Letters Improving pharmacovigilance

Use of routinely collected data

BMJ 2010; 340 doi: http://dx.doi.org/10.1136/bmj.c2403 (Published 04 May 2010) Cite this as: BMJ 2010;340:c2403

- Article
- Related content
- Metrics
- Responses
- Peer review

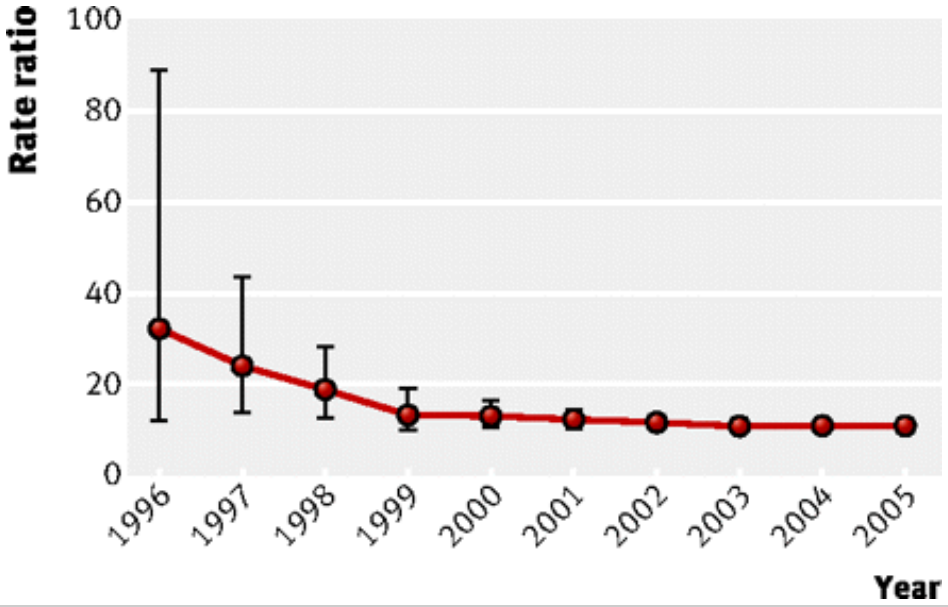
Mariam Molokhia, senior lecturer in epidemiology[1], Vasa Curcin, research fellow[2], Azeem Majeed, professor of primary care[3]

Author affiliations

a.majeed@imperial.ac.uk

Initiatives to improve pharmacovigilance in Europe**1** are essential in improving the safety of health care because current approaches to detecting adverse drug reactions have major limitations.

Databases derived from electronic patient records and hospital administration systems could help to improve detection.**2** We used one primary care database to investigate the association of myopathy and myalgia with the use of statins and fibrates.**3** This case crossover design (in which each patient acts as his or her own control) could have detected the association as early as 1996 (figure⇓).



Relative risk of myopathy and myalgia by year in case-crossover analysis of 16 591 patients using statins or fibrates during 1991-2005.3 Error bars are 95% confidence intervals

- Download figure
- Open in new tab
- Download powerpoint

Hospital episode statistics can identify admissions for adverse drug reactions. For example, during 1998-2005 the total number of hospital episodes in England increased by 14% but the number associated with adverse drug reactions increased by 45%.**4** The increase in admissions associated with adverse drug reactions may have been due to improved record keeping, a rise in adverse reactions because of an increasingly elderly population, the introduction of new drugs, and polypharmacotherapy. More effective use of hospital episode statistics, and of similar systems elsewhere in Europe, could considerably improve surveillance, as well as allowing evaluation of interventions to improve the safety of prescribing.

Health systems throughout Europe are investing substantially in information technology, which could improve pharmacovigilance.**5** Coverage of larger populations than allowed by studies in a single country and using a single database increases study power, with the potential benefit of earlier and more effective detection of adverse drug reactions.

Notes

Cite this as: *BMJ* 2010;340:c2403

Footnotes

- Competing interests: MM is funded by an NIHR postdoctoral award and is an investigator for the EU-ADR FP7 and Serious Adverse Events Consortium (SAEC) projects on adverse drug reactions. The Department of Primary Care and Public Health at Imperial College London has support from the NIHR Biomedical Research Centre scheme and the NIHR collaboration for leadership in applied health research and care (CLAHRC) scheme.

References

1. ↵Moore N, Bégaud B. Improving pharmacovigilance in Europe. *BMJ*2010;**340**:c1694. (12 April.) FREE Full Text
2. ↵Majeed A. Sources, uses, strengths and limitations of data collected in primary care in England. *Health Stat Q*2004;**21**:5-14. Medline
3. ↵Molokhia M, Curcin V, McKeigue P, Majeed A. Statin induced myopathy and myalgia: time trend analysis and comparison of risk associated with statin class from 1991-2006. *PLoS One*2008;25;3(6):e2522.
4. ↵Patel H, Bell D, Molokhia M, Srishanmuganathan J, Patel M, Car J, et al. Trends in hospital admissions for adverse drug reactions in England: analysis of national Hospital Episode Statistics 1998-2005. *BMC Clin Pharmacol*2007;**7**:9. CrossRef Medline
5. ↵Avillach P, Mougin F, Joubert M, Thiessard F, Pariente A, Dufour JC, et al. A semantic approach for the homogeneous identification of events in eight patient databases: a contribution to the European EU-ADR project. *Stud Health Technol Inform*2009;**150**:190-4. Medline