

ISSN 1353-4505

# International Journal for Quality in Health Care

*Volume 20 Number 1 February 2008*

<http://intqhc.oxfordjournals.org>

International Journal for Quality in Health Care

Volume 20 Number 1 February 2008 pp. 1-78



The official journal of the  
International Society for Quality in Health Care



OXFORD JOURNALS  
OXFORD UNIVERSITY PRESS

OXFORD

# International Journal for Quality in Health Care

The Official Journal of the International Society for Quality in Health Care (ISQua)

## Editorial Office

### Editor-in-Chief

Thomas V. Perneger

### Managing Editor

Aimee Troger

Quality of Care Service  
University Hospitals of Geneva  
24 Micheli-du-Crest  
CH-1211 Geneva 14  
Switzerland

Tel: +41 22 372 9007 (Monday, Thursday)

Fax: +41 22 372 9016

Web site: <http://intqhc.oxfordjournals.org/>

### Special Project Editor

Rosa Suñol (Spanish Abstracts)

### Deputy Editors

Robert Gibberd, Australia

Jerod Loeb, USA

Rosa Suñol, Spain

Kieran Walshe, UK

## Editorial Committee

Linda Aiken, USA

Richard Alvarez, Canada

Giovanni Apolone, Italy

David Ballard, USA

Sabina de Geest, Switzerland

Cliff Hughes, Australia

Margarita Hurtado, USA

Yuichi Imanaka, Japan

Niek Klazinga, The Netherlands

Austin Leahy, Ireland

Sang-Il Lee, South Korea

Jan Mainz, Denmark

Jonathan Mant, UK

Vin McLoughlin, UK

José de Noronha, Brazil

Avi Porath, Israel

Haya Rubin, USA

Pedro Saturno, Spain

Christophe Segouin, France

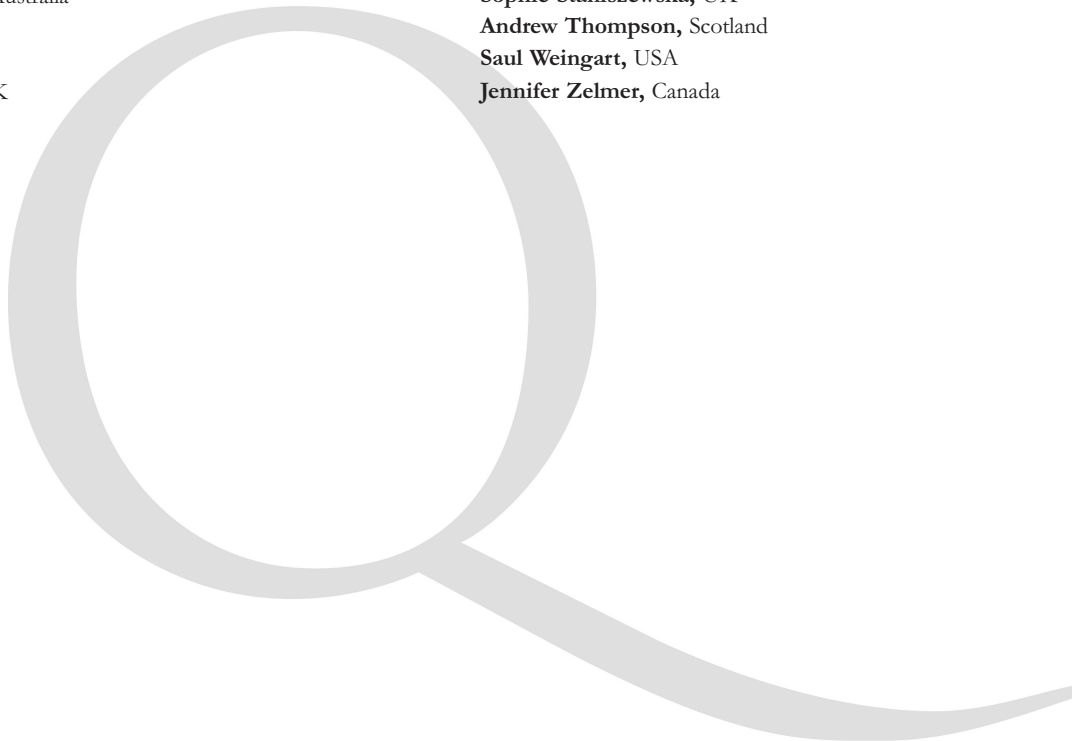
Hans-Konrad Selbmann, Germany

Sophie Staniszewska, UK

Andrew Thompson, Scotland

Saul Weingart, USA

Jennifer Zelmer, Canada



# International Journal for Quality in Health Care

## Aims and scope

The purpose of this journal is to make available to a worldwide readership activities and research related to quality and safety in health care. The Journal publishes papers in all disciplines related to the quality of health care, including health services research, health care evaluation, health economics, utilization review, cost containment and nursing care research, as well as aspects of clinical research related to quality of care.

This peer-reviewed journal is truly interdisciplinary and includes contributions from representatives of all health professions, such as doctors, nurses, quality assurance professionals, managers, politicians, social workers and therapists, as well as researchers from health-related backgrounds.

The Journal accepts original articles describing empirical studies and their results. Descriptions of the organization and process of health care quality evaluation and improvement are also published, as are editorials and letters dealing with the principles, ethics and philosophy of health care evaluation.

The Journal contains news of the International Society for Quality in Health Care (ISQua), including announcements of forthcoming courses, symposia and congresses. As the official organ of the Society, it serves as a forum for communication on Society activities.

## SUBSCRIPTIONS

A subscription to the *International Journal for Quality in Health Care* comprises six issues. Our prices include Standard Air as postage outside of the UK. Airmail rates are available on request. *International Journal for Quality in Health Care* Advance Access contains papers that have been finalised, but have not yet been included within the issue. Advance Access is updated monthly.

### Annual Subscription Rate (Volume 20, six issues, 2008)

**Institutional:** Print edition and site-wide online access: £481.00/US\$962.00/€722.00, Print edition only: £457.00/US\$914.00/€686.00

Site-wide online access only: £457.00/US\$914.00/€686.00

**Personal:** Print edition and individual online access: £83.00/US\$166.00/€125.00

Please note that commencing September 2007, all orders delivered outside Europe and North America (USA and Canada only) will be renewed and invoiced in GBP sterling.

There may be other subscription rates available for a complete listing, please visit <http://intqhc.oxfordjournals.org/subscriptions/>.

The current year and two previous years' issues are available from Oxford University Press. Previous volumes can be obtained from the Periodicals Service Company, 11 Main Street, Germantown, NY 12526 USA. E-mail: [psc@periodicals.com](mailto:psc@periodicals.com). Tel: +1 (518) 537 4700. Fax: +1 (518) 537 5899.

**For further information, please contact:** Journals Customer Service Department, Oxford University Press, Great Clarendon Street, Oxford OX2 6DP, UK. E-mail: [jnls.cust.serv@oxfordjournals.org](mailto:jnls.cust.serv@oxfordjournals.org). Tel (and answerphone outside normal working hours): +44 (0)1865 353907. Fax: +44 (0)1865 353485. **In the US, please contact:** Journals Customer Service Department, Oxford University Press, 2001 Evans Road, Cary, NC 27513, USA. E-mail: [jnlorders@oxfordjournals.org](mailto:jnlorders@oxfordjournals.org). Tel (and answerphone outside normal working hours): 800 852 7323 (toll-free in USA/Canada). Fax: 919 677 1714. **In Japan, please contact:** Journals Customer Service, Oxford University Press, Kearny Place Shiba 8F, 4-5-10 Shiba, Minato-ku, Tokyo 108-8386, Japan. E-mail: [custservjp@oxfordjournals.org](mailto:custservjp@oxfordjournals.org). Tel: (03) 5444 5858. Fax: (03) 3454 2929.

**Methods of payment:** Full pre-payment in the correct currency is required for all orders. Payment should be in US dollars for orders being delivered to the USA or Canada; Euros for orders being delivered within Europe (excluding the UK); GBP sterling for orders being delivered elsewhere (i.e. not being delivered to USA, Canada, or Europe). All orders should be accompanied by full payment and sent to your nearest Oxford Journals office. Subscriptions are accepted for complete volumes only. Orders are regarded as firm, and payments are not refundable. Our prices include Standard Air as postage outside of the UK. Claims must be notified within four months of despatch/order date (whichever is later). Subscriptions in the EEC may be subject to European VAT. If registered, please supply details to avoid unnecessary charges. For subscriptions that include online versions, a proportion of the subscription price may be subject to UK VAT. Subscribers in Canada, please add GST to the prices quoted. Personal rate subscriptions are only available if payment is made by personal cheque or credit card, delivery is to a private address, and is for personal use only. The following methods of payment are accepted: (i) Cheque (payable to Oxford University Press, to Oxford University Press, Cashiers Office, Great Clarendon Street, Oxford OX2 6DP, UK) in GB£ Sterling (drawn on a UK bank), US\$ Dollars (drawn on a US bank), or EU€ Euros. (ii) Bank transfer to Barclays Bank Plc, Oxford Group Office, Oxford (bank sort code 20-65-18) (UK), overseas only Swift code BARC GB 22 (GB£ Sterling to account no. 70299332, IBAN GB89BARC20651875 0299332; US\$ Dollars to account no. 66014600, IBAN GB27BARC20651866014600; EU€ Euros to account no. 78923655, IBAN GB16BARC20651878923655). (iii) Credit card (Mastercard, Visa, Switch or American Express). Due to excessive charges, subscription agents paying by credit card will forfeit their agency discount.

The *International Journal for Quality in Health Care* (ISSN 1353 4505) is published bimonthly in February, April, June, August, October and December by Oxford University Press, Oxford, UK. The *International Journal for Quality in Health Care* is distributed by Mercury International, 365 Blair Road, Avenel, NJ 07001 USA. Periodicals postage paid at Rahway, NJ and at additional entry points.

US POSTMASTER: send address changes to the *International Journal for Quality in Health Care*, c/o Mercury International, 365 Blair Road, Avenel, NJ 07001 USA.

## Oxford Journals Environmental and Ethical Policies

Oxford Journals is committed to working with the global community to bring the highest quality research to the widest possible audience. Oxford Journals will protect the environment by implementing environmentally friendly policies and practices wherever possible. Please see <http://www.oxfordjournals.org/ethicalpolicies.html> for further information on Oxford Journals' environmental and ethical policies.

## Supplements, reprints and corporate sales

For requests from industry and companies regarding supplements, bulk article reprints, sponsored subscriptions, translation opportunities for previously published material, and

corporate online opportunities, please email [special.sales@oxfordjournals.org](mailto:special.sales@oxfordjournals.org), fax +44 (0) 1865 353774, or visit [www.oxfordjournals.org/jnls/sales](http://www.oxfordjournals.org/jnls/sales).

## DOIs (Digital Object Identifiers)

For information about DOIs and to resolve them, please visit <http://www.doi.org/>.

## Permissions

For information on how to request permissions to reproduce articles/information from this journal, please visit [www.oxfordjournals.org/jnls/permissions/](http://www.oxfordjournals.org/jnls/permissions/).

## Advertising

Advertising, inserts and artwork enquires should be addressed to Advertising and Special Sales, Oxford Journals, Oxford University Press, Great Clarendon Street, Oxford, OX2 6DP, UK. Tel: +44 (0) 1865 354767; Fax: +44 (0) 1865 353774; E-mail: [jnlsadvertising@oxfordjournals.org](mailto:jnlsadvertising@oxfordjournals.org).

## Disclaimer

Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data opinion or statement.

**Drug and dosage selection:** the authors have made every effort to ensure the accuracy of the information herein, in particular with regard to drug selection and dose. However, appropriate information sources should be consulted, especially for new or unfamiliar drugs or procedures. It is the responsibility of every practitioner to evaluate the appropriateness of a particular opinion in the context of actual clinical situations and with due consideration to new developments.

## Join ISQua!

Go to [www.isqua.org](http://www.isqua.org) and receive the Journal free of charge as an ISQua member! Members of the International Society for Quality in Health Care (ISQua) receive the Journal—including online access to all archived and current issues—as a membership benefit.

### Individual membership

Individual membership is available to any person who is interested in or working in the field of quality improvement in health care. Annual individual membership rates for 2007: AU\$225 (Approximately US\$169, €135 or £91). (Australian applicants please add 10% GST)

### Institutional membership

Institutional membership is offered by the Society to any institution or society that is interested in or working in the field of quality improvement in health care. Annual institutional membership rates for 2007: AU\$1160 (Approximately US\$905, €696 or £465). (Australian applicants please add 10% GST)

## Membership enquiries

Full membership details and an online membership application form for credit card payment can be found at ISQua's website: [www.isqua.org](http://www.isqua.org)  
Membership enquiries should be sent to: **Chief Executive Officer**, International Society for Quality in Health Care (ISQua), 212 Clarendon Street, East Melbourne, Victoria 3002, Australia. Tel: 61 3 9417 6971. Fax: 61 3 9417 6851. E-mail: [isqua@isqua.org](mailto:isqua@isqua.org)

Typeset by Techset Composition Pvt Ltd., Salisbury, UK  
Printed by Bell & Bain, Glasgow, UK.

© International Society for Quality in Health Care and Oxford University Press 2008. All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without prior written permission of the Publishers, or a licence permitting restricted copying issued in the UK by the Copyright Licensing Agency Ltd, 90 Tottenham Court Road, London W1P 9HE, or in the USA by the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For those in the USA or Canada not registered with CCC, articles can be obtained by fax in 48 hours by calling: WISE for Medicine™ 1-800-667-WISE.