International Cooperation and Development Neven Mimica announced increased support—of well over half-a-billion dollars—to the Global Fund that supports research into these diseases. "One of the lessons learnt after the Ebola outbreak in West Africa is the clear need to strengthen health systems in developing countries, so that infectious diseases can be controlled for good," he said at the time, calling on others to raise their contributions, too.

Numbers crunch

As Mimica's remarks suggest, the EU's altruism is, unsurprisingly, tinged, too, with a degree of self-interest. The emergence of new diseases and the increased mobility in a globalized world are an obvious threat to what had become regarded as the relative sanctuary of the developed world.

The recent waves of migration into Europe have underlined that challenge, and although the direct health impact has so far been minimal compared to the broader human tragedy of so many displaced people, the risk of disease transmission is being taken seriously. The most recent meeting of the EU's forum on global health policy was devoted entirely to "health and migration," with presentations from the European Commission, Oxfam, the International Organization for Migration, Medecins du Monde and the Red Cross.

The bigger implication of the challenge that these diseases presents, however, is becoming as valid for richer countries, too: how far the underlying challenge of paying for medicines development can be met. The limited commercial market for health technologies to address poverty-related and neglected diseases makes their research and development almost totally reliant on public funding. Until now, that is not a difficulty that has faced drug developers in the industri-

RELFECTOR is *Pharmaceutical Executive*'s correspondent in Brussels

alized countries. But the fragmentation of therapeutic approaches as personalized medicine gathers pace is starting to present a similar dilemma for drug firms creating products for richer countries. As cancer treatments become increasingly targeted to subpopulations, the expectation of financial returns from sales can no longer be so confident—and this at a time when the costs of development have never been so high, and the strains on health budgets to pay for new drugs have never been so acute.

Already, studies suggest that as many as two-thirds of all new drugs fail to meet pre-launch consensus expectations for their first year on the market—and drugs that fall short then continue to fall short for the following two years. According to Impact of Incorrect Forecasts on New Product Launches, a new study from ORC International, Sanofi and Regeneron set the price for their colorectal cancer drug, *Zaltrap*, at $11,063 per patient per month, but the company was forced to cut the price in half when oncologists at Memorial Sloan Kettering Cancer Center refused to prescribe *Zaltrap* because cheaper alternatives already existed.

The more general statements of concern from drug manufacturers and their associations, in the US and in Europe, continue to grow louder by the month. A report published in March by the European Commission, aimed at helping to cut through the difficulties facing European countries in controlling their burgeoning drug budgets, was met by open hostility from drug firms critical of what they said was a failure to recognize the underlying challenges of funding innovation.

And as if cracks were not already appearing in the business model for drug development for the developed world, along comes AMR to drive the point home still more keenly. Antimicrobial resistance has exposed not only the lack of new products, but also the lack of incentives for the development of new products. The EU has, like many other countries and regions, started to accept the reality of the threat of uncontrolled and uncontrollable infectious disease, but most of the response to date has been in belated attempts to rein in slack prescribing culture and abuse in stock-rearing. The EU's working party on public health has started to prepare draft conclusions which may be adopted at the EU Health Council in June, and the European Parliament voted through updates to veterinary medicines regulations.

Arriving at an arrangement in which research and development costs are de-linked from product pricing will need courage and imagination—and an understanding of how public funding will have to supplement private investment

Less is more

What is really needed is strategic thinking on new approaches to funding research in a context where the most successful products that emerge will be used as little, rather than as much, as possible. For the developed world, this is a real and unprecedented challenge, a departure from the *hitherto sacrosanct* principle of payment for volume sales. Arriving at an arrangement in which research and development costs are de-linked from product pricing will need courage and imagination—and an understanding of how public funding will have to supplement private investment. That, too, will require adjustment to many of the accepted notions of intellectual property—now under determined challenge from many influential campaigners who see patents as an obstacle to new thinking about drug development and drug access, as the March meeting of the United Nations' High Level Panel on Access to Medicines in London graphically demonstrated.

Think inward, too

A new—and critical—report on EU funding of poverty-related and neglected diseases (**see http://bit.ly/1prnv6vl**) concludes that to fill the evident gaps, the EU should develop "a comprehensive R&D funding strategy with clear objectives and an implementation plan, focused on delivering appropriate and accessible new health technologies to achieve the EU's global health aims."

It may be right. But also, in the tradition of "Physician, health thyself," the EU is equally in need of a comprehensive R&D funding strategy to ensure the continued development of its aims for health in Europe, too.PE

Front & Center

Hub Change

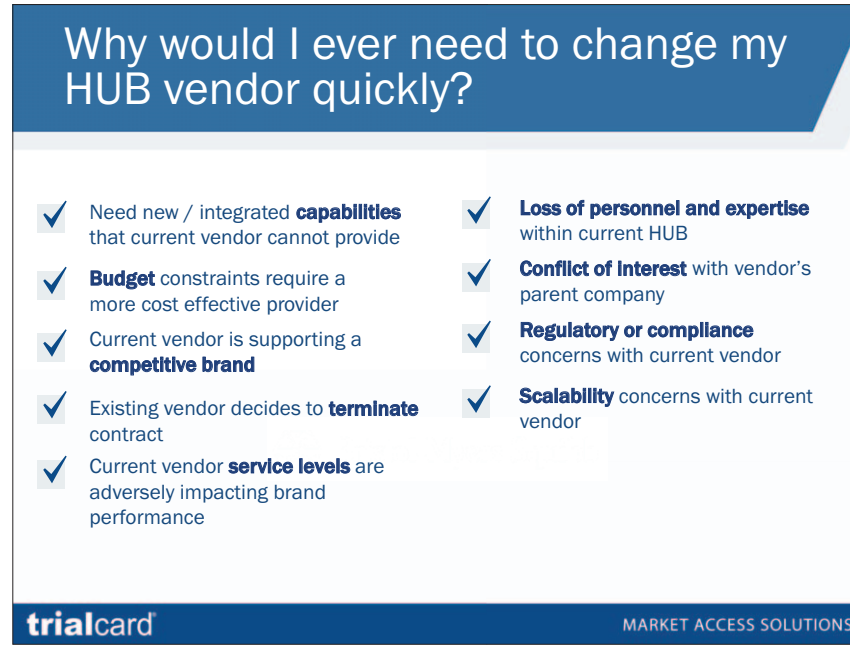
Transitioning Hub programs is daunting. But making a major change can be a necessary step to foster a brand's performance through improved patient support services. At CBI's 6th Annual Hub and SPP Model Optimization Conference in Philadelphia this February, Scott Dulitz of TrialCard outlines key points of consideration and best practices to fast track the switch to move forward once you've come to the conclusion that a change is necessary.

Your Hub program needs a change. Good, the first step is admitting it. Now what?

First step back and realize that change is a part of life and the complex systems that are ubiquitously engrained throughout our daily lives are not exempt. Consider systems as concrete and impenetrable as those at your friendly department of motor vehicles, your company's payroll or IT systems, a magazine's website and content management system or more adjacent to the healthcare industry, the perpetual discussions and difficulties around electronic health records. Clearly some systems require regular updates and they all, for reasons of their own, are flagged by impediments to efficient and necessary change.

For a variety of reasons, transitioning from legacy Hub providers to new offerings is a growing trend in the Hub services marketplace, explained Scott Dulitz, Vice President, Market Access Solutions for TrialCard. There are many reasons a company might be considering a change, among them: dissatisfaction with existing providers, budget constraints, or the inability of the current vendor for scaling up given brand's potential for growth.

Some companies have taken a Hub approach that cobbles together different services like nursing and adherence services, case management and navigation services, reimbursement support services, and patient education, engagement and empowerment by parsing out these different tasks among different patient services providers. But this piecemeal approach is becoming the exception as more and more brands are leaning towards providers who can bundle these offerings, noted Dulitz. Many realize a need for new and/or integrated capabilities that their current vendor cannot provide. There can be many reasons, but what's clear in these cases, is that a Hub transition is necessary.



Once you've made the decision, you'll want to move quickly and efficiently. Like so many changes, ripping off a Band-Aid might be a good illustration of how to minimize long-term pain.

But the most important aspect of making a Hub vendor change, according to Dulitz, is that you review and have a clear understanding of the contract with your existing vendor. The obvious concern will be that once your legacy provider is informed that your relationship will be terminating, their investment and material support will decline, lowering the overall service.

It is key that you understand the termination clause in your existing contract, he adds. You'll need to understand timeline implications of a "for cause" or "without cause" termination. It's also important that you are able to answer the question, how long does the legacy vendor have to continue performing services once they have been notified their contract will be terminated?

"You'll want to identify per the existing contract, if the existing provider is re-

quired to give transitional services," Dulitz said. "You may even want to amend the agreement to include these transition services." Certainly, a strained Hub will add substantial stress to your new provider as they begin taking over.

Finally, when assessing the legacy provider, you'll need to know who owns the rights to key Hub infrastructure, intellectual property (i.e. data, phone/fax lines, web URLs, web portal code/content, standard operating procedures, program correspondence, etc.)

In with the new

When assessing a new vendor, you'll want to think in terms of your brand's goals and objectives, explained Dulitz. The capabilities and culture of vendors will be vital in your decision-making. Time is of the essence as you consider your options and you will need to weigh whether you have the time and resources to develop and review a comprehensive request for proposal? Additionally, determining whether your future vendor can hire and train staff to support your program quickly enough for the transition will be vital. It will be important to consider the track record of success with transitioning other Hub programs of potential vendors?

As the transition begins, a standard practice is to identify a core transition team from your legacy vendor and the new vendor in order to establish communication cadence. In doing this, you'll be able to create a detailed transition plan with key milestones and contingency plans if something doesn't go as planned.

Contingencies - did we plan for this?

The importance of planning cannot be overstated, and you will want to consider and be ready for as many contingencies as possible as the transition takes hold.

One example of a critical contingency situation might be if your fax lines don't cut over as planned on the scheduled day. Yes, it's 2016 and we're still talking about fax lines, but you will want to have a backup plan for moving vital data in a case like this.

Or consider a slightly longer-term contingency, noted Dulitz. What if your legacy provider underestimated potential volume and your brand reaches unexpected levels following the switch? A problem you probably would be happy to have! You'll want to have provisions in your new vendor agreement addressing such a situation. The agreement might, for example, include a provision to add staff.

Leading up to and throughout the transition, you'll want to have an open line of communication with key stakeholders, patients, providers and your own sales force. "Groups that transition well set expectations and communicate them," noted Dulitz. It might be necessary to put out high-level correspondence to existing patients. In addition, you could choose to produce a webinar for your internal sales personnel in order to set expectations. They may be concerned around, for example, enrolling patients during the transition and expectation leveling for them will be a key concern.

Summary

Change makes people anxious. If you are considering a change, it is quite possible that existing limitations of your current Hub, its overall performance and the resulting patient experience, are substantially holding back your brand. Given the importance of a patient assistance Hub system towards a brand's performance, a change might be the beginning of your solution. It will be key to understand your existing contracts and operate towards a smooth breakup accordingly. A calm exit along with careful contingency planning will be vital for a seamless transition that will set your new vendor up for success, and your brand for growth.

From Bench to Boardroom

This year's winner of the HBA Woman of the Year has built a career in close parallel to the rise of biotech as a key driver of the innovations that extend human health. Jennifer Cook, head of Roche Pharma Region Europe, is a child of the curiosity-rich ferment of the San Francisco Bay area, joining industry after a stint on the laboratory bench. And as biotech went mainstream and global, so did Cook. When she recalls the long journey to her present-day career summit at Roche's headquarters in Basel, one thing stands out: to thine own self be true.

By Kathleen Raven

In August 2013, as Europeans packed for the long summer holiday, Jennifer Cook arrived at Roche's Basel, Switzerland, headquarters with the newly minted assignment as head of Pharma Region Europe. The 20-year company veteran faced a tsunami of knowledge. She needed to grasp Byzantine regulations on patient access and pricing regulations across 28 countries. She had to brainstorm strategies to address macro- and microeconomic concerns throughout the region.

Better times were at hand: Euro zone statisticians had declared the beginning of the end of the continent's six-year recession, and earlier that year, the Swiss biotech giant had beat analysts' forecasts for first-quarter sales.

However, Roche faced challenges in Europe that its American big Pharma counterparts did not. The European Union (EU) biologics market presented stiff competition for the company. Genentech, acquired by Roche in 2009, stood to lose $10.7 billion in sales in the next few years due to patent expirations for *Avastin* (bevacizumab), *Herceptin*

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4	6

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*Based on annual third-party research conducted by Better Decisions, Inc.

(trastuzumab), and *Rituxan* (rituximab).

As Cook worked to get up to speed, more than 5,700 Roche colleagues awaited her guidance. A lesser person might have balked at the opportunity to move her family halfway around the world and face a task just shy of the impossible: prepare for losses of exclusivity, deliver on those quarterly numbers, increase employee engagement, improve patient access, and innovate around brand messaging and communication strategies. With the headwind-facing determination that has defined her career, Cook accepted the challenge.

An early connection: Science and business

Born and raised in San Francisco, Cook grew up nurturing a love for math and science that was unusual in her humanities-focused family. Her father, an attorney, and her stay-at-home mother never hesitated to encourage her interests. Her older sister, Alison Cook-Sather, continued the family tradition and pursued a career in the liberal arts with a PhD in education at the University of Pennsylvania and now holds the academic title of Mary Katharine Woodworth Professor of Education at Bryn Mawr College.

While her sister pored over English texts, Cook enjoyed puzzling out math problems. She still remembers a particular word problem she tackled in a high school math class. If she knew the distance between a certain point and a lighthouse, as well as the light's revolutions per minute, then she could calculate the speed the beam of light moved along the shoreline. The ability to creatively approach math calculations and design research experiments with an innovative flair fascinated Cook. "I realized there was much to discover, and every day is an opportunity to discover more," she said.

Cook presented her group with four proposed pillars to define the new culture: a focus on people, innovation, patient orientation, and integrity

Cook studied human biology as an undergraduate at Stanford University and fell in love with life in the lab. She stayed at Stanford to earn her master's degree in biology. After graduation, Cook joined Genentech in 1987 as a senior research associate doing preclinical research on potential cardiovascular drugs. Moving from there in 1992, she worked four years as senior researcher and project manager at San Diego-based Prizm Pharmaceuticals. The biotech industry—still in its infant stage at the time—felt electric with possibilities, but offered limited career paths.

She recalls her grandfather broaching the topic of her career plans over lunch. "He asked me, 'What are you going to do with your degrees in biology?'" She told him she wanted a career that combined business and science—a commonplace concept today that was rare then. Eschewing the advice of colleagues and advisors to stay the current path and earn a PhD, Cook applied for and was accepted into University of California-Berkeley's MBA program. In 1997, in her second year of the program, she rejoined Genentech in market planning. Now Cook had a vocabulary and framework to deal with business situations in biotech. "I loved using analytics and market data to look at the commercial side of business," she said.

FAST FOCUS

» Cook joined Genentech in 1987 as a senior research associate doing preclinical research on potential cardiovascular drugs. Five years later—with the biotech field starting to take off—she joined Prizm Pharmaceuticals as senior researcher and project manager. While earning an MBA, Cook returned to Genentech in 1997 in market planning, and quickly ascended through the leadership ranks.

» In 2009, Cook was named senior vice president of global portfolio management for the merged Roche-Genentech organization—charged with integrating the companies' combined pipeline of about 80 drugs, worth $80 billion at the time. Now based in Roche's Switzerland headquarters, Cook, as head of pharma region Europe, leads a 5,700-person workforce in the region's 28 countries.

» Over the last two years, according to Roche data, the number of women who are candidates for leadership roles within the company has risen 23%, due significantly to Cook's mentoring of fellow colleagues.

Roche's Basel headquarters, where Cook has worked since 2013.

With degree in hand, Cook moved quickly through Genentech's leadership ranks. In 2002, she was promoted to senior director of market development, and then became vice president of product portfolio management in 2006. Three short years later, she was named senior vice president of global portfolio management for the merged Roche-Genentech organization. Cook was in charge of integrating the companies' combined pipeline of about 80 drug molecules, worth $80 billion at the time.

In 2010, she transitioned back to Genentech to lead that organization's immunology and ophthalmology business unit, which included about 500 employees. At the time, the division suffered from low morale and lagging sales.

Cook, a self-described introvert, approached the situation using a one-on-one communication strategy that has become her trademark. "I want to know what is on other people's minds," she said. Cook and her staff conducted a unit-wide survey to gather information on current and desired perceptions of culture. Employees initially resisted the call for a culture change and dismissed the strategy as "Jennifer's culture."

She persisted and shifted the ownership of the new culture to the employees, as it was based on their own ideas. The results of the survey showed that team members wanted a culture where innovation and patient outcomes—two qualities firmly tied to Genentech's earliest days of existence—were prized above all. So Cook presented the group with four proposed pillars to define the new culture: a focus on people, innovation, patient orientation, and integrity.

Within 11 months, the unit met its strategic goals by providing drug access to 300,000 patients and its financial goal of earning $3 billion in revenue within the therapeutic areas of rheumatology, respiratory, and ophthalmology. Cook credits her employees for all of the hard word. "I don't have all of the answers, and it would be foolish of me to assume that I do," she said.

Including all voices

Diversity has long been a catchphrase in the industry, but without inclusion, it cannot be as effective, Cook explained. "Inclusion is about creating an environment where people can bring their different ideas and backgrounds to the table and feel comfortable doing that," she said. To promote inclusion in her current division, Cook makes sure that she has time in her hectic schedule to have conversations with employees and fellow leaders. While large audiences might motivate some people, Cook relishes the opportunity to connect on an individual-to-individual basis.

When she arrived at Roche's Switzerland headquarters in 2013, Cook had to untangle the complexities of a difficult payer environment and increased competition. "What was clear was that we were not going to be the company we needed to be in a few years' time," Cook said. For ideas, Cook turned to her diverse workforce. Within the Europe division, women made up 64% of employees and men comprised 36%. Employees spoke different languages and came from different backgrounds. Cook had to work quickly, but also carefully consider country-specific information she received from her intensive communication with staff and managers.

"The decision was not to run a strategy project and say, 'Here's what we need to do,'" Cook said. "Instead, I asked each of the general managers in 28 countries to run diagnostics with their leadership team and to independently generate proposals for change."

Cook explained that this meant giving up control over the process, but also handing ownership and accountability to employees, which was her goal

all along. Over two years, the Europe leaders set their own plans in motion, and they were able to learn from each other and capture new ideas across the region. "Throughout the change, we performed very well," Cook said.

Sales have grown robustly and employee engagement has risen during Cook's leadership, according to company data. The number of women who are candidates for leadership roles within Roche increased 23% in the last two years due in part to her mentoring.

This last data point becomes more significant in light of sobering statistics on the dearth of women in biotech leadership. In August 2015, *Nature Biotechnology* published an editorial that criticized the continued lack of females in the industry's boardrooms. "At 17.9%, the proportion of top executive positions occupied by women in big biotech is better than that in big Pharma, but only marginally," the editors wrote, and argued that men in the boardroom could not be traced only to a "talent pool problem."

The editorial concluded with a call to action to improve gender balance in leadership within pharma and biotech, which is something that Cook has done naturally, according to staff and managers who work with her.

Inflection point

When she mentors fellow colleagues, Cook, 50, likes to begin her professional story at the moment when she began to manage people. "This is an inflection point for a lot of people because you have to learn how to operate in a very different way," Cook said. One year out of business school, Cook had the opportunity to receive feedback from employees on her leadership style. She learned that others perceived her as aloof and hard to approach. "That really sur-

Continued on Page 24

Jennifer Cook: At a Glance

Biography

- Born and raised: San Francisco
- Industry veteran: 28+ years of experience

Education

- B.A., Human Biology, Stanford University, 1987
- M.S., Biology, Stanford University, 1988
- MBA, University of California-Berkeley, 1998

Accomplishments

- Most Influential Women in Business Award, *San Francisco Business Times* – 2012
- Rejoined Genentech as an MBA intern in 1997. Four years later, Cook supervised the market planning division's research and strategic analysis.
- As senior director of market development between 2002 and 2006, she forecasted and tracked Genentech's product-related revenue streams, worth over $6 billion in the US at the time.
- In 2006, Cook became accountable for a Genentech product portfolio worth $34 billion in value and led a team of 600 colleagues.
- As senior vice president of Immunology and ophthalmology in 2010, she oversaw US sales and marketing for products with revenue of more than $3.5 billion and a staff of nearly 600.
- Cook named Roche's head of pharma for region Europe in August 2013. She oversees 5,700 employees and operations in 28 countries. She reports to Roche's Chief Operating Officer Daniel O'Day.

Key Quotes

- "In the U.S., patient access is granted through the regulatory approval process. In Europe, it's a very clear contrast in that regulatory approval is only the first step. Depending on the government, decisions about reimbursement can take days or years."
- "Don't let someone else tell you what 'good' looks like. Decide what success means to you."
- "You have to start from a source of trust and let your colleagues know you support them and you believe in them."
- "I'm a huge believer that culture is something you can manage and shape, and it's actually a leadership tool."
- "No culture is good or bad—it just matters if it aligns with what you want to do."

Front & Center

Co-Pay Analytics Gets Serious

How do you really know if your co-pay program is working? Figuring ROI seems straightforward. But Paul LeVine, Vice President of Analytic Services for TrialCard Market Access Solutions, thinks the calculus might require a deeper look than is traditionally given as he explained at the 2nd Annual Coupon and Co-Pay Strategy Summit in Philadelphia in February.

Sports geeks are living in an incredible era. While many former professional athletes, akin to the cool jocks in high school, attempt to tear down nerdy stat heads, the evolving analytic tools have given the number crunchers more and more prominence with dedicated news sites, sports analytics-based conferences, best-selling books and Brad Pitt starring films.

The notion that we are surrounded by data, and that this data can be utilized and analyzed for good and evil is widely accepted. We see the impact of a cultural dive into data in how we manage our workout routines, what news we read, and in the targeted emails that somehow know where we like to shop and what we tend to buy. In baseball, deep analytical approaches, sometimes referred to as Sabermetrics, can better help teams pick their batting order, decide whether to hit-and-run or to bunt, and who to start in the big game. This new mindset is bearing fruit for players, coaches and team managers from the pros down to high school teams.

Suffice it to say, data is everywhere, and getting into the thick of it is necessary for deeper understanding and better predictive power of complicated systems. Marketing and sales have always had strong data analytics ingrained by the very nature of seeking return on investment. And for pharmaceutical companies implementing co-pay programs, a substantial investment in a program requires a clear understanding of inputs and outputs. "Calculating ROI can give a simple, crude idea of whether your co-pay and patient assistance programs are working," explained TrialCard's Paul LeVine. "That's fine at the core level, but the question is, are you really seeing the potential of such programs?" he asked. "The problem is that you might be analyzing the ROI of a program that looks fine on its surface, but you might be missing what could be done with your program."

Going beyond ROI

ROI, beloved in part because it's pretty easy to calculate, is good for "back of the envelope" calculations and can serve as an end point for many. Managers can see if the figure is positive, and if it is, rejoice and say, "Our program works!"

But LeVine called for a new way of thinking about program evaluation that will require expanding beyond the coarse measures that we know and love. "Going beyond ROI is important because there are numerous moving parts that determine how a co-pay program is performing," noted LeVine. "And what happens if one of factors changes? What you truly want to understand is how your program will be affected if some of these factors change."

Taking geography as one factor, LeVine pointed to a well-known study from 1982 by John Wennberg pointing to clear differences in the cost of inpatient care in different markets of New Haven vs. Boston. If you apply these same principles to co-pay, you realize that ROI in different regions can be different. "A 4:1 ROI in one location could be good, but you could be losing money in another where the ROI might be 6:1," he warned. "If you know a little bit more about individual markets, you could do much better."

A key data point one might look at when comparing geographies might be "walkaway rate," he noted. Walkaway rates give a nice elasticity curve of what a patient is willing to pay. "When we think about any co-pay offer, we're always trying to find the balance between subsidy and walkaway. How much walkaway can I tolerate? Maybe there's a greater willingness to pay in Boston. So it's key that you measure these inflection points in different markets and adjust accordingly."

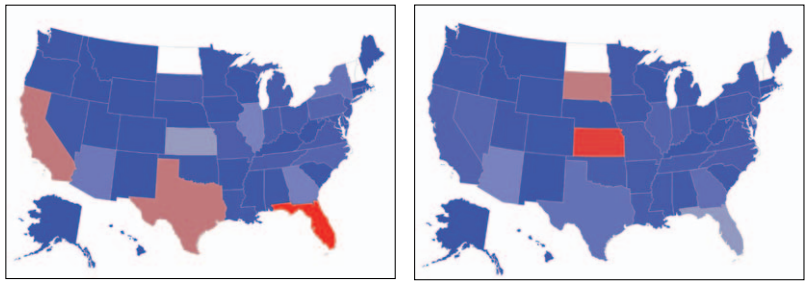
In addition to geography, LeVine highlighted other important moving parts to consider like how variation in payer contributions leads to different behaviors, by both patients, and the health care provider.

So ROI is fine as a measure of program evaluation, but it's probably not the whole story—even for something as "simple" as copay. "We need to shift the discussion a bit, to think not solely about positive ROI, but about optimized ROI." Under this scenario, LeVine evaluates program performance differently, not as the binary of "working/not working" but in terms of "how well" the program is working.

CoPay/Cap	Avg Buydown	Avg Co-Pay	Offer Trueness	Walkaway Rate	ROI	Incremental Redemptions	Incremental Profit
Baseline ($35/$415)	$107.20	$34.30	99.80%	8.20%	2.18	-	$0
PNMT $25							
$250	$82.57	$38.45	77.62%	13.05%	2.76	-7,844	$2,624,000
$300	$99.55	$33.00	80.96%	8.96%	2.30	-1,530	$682,000
$350	$111.90	$26.00	92.92%	7.00%	2.04	1,481	-$928,000
PNMT $30							
$250	$78.94	$42.32	77.64%	13.52%	2.90	-8,564	$3,058,000
$300	$95.93	$36.85	81.29%	9.45%	2.39	-2,288	$1,148,000
$350	$107.55	$30.40	95.04%	7.58%	2.13	591	-$344,000
PNMT $35							
$250	$75.46	$46.02	77.96%	14.02%	3.03	-9,326	$3,463,574
$300	$92.47	$40.55	81.41%	9.97%	2.48	-3,089	$1,582,726
$350	$103.26	$34.69	95.82%	8.20%	2.21	-368	$219,777

*Quantities were forecasted to represent 12 months of data with an estimated future yearly base line redemption volume of 141,813.
Any changes to number of offers distributed should scale quantities displayed appropriately.

Model Results



Traditional way of evaluating performance

Consider the issue of where a co-pay offer should be set. "If you're the market leader in a given drug class, you may have the liberty not going along with a race to the bottom," he pointed out. "If you're not the leader, a more aggressive approach might be required."

While TrialCard offers modeling tools that can help to paint a more comprehensive picture, it's also important for clients to consider their unique product-specific requirements and limitations. "For example, increasing walkaway rates may be a non-starter for some brands, but for other programs, a slight increase in walkaways might be acceptable given that the program cost just became that much more affordable."

Optimizing more

Co-pay cards are generally thought of as consumer products, i.e., designed with the patient in mind. "But if you find a doctor that is particularly responsive to co-pay assistance as well as one who matches well with the brands profile, then you've got a hit."

Physician targeting can be plagued with instinctive thinking that biases us to a specific group of providers, like high-decile prescribers. But a more analytical approach can reveal that moving these high volume prescribers could be a costly—not to mention unsuccessful—challenge, while lower quartiles might be where the real opportunity for growth exists.

Analytics can also give us better insights into what can be achieved in different markets. Take, for example, measuring market performance while only considering volume. If you chose this approach, you'd end up focusing on the usual suspects like California, Texas, and Florida—rather than on some other less typical locales. Even something as simple as adjusting for population using census data could yield a very different story: such as that highly populous areas may actually be underperforming.

When one gets deep into the data, it quickly becomes apparent that the numbers, charts and graphs can be overwhelming, especially for those to whom you are presenting. "It's important to think about keeping the data interpretation relevant for you and your audience. I'm a fan of using simple scorecards to level-set everyone. Then, you can get into the real work of optimization," explained LeVine. "But you can't really know what to optimize until you know really where you are."

Cook says what drives her the most in her job are the patient stories and solving the still complex patient-access challenges in the European region.

Continued from Page 21

prised me because I was actually shy," she said.

Going forward, Cook took time to explain herself more to fellow executives and colleagues. "I learned I needed to be explicit in what I was thinking," she said. "Individuals like to follow leaders they know and trust and understand, a person who comes from a place of authenticity, who is not acting," Cook said.

Carolyn Medley, Roche's head of human resources for region Europe, said that Cook has brought a very calm, thoughtful style to the company's leadership. "Whether she has known you for five minutes or five years, you feel that she cares deeply about your ideas," said Medley, who has known Cook for three years. Medley has helped Cook find new employees to fill positions and aid in the leadership development of current employees. Medley said she has watched Cook craft communication strategies for town hall meetings or presentations that reach everyone across all levels, from entry-level employees to Daniel O'Day, Roche's chief operating officer, to whom Cook is a direct report.

Cook understands the full life cycle of a drug, which has allowed her to make connections within strategy that a leader lacking a hard science background would struggle to do

Cook also has a way of rephrasing goals to bring new perspective and energy, Medley said. During one town hall meeting that addressed the challenges of finding new patients, Cook zeroed in on a statistic. Four out of every 10 patients eligible for Roche medicines in the region had ready access. Cook told her audience this meant that six patients who needed their drugs were not getting them.

"That's language people understand!" Medley said, adding, "She is able to get people to visualize what the marketplace looks like in a clear way."

Cook also understands the full life cycle of a drug, and this has allowed her to make connections within strategy that a leader lacking a hard science background would struggle to do, Medley said. Perhaps where Cook has helped fellow colleagues most is in her ability to look at every problem with a slightly new perspective. "If you come to her and say, 'I've thought of A, B, and C,' she will always have a D, which is something else to consider," Medley said.

Advice for women

For her part, Cook has greatly appreciated mentors who have nudged her along the way in her career. She gave special credit to Ian Clark, CEO of Genentech. "He saw an ability and potential in me that I hadn't recognized in myself," Cook said. "And he challenged me in different directions I never would have thought to go." In a special video created by Roche for Cook's HBA Woman of the Year award, Clark said that Genentech is packed with women who have benefited from Cook's mentoring and leadership.

When asked what motivates her, Cook replied without hesitation: patient stories. At a sales meeting several years ago, Genentech employees who had benefited from the company's

medicines were invited to share their journeys to better health. A mother who suffered from allergic asthma stood on stage and explained how *Xolair* (omalizumab) had changed her life and allowed her to care for her daughter in ways that were impossible before. "There wasn't a dry eye in the place," Cook said.

Sales matter, of course, Cook said, when assessing the Euro region's metrics. But patient access matters more to her, and it guides her idea of what she counts as success. All employees need to set their own standards for success, Cook said. "We get a lot of advice on what 'good' looks like, but you want to be building your own sense of excitement and capability," she said.

As for advice for women specifically, Cook said: "Embrace the self-confidence you have earned."

Cook also pointed out that she did not take on positions at any cost, which is something she encourages fellow women to think about when considering career moves.

As she and her husband, Mike, raised their two boys, Cook looked for career opportunities that allowed her to be at home more often and to travel less. Mike also began his career at Genentech, and worked as a biophysicist for 20 years, researching protein crystallography in drug development.

"He decided he wanted to be a stay-at-home dad, and that enabled our move to Europe," Cook said. Her sons, Jackson, 13, and Sam, 12, have been thrilled at travel opportunities in Europe. They have already visited more than a dozen countries and are learning to speak German, Cook said. She joked that in contrast to her own childhood, her sons have grown up with microscopes in the house.

> "Individuals like to follow leaders they know and trust and understand, a person who comes from a place of authenticity, who is not acting."

Cook has also made sure that her sons are aware of the importance of health, though she said she was unsure how much they absorbed until a poignant moment several years ago. Cook recalls that she and her sons were running errands in the city. The economic recession in the US had hit one of its lowest points. Cook explained to her sons that the shuttered storefronts they witnessed meant that some people had lost their jobs during the downturn. She was especially grateful to still have hers. Her son said, "It's important that you keep working." Cook replied affirmatively, and talked about the necessity of paying bills and so on.

"No," her son said. "It's important that you keep working because you help people get well." Cook realized that her young son had internalized the importance of her job and understood patients, not profit, mattered most to her.

Every moment matters

When asked if she relies on a particular credo to carry her through professional and personal challenges, Cook shared her motto: "Every moment matters." For the patients she and colleagues serve, Cook said, there's a sense of urgency and opportunity. In such a large organization, it is helpful to remember that every minute can be used to help an individual who is very real—not an obscure endpoint.

"Sometimes I explain how there are almost 6,000 of us in our region and if we could each do just 5% more each day—imagine what we could generate. It would be incredible," Cook said.

Over the course of her career, many scientific advancements—too many to name—have transformed the industry. Top among them, in her opinion, is the sequencing of the human genome. Parallel to these gains has been what appears to be a decline in public opinion about the biotech industry as a whole.

"When I started in the 1980s, biotech was viewed as very positive," Cook said. "Whenever we had a new medicine, it was viewed in a generally favorable light."

Now it doesn't feel that way, Cook said. "My overwhelming experience has been that we are here for patients. My hope and sense is that it's incredibly important for everyone in healthcare to get back on a positive path." PE

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The Diversity Dearth in Pharma

Why the industry needs more women in senior management roles—and the three strategies to get there

Yahoo CEO Marissa Mayer is pregnant again, this time with twin girls. And once again, her pregnancy is newsworthy. Some sources are critical of her plan to take only two weeks of maternity leave as she did with her first child, rather than take advantage of the generous policy she established for her company. Others call her out for "setting unrealistic expectations" and "being a bad role model" for other working mothers who don't have the advantage of an onsite nursery steps away from their office doors.

But why is this pregnancy the subject of so much conversation? (A Google search of "Mayer pregnant" reveals more than *one million* hits.) More importantly, why the critical scrutiny of her plans for maternity leave? This critical attention offers a sharp contrast to reporting of the recent birth of Facebook CEO Mark Zuckerberg's child in which his family leave plans were neither questioned nor reported.

Meyer's story illustrates in microcosm the challenge of gender diversity in global corporations. Since the passage of the Civil Rights Act in 1964, organizations have devoted substantial efforts to increasing the representation of women among their ranks and to "normalize" women in the workplace. And to some extent, these programs have been successful. Overall, the percentage of women in the contemporary workforce far exceeds pre-Civil Rights Act numbers. And today, 60% of undergraduate degrees, 59% of master's degrees, and 53% of doctoral degrees are earned by women.

However, when it comes to women in corporate leadership, the progress seems to be stalled, despite decades of commitment to gender diversity. Mayer is one of only 23 female CEOs in the Fortune 500, and also, at 40, one of the youngest, so her actions are scrutinized not just as *an* example of how women in her position make decisions, but as the *only* example.

Unfortunately for the pharmaceutical industry, the picture is even bleaker than for the Fortune 500:

- Among the top 20 pharmaceutical companies (as ranked by sales), senior female executives represent just 17% of the management team.
- Three of these 20 top pharmaceutical companies do not have *any* women at the senior executive level.
- There are *no female pharmaceutical CEOs* in the top 20.

A fascinating counterpoint is the industry's record at the Board level, where women are represented on average at 27% and as high as 45%—demonstrating that while the industry values the contributions of women, it has not yet been able to translate that recognition into talent acquisition and development programs that extend gender diversity to the executive ranks.

For an industry that prides itself on attracting and retaining the best talent, the failure to meet even the low standard set by the Fortune 500 is troubling.

Why should we be concerned?

From an equal opportunity perspective, the dearth of women in leadership is a sufficient enough problem to give it priority consideration. However, lack of diversity is also at the heart of corporate performance. McKinsey has found that companies with at least three women in board or "C-suite" positions yield higher results on the well-regarded McKinsey Organization Health index, and are likely to be higher performers that their peers. For the pharmaceutical industry in particular, it touches on three key issues critical to future success: research focus, innovation, and reputation.

RESEARCH FOCUS

While the industry has been at the forefront of breast cancer research, it is one of few women's health issues at the top of the research agenda, which more typically negates the importance of women's health issues, particularly in the areas of cardiovascular and neurology. The lack of gender diversity among pharmaceutical executives effectively creates a "blind spot" that unintentionally results in giving higher priority to health issues more likely to affect men, a blindness that will continue without greater visibility of women.

INNOVATION

Without a robust pipeline of innovative new "blockbuster" drugs,

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the financial stability of many, if not most, in the industry will falter. Innovation cannot be fueled by continuing to draw on the same ideas from the same sources, yet that is just what the industry's HR practices have been doing. Despite core values of innovation and diversity, the industry's management models are focused on replicating sameness: promoting from within industry ranks and drawing largely on talent from within the industry, rather than looking at other industries where female executives are more prevalent (e.g., healthcare provider, consumer products, etc.)

> The lack of gender diversity among pharmaceutical executives effectively creates a "blind spot" that unintentionally results in giving higher priority to health issues more likely to affect men

REPUTATION

Pharmaceutical corporations operate within a healthcare system that includes government regulators, payers, banks, healthcare, and other service providers, and these companies are diversifying at a faster rate than the pharmaceutical industry. Lagging behind poses a reputational risk for the industry, which risks the taint of perceived cronyism and "old school" ways of thinking. In addition, without a strong bench of senior women leaders, pharmaceutical companies will be unable to bring women to critical conversations with more diverse outside agencies.

Why current approaches don't work

Historic models have placed emphasis on promoting and developing executives who are

geographically mobile. This approach unintentionally penalizes women who may be less mobile because of family commitments, as women remain the primary caregivers for children and the elderly despite working outside the home. The much-discussed "mommy track" further erodes the executive path for many women, who may be passed over for male counterparts who seem more experienced because they did not take time off to raise children.

Current models also favor executives who come from traditional male-dominated professions (finance, business development, research) over female dominated professions (human resources, marketing, health care providers).

Further, traditional talent tools don't work—the nine box performance and potential grids and high potential game boarding hasn't yielded results for women! The industry was an early adopter of high potential leadership development programs, assessment, and comprehensive talent management processes; however, these interventions have largely utilized a "one-size-fits-all" approach to developing executives, with little regard to helping women navigate the challenges in work/life balance and developing a personal leadership brand that breaks from the traditional male-dominated model of achievement and competitive gamesmanship.

The talent management model utilized in most large companies yields a static, monolithic model of leadership—and without early coaching and mentorship, very few women will want to enter the high potential development path—unless senior executives take ownership of the mentorship, coaching, and career development of the most capable female leaders.

In addition, our current approaches fail to prepare women for senior leadership roles in the same way we have prepared men. Few companies recognize that women enter the executive suite without a well-developed internal and external social network that propels and maintains their career success. Men draw on their affinity to support each other as "teammates"—clinging to ways of operating that create greater momentum and support for them as they climb the corporate ladder; women, however are less likely to have these support systems.

Very few women will want to enter the high potential development path, unless senior executives take ownership of the mentorship, coaching, and career development of the most capable female leaders

What should we do differently?

FOCUS ON MIDDLE MANAGEMENT

McKinsey research suggests that once women are represented at 25% or greater in middle level management, it is more likely that women executives will reach senior executive ranks. Placing greater emphasis on promoting women to key middle management roles and increasing their representation at this level is key to creating a viable feeder pool for senior executive roles.

Once promoted, it is essential to provide structured mentorship and development of female leaders, who may not have access to work the mentorship channel informally as their male predecessors have. In addition, the industry must accommodate the needs of mid-career women—issues such as excessive travel demands, work/family needs can be accommodated if companies are willing to be proactive and redefine success beyond the long hours and excessive travel.

REDEFINE THE LEADERSHIP PATH

Women need to be hired and promoted into roles that show business results, making them more likely candidates for the executive suite. However, organizations must also consider how career paths in female-dominated fields, such as human resources and marketing—generally viewed as terminal paths—offer a path to the CEO ranks.

FOSTER MENTORSHIP

Both men and women must play their parts. Senior male executives need to recognize they are shutting women out; and they must begin to actively mentor women executives. The few women who have cracked through the glass ceiling need to take a more proactive role in supporting each other through mentorship, coaching, and developing female successors. PE


Getty Images/ Larry Washburn

Disclosure D-Day Draws Near In Europe

European pharma is bracing itself for EFPIA's June deadline requiring the disclosure of transfer-of-value transactions to HCPs. *Pharm Exec* looks at how the industry is preparing for this historic moment

By Julian Upton

In line with the European Federation of Pharmaceutical Industries and Associations (EFPIA) Disclosure Code, June will see member companies across Europe required to publish data concerning their 2015 transfer-of-value transactions to healthcare professionals (HCPs). The EFPIA Code has been looming for four years and much of Europe appears to be ready for the imminent deadline.

In France and Denmark, for example, disclosure of payments on a central platform is already a legislative requirement: in the UK, the Association of the British Pharmaceutical Industry (ABPI) began disclosing aggregate payments to HCPs in 2014; and in Portugal, US "Sunshine"-type rules took effect in February 2013.

European companies have also had over a year to monitor the US experience of the physician payment program, which went live in September 2014. The Sunshine Act was, of course, tailored to a market with it own particular challenges, but US pharma's experience of Open Payments has, nonetheless, flagged up some useful pointers, and European companies would do well to take heed.

US problems concerning consistency of reporting, for example, will likely be amplified across Europe, and the media's focus on and reaction to some of the data is something for

"Companies are investing tremendous amount of time and resources in order to get to the point of reporting, but this is not sustainable over time."

which European life sciences organizations should be prepared.

Code concerns

Ahead of those challenges, however, is the concern that some countries and companies may not be ready for the EFPIA Code to come into force at the end of June. In November last year, results from a pan-European survey on customer data in the life sciences industry by Veeva stated that two-thirds (73%) of companies surveyed said they did not have the data to successfully manage HCP activity across borders, with 66% revealing that their data resided in "multiple systems" that are not yet integrated.

Speaking to *Pharm Exec*, Veeva's Guillaume Roussel explained that companies have been developing their information systems incrementally over time, "just adding new systems on top of older ones," and this "has created an architecture that is difficult to streamline from a transparency perspective." However, countering the somewhat alarming findings of his company's survey, Roussel believes that companies will be ready to meet the EFPIA reporting deadline, as many of them are implementing "temporary solutions." But, he adds, "The question is, at what cost?" He explains: "Companies are investing tremendous amount of time and resources in order to get to the point of reporting, but this is not sustainable over time."

EFPIA's Communications Director Andrew Powrie-Smith suggests that a survey of the industry's disclosure efforts published more than six months ahead of the Code deadline might better have asked who *will* be ready, rather than who is ready. Making an agreeable analogy, he asked attendees at a meeting in early December, "Who is ready for Christmas?" Not too surprisingly, no hands went up; most of the audience simply proffered a slightly nervous chuckle. Powrie-Smith's point was thus made, although one could argue that leaving a short time to buy gifts, defrost a frozen turkey, and decorate a tree is not really comparable to the pressure of a last-minute completion of all the legal and administrative legwork needed to fulfill the requirements of the Disclosure Code.

Nevertheless, Powrie-Smith later told *Pharm Exec*, "We must remember that it's a requirement that EFPIA companies are ready by a certain date, and companies are taking this requirement seriously. All our companies have been working hard, and that process continues until the end of June." He does concede, however, that we can expect to see reporting inconsistencies at the "go-live" date: "You're looking at countries that can be very different in terms of their cultural, socioeconomic and legal frameworks, so you're going to have variances." Ironically, Veeva's Roussel says that adoption of EFPIA guidelines "is actually very consistent across the board—there is no striking difference between north and south, or east and west."

Indeed, some measure of inconsistent reporting is virtually guaranteed when the European data is published; even the US's one-language, one-culture market still has a way to go before it has this problem in hand. When the US's Open Payments system went live in September 2014, "one of the things that was most notable was the inconsistency across companies in how they interpreted things and in how they chose to report them," notes Christine Bradshaw, Vice President, Porzio Life Sciences, LLC.

While Bradshaw believes companies were reporting in good faith, the inconsistencies "made it very difficult to look at one company's information and compare it to another's, to

FAST FOCUS

» With the EFPIA Disclosure Code set to take effect at the end of June, a pan-European survey conducted late last year found that 73% of life science companies did not have the data to successfully manage healthcare professional (HCP) activity across borders. Many companies, however, are implementing "temporary solutions" to meet the reporting deadline, according to executives.

» Experts believe Europe's new system for analyzing HCP payment data, at least for the short term, will take a page from the US's "Sunshine" Act. Critical to this shift toward transparency will be establishing a wider public understanding of industry–HCP relationships.

» As the landmark transparency initiative steadily takes shape in Europe over time, it will be important for companies—even though projects may be owned by compliance teams—to ensure they have the support and incorporation of different business units within the organization.

answer questions such as who's spending more on research, who's spending more on commercial, what do the fees look like for consulting agreements, things like that." This was particularly frustrating, she adds, not just because making the data transparent and accessible for analytics were key among objectives of the Sunshine Act in the first place, but also because of the "exorbitant amount of time and money" companies had spent in getting ready for it.

In Europe, in terms of analysis of the data, Powrie-Smith agrees that "we're going to see the same thing in the short term." But, he adds, "that's one of the benefits of the transparency project as a whole: we get to see at a detailed level what a relationship looks like and understand it better."

Of course, a wider public understanding of industry–HCP relationships is one of the overriding social goals of the shift toward transparency. But amid the general lack of understanding among the public at present, we can be certain that new systems of openness will bring a new level of critical scrutiny, at least in the short term. Where pharma has seen many incremental changes in the way that industry and HCPs work together over the last decade, Powrie-Smith points out that the push for full disclosure of transfer of value "is more of a transformational step, a significant change, so inevitably it's going to put a level of focus on relationships that hasn't been there in the past."

He anticipates questions like "what are these payments for, what's this relationship about, what is an advisory board, why do people speak at meetings?" But it is the industry's job, he says, "to explain how those relationships work, what the value is, who benefits, and so everyone can see what those relationships are and have confidence in them."

Jane Griffiths, Company Group Chairman, EMEA, Janssen, told *Pharm Exec*, "It's no secret that when Sunshine first went live in the US, there was an initial media focus on some of the higher earning HCPs and maybe that will happen in Europe." For

Griffiths, the important thing is that the relationship between the industry and HCPs is seen in context. How new medicines are developed and how innovation is brought to patients are not models that are well understood by the public, she explains.

"Transparency is very important, but as an industry we need to communicate the way the model works more extensively than we do," Griffiths says. "This would put transparency around clinical trials and transfer of value into more context."

"Transparency is very important, but as an industry we need to communicate the way the model works more extensively than we do."

Griffiths is keen for the public to reach a greater understanding of what the industry does, of how research is conducted and what is involved in it, and why companies have interactions with HCPs beyond the sales and marketing of medicine. She explains: "This is a journey, an evolution; we've set the EFPIA date and done a lot of educating, but that education will continue far beyond the deadline. The aim is that society and patients in general see an open and transparent relationship between companies and the people who prescribe the medicines."

Trust and transparency

Educating the public (and the mainstream media) about "what the industry does" remains key to gaining its trust, or in some cases establishing trust in the first place. But negative headlines could continue for some time yet, if not when the European transfer-of-value data is sliced and diced in the press later this year, then probably when the results of a major investigation by Transparency International (TI) into pharma and healthcare corruption filter through to the media.

TI, a global anti-corruption non-governmental organization (NGO) currently best known for its Corruption Perceptions Index, announced its investigation into pharma last year, following a 2013 survey of 17 countries which stated that "45 per cent" of the public believed that medical and health services were "corrupt or extremely corrupt."

TI will begin by focusing on five priority areas: procurement and distribution, marketing practices, manufacturing (including counterfeits), registration processes, and R&D. Ominously, the organization's UK executive director, Robert Barrington, told an audience of pharma execs at CBI's Compliance Congress in Munich in November 2015: "We will challenge you, and we expect this to be disruptive to your industry." However, somewhat more charitably, he added that he thinks pharma's reputation is in "a rescuable position."

Speaking to *Pharm Exec*, Sophie Peresson, Director of Transparency International's Pharmaceuticals & Healthcare Program, is not ambiguous when setting out TI's stall. "Every day, all around the world, people suffer and die due to corruption in the pharmaceutical and healthcare sector," she begins.

Peresson goes on to list a litany of pharma crimes and misdemeanors that comprises "patients denied access to medicines because they cannot afford to bribe, the effect of counterfeit drugs with no medicinal value, the theft of a national health budget by a corrupt public official, [and] the distortion of regulatory decisions through inappropriate lobbying."

She explains that TI is aiming "to make corrupt officials think twice about accepting bribes, but also provide the real structural reforms that create transparency and limit the scope for corruption to take root." Achieving this will be no mean feat; accordingly, Peresson estimates that TI's investigation "will need at least 10 years to make an impact."

So will the upcoming EFPIA disclosures, and those already accessible in the US Open Payments system, help TI's investigation? Peresson is ambivalent. There are "pockets of good work" being done, she says, but "the response is hugely disproportionate to the threat" and the sector is "under-served by anti-corruption programming as a whole." Arguably, she explains, Sunshine and the EFPIA Code will "provide a benchmark to measure performance, but compliance is box-ticking and it is, therefore, essential to ensure that implementation really happens."

While the US and European regulation will help facilitate TI's work in the geographical regions that the regulation covers, Peresson reminds us that "large parts of the world are not covered and, therefore, at a higher risk of corruption vulnerabilities." What is needed is a "holistic approach driven by multi-stakeholder groups operating at various levels," she says. "Real change will only be achieved if the private sector is prepared to be bold, commit to change, and take a leading role."

This is not to say that TI is entering the transparency fray gunning for industry from the outset. Peresson looks forward to dealing amicably with pharma as the investigation gets off the ground. "We have been successful in developing a very good relationship with many industry players and we hope to continue doing so," she adds. (See page 34 for more of *Pharm Exec*'s interview with Sophie Peresson.)

The long run

No one is denying that the road to full transparency will be a rocky one, especially during the journey's early stages. As Bradshaw says, "One of the things that we in the US have learned is that the process takes longer and requires more time and support than anyone anticipated." She adds that factoring consent into the transfer-of-value disclosure mix "means more nuance in the preparation process," and the European challenge of data privacy will constitute another layer of complexity.

But the biggest lesson from the US, says Bradshaw, "is probably making sure you have the support and participation of different business units in the company." The project may be owned by the compliance team, "but it is so critical that the team has connections with the right people to make sure things are being done consistently, that they have, or can quickly access, all the information they need."

Getty Images/ tmeks

Factoring consent into the transfer-of-value disclosure mix "means more nuance in the preparation process," and the European challenge of data privacy will constitute another layer of complexity.

Respective teething problems aside, there is broad consensus that both the US and European transfer-of-value disclosure codes will succeed in changing attitudes and behaviors across the pharma industry in the long run. Although Roussel points out that many European companies have been implementing temporary solutions ahead of the EFPIA deadline, he believes that eventually they "will feel more comfortable in terms of selecting the tools and implementing the proper processes for future disclosure reporting."

Future surveys will be interesting in showing how company interactions with physicians are evolving, Roussel says. "Will companies, for example, move further away from face-to-face, science-oriented meetings? Transparency will affect and

The ultimate goal of the TI investigation is to provide the industry with "a chance to repair its reputational damage."

accelerate this transition, in that the focus is completely disconnected from commercial incentives and more about adding value to the physician's knowledge."

Even if TI's qualified praise of Sunshine and the EFPIA Disclosure Code suggests that pharma's efforts in promoting full transparency so far have been somewhat short-sighted in the face of the enormous task at hand, it is worth remembering that the ultimate goal of the TI investigation is to provide the industry with "a chance to repair its reputational damage and build trust within the patient community again."

And while EFPIA's Powrie-Smith recognizes that the Disclosure Code represents just the start of the journey, and that the industry is being required to "go straight from 'zero' to a new era of transparency," over time, he says, full disclosure will "progress from a standing start to becoming the way that industry and health professionals operate together."

Such sentiments echo the words of the 19th Century poet and physician Oliver Wendell Holmes, who famously asserted, "The great thing in this world is not so much where we stand as in what direction we are moving." PE

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Transparency International: Rooting Out Pharma Corruption

Pharm Exec spoke to Sophie Peresson, Director of Transparency International's (TI) Pharmaceuticals & Healthcare Program.


Sophie Peresson

PE: *What led Transparency International to make the decision to look at the pharma industry?*

SOPHIE PERESSON (SP): Seventeen percent of people worldwide stated they had paid a bribe when dealing with the medical sector in a global survey of 114,000 citizens in 2013, and 45% believed medical and health services to be corrupt or extremely corrupt. Other surveys, such as Transparency International's Bribe Payers Index, reinforce this finding.

With global spending on health of around US$7 trillion annually, the size of funds flowing through the healthcare sector makes it a lucrative and attractive target for corruption. Estimates of global health public procurement funds lost to corruption range from 10% to 25%. Yet if only 1% of global health spending were lost to corruption, representing US$70 billion, and it was put back into healthcare, this would be US$10 billion more than the sum that would have been needed to achieve the Millennium Development Goals on health.

The pharmaceutical industry has a responsibility to be transparent and accountable and to reduce its role in corruption, thereby increasing health equity.

The purpose of TI's Pharmaceuticals & Healthcare Program is to achieve genuine change in the pharmaceutical and healthcare sector through reducing corruption and promoting transparency, integrity, and accountability. We will apply TI's strengths and expertise to contribute to the program's overall goal of improving global health and healthcare outcomes for the benefit of all people of all ages.

PE: *What is the expected timeline for the program? What is to be looked at first?*

SP: This will be a long-term project of course; fighting corruption involves both changes in policies but also attitudes. We estimate that we will need at least 10 years to make an impact. We are currently developing the strategy and anticipate that it will be ready in the second half of 2016.

We are aiming for both a long and short-term impact to make corrupt officials think twice about accepting bribes but also provide the real structural reforms that create transparency and limit the scope for corruption to take root.

PE: *What stood out from the pilot project as areas of particular interest?*

SP: The sector is under served by anti-corruption programming as a whole. There are pockets of good work; however, the response is hugely disproportionate to the threat. It is clear that the problem in the health sector needs a holistic approach driven by multi-stakeholder groups operating at various levels. This includes the private sector, which is so integral to the health systems. Real change will only be achieved if the private sector is prepared to be bold, commit to change, and take a leading role.

There is also a lack of clarity in policy. The regulatory and legislative frameworks at national, regional and global levels are unclear and too often legislation is poorly enforced.

Two areas of the value chain that stood out were procurement and service delivery. Procurement due to the size and number of transactions that happen within health systems, and service delivery because of its direct impact on the individual, often the most vulnerable in society.

PE: *What will the geographical focus be in the early stages of the investigations?*

SP: The program is a global one but there are regional projects that have been launched (e.g., in Latin America). Moreover, the Health Action Fund (HAF) is helping to support several national initiatives led by TI chapters. The HAF will allow disbursal of grants to TI national chapters from anywhere in the network to fund activities, in whole or in part, that are contributing towards TI's goals.

PE: *Is the global shift to further transparency and — e.g., the US "Sunshine" Act — likely to make TI's work easier?*

SP: Arguably, this can provide a benchmark to measure performance against, but compliance is box-ticking and thus it is essential to ensure that implementation really happens.

Large parts of the world are not covered by compliance legislation and, therefore, face a higher risk of corruption vulnerabilities. Our research has shown that industry works on a self-regulation model, and is quite closed with regards to compliance in, for example, Africa, China, India. These are large markets and corruption here hurts the vulnerable the most.

PE: *How does TI plan to work with the industry on finding and combatting corruption?*

SP: We have been successful in developing a very good relationship with many industry players and we hope to continue doing so. Asking industry to see the need to combat corruption as going hand-in-hand with their other corporate social responsibility initiatives. It is in their interests to strengthen health systems to make sure the right treatment reaches the right patient at the right price. It's a chance for the industry to repair its reputational damage and build trust within the patient community again.

In 2016, the program plans to start work on a global Companies Index for the pharmaceuticals and healthcare sector. There is a growing body of indices that seek to evaluate company good governance and drive improvement within a sector or on an issue.

TI produces a number of indices that focus on the private sector, such as the Defence Companies Anti-Corruption Index. These indices involve the assessment of a range of major international companies using well-developed methodologies. TI aims to persuade local, international, and global companies working within the health sector to provide medicines, equipment, and services in a transparent and accountable way so to improve health outcomes.

— Julian Upton

Information in Action

A Conversation with DIA Global Chief Executive Barbara Lopez Kunz

How a key industry NGO is repositioning itself as the go-to place for the independent knowledge-driven insights that drive decisions in a business with no boundaries. One world. One table. Open seating.

By William Looney

PE: *You assumed the top post at DIA in September 2013. How would you describe the industry's strategic and operational environment since your arrival? What impact has it had on your plans to move DIA forward, in a new direction?*

KUNZ: My work in the life sciences extends back more than 20 years to the Battelle Institute and before that to DuPont, Thermo Fisher Scientific, and ICI. What drew me to DIA was its position as a neutral convener of the multiple stakeholders that together drive the industry's principal mission: to ensure that safe and effective therapies are accessible to patients worldwide. DIA provides all participants the opportunity to engage with government leaders, public health authorities, industry, academia, patient advocates, and, increasingly, the payer community.

Photo: Greg Fiume

But we do not stop at engagement. We see DIA as a community that seeks to advance all parts of the system. We do this through our own constituency but also through strategic partnerships with other organizations that bring special expertise to the table. Overall, it's an exciting time in the healthcare arena in terms of new science, where we have a much greater understanding of genetics and the pathophysiology of disease as a basis for generating new therapies and cures. DIA plays an important role in helping to realize the benefit of science for patients.

There are 7,000 new medicines in development today, more than any time in history. This is both an opportunity and a challenge. On the opportunity side, I see a heightened desire among innovators to apply good

science in collaboration with other stakeholders, across borders. Industry is doing a better job finding out what the patient—the ultimate consumer of medicines—really needs. Academic institutions and patient groups are more empowered, leading to a greater emphasis on real health outcomes, both in the clinical care and R&D settings.

The challenge is connecting the dots—helping everyone work together to raise the quality and efficiency of care. Efficiency is particularly important, because drug development is lengthy and expensive. To accomplish this, advances on the clinical front must move in tandem with progress in regulatory science. Reliance on accepted scientific principles is critical. This is the best guarantor that new drug evaluation will be done in a timely manner, with due consideration of risk-benefit, and at an appropriate cost to patients and society.

Keeping pace with science

PE: *Do the national regulatory agencies have the resources and expertise to keep pace with scientific progress?*

"The growing sophistication of science needs to be accompanied by a similarly broad investment in training and capacity-building, so that key stakeholders outside the lab can keep pace."

KUNZ: The last decade has seen a significant rise in investments in regulatory science. The brain drain of talent away from government service has slowed, while new tools like priority review, orphan-drug recognition, and breakthrough status have made the review process more relevant, predictable, and focused on real patient needs. This doesn't mean that we can be complacent. Regulators I talk to are excited about leveraging big data analytics to improve the productivity of the new drug evaluation process as well as deliver measurable outcomes to patients. And the desire to work internationally and interagency is there, the outcome of which will be positive for patients.

PE: *The common thread here is how collaboration serves as a "force multiplier" in transforming great science into products that help patients. It accentuates the importance attached to your description of DIA as a convener, to help institutionalize best practices across the life sciences spectrum.*

KUNZ: Today's catch-terms in health products regulation are convergence, harmonization, and mutual recognition. The growing sophistication of science needs to be accompanied by a similarly broad investment in training and capacity-building, so that key stakeholders outside the lab can keep pace. This is particularly true in the developing countries, where prioritization is key, given limited resources and the need to do work locally. The recognition that these issues must be addressed is there: a group of more than 30 heads of national drug regulatory agencies have formed the International Coalition of Medicines Regulatory Authorities (ICMRA) to drive forward the process of consensus-based standards internationally. We see this and the

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» DIA, founded in 1964, is today a global organization of 30,000 members, and is active in more than 80 countries. Besides the US and Europe, DIA holds conferences in Asia, Africa, and the Middle East, and plans to expand its working presence in these regions in the coming years. In Asia, for example, DIA is focusing on training in the medical affairs function.

» DIA's mission and expertise has evolved beyond the process of new drug development and licensure, to areas such as pharmacovigilance, patient-reported outcomes, real-world evidence, and the operational aspects of securing market access for a new product—now including the voices of payers, health technology assessment agencies, and other stakeholders that are critical in defining the "value" of therapies.

» A priority of DIA leadership is to build a communications technology platform that can be easily used wherever members are present across the globe. DIA is investing in updating its content management and learning tools—via desktop, mobile, and cloud—to support members' needs to access information, share knowledge, and advance science.

ICH (International Council for Harmonization) reform as very positive signs.

New focus on market access

PE: *Can you succinctly define the mission you now have for the DIA?*

KUNZ: Our Board has set out the DIA mission very simply. DIA is a catalyzer of conversations—productive conversations—with all stakeholder groups. I emphasize the word "productive" as we are laser-focused on ensuring we move forward the complex processes intrinsic to developing and delivering new therapies. We provide thought leadership, grounded in a broadly framed, multi-functional perspective.

"We no longer see our role as defined exclusively around the process of new drug development. In fact, our reach extends far beyond licensure."

We no longer see our role as defined exclusively around the process of new drug development. In fact, our reach extends far beyond licensure. DIA today runs from pharmacovigilance to patient-reported outcomes and real-world evidence. We have an entire track of programming centered on the operational aspects of securing market access for a new product, and our membership now reflects this breadth of expertise.

We see DIA as an open innovation forum. Because we engage many leaders across the healthcare continuum, we not only are aware of trends, our constituency is knowledgeable and well-positioned to influence priorities and use of resources. The outcomes of our work are based on sound scientific exchange that happens amongst our members, volunteers, customers, and staff. We take on complex topics, such as drug repurposing, process innovation, and drug shortages.

Up to a fifth of industry spending on R&D now consists of activities conducted after the regulatory authority grants the marketing license. This also holds true for outlays that companies devote to the pre-IND (investigational new drug) side, for basic research, and in identifying patient needs at all stages of the development cycle. We also have a remit that extends beyond drugs to include all healthcare products—vaccines, medical devices, diagnostics, biologics, and small molecule drugs. One example is our current effort to raise awareness of the industry perspective on new medical device legislation in Europe and Japan.

DIA has come a long way since its founding in 1964 by a small group of like-minded professionals—motivated by the fallout from the thalidomide tragedy—to our position today as a global organization, with a membership exceeding 30,000.

Our mission continues to grow: a decade ago, who would believe that payers and patients would be a critical part of our constituency? Our Board wants DIA to be seen as a safe, unbiased environment, where all stakeholders convene on neutral turf to debate the issues, without constraints, and based on a solid scientific basis, to advance the conversation.

PE: *What are your current priorities and how are these working to advance the DIA mission?*

KUNZ: In addition to serving as a convener, DIA is committed to improving the quality, relevance, timeliness, and accessibility of the content we share. Of these four measures of performance, accessibility is key. Hence, one of my priorities is to build a world-class communications technology platform that can be easily used wherever our members are today. Literally, they are everywhere, because DIA is a global organization, active in over 80 countries.

We are investing in updating our content management systems and have launched a suite of interactive learning management tools that will distribute DIA educational and thought leadership content to our members in all formats, from your desktop to mobile and ultimately in the cloud.

To that end, we have refreshed and repositioned our peer-reviewed journal, *Therapeutic Innovation & Regulatory Science*, under our Publications Editor-in-Chief, former FDA Deputy Commissioner Dr. Stephen P. Spielberg. The journal is the centerpiece of our publications portfolio, which also includes *DIA Global Forum* and *DIA Daily*, both of which collect and synthesize our best content worldwide and make it accessible to DIA members every day. Our country and regional con-

stituents are regular contributors to the *Global Forum*.

Selling solutions

We are also reexamining what we mean by content. DIA exists to create and share more than raw information. It is information applied—information that provides the knowledge to act and to execute responsibly. In fact, we no longer refer to DIA as the Drug Information Association. We use simply DIA, augmented with the tagline—Develop. Innovate. Advance. These are action-oriented words. The message is that DIA is no longer an organization geared to simply providing information about drugs. That's way too passive for an industry undergoing disruptive change.

Our second priority is to better understand our members and their needs. We have conducted "voice of the customer" studies, focus groups, and surveys to provide trend-based analytics that will tell us what programming works best for each DIA audience, wherever they are geographically or in their profession or interests. We also rely on our Regional Advisory Councils of stakeholder representatives and experts in all the principal markets: the Americas, Europe, Middle East, Africa, China, Japan, India, and Southeast Asia. The feedback I get from them is candid and helps us to have perspective on the trends we discern from the data.

Events and training account for more than three quarters of our annual revenues of approximately $30 million. Hence, it is appropriate that we maintain our focus squarely on improving member services. One specific outcome that members are already seeing is a targeted approach to online engagement through our newly launched Community portal. This new platform allows us to deliver precisely what individual members say they want from us and eliminate the rest. People are busy. No one wants to keep receiving materials in which they are not interested, so we can tailor to individual interests. Also this platform encourages interactive problem-solving among members and provides the channel to communicate outcomes to our community and beyond.

"DIA is no longer an organization geared to simply providing information about drugs. That's way too passive for an industry undergoing disruptive change."

In using the information on member needs and expectations, we will continue to customize our events. DIA's annual meeting in Europe has been completely refreshed to include multiple formats, interactivity, opportunities for discussion and debate. Our meeting in the US is now truly a global convention, with diverse content, thought leaders, and attendees. And in Japan, China, and other countries in Asia, the Middle East, and Africa, DIA continues to invite key players to the table, to create the opportunity for discussion and action. We are proud that year after year, we see ever-increasing numbers of attendees at DIA events.

Our strategic priorities are supported through ongoing financial investments by DIA to ensure our members have access to state-of-the-art knowledge management tools to support their needs to access information, share knowledge, and advance science.

PE: *How do you break down the membership in DIA?*

KUNZ: DIA's representation is extremely broad. When I came to DIA, I took a deep dive to understand who our members are and what they need from us. Our events continue to attract senior industry people. But it was evident that continued vigilance is required to

Top Threat? Emerging Diseases

Barbara Lopez Kunz also shared her thoughts on potential disruptive changes in the external environment that could challenge the efforts of DIA leadership in advancing its global agenda.

"What concerns me about the environment today is the pace of the response to emerging disease threats. When you evaluate the need for more and better medicines to fight disease, it is clear that we need to find ways to accelerate the pace. Although we have thousands of drugs in development, we are addressing only a small portion of the overall burden of disease worldwide.

Unanticipated epidemics of infectious diseases, like Ebola or influenza, and most recently Zika, are becoming more common. Recent experience shows the global public health infrastructure is unprepared to handle a major outbreak. The world community needs better processes—led by a stronger sharing of capabilities—to prevent a repetition of these public health crises."

Africa is one region where DIA is expanding its reach.

retain these high-level connections by ensuring our material was relevant to this audience.

On the opposite end, we have a solid base among younger industry professionals—those in the first five years of their careers. Students and leaders from academia are also counted in our numbers.

Both groups carry a strong interest in our education and professional development initiatives. But the heart of our membership remains working industry professionals with operational and regulatory responsibilities. Their interactions with DIA can be encapsulated in a single question: how do I take this rich content back to my office and put it to use in solving a problem or creating a new opportunity for my organization?

PE: *Are there gaps in the DIA membership base that you need to fill?*

KUNZ: We are taking a closer look at stakeholders who work with us, but for various reasons are not active and are reaching out to them to encourage their engagement. In addition, there are three constituencies that have been very active and growing in DIA. The first is the patient community. DIA has been ahead of the times in bringing the patient voice into the policy, regulatory, and business conversation. But we need to do more.

> "Our goal now is to build more clarity around our mission to patients, not as a patient advocacy organization but as experts in the healthcare product arena."

Our goal now is to build more clarity around our mission to patients, not as a patient advocacy organization but as experts in the healthcare product arena so that they can become more involved and influential in the regulatory decision-making process. Working with DIA can help raise the bar on their effectiveness with other stakeholders in the innovative process.

The second constituency is market access—payers, health technology assessment agencies, and other stakeholders that are critical in defining the "value" of therapies, from launch right through to the end of the product life cycle. DIA wants to include their voices, extend our convener capabilities, and spread the learnings from our conversations with them.

The third is around the span of geography. DIA is committed to a much larger presence in Asia, Africa, and the Middle East, where key institutions in healthcare are relatively less developed compared to the industrialized world. We hold conferences in these geographies, and we plan to extend our working presence in these regions in the years ahead.

PE: *Given this broad remit, how does DIA make decisions?*

KUNZ: Major issues that have a bearing on strategy or governance are addressed directly by our Board of Directors. But, as a global organization, we also seek direct input at the regional and country level. This is designed to ensure that our Board stays in touch with the grassroots constituencies around the world and can integrate their insights into our strategy. DIA is an organization

of many voices. Decisions taken by the Board are executed locally, with a significant degree of discretion based on local culture and practice. We have coined the phrase "We are DIA" to describe this continuum from staff to volunteers to members to the thousands of people who see themselves as part of this exciting movement, interlinked and interdependent.

I expect the trend toward decentralization will accelerate as DIA adds to its functional capabilities in markets outside our US base. There has been a devolution of service functions like finance, IT, and HR to our five regional offices. These are located in the US (Horsham, PA), China (Beijing), Japan (Tokyo), India (Mumbai), and Europe (Basel), which is also responsible for managing DIA work in Eastern Europe, Africa, and the Middle East. Our big investments in communications technology are designed to create a seamless flow of interactivity as DIA membership roots extend to more countries.

Partner of choice

PE: *What role do external partnerships play in the DIA's plans for global growth?*

KUNZ: We are doing some interesting things with organizations at the country level, where we have agreed to share DIA's content to engage the local audience. Virtual technology allows us to do this on a significantly bigger scale. The aim is to make DIA the place to go to obtain relevant, high quality curated content on everything from the ins and outs of therapeutic discovery and product development to market access. We want DIA to be the essential "go-to" source for the latest and best insights available.

> "Content alone is ineffective unless it is coupled with a solid level of tailoring."

Partnering is how we intend to build capacity in regions of the world where expertise in drug regulation and development is lagging. For example, in Asia, DIA is focusing on training in the medical affairs function, helping countries to make the transition to a new selling model for drugs based on the technical knowledge of the science behind the therapy.

PE: *Can you highlight your leadership style? How do you place your stamp on the organization while encouraging the diversity and decentralization you cite as key drivers of the new global DIA?*

KUNZ: I am very strategic. My job is to understand how best to energize DIA colleagues, volunteers, and members and to liberate their capabilities so that they move the needle collectively. Hearing the many insights from DIA's broad community allows me to generate clear priorities and then to implement on those priorities. The DIA Board plays an active role in setting strategic direction and ensuring that our plan is distinctive but realistic.

Talented people are what makes DIA what it is, and I am a talent developer. Nothing is more rewarding than seeing people learn and grow—and fulfill their own dreams. Also, I like to have fun. I am told I bring enthusiasm to the workplace. Being authentic in your approach to colleagues and doing work that you really care about are big parts of that.

PE: *What are the achievements on which you expect your performance to be measured over the next several years?*

KUNZ: First, high quality and dynamic content are going to be key. So establishing a rigorous approach to our content strategy is a top priority and one on which today's DIA leadership will be assessed. However, content alone is ineffective unless it is coupled with a solid level of tailoring.

I want this leadership team to be seen as catalytic in making DIA the unrivaled global convener of people in healthcare to solve problems and advance regulatory science. You are going to see an even higher level of diverse stakeholders in our work. We believe that a high level of engagement with the patient community is essential. In addition, we are bringing payers into our circle to create a dialogue with the industry and government regulators. In other words, market access will have a designated seat at our table.

My third goal is to ensure DIA programming concentrates on the most important issues for our members. All of our public activities must be focused on yielding a tangible outcome. Being a convener means advancing the conversation so our stakeholders are in a position to decide and to act. PE

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Data Unleashed: Cooperation Among Competitors

Charting two years of collaborative progress in clinical trial data sharing

By Patrick Homer and Matt Gross

Stakeholders across the life sciences industry agree that greater access to patient-level data is a good thing—good for science, good for business and good for humanity. Data sharing can generate valuable new insights or hypotheses for further research. Data sharing enables researchers to review clinical trial results to find insights and opportunities not identified by the original sponsors. Data sharing honors the valuable information provided by patients and researchers in previous clinical trials and extends the future value of their efforts.

But for all the benefits, there are caveats as well. Unless appropriate safeguards are in place, open access to clinical trial data could compromise patient privacy, enable faulty science, and be a resource-intensive burden for trial sponsors and data stewards.

If data sharing is to be truly valuable to researchers, it will require consensus among competitors on many issues of process and policy. What information should be shared, with whom and for what purposes? How should data access and use be managed? How far back in time should study data be made available? How do we ensure patient privacy without unduly limiting the research value of the data? How should outputs from this open access be managed? To make good on the promise of transparency, these questions would not be answered in isolation.

In October 2013, our organization brought together leaders from across the global pharmaceutical industry to stimulate conversation on the best way to move forward, and to see what others

were doing—or not—in sharing clinical trial data. That event became the first of a series to formalize and facilitate discussions that had been taking place in various corners of the industry and academia. The fifth forum, held in April 2015 in Heidelberg, Germany, brought together 142 delegates from 63 organizations in 13 countries to advance the data-sharing agenda in a truly collegial way.

Evolution in thinking

Until just a few years ago, discussions about sharing clinical trial data—particularly patient-level data with enough richness for secondary analysis—would have been framed in uncertainty and resistance. How much work is this going to be? What if we get flooded with data requests, or we can't get our hands on the data? How can we balance the public good with the imperative for privacy? What happens if researchers reach different conclusions from our own—or reach false conclusions through bad science or malicious intent? Will we be scooped or scandalized by our own data?

These concerns, while real, can be mitigated by governance and stewardship. In the two years since convening the first industry forum, we have seen positive answers to those questions, leading to a notable shift in organizational culture and the tenor of the discussions:

- **Stage 1.** "We see merit in the idea, but we also see many ways it could go wrong."
- **Stage 2.** "We need to do something before external entities impose a data-sharing framework on us."
- **Stage 3.** "We're excited to be at the forefront of creating policies and processes to make this work."
- **Stage 4.** "This may not be the final state of things, but here's what has been working for us."

That evolution in attitude in part reflects a growing appreciation for the benefits of transparency, but it also reflects a race against impending (and recently enacted) government regulation. The industry would rather define its own course than have one imposed.

Unless appropriate safeguards are in place, open access to clinical trial data could compromise patient privacy, enable faulty science, and be a resource-intensive burden

Evolution in regulatory, industry expectations

The earliest push for data sharing came from the European Medicines Agency (EMA), which in 2012 committed to complete transparency regarding patient-level clinical data and study results. In 2014, the EMA announced that it would publish the clinical study reports contained in most all applications for marketing authorizations submitted after Jan. 1, 2015.

The pharmaceutical industry demonstrated further support for sharing clinical trial data in 2013 when the members of Pharmaceutical Research and Manufacturers of America (PhRMA) and the European Federation of Pharmaceutical Industries and Associations (EFPIA) developed and endorsed *Principles for Responsible Sharing of Clinical Trial Data*.

The EMA led the way, but there has been a constellation of influences. For example:

- The **Institute of Medicine** (the health arm of the National Academy of Sciences in the US) is pressing for momentum on clinical trials data transparency.
- Many government-sponsored studies, especially those funded by the **National Institutes of Health** (NIH), are

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» For data sharing to offer true value to researchers, it must require consensus among competing life sciences companies on several issues of process and policy, including what specific information should be shared, with whom and for what purposes—and, equally important, what structure should be established to access and manage the data.

» Over the last few years, through initiatives such as industry forums, as well as regulatory reform in the US and Europe, attitudes and discussions around clinical trial data sharing have shifted from more uncertain and resistant tones to organizational cultures now more receptive to the benefits of increased transparency.

» While patient-level data sharing has officially moved from concept to reality, researchers stress that its success should not be measured by how many proposals are received or approved, or how much data is shared, but, instead, by the value and impact of the information in advancing science and public medicine.

required to have a data sharing plan in place as part of the research proposal.

» The **AllTrials** campaign, supported by multiple organizations, is urging registration of all clinical trials and disclosure of trial results and clinical study reports.

» GlaxoSmithKline led the way in making de-identified patient-level data from hundreds of studies available through its **Clinical Study Data Request** website (ClinicalStudyDataRequest.com), which includes 12 sponsors as of November 2015.

» The CEO Roundtable on Cancer's **Project Data Sphere** is a voluntary initiative that provides a broadly accessible, easy-to-use database of oncology clinical trial data.

» The **Yale Open Data Access Project** reviews and makes decisions on all requests and research proposals received for access to Johnson & Johnson data.

» Harvard University's **Open Translational Science in Schizophrenia Project** makes clinical trial and observational study data available through the NIH.

» The **SAS** clinical trial data sharing environment now provides access to data from 14 organizations, so researchers can request all data from clinical trials (not just the control arm data), and aggregate, compare or contrast information in one place from all these sponsors.

"There has been a perception that transparency is an on/off button. Press the button and you're transparent. It clearly isn't like that. It's a process, a journey."

This type of patient-level data sharing, particularly where there are multiple trial sponsors, was unfamiliar ground for the life sciences industry until just a few years ago. The status quo was one where clinical trials data was released very selectively—if at all—at the discretion of the trial sponsor, unless disclosure was required, such as by litigation or regulation.

Data sharing has officially moved from concept to reality. For example, as of September 2015, ClinicalStudyDataRequest.com had received 165 research proposals (including 16 multi-sponsor proposals) and provided data to hundreds of researchers to support 72 active research projects.

"We're in an environment where expectations around data transparency are enormous," said Andy Powrie-Smith, EFPIA's communications director, at the Heidelberg forum. "We will create incredible amounts of data that we have to harness for the benefit of patients, to develop new therapies that save people's lives. At the same time, there's a lot of work to do getting internal policies and procedures in place to align with new regulations. There has been a perception that transparency is an on/off button. Press the button and you're transparent. It clearly isn't like that. It's a process, a journey where there's a lot of learning still to do."

Data sharing: An academic's perspective

Halfway through the learning curve, data sharing is imperfect in the real world. Just ask a researcher on the other end of the data-sharing equation. Take epilepsy research, for example.

For about 70 percent of patients with epilepsy, seizures can be controlled with drugs, but which one should be prescribed? Some of the more than 30 available medications will have adverse effects or not work for a given patient. Others will significantly improve quality of life. What factors determine which drugs will be best suited for which patient? Could a combination of direct and indirect evidence—triangulated across studies in comparative analysis—be used to better inform treatment choice?

That's what Sarah Nolan wanted to know. The University of Liverpool researcher started with access to patient-level data

Data Sharing: A Researcher's Wish List

- Access to all data for all participants, anonymized only as much as necessary.
- A single point of contact for all research and/or data access inquiries.
- A fully transparent data request process, i.e., what's required, how long it will take.
- Data accompanied by all essential documents.
- Data provided in a flexible, user-friendly format.

from nearly 6,000 patients representing 29 existing studies—academic, pharmaceutical and government studies. The research team had requested and received data from another 18 studies (20% of that wave of requests could not be fulfilled because data from some older studies was not available in digital form).

There were still rich resources left to tap. Nolan identified 41 new studies representing more than 10,000 patients. She requested them all—24 academic studies, 16 pharmaceutical studies and one government study. After more than two years of data requesting, only five requests were successful. Nolan got only 8% of the total data requested, representing only 660 patients.

The other requests stalled for years. Nolan would sometimes get an initially positive response, but no data ever arrived. Other times, she got no response to her emails, and didn't even know if her requests had reached the right person.

"The consequence of this is that the project was completely delayed, with only six months left in the research funds," Nolan said. "The problem was a lack of transparency in the data requesting process. There wasn't a clear point to go to actually request data."

That was then. At the April 2015 forum, Nolan shared more recent experience using the ClinicalStudyDataRequest.com site. "In June 2013, a data inquiry was submitted for data, and a year later, June 2014, the data was provided to us in the SAS data access system for analysis. We also made three other inquiries that were unsuccessful in 2013 and 2014. It's not ideal; we would have preferred to have that data, but at least we got a response and a reason."

Amid all the essential debate around *how* clinical data transparency can be achieved, it's important we remember *why* we are doing it and *what* researchers need from us

Nolan noted some usability challenges with the system, as well as constraints in data sharing agreements, and said her team is working with the sponsors to address these concerns and improve both the system and processes.

"A multi-sponsor environment is a brilliant time saver," said Nolan. "You don't have to submit the same documents again and again to different companies. The steps on the website are very clear, and the process allows a good level of communication between the data provider and the researcher. If all the companies have the same data structures and consistency in legal documents, that will save a lot of time.

"Having independent review panels is fair; they would see the science of the project above commercial self-interest. The process is detailed and encourages good science in the detail of your request. Legal documents have mutual benefit to the company and the researcher [because they specify rights to publish]. If I can't publish this at the end with my name on it, I won't get any more research money."

Remembering the why

The trend toward clinical trial data transparency continues to gain momentum. But amid all the essential debate around *how* clinical data transparency can be achieved, it's important we remember *why* we are doing it and *what* researchers need from us.

"Just because it's online doesn't mean it's helpful," said Karla Childers, director of strategic projects at Johnson & Johnson, at the April 2015 forum. "We shouldn't measure the success of data sharing by how many proposals were received or approved, or how many terabytes of data shared."

"There should be a value in terms of advancing science and public medicine," added Childers. "We need to think creatively to ask the tougher questions. How are people using the systems? What has been the impact of sharing data? How can we tell it is working? Have treatment guidelines changed? Have we affected public health? What measures should we be capturing now to be able to answer those questions? As leaders in R&D, we need to be thinking about how we're going to answer these questions.

"If we have improved public health, we've seen the value—if we can do this in a way that preserves innovation, protects patient privacy and protects confidential information. We have to move forward. There is no reverse on this." PE

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Raising the Stakes On Value-Based Pricing

The importance of betting on outcomes, not simply risk sharing, when implementing pharma-payer arrangements

Getty Images: Adam Gault

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Even before Martin Shkreli, former CEO of Turing Pharmaceuticals, became the poster child for price-gouging with an overnight price increase of roughly 5,000% on *Daraprim*, the US pharmaceuticals industry was primed for a sanity check on its pricing practices. But Shkreli was simply the most notorious player in the pharmaceutical price game, as 2015 saw several instances of purportedly aggressive pricing practices.

In the US, the growth in prescription drug prices has exceeded inflation rates over many years, raising the ire of consumers, policymakers, and politicians. As a result, pharmaceutical manufacturers will increasingly need to demonstrate *value* to global payers and health technology assessment (HTA) bodies as a prerequisite for premium prices and/or significant price increases.

Reframing risk sharing

One approach to ensuring value is a form of "risk-sharing," wherein the cost of a therapy is linked directly to patient outcomes, as with a performance guarantee. Unfortunately, the potential for such outcomes-based, risk-sharing arrangements to deliver on the promise of value has been hindered by contract complexity, data limitations, monitoring issues, price reporting regulations, and other implementation hurdles.

With drug pricing practices now a *cause célèbre* in the US, it is imperative for pharmaceutical manufacturers to address these challenges as part of their value proposition. Making outcomes-based arrangements simple and workable for payers will be critical to mitigate additional price regulation and access restrictions that are being proposed by public and private payers, politicians, and other stakeholders.

Innovative or alternative pricing refers to a wide range of arrangements between manufacturers and payers, including price-volume agreements, capitation agreements, and patient access schemes (PAS); performance-based risk-sharing arrangements (PBRSA); pay-for-performance (P4P); coverage with evidence development (CED); outcomes-based guarantees; etc.

From arrangements that are mainly financial to those that limit total cost or utilization, or guarantee outcomes, the aim is to help allay payer concerns about excessive cost and utilization, while ensuring improvements in patient outcomes. These arrangements have been the subject of much attention both within the industry and among academics.

Implementation hurdles

One recent review of risk-sharing agreements in the US focused specifically on current trends, success factors, and challenges in the use of outcomes-based arrangements. The study reported that only 18 outcomes-based arrangements have been implemented (i.e., disclosed publicly) in the US, with 11 of these being public sector CED ("coverage with evidence development") schemes and only seven agreements with private payers.

Given the intense scrutiny of drug pricing practices, and payer interest in demonstrating value of drug therapies, why have more agreements that guarantee patient outcomes not been implemented? Figure 1 on the facing page highlights the reasons provided by the study respondents as key barriers to implementing outcomes-based, risk-sharing agreements. These reasons are dominated by challenges associated with the incremental effort and resources to evaluate risk exposure, negotiate contracts, overcome data infrastructure limitations, and address measurement and contracting complexity.

In short, outcomes-based, risk-sharing agreements are

considerably more difficult to implement than traditional payer/manufacturer rebate agreements. Some payers have suggested that manufacturers may not be motivated to provide real value through such agreements, but instead attempt to use outcomes-based, risk-sharing agreements to achieve access and utilization for therapies that might otherwise face reimbursement and access restrictions.

Manufacturers as solution providers

The authors have worked with several pharmaceutical companies to develop outcomes-based, risk-sharing agreements that have been implemented by commercial payers in both the US and EU, and can attest that the reasons for limited use of these agreements are real. Nonetheless, changing the paradigm of pharmaceutical manufacturer as product supplier to solution provider is critical, and outcomes-based, risk-sharing agreements are one approach to accomplish this change (see Figure 2 on page 48).

The goal is for pharmaceutical manufacturers to transition from a "price-per-pill" or even "price-per-course-of-therapy" mentality to one based on improved patient outcomes at a competitive cost *vis-à-vis* existing standard of care (i.e., value for cost). In the context of a rapidly evolving consumer, payer, political, and regulatory environment—focused singularly on drug prices and price controls, rather than the intrinsic value of innovative therapies—it is critical that the pharmaceutical industry take the lead in delivering value for cost.

One important step is to make outcomes-based, risk-sharing agreements more commonplace and payer-friendly. Beyond demonstrating value to payers, there are intangible benefits associated with guaranteeing product performance, and "putting your money where your mouth is" as evidenced by the high levels of interest in such arrangements. While some industry observers have described outcomes-based, risk-sharing agreements as PR stunts, they can be effective in capitalizing on genuine interest in demonstrating and delivering value.

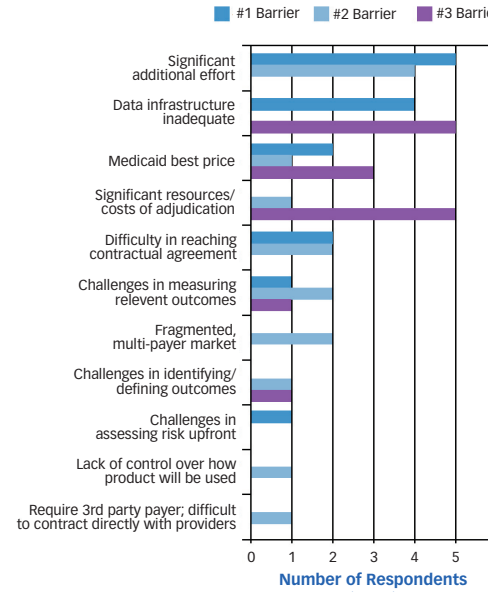
Taking the mantle

Pharmaceutical manufacturers are well-equipped to address the key challenges associated with implementing outcomes-based, risk-sharing agreements:

TRANSACTION COSTS – There can be incremental costs associated with outcomes-based, risk-sharing agreements (both for manufacturers and payers) compared with more conventional pricing and contracting arrangements. For example, when negotiating a contract, manufacturers and payers will incur costs associated with evaluating the risk-exposure implied by the contract terms. The evaluation often includes analysis and modeling of historical data on the variation in incidence and prevalence of patient conditions, costs of therapy, and the direct and indirect cost offsets relative to standards of care.

Many payers do not have the resources or capabilities to undertake such evaluations. Pharmaceutical companies that are serious about a long-term partnership

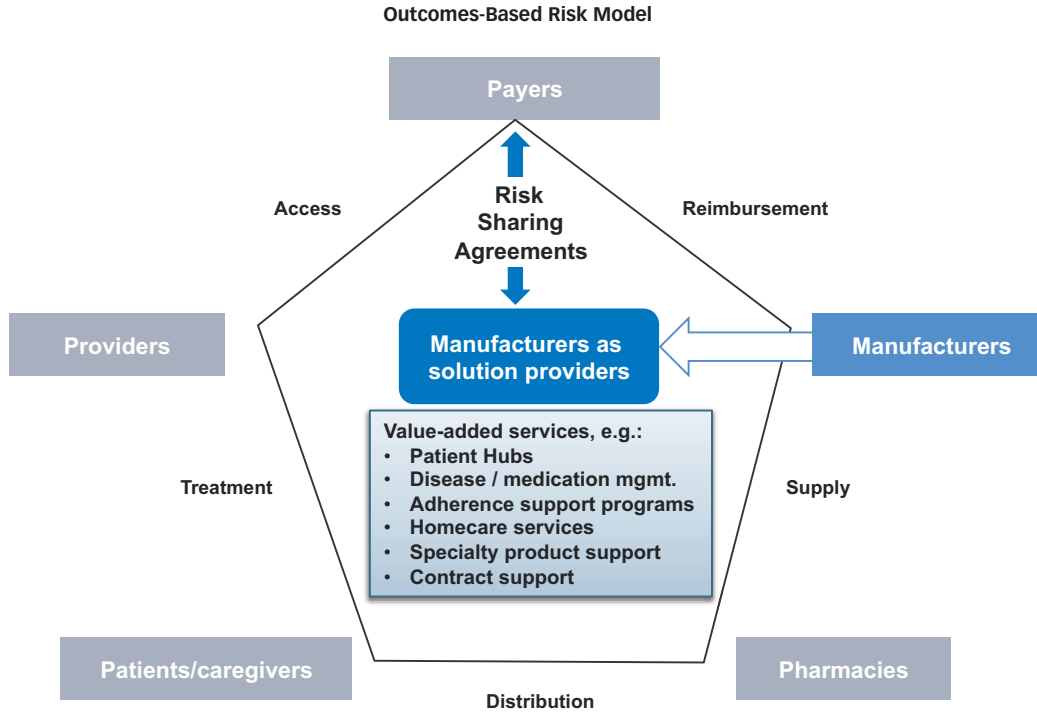
Risk Sharing: Top Challenges



Source: "Private Sector Risk-Sharing Agreements in the United States: Trends, Barriers, and Prospects." Garrison, L.P. et al., American Journal of Managed Care, September 2015

Figure 1. Survey findings of the top barriers to the use of risk-sharing arrangements in the US.

> Manufacturers will increasingly need to demonstrate value to global payers and health technology assessment bodies as a prerequisite for premium prices and/or significant price increases



Source: adapted from "Risk Sharing – a Driver to Achieve Better Outcomes," Dr. Urs C.H. Wiedemann, Euroform Rethinking Healthcare conference, Berlin, (October 2013)

Figure 2. Changing the paradigm for manufacturers from product supplier to solution provider.

with payers could seize the opportunity to change the paradigm by funding risk evaluations and sharing data, models, and analyses with payers. Beyond funding to develop and standardize models to evaluate risk and contract terms, the models, data, and contract can be refined in the context of a sponsored "pilot" with payers to assess risk exposure and identify data limitations and potential solutions.

OUTCOMES MEASUREMENT – The cost and level of effort involved in accurately measuring outcomes typically exceeds that of a traditional manufacturer-payer contract. For example, each agreement will need to define whether payment will be based on outcomes and cost at a patient-level, for the entire patient population or a sub-population. It may be crucial to define and identify "eligible patients" and a baseline or control group. Furthermore, if criteria such as patient adherence to therapy are required, the agreement must be precise with respect to the methodologies for estimating such terms. Often the complexity involved in precisely measuring outcomes can derail negotiations, when simplifications or first-order approximations may be acceptable to both parties.

> The goal is for manufacturers to transition from a "price-per-pill" or even "price-per-course-of-therapy" mentality to one based on improved patient outcomes

It is in the interest of pharmaceutical manufacturers and payers to standardize and simplify the measurement approach. Once a core contract structure is established, contract templates and examples can be used to align the specific contract terms (see Figure 3 on facing page).

DATA SYSTEMS INFRASTRUCTURE – One of the more challenging aspects of outcomes-based contracts could be the need to compile data from sources that may not typically reside in one system. For example, patient-level medical records are required to determine that a

procedure was performed or that multiple related procedures were performed within a given time period, while pharmacy records are required to establish adherence to therapy. In addition, laboratory records may be required to validate specific lab values (e.g., HbA1c, HDL/LDL, Hgb).

For integrated health systems, these data may be readily available, but for other types of health plans and pharmacy benefit managers (PBMs), assimilating such data can be difficult and costly. In addition, allowing access of patient-level data to third parties for measurement and evaluation is fraught with HIPPA-related issues. Pharmaceutical manufacturers could become solutions providers, addressing these data issues for payers and removing a potential roadblock to the implementation of outcomes-based, risk-sharing contracts.

INDEPENDENT EVALUATIONS – Even if manufacturers agree to take on the incremental administrative, measurement, and data costs necessary to implement outcomes-based agreements, there remains a need to independently evaluate a risk-sharing arrangement. The very nature of such agreements implies that both parties are exposed to some risk, and neither party is likely to be willing to accept the other party's analysis as independent.

While some outcomes-based agreements have been successfully implemented by a core team with representation from both parties, another approach would be to "outsource" the contract evaluation to a third party. Funding such an independent contract evaluation may represent an opportunity for a manufacturer or a consortium of manufacturers to gain broad-based, buy-in from key payers for the use of outcomes-based, risk-sharing agreements. Over time, as evaluations become more efficient and commonplace (and less contentious), the cost to support contract evaluations will decline.

Contract Terms Template

Contract definition: Manufacturer will refund the **hospitalization costs** for patients who require hospitalization due to serious adverse event (SAE) while on therapy, **in excess of baseline SAE rate**				
Patient Eligibility	• Must be taking manufacturer's drug and compliant with therapy • Must be admitted with one or more specific ICD9 codes: TBD			
Performance Baseline (and other assumptions)	• Baseline rate of serious adverse event = 3% (per label) • Avg. cost of hospitalization for therapy-related SAE = $19,000			
Payment to Plan (Example)	Low SAE Scenario		High SAE Scenario	
Patients Started on Therapy	100%	1,000 patients	100%	1,000 patients
Eligible Patients	90% * 1,000 =	900 patients	90% * 1,000 =	900 patients
Rate of AEs vs. Baseline Rate	3% - 3% =	Same rate	6% - 3% =	3% excess
Eligible Patients Hospitalized	N/A	N/A	3% * 900 =	27 patients
Total Manufacturer Refund	N/A	N/A	$19,000 * 27 =	**$513,000**
Manufacturer Terms	Exclusive position on Tier 2 of formulary			

Source: Adapted from "Making Risk-Sharing and Clinical Performance Contracts Win-Win," Andrew Parece, Risk Sharing and Value-Based Pricing Conference, NextLevel Pharma, (October 2009)

Figure 3. An example of a contract template between manufacturer and payer.

Together with other conventional pharmaceutical company offerings (e.g., disease management program support and care-delivery "hub" services), these arrangements have the potential to change the dialogue between manufacturers and payers, from price to value. Until the industry consistently provides solutions to reinforce the value of new therapies, consumers, payers, and politicians will continue to focus on the cost side of the equation, applying price caps and arbitrary access "austerity" measures that do not recognize or reward innovation. PE

Until the industry consistently provides solutions to reinforce the value of new therapies, consumers, payers, and politicians will continue to focus on the cost side of the equation

The imperative

Until recently, outcomes-based, risk-sharing agreements were often perceived as a last-resort "objection handler" to achieve market access goals and to address payer uncertainty regarding the cost and outcomes associated with high-priced therapies. While the investment in resources and infrastructure to make these agreements more workable for payers can be substantial, we believe that the return will more than offset the impact of not doing so.

NOTE: *The authors would like to acknowledge the helpful input of Dr. Robert Navarro, and colleagues in the Life Sciences Practice at CRA. The views expressed herein are the views and opinions of the authors and do not reflect or represent the views of Charles River Associates or any of the organizations with which the authors are affiliated.*

Closing the Gaps in Drug Chain of Custody

Limitations of the Drug Supply Chain Security Act for pharma—and three strategies to fix them

Pharmaceutical companies selling prescription drug products in the US market are in the process of implementing programs to uniquely label each drug package sold using a serial number and corresponding database. This work, requiring tens of millions of dollars and years of diligent project management, is being mandated in the US by the Drug Supply Chain Security Act (DSCSA). The DSCSA is part of the Drug Quality Safety Act signed into law in 2013 and is intended to produce end-to-end product traceability throughout the entire distribution supply chain. The original intent behind the DSCSA is that by coordinating transaction records with pharmaceutical distributors and retailers, authorized supply chain workers can "theoretically" follow a drug's chain of custody to help flag the source of fake or substandard drugs entering the chain.

Does the DSCSA really supply security?

As we canvass the pharma industry from manufacturers to wholesalers/distributors to pharmacies, there is a growing debate over the ultimate effectiveness of a fully implemented drug security law. These concerns are categorized in three interrelated limitations.

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1.) The package alone bears the security elements, not the drug product itself. Fake or expired drugs can be encased in a package that is compromised but, nonetheless, resembles a genuine one. "The only absolute truth is the proof of product integrity regardless of the package markings," says Ron Guido, an expert in the practices of supply chain security known as brand protection. Guido confronted these matters while at Johnson & Johnson for many years, most recently as vice president of global brand protection and supply chain integrity.

"We have seen many examples of serialized bar codes being reimaged from genuine packages and applied to fake packages," says Guido. "In some instances, 'fake' authenticating features such as rogue phone numbers, websites, and holograms are added to packages to fool inspectors, traders, and even patients."

Unless the product within the package can be authenticated, there remains doubt as to whether serializing packages alone can reliably detect fake or unauthorized drug product in the normal course of distribution.

2.) The law requires "tracing" capabilities once a suspicious trade or violation to the system surfaces. The DSCSA was designed primarily to retroactively trace the chain of custody of fake goods, permitting trading partners ample time to investigate an incident. In the time it takes for this inspection process to conclude, dangerous drugs could enter the legitimate supply chain and unsuspecting patients could be exposed to the fake drugs, with often tragic consequences. Alternately, under a truly real-time tracking system, the first indication that a falsified code is introduced into the legitimate supply chain will immediately alert the system users so that not only can the suspicious drugs be removed at that point from further trade and quarantined, but the trading agent can also be detained and investigated by the authorities.

There is a huge difference in the level of supply chain integrity between retroactively culling the product from the supply chain after it has made its way to points of dispense or patient administration, versus identifying the bad actors at the time and place their goods are introduced into the supply network.

3.) The drug distribution system in the US lacks interoperability among trading "partners." While it's unreasonable to require legislators to dictate the detailed business processes that support the commerce of pharmaceuticals while also protecting patients, it is also recognized that manufacturers, distributors, and retailers in legitimate drug trade now lack end-to-end visibility over transactions throughout the supply chain. The reasons are many, ranging from the "perceived value" of harboring commercial data within one's business domain to fear of being disintermediated from the chain if trading records were shared.

However, such lack of "information shorting," as Guido describes it, opens the door for all kinds of vulnerabilities, including gray market diversion, counterfeits, pilferage, poorly managed recalls, drug shortages, returned goods, fraud, and more generally, suboptimal inventory management. Anytime there are "handoffs" or blind spots in a complex

system, cracks are created for the bad guys to squeeze into the legitimate supply chain and exploit these weaknesses. However, in a fully interoperable track and trace system, the integrity of scanned inventory would be easier to verify at the point of sale. For example, the serial codes of stolen cargo would be flagged as such in the interoperable database, and any attempts to reintroduce those goods into the legitimate supply chain would be denied.

The DSCSA is creating the opportunity for real-time sharing of transactional information, and financial data associated with trade, to illuminate an otherwise dark supply chain. Yet, until all players participate in a fully interoperable pharma supply chain using unique serial numbers (that can be duplicated) as the "new currency of trade," the aforementioned vulnerabilities will still exist.

Overcoming DSCSA limitations: 3 Steps

First, the DSCSA should be amended to require some form of authentication on the drug itself. There are many scientific solutions to this issue of what is known as "on-dose" authentication, such as placing inert markers or markings on or in solid oral dosage form drug product, which constitute a substantial portion of the drug market. There are a number of intriguing on-dose technologies that can complement the serialization measures found on packaging, such as covert taggants that can identify drug product origin back to the source of manufacture.

This kind of technology feature would then allow manufacturers to create a digital lock between an identification code on the package with the identification code on the dosage form. When these two codes match exactly, the information on the package is confirmed as authentic and accurate down to the pill itself.

Second, the law should add "tracking" requirements to the transaction history elements of the current "tracing" rules of engagement. In time, scans of genuine serial numbers can drive the financial and inventory records of each transaction and signal the legitimacy of the package. If the package has been compromised, perhaps by duplicating an active serial code, that transaction would be electronically suspended until an investigation on-site is conducted. Verifications of the on-dose features in the field with immediate feedback will allow for confirming that the right drug is in the right place, at the right time—true "tracking"—rather than merely providing information for an investigation after the harm has already been done.

Given the amount of investment the pharmaceutical industry has made to date attempting to comply with the legislation, it would be a shame to stop short of a more fully effective and true "track and trace" system. And with the ability to track and flag suspect packages on-the-spot with on-dose identification measures, the product inside could then be immediately authenticated to help inspectors react faster and mitigate the effects of the compromise.

Third, in the spirit of public-private collaboration, all trading partners should coalesce with regulators around the design of a fully interoperable system. Rules regarding fees for sharing information and disintermediation decisions can be orchestrated to break the seemingly archaic beliefs that information harboring is the source of business success. Other industries, including online retailers of consumer goods, have demonstrated the efficiency and cost-effectiveness of sharing logistics information among commercial partners.

Given the amount of investment pharma has made attempting to comply with the legislation, it would be a shame to stop short of a more fully effective and true "track and trace" system

With on-dose authentication measures, true "track and trace" capabilities, and full access to all of the data throughout the supply chain, pharma companies would be able to better ensure the security of their supply chain and close the current gaps in the DSCSA.

Any risk is bad risk

US legislators and regulators recognize the importance of safeguarding pharmaceuticals supply, particularly when global trade practices and international sourcing of goods have increased the potential of substandard and fake drugs being inserted into the domestic distribution network. Our society should adopt a "no tolerance" culture when it comes to counterfeits. Most authorities agree that the rate counterfeit drugs in the US is in the single digits, but for every 1% increase in this rate, it means over 40 million times that patients are ingesting fakes. That is one prescription for every eight or nine patients in the country every year—an intolerable risk. Certainly we can do much better.PE

Drug Compounding: A Cause *and* Cure for High Drug Prices?

The practice's emerging—if improbable—cost-saving potential

The ancient practice of drug compounding has become one of the most controversial issues in the pharmaceutical industry. While public health concerns have inspired the FDA to implement comprehensive safety reforms, compounded products continue to represent a significant cost burden for government and commercial health plans. However, just as insurers and regulators have sought to tamp down compounding costs and utilization, observers have begun to acknowledge that compounding may sometimes serve as an essential antidote to spiraling drug prices. Thus, in the topsy-turvy world of drug pricing and reimbursement, compounding is viewed as both a cause for escalating drug prices as well as a potential catalyst for reform.

'Compound' growth: The good and bad

Drug compounding has historically been performed on a small scale in the independent pharmacy or physician office to create customized versions of drugs for patients desiring a more convenient dosage form or flavor Nevertheless, compounding has grown in scope and prevalence to meet growing market demand for drug products tailored to unique health and cosmetic needs. For several years, this trend progressed unabated in a relatively lenient regulatory environment. However, in 2012, a deadly fungal meningitis outbreak was linked to a Massachusetts's-based sterile compounding facility—a tragedy that brought to light safety concerns surrounding compounding. Congress responded with the passage of the Drug Quality and Security Act (DQSA), which clarified the FDA's regulatory authority and outlined a new legal framework to ensure safer compounding practices.

While government action has been taken to address safety concerns, compounding has become one of the central contributors to drug price inflation in the US. According to the Express Scripts Drug Trend Report, overall US prescription drug spend increased by 13.1% in 2014, whereas compounding spend increased by as much as 218% during the preceding two years.

This upward trend is largely based on the actions of drug manufacturers that have inflated the average wholesale prices (AWPs) for certain bulk substances—the constituent ingredients in compounded formulations In addition, many believe that costs are being driven by unscrupulous physician prescribing habits and compounding pharmacies that have employed creative profit-making schemes.

The combined growth in compounding costs and utilization has negatively impacted many commercial and government payers, particularly those that base reimbursement on the prices of bulk ingredients. Commercial insurers have been quick to question the value and efficacy of many compounded products while implementing reimbursement caps and coverage restrictions.

Likewise, some government healthcare programs have overhauled their reimbursement mechanisms to dramatic effect. Notably, on May 1, 2015, TRICARE, the government health plan covering civilian health benefits for military personnel, revised its reimbursement policy to screen for all ingredients in compounded prescriptions and reject coverage for any non-FDA approved ingredients. In the month following this change, spend on compounded claims decreased by 74% and the number of filled prescriptions dropped from 105,200 to over 41,800.

Although reform has progressed more slowly in the workers compensation arena—where generous reimbursement policies are the norm—several states have implemented measures to better control costs and utilization. For example, significant progress in managing workers compensation medical spend was achieved in Oklahoma, Texas, and Washington State, which adopted closed drug formularies, and in Ohio and Mississippi, which imposed

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reimbursement caps on compounded products.

But while compounding is often viewed as one of the central contributors to rising drug costs, the practice has emerged as an apparent—if unlikely—solution for the seemingly intractable problem of *generic* price increases. Public outrage stems from the actions of certain drug makers that have obtained rights to selected sole-source generic drugs and then dramatically increased their prices.

In one now-notorious example, Turing Pharmaceuticals acquired the rights to *Daraprim*—a drug that is critical for the treatment of the parasite-borne disease, toxoplasmosis—and then ratcheted up its price from $13.50 to $750 per pill. While consumer advocates and lawmakers have bemoaned their limited options in combating this practice, San Diego-based compounder, Imprimis Pharmaceuticals Inc., announced plans to produce a formulation of *Daraprim*'s active ingredient, pyrimethamine, for about $1 per capsule. The proposal received support from Express Scripts, which announced on Dec. 1, 2015, that it would cover Imprimis' formulation when supported by a patient-specific prescription. Imprimis now intends to produce cheaper alternatives for other sole-source generic drugs that have been the subject of price gouging schemes.

Complexity is costly

The cost-saving potential of compounded drugs was recognized during a December 2015 hearing convened by the Senate Special Committee on Aging to address the causes and effects of generic drug price increases. Nevertheless, critics maintain that compounding is a disfavored remedy, given its safety concerns, non-FDA approved status, and contributory role in rising drug costs in certain settings. Moreover, under the FDA's new regulatory scheme, facilities that engage in large scale and sterile compounding activities are required to register as "outsourcing facilities," pay annual fees, comply with current good manufacturing practices (cGMPs), and submit to FDA inspection. In addition, outsourcing facilities may only compound from bulk substances that appear on a drug shortage list or on an impending list of bulk drug substances for which there is a recognized "clinical need."

Many industry players are waiting on the sidelines to see whether the scope of the bulk drug substances list will be sufficiently broad enough to warrant registration as an outsourcing facility. In the meantime, given the added costs and burdens, there may be an insufficient number of outsourcing facilities that are willing and capable of providing cost-saving formulations on an appreciable scale.

At a time of growing anxiety and confusion about drug pricing issues, policymakers will need to understand compounding's Janus-like nature, and its real and potential impact on the pharmaceutical industry. Reforms may be appropriately focused on closing regulatory loopholes, ensuring patient safety, and containing runaway costs.

On the other hand, policymakers should avoid overly broad and categorical limitations that may restrict the availability of products that are often needed and desired by patients. Likewise, recognition should be paid to the advantages of compounding as a lever against certain sources of high drug costs, particularly in the generic sector.

> The *Daraprim* incident has revealed how traditional market mechanisms and the creative employment of existing pharmacy practices, such as compounding, may serve as effective checks and balances

Creative combat

At a time when many lawmakers are calling for radical costs controls, the *Daraprim* incident has revealed how traditional market mechanisms and the creative employment of existing pharmacy practices, such as compounding, may serve as effective checks and balances. This is an important consideration as our society confronts the challenge of structuring suitable drug pricing reforms, which inevitably involve difficult trade-offs between innovation, patient need, and cost. PE

An Egyptian success story on an African expansion mandate

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HEALTHCARE & LIFE SCIENCES REVIEW

EGYPT

LAND OF OPPORTUNITY

Many picture Egypt as a sun-drenched paradise defined by pyramids, tombs, and sarcophaguses. Others may associate the country with political turmoil, given the two revolutions of the last five years. Portrayals of Egypt drawing too heavily on either of these themes miss the heart of what this country is today; a growing, energetic, vibrant society, brimming with ambition and permeated with opportunity.

Such opportunity is particularly visible in healthcare and pharmaceuticals; currently Egypt's best performing sector. Janssen's Khaled Mansour asserts that, "Egypt is one of the top three markets in the region…. The market is still between four and five billion USD, but at current growth rates it should reach a significant volume threshold in the next few years and continue to attract more and more investments." October Pharma CEO Ahmed Zaghloul explains, "basic demographic trends and market fundamentals are still very attractive and the population is growing by roughly two people per year," and as such the retail pharmaceutical market is undergoing "predictable double-digit growth in local currency, with reasonable USD growth of 8.3 percent in 2014 and 5.5 percent in 2015, with the potential to be much higher if the wider economic situation were to stabilize."

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EGYPT: LAND OF OPPORTUNITY

The potential for stronger growth lies in the fact that Egypt's healthcare sector has only just begun to meet the needs of its 90 million people. Novo Nordisk's GM Mohamed El Dababy describes how Egypt, "only spends USD 35 per capita on healthcare, which is alarmingly low. This is a third of what countries with similar economic conditions to Egypt are spending, for example Lebanon or Iraq." Given the low levels of healthcare spending, Ashraf El Khouly, vice-chairman of the Egyptian Society for Pharmaceutical Research, argues that, "despite the fact that the multinational pharmaceutical industry established its production sites in Egypt in the 1960s, I identify Egypt as a virgin market… any healthcare project, however small, can only contribute to and enhance the current market growth of 15 percent (in local currency)." Or, as Osama Rostom, of the Federation of Egyptian Industries (FEI) Pharma, Cosmetics, and Medical Appliances Chamber explains, "Egypt is one of largest countries in the region, and the pharmaceutical market is on the cusp of a major boom… the important figure to measure the current market growth is the growth of units sold which, at four percent, is still very good - but can be higher!"

Awad Tag Eldin, former Minister & chairman, ACDIMA; Osama Rostom, deputy head FEI Pharma Chamber & Commerical Director EIPICO

ON THE CUSP OF CHANGE

A key factor behind Egypt's low per capita healthcare spending is that "50 percent of our population lives under the poverty line and they cannot afford healthcare services," as Mahmoud Bagneid, CEO of medtech provider BM Egypt, explains. ACDIMA chairman and former Minister of Health, Awad Tag Eldin, asserts that Egypt already has "public medical insurance, but only 52 percent of the population is covered." Generally, those eligible for coverage are formally employed and therefore above the poverty line.

Abdel Fattah El-Sisi, President of Egypt

However, change is on the horizon. "We are aware of the underlying challenges ahead of us, but there is a clear intent and determination to put in every means to reach our objective to create a reliable system for a healthy society and promote the well-being of all Egyptians," confidently declares Egypt's president, Abdel Fattah el-Sisi. "Egypt has embarked upon a long process of re-engineering its economic model… and have already started to readjust our fiscal budget to allocate at least 3% of GNP to government spending on health sector, as stated in our constitution," he affirms. Eva Pharma's CEO Riad Armanious declares that, "currently just under 70 percent of medication is paid for out-of-pocket in Egypt and I expect that increased public investment in healthcare will soon help to extend access to medication to a broader segment of Egyptian society, as has occurred in many other countries. In post-revolution-Egypt, any government will seek to provide better care for the Egyptian people and, although this is a complicated goal, there are signs of progress." Tag Eldin echoes Armanious's comments, indicating that while, "this has been a very long story… the Ministry of Health is working harder than ever to make this a reality and it is clear that

EGYPT BY THE NUMBERS

2014	2015
4.92% OF GDP Healthcare spending as a proportion of GDP	**USD 14.21 BN** Total healthcare spending
93% Proportion of pharma consumption produced locally	**<2%** Government healthcare spending as a proportion of GDP

Source: GAFI

NOVO NORDISK WAY

novo nordisk backgrounder

Novo Nordisk at a Glance

Novo Nordisk is a global healthcare company with more than 90 years of innovation and leadership in diabetes care. This heritage has given it experience and capabilities that also enable it to help people defeat other serious chronic conditions: haemophilia, growth disorders and obesity. Headquartered in Denmark, Novo Nordisk employs approximately 41,000 people in 75 countries and markets its products in more than 180 countries. Novo Nordisk is ranked among the top 100 most valuable companies globally and is the most valuable in Scandinavia. Building on 90 years of pioneering diabetes research, Novo Nordisk is currently the only company with a full portfolio of human and modern insulins.

Novo Nordisk Egypt (We believe in the future of Egypt)

Novo Nordisk has been working in the Egyptian market for more than 80 years. The company is a pioneer in introducing insulin in Egypt, backed with its global expertise and leadership in diabetes care. Collaborating with the relevant stakeholders, Novo Nordisk Egypt is currently working on several initiatives to best serve Egyptians with diabetes.

During a very uncertain period in which most companies have been downsizing, Novo Nordisk Egypt has not only maintained its position but also expanded its presence in the country. The number of employees has more than doubled during the period 2011–2015.

Novo Nordisk's approach goes beyond doing business to working in partnership with stakeholders to upgrade healthcare for people with diabetes in Egypt, building on the experience gained from its long-standing and strong presence in the country.

We are guided by our Triple Bottom Line, which means taking into account the financial, social and environmental aspects of every decision we make.

Statement from Mohamed El Dababy, General Manager of Novo Nordisk Egypt

Over the years, Novo Nordisk Egypt has lead the way in raising diabetes awareness as well as treating and preventing diabetes locally through launching different initiatives. There are currently 28 Novo Care Centers across Egypt, the first of which was established in 2006. To date, Novo Care provided education and support to around 33,000 people with diabetes as well as offered tens of thousands of free NovoPens to patients through awareness and prevention campaigns.

Elaborating on the important role the company plays in the Egyptian market, Mohamed El Dababy, General Manager of Novo Nordisk Egypt, says "In Egypt, an estimated 7.8 million people have diabetes; this is equivalent to 14.8% of the adult population. Egypt has the eighth highest prevalence of diabetes worldwide. It is predicted that by 2040 there will be an additional 7.3 million people with diabetes in Egypt, bringing the figure up to 15.1 million. In response to this, we continue to launch impactful initiatives in collaboration with national stakeholders, aiming to better the lives of people with diabetes. We recently signed a memorandum of understanding with the Egyptian government to establish 26 state-of-the art Diabetes Centers of Excellence across the country, one in each of the 26 governorates of Egypt, where Novo Nordisk is refurbishing and equipping clinics in major hospitals and training physicians and nurses to provide the best possible diabetes care. The first of these Centers of Excellence was opened in May 2015 and functions as a 'one-stop-shop' for treatment of diabetes and related complications."

Furthermore, Novo Nordisk supplied the Egyptian government with a fully automated patient management system and established a central server for the 26 Centers of Excellence. These two systems are synchronized in order for the relevant governmental bodies to have access to updated data about the numbers of people diagnosed with type one and type two diabetes and the severity of complications caused by this condition.

Novo Nordisk's key contribution to the markets where it operates is to discover and develop innovative biological medicines and make them accessible to patients throughout the world. Building on 90 years of pioneering diabetes research, Novo Nordisk is currently the only company with a full portfolio of human and modern insulin in Egypt.

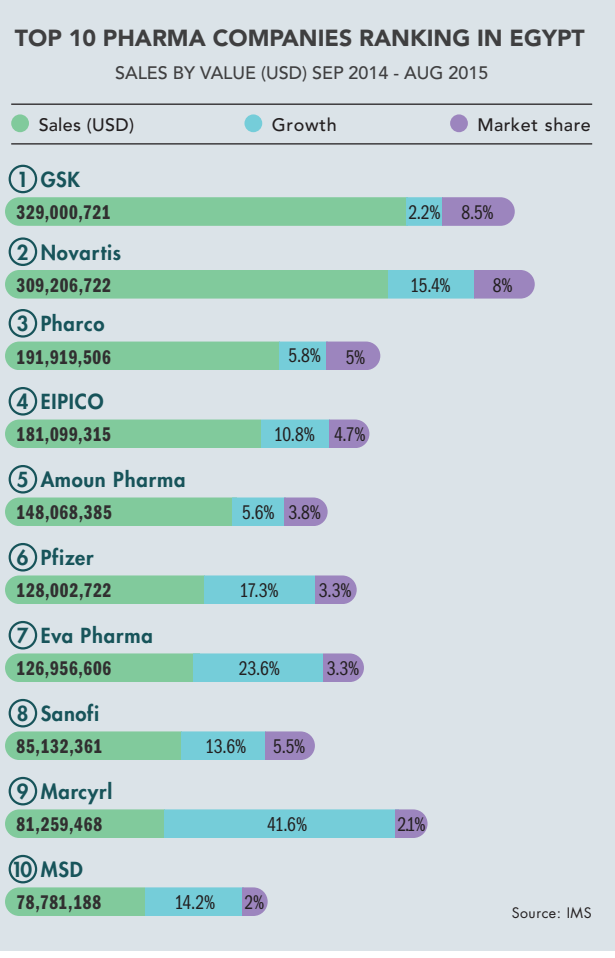
novo nordisk®



From left: Khaled Mansour, market access director for EMEA emerging markets, Janssen; Amre Mamdouh, vice president and Area general manager, Egypt and North Africa, GSK; Ahmed Emad El Din Rady, Minister of Health and Population

there is high level support for this goal within the Egyptian government. We are now approaching a point in time where large changes will be possible."

The government's commitment is clear, and there have been several signs that progress is being made. Minister of Health Ahmed Emad El Din Rady states that, "over the last six month I have been in constant discussions with the Ministry of Finance to develop a sustainable financial model for an expanded health insurance system. Today, the law is almost finalized and we will most likely be presenting it to parliament in the near future: the criteria have been set, the various items and articles laid out and written, and all we are waiting on are some financial reports and studies that are now nearly complete." Moreover, the FEI's Rostom explains that "according to the new constitution [of January 2014] the government will double its healthcare spending to three percent of GDP." Progress has already been made as, according to Roche's Ehab Yousef, "the [2015] government budget for healthcare represents almost two percent of Egypt's GDP, and five percent of the government's budget; other countries in the same economic category allocate closer to ten percent of public funds to healthcare. However, looking at [the 2016] budget, the portion being allocated to healthcare is increasing from five to 7.5 percent, signalling the government's intention to support healthcare, and that they are working towards meeting the constitutional goal of three percent of GDP."



EVOLVING HEALTHCARE NEEDS

Across the MENA region, "the nature of diseases for which there is the most treatment demand is shifting from communicable diseases to non-communicable and chronic diseases, a shift which multinationals are well prepared for given their global portfolios and current research objectives," according to Janssen's Khaled Mansour. This trend has certainly reached Egypt; Amre Mamdouh, of Egyptian market leader GSK, explains, "as life expectancy in Egypt increases with better disease management and improved access to healthcare, rates of lifestyle driven and chronic diseases are increasing."

Mohamed El Dababy, general manger, Novo Nordisk

AstraZeneca's country president Khaled Atef Elmounayri notes that, "in Egypt we have around 7 million diabetics, 14 million patients suffering from hypertension and one in 100,000 is a cancer patient, so investing in oncology, hypertension, diabetes and chronic disease is important because the potential is very high. There are a lot of unmet needs." Servier's Gerard Charles concurs, saying that, "cardiovascular disease is the leading cause of death, accounting for nearly 15 percent of deaths in Egypt, with another roughly ten percent caused by cancers. It is estimated that there are around 15 million Egyptians who have diabetes and a similar number are hypertensive. The percentage of these patients with a disease which is controlled ranks between 10 and 15 percent, and awareness is very low in general." Thus, even for the roughly 50 percent of Egyptians who have some access to healthcare, there is significant progress to be made in terms of raising awareness, diagnosing, and treating lifestyle driven diseases.

Despite this, progress is definitely being made. Novo Nordisk's El Dababy admits that, "awareness regarding diabetes

in Egypt is low but it is getting better," and that his company has "recently observed a shift towards a more proactive stance towards diabetes." Additionally, the strength of Egypt's private market means that even higher priced innovative products can be successful; El Dababy illustrates the point, saying "our recent launch of Victoza was very successful... It has been a high impact product in all markets and Egypt is no different despite the cost barrier." Similarly, AstraZeneca's Khaled Atef Elmounayri says that, "over the past few years the Ministry of Health has improved dramatically in terms of access and we have been successful in bringing some of our oncology products to the public sector," and that for oncology products in general "the government supports the importation, grants them a fast track [registration process] and reimburses them, which confirms [oncology] is high on the agenda." Indeed, according to Roche's regional GM Ehab Yousef, "oncology is the therapeutic category with the second largest budget after hepatitis within both the Ministry of Health and the Health Insurance Organization," the largest parstatal healthcare payer. Given economic realities, healthcare providers are "not really able to grant the use of all innovative drugs because of pricing," as Elmounayri explains, but "nonetheless, Egypt is one of the largest markets across the Middle East for oncology."

This progress in treating non-communicable diseases has been made despite the enduring challenges posed by infectious diseases in Egypt. The market is still driven by these primary healthcare needs with GSK's Augmentin brand of amoxicillin as the leading product in the market. Moreover, Hepatitis C plays a dominant role in the healthcare sector because, as Abbvie GM Amjad Laimoun explains, Egypt is the country with "the highest prevalence of the hepatitis C virus (HCV) in the world with more than 14 percent of the adult population carrying the virus." Novo Nordisk's El Dababy says that in fact, "public discussion of healthcare is dominated by communicable diseases, mainly Hepatitis C, and thus the attention the government and media are able to dedicate to non-communicable diseases like hypertension, diabetes, and other non-communicable diseases is limited… Hepatitis C is a major healthcare issue for the country, and one that negatively impacts the productivity of our people and ultimately the economy, yet the same can be said about diabetes. In fact, at present the number of deaths caused by diabetes and related

Khaled Atef Elmounayri, country president, AstraZeneca

Egyptian Biotech

Wafik Bardissi, chairman & CEO, MinaPharm

"Since most domestic pharma companies and the national drug authorities are preoccupied with today's pharma challenges (pricing, competition, etc.), limited attention has been given to developing strategies to accommodate growing demand for biologics," says Minapharm's CEO, Wafik Bardissi. "The proof is quite simple, as Minapharm is the only biotech player to have emerged in this part of the world during the last 15 years."

Minapharm took more than "ten years to establish the intellectual capital and organizational culture capable of dealing with the complex manufacturing and analytical processes essential for a variety of recombinant technologies," and began their efforts in the biotech industry by establishing a joint venture company with Rhein Biotech (now part of Dynavax Europe) in 2001. The Rhein-Minapharm Biogenetics manufacturing facility was constructed in 2003 in the Tenth of Ramadan City, outside of Cairo, and their first co-developed therapeutic protein was launched in 2005; an interferon alpha 2a product called Reiferon. This first launch was followed in 2006 by a pegylated interferon, Reiferon Retard, and in 2007 by the first recombinant hirudin.

"In 2010 Minapharm acquired ProBiogen, the Berlin-based internationally renowned cellular engineering specialist and global provider of intelligent proprietary technology to the international biotech industry," explains Bardissi. Continuing, he describes the tremendous interest this transaction has gained "from the German and European public as for the first time, the buyer of an established leading European biotech enterprise is from an emerging market." Probiogen will primarily have free reign to expand its business with clients which include global leaders in biopharmaceuticals such as Novartis and Boehringer Ingelheim, while parent company Minapharm will be "focusing on maintaining and consolidating our position at the forefront of the biotech industry," according to Bardissi. However, he confirms "Minapharm has benefited from a cooperative development plan with our subsidiary Probiogen to assemble a first-rate pipeline of immunotherapeutic agents that are currently at various stages of development."

complications is higher than the number of deaths related to hepatitis."

Seeing as "each year between 150,000 and 180,000 individuals are infected," and according to Laimoun, "the majority of these new infections actually occur in hospitals and medical facilities," there are certainly adequate grounds for fighting the disease to be made a national priority. Roche's Ehab Yousef explains that Hepatitis C is the therapeutic category with the largest budget within the Ministry of Health and Health Insurance organization, and as Abbvie's Laimoun makes clear, "the level of the government's commitment is very strong, as fighting HCV is the president's highest healthcare priority; in fact, the president has been involved in several initiatives himself."

The primary public treatment initiative is run by the National Committee for the Control of Viral Hepatitis, and, according to Laimoun, "at present 180,000 patients are being treated by the national program each year, with an additional 30,000 treated by the Health Insurance Organization." The Minister of Health, Ahmed Emad El-Din Rady, has made his "goal to reduce the cost of treatment for hepatitis C as much as possible," and improve the accessibility of private treatment. As a result, prices for a bottle of generic Sofosbuvir fell from EGP 2670 (USD 330) to EGP 900 (USD 110) in the retail market, and EGP 520 (USD 65) in public tenders at the start of 2016. Given these two measures, demand for anti-virals such as Sovaldi and generic Sofosbuvir (which became available in Egypt in 2015) have skyrocketed so much so that according to October Pharma Ahmed Zaghloul, "roughly four of the 5.5 percent [retail pharma market] growth [in 2015] was realized within one therapeutic segment; antivirals such as Sofosbuvir which are used to treat Hepatitis C."

DIFFERENTIATION THROUGH TECHNOLOGY

With traditional generics seeing shrinking margins and mounting competition, it has become increasingly important for Egyptian manufacturers to differentiate themselves through their technical capabilities. ACDIMA's Awad Tag Eldin highlights that generics players are increasingly "facing a much greater challenge from products that utilize new methods of delivery," citing the growing adoption of insulin injection pens by diabetes patients as an example. He argues that for Egyptian pharmaceutical manufacturers to remain both domestically and regionally competitive, they "must increase their level of technical sophistication and begin some upstream operations."

Several companies have recently taken steps to increase their technical capabilities via major equipment investments and technology transfers. One such example is Medical Union Pharma (MUP), which acquired an insulin vial manufacturing facility from Lilly. Managing director Ahmed Kelani explains, "acquiring this facility was the best opportunity for us to manufacture high quality human insulin vials... A significant level of technology is being

transferred to MUP from Eli Lilly, and [we are] integrating the experience and knowledge of Eli Lilly employees into our operations and business."

Marcyrl, a domestic manufacturer which entered Egypt's top ten highest grossing pharmaceutical companies in 2015, is also making significant investments to acquire and even develop new technologies. Wagdy Mounir, the GM responsible for manufacturing, explains that the company recently "purchased the machinery to produce bilayer tablets… [which] will be the first bilayer tablet manufacturing line in Egypt." However, much more significantly, Marcyrl is "currently undertaking … the development of a separate hormone manufacturing facility… that will take Marcyrl to the next level in terms of working with multinational pharmaceutical companies and export activities; there are only a few such facilities in the Middle East… and we will be seeking EMA and FDA approval from the outset with the goal of exporting products from this facility to markets all over the world."

However, Marcyrl has also successfully developed two incrementally innovative products. Saad Ibrahim, scientific office manager, explains that as of January of 2016, Marcyrl "received the approval for a unique dosage form of bromocriptine… Normally this product comes in tablet form; however, nearly 40 percent of patients experience gastric issues as a side effect. To avoid causing this side effect, we have developed a vaginal suppository containing bromocriptine. We completed a series of phase II and phase III trials to get it approved… This is a unique product, although we are aware than an Indian company has been working on developing a bromocriptine vaginal suppository as well." Having completed phase II and III trials, and received domestic marketing authorization for the product, Marcyrl will soon be launching the product on the Egyptian market.

From left: Wagdy Mounir, general manager, Marcyrl; Farid Habib, managing director, Marcyrl; Saad Ibrahim, general manager, HSO.

While there are a few such instances of modest innovation in terms of product differentiation, the Egyptian Ministry of Health has not generally supported such efforts. October Pharma CEO

Ahmed Zaghloul reveals that, "the Ministry of Health is … not particularly supportive of even incremental innovation in Egypt, as officially we cannot register products that don't have an exact reference product registered in one of our 23 officially recognized reference countries; an October Pharma product was recently rejected because we wanted to package 30 tablets in each box, whereas the reference product only contained 15 per box."

EXTERNAL ECONOMICS

Janssen's Khaled Mansour summarizes the Egyptian pharmaceutical market as an investment destination by saying, "I would approach Egypt as a sizable opportunity and say I am moderately optimistic about the future of the market here, with the moderation stemming from some short-term challenges that we must work through before the full potential can be realized." Indeed, the current economic situation is a major limiting factor. Mansour holds that "although over the last year the political and security situation has stabilized significantly under the new regime… today the main risks exist within the economic and financial sphere, as there is limited hard currency availability and the Egyptian pound's value versus the dollar is unstable." Osama Rostom of EIPICO and the FEI chamber for pharmaceuticals, explains that "the traditional sources of foreign currency have always been the Suez Canal, tourism and Egyptian people working abroad; recent hopes in the Suez Canal of providing the country with foreign currency have proved elusive as revenues have fallen significantly, tourism has not yet recovered from the political unrest of a few years ago, and Egyptian people abroad generally prefer to utilize the black market to get their money into Egypt."

Ahmed Zaghloul, CEO, October Pharma; Ahmed Kelani, managing director, MUP

October Pharma's Ahmed Zaghloul explains that his "concern is not the current economic situation, but rather the fact that there does not appear to be a clear vision for how Egypt can overcome these challenges... The current government has not shared any clear plans for economic reform with the business community. Moreover, given that the current shortage of hard currency, there is a clear need for Egypt to drive export growth and to attract foreign investment, yet there has been very limited guidance in this regard." Zaghloul goes on to explain that the Egyptian pharmaceutical industry has abundant "excess production capacity and can easily produce pharmaceutical for the export market at competitive prices," yet "there are certain barriers that we would need the government to help address if this is to become a reality."

Aside from the very low pharmaceutical pricing in Egypt, which causes significant challenges in export markets due to country of origin reference pricing, the primary hurdle to achieving exports is that at present, Egypt has no EMA or GCC accredited bioequivalence study center, so any "manufacturer seeking to develop a product that can be exported to a regulated market must complete bioequivalence studies outside of Egypt," according to Eva Pharma's Riad Armanious. The situation is further frustrated by the fact that according to October Pharma's Zaghloul, "currently, the Egyptian Ministry of Health does not recognize bioequivalence studies performed outside of Egypt, even when conducted at highly accredited facilities certified by the EMA. Thus, to develop a product for the export market currently we must carry out bioequivalence studies in Egypt as well as abroad."

The hard currency shortage has also caused significant challenges for companies focused purely on the domestic market. Janssen's Mansour explains that "multinationals are unable to repatriate their income, [so] as the pound depreciates companies are effectively losing a portion of the value of the sales

TOP PRODUCTS RANKING IN THE EGYPTIAN MARKET

SALES BY VALUE (USD)

Sales (USD) | Growth | Product | Active ingredient

1. GSK **Augmentin** [Amoxicillin & Potassium Clavulanate] — 394,935,016 — 13.2%
2. Novartis **Cataflam** [Diclofenac Potassium] — 258,731,954 — 8.4%
3. EIPICO **Cefotax** [Cefotaxime Sodium] — 256,564,734 — 7.3%
4. Sanofi **Amaryl** [Glimepiride] — 218,591,710 — 12.7%
5. Merck KGaA **Concor** [Bisoprolol Fumarate] — 211,235,333 — 20.3%
6. EIPICO **Flumox** [Amoxycillin + Flucloxacillin] — 209,260,069 — -2.6%
7. Novartis **Voltaren** [Diclofenac Sodium] — 204,764,150 — 10.9%
8. Takeda **Controloc** [Pantoprazole] — 185,546,428 — 28.4%
9. Novartis **Catafast** [Diclofenac Potassium] — 179,456,688 — 19.1%
10. Sandoz **Curam** [Amoxicillin & Potassium Clavulanate] — 177,775,922 — 13%

Source: IMS

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Aiming at Africa

Riad Armanious, CEO, Eva Pharma

"Egypt has very strong ties to our African neighbors and has played an important political role in the region for many years, thus Egypt has a relative advantage throughout the region," explains Eva Pharma's Riad Armanious. He admits that many of these "African markets have limited potential in the short run," but believes that given historical and geopolitical factors, "in the long run Egypt is likely to play a strong role in African economies," and is also confident that significant opportunities exist in the long term; "if you look at a country like Nigeria with a population of nearly 160 million people, the market is roughly USD 2 billion, so spending per capita is very low yet prices are much higher than in Egypt; right now these markets are quite small, but could have huge potential if access can be improved."

Armanious sees an opportunity for Eva Pharma to make a difference in this regard, and hopes "that in the coming years Eva can make a strong impact in terms of improving access to affordable and high quality medicine across Africa." Making progress is difficult however, as "at present, there are many barriers to entry given disparate regulatory systems and infrastructure challenges." Even with Egypt's relative advantage in the region, the only way to build a sustainable presence in small African markets is to establish operations on the ground, however, these "local operations can be managed from Egypt, which can and already does act somewhat as an economic hub for Africa." As such, Eva Pharma is developing operations on the ground in Ethiopia at present, and is investing in a shared facility in Equitorial Guinea (alongside ACDIMA, Global Napi, and EUP).

they already made. At the same time, pharmaceutical prices are fixed in Egypt, so we're seeing our margins on current sales continue to shrink as well." More worryingly, "the foreign currency shortage has limited manufacturers' ability to purchase raw materials, inducing some shortages of medications in Egypt already," according to Servier's GM Gerard Charles. Yasser Hefny of Hefny Pharma Group, further details that "unfortunately Egypt experiences a shortage of these essential pharmaceutical products: local drug authorities have even decided to add a department dedicated to drug shortage to get a better overview of hospital usage of drugs and what kind of life-saving products are missing." For Hefny, who started in the pharmaceutical industry with "a pharmacy chain specialized in supplying hospitals with life-saving products and supplies for Intensive Care Units (IUC)," such shortages have motivated him "to start importing and registering additional pharmaceutical products which have high demand to be manufactured locally."

The situation has been further complicated by Egypt's fixed pharmaceutical prices, which have placed significant pressure on manufacturers as the cost of imported materials, labour and other costs has risen due to wider economic inflation. EIPICO's Rostom explains that "the Ministry of Health is largely unwilling to increase pharmaceutical prices because of the reaction that it would cause amongst the public and media, even though current pricing levels are unsustainable, causing relative and absolute shortages of many products, and making it unfeasible for manufactures to invest in their own development." Rostom admits that EIPICO was recently "forced to take 12 products of the market that provided Egyptian patients with quality

treatment for a fair price," and ironically "now only significantly higher priced alternatives remain."

However, it appears some relief may soon arrive. EIPICO chairman A. Borhan El-Din Ismail says that "over the last six months, the Ministry of Health has indicated that they are open to adjusting some prices. However, there has been no solid commitment yet, or any real progress, but they are speaking to us regarding increasing some prices, and we shall wait and see what transpires." He reflects that back in "the early 1970s the government had begun to depress prices to a great extent," but that since then the government "occasionally … give[s] some small price increases for a few products and then freeze prices for another ten years." Mansour agrees that some changes seem possible, and says, "the government is realizing this dilemma [given the devaluation of the Egyptian pound], and seems more willing than ever to discuss moving the prices of pharmaceutical products."

Moreover, as Bayer's managing director Hatem Safei explains, "there are some recent and relevant positive economic and political developments to take into consideration. With the opening of the new Suez Canal, a variety of large scale industrial and investment projects, and of course the recent discovery of the largest gas field in the Mediterranean by ENI within Egyptian waters, Egypt will begin to see an influx of hard currency. Considering just these confirmed developments, it is clear that they will positively impact economic output and bring more hard currency into the country." Finally, given the government's declared and demonstrated investment priorities, it is clear that as cash becomes available for investment, a significant portion will be directed toward healthcare.



A. Borhan El-Din Ismail, chairman & executive director of EIPICO; Gerard Charles, general manager, Servier; Yasser Hefny, CEO, Hefny Pharma Group

Until the status quo changes and progress begins to materialize, the Egyptian pharmaceutical market will continue on its present course of roughly four percent volume growth and 15 percent value growth in local currency. Such growth offers many attractive opportunities, and if and when progress is made in the realm of politics and regulatory policies, such opportunities could become absolutely beautiful.

#Grit: Fighting Cancer, John Wayne Style

How John Wayne viewed his battles with cancer was consistent with the heroic, tough-guy persona he projected onscreen. He's still inspiring patients today, writes Julian Upton

John Wayne used only one match each day, to light his first cigarette. He lit all his other cigarettes with the one he was putting out. From his early teens he smoked between three and six packs daily. It caught up with him in 1964, when he was 57. Barely able to get through a scene of Otto Preminger's (presciently titled) *In Harm's Way* without a coughing fit, he went for a medical examination that revealed a golf-ball-sized tumor on his left lung.

As Wayne's daughter Aissa writes, a lung cancer diagnosis in 1964 was effectively a death sentence. But the Duke said, "Screw it." He went ahead with surgery to remove most of the diseased lung. The surgeon had to go in through his back, the tumor was so big. The operation laid Wayne low for a while, but it was a success. Ten weeks later he called a press conference to say he'd "licked the Big C." "I don't want to end my life being sick," he told the assembled crowd. "I want to go out on two feet—in action." He then flew off to Mexico with his one good lung to start work on T*he Sons of Katie Elder*. He kept on smoking, but switched to cigars.

If fans had feted Wayne before his cancer, they lionized him afterward. Five years later, in 1970, although he was well out of step with the *zeitgeist*, he got the Oscar for *True Grit*, a career high. And he was still cancer free.

The star worked on until he was almost 70. *The Shootist* (1976) would be his last film; he was sick again while making it. In March 1978 he had open-heart surgery, a risky procedure. Once again, he got through it. He bought himself some new gym shoes for his daily walk around Newport Beach. He started making plans. He thought about moving to Mexico and began taking Spanish lessons.

But the Big C was back. Stomach lining this time. The smell of most food made him want to vomit. In January 1979, surgeons removed Wayne's stomach and made a new one from his intestines. They found the cancer had spread. Still he said, I'm going nowhere, and began radiation treatment. His weight much depleted, he ordered a new tuxedo for the April Oscar ceremony; he was set to present the award for Best Picture.

He made it to the show. He had to wear a wetsuit under the tux to fill it out, but he was buoyed by the standing ovation as he walked on stage. That's the only medicine a fella really needs, he told the audience. But by the end of May he was on intravenous morphine in his hospital bed at UCLA. He stuck it out until June 11, 1979.

That Wayne dodged his 1964 "death sentence" was a testament not just to his treatment but to his state of mind. It helped him "kick cancer's ass," in Richard Pryor's words. Enough to grab another dozen good years of life, anyway.

That Wayne dodged his 1964 "death sentence" was a testament not just to his treatment but to his state of mind

Patients everywhere might benefit from taking a leaf out of Wayne's book. To that end, the John Wayne Cancer Foundation, the organization set up in the star's name in 1985, is running a social media campaign (http://bit.ly/12EP9kk) asking patients: "How do you show your #GRIT?"

It's looking for "individuals willing to share their personal cancer experiences." Of course, not everyone can or wants to face cancer with the Duke's brand of laconic stoicism. But as the man himself said, "When you stop fighting, that's death." PE

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