

Current prescribing patterns of bupropion in Australia

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TO THE EDITOR: Bupropion hydrochloride was listed on the Pharmaceutical Benefits Scheme (PBS) on 1 February 2001 for use as short-term adjunctive therapy for high nicotine dependence, with the goal of maintaining abstinence. Supply is limited to one application per year, with no repeats, and a maximum quantity of 120 tablets at a dispensed cost of \$238.95.

From the beginning of February to the end of December 2001, 351 772 bupropion prescriptions had been processed by the Health Insurance Commission (HIC) at a cost of \$83.14 million.¹ This is equivalent to about 2% of total PBS-related drug expenditure in Australia.² Given this high cost, it is reasonable to consider the extent to which this investment represents value for money.

An important first step is to assess the penetration of bupropion into the population of regular smokers in Australia. One indicator of this is the proportion of regular smokers who have filled a bupropion prescription (Box). Estimates suggest that 22.8% of the population aged 20 years and over (25.2% males and 22.8% females) are current regular smokers.³ Seventy-three per cent (14 099 273) of the Australian population were aged 20 years or over in June 2001.⁴ Combining population and age-specific smoking prevalence estimates results in an estimated 3 198 738 current regular smokers aged 20 years and over. Given that the PBS guidelines allow for only

one prescription of bupropion per smoker per year, an estimated 11% (351 772 prescriptions divided by 3 198 738 smokers) of current regular smokers filled a prescription for bupropion in 2001. Excluding smokers aged less than 20 years will have minimal effect on this estimate, as the incidence of high nicotine dependence in this group is likely to be low.

Applying this method to each State and Territory reveals marked variation between them in the apparent proportions of smokers filling a prescription for bupropion. For example, an estimated 16.5% of all smokers in Tasmania had such a prescription filled, compared with 8% in Victoria. Although data from the HIC may be incomplete,⁵ the same method is applied to each jurisdiction in compiling them. Key unanswered questions relate to the extent to which (i) smokers complete a full course of bupropion, (ii) the field effectiveness of bupropion in aiding smoking cessation is comparable with abstinence rates achieved in clinical trials, and (iii) bupropion is used in conjunction with a comprehensive treatment program. We are currently conducting research to examine such questions.

1. PBS expenditure and prescriptions February 2001 to December 2001. Canberra: Department of Health and Aged Care, 2002. Available at <http://www.hic.gov.au/statistics/dyn_pbs/forms/pbs_tab1.shtml
2. Australian Institute of Health and Welfare. Health expenditure bulletin no. 17: Australia's health services expenditure to 1999-00. Canberra: AIHW, 2001. (Catalogue No. HWE 18; Health and Welfare expenditure series No. 12.)
3. Australian Institute of Health and Welfare. 1998 National drug strategy household survey: first results. Canberra: AIHW, 1999. (AIHW Catalogue No. PHE 15; Drug Statistics Series.)
4. Australian Bureau of Statistics. Australian population by age and sex, Australian States and Territories. Drug Statistics Series. Canberra: ABS, 2001. (Catalogue no. 3201.0.)
5. Robertson J, Fryer JL, O'Connell DL, et al. Limitations of Health Insurance Commission (HIC) data for deriving prescribing indicators. *Med J Aust* 2002; 176: 419-424. □

Allergy to hydroxycobalamin, with tolerance of cyanocobalamin

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TO THE EDITOR: Cyanocobalamin and hydroxycobalamin are synthetically derived preparations of vitamin B₁₂. Allergy to vitamin B₁₂ injection is infrequent, but may be serious. We describe a patient with allergy to hydroxycobalamin, without cross-reaction to cyanocobalamin.

Our patient was a 45-year-old woman with vitamin B₁₂ deficiency. She had positive antiparietal cell antibodies and normal results of Schilling's test after addition of intrinsic factor. Otherwise she was in good health, with no other evidence of autoimmune disease.

Her allergy commenced after an intramuscular injection of hydroxycobalamin, with onset of mild generalised pruritus. Subsequent monthly 1 mg injections of hydroxycobalamin were followed by incrementally worsening pruritus, and then frank urticaria. The last of nine injections was followed by urticaria, bronchospasm and oropharyngeal angioedema, which responded to administration of adrenalin.

The patient underwent skinprick and intradermal testing with hydroxycobalamin and cyanocobalamin. Wheal-and-flare reactions occurred with injection of dilutions of hydroxycobalamin, suggesting an IgE-mediated response. No reactions were evident with dilutions of cyanocobalamin (Box). Subsequently, the patient had no reaction to a challenge of subcutaneously administered cyanocobalamin 0.1 mL (100 µg), and then intramuscularly admin-

Characteristics of bupropion use in Australian States and Territories, February to December 2001, inclusive

	ACT	WA	Vic	Tas	SA	Qld	NT	NSW	Total
Population (≥ 20 years)	225 797	1 372 378	3 550 348	338 108	1 110 897	2 602 539	131 542	4 767 664	14 099 273
Current regular smokers (≥ 20 years)	53 448	316 608	804 455	74 507	245 553	593 268	33 254	1 077 132	3 198 225
Bupropion prescriptions processed	4 470	46 186	64 482	12 279	32 455	81 619	3 803	106 478	351 772
Total cost of prescriptions processed	\$1 043 863	\$10 854 828	\$15 253 431	\$2 920 481	\$7 713 913	\$19 237 576	\$881 709	\$25 238 851	\$83 144 652
Proportion of current regular smokers who used bupropion	8.4%	14.6%	8.0%	16.5%	13.2%	13.8%	11.4%	9.9%	11.0%