More than any social scientist I know, Stein has immersed himself in the academic culture of clinicians and patients for the past 20 years. He did not bring with him a means of escape from us, no secret weapons to mollify our stubbornness, no connections to powerful deities who could rescue him when the going was tough, no luxury of convenience or comfort beyond our common experience. He gave us his best in order to be among us and with us in an honest way.

Stein's method, his chosen vulnerability, keeps his psychodynamic theory in line with experience. Any judgments that might derive from the theory are immediately correctable by what emerges in the daily tasks of the method. Overinterpretation is counterweighed by life. What he chooses to write about are patients and clinicians whose prototypes are known to every practicing clinician. They are not irregular, extreme, or bizarre; they are the stuff of everyday work, troublesome but not exotic.

What he does is help clinicians and patients discover and invent their own stories of life, of illnesses, of their relationships with each other. The painstaking reconstruction of these stories, which through direct observation and conversation are tried, refined, and sifted, occasionally leads to cure, sometimes to healing, and usually to some better grasp of the truth about what happened and what continues to happen.

It turns out that what happens between clinicians and patients is paralleled between teachers and students and clinical supervisors and residents. Not infrequently, it is also reflected in the relationships among clinicians in a group, and between practitioners and the larger profession, what Stein calls the culture of medicine. How society and its professions interact, what they believe and value, always filters down to patients.

Stein's three books, recently published, compose a trilogy that reinforce each other. Of the three, *The Psychodynamics of Medical Practice*[1] contains the basic description of clinical work and should be read first. *Clinical Stories and Their Translations*,[2] coauthored with Apprey, is an advanced reader for the theory and method in action with real patients. *American Medicine as Culture*[3] shows how the larger system of medical care is influenced by and influences the work of clinicians.

I believe that Stein's works should be included in medical education at all levels. He has captured fundamental ideas from the history of medicine and medical practice, mixed them with a theory and a method, and produced a nourishing and humane diet of clinical skills that are sorely needed at this stage of medicine's evolution into technological captivity. He is not antitechnological, by any means, but he offers us a way to preserve the personal dimensions of medical care in the interest of better therapeutic effectiveness, better patient satisfaction, and better professional gratification.

G. Gayle Stephens, M.D.
Birmingham, AL

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Outcomes Research, Patient Preference, And The Primary Care Physician

The report from the Washington Family Physician Collaborative Research Network (WFPCRN) by Berg in this issue of the *Journal* tells a familiar story in a new and important context. By and large, the studies of variations and outcomes research have concentrated on the "big ticket" items, on the evaluation of alterna-

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Submitted 24 May 1991.

From the Department of Community and Family Medicine, Center for the Evaluative Clinical Sciences, Dartmouth Hitchcock Medical Center, Hanover, NH. Address reprint requests to John E. Wennberg, M.D., Department of Community and Family Medicine, Center for the Evaluative Clinical Sciences, Dartmouth Medical School, Hanover, NH 03756.

tive treatments for common conditions, such as angina pectoris (surgery versus angioplasty versus drugs), low-back pain (surgery versus medical management), and prostatic hypertrophy (surgery versus watchful waiting versus balloon dilation versus drugs). But practice variations are ubiquitous: an inadequate clinical science fails to understand the outcome probabilities of the growing numbers of alternative treatments available for a given condition; physicians fail as vicarious interpreters of the needs or wants of patients; in turn, professional uncertainty about effectiveness and the entanglement of professional preferences for treatments or outcomes with those of their patients support widespread, supplier-induced variations in the patterns of practice.

Berg and his colleagues examined variations in the way primary care physicians manage lower urinary tract infection. The approach was to ask for treatment recommendations for hypothetical patients, the first of whom was a 30-year-old woman, established in the practice, with a 1-day history of urinary tract symptoms. Berg reported, "There were 82 different treatment regimens recommended by the 137 respondents, representing nearly every possible permutation of antibiotic . . . , dosage, [and] treatment length (single dose, 3 days, 7 days, 10 days, 14 days)."p 328

What lies behind this incredible "speciation" in the rules of practice? The problem rests in part in the failure of the process of clinical science. While the regulatory discipline imposed by the Food and Drug Administration may assure that antibiotics possess "efficacy" in the abstract, the lack of attention to the ways drugs and antibiotics are actually used once available in everyday medical practice means enormous gaps in the scientific basis for clinical decision making. The remedy for poor science is better science. I agree wholeheartedly with the recommendation of Berg and his colleagues that the next step should be outcomes research, conducted in the "laboratory" of the practice network.

As we learned in our assessment of prostate disease,[1] practice networks, such as those maintained by the Maine Medical Assessment Program, are essential for the efficient undertaking of such research. The first step is to make the theories behind the differences in practice styles explicit: practice networks provide the necessary forum for the discussion of practice theories, the opportunity for physicians to explain their differences in opinion, to put their assumptions and theories of effectiveness on the table for critical review. The second step is to investigate what other researchers have found: what does a careful, structured review of the medical literature say about these differences? Which can be discarded on the basis of available information? Which require further data? The next steps put the unresolved conflicts in theory to the empirical test: the outcomes that matter to patients are identified, measures are developed, and outcomes are studied. For the issue raised by Berg and colleagues, the WFPCRN is the essential laboratory where these studies must occur.

But missing information about "correct practice" is not the only reason for the practice variations. As greater sophistication is gained in the understanding of practice variations and outcomes, it becomes apparent that many clinical problems have several valid treatment options and that the outcomes differ, both in nature and in their import to the individual patient, according to choice of treatment. The outcomes research agenda thus emphasizes the importance of patient preferences for risks and outcomes in the choices among treatment options. It emphasizes the need to replace the old model for clinical decision making, in which patients delegate choice to the physician and physicians guess the preferences of patients, by the shared decision making model, in which patients actively participate in the choice of treatment. The study by Berg exhibited evidence that the entanglement of physician preferences with those of patients was a major source for practice pattern variation: the researchers showed an incredible variation in opinion among family physicians about how their patients felt and what their patients wanted: 26 percent of physicians believed patients with urinary tract infections felt better when they took a multiday course of drugs, whereas 33 percent thought patients preferred a one-dose treatment. Such differences in opinion can be resolved only by asking patients what they want, and then, surely, we will find that not all want the same thing.

The understanding of the structure of clinical choice made possible by outcomes research thus opens wide the dilemma of choice and the opportunities facing the primary physician. Primary care physicians, by virtue of their role as advisors to patients, bear a special responsibility for the scientific and ethical issues involved in helping patients make choices that reflect their preferences. For the primary care physician, the burden rests not only on insuring that the treatment he or she prescribes is the one the patient actually wants: the rationalization of the referral processes of medicine depends on making certain that patients who want referral services are the ones actually referred. The medical literature has shown wide variation in the referral patterns of primary care physicians[2,3]; the reduction of unwanted, supplier-induced variations requires communication skills and an understanding of the dynamics of the physician-patient relationship.

Yet, of all topics, preference research and the psychology and ethics of clinical decision making are the most neglected. Their central importance to the mission of cognitive medicine suggests that primary care physicians should lead the fight for their priority on the nation's research agenda.

John E. Wennberg, M.D.
Hanover, NH

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Toward Reduction Of Neonatal Mortality

It is widely believed and probably true that unless the causes of infant death are understood, measures undertaken to reduce this mortality are not likely to succeed. Understanding infant mortality requires the integration of many different types of data ranging from demographic and vital statistic overviews best suited to answering the question *who* is dying to individual single-death medical record reviews best suited to answering the question *why* a specific infant died. In recent years, vital statistics and other types of data have been used to determine *where* fetuses and infants are dying. The where is characterized not only by geographic location, such as city, county, or state, but by the specific hospital or the level of the hospital in which the delivery occurred. As in the article by Rosenblatt and colleagues in this issue, attempts are made occasionally to divide the deaths into those that were preventable and those that were not.[1]

Because there are now hundreds of published studies dealing with neonatal mortality (death within the first 28 days of life), it is appropriate to consider what they tell us that might be useful. Perhaps the most important finding is that statistically deaths fall into two categories: the majority of deaths are related to preterm delivery, and a smaller but substantial minority are related to major congenital anomalies.[2] The vast majority of deaths in both categories are not preventable by specific medical interventions. In recent years, the greatest reduction in neonatal mortality has occurred in preterm infants, those that in previous years would have died from respiratory distress syndrome and related causes.[3] There also appear to be significant reductions in mortality associated with Rh disease, birth trauma, asphyxia, and infection. What remains clear and is most surprising is that there has been little or no improvement in the rate of preterm delivery, currently the underlying cause of 70 to 80 percent of neonatal deaths.[4] In fact, neonatal mortality is becoming so concentrated in the very premature infants that approximately 50 percent of neonatal deaths now occur in the 1 percent of all infants born weighing 500 to 1000 g.

Submitted 26 March 1991.

From the Perinatal Epidemiology Unit, Division of Maternal and Fetal Medicine, Department of Obstetrics and Gynecology, University of Alabama at Birmingham. Address reprint requests to Robert L. Goldenberg, M.D., Department of Obstetrics and Gynecology, University of Alabama at Birmingham, University Station, Birmingham, AL 35294.