

# David R. Parkinson, MD

Senior Vice President, Oncology R&D, Biogen Idec

by Nancy J. Ciancaglini



David R. Parkinson, MD

M.D. Anderson Cancer Center, University of Texas, Houston, Tex., and at New England Medical Center, Tufts University School of Medicine, Boston, Mass.

His numerous professional affiliations include currently serving as a member of the National Cancer Policy Forum of the Institute of Medicine, on the FDA's Science Board, and on the Board of Directors of the American Association for Cancer Research. Dr. Parkinson is married with two children, lives in La Jolla, Calif., and works in nearby San Diego.

David R. Parkinson, MD, joined Biogen Idec in March 2006 as Senior Vice President, Oncology Research and Development, and oversees all oncology discovery research efforts and the development of the oncology pipeline for the company.

Before Biogen Idec, Dr. Parkinson held senior oncology positions at Amgen and Novartis, where he was responsible for clinical development activities leading to a series of successful global drug registrations for important cancer therapeutics, including Gleevec® [imatinib mesylate; Novartis], Zometa® [zoledronic acid; Novartis], Femara® [letrozole; Novartis], and Vectibix™ [panitumumab; Amgen].

Prior to working in industry, Dr. Parkinson served as Chief of the Investigational Drug Board and then Acting Associate Director of the Cancer Therapy Evaluation Program (CTEP) while at the National Cancer Institute (NCI) from 1990-1997. Earlier in his career, he held academic positions at

In the Q&A that follows, Dr. David R. Parkinson, whose career includes work in academia, the public sector and industry, tells us about oncology drug development at Biogen Idec and how

his R&D team fits into the big picture there, gives us his insight on the industry, and more. We even find out who he most admires.

*“The sheer number of new agents, and the finite number of clinical investigators increase the necessity of operating globally...”*

**OBR:** *Before Biogen Idec, you were at Amgen and Novartis. What’s changed over the last 5 to 10 years in determining how the industry shapes oncology drug discovery and development programs?*

**DP:** From a number of perspectives, oncology drug development has changed greatly. The remarkable progress in our understanding of the pathophysiology of cancer reveals new insights into the successes and failures of current anti-cancer agents, and presents an ever-expanding range of potential new targets and treatment approaches for therapeutics development.

In parallel with the biological progress, is the advance of technologies for generating therapeutic agents against these targets, whether small molecules, engineered antibodies, or recombinant proteins. Similar technological advances are allowing us to more accurately characterize the biology of tumors from individual patients, to better understand the relationship between underlying pathophysiology and response to biologically-targeted agents.

This process is leading to the reclassification of cancers in ways more meaningful for the application of the new classes of therapeutics. An irony is that just as these advances are broadening the possibilities for therapeutics development, numerous practical issues make the actual development of new therapeutics increasingly challenging. These range from the increased bureaucratic burdens associated with the actual conduct of trials—increasing delays and obstacles related to contract and intellectual property language in arrangements with trial sites as well as the remarkable hurdles to the conduct of clinical research resulting from the privacy initiatives enacted within the US in recent years.

The sheer number of new agents, and the finite number of clinical investigators willing and able to conduct clinical trials, conspire to make the conduct of trials more difficult, and increase the necessity of operating globally. Finally, the pace of change in oncology clinical practice, while reflecting progress in cancer

treatment, brings significant complexities in the design and conduct of registration-directed clinical programs, made even more complex by the increasing and appropriate need for such programs to establish a societal niche for the new therapeutic through the conduct of quality-of-life and pharmacoeconomic studies.

Cancer, as an area of significant continuing unmet medical need, still represents a perceived major area of opportunity for the drug development industry. However, it is my belief that, as a drug development community, we need to work together to decrease some of the difficulties I’ve referred to in order to maintain oncology as a preferred area for therapeutics development.

**OBR:** *How have your professional affiliations in the public sector, 7 years at the National Cancer Institute (NCI) for example, influenced or benefited what you do now? Is there any downside there?*

**DP:** I still recall with great pride and sense of accomplishment the years I spent at the NCI. The pharmaceutical and biotechnology industry’s interest and capabilities in oncology drug development were not what they are today—we, in the Investigational Drug Branch and the Cancer Therapy Evaluation Program, were able to bring together clinical investigators with potentially interesting agents from NCI or from industry. This led to drugs including TAXOL® [paclitaxel; Bristol-Myers Squibb] and trans-retinoic acid.

Our supply of investigational and approved agents to the cooperative groups led to the range of studies which represent the cornerstones of current medical oncology. They were great years and I still keep in contact with my former NCI colleagues as well as the community of national and international clinical investigators with whom we interacted over those years. I still interact with NCI, an institution for which I have great respect; I served on the Clinical Trials Working Group, and have been appointed to the new Clinical Trials Advisory Council. **cont. on pg 50 >>**

**OBR:** *What can you tell us about your team and about how oncology R&D fits into the big picture at Biogen Idec?*

**DP:** About two years ago Biogen Idec made a strategic decision to focus around the specialty areas of oncology-hematology, neurology, and immunology. A Strategic Business Oncology Unit, headed by Faheem Hasnain, was created, and is based in San Diego. I joined a year ago as Senior Vice President, heading an integrated Oncology Research and Development (R&D) group, also in San Diego, but with R&D both in San Diego and Cambridge, Mass., and with clinical trial operations based at both sites and outside of London.

Our integrated R&D team interfaces closely with the commercial oncology organization in San Diego, and with corporate R&D, headed by Cecil Pickett, who joined us in 2006 from his previous R&D leadership role at Schering-Plough. Over the last year, we have reviewed and prioritized the entire oncology portfolio, stopping several programs, and re-focusing and re-emphasizing others.

Biogen Idec acquired Conforma Therapeutics just before I joined the company; the addition of the range of Hsp90-targeted small molecule projects, as well as the addition of talented scientists, has greatly strengthened our Discovery Group. Our group is responsible for developing a rich oncology portfolio, supporting our commercial colleagues, and contributing to the productivity of corporate R&D. We interact closely with colleagues in other therapeutic areas—for example, in the last few months we have spun one project into the Neurology Discovery area, and brought in another from Neurology for study in the cancer setting.

**OBR:** *Chief Executive Officer and President James C. Mullen recently summed up the company's business philosophy: "Focus on finding great products and we can focus on commercial solutions in fairly short order." How does that translate into what's currently in your oncology pipeline and what your priorities are for products in development?*

**DP:** Jim's comments reflect our emphasis in oncology entirely. We are an R&D organization focused on the efficient translation of new biology into clinically useful products. Oncology is a therapeutic area in which drug development can move quickly if the appropriate clinical setting can be found for the biology subserved by a particular biologically-targeted agent. What that translates to in our hands is biologically-driven drug development;

allowing our understanding of tumor biology to drive the direction for the clinical development of our agents.

This means looking for homogeneous patient groups if they can be identified, in order to more accurately understand the characteristics of our therapeutic, including establishment of proof of concept and developing confidence around dose and schedule. In parallel, we try to identify larger patient populations which might benefit from the application of the agent, but which may be less well understood biologically. These trials may take longer, but the risks may be better managed by experience with the first development path.

Currently we have products at all stages of development. In late stage registration-directed trials are two antibodies against hematological malignancies, galiximab, an anti-CD80 antibody against non-Hodgkin's lymphoma and Hodgkin's disease, and lumiliximab, an anti-CD-23 antibody against chronic lymphocytic leukemia. In middle-stage development is an antibody against alpha 5beta1 integrin which we are co-developing with PDL BioPharma as an anti-angiogenic and anti-tumor agent in a range of solid tumors. In early development we have a range of interesting new agents; of particular interest are the small molecule Hsp90 inhibitors which I referred to earlier. I believe this class of therapeutics may become extraordinarily important in the next few years

**OBR:** *Biogen Idec's goal is to make the leap from being a top US company in hematologic tumors to being a global leader in oncology encompassing discovery, development and commercialization. Can you provide us with a snapshot as to how you're accomplishing this, particularly through your in-licensing agreements and acquisitions?*

**DP:** In addition to focusing on biologically-driven oncology therapeutics development as mentioned, and also concentrating on close interactions between R&D and the commercial sides of the organization, we are actively searching for licensing and acquisition opportunities beyond the growth of our organic pipeline. In addition to acquiring Conforma last year, we have active partnerships with PDL for volociximab (M200) development and with Sunesis Pharmaceuticals for small molecule development of signal transduction inhibitors. We have an ongoing relationship with Genentech and Roche with respect to our shared anti-CD20 franchise. We believe that we can

bring significant economic and technical strength to partnerships; we're proud of our reputation as a good partner, which we believe gives us a competitive advantage in forming such interactions.

**OBR:** *Over the next 5 years, Biogen Idec's overall global R&D investment will be \$5 billion. How much do you estimate will be allocated to oncology R&D and what programs will take precedence?*

**DP:** I don't know what fraction will be allocated to oncology—to date the company has been very supportive in our efforts to build a world-class oncology R&D organization. It's our responsibility to identify to the best of our ability opportunities for successful and efficient development of clinically and potentially commercially meaningful oncology therapeutics. If we're able to identify and represent accurately these projects to upper management, and demonstrate our ability to execute these projects, then the resources will be forthcoming.

**OBR:** *Has the company's corporate ventures group, which has to date invested \$37 million in 16 different companies, made any significant investments in emerging biotechs that will drive oncology product discovery and development?*

**DP:** We work closely with our corporate ventures group to evaluate potential oncology-related investments. I suspect that you will soon begin to see the fruits of previous and ongoing investments in the form of early stage projects with significant therapeutic possibilities.

**OBR:** *When you're not working, what's your favorite thing to do?*

**DP:** I enjoy a wide range of interests, limited only by available time. I collect books related to the development of ideas around the concept of evolution. At one point, I had a great interest in marine biology, translating into invertebrate salt water aquaria in the basement. When I joined the industry, the time and travel commitments meant that I needed to revert to a hobby that wouldn't die when I went away, so I've focused on book-collecting! More recently I've also become quite interested in photography.

**OBR:** *What's the best book you've read in the last year?*

**DP:** "Landscape and Memory," by Simon Schama

**OBR:** *Do you have someone you consider to be your hero? Why?*

**DP:** Charles Darwin—a synthesizer of ideas who brought new perspectives to the work and the ideas of others, opening the door for the work of future scientists.

**OBR:** *What do you consider to be your greatest accomplishment either personal or professional?*

**DP:** From a professional perspective, the people I've helped to develop in their careers. Dating back to my days in residency and fellowship training, and extending into my academic, government, and industry careers, I've always made it a personal priority to help advance the careers of individuals who showed promise. I'm also proud to have played roles in the development of important drugs like all-trans retinoic acid, Gleevec®, Zometa®, Femara®, and Exjade® [deferasirox; Novartis]. Personally, we have two wonderful children, of whom I'm very proud.

**OBR:** *What word would best describe you?*

**MK:** Enthusiastic.

**OBR:** *Looking forward, if the situation were ideal, what would you like to see happen in the industry in terms of the research and development of cancer drugs?*

**DP:** A concerted joint effort involving industry, government—scientific and regulatory—and academia to improve the tools of doing clinical research, ranging from biological characterization technologies through standardizations of definitions and data collection to the qualification of biomarkers in the evaluation of therapeutic development. Many efforts are ongoing, but they remain uncoordinated and under-supported. Until we achieve some of these efficiencies, the clinical development of new cancer therapeutics will remain expensive, risky, and intolerably slow-paced. **NIC**