

Assessing the impact of laws controlling the online availability of 25I-NBOMe, AH-7921, MDPV and MXE – outcomes of a semi-automated e-shop monitoring

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Background

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Monitoring surface e-shops offering new psychoactive substances (NPS)

- online searches for the purpose of the risk assessment (RA) for 2C-T-2, 2C-T-7 or GHB (EMCDDA, 2002, 2004)
- since 2006, EMCDDA “snapshots” – repeated, once-off web searches in popular search engines in each country (Hillebrand, Olszewski, & Sedefov, 2010)
- e.g. 2011 snapshot in 18 languages: 631 e-shops with NPS (EMCDDA, 2012)

RISK ASSESSMENT:

- 1) “Public health risks” - availability and the populations and settings where it is obtained and used
- 2) “Options for control and possible consequences of the control measures” - prices of NPS are assessed alongside the potential impact of NPS control

Methods & Aims

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Methodology – I-TREND SASF (*semi-automated shop finder*)

- **online searches similar to EMCDDA snapshot** (EMCDDA, 2009, Martinez et al., 2016) – 631 e-shops in 2011 (EMCDDA, 2012)
 - specific key words in popular search engines (e.g. NPS compounds, “buy”, “basket” in Google, Yahoo or e.g. Seznam.cz)
 - uses a *human-assisted categorization* from its previous searches (“approved” e-shop with NPS vs other outcomes)
 - stores only a *limited number of outcomes* ($n=100$)
 - e-shop characteristics (e.g. *country code, popularity ranking*)
- **ADVANTAGES:** *less human input; periodical (automated) & ad-hoc searches; multiple languages; RISK ASSESSMENT*
- **NOTE:** available as freeware at GitHub & updated I-TREND SASF2 that uses machine learning developed by PsyIT and OFDT

AIMS – to assess the impact of control laws on online availability

AIMED TO ASSESS:

- AVAILABILITY (y/n)
ACCESSIBILITY (no of e-shops),
COUNTRY OF IP ADDRESS, &
POPULARITY (Alexa.com) of
 - **25I-NBOMe**
 - **AH-7921**
 - **MDPV**
 - **MXE**
- In five EU states (CZ, PL, FR, NL, UK) – I-TREND partners

PRE- & POST- CONTROL:

- EU member states were required to control before October 2nd, 2015 (EC, 2015)

PRE: March 22nd, 2014

POST: December 29th, 2015

- 21 months later
- about 2 months post- control

- *simple frequency analysis*

Findings

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E-shops offering at least one of the 4 NPS: *per country*

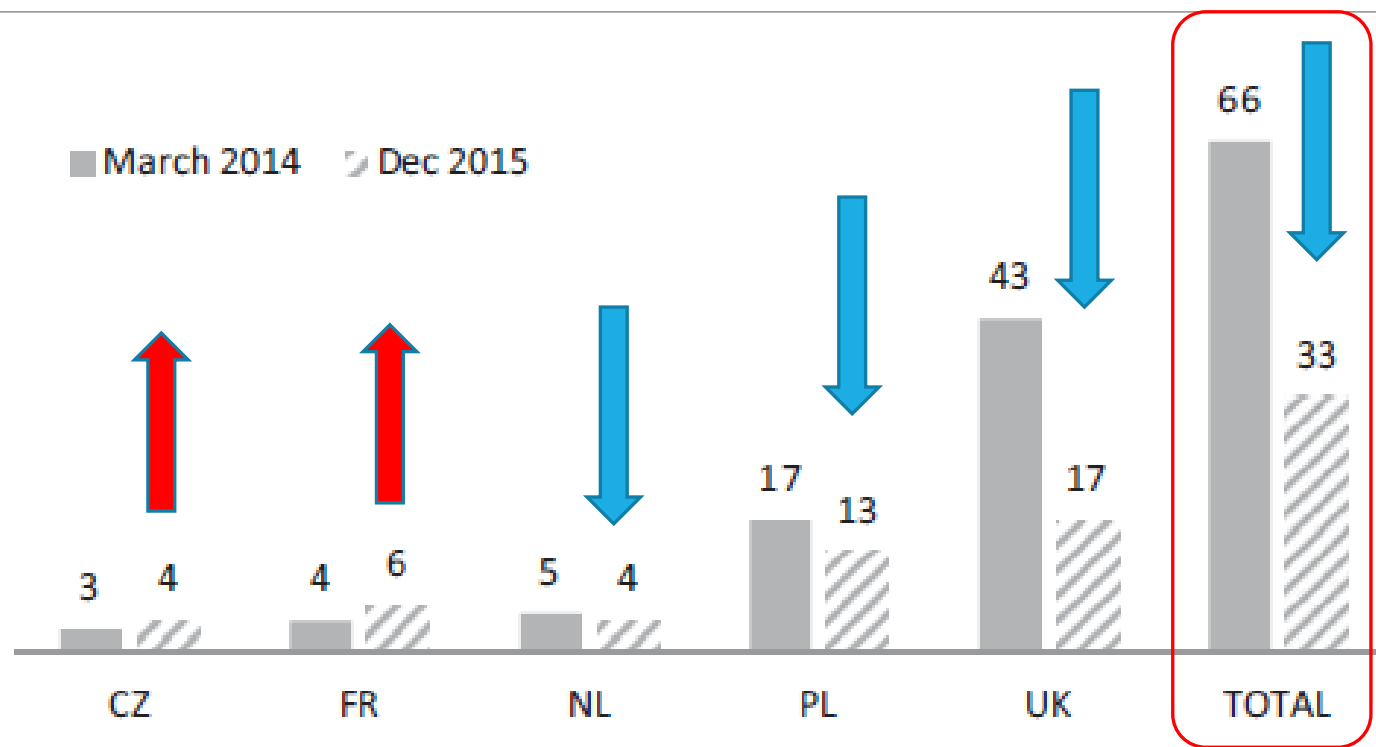
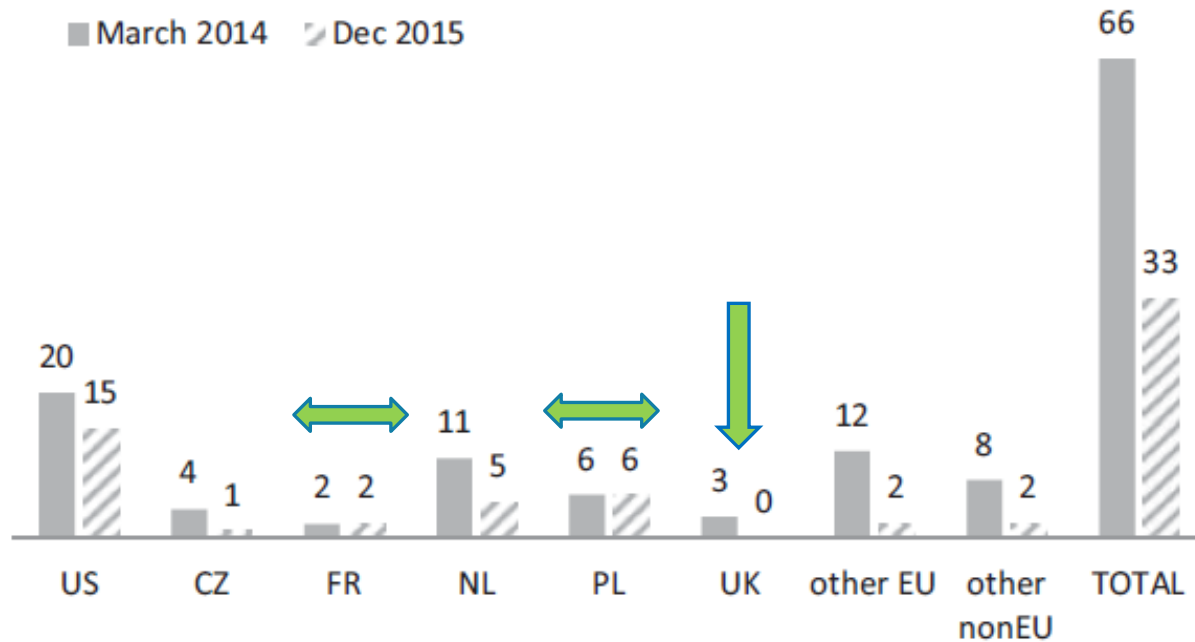


Figure 1. Number of e-shops per country listing at least one compound assessed in 2014 and 2015.

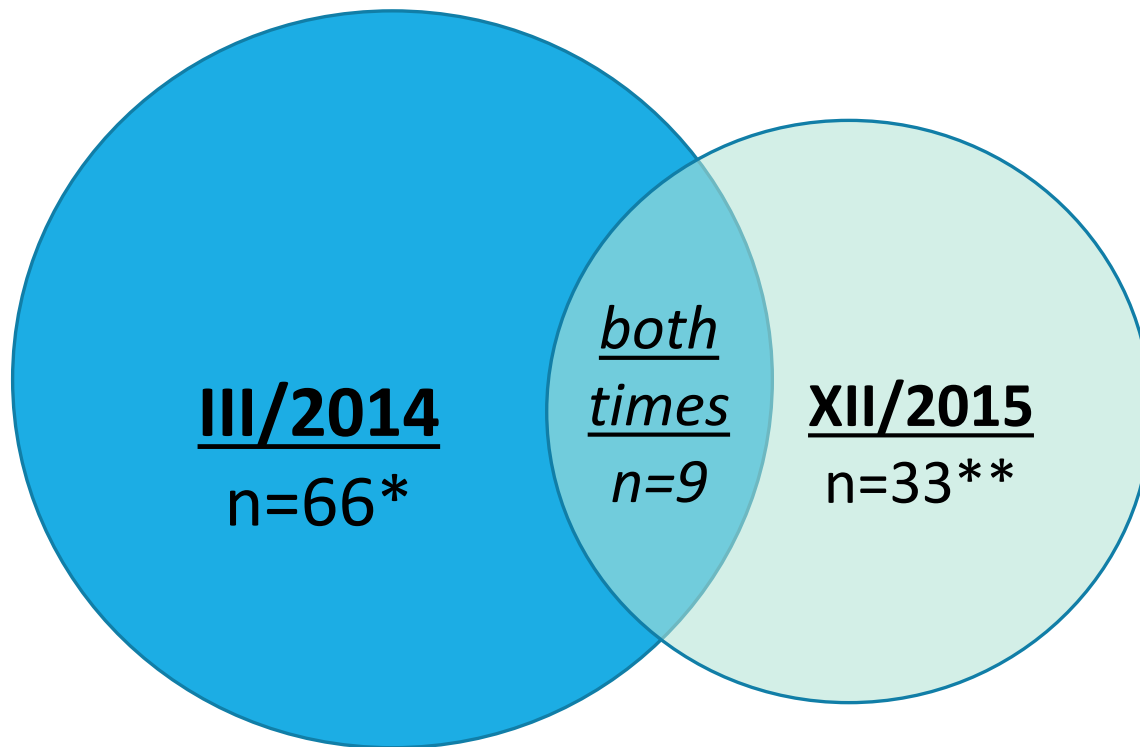
E-shops offering at least one of the 4 NPS: *per IP address*



- in *III/2014* **58%** of IP addresses in the EU vs **49%** in *XII/2015*

Figure 2. IP address of e-shops selling the compound in March 2014 and December 2015.

E-shops offering at least one of the 4 NPS: *change in time*

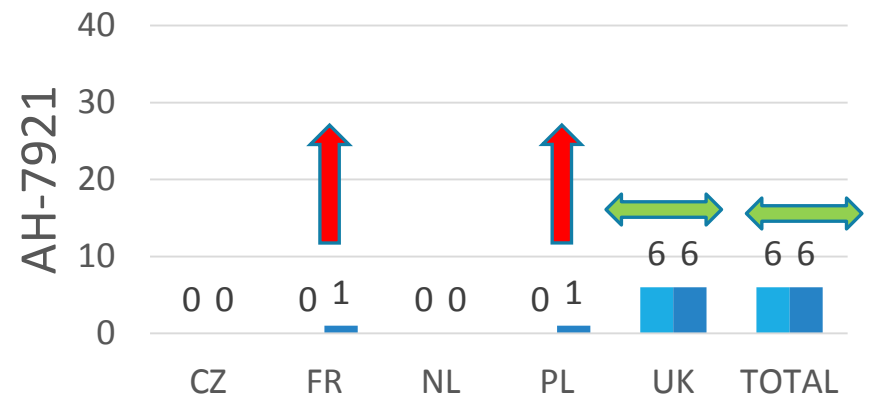
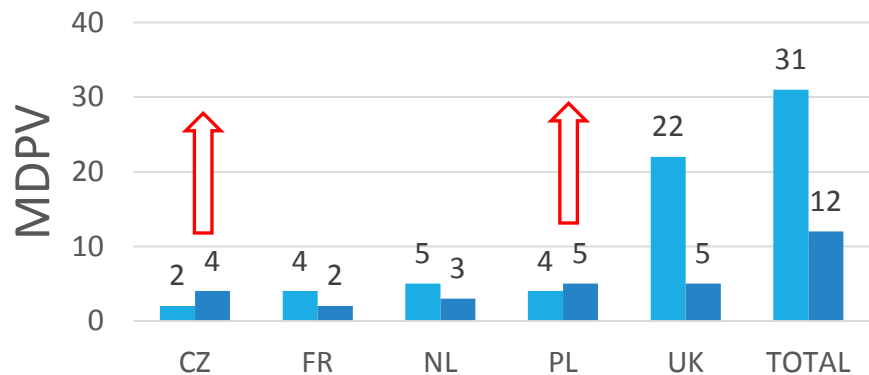
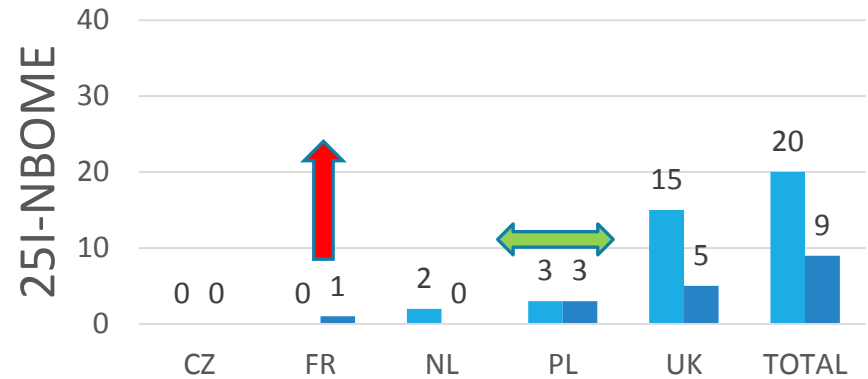
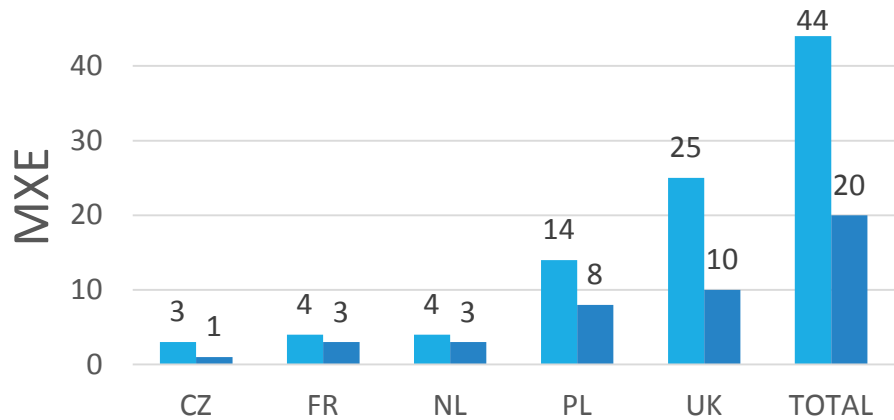


BETWEEN

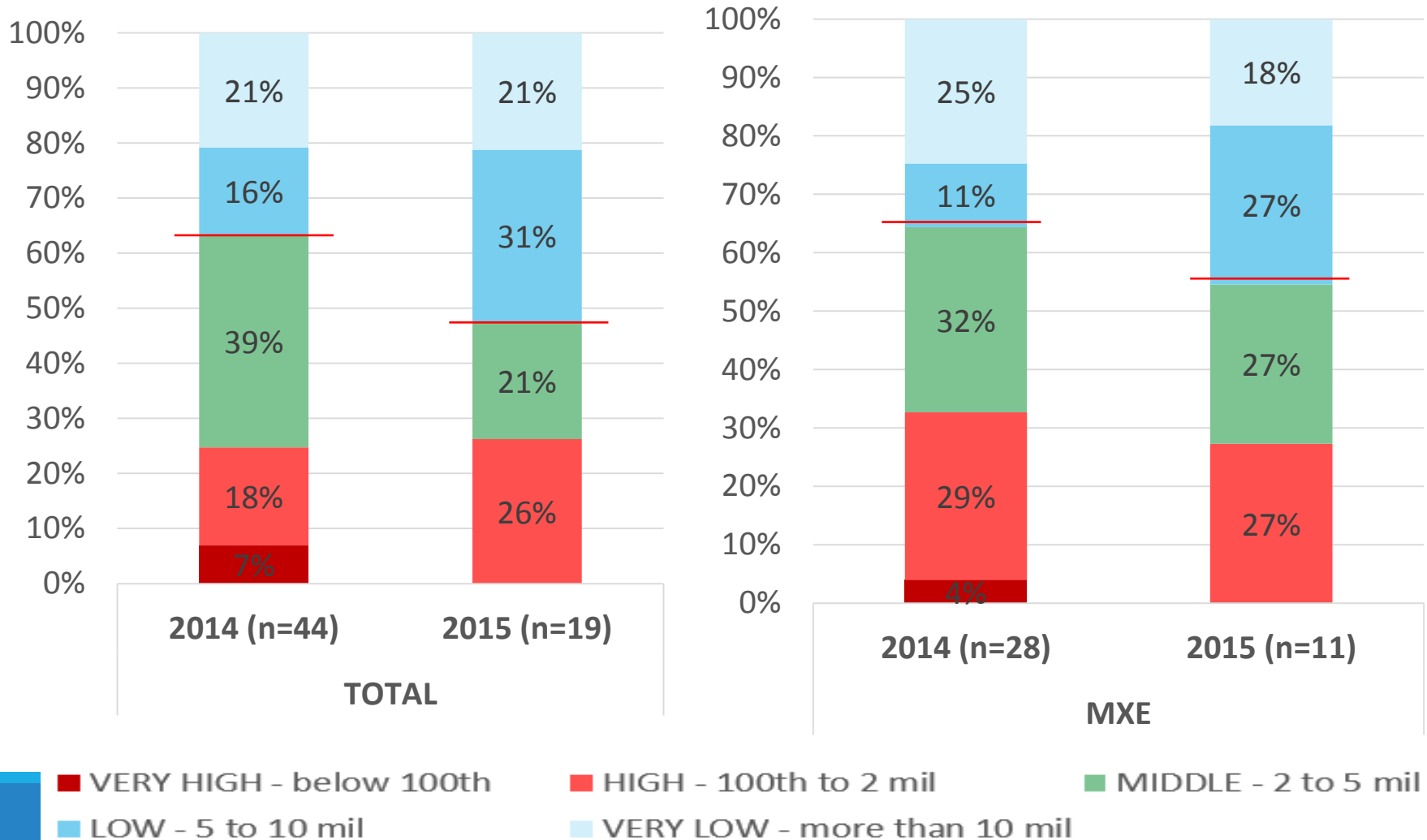
III/2014 & XII/2015

- n=43 ceased to exist
- n=11 no longer selling any products
- n=6 not selling the four NPS or not among outcomes
- **n=24 NEW e-shops**

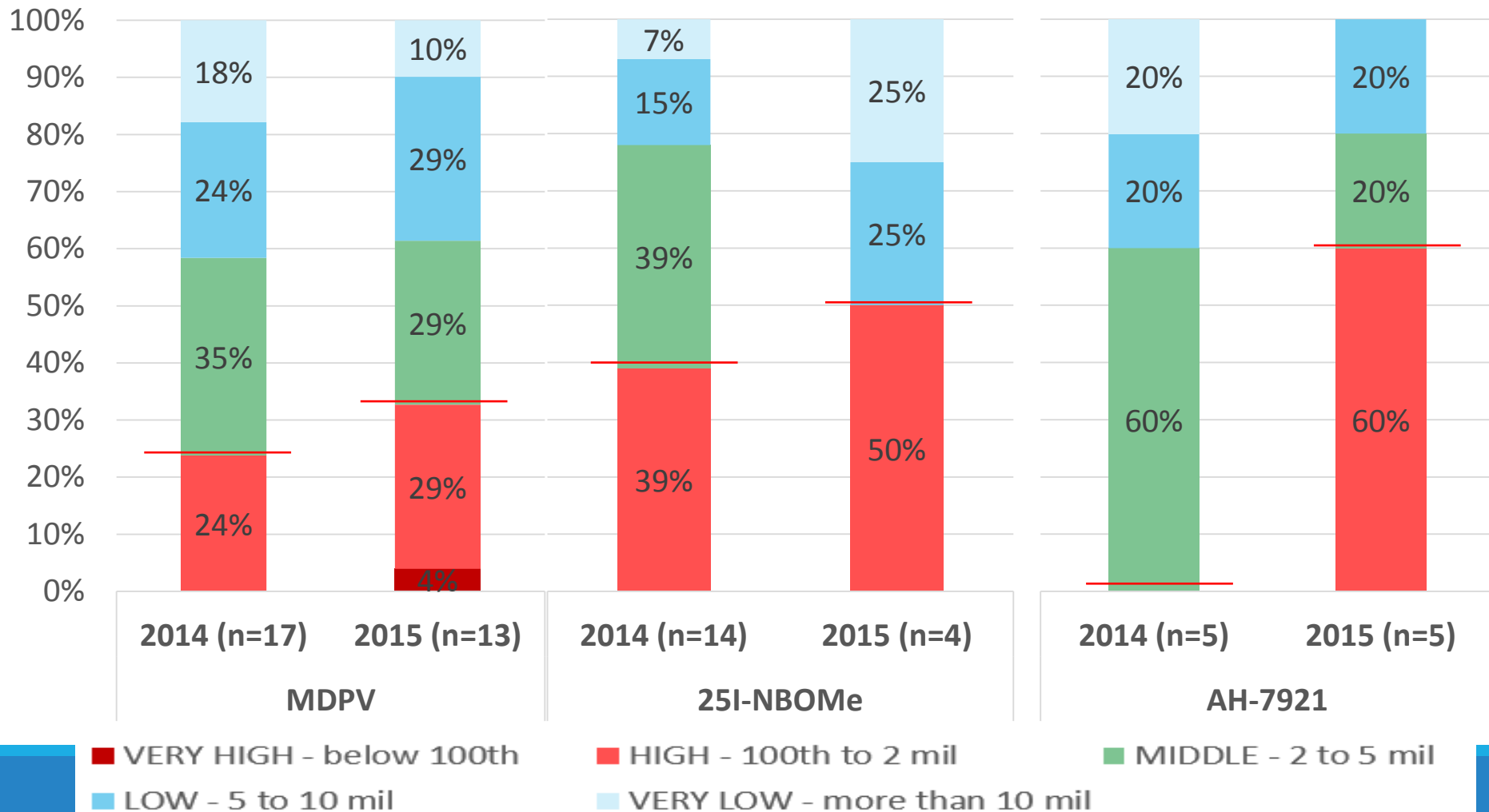
Number of unique e-shops per NPS and country



Alexa global ranking (*e-shop* “popularity” – no. of visitors & page views)



Alexa global ranking (*e-shop* *“popularity” – no. of visitors & page views*)



Discussion & Conclusions

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Impact of NPS control - DECREASE

all controlled in XII/2015, some already III/2014

↓ ACCESSIBILITY (no of e-shops):

- ↓ all & per country (CZ, NL, PL, UK)
- MXE ↓ across all four country searches
- 25I-NBOMe ↓ in the UK
- MDPV ↓ in FR, NL and the UK

↓ AVAILABILITY (y/n - country):

- 25I-NBOMe no longer sold in NL
- ↓ EU IP ADDRESSES
 - e-shops no longer located in the UK
- ↓ E-SHOP POPULARITY:
 - all e-shops, especially selling MXE

| | Czech Republic | France | The Netherlands | Poland | United Kingdom |
|---------------------|----------------|-------------|-----------------|------------|----------------|
| 25I-NBOMe | 1.10.2015 | 24. 9. 2015 | 1.7.2015 | 1. 7. 2015 | 10. 6. 2013 |
| AH-7921 | 1.10.2015 | 24. 9. 2015 | 1.7.2015 | 1. 7. 2015 | 1. 1. 2015 |
| Methoxetamine (MXE) | 1.10.2015 | 5. 8. 2013 | 1.7.2015 | 1. 7. 2015 | 5.4. 2012 |
| MDPV | 6.4.2011 | 27. 7. 2012 | 1.7.2015 | 8. 6. 2011 | 16. 4. 2010 |

Impact of NPS control - INCREASE

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↑ ACCESSIBILITY (no of e-shops):

- MDPV ↑ in CZ and PL
- no of e-shops in France (4 to 6)

↑ AVAILABILITY (y-n / country):

- newly appeared on the market
25I-NBOMe in FR
& AH-7921 in FR, PL

NO CHANGE IN IP LOCATION

- the same number of e-shops located in PL & FR

↑ POPULARITY

- MDPV, 25i-NBOME, AH-7921

Conclusions

- ***no impact of country-level control*** measures other than (perhaps) the Netherlands
- NOTE: 116 NPS were put under ***control in China, a likely producing country*** of NPS on October 1st, 2015 – overall decrease in accessibility

→ the power of state-level laws to control online markets might be limited

- ***displacement*** to other markets – darknet, street markets
- ***replacement*** with substitute compounds should be explored – e-shops, online discussion boards

→ (automated) trend monitoring and data triangulation for full impact evaluation important

Thank you!

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