



# JOINING FORCES

Global partnerships enable big pharma to streamline drug development and refocus their efforts on core competencies.

BY SARAH FISTER GALE

**THE DAYS OF THE BLOCKBUSTER DRUG MAY SOON BE OVER.**

Pharmaceutical companies currently need to replace US\$65 billion worth of product expected to go off patent in the next four years, and their pipelines are not overflowing with promising replacements. For the first time in decades, an industry that has come to rely on billion-dollar products with healthy profit margins is being forced to rethink its strategy, not only for its continued success, but for its eventual survival as well.

Even after admirable efforts to streamline the drug development process from within, big pharmaceutical manufacturers—and their shareholders—are beginning to realize that it might require more than just leaner processes. Changing trends in drug research, competitive pricing and the lure of generics has forced some in the industry to replace the massive global infrastructure that made it so successful with a smaller, more agile business model that relies on partnerships to deliver key elements of the drug development process. To stay competitive, that means changing which drugs they develop and with whom they develop them.

### Mutual Benefit

At the heart of this new approach is the drive to replace big chunks of in-house development with external partnerships that give big pharma virtual access to new scientific and technological innovations, without having to take on additional overhead, says Ron Wooten, president of NovaQuest, the managed partnership group of Quintiles Transnational, in Durham, N.C., USA.

“Pharmaceutical companies need to cut costs, cut the time to bring a drug to market and better manage their risks,” he says. “This model of virtual drug development can allow them to achieve those three things in the context of accuracy of outcomes.”

Wooten notes that manufacturing and automotive industries embraced this virtual partnership model throughout their supply chains years ago, keeping their core skills in house and outsourcing or partnering activities that other businesses excel at. He thinks it’s taken the pharmaceutical industry longer to recognize the benefits of partnering because it hasn’t needed to change its model—until now. “When you have blockbuster drugs with gross margins of 90 percent, you’re not forced to be as efficient as you could be,” Wooten says. “A billion-dollar drug covers a lot of inefficiencies.”

However, fewer and fewer blockbuster drugs are coming to market, and it’s compelling big pharma to take a long, hard look at the empires it built. “In the past, drug companies needed to build massive systems to promote their drugs because there weren’t global suppliers out there,” Wooten points out. “But the business world has changed. Now there is so much pressure on earnings revenue that companies are forced to drop their prices, and they aren’t covering expenses the way they used to.”

Wooten says partnerships with external firms that specialize in key skills could reduce the development

costs and the timeline of one-off drugs by as much as 30 percent. And that reduction should only improve as time goes on and relationships strengthen. “With an integrated support system, you can work together on multiple projects and lower your costs.”

Not only does that improve the financial picture for big money-making drugs, it also opens the door to orphan drug development. “By implementing a more efficient and nimble network, and downsizing the massive overhead, drugs that have smaller commercial potential suddenly have a reasonable return on investment,” Wooten says.

But to do this, pharmaceutical leaders have to decide what their core competitive advantages are, and what

non-core skills they can more effectively transition to partners.

The pharmaceutical industry already does some partnering with contract manufacturers for drug production, but pharma needs to integrate these partnerships throughout other areas of the drug development chain, Wooten says. “CEOs and CFOs recognize that manufacturing requires hard asset investments, and they’d rather spend a million

dollars on research than on building a manufacturing plant,” he says. “But they haven’t recognized that they have the same risks in their development process.”

Investing in partnerships throughout the rest of drug development process means companies won’t need to staff up to support peak production and can focus their energies on their core, end-of-stage commercialization skills, he says. “It minimizes the risks of variable demand.”

### David and Goliath

These pharma-driven partnerships are beginning to take place throughout the supply chain, delivering strategic development expertise, data management technology and marketing skills. But the biggest buzz in the industry right now is around partnerships between big pharma and biotech.

Biotech research holds great promise for new, large-molecule drugs, and these efforts primarily are being undertaken by smaller, leaner biotech firms that have the flexibility and low overhead to discover innovative new drugs at a fraction of the price that pharma spends to develop its products.

The move to partnering with biotech is in part driven by financial investors who are clamoring for the pharmaceutical industry to invest more heavily in biotech, says Michael Harris, executive editor of BioWorld Publications in Atlanta, Ga., USA, and author of the

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2008 *BioPartnering Report*. “They are adamant about getting the technology in, to wrap up the pipelines and fill the coffers,” he says. “They see the old pharmaceutical model needs to change.”

“This is a new approach to drug development,” says Terri Cooper, Ph.D., principal and leader of the National R&D Life Sciences Practice of Deloitte Consulting LLP, in New York. “The old blockbuster model won’t fill the gap when existing drugs go off patent, so big pharma either needs to mimic the smaller biotech firms or partner with them to acquire the skill and technology they need.”

That doesn’t mean pharma should buy every promising little biotech company and absorb them into their vast in-house model. “It’s about changing the way they do R&D,” Cooper says.

It’s also about changing what drugs are developed. With current pipelines of one-off drugs drying up, pharma companies need to redirect research and development programs to focus on high-efficacy, pharmacogenomic-based therapies.

Although these drugs may not have the big up-front pay-off of the blockbusters, they promise to deliver a longer view of profitability, Cooper suggests. “Such treatments, and their higher demonstrated efficacy, may ultimately have the potential for higher per-treatment revenues,” she predicts. “Pharmaceutical companies that follow this new R&D approach will be well positioned to

reap the benefits of future R&D investments building the development pipelines required to compete in the next five years.”

Biotech is at the leading edge of developing this new crop of high-efficacy drugs, and partnerships between big pharma and little biotech are fostering a new drug development model in which each partner brings a unique set of talents, products and strategies to the table that gives both sides great opportunities to benefit.

On the pharmaceutical side, it enables big pharma to downsize infrastructure and overhead, and tap into the innovative and quick-thinking discovery-based approach to research that small biotech does so well.

Along with gaining access to promising new potential drugs, it may also reopen research into therapies that had previously stalled in development, Harris suggests. “Biotech is more innovative, and it hasn’t yet exhausted its technology,” he points out. “They may be able to take those drugs further or re-energize their progress.”

In exchange for this innovation, biotech companies benefit from the vast resources of money and expertise that big pharma brings to the table, enabling them to bring developments to market faster and launch related projects.

They are getting into these relationships sooner than ever before, which further benefits biotech, says Phillip Ledger, vice president of EBD Group in London, which runs global partnering conferences for the biotech and

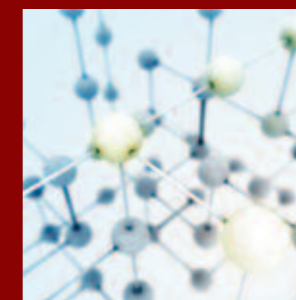
## SMARTER APPROACHES AND PROCESSES

### BEYOND ESTABLISHING MORE STRATEGIC PARTNERSHIPS AND

embracing a variable-cost business model, one of the answers to optimizing drug development is improving its actual processes.

“We look at all of our trials to determine where there are inefficiencies and breakdowns in the linkages so we can drive away the waste,” says Badhri Srinivasan, vice president and head of the enterprise transformation unit at Quintiles Transnational in Durham, N.C., USA.

Srinivasan and his team have a broad responsibility focused on process optimization, transformational change and innovation—all geared toward conducting trials more efficiently. He’s quick to point out that this focus encompasses the entire spectrum of a development lifecycle, from the very beginnings of a trial and eventually into the post-marketing arena. Using data, analytics and data modeling, the group’s research into a number of cross-functional development processes is already leading to more efficient solutions.



For investigative site selection, for example, Srinivasan says that Quintiles doesn’t just pick sites from a long list.

“We actually model site performance and consider what factors are predictive of sites that would perform well versus those that would not perform well,” he says.

With that data in hand, the company can then prioritize and choose to only select those sites that have—from a predictive model—a high probability of success.

“That will of course narrow down what we pick, but those that we do will be the most productive.” The end result of this effort has been a 7 percent reduction in the amount of sites that don’t recruit any patients, Srinivasan says.

“At the end of the day, what we’re looking to do is be more consistent in our service delivery, how we can be faster and cheaper, and how we can contribute to regulatory approval.”



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pharmaceutical industry to identify business opportunities. “There is an increasing competition for products, which is pushing the deal stage earlier and earlier,” he says.

That can help lessen the risk for small companies that have everything riding on the success of a single product. “If you can partner early enough and share in the development and diversify, you can create your own mini pipeline,” Ledger says.

This early partnering trend is causing a lot of excitement among small biotech companies that are suddenly holding a lot of power, Harris adds. “Biotech recognizes that pharma needs to invest earlier in the development process, and they are beginning to capitalize on that.”

These partnerships hold greater benefits than going after pure venture capital, he points out. “With venture

capital you are tied to significantly more milestones, making it difficult to get to the next round, whereas big pharma may be more flexible.”

Big pharma also offers experience, guidance and the expertise of a global company that understands the drug development process, Cooper notes. “If it’s a collaborative relationship, the biotech company can pull on the resources of the pharmaceutical company. That’s a great value.”

However, all of this innovation and success is contingent on one important element of the relationship—the pharmaceutical company needs to invest in biotech’s processes and embrace their creativity and culture.

If pharma companies are not interested in collaborations or haven’t mastered the art of arms-length management, they can suffocate the smaller firm with their bureaucracy and structure. “If pharma tries to instill the blockbuster model on the biotech partners, I see problems,” Harris says. “But I don’t see the financial backers allowing that. The primary mission right now is to get a hold of biotech innovation through these licensing agreements and leave the biotech companies intact.”

#### **Alliance Management**

That’s easier said than done. When a multi-billion dollar global organization partners with a 20-person start-up firm where each person has authority over multiple tasks, there are bound to be some adjustment issues, says Dr. Debbie Allen, director of Andiamo Biotech, a biotechnology consulting firm in Cambridge, U.K.

“It’s not just about taking the knowledge from the biotech company and installing it in the pharmaceutical company. The only way to translate biotech expertise to big pharma is through a proactive hands-on alliance,” she says. “If biotech is not entrusted to do what it does best, then the value it brings to the alliance is only the technology—not its knowledge and skills.”

Defining that alliance is the tricky part, Harris notes. “The big challenge for pharma is learning the skills of collaboration. It’s a whole new mentality.”

One of the reasons large pharmaceutical companies invest in smaller biotech firms is to take advantage of their agility and innovative decision-making. On the other side, small biotech firms are drawn to the expertise, experience and processes that a larger, established pharmaceutical company can bring to the relationship.

“Biotech innovation has to be able to flourish and benefit from the cash, infrastructure and support that pharma brings to the partnership,” Allen says.

For the partnerships to be successful, both companies need to compromise and allow the other to do what it

does best. “It requires a lot of education on both sides to make it work,” Ledger says.

The most successful pharma-biotech partnerships establish expectations for communication, tangible deliverables based on incremental accomplishments, and clearly defined milestones and exit strategies—before the deal is signed. “Having a work plan to guide both parties through the early stages of the alliance is extremely helpful,” Allen says. “It defines obligations and responsibilities as well as the criteria for success, and both sides can commit to it. When you have that, it’s much easier to build the relationship going forward.”

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#### **Shared Vision**

There also has to be a sense of trust and understanding between both parties, notes Dr. Jeffrey M. Ostrove, president and CEO of Ceregene, a San Diego, Calif., USA-based biotechnology company that develops gene therapies for neurodegenerative disorders. Ceregene recently partnered with Genzyme, which made an upfront payment of US\$25 million to support Ceregene’s successful development of its CERE-120 treatment for Parkinson’s disease. Genzyme will potentially invest another US\$125 million in development-related milestone payments.

Ceregene had already raised significant capital and had seen early successes with its research, but Ostrove knew that if it partnered with a larger firm, the company could bring CERE-120 to market sooner. “That’s what big pharma does,” Ostrove says. “They have tremendous resources when time is the most important thing. They bring the infrastructure, the expertise and the money, and they can do all the later-stage things that a small company doesn’t have experience in.”

However, Ostrove wasn’t about to partner with the first big company to make an offer. He met with several potential partners, weighing the pros and cons of each relationship before making the deal with Genzyme in June 2007.

“At the end of the day, Genzyme had a long-term commitment to gene therapy, so they understood the challenges first hand,” he says of the decision, noting that Genzyme’s experience dealing with the regulatory issues around gene therapy products was particularly appealing.

Ostrove also felt a kinship with the bigger company and its leaders, which helped seal the deal. “David Meeker [president of Genzyme’s Lysosomal Storage Disorder Therapeutics] and I share the same philosophy. There is a synergy between us and that’s a big part of

this partnership,” he says. “If I’m going to give up the rights to a product, I want to be sure we see eye-to-eye and have a common vision.”

That chemistry kicked off the relationship, and it continues to prosper under the careful guidance of a joint steering committee that includes three high-level executives from each company.

Together the committee developed communication expectations, and timelines for deliverables, resource allocation and milestones. “We put a system in place without the bureaucracy,” Ostrove says. “Genzyme understands that we are a nimble company that can make changes quickly, and they are committed to keeping it that way.”

The steering committee has monthly phone conferences to discuss progress, problems and operational issues—with more frequent meetings during clinical trials. They also meet face-to-face twice a year to do longer term planning and review. “There is a lot of open communication between us, and when issues arise we bring them to the table and they get dealt with,” Ostrove says. “They aren’t Genzyme problems or Ceregene problems; they are our problems.”

Ostrove also notes that Genzyme has not tried to take over product development. The two companies work together to run clinical trials and achieve milestones. “We didn’t throw the product over the fence and let them handle it. We are all hands-on with this.”

That kind of trust, communication and relationship building is what makes a successful partnership in the pharmaceutical industry, Allen says. “It’s an interesting challenge for big pharma, but some companies are getting more on board with it and making it work.”

#### **Competitive Advantage**

It remains to be seen whether these partnerships will permanently change the way drugs come to market, or whether it’s a transitional phase for big pharma as it figures out how to bring the innovation of biotech to its own in-house resources.

In the meantime, however, companies that can develop successful relationships and implement strong alliance management will maintain the competitive advantage in the near term, Wooten says. “It will be the differentiator,” he says. “Those companies that successfully partner will be able to deliver more product at the same cost in a shorter timeline.”

And for the pharmaceutical industry, that’s definitely a formula for success. ←