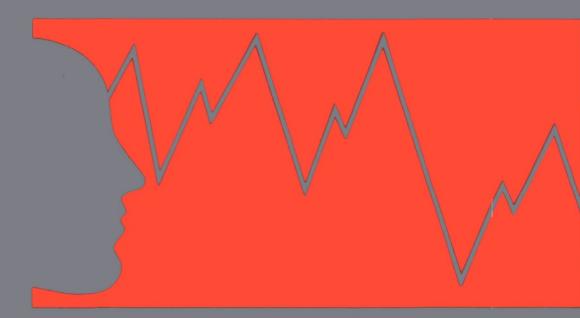
Vol. 6

No. 2

International Journal of TECHNOLOGY ASSESSMENT INHEALTH CARE



Cambridge University Press

International Journal of Technology Assessment in Health Care

Official Journal of the International Society for Technology Assessment in Health Care

Editors

Egon Jonsson, Ph.D. Professor The Karolinska Institute and the Swedish Council on Technology Assessment in Health Care P.O. Box 16158 103 24 Stockholm, Sweden (tel.) 46 8 240565 Stanley J. Reiser, M.D., Ph.D. Professor, Program on Humanities and Technology in Health Care The University of Texas Health Science Center at Houston P.O. Box 20708 Houston, Texas 77225, U.S.A. (tel.) 713 792 5140

Aims and Scope: The International Journal of Technology Assessment in Health Care has as its specific scope of interest the generation, evaluation, diffusion, and use of health care technology. It addresses the diverse audience of health care providers within medicine, nursing, and the allied health professions; decision makers in government, industry, and health care organizations; and the scholarly disciplines such as ethics, economics, law, history, sociology, psychology, and engineering. The journal aims to fill the needs of those interested in the complexities of interaction between people and technology; technology as a force in social and organizational change; and technology as it is created, produced, applied, and paid for. It examines descriptively and analytically the effects of technology as perceived from the vantage point of different academic disciplines and policy-making organizations and examines methods necessary to conduct studies and evaluations of technology.

The focus of the journal will be the international health care community. The experience of different countries in their encounter with health care technology, viewed comparatively, is invaluable to understanding its effects. Further, it is important to establish ties with the scholars, governments, and private institutions concerned with health care technology so that the experiences and learning of the international community in its parts can benefit the whole. The use of technology in health care has created some of the major dilemmas in society today. The journal will serve as a forum for the wide range of professionals interested in the assessment of medical technology, its consequences for patients, and its impact on society.

Membership in the International Society for Technology Assessment in Health Care:

Members receive the journal at individual rates and can participate in the Society's activities, including the annual meeting. Individual dues for 1990, including the journal, are US \$70 for regular membership and US \$50 for student membership, payable to Cambridge.

Publishing, Production, and Advertising Offices: Cambridge University Press, 40 West 20th Street, New York, N.Y. 10011, U.S.A.

Subscription Offices: Cambridge University Press, 110 Midland Avenue, Port Chester, N.Y. 10573, U.S.A. (for U.S.A. and Canada); or Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, England (for U.K. and elsewhere).

1990 Subscription Information: International Journal of Technology Assessment in Health Care (ISSN 0266-4623) is published quarterly. Annual institutional subscription rates for Volume 6 (1990): US \$95.00 in the U.S.A. and Canada; UK £53.00 in the U.K. and Eire; UK £57.00 elsewhere. Individual rates: US \$75.00 in the U.S.A. and Canada; UK £36.00 elsewhere. Prices include postage and insurance; air mail or registered mail is extra. Back volume prices are available upon request.

Copyright © 1990 Cambridge University Press

All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press.

Photocopying Information (for users in the U.S.A.): The Item-Fee Code for this publication (0266-4623/90 \$5.00 + .00) indicates that copying for internal or personal use beyond that permitted by Sec. 107 or 108 of the U.S. Copyright Law is authorized for users duly registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the appropriate remittance of \$5.00 per article is paid directly to: CCC, 27 Congress Street, Salem, MA 01970. Specific written permission must be obtained for all other copying; contact the nearest Cambridge University Press office.

Second-class postage paid at New York, N.Y., and additional mailing offices.

Postmaster: Send address changes in the U.S.A. and Canada to: International Journal of Technology Assessment in Health Care, Journals Department, Cambridge University Press, 110 Midland Avenue, Port Chester, N.Y. 10573, U.S.A.

International Journal of Technology Assessment in Health Care

Volume 6	1990 N	lumber 2
	CONTENTS	
USE OF LARGE DAT QUALITY ASSESSMI Guest Editors: Ruth Jane		S:
Introduction to Measu Jane E. Sisk	ring Health Care Effectiveness	181
Framework for Consid Assessment Lincoln E. Moses	lering the Role of Data Bases in Technology	183
Technology Assessmen Prostatectomy Elliott S. Fisher David J. Malenka John E. Wennberg Noralou P. Roos	nt Using Insurance Claims: Example of	194
-	s to Evaluate Medical Procedures: Coronary Arte Balloon Valvuloplasty Registry	ery 203
-	of Large Data Sets to Assess Effectiveness	211
Inherent Limitations of Robert W. Dubois	of Hospital Death Rates to Assess Quality	220
-	e Data Sets to Assess the Quality of Providers: Adjusted Indexes of Hospital Performance	229
What Do Mortality St Status, and Ownership Joyce V. Kelly	tudies Reveal about Hospital Volume, Teaching o?	239
Peaks and Pits of Usin Ann Barry Flood	ng Large Data Bases to Measure Quality of Care	e 253
Use of Insurance Clair Kathleen N. Lohr	ms Data in Measuring Quality of Care	263
Using Administrative Care: Pitfalls and Pote Lisa I. Iezzoni	Diagnostic Data to Assess the Quality of Hospit ential of ICD-9-CM	al 272

Impact of Claims Data Research on Clinical Practice Earl P. Steinberg Jeffrey Whittle Gerard F. Anderson	282
Measuring Health Care Effectiveness: Research and Policy Implications Linda K. Demlo	
Policy Implications of Outcomes Research Charles N. Kahn, III	295
Creonization of Health Care Roger J. Bulger	297
GENERAL ESSAYS	
Ernest Amory Codman, M.D., and End Results of Medical Care Duncan Neuhauser	
Does It Work? The Outcomes of Medical Interventions Bernard S. Bloom	326
Assessment of Medical Outcomes: New Opportunities for Achieving a Long Sought-After Objective J. Sanford Schwartz Nicole Lurie	333
TECHNOLOGY ASSESSMENT REPORTS	341
SORCERER'S APPRENTICE	345
REVIEWS	347
MEETINGS AND ANNOUNCEMENTS	350
CONTRIBUTORS	351

International Journal of **Technology Assessment in Health Care**

Editors

Egon Jonsson, Ph.D. Professor

The Karolinska Institute and the Swedish Council on Technology Assessment in Health Care P.O. Box 16158 103 24 Stockholm, Sweden

Bernard S. Bloom, Ph.D.

Research Associate Professor University of Pennsylvania Medical School Philadelphia, Pennsylvania, U.S.A.

Murray Eden, Ph.D.

Chief of Biomedical Engineering and Instrumentation Branch **Division of Research Service** N.I.H. Bethesda, Maryland, U.S.A.

Paul F. Gross

Director Institute of Health Economics and Technology Assessment North Sydney, Australia

Ruth S. Hanft, Ph.D.

Research Professor of Health Services The George Washington University Washington, D.C., U.S.A.

Assistant Editor: Elizabeth Heitman, Ph.D.

Program on Humanities and Technology in Health Care University of Texas Health Science Center Houston, U.S.A.

Faye G. Abdellah, R.N., Ed.D., Sc.D. **Deputy Surgeon General** Chief Nurse Officer U.S. Public Health Service Rockville, Maryland, U.S.A.

Michael Anbar, Ph.D. Professor Department of Biophysical Sciences State University of New York, **Buffalo** Buffalo, New York, U.S.A.

Associate Editors

Samuel Korper. Ph.D. Associate Director for Planning. Analysis, and Communication National Institute of Aging Bethesda, Maryland, U.S.A.

Frederick Mosteller, Ph.D.

Director Technology Assessment Group Department of Health Policy and Management Harvard School of Public Policy Boston, Massachusetts, U.S.A.

Jorge Peña-Mohr, Ph.D.

Pan American Health Organization Pan American Sanitary Bureau World Health Organization Washington, D.C., U.S.A.

Seymour Perry, M.D.

Professor Department of Community and **Family Medicine** Georgetown University School of Medicine Washington, D.C., U.S.A.

Editorial Board

Per Buch Andreasen, M.D., Ph.D. Department of Gastroenterology and **Clinical Pharmacology** Gentofte University Hospital Hellerup, Denmark

John R. Ball, M.D., J.D. **Executive Vice President** American College of Physicians Philadelphia, Pennsylvania, U.S.A.

Stanley J. Reiser, M.D., Ph.D. Professor, Program on Humanities and Technology in Health Care The University of Texas Health Science Center at Houston P.O. Box 20708 Houston, Texas 77225, U.S.A.

> Tore Scherstén, M.D. Professor Dean, Faculty of Medicine University of Göteborg Department of Surgery Göteborg, Sweden

Jane E. Sisk, Ph.D.

Office of Technology Assessment Congress of the United States Washington, D.C., U.S.A.

Stephan Tanneberger, Dr. med.

Professor, Director Des Zentralinstituts für Krebsforschung Der Akademie der Wissenschaftern der D.D.R. Berlin-Buch, D.D.R.

Norman Weissman, Ph.D.

Director Division of Extramural Research National Center for Health Services Research and Health Care Technology Assessment Rockville, Maryland, U.S.A.

H. David Banta, M.D., M.P.H. Consultant World Health Organization The Hague, Netherlands

Jeremiah A. Barondess, M.D. Professor **Cornell University Medical** College New York, New York, U.S.A.

Editorial Board (continued)

Clyde Behney

Health Program Manager Office of Technology Assessment Congress of the United States Washington, D.C., U.S.A.

Aldo Bujevic Professor Zagreb Institute of Public Health Zagreb, Yugoslavia

John P. Bunker, M.D. Professor School of Medicine Stanford University Stanford, California, U.S.A.

Carlos Canitrot, M.D. Sub-Secretario de Regulación y Control

Ministerio de Salud Pública y Medio Ambiente de Argentina Buenos Aires, Argentina

Hesio Cordeira, M.D. Professor Universidade Federal do Rio de Janeiro Rio de Janeiro, *Brazil*

Henry Danielsson, M.D. Professor, Secretary General The Swedish Medical Research Council Stockholm, Sweden

Luigi Donato, M.D. Professor Instituto de Fisiología Clínica CNR Pisa, Italy

Robert Evans, Ph.D. Professor Department of Economics University of British Columbia Vancouver, British Columbia, *Canada*

José Laguna Garcia, M.D. Secretaria de Salubridad y Asistencia de México Mexico City, *Mexico*

John C. Greene, D.M.D., M.P.H. Dean School of Dentistry University of California San Francisco, California U.S.A. David Gunnarsson Managing Director Rikisspitalar Reykjavik, *Iceland*

Peter F. Hjort, M.D. Professor National Institute of Public Health Oslo, Norway

Bruno Horisberger, Dr. med. Director Center for Public Health St. Gallen, Switzerland

John Hutton Senior Research Fellow University of York York, England

Bryan Jennett, M.D. Professor Dean, Faculty of Medicine University of Glasgow Glasgow, Scotland

Kirsten Staehr Johansen, M.D., D.D.S. Program Manager Appropriate Health Care Technology World Health Organization Copenhagen, *Denmark*

Lechaim Naggan, M.D., Dr.P.H. School of Public Health and Hygiene Johns Hopkins University Baltimore, Maryland, U.S.A.

Duncan Neuhauser, Ph.D. Professor Department of Community Health School of Medicine Case Western Reserve University Cleveland, Ohio, U.S.A.

Miriam Orleans, Ph.D. Professor Department of Preventive Medicine and Biometrics University of Colorado Health Sciences Center Denver, Colorado, U.S.A. Masamitsu Oshima, M.D. President The Medical Information System Development Center Tokyo, Japan

Emile Papiernik Professor Hospital Antoine Beclere Clamart, France

Frederick C. Robbins, M.D. University Professor Case Western Reserve University Cleveland, Ohio, U.S.A.

Steven Schroeder, M.D.

Professor Division of General Internal Medicine University of California School of Medicine San Francisco, California, U.S.A.

Barbara Stocking Fellow King's Fund College London, England

Henry Troupp, M.D. Professor University of Helsinki Department of Neurosurgery Helsinki, *Finland*

Johannes Vang, M.D., Ph.D. Professor Manager, European Program for Hospitals and Health Institutions World Health Organization Copenhagen, *Denmark*

A. H. Wilfried Wahba, Ph.D. World Health Organization Copenhagen, *Denmark*