

Policies for Deprescribing: An International Scan of Intended and Unintended Outcomes of Limiting Sedative-Hypnotic Use in Community-Dwelling Older Adults

Politiques de déprescription : analyse internationale des résultats attendus ou non d'une limitation de l'utilisation de sédatif hypnotique chez les personnes âgées vivant dans la communauté

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TABLE 1. Effectiveness of policies to reduce benzodiazepine and Z-drug prescriptions

Policy	Description and study design	Change metric	Follow-up period	Pre-policy mean rate of use	Post-policy rate of use	Absolute rate of reduction*	Relative rate of reduction†
Prescription monitoring programs							
	Expansion of the New York state triplicate prescription monitoring program to include benzodiazepines for seniors, implemented January 1, 1989 (McNutt et al. 1994; Wagner et al. 2003) Design: Controlled before–after study	Medicaid beneficiaries receiving benzodiazepine prescriptions/month.	2 years	2,050 men	860 men	-1,190 men	-58.0%
		Beneficiaries of the state-wide seniors' medication insurance plan receiving benzodiazepine prescriptions/month	1 year	9,921 women 4,789 persons	4,623 women 3,120 persons	-5,298 women -1,669 persons	-53.4% -34.9%
	Rescheduling of alprazolam from a regular prescription to a controlled substance across Australia, February 1, 2014 (Schaffer et al. 2016) Design: Interrupted time series and repeated measures study	Monthly alprazolam prescriptions per 100,000 population	1 year	65–79 years: 930 ≥80 years: 925	65–79 years: 672 ≥80 years: 564	65–79 years: 258 ≥80 years: 361	65–79 years: -27.7% ≥80 years: -39.0%
Driver's license restriction on benzodiazepine users							
	Denmark driver's license restriction policy for older persons using long- or short-acting benzodiazepines, effective January 1, 2008 (Eriksen and Bjerrum 2015) Design: Interrupted time series and repeated measures study	Number of defined daily doses (DDDs) of benzodiazepines per 1,000 Danish inhabitants	5 years	2007: 19.3 DDDs† of long-acting benzodiazepines/day	2013: 8.8 DDDs of long-acting benzodiazepines/day	-10.5 DDDs of long-acting benzodiazepines/day	-54.4%
				2007: 25.3 DDDs of short-acting benzodiazepines/day	2013: 16.4 DDDs of short-acting benzodiazepines/day	-8.9 DDDs of short-acting benzodiazepines/day	-35.2%

Policy	Description and study design	Change metric	Follow-up period	Pre-policy mean rate of use	Post-policy rate of use	Absolute rate of reduction*	Relative rate of reduction†
Awareness campaign about drug and non-drug sleep therapies							
	Local consultation and implementation of a regional media and education campaign in South Australia involving local healthcare providers and the general public on drug and non-drug therapies for insomnia, 1999 (Dollman et al. 2005) Design: Controlled before–after study	Number of DDDs of benzodiazepines per 1,000 Australian inhabitants over a six-month period	2 years	234.9 DDDs per day	190.1 DDDs per day	44.8 fewer DDDs per day	-19.1%‡
Reimbursement restriction (delisting)							
	Netherlands' delisting of all benzodiazepines as a public health insurance benefit, January 1, 2009 (Hoebe et al. 2012; Kollen et al. 2012) Design: Controlled before–after study	Proportion of patients with a prescription for benzodiazepines from a network of general practices Days of benzodiazepine dispensing per user per trimester in primary care practices	2 years	Insomnia: 67.0% Anxiety: 33.7% 15.57 days	Insomnia: 59.1% Anxiety: 30.1% 13.46 days	Insomnia: -7.9% Anxiety: -3.6% 2.11 fewer days per trimester	-11.8% -10.7% -13.6%
	US Medicare Part D delisting of all benzodiazepines as a public health insurance benefit for community-dwelling seniors, January 1, 2006 (Chen et al. 2008) Design: Interrupted time series and repeated measures study	Benzodiazepine prescriptions per month (source: single, retail pharmacy chain)	1 year	238,961 prescriptions	226,622 prescriptions	12,339 fewer prescriptions	-5%
Financial incentives to improve benzodiazepine prescribing							
	General practitioners in France offered €490/year for demonstrating reduced long-term users of benzodiazepines (all) and long half-life benzodiazepine use (seniors), January 1, 2012 (Rat et al. 2014) Design: Controlled before–after study	Number of patients newly treated with benzodiazepines Continuation of use > 12 weeks (any age) Proportion of >65 years of age prescribed long half-life benzodiazepines	1 year	2011: 41,393 > 12 weeks: 18.18% Long half-life: 53.5%	2012: 41,980 > 12 weeks: 18.97% Long half-life: 48.8%	587 people 0.79% increase in long-term users -4.7% long half-life users >65	1.4% 4.3% -8.8%

* Absolute prescription change was calculated by comparing rates of benzodiazepine use prior to and after the implementation of each policy. Absolute change in usage (%) =

(rate of use %)_{POST} – (rate of use %)_{PRE}.

† Relative effectiveness of each policy was recorded as the relative change in prescription rates. Relative change in usage (%) = [(rate of use)_{POST} – (rate of use)_{PRE} × 100]/(rate of use)_{PRE}.

‡ DDD: defined daily dose.