

Helping Doctors Prescribe Less Opioids and Benzodiazepines

Nikolaos Genimakis (APHC Liljeholmen)



Prescribing – or deprescribing – opioids and benzodiazepines is a major challenge for physicians. Treatment is hard to manage because of side effects, the potential for dependence and abuse, and the mortality associated with these drugs. Newer guidelines prioritize safer alternatives, but reducing prescriptions is still difficult in practice.

APHC Liljeholmen's hands-on approach – prescription policy, patient communication strategies, screening for problematic use, and peer support to clinicians – halved prescriptions within three years.

BACKGROUND

The *Academic Primary Health Care Center of Liljeholmen* (APHC Liljeholmen) is the second-largest primary health care clinic in Stockholm County with over 30,000 patients. In spring 2016, an internal audit showed that opioids, benzodiazepines, and z-drugs (i.e., zopiclone and zolpidem) were in some cases over-prescribed, without proper adherence to the guidelines.

AIM

We have sought to reduce the prescription of all narcotics at our clinic.

METHODS

- ✓ *Prescription policy* based on national treatment guidelines for pain and anxiety
- ✓ Newly initiated treatment with narcotics: Compliant with guidelines, short-term
- ✓ Long-term users: Encouraged to *taper off* and *switch to safer alternatives*
- ✓ *Patient communication strategies*, written educational information to patients
- ✓ *Screening for problematic use*: Prescription monitoring, drug testing
- ✓ *Peer support* and *regular feedback* to clinicians

RESULTS

Within three years, the prescription of benzodiazepines has gone down by 64.16% measured in defined daily doses (DDDs) of filled prescriptions. Opioids have gone down by 50.27%, and z-drugs by 41.85% (Figure 1).

Compared to prescriptions from all other primary care clinics in Stockholm County, these reductions are statistically significant for every year of the intervention, for all drug categories (Table 1).

DISCUSSION

While the results are positive, we cannot safely assume that they are due to the intervention alone. Access to psychotherapy, a safer alternative to anxiolytics and hypnotics, has improved thanks to several new therapists we have recruited during these three years. Also, some of the doctors have either resigned or retired. Different prescribing attitudes between them and the ones replacing them may have contributed to the results.

These results were attained in an average-prescribing clinic (Table 2), which suggests that many other clinics with a similar profile may have similar improvement potential. There is a randomized controlled trial underway aiming to assess whether an intervention similar to APHC Liljeholmen's can produce comparable results. Hopefully, this knowledge will empower clinicians to make better treatment decisions, benefiting both the individual and society at large.



Figure 1. Prescriptions (filled, in DDDs) per year, APHC Liljeholmen (left) vs. all other primary care clinics (right)
Note: Baseline is the period June 2015 – May 2016.

Table 1. Changes in prescriptions, primary care in Stockholm County, June 2015 – May 2019

		APHC Liljeholmen		All other primary care		p-value
		DDDs	change	DDDs	change	
Benzodiazepines (N05BA)	baseline	37 946	–	2 187 593	–	–
	year 1	23 406	-38.32%	2 091 472	-4.39%	< 2.2×10 ⁻³⁰⁸
	year 2	18 232	-51.95%	1 942 809	-11.19%	9.0×10 ⁻⁷¹
	year 3	13 598	-64.16%	1 788 984	-18.22%	3.4×10 ⁻⁷⁷
Opioids (N02A)	baseline	73 375	–	5 315 553	–	–
	year 1	53 117	-27.61%	5 180 467	-2.54%	< 2.2×10 ⁻³⁰⁸
	year 2	46 369	-36.80%	4 936 781	-7.13%	6.3×10 ⁻⁴³
	year 3	36 487	-50.27%	4 689 115	-11.79%	6.0×10 ⁻¹⁵⁹
Z-drugs (N05CF)	baseline	214 247	–	14 812 137	–	–
	year 1	175 760	-17.96%	15 199 992	+2.62%	< 2.2×10 ⁻³⁰⁸
	year 2	149 803	-30.08%	15 193 492	+2.57%	< 2.2×10 ⁻³⁰⁸
	year 3	124 594	-41.85%	14 886 770	+0.50%	< 2.2×10 ⁻³⁰⁸

Note: Change is relative to baseline. P-values refer to the change within each year of the intervention for each drug category and are calculated using *Fishers exact test* in Python 3.6.8/scipy 1.1.0.

▼ 64.16% Benzodiazepines ▼ 50.27% Opioids ▼ 41.85% Z-drugs

Table 2. APHC Liljeholmen's prescribing within primary care in Stockholm County, June 2015 – May 2019

		DDDs	percentage	DDDs/patient	z-score	rank
Benzodiazepines (N05BA)	baseline	37 946	1.71%	1.34	0.21	66
	year 1	23 406	1.11%	0.80	-0.35	117
	year 2	18 232	0.93%	0.61	-0.55	150
	year 3	13 598	0.75%	0.45	-0.67	172
Opioids (N02A)	baseline	73 375	1.36%	2.58	-0.11	92
	year 1	53 117	1.01%	1.81	-0.50	131
	year 2	46 369	0.93%	1.55	-0.62	149
	year 3	36 487	0.77%	1.19	-0.71	163
Z-drugs (N05CF)	baseline	214 247	1.43%	7.55	-0.05	99
	year 1	175 760	1.14%	5.99	-0.39	145
	year 2	149 803	0.98%	5.02	-0.64	170
	year 3	124 594	0.83%	4.08	-0.76	188

Note: Percentage is DDDs prescribed at APHC Liljeholmen divided by total DDDs prescribed within Stockholm County primary care. DDDs/patient are APHC Liljeholmen DDDs divided by the number of registered patients. Z-score is normalized DDDs/patient, expressed in standard deviations from the primary care mean. Rank is APHC Liljeholmen's ranking in DDDs/patient among all primary care clinics (n=229) in Stockholm County. Highest-ranking is the clinic with the highest DDDs/patient.

