A physician asks a pharmaceutical sales rep how well one of her company’s drugs works. She says that it performs about as well as similar medications on the market but costs almost twice as much. Oh, one more thing—patients who take the drug are likely to end up constipated for a week, she adds matter-of-factly, using less polite words.

Sound unreal? It is. What I’ve described is a fictional scene from the independent film *Side Effects*, written and directed by Kathleen Slattery-Moschkau, a young pharmaceutical sales rep who became disillusioned with her vocation. Slattery-Moschkau releases her film as issues of transparency in the pharmaceutical industry come to the fore. Most worrisome has been the selective reporting of clinical trial results. Also insidious: promoting the use of drugs for conditions or populations in which these drugs haven’t been proven effective or safe. In one such case, a medication for gastro-esophageal reflux, approved only for use in adults, has been blamed for a number of infant deaths.

Some pharmaceutical companies have volunteered to register the results of their clinical trials, yet some are concerned about revealing trade secrets. Creating a culture of openness in a highly competitive, litigious, and market-driven environment is not a facile undertaking. But here are a couple of excellent first steps.

First, it should help to have everyone playing by the same rules. The International Committee of Medical Journal Editors now requires anyone interested in ultimately publishing results to publicly register a phase 3 clinical trial at its start, not after the results are in. Need it even be said that we can’t continue having physicians prescribing medications that, unbeknownst to them, others suspect could be harmful—or a waste of money?

Now the National Institutes of Health is implementing a strategy for encouraging openness on the other end of the drug-development path. The agency has established a network of university-based laboratories to develop molecular-screening libraries that promise to accelerate the rate of drug discovery while making information gleaned available and free to all. Pitt is one of nine institutions in this network that will use highly sophisticated, high-throughput robotic systems to synthesize many tens of thousands of molecules and then screen each of these, using high-throughput assays, for their efficacy and toxicity as drugs. We’ll be searching for molecules that interact in interesting ways with cellular targets. Does a given molecule make a cancer cell stop dividing? An inflammatory cell stop inflaming? The end result of this coordinated national effort will be a bank of millions of compounds and much new insight into fundamental biology. With this bounty, coupled with our knowledge of pharmacogenetics, we’ll learn ways to identify who might be harmed by a given medication and who might be helped. (Not everyone is likely to suffer a heart attack from Vioxx, for example. Most feel better because of it. The hard part is figuring out who is who.) In a few years, drug discovery and testing will look very different than it does today. I’m thrilled that Pitt is taking on such a significant role in what will be a prolific time in biomedicine.