ment at Bell Labs is seen offering job security and stability of funding for research. Evaluations for promotion and salary increases are said to depend heavily on peer opinion. Bell Labs researchers have access to state-of-the-art equipment—although laboratories are not lavishly appointed—and engineers at the labs are adept at building special instrumentation when it is required.

Staff members mentioned freedom from the distractions of teaching and committee work and from the necessity of pursuing grant support which figure prominently in the lives of their university counterparts. They also say they are not expected to justify their work by near-term results like many of their industry colleagues.

The large size of the organization and a tradition of interchange across disciplinary boundaries make it easy for staff members to interact with researchers in other fields. Bell Labs researchers are encouraged to make up shortfalls in their education either by further academic work or training provided within the Labs. And Bell Labs scientists are expected to keep up contacts with researchers outside the organization.

Observers suggest that emergence from the protected world of a regulated enterprise in which the Bell system functioned for most of its first hundred years will force a change in operating style and, inevitably, in the Bell Labs ethos.

One major adjustment will be in the way research is funded. Over the years, the Bell local operating companies have paid a sort of tithe of a small portion of their revenues each year in return for Bell Labs services. The equivalent of 1 percent of their total revenues was allocated to the support of fundamental research. This defrayed about 80 percent of fundamental research costs with most of the rest coming from long lines operations. After divestiture, no funds under the so-called license-contract formula will come from the operating companies, although the local companies will be able to contract with Bell Labs for specific research or systems engineering work.

The burden of the Bell Labs budget shifts to the remaining AT&T subsidiaries. In the past, Western Electric has provided about half the total budget, most of the money going to support development work. Under the new dispensation, AT&T Communications (long distance service) and Western Electric will assume the major funding responsibility for fundamental research with ATTIS and international operations providing relatively small shares, at least in the beginning.

The Bell Labs budget this year is $2.04 billion with fundamental research allocated some $200 million. Next year, the total Bell Labs budget is projected at between $1.8 billion and $1.9 billion, reflecting the transfers of functions and personnel. Fundamental research support, however, is scheduled to remain at the same $200-million level as this year despite the scaling down. AT&T top management has pledged that support of fundamental research activities will be maintained.

Since agreement was reached on the major terms of a consent decree in January 1982, Bell Labs hierarchs have closed ranks and forsworn earlier doubts about the effects of the breakup. In an interview, labs president Ian Ross observed that in its regulated days, Bell Labs saw fundamental research as an "investment in the long-term future, and you protected your research." After 1 January, he says, "The ups and downs of the business cycle and the competition cycle might make more impact on Bell Labs than before divestiture. But you can assume that we're going to continue to protect the research base for the same reasons as before."

The future of Bell Labs comes down to a question of whether AT&T will be able to afford to keep the Labs in the manner to which it is accustomed. Much depends on the performance of the AT&T subsidiary companies in the marketplace. Doubts center not on AT&T's technical resources but on the company's ability to adapt to a tough competitive environment largely new to it.

During the protracted negotiations that eventuated in the consent decree—or modified final judgment, as it is also known—Bell Labs, and particularly its fundamental research program, were treated as matters of concern but were not given top priority. An FCC economist, David Chessler, writing on the future of the telephone industry in the 4 March issue of *Public Utilities Fortnightly*, summed up the governmental negotiators views as follows: "The competitive era in station equipment, interexchange communications, and information services under the consent decree will bring forth a great blossoming of progress in those areas of telephony. It was the thought of the framers of the consent decree that the blossoming will be so great as to more than compensate for the loss of pure research at Bell Telephone Laboratories, and the reduced incentives for innovation at the Bell operating companies."

If U.S. fundamental research and innovation do lag significantly as a result of breakup of the Bell system it will be a notable example of science policy made via the antitrust laws.—**JOHN WALSH**

HHS Preparing to Issue New Baby Doe Rules

Child advocacy groups favor proposed regulations while medical professionals remain firmly opposed

The Department of Health and Human Services (HHS) is grappling with more than 10,000 comments received in response to a second attempt to promulgate its controversial "Baby Doe" regulations.

The purpose of the rules, first issued in March, is to protect the lives of handicapped infants born with life-threatening but correctable conditions, who might otherwise be allowed to die. The mode HHS chose to implement this had the look of a dramatic bid to please the right-to-life community. The regulations required that hospitals prominently post signs reading "Discriminatory failure to feed and care for handicapped infants in this facility is prohibited by federal law"—that is, Section 504 of the Rehabilitation Act, which forbids discrimination against the handicapped. A 24-hour hot line was set up and HHS arranged for "Baby Doe Squads" to be dispatched immediately to the scene wherever a violation was suspected.

The new arrangement resulted in hundreds of nonproductive calls to the hot line. Four calls were followed up and two turned into highly publicized cases where squads swept in to make noctur-

nal raids on hospitals, demanding access to confidential files and disrupting personnel. No violations were found.

Medical professionals and hospitals were uniformly outraged by the program. The American Academy of Pediatrics (AAP), which has led the opposition, initiated a lawsuit in April. The regulations were quickly struck down by a district court of the United States, which said HHS had failed to consider alternative courses and had issued the final rules without allowing for the required 60-day comment period (*Science*, 29 April, p. 479).

So HHS tried again. The new proposal, for which the comment period ended on 6 September, contains only minor modifications. The hospital signs are to be smaller and confined to nurses' quarters; the law regarding confidentiality of records is to be respected, and the wording is more specific in allowing hospitals discretion in cases where any attempt to prolong life is clearly futile.

Hospital personnel still object strongly to the HHS regulations, maintaining that parents, in particular, will be alarmed by the signs; that the hot line draws crank calls; and that physicians and other medical personnel are put under the additional stress of fearing someone will misconstrue their activities and report them to the government.

The final weeks of the comment period this summer were punctuated by a flurry of meetings between and among medical groups, child advocacy groups including representatives of the handicapped, and government officials. Despite their attempts to find common ground, the medical groups and the child protection groups (which find themselves in an unusual alliance with the right-to-life groups) have adopted adversary positions.

The latter are in basic support of the Baby Doe regulations. Their only objection is to the intrusive style of enforcement. For example, a comment prepared by the Association for Retarded Citizens (ARC) contains no substantive objections to the proposal but emphasizes its support of child protection agencies as the primary investigative bodies, using the Commission on Civil Rights as a backup. It expresses the hope that the government will develop a "nonintrusive" investigatory procedure. In balancing conflicting sides in a Baby Doe–type decision, the ARC states firmly that "no quality-of-life or other such considerations are acceptable" when weighing the interests of a defective infant.

The child advocacy organizations tentatively approve the idea of setting up local or regional review mechanisms including persons with the necessary expertise to act as intermediaries between hospitals and child protection agencies. But according to the ARC they are "unalterably opposed" to in-hospital or hospital-appointed review boards, which they believe would become rubber stamps for hospital decisions. "We do not accept hospital ethics boards as substitute for 504 protection," says Paul Marchand of ARC.

Most medical groups, on the other hand, are unalterably opposed to the proposed regulations. In a comment prepared by the pediatrics academy and generally endorsed by five other groups, it is recommended that hospitals be required to set up "Infant Bioethical Review Committees." The committees would be made up of both hospital staff and outsiders and would advise one or more hospitals. This would be in line with recommendations of the President's ethics commission.

AAP says, contrary to HHS's apparent assumption, "seriously erroneous" decisions "appear to be very rare."

The AAP's approach to decisions about treating handicapped newborns is, at least in emphasis, different from that of the ARC. It agrees that the physician's primary obligation is to the patient, even when the parents want life-support withdrawn. However, it does allow some room for parental wishes. "When the infant's prospects are for a life dominated by suffering, the concerns of the family may play a larger role."

The pediatricians' comment is devoted to extensive criticism of the proposed regulations: central to its analysis is the assertion that the rule provides a remedy that is neither appropriate nor long-term. As written, the Baby Doe regulations do not deal with the fact that parents and physicians, who are emotionally involved, may benefit from an informed, rational opinion from a third party. Second, the regulations fail to consider that a physician in a small hospital may not be aware of treatment advances in cases such as spina bifida. Third, physicians and parents may be unaware of services available for handicapped children. The rule addresses none of these problems; a hospital ethics committee would take care of all three.

The AAP also complains that the framers of the regulations took no note of the presidential ethics commission's report, "Deciding to Forego Life-Sustaining Treatment," which came out the day after the first rule was published. HHS primarily cites as basis for its rule a 10-year-old article describing an earlier incident at Johns Hopkins, and the Bloomington, Indiana, case in which "Baby Doe," an infant with Down's syndrome, died when his parents refused to give permission for lifesaving surgery. The AAP points out that, contrary to HHS's apparent assumption that there has been an unreported plague of Baby Doe cases, the commission found that "seriously erroneous" decisions "appear to be very rare."

If the regulations are not substantially revised, the AAP plans to go back to court.

The Baby Doe situation may become further complicated by Congress, which is jumping in with its own solutions. Both the House and Senate versions of the Child Abuse and Treatment Act, which is to be reauthorized shortly, contain provisions dealing with handicapped newborns. H.R. 1904 expands the definition of child neglect to include infants with "life-threatening congenital impairments." It instructs the secretary of HHS to issue guidelines, unlike those in the pending regulations, to aid states in establishing local review mechanisms. If a decision were made not to treat an infant, the hospital would report it to the local review body, whose decision could ultimately be appealed in court.

Medical professionals do not think the subject of Baby Doe has any place in child abuse law, but they see the Senate bill (S. 1003) as the lesser of two evils. This calls for the appointment by HHS of an "advisory committee on seriously ill newborns" which would study the problem for 6 months. Then HHS would issue regulations based on its findings.

While the goals of both sides in the Baby Doe controversy are ostensibly the same, the philosophies differ. To the child advocacy groups, the central issue is protecting the right to life of the handicapped. This is a legal as well as moral concept, and proponents appear to feel that some sort of adversary mechanism is required to enforce it. The medical people regard the issue as a medical and ethical one, and believe that the balancing of conflicting interests is best achieved in a cooperative setting. Thus, it's going to be extremely difficult for HHS to come up with a solution responsive to both sets of concerns.

—CONSTANCE HOLDEN