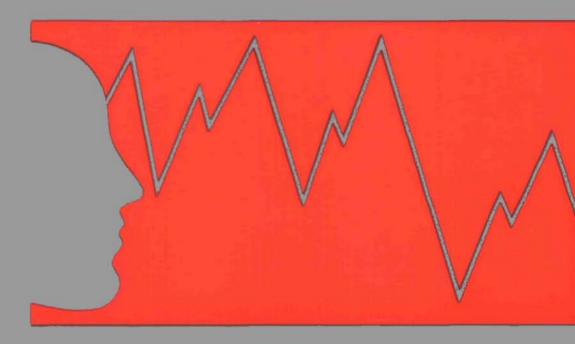
Vol. 10

Fall 1994

No. 4

10th Anniversary Volume

International Journal of TECHNOLOGY ASSESSMENT INHEALTH CARE





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 8 611-1913 (fax) 46 8 611-7973 Stanley J. Reiser, M.D., Ph.D. Professor, Program on Humanities and Technology in Health Care The University of Texas – Houston Health Science Center P.O. Box 20708 Houston, Texas 77225, U.S.A. (tel.) 713 792-5140 (fax) 713 792-5141

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 1994, including the journal, are US \$95, payable to Cambridge.

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

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

1994 Subscription Information: International Journal of Technology Assessment in Health Care (ISSN 0266-4623) is published quarterly. Annual institutional subscription rates for Volume 10 (1994): US \$126.00 in the U.S.A., Canada, and Mexico; UK £77.00 elsewhere. Individual rates: US \$90.00 in the U.S.A., Canada, and Mexico; UK £50.00 elsewhere. Prices include postage and insurance; air mail or registered mail is extra. Back volume prices are available upon request.

Copyright © 1994 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 (0266-4623/94 \$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, NY, 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, NY 10573, U.S.A.

International Journal of Technology Assessment in Health Care

Volume 10

1994

Number 4

10th Anniversary Volume

Cambridge University Press celebrates the tenth anniversary of both this journal and the International Society of Technology Assessment in Health Care, representing a decade of commitment and service to the health care community worldwide.

CONTENTS

SPECIAL SECTION: GENETIC TECHNOLOGY Guest Editors: Frederick C. Robbins Arno G. Motulsky Thomas H. Murray

Introduction: The New Genetics and H Arno G. Motulsky Frederick C. Robbins	Health Care Thomas H. Murray	525
Genetic Technology in Health Care: A Hans Galjaard	Global View	527
Reflections on the Cost Consequences Health Policy Pauline Vaillancourt Rosenau	of the New Gene Technology for	546
Discovery, Transfer, and Diffusion of Genetic Disorders: Policy Implications Neil A. Holtzman		562
Assessing Genetic Technologies: Two Thomas H. Murray	Ethical Issues	573
DNA Technology and Vaccines Fred Brown		583
Perspectives in Genetic Screening: Prim Michael M. Kaback	nciples and Implications	592
Techniques in Current Use in Prenata Lyn S. Chitty	l Diagnosis Martin Bobrow	604
DNA Diagnosis in Monogenic Disease Raye Lynn Alford Belinda J. F. Rossiter	es C. Thomas Caskey	628
DNA Diagnosis in Oncology Janet D. Rowley		644
Gene Therapy: Molecular Medicine of Nelson A. Wivel	f the 1990s	655

GENERAL ESSAYS

Physicians' Influence on the Decision to Acquire Magnetic Resonance Imagers in Acute Care Hospitals Leonard H. Friedman Jane Jorgensen	667	
The Concept of Cost in the Economic Evaluation of Health Care: A Theoretical Inquiry Magnus Johannesson	675	
The Economic Costs of Acute Myeloid Leukemia in Sweden Gunnel Ragnarson Tennvall Bo Nilsson Ulf Persson	683	
RESEARCH NOTES		
The Effect of Allowing Clinical Discretion in Ordering Biochemical Tests: Evaluation by Complementary Methods Ken Buckingham Patrick Gibson Ian Russell Neil Paterson Iain Ross Vertice Section (Section (Sec	695	
Individual Perception of Education and Treatment Versus Actual Outcome: A Theoretical Model Exemplified by an Interventional Study on Patients with Insulin-Dependent Diabetes Mellitus Margareta Furu Siv Fischbein	701	
TECHNOLOGY ASSESSMENT REPORTS		
Report from the Argentinian Association for Health Research and Development (ACINDES) Socioeconomic Analysis of Hormone Replacement Therapy: Impact of Consumer Satisfaction on the Outcome of Therapy	710	
Report from the Canadian Coordinating Office for Health Technology Assessment (CCOHTA) Photodynamic Therapy		
Report from the Conseil d'Évaluation des Technologies de la Santé du Québec (CETS) The Costs of Conventional Cholecystectomy, Laparoscopic Cholecystectomy, and Biliary Lithotripsy		
Report from The Swedish Council on Technology Assessment in Health Care (SBU) Literature Searching and Evidence Interpretation for Assessing Health Care Practices	714	
Reports from the U.S. Agency for Health Care Policy and Research (AHCPR) Use of Home Health Care Service Patient Selection for Transplantation	715	
BOOK REVIEW	717	
LETTERS TO THE EDITOR	720	
CONTRIBUTORS	723	

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

Per Buch Andreasen, M.D., Ph.D.

Department of Gastroenterology and Clinical Pharmacology Gentofte University Hospital Hellerup, Denmark

H. David Banta, M.D., M.P.H. Professor University of Limburg Maastricht, *Netherlands*

Jeremiah A. Barondess, M.D. President New York Academy of Medicine New York, New York, U.S.A.

Clyde Behney

Assistant Director Office of Technology Assessment Congress of the United States Washington, DC, U.S.A.

Bernard S. Bloom, Ph.D. Research Associate Professor University of Pennsylvania Medical School Philadelphia, Pennsylvania, U.S.A.

Els Borst-Eilers, M.D., Ph.D. Chair Health Council of the Netherlands The Hague, Netherlands Stanley J. Reiser, M.D., Ph.D. Professor, Program on Humanities and Technology in Health Care The University of Texas—Houston Health Science Center P.O. Box 20708 Houston, Texas, 77225, U.S.A.

Associate Editor

Elizabeth Heitman, Ph.D. Program on Humanities and Technology in Health Care The University of Texas – Houston Health Science Center Houston, Texas, U.S.A.

Editorial Board

Robert Brook, M.D., Sc.D. The Rand Corporation UCLA Schools of Medicine and Public Health Santa Monica, California, U.S.A.

Roger Bulger, M.D. President Association of Academic Health Centers Washington, DC, U.S.A.

John P. Bunker, M.D., MRCP CRC Clinical Trials Centre King's College School of Medicine and Dentistry Rayne Institute London, *England*

John L. Cova, Ph.D., M.P.H. Private Consultant Washington, DC, U.S.A.

Richard Cranovsky, M.D. Institut Suisse de la Santé Publique Aarau, *Switzerland*

Luigi Donato, M.D. Professor Instituto de Fisiologia Clinica CNR Pisa, Italy Robert Evans, Ph.D. Professor Department of Economics University of British Columbia Vancouver, British Columbia, *Canada*

David Feeny, Ph.D. Professor McMaster University Hamilton, Ontario, *Canada*

Alicia Granados, M.D. Director Catalan Office for Health Technology Assessment Department of Health and Social Security Generalital de Catalunya Barcelona, *Spain*

Ruth S. Hanft, Ph.D., Sc.D. (Hon.) Professor

Department of Health Services Management and Policy The George Washington University Washington, DC, U.S.A.

Akinori Hisashige, M.D., Dr.Med.Sci. Professor Suzuka University of Medical Science and Technology Suzuka, Japan Peter F. Hjort, M.D. Professor National Institute of Public Health Oslo, Norway

Naoki Ikegami, M.D.

Professor Keio University School of Medicine Tokyo, *Japan*

Ted R. Mannen

Executive Vice President Health Industry Manufacturers Association Washington, DC, U.S.A.

Jean-Paul Moatti

Bureau des Etudes Economiques et Sociales INSERM Paris, *France*

Frederick Mosteller, Ph.D.

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

Jorge Peña-Mohr, Ph.D.

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

Seymour Perry, M.D. Senior Scholar Medical Technology and Practice Patterns Institute Washington, DC, U.S.A.

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

Tore Scherstén, M.D.

Professor Dean, Faculty of Medicine University of Göteborg Department of Surgery Göteborg, Sweden

Steven Schroeder, M.D. President

Robert Wood Johnson Foundation Princeton, New Jersey, U.S.A.

Mordechai Shani, M.D. Director The Chaim Sheba Medical Center Tel-Hashomer, *Israel*

Jane E. Sisk, Ph.D. Columbia University School of Public Health New York, New York, U.S.A.

Jacobo A. Tieffenberg, M.D. President ACINDES Buenos Aires, Argentina

Ted Tyson

President Tyson Consulting Group Buffalo Grove, Illinois, U.S.A.

Johannes Vang, M.D., Ph.D.

Professor Manager, European Program for Hospitals and Health Institutions World Health Organization Copenhagen, *Denmark*

Judith L. Wagner, Ph.D.

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

Norman Weissman, Ph.D. Director Center for General Health Services and

Extramural Research Agency for Health Care Policy and Research Rockville, Maryland, U.S.A.

Emily Heitman

Production Editor The University of Texas – Houston Health Science Center Houston, Texas, *U.S.A.*