MEDIZINISCHE UNIVERSITÄT WIEN

suchthilfe wien

StaDt Wien

Integrated Drug Checking:

Analysis-based Interventions at *checkit!* in Vienna

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checkit!

checkit! **is a scientific collaboration of**

suchthilfe wien

StaDt Wien

MEDICAL UNIVERSITY OF VIENNA

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StaDt Wien

Federal Ministry
Labour, Social Affairs, Health and Consumer Protection

Integrated Drug Checking (IDC)
Analysis-based Interventions

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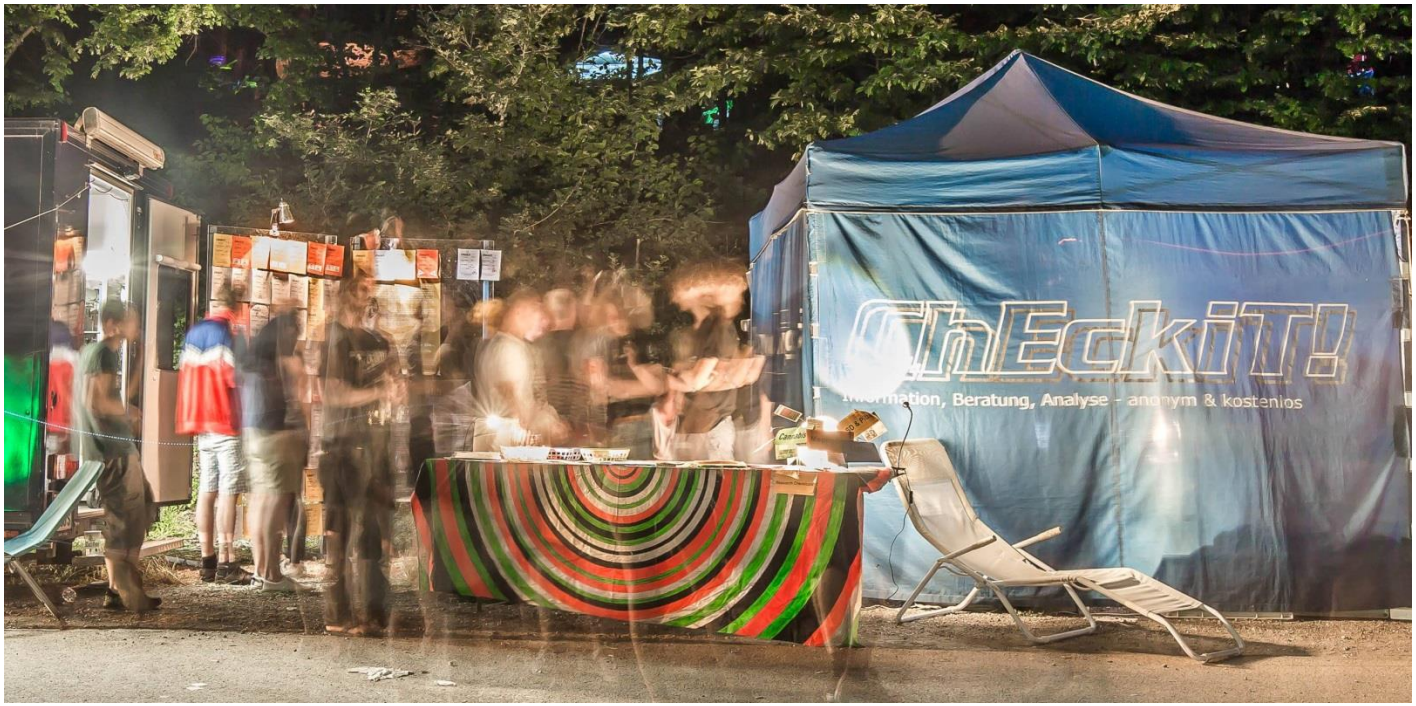
Analytical & toxicological measures

- Substance analysis
- Individual risk categorisation

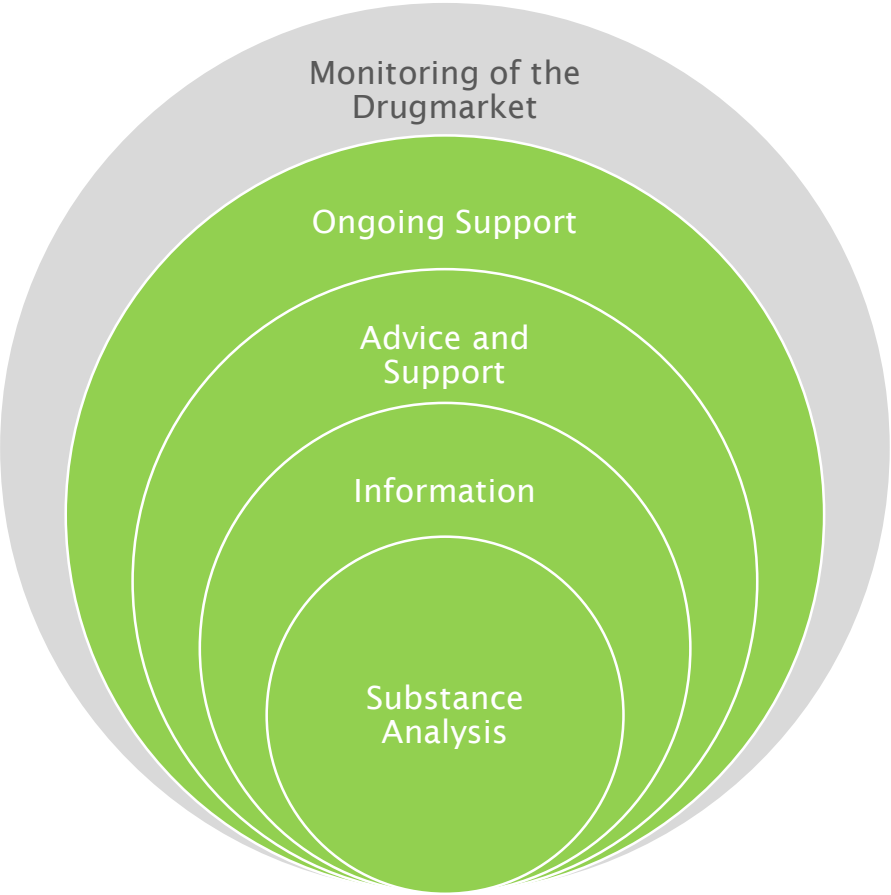
Psychosocial interventions

- Information
- Advice & support



source: © Bojan Ilic Fotografie

Integrated Drug Checking (IDC)
Analysis-based Interventions



Source: checkit!, Suchthilfe Wien gGmbH

Requirements for comprehensive addiction prevention and early interventions:

- Identity of pharmacologically active substances
- Quantitative composition of the drug
- Fast analysis and communication of results at the venue

Current developments & challenges

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- ✓ **Increasing number of different new psychoactive substances (NPS) on the market**
- ✓ **High complexity of samples**
- ✓ **High variability of dosage**
- ✓ **Appearance of highly potent psychoactive substances**

1997
Remedy

2002
HPLC-UV

2008
HPLC-DAD

2012
HPLC-DAD-MS

2018
UHPLC-DAD-MS &
MALDI-IT-MS

Highly potent substances

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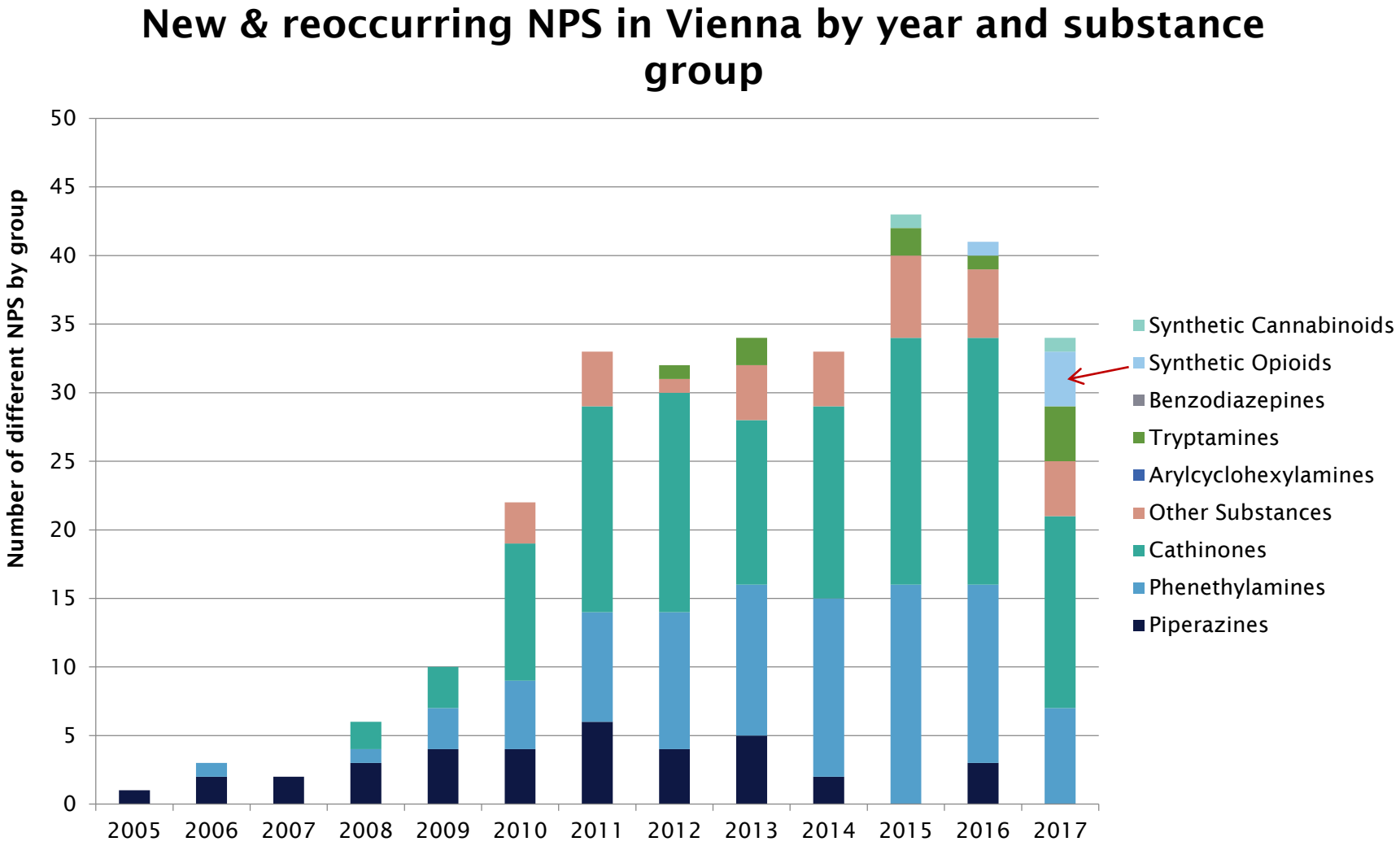
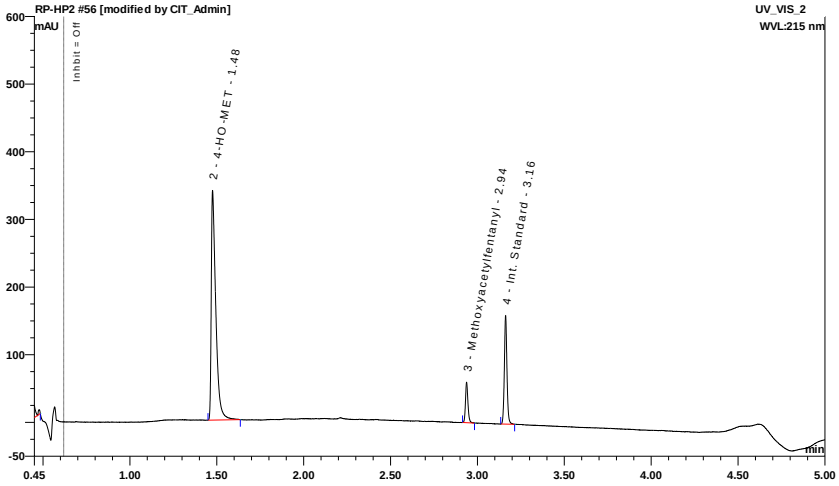


Highly potent substances



Highly potent substances

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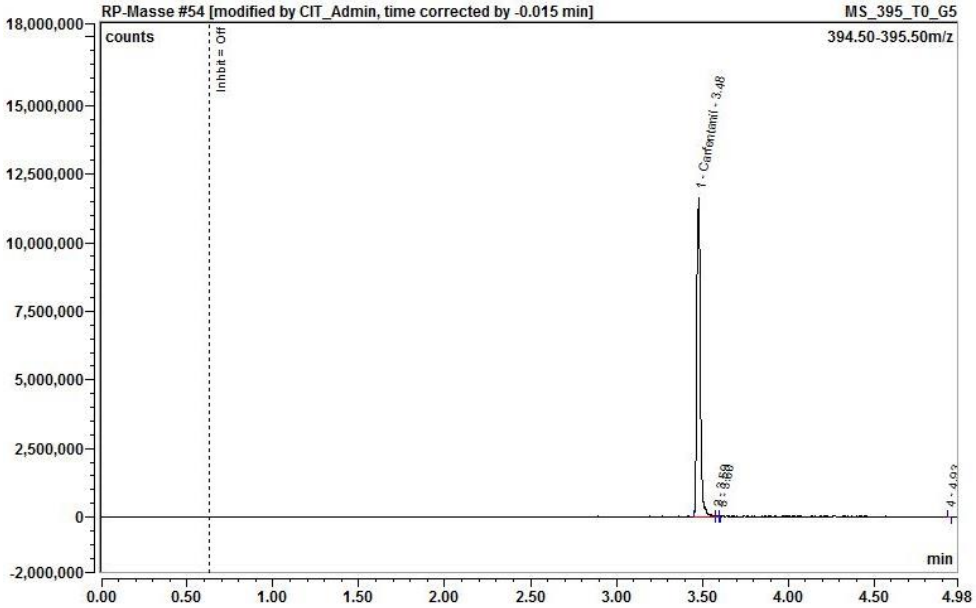
Sample submitted as: Fentanyl

Suchergebnis	
Datum	[redacted]
Event	[redacted]
gekauft als	Fentanyl
Straßenname	k.A.
Konsistenz	k.A.
Farbabstufung	normal
Farbe	weiß
bedenkliches Ergebnis	
Ergebnis der Probe	

UHPLC-MS chromatogram (SIM scan; m/z 395)



Highly potent substances

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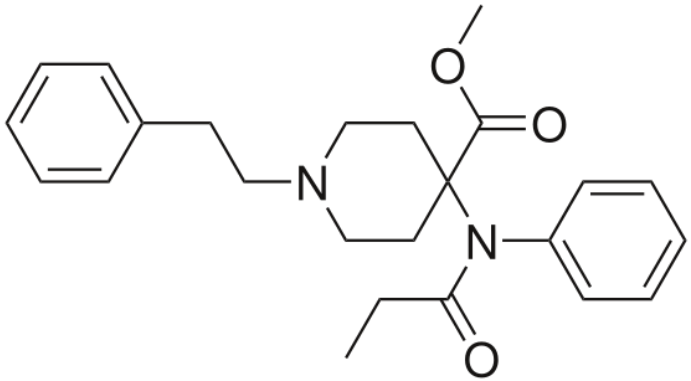
Carfentanil

Highly potent synthetic opioid (4.000 to 10.000 fold more potent than morphine)



4[(1-Oxopropyl)-phenylamino]-1-(2-phenylethyl)-4-piperidin-carbonsäuremethylester

Source: http://www.huffingtonpost.ca/2017/05/02/fentanyl-carfentanil_n_16397030.html

Highly potent substances

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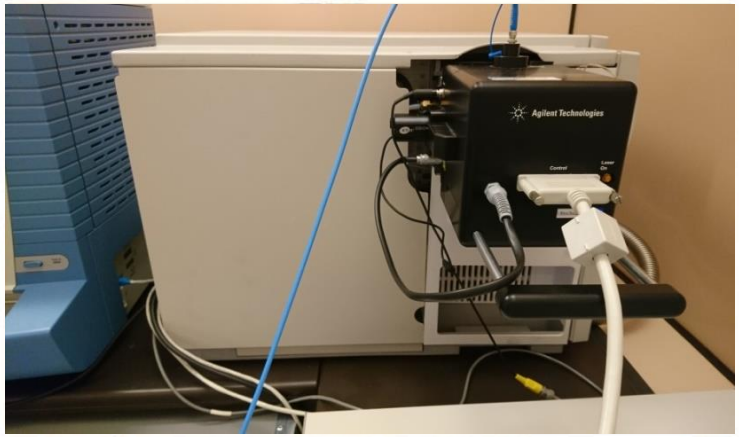
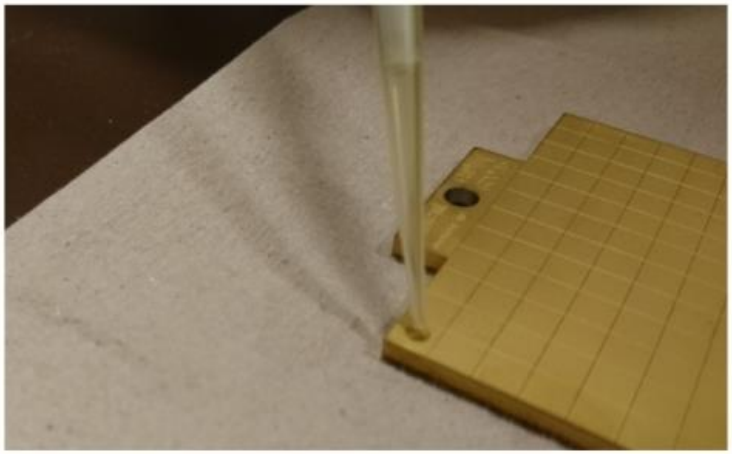
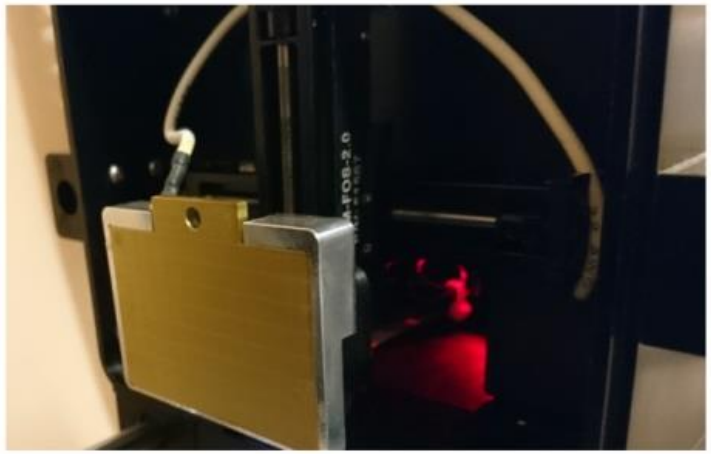
Brought to analysis as:	Actual constituents
4-HO-MET	4-HO-MET & Methoxyacetylfentanyl
Fentanyl	Carfentanil
Mephedrone / 4-MMC	4-CMC + 4-CEC
unknown Research Chemical	U-47,700
	U-47,700
	U-47,700
	Cyclopentylfentanyl & Furanylfentanyl
	Ethylphenidat + N-Ethylbuphedrone + Caffeine
	4-CEC + 4-CMC + 3-MMC

Highly potent substances
Need for low detection limits

Direct MS: MALDI-IT-MS^n

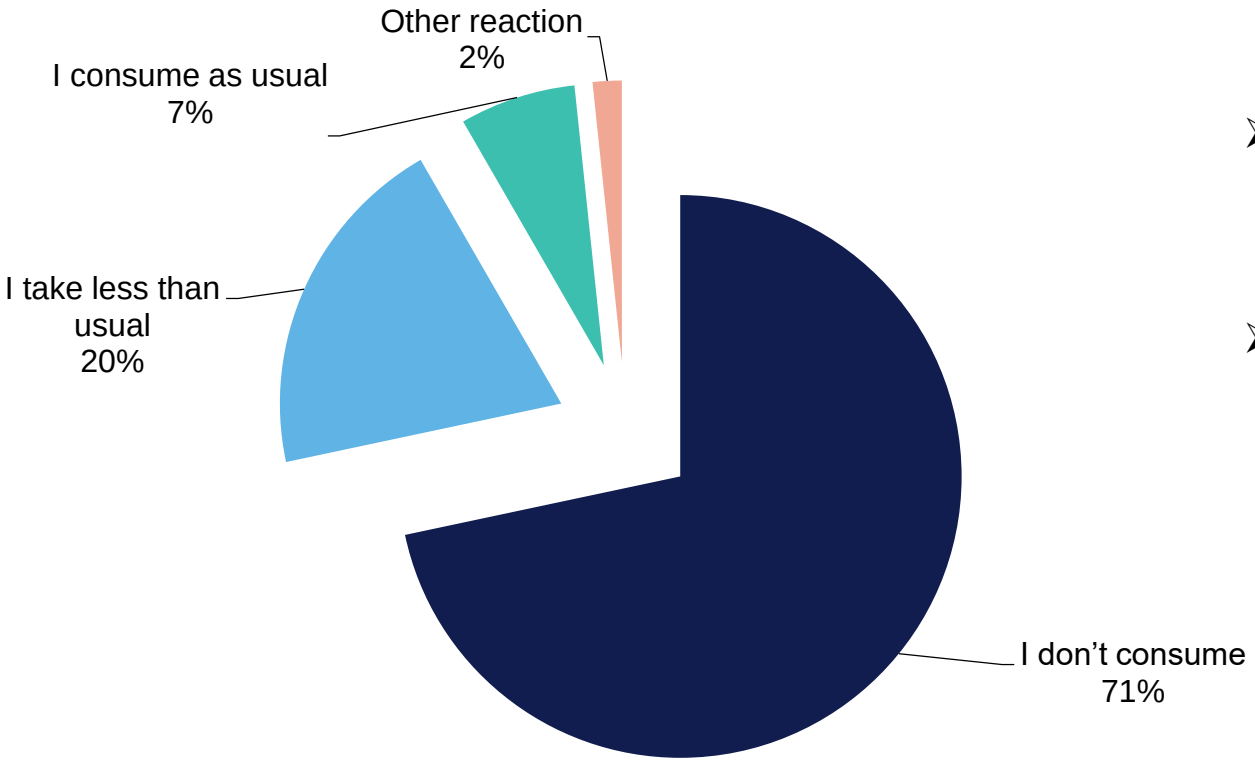






User Reactions

"How do you react if the analysis of your tablet yields a warning because of harmful substances?"



- 71% of the respondants would not consume the pill at all
- 20% take less than usual

Source: *checkit*!, Suchthilfe Wien gGmbH