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DR CLAUDIA STÖLLBERGER MD UNIV. PROF.  
JOSEF FINSTERER MD, PhD  
*Krankenanstalt Rudolfstiftung, Wien, Austria*

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## Re: Use of cyclo-oxygenase 2 inhibitors (COX-2) and prescription non-steroidal anti-inflammatory drugs (NSAIDs) in UK and USA populations: implications for COX-2 cardiovascular profile

To the Editor

We read the paper by Arellano *et al.* describing the channelling of cyclo-oxygenase 2 inhibitors (COX-2) and non-steroidal anti-inflammatory drugs (NSAIDs) in UK and USA populations<sup>1</sup> using databases they describe as generally thought to be representative. The authors report on the characteristics of patients using COX-2 and NSAIDs, including history of upper gastrointestinal events and cardiovascular disease. Our comments relate solely to the UK data as some of their results differ remarkably from data in the General Practice Research Database (GPRD); the database considered to be the UK gold standard. It raises again the issues of quality and completeness of the data from

The Health Improvement Network (THIN). The table shows the differences in results between GPRD and THIN. Although Arellano *et al.* did not share their exact codes with us we based our coding on the textual list of events provided in the paper.

Our results indicate issues of missing data and changes over calendar time in time. A previous report has suggested considerable differences within THIN of the incidence rate of fractures.<sup>2</sup> This may be related to the lack of quality criteria for inclusion of data into THIN. As an example of how GPRD ensures quality, 11% of the practices that sent data to the GPRD are not used as the data do not meet quality standards.<sup>3</sup> Also, some of the practices that contribute data to THIN may be new to the VISION IT software and clinical data

	Ibuprofen		Diclofenac		Rofecoxib		Celecoxib	
	THIN <sup>a</sup>	GPRD	THIN <sup>a</sup>	GPRD	THIN <sup>a</sup>	GPRD	THIN <sup>a</sup>	GPRD
No. of patients	141 608	485 103	187 558	498 234	28 274	44 109	29 363	37 914
Ratio GPRD/THIN		3.4		2.7		1.6		1.3
Average calendar year		1998		1999		2001		2002
Percentage history of thrombotic events	7.0	10.4	6.0	9.1	13.9	23.1	14.1	24.7
Percentage history of gastrointestinal events	0.2	2.5	0.2	2.9	0.7	7.7	0.7	7.5

from previous software may not convert correctly to the VISION IT software. The amount of practices contributing data to THIN has changed considerably over time (considerably more than the changes in GPRD), suggesting substantial changes over calendar time in the amount of data in THIN.

As the utilisation of the various NSAIDs did change over time, Arellano *et al.* should have considered and adjusted for any changes over time in the amount and lower quality of THIN data. Channelling over time of drugs in actual clinical practice should be studied but require high quality data that are complete over time.

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TJEERD P. VAN STAA  
J. PARKINSON  
*GPRD, MHRA, London, UK*

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