

MANPOWER^{1/}

Over 16,400 research and development personnel were employed by the pharmaceutical industry in 1965. About one-fourth held doctoral degrees. Scientists constituted 54 percent of the research and development staff and technicians and supporting personnel 46 percent.

Relationship of Research and Development Expenditures to Scientific and Professional Staff: A National Institutes of Health analysis (see footnote below) states that, "the proportion of scientific and professional staff to the total research and development staff appears to be an inverse function of the total volume of sales, with the larger organizations employing a relatively smaller percentage of scientific staff to the total research and development staff."

PMA analyses of the relationship between research and development manpower and research and development spending corroborate the National Institutes of Health findings. Table 26 illustrates that the correlation between the size of the research and development budget and the ratio of scientific and professional staff to the total research and development staff is negative. Data in Table 27 give further credence to the aforementioned National Institutes of Health hypothesis. The table indicates that research and development performers with large budgets employ relatively a smaller percentage of doctoral level staff.

^{1/} No attempt is made in the current study to deal with R&D manpower in detail. A comprehensive analysis of this subject appeared in the Resources for Medical Research Report No. 8, March 1966, "Trends in R&D Manpower in the Pharmaceutical Industry 1959-1965 and 1968," prepared by the National Institutes of Health of the U.S. Department of Health, Education and Welfare based on data provided by and in cooperation with PMA. The purpose of this section is to analyze the relationship between R&D expenditures and R&D manpower.