that may be realized from their reduction or alleviation. Neither the losses nor the potential gains are elements in the gross national product. Such explicit costs as physicians' and laboratory fees, hospital care expenses, and medications, drugs, treatments, and appliances are valued as part of the GNP, however. Their values, in fact, represent resources that could be allocated to other uses if we could further reduce illness and accidents and extend lives without proportionately increasing outlays for health and medical care. Reallocation of resources within a given volume of GNP might result even if the healthier and longer lives were not economically more productive, since this would alter the pattern of consumers' demand for goods and services. Expansion of the GNP would result if the gains in health and longevity made possible for some members of the population a fuller and longer participation in productive activities.

In commenting on the problem of assessing economic contributions of health services, a statement from the Office of the Surgeon General, Public Health Service (included in pt. III of this report), takes note of conceptual difficulties that arise when net additions to the GNP are used as a direct measure of benefits. Since the GNP is simply the sum of payments for goods and services—

> a statement that another $1 million worth of health services has been added to the GNP gives no clue as to whether this was relatively desirable or undesirable apart from the increase in GNP. For example, a million-dollar consignment of thalidomide would provide precisely the same direct increment to GNP as a million-dollar consignment of a clinically more trustworthy drug. Health services need to be appraised, if that be possible, in the light of the good that they do to people who receive them, whether the recipients are workers, prospective workers, retired persons, the hopelessly ill, or anyone else. From the standpoint of an overall appraisal of the economy and consideration of what the national effort is being used for, there is good reason for considering the health services component of GNP. This approach, however, does not provide an appropriate appraisal of the usefulness of health services to humanity.

Cost and benefit comparisons are among alternative approaches that have been tried. Several instances of their use to justify Federal Government outlays for health improvement programs are noted in an earlier section, "Studies of costs and benefits." As in the case of education and most other human resources programs, it is practically impossible, in assessing the economic impacts of the Government programs, to separate the effects of Federal Government expenditures from those of State and local governments and private individuals and entities. Moreover, many indirect variables affect human health and longevity—changes in diet and nutrition, heating and air-conditioning technology, population concentrations, changing techniques and patterns of transportation, the diffusion of education and general affluence, the introduction of housekeeping appliances and supplies, shifts in clothing fashions and materials, and countless other influences.[32]

The Federal Government share of health-related expenditures is considerably larger for research and development and for preventive measures than for the care and treatment of illness. The proportions may be altered with full-scale operation of medicare insurance and medicaid under public assistance, since each of these categories involves large shifts from private to public budgets and substantial additions to the total of expenditures for health care. Nevertheless, the former broad relationships are likely to persist for quite some time,

[32] See also Linnenberg, "Economics in Program Planning for Health" (cited in footnote 16, above).