

## NOTABLE CANCER CENTER MEMBER

**Charles Bennett, MD, PhD, MPP**



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**W**hen an airplane crashes in the mountains or a train runs off its tracks, the National Transportation Safety Board is on the scene within hours, sifting through debris and piecing together an explanation of what went wrong. Their response usually leads to recommendations on preventing a future occurrence. Charles Bennett, MD, PhD, MPP, would like to see the Food and Drug Administration be accountable to a similar oversight agency.

Bennett, Professor of Hematology/Oncology at Northwestern University's Feinberg School of Medicine and Co-Director of the Cancer Control Program at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University, is one of the few physicians in the country with a doctoral degree in public policy. He uses it to bring his work not just to his patients, but to the general public. The most rewarding experience for Bennett is when his insight allows him to use the smallest details to explain patient conditions and to find solutions to more extensive problems.

“With this knowledge we can better care for patients in the broadest sense and in the most microscopic way,” he says. “We can describe what the patient looks like clinically and how their symptoms occurred.”

As the leader of the country's strongest programs on adverse drug side-effects and the only one that is focused in the area of oncology, Bennett believes that drug companies and the

FDA underreport instances of deaths from side effects. For example, although the chance of developing thrombocytopenic purpura (TTP) from the popular drug Plavix is reported to be 4-in-1-million, he says that in reality the risk is 25 times greater.

Bennett cites a recent Federal report estimating that one percent of all pharmaceuticals are counterfeit—with a particularly large quantity being distributed to cancer patients. He’s made an effort to bring one of the largest counterfeit efforts ever—a Miami ring that distributed 110,000 counterfeit vials of Epogen and Procrit.—to the attention of clinicians. Bennett continues to lobby the FDA to change its approach to investigating these drugs. “Right now, the FDA says to keep doing what we’ve been doing, only better,” he says. “We need an independent committee, and that’s where public policy comes in and asks how to fix the system.”

Working closely with investigative reporter Katherine Eban enabled Bennett to interview one physician whose seventeen year old patient complained that his anemia was not responding to the Epogen purchased from a Manhattan pharmacy. The physician said that it was virtually impossible to detect that the weekly injections of Epogen the boy was receiving were counterfeit. The vial did contain Epogen, but the dose of the genuine drug was only one-twentieth of what was stated on the label. “The FDA can’t go to every drug store and make sure the drug is what it says it is,” Bennett says.

Bennett frequently meets with resistance from both drug companies and doctors. Many doctors don’t know when to suspect a counterfeit drug has been taken, and few want to wade through the extensive paperwork required to report counterfeit drugs or their adverse side-effects. Bennett has presented his findings at the FDA several times, and collaborates closely with their safety personnel. At the same time, he has been able to help drug companies save millions of dollars from potential lawsuits and made it safer for people to take medication, by encouraging drug companies to add black box warning labels to their products. “If we hadn’t done it, no one would do it,” he says. “People think drugs like Vioxx are being closely monitored, and they’re not.”

Studies of side effects and advocacy for

changing labels and practices has brought Bennett attention from mainstream media, including Chicago’s PBS station, which featured him in a 2001 report that asked, “Is the FDA releasing drugs too fast?”. He has been described as a “sleuth” for his work that, among others, prompted Plavix to warn against TTP.

In addition, Bennett published a paper in 2004 in the *New England Journal of Medicine* describing how some patients who took the anemia prevention drugs came down with Pure Red-Cell Aplasia, a rare form of severe anemia that requires blood transfusions three or more times per week. Curiously, these patients were located almost exclusively in France, England, Canada, Spain and Italy. The study found that the formulation of the drug distributed in the United States was safe, but the formulation that was distributed in Europe, Canada, and Australia was not. Even more startling is the fact that the side-effect occurred only when dialysis patients received the problematic formulation of the drug as an injection. There was no problem in other countries where the drug was given to dialysis patients as an intravenous injection. Bennett’s findings were read by national policy makers, resulting in the mandate that all patients receive the drug intravenously. No other patients have developed this rare side-effect since that time. “I take special pride in that paper,” he says. “It’s the perfect marriage of science and public policy.”

Bennett’s research began when a family friend developed TTP after taking a popular aspirin-like drug for two weeks and wound up on a ventilator at Northwestern Memorial Hospital. He went on to identify 60 more people who experienced the same result, 20 of whom died as a direct consequence of this side-effect. It soon became clear to Bennett that identifying rare but potentially fatal side-effects of drugs could benefit not just his patients, but thousands receiving treatment around the world.

Long dedicated to looking at the humanistic side of medicine Bennett, whose own father died due to an adverse drug side-effect, believed it was important to bring the information gained from his friend’s experience to the public. He began to review cases of pure red-cell aplasia, TTP and other rare and fatal or near-fatal side-effects of commonly prescribed drugs, and fought to raise awareness among

patients and the Federal Drug Administration. “I try to put together projects from the bench to the world,” he says, “whereas the traditional MD goes from the bench to the bedside. It’s a rather unique niche.”

Bennett, who is also Associate Director of the Midwest Center for Health Services and Policy Research at the VA Chicago Health Care System-Lakeside Division and Co-Program Leader of the Cancer Control Program at the Robert H. Lurie Comprehensive Cancer Center of Northwestern University, first formed an interest in public policy while training to be a hematologist in the 1980s, when the AIDS epidemic first hit. “Hematologists were at the forefront of treating AIDS patients,” he says. “We had to deal with a number of challenges. It was one of the strongest social and political issues at the time and it was a strong motivator to think beyond science.”

As Bennett expanded his medical thinking to include broader issues, he returned to school, finishing a PhD in public policy at RAND Graduate School while continuing to see patients. “Few people practice both of these disciplines,” he says. “Public policy usually doesn’t sit in with medicine. To have a public policy PhD sitting in the medical arena is far from the rule.”

Bennett has published more than 250 articles with collaborators around the world, including a study on eradicating hepatitis B from Taiwan with 1976 Nobel Prize winner (Physiology of Medicine) Baruch Blumberg. He has published with colleagues in Italy and France and worked on studies involving healthcare in the Czech Republic, Austria, Finland and Hong Kong. He is an active member of ASCO, ASH and NCCN, has served as an adviser to the World Health Organization and the Institute of

Medicine and is an associate editor of the Archives of Internal Medicine. He chairs a national study section of the American Cancer Society and participates in study sections for the Veterans Administration and the National Institutes of Health.

Whether it’s working with colleagues around the world, delving into FDA and patient databases or taking his six-year-old son to Cub Scout meetings, Bennett remains focused on how he and his work can affect people in a positive way. His work in the Jesse Brown VA Hospital has expanded this goal. What began as an interest in how medicine affects hot-button social issues has evolved into searching for new ways to have an impact on medical care. His interest in public policy has grown to include studying economic and quality-of-life issues, improving cancer screening for low-income populations and studying how literacy issues and racial differences affect cancer screening. He produced a video, “Get Smart, Get Tested for Colon Cancer” that starred four World War II veterans –actual VA patients – discussing the benefits of getting tested for colon cancer. The video is one example of his work that studies oral histories of veterans with colon cancer. Bennett says one tough aspect of treating veterans is that they often do not have access to information and treatments that many people take for granted. His work has made it easier for these patients to receive information, and persuaded others that there are facets of medicine to consider beyond treating symptoms.

“We want to win the war against cancer not only in physiology, but also on the human side,” he says. “If we save just one life, I feel good. We don’t have to hit a home run every time. We don’t have to save thousands of lives. Just one is enough.”