More public opinion

To the editor:

Bernhard Zechendorf's most thorough "survey of surveys" on public opinions about biotechnology (*Bio/Technology* **12**:870-875, September) probably raises more questions than it answers—and they are crucially important questions. These surveys reveal wide measures of trust and support but also understandable and well-justified concerns and anxieties. Furthering the debate and public understanding is undoubtedly the key, as I think everyone agrees, but it is a key only to be turned by pro-action, sensitivity, and open discussion. But if one is a scientist, or a company, or a government policy-maker, or an educationalist, or whatever, one needs rather more information on which to base one's endeavors in these directions than is provided by these surveys.

Surveys, as Zechendorf points out, "paint a 'big picture' of the public's opinion." They provide incomparable "snapshots" in time of the opinions of those surveyed in particular geographical areas. Almost inevitably, therefore, they lack the depth and detail of information required for the planning and carrying out of any strategy in mind. They lack the element of dynamics over time—the "how" and "why" of changes. They lack meta-analysis, for example, of similarities and dissimilarities between countries in their varying social contexts. They lack any evaluation of the effect (or lack of it) of those initiatives which have already been undertaken. The big questions still remain of "What do I do?" and "How?"

There are, however, attempts to remedy this situation. The European Federation of Biotechnology Task Group on Public Perceptions of Biotechnology was set up to take positive initiatives, such as its series of briefing papers on key issues in biotechnology and its handbook on sources of information for non-specialists, to monitor changes in public opinion in different countries, to provide information useful and usable for designing and executing communication strategies, and to evaluate such actions.

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Clinical trials

To the editor:

Stephen Edgington's article in *Bio/Technology* (**12**:977-981, October) makes much of failed clinical trials. But really, what does anyone expect is going to happen? A clinical trial is, after all, an experiment—its result is not a foregone conclusion.

Of course, not every single clinical trial undertaken by biotechs is perfect, the odds are always stacked against any new drugs. Even the best of trials can yield negative results. Just three of every ten new chemical entities survive phase I, and two out of the three survivors will not be up to much in later phases. This includes all the me-toos that everyone derides, but which are actually lower risk projects than what biotech is trying to do.

Biotech is more chancy than the traditional pharmaceutical industry. Its products chart new territory. Disease indications are also generally new. And biotech often tries to cure rather than to palliate disease. Preclinical evaluation of the products, if at all possible given the immunogenic potential of human proteins in animals, is not well worked out. The biopharmaceutical industry is probably not doing much better or worse than the big companies.

Worse still, clinical development programs seem to be driven by the demands of the financial community. Some investors seem not to appreciate the role of research in stripping out risk and adding value. A great story in someone's head or in the test tube is no substitute for solid research and development. Furthermore, one-product companies cannot play the numbers game. We suspect that half the problem is that companies are pressured into the clinic on the basis of inadequate basic research. Back to the bench, we say.

The spectacular successes of biotech have mostly been souped-up hormones or enzymes—EPO or Neupogen, Activase, Pulmozyme, or Ceredase—used in disease processes where mechanisms of action are straightforward. However, companies that seek to tinker with complex cascades of cytokines, neurotransmitters, parahormones, whatever, have got to be cruising for a bruising. Roche and Triton/Berlex found therapeutic uses for α and β interferons, respectively, but they had to try long and hard—we believe they were lucky.

"It should cure most of the ailments known to man, but more importantly, it grows hair."

The frightful hand-wringing over failed clinical trials should stop. No matter what anyone does, there are going to be failures. Everyone—the biopharmaceutical industry, the investment community, and even your editors—should understand the reality of the game of roulette being played.

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