

# SUMMARY OF PANEL DISCUSSION PLANNING A COMPREHENSIVE STUDY OF EFFECTS OF POLLUTION ON HEALTH

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## 1. Introduction

The invited panel, chaired by Professor Herbert A. David, consisted of 12 individuals: P. Armitage, C. L. Chiang, F. N. David, J. R. Goldsmith, B. G. Greenberg, R. J. Hickey, E. B. Hook, F. J. Massey, G. B. Morgan, J. Neyman, H. W. Patterson and C. A. Tobias. Also active in the discussion were S. W. Greenhouse, E. Landau, H. L. Rosenthal, E. J. Sternglass, W. Winkelstein, Jr., and B. E. Vaughan.

After opening the conference, Chairman David invited the authors of the four skeletal plans for a comprehensive statistical study of the health-pollution problem to outline their ideas briefly. Following the presentation of the plans by Goldsmith, Hexter, Neyman and Ury, the twelve panelists offered their remarks. Then there were comments from the floor.

The four skeletal plans differ considerably in their underlying ideas. One extreme contemplates what amounts to experimentation in hospitals on patients suffering from respiratory and heart diseases. A small number of patients, such as 15, can be divided into groups placed in separate rooms with different controlled degrees of air pollution. Frequent physiological observations could then provide information on the effects of each pollutant separately and of their combinations. Apparently experiments of this kind have been performed in Los Angeles. An intermediate point of view is represented by the recommendation of observational research typified by a study also performed in Los Angeles. Here, a measure of health conditions or a health parameter, such as number of deaths, is correlated with a variety of observational data, such as the cyclically varying temperatures and the concentration of selected air pollutants. Hope is expressed that, if such studies could be repeated in many urban areas in different countries, then the degree of agreement of the conclusions reached might be indicative of the real effects of the pollutants considered.

The other extreme proposal advocates a study involving simultaneously all the pollutants suspected to exercise major effects on health. The proposal is based on the observation that each particular locality is affected not by just one