

# THERAPEUTICS INITIATIVE

Evidence Based Drug Therapy

## Increasing Drug Costs Are we getting good value?

Canada now spends 25% more on pharmaceuticals than on doctors. Are we getting good value for money, in terms of better drug treatments? In a study published in the *British Medical Journal*<sup>1</sup> researchers at the University of British Columbia (UBC) analyzed the reasons for the increases in spending on drugs in British Columbia between 1996 and 2003. During this time, annual spending per person on prescription drugs more than doubled, from \$141 to \$316.

### Few new "breakthrough" drugs

This analysis was based on the Patented Medicines Pricing Review Board's (PMPRB)'s system of classifying the 1147 new patented products (new drugs and new formulations) introduced onto the Canadian market between 1990 and 2003. The PMPRB classifies drugs as "breakthroughs or substantial improvement", "additions to a class providing moderate, little or no improvement", or "line extensions". The classification is done at the time the drug enters the market and is used by the PMPRB to assign the market price in Canada. The PMPRB defines the breakthrough category as "the first drug to treat effectively a particular illness or which provides a substantial improvement over existing drug products."<sup>2</sup>

From 1990 to 2003, the PMPRB classified 68 (5.9%) new products in the breakthrough category. The UBC researchers increased this number to 142, or 12.4%, by including all formulations and new drugs in the same chemical sub-class as the breakthroughs.

For the remaining 1005 new products and line extensions, the PMPRB judged that there was no evidence of any substantial therapeutic advantage over existing drugs. These were named "me-too" drugs by the UBC researchers. Older drugs, first sold in Canada before 1990, were named "vintage brands" or "vintage generics", depending on whether these were brand-name drugs or generic drugs.

B.C.'s PharmaNet system, which includes all prescriptions dispensed in the province, was used to track spending between 1996 and 2003.

### "Me-too" drugs responsible for 80% of increased spending

Figure 1 shows the shift in spending on the 4 categories between 1996 and 2003. The breakthrough category accounts for a relatively small proportion of total



spending: 6% of spending in 1996, growing to 10% in 2003. This category was responsible for less than 15% of the increase in spending between 1996 and 2003.

The share of spending on older drugs ("vintage generics" and "vintage brands") fell from over half of total spending in 1996 to just over a quarter in 2003. New "me-too" drugs went from 41% of spending in 1996 to nearly two-thirds of spending in 2003 and accounted for nearly 80% of the increased spending in B.C. between these years.

Prescription drug expenditure per capita  
1996 to 2003, British Columbia

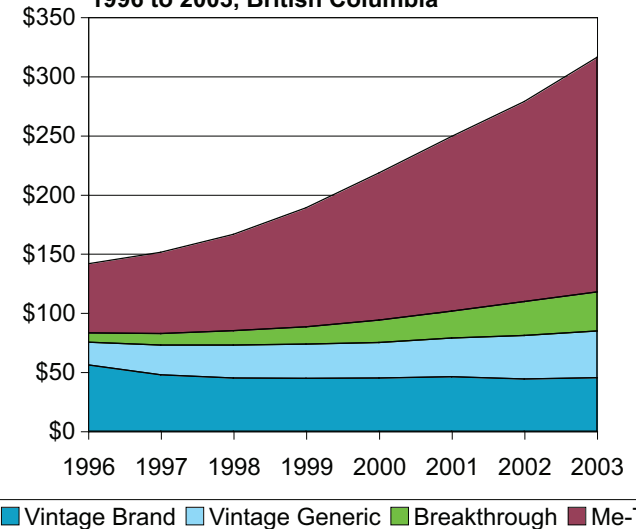


Figure 1: from Morgan et al. *BMJ* 2005; 331:815-816, reproduced with permission from the BMJ Publishing Group.



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**Table: Examples of 1996 costs of “Me-Too” drugs as compared to “Vintage” drugs**

Drug	“Me-too” drugs (Trade Name)	Dose	Cost/ Day*	Vintage drugs	Dose	Cost/ Day*
Anti-histamine	cetirizine (Reactine®)	10 mg daily	\$0.78	chlorpheniramine#	2 mg BID	\$0.10
NSAID	ketorolac (Toradol®)	10 mg TID	\$1.97	ibuprofen	400 mg TID	\$0.14
Antibiotic	clarithromycin (Biaxin®)	250 mg BID	\$3.15	erythromycin base	250 mg TID	\$0.19
Hypnotic	zopiclone (Imovane®, Rhovane®)	7.5 mg qhs	\$0.61	oxazepam	15 mg qhs	\$0.02

\*average daily cost calculated using 1996 PharmaNet data  
# over the counter drug, price at local pharmacy

By PMPRB definitions, at the time of their introduction “me-too” drugs were judged to provide moderate, little or no improvement - in terms of effectiveness and safety - compared to older alternatives. However, on average, “me-too” drugs cost about 2.5 times as much per prescription as comparable older drugs (see examples in the Table above). You will note from the examples that “me-too” drugs can differ clinically from older alternatives. The question is whether the perceived or real differences justify the increased costs. New drugs do have a role in some situations and for some patients. **However, it makes sense to use the older equally effective drugs whenever possible.**

### Similar findings in other countries

A French independent drug bulletin, *La Revue Prescrire* (Prescrire), evaluates all new drugs and indications in France for their physician and pharmacist subscribers. From Prescrire’s launch in 1981 to 2005, they have classified 3335 drugs into 7 categories.<sup>3,4,5</sup> Seven drugs (0.2%) merited a “bravo” - a major therapeutic advance - and 78 (2%) were judged to provide “a real advantage”. The third category rates drugs as offering an advantage, but not to an extent that should fundamentally change practice: 227 (7%). The majority of drugs, 2789 (84%), were judged to have minimal additional value or to be nothing new: 487 (15%) minimal additional value; 2302 (69%) nothing new. Some drugs were judged to be “not acceptable” often because of safety concerns, 106 (3%). The final category was “judgment reserved”, usually because available clinical trials did

### References

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not provide the evidence needed to evaluate effectiveness, 128 (4%).

Sweden's Medicines Agency also classifies new medicines in terms of their contribution to therapy. In a comparison of all new drugs assessed by both the Swedish Agency and Prescrire from 1997 to 1999 (n=54),<sup>6</sup> there was full agreement for 40 drugs (74%). Discrepancies reflected national differences for 4 (7%) and remaining disagreements were in both directions.

Many of the products classified as “breakthroughs” by the PMPRB are for very limited and specialized use. Both the PMPRB and Prescrire rated zidovudine (Retrovir®) as a major advance for HIV therapy. The PMPRB also rated the protease inhibitors for HIV as breakthroughs: saquinavir (Invirase®), ritonavir (Norvir®), indinavir (Crixivan®).

### Possible cost savings

If the increased use of “me-too” drugs in Canada could be stopped for just one year, we could save more than \$1 billion off of total drug costs. After this one-year break, even if everyone went back to usual prescribing patterns, the savings generated and carried forward would pay for the salaries of 4000 new primary care physicians.

### Implications for Clinical Practice

- The majority of new drugs do NOT represent a major advantage when compared to available alternatives.
- Since most new “me-too” drugs are much more expensive than equally effective older drugs, they represent a waste of health care resources.**
- Physicians collectively have the power to prevent this waste and thus free up money for other sectors of the health care system.

The Therapeutics Initiative is considering offering a web based tool which will provide approximate cost of prescription drugs by dose in B.C. Send us an e-mail with the subject line “drug cost” if you would find such a tool useful in your practice: [info@ti.ubc.ca](mailto:info@ti.ubc.ca)

The draft of this Therapeutics Letter was submitted for review to 40 experts and primary care physicians in order to correct any inaccuracies and to ensure that the information is concise and relevant to clinicians.