Operations Research

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Preface

William P. Pierskalla, Glen L. Urban,

To cite this article:
William P. Pierskalla, Glen L. Urban, (1976) Preface. Operations Research 24(5):797-798. https://doi.org/10.1287/opre.24.5.797

OPERATIONS RESEARCH, Vol. 24, No. 5, September-October 1976

Preface

THE FIRST PUBLICATION in *Operations Research* specifically dealing with health appeared in June 1957 (Blumberg [1]). Since that time the management of health services has received substantial attention from operations researchers. This activity has been reflected in the many health-care delivery papers published individually and in special collections in *Operations Research* and other related journals. Another indicator of the large interest of operations research professionals in health care is that the Health Applications Section of ORSA has had over 500 members annually for the past five years. Because of these strong research and membership interests, the editor of *Operations Research* authorized this special issue.

To familiarize the readers of *Operations Research* with the depth and diversity of health-care delivery papers using operations research concepts and techniques, we have placed at the beginning of this issue a bibliography by Fries that identifies 188 publications found in various journals. The remainder of this special issue attempts to describe the current state of the art of OR in health. (It should be noted that over 70 papers were reviewed, and those 11 published here reflect the best in terms of scholarly contribution to the field of OR and relevance to health problems.) Table I arrays the 11 papers in a matrix of selected problem areas (manpower, operations, treatment, and consumers) and techniques (math programming, stochastic models, utility theory, and psychometrics). Readers with a primary interest in methodology may want to concentrate on the papers in the relevant column, while those interested in specific health problems may choose to emphasize the papers in the appropriate rows.

Smith et al. investigate the problem of staffing an ambulatory practice using mathematical programming. Nurse scheduling is also modeled and solved through mathematical programming in papers by Warner and by Miller, Pierskalla, and Rath. Rabinowitz, Dumas, and Valinsky apply linear programming to hospital bed assignments, while Esogbue and Singh apply stochastic modeling to the related problem of hospital bed distribution. A Markovian decision model is used by Meredith to determine the best treatment patterns for the training of mentally retarded patients. Shachtman and Hogue use a Markov chain to study the health-related consequences of abortion. Utility theory applications by Giauque and Peebles and by Krischer empirically assess utility functions over the multi-attribute space of treatment outcomes for two diseases. Wind and Spitz use a psychometric methodology called "conjoint analysis" to determine consumer utilities in the choice of hospitals. This work represents the growing area of study of the role of the consumer in health planning.

Parker and Srinivasan link consumer preferences in facilities planning for rural health care.

We hope you will find these selected papers informative and useful. They indicate that health is a productive research area for operations research. We also feel that many of the issues raised and addressed in these papers

TABLE I

ARRAY OF PAPERS IN SPECIAL ISSUE

Problem areas	Math programming	Stochastic models	Utility theory	Psychometrics
MANPOWER	2–Smith, Over, Hansen, Golladay, and Davenport 3–Warner 4–Miller, Pierskalla, and Rath			
OPERATIONS	5–Rabinowitz, Dumas, and Valinsky	6–Esoqbue and Singh		
TREATMENT		7–Meredith 8–Shactman and Hogue	9–Giauque and Peebles 10–Krischer	
CONSUMER				11–Wind and Spitz 12–Parker and Srinivasan

are of interest to operations research modeling as well as to the field of health.

WILLIAM P. PIERSKALLA
GLEN L. URBAN

REFERENCE

1. M. S. BLUMBERG, "Evaluating Health Screening Procedures," *Opns. Res.* **5,** 351–360 (1957).