#### **ERRATUM**



# Erratum to: Cost Effectiveness of Tiotropium in Patients with Asthma Poorly Controlled on Inhaled Glucocorticosteroids and Long-Acting β-Agonists

Jenny Willson<sup>1</sup> · Eric D. Bateman<sup>2</sup> · Ian Pavord<sup>3</sup> · Adam Lloyd<sup>1</sup> · Tania Krivasi<sup>1</sup> · Dirk Esser<sup>4</sup>

Published online: 27 January 2016

© Springer International Publishing Switzerland 2016

## Erratum to: Appl Health Econ Health Policy (2014) 12:447–459 DOI 10.1007/s40258-014-0107-8

The authors have informed us regarding some errors in the original publication. It should read as below:

#### Page 447, Abstract, paragraph 4, lines 2-5

The text which previously read:

"generated an incremental 0.24 QALYs and £5,238 costs over a lifetime horizon, resulting in an incremental cost-effectiveness ratio of £21,906 per QALY gained"

The online version of the original article can be found under doi:10.1007/s40258-014-0107-8.

- ☑ Dirk Esser dirk.esser@boehringer-ingelheim.com
- Health Economics and Outcomes Research, Real-World Evidence Solutions, IMS Health, 210 Pentonville Road, London N1 9JY, UK
- Division of Pulmonology, Department of Medicine, University of Cape Town, Cape Town, South Africa
- Respiratory Medicine, University of Oxford, Oxford, UK
- Boehringer Ingelheim, Ingelheim, Germany

#### Should read:

"generated an incremental 0.19 QALYs and £5,389 costs over a lifetime horizon, resulting in an incremental cost-effectiveness ratio of £28,383 per QALY gained"

## Page 447, Key Points for Decision Makers, paragraph 2, lines 2–4

The text which previously read:

"was estimated to be £21,906 per quality-adjusted life-year gained"

Should read:

"was estimated to be £28,383 per quality-adjusted life-year gained"

#### Page 453, 3.1 Base-Case Results, paragraph 1, lines 2-5

The text which previously read:

"increase lifetime discounted costs by £5,238 for an additional 0.24 QALYs gained compared with usual care alone. This resulted in an incremental cost-effectiveness ratio (ICER) of £21,906 per QALY gained"

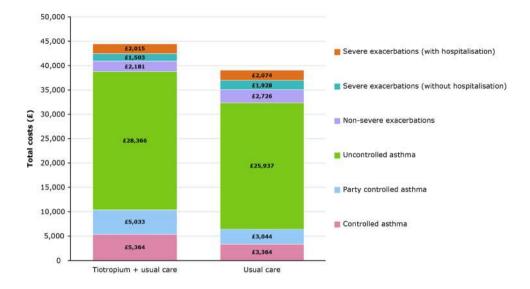
#### Should read:

"increase lifetime discounted costs by £5,389 for an additional 0.19 QALYs gained compared with usual care alone. This resulted in an incremental cost-effectiveness ratio (ICER) of £28,383 per QALY gained"

#### Page 454, Fig. 2

Figure 2 should read:

J. Willson et al.



Page 454, 3.2 Sensitivity Analyses, paragraph 1, lines 5–6

The text which previously read:

"which was at least 5 % of the base-case value of the ICER (£21,906)."

Should read:

"which was at least 5 % of the base-case value of the ICER (£28.383)."

## Page 454, 3.2 Sensitivity Analyses, paragraph 1, lines 14–16

The text which previously read:

"When considering variations in the key model inputs, the ICER remained below £30,000 per QALY gained."

Should read:

"When considering variations in the key model inputs, the ICER remained mostly below or slightly above £30,000 per QALY gained. The greatest impact was observed varying the costs for partly controlled asthma, with an ICER of £35,449 per QALY gained using the upper bound."

## Page 454, 3.2 Sensitivity Analyses, paragraph 2, lines 3–5

The text which previously read:

"Approximately 98 % of iterations appear in the north-east quadrant of the cost-effectiveness plane"

Should read:

"Approximately 96 % of iterations appear in the north-east quadrant of the cost-effectiveness plane"

## Page 454, 3.2 Sensitivity Analyses, paragraph 3, lines 4–5

The text which previously read:

"is 66 % at a willingness to pay of £30,000 per QALY gained and 45 % for a willingness to pay of £20,000"

Should read:

"is 52 % at a willingness to pay of £30,000 per QALY gained and 31 % for a willingness to pay of £20,000"

#### Page 454, 3.3 Scenario Analyses, paragraph 1, lines 2–3

The text which previously read:

"reduced the ICER by around £2,000 per QALY gained (from £21,906 to £19,764)"

Should read:

"reduced the ICER by around £2,000 per QALY gained (from £28,383 to £26,033)"

#### Page 454, 3.3 Scenario Analyses, paragraph 2, lines 3-4

The text which previously read:

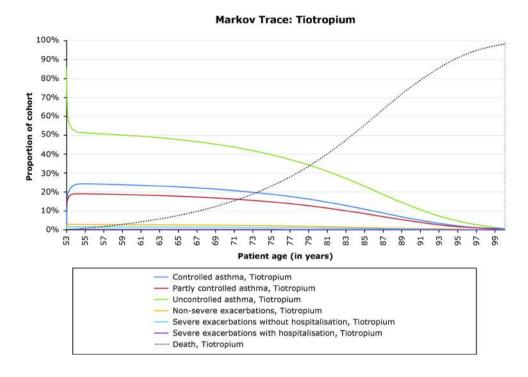
"with ICERs of £31,726, £24,538 and £23,301 per QALY gained"

Should read:

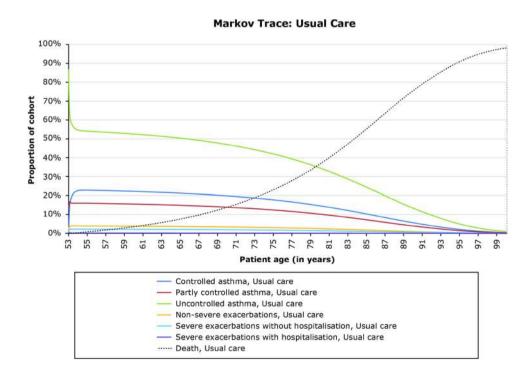
"with ICERs of £35,122, £30,318 and £29,418 per QALY gained"

Page 455, Fig. 3

Figure 3 should read:



Page 456, Fig. 4
Figure 4 should read:



J. Willson et al.

Page 456, Table 7

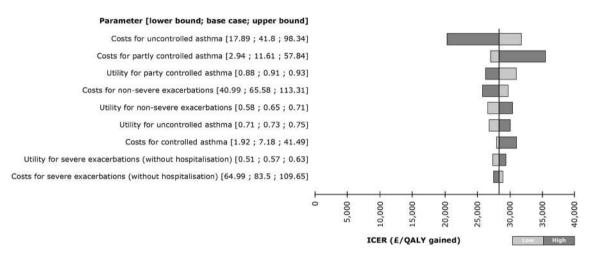
Table 7 should read:

	QALYs gained								
	Controlled asthma	Partly controlled asthma	Uncontrolled asthma	Non-severe exacerbation	Severe exacerbation without hospitalisation	Severe exacerbation with hospitalisation	Total QALYs		
Tiotropium + usual care	4.09	3.12	6.80	0.33	0.16	0.01	14.52		
Usual care	3.84	2.62	7.17	0.46	0.23	0.01	14.33		
Difference	0.25	0.50	-0.38	-0.13	-0.06	0.00	0.19		

QALYs quality-adjusted life-years

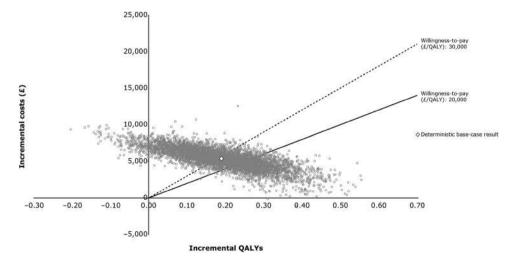
Page 457, Fig. 5

Figure 5 should read:



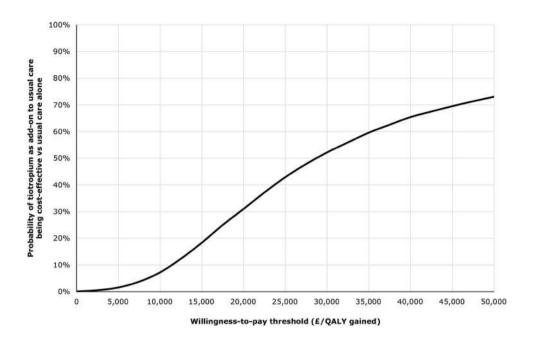
Page 457, Fig. 6

Figure 6 should read:



#### Page 458, Fig. 7

Figure 7 should read:



Page 458, paragraph 2, lines 15-20

The text which previously read:

"the addition of tiotropium generates 0.24 additional QALYs over a lifetime horizon for this patient group. The PSA demonstrated that there is only a very small degree of uncertainty around this utility gain; an average utility gain of 0.239 and credible interval of 0.237–0.241 was observed in the PSA."

#### Should read:

"the addition of tiotropium generates 0.19 additional QALYs over a lifetime horizon for this patient group (credible interval: -0.02 to 0.41)."

#### Page 458, paragraph 3, lines 5-10

The text which previously read:

"the model was most sensitive to changes in the costs of the uncontrolled and partly controlled asthma control health states; none of these variations resulted in an ICER above £30,000. Furthermore, the PSA demonstrated a 66 % likelihood of the base-case ICER being below £30,000 per QALY gained"

#### Should read:

"the model was most sensitive to changes in the costs of the uncontrolled and partly controlled asthma control health states; these variations resulted in ICERs of £31,784 and £35,449 per QALY gained, respectively. Furthermore, the PSA demonstrated a 52 % likelihood of the base-case ICER being below £30,000 per QALY gained"

#### Page 458, 5 Conclusion, paragraph 1, lines 7-8

The text which previously read:

"with an ICER of £21,906 per QALY gained and a 66 % likelihood of cost effectiveness"

#### Should read:

"with an ICER of £28,383 per QALY gained and a 52 % likelihood of cost effectiveness"

J. Willson et al.

#### Electronic supplementary material, page 2, Table 2

Table 2 should read:

From	Controlled asthma	Partly controlled asthma	Uncontrolled asthma	Non-severe exacerbation	Severe exacerbation – without hospitalisation	Severe exacerbation – with hospitalisation	
Days 0-56 "Early response phase"							
Controlled asthma	0.906	0.039	0.023	0.019	0.010	0.003	
Partly controlled asthma	0.089	0.808	0.072	0.022	0.007	0.002	
Uncontrolled asthma	0.025	0.035	0.908	0.024	0.008	0.000	
Non-severe exacerbation	0.135	0.095	0.581	0.122	0.054	0.013	
Severe exacerbation – without hospitalisation	0.085	0.043	0.340	0.021	0.489	0.021	
Severe exacerbation – with hospitalisation	0.167	0.167	0.166	0.167	0.167	0.166	
Days 57–336 "La	te response phas	se"					
Controlled asthma	0.950	0.022	0.009	0.011	0.007	0.001	
Partly controlled asthma	0.030	0.913	0.035	0.016	0.004	0.002	
Uncontrolled asthma	0.005	0.014	0.940	0.031	0.009	0.001	
Non-severe exacerbation	0.077	0.095	0.589	0.221	0.013	0.004	
Severe exacerbation – without hospitalisation	0.090	0.074	0.302	0.020	0.510	0.004	
Severe exacerbation – with hospitalisation	0.065	0.129	0.258	0.064	0.032	0.452	

#### Electronic supplementary material, page 3, Table 3

Table 3 should read:

to From	Controlled asthma	Partly controlled asthma	Uncontrolled asthma	Non-severe exacerbation	Severe exacerbation – without hospitalisation	Severe exacerbation – with hospitalisation		
Days 0-56 "Early response phase"								
Controlled asthma	0.908	0.031	0.026	0.018	0.013	0.004		
Partly controlled asthma	0.070	0.823	0.054	0.038	0.014	0.002		
Uncontrolled asthma	0.020	0.033	0.912	0.026	0.007	0.001		
Non-severe exacerbation	0.070	0.151	0.535	0.186	0.035	0.023		
Severe exacerbation – without hospitalisation	0.093	0.070	0.279	0.046	0.488	0.023		
Severe exacerbation – with hospitalisation	0.182	0.091	0.181	0.091	0.091	0.365		
Days 57-336 "Late	Days 57–336 "Late response phase"							
Controlled asthma	0.941	0.019	0.008	0.022	0.009	0.001		
Partly controlled asthma	0.028	0.904	0.030	0.030	0.008	0.001		
Uncontrolled asthma	0.005	0.011	0.932	0.039	0.013	0.001		
Non-severe exacerbation	0.125	0.093	0.563	0.202	0.013	0.005		
Severe exacerbation – without hospitalisation	0.072	0.064	0.340	0.011	0.504	0.008		
Severe exacerbation – with hospitalisation	0.088	0.029	0.324	0.088	0.029	0.441		

Acknowledgements IMS Health, funded by Boehringer Ingelheim, conducted the original analyses; Adam Lloyd was the guarantor of the overall content. Carl Samuelsen, Mike Baldwin and Dirk Esser from Boehringer Ingelheim conducted the re-analysis, as outlined in this erratum. Professor Eric Bateman and Professor Ian Pavord provided expertise on the clinical aspects of this study. Dirk Esser is a full-time employee of Boehringer Ingelheim. Adam Lloyd is a full-time employee of IMS Health. Jenny Willson and Tania Krivasi are former full-time employees of IMS Health. Professor Eric Bateman is Emeritus

Professor of Medicine at the University of Cape Town and received consulting fees or honoraria from Boehringer Ingelheim for the meetings connected with this study. Professor Ian Pavord is Professor of Respiratory Medicine at the University of Oxford and received consulting fees or honoraria from Boehringer Ingelheim for the meetings connected with this study. Medical writing assistance with this erratum was supported financially by Boehringer Ingelheim and provided by Lianne Young, BSc (Hons), at Complete HealthVizion under the authors' conceptual direction and based on feedback from the authors.