mand for health services not only in institutions but also in ambulatory facilities and in the home. Particular demands are placed not only on physicians and nurses, but also on other health professions who deal with the problems related to chronic diseases and on those who administer health care institutions and programs. The experience with Title 18 has been brief. Its full implications for health manpower are not yet clear but it is evident that all health professions and occupations have been affected by it as well as the institutions providing care.

Since Title 19 of the Social Security Act has not been fully implemented in all States, its implications for health manpower needs are even less well defined than those of Title 18. We do know from previous experience, however, that the incidence and prevalence of illness, particularly chronic illness, among the poor and the disadvantaged is higher than that of people whose income and education have been greater. There is clear evidence also that infants and young children who are provided for under Title 19 make greater use of health services than those in the middle years, and that there is undetected illness among the group provided for under Title 19. We can, therefore, estimate that there will be an increased demand for health services, with a concomitant increase in the need for health manpower, over the next 5 years although the extent of the need cannot be predicted with certainty since health services are used only if those who need them know how to avail themselves of the services.

Medical knowledge and technology have undergone very rapid changes in the last two decades and we can predict that the rate of change will increase over the next five years. Most of the changes have required higher levels of skill and knowledge on the part of those who are providing the care. The advancement of knowledge and technology have also led to survival of people whose convalescence may be longer and who need care for a prolonged period during their recovery. While improvements in the prevention of certain illnesses, such as poliomyelitis, has decreased the need for medical care and decreased the demand for certain kinds of health services, the ability to treat other illnesses which previously could not be treated, the increase in the population and their need for care, and the increased ability to pay for care through Title 18 and Title 19 as well as through other public and private programs has more than offset the gains which have been made in the prevention of certain diseases.

Organization for the delivery of health services and in utilization of the skills and knowledge of practitioners has undergone continual change in the last two decades but these changes have not been sufficiently rapid to meet the increased demand for health services nor has it kept pace with the rapid changes in medical knowledge. We can anticipate that changes in organization and utilization of health professionals will accelerate and will alter the needs, both qualitatively and quantitatively, for those in the health professions and occupations. The extent to which these changes will take place over the next five years involves so many dependent variables that precise prediction of shortages cannot be made but can only be approximated.

Preparation of teachers in the basic sciences and the clinical disciplines of the health professions requires several years beyond the initial basic education. The capacity of existing institutions to prepare teachers is limited as is the number of candidates who wish to undertake such preparation. Schools of the health professions cannot undertake substantial expansion of their enrollments without increasing their faculties if the quality of professional education is to be maintained. In certain fields essential to the preparation of students in the health professions shortages of faculty now exist; in others there are barely enough teachers to maintain present enrollments. The lack of teachers therefore becomes a limiting factor in the increasing production of increased numbers of qualified health professionals and in the alleviation of shortages of personnel.

A number of schools are experimenting with ways of shortening the time required for professional education. It should be recognized, however, that the body of knowledge in the health professions is vast, that time is required to develop mature judgment so essential to professional practice and that professional education can only be undertaken by students who have completed their general education and the subjects requisite to an understanding of the medical sciences. Shortening of the educational period requires shortening of the entire period of education, not necessarily the shortening of professional education alone. It will take a number of years before changes in educational programs will have an appreciable effect on the production of health professionals.

The planning and construction of facilities in existing schools and for new schools are lengthy processes because of their great complexity. Federal programs for the support of the construction of facilities for education in the health