







Home ▶ All Journals ▶ Medicine ▶ Scandinavian Journal of Rheumatology ▶ List of Issues Volume 40, Issue 1 ➤ Small-area variations in sales of TNF in

Scandinavian Journal of Rheumatology >

Figures & data

Volume 40, 2011 - <u>Issue 1</u>

389 43 6 Views CrossRef citations to date Altmetric

Small-area variations in sales of TNF inhibitors in Sweden between 2000 and 2009

M Neovius , A Sundström, JF Simard, B Wettermark, T Cars, N Feltelius, ...show all Pages 8-15 | Accepted 13 May 2010, Published online: 18 Oct 2010 **66** Cite this article ⚠ https://doi.org/10.3109/03009742.2010.493895 Sample our Medicine, Dentistry, Nursing & Allied Health Journals >> Sign in here to start your access to the latest two volumes for 14 days

66 Citations

Share

Metrics

Abstract

Full Article

➡ Reprints & Permissions

Objective: To measure small-area variations in sales per capita of tumour necrosis factor (TNF) inhibitors.

References

Read this article

Methods: For 2000–2009, sales data on etanercept, infliximab, and adalimumab were retrieved from the Swedish National Corporation of Pharmacies, which keeps data on drugs dispensed in ambulatory care and hospitals. As points of reference, data were retrieved on all drugs, non-biologic treatments for chronic inflammatory disorders (sulfasalazine, methotrexate, azathioprine), and for a biologic used in a different therapeutic area (trastuzumab). As a corollary measure to sales per capita, penetration of biologics in the rheumatoid arthritis (RA) population was calculated using nationwide registers. Small areas were defined as the 21 counties of Sweden.

Results: From 2000 to 2009, annual TNF inhibitor sales increased 9-fold from 195 to 1779 million SEK (0.7–5.0% of total drug expenditure). The county variation in sales per capita, initially 6.2-fold (coefficient of variation 42%), decreased to 2.3-fold in 2009 (24%). During the same period, total drug expenditure per capita remained at a 1.2-fold county variation (4–6%). Sales per capita variations of non-biologic treatments against chronic inflammatory diseases ranged from 1.5 to 1.8 (12–16%). For trastuzumab, a 3.2-fold variation (30%) was observed in 2009. At the patient level, there was a 2-fold county variation (from 10% to 21%) in biologic penetration in RA. County-specific sales per capita were associated with mean RA duration (r = -0.52, p = 0.015) and C-reactive protein at treatment initiation (r = -0.49, p = 0.025), while pain was borderline significant (r = -0.43, p = 0.055).

Conclusions: Despite universal access to treatment, substantial but decreasing smallarea variations were observed. Although geographic variations are anticipated initially, their persistence calls for investigation of patient equity and treatment appropriateness as counties seem to have different initiation thresholds.

Acknowledgements

We thank Anna Lindhé, Västra Götalandsregionen, and Maj Carlsson, Region Skåne, for providing data on the allocation of county sales of TNF inhibitors by indication.

The ARTIS Study Group conducts scientific analyses using data from the Swedish Biologics Register ARTIS run by the Swedish Society for Rheumatology. For the maintenance of this register, the Swedish Society for Rheumatology has received funding, independent of the conduct of these scientific analyses, from Schering-Plough, BMS, Wyeth, Abbott Laboratories, and Roche.

The ARTIS Study Group (in alphabetical order): E Baecklund (Uppsala University), L
Cöster (Linköping University), C Dackhammar (Sahlgrenska Academy), N Feltelius
(Medical Products Agency), P Geborek (Lund University), L Jacobsson (Lund University),
L Klareskog (Karolinska Institutet), S Lindblad (Karolinska Institutet), S Rantapaa-

Dahlqvist (Umeå University), T Saxne (Lund University), and R van Vollenhoven (Karolinska Institutet)

Related Research Data

Small-Area Variations in the Use of Common Surgical Procedures: An International Comparison of New England, England, and Norway

Source: New England Journal of Medicine

A systematic review of the effectiveness of adalimumab, etanercept and infliximab for the treatment of rheumatoid arthritis in adults and an economic evaluation of their cost-effectiveness

Source: Health Technology Assessment

The Application of Statistics as an Aid in Maintaining Quality of a Manufactured Product

Source: Journal of the American Statistical Association

Decentralized responsibility for costs of outpatient prescription pharmaceuticals in

Sweden

Source: Health Policy

Individual and collective bodies: using measures of variance and association in

contextual epidemiology

Source: Journal of Epidemiology & Community Health

Related research 1



People also read

Recommended articles

Cited by

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email



Sign me up











Accessibility



Copyright © 2025 Informa UK Limited Privacy policy Cookies Terms & conditions



Registered in England & Wales No. 01072954 5 Howick Place | London | SW1P 1WG