



# Changes in HT prescriptions in Australia since 1992

Nathan J Coombs, BSc, FRCS, is Surgical Postgraduate Fellow, NSW Breast Cancer Institute, University of Sydney, New South Wales.

John Boyages, FRACR, PhD, is Executive Director, NSW Breast Cancer Institute, University of Sydney, New South Wales. johnb@bci.org.au

**H**ormone therapy (HT) use in Australia and America increased from 1992.<sup>1,2</sup> However, recent studies have highlighted its risks for breast and endometrial cancer, thromboembolic disorders and cardiovascular disease.<sup>3-6</sup> One of these studies (the Women's Health Initiative [WHI] trial) was terminated prematurely because of excess adverse cardiovascular events and invasive breast cancer with oestrogen and progestogen.<sup>6</sup> The publicity generated increased public awareness of the risks of HT. This has been further heightened with the publication of the Million Women study.<sup>3</sup> However, the recently published oestrogen only HT (indicated only for women with a hysterectomy because of the risk of endometrial hyperplasia and uterine cancer) arm of the WHI trial suggested that this formulation may reduce the risk of breast cancer.<sup>7,8</sup>

The prevalence of HT in South Australia had a sustained increase from 1991-2000.<sup>2</sup> Greatest use was among women aged 55-59 years and once women commenced HT, their continuation rate was over 95% per annum if taking combination HT.<sup>9,10</sup> In the United States and Australia, HT use reduced following the greater public awareness of HT risks.<sup>1,11,12</sup> However, a recent South Australian survey suggests a recovery in HT use is beginning.<sup>1</sup>

These estimates of HT use were determined by direct questioning of a cohort, extrapolating the data to the entire population. This may contain recall, response

and measurement biases. More direct changes in prescribing (and presumed HT use) may be measured by analysing pharmacy prescriptions. Although undertaken in the United States,<sup>1</sup> this method has not been reported using Australian Health Insurance Commission (HIC) data. Although this does not provide data for specific population subgroups, it does permit analysis of all prescriptions by HT formulation, and by time.

## Methods

The Health Insurance Commission website ([www.hic.gov.au](http://www.hic.gov.au)) lists 24 oral and 24 topical HT formulations available to doctors as part of the Pharmaceutical Benefits Schedule (PBS). The number of pharmacy prescriptions for each is recorded monthly from January 1992. We grouped the total numbers of HT prescriptions by date, method of administration, formulation and oestrogen dose. Sequential changes and trends in prescribing patterns were measured for each medication. We compared them with state population and age demographic data taken from the Australian Bureau of Statistics online ([www.abs.gov.au](http://www.abs.gov.au)).

## Results

Between January 1992 and December 2004 in Australia, 37.8 million prescriptions were written for HT: 11.8 million (31.2%) were for topical and 26.0 million (68.8%) were for oral HT preparations, and the number of HT products available increased from 16 to 48. From 1992, oral HT prescribing increased

each year until 2001, when the total number of prescriptions fell by 54% to 1.27 million oral, and 0.74 million topical HT prescriptions. This was regardless of formulation or total oestrogen dose (*Figure 1*).

Each state and territory demonstrated similar changes in prescribing over this time, although those with larger proportions of elderly women had the highest number of HT prescriptions per capita (*Table 1*).

Topical HT prescribing increased to 1996, accounting for 40% of annual HT prescriptions. Following the introduction of combination HT in 1997, the number and proportion of topical HT prescriptions fell to 0.7 million (24%) each year. However, between 2003 and 2004 there was a modest increase in topical HT prescribing from 24 to 37%.

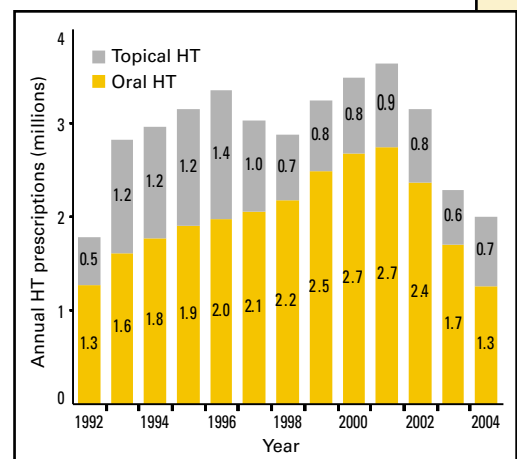


Figure 1. Number of HT prescriptions in Australia by formulation and year. Note: values indicate the annual number (millions) of HT prescriptions in all states and territories in Australia

**Table 1. HT prescribing by Australian state and territory 1992–2004**

State or territory	Female population (2001 census)	Median age of population	Median number of annual HT prescriptions	Annual number of HT prescriptions per capita
	'000 000	(years)	'000	
NSW	3.23	35	1080	0.33
VIC	2.37	35	610	0.26
QLD	1.85	35	551	0.30
SA	0.74	37	331	0.44
WA	0.93	34	313	0.34
TAS	0.22	36	96	0.41
ACT	0.10	32	37	0.36
NT	0.16	30	11	0.07
All states	9.60	35	3029	0.32

## Discussion

These data only report total numbers of HT prescriptions presented to the HIC, each of which may contain up to five repeats (allowing for 6 months medication). This tells us nothing of adherence. This means the data are sensitive to the way doctors may write, and women may use, repeat prescriptions. Also, the HIC records only prescriptions costing more than \$23.10. Although a single month of HT may cost less than this, most women receive several months of HT as a single prescription and would therefore be included. As all Australians are entitled to use the PBS, the number of private HT prescriptions may be small.

Nevertheless, this provides the most comprehensive, national assessment of HT prescribing patterns in Australia. The publicity surrounding the WHI study findings generated a similar response to those reported in the United States.<sup>1,11,12</sup>

We also found that oral HT prescribing is continuing to fall. Per capita HT prescribing is lowest in states where the population is younger and have a higher proportion of indigenous Australians. South Australia, with its older population has the highest number of HT prescriptions per capita, so extrapolation to the Australian population from this state (as was done in the past<sup>9,13</sup>) will overinflate use.

The changes in topical HT prescribing we

found confirm data from the United States,<sup>1</sup> and may reflect a perceived lower risk for intravaginal or patch HT. Use of the HIC database may be useful for studying trends in prescribing of other PBS listed medications.

### Implications of this study for general practice

- Between 1992 and 2004, 37.8 million HT prescriptions have been written (oral HT 26.0, topical HT 11.8, reaching 3.5 million per year) but in 2004, oral HT prescribing dropped to 1992 levels of 1.3 million per year.
- In 2001 there were well publicised high profile studies reporting increased breast cancer and cardiovascular risk (although overall mortality was not increased).
- There was a modest increase in topical HT in 2003–2004.

Conflict of interest: none declared.

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AFP

### Correspondence

Email: [afp@racgp.org.au](mailto:afp@racgp.org.au)