

APPENDIX 3 – EXPLANATION CODE AND DESIGN FOR ‘SPIDER GRAPHS’

	Indicator	Scale
1. Public Health	1.1 NSP Ratio syringes/client	Calculated as percentage of the max. value: a. No operational NSP i. score = 0. b. If existing operational NSP: calculated as a percentage of max value i. 0 < score < 10.
	1.2 OST Ratio OST treated persons/100'000 inhab.	Calculated as percentage of the max. value: a. No operational OST i. score = 0. b. If existing operational OST: calculated as a percentage of max value i. 0 < score < 10.
	1.3 Stigmatization Severity of potential penal sanctions for minor cannabis possession	Particular scale with possible values: a. Highly Severe (up to more than 1 year of prison) i. score = 1. b. Severe (up to 1 year of prison) i. score = 3. c. Low (financial sanction – fines) i. score = 8. d. Very Low (administrative sanctions) i. score = 9. e. None (legal) i. score = 10.
2. Law Enforcement	2.1 Incarceration Ratio drug-related incarcerated persons/1'000'000 inhab.	Calculated as percentage of the max. value: a. Incarceration rate i. 0 < score < 10.
	2.2 Police activity Ratio interventions for drug-related offences/100'000 inhab.	Calculated as percentage of the max. value: a. Police interventions rate i. 0 < score < 10.
	2.3 Drug seizures Ratio value of seized drugs/GDP PPP	Calculated as percentage of the min. value ¹ : a. Police interventions rate i. 0 < score < 10.
3. Human Rights	3.1 UN Support at 2018 UNHRC Vote and/or 2019 CND statements mentioning human rights	Particular scale with possible values: a. No support (voted against UN proposal OR mentioned negatively human rights) i. score = 1. b. Neutral (didn't vote AND didn't mention human rights) i. score = 5. c. Support (voted for UN proposal OR mentioned positively human rights) i. score = 10.
	3.2 OST prison Availability of OST in prisons	Particular scale with possible values: a. Not existing i. score = 1. b. Existing i. score = 10.
	3.3 No death penalty Absence of the death penalty for drug offences (Harm Reduction International – Death Penalty Report 2018 classification)	Particular scale with possible values: a. High Application (regular process) i. score = 1. b. Low Application (exceptional occurrence) i. score = 3. c. Symbolic Application (in national law but not applied) i. score = 5. d. Abolitionist i. score = 10.

¹ Since this indicator measures the economic weight of the drug seizures compared to the GDP, the lower the ratio, the higher the economic weight of the seized drugs.

4. Market Regulation	4.1 Opioids (pharma) Availability of opium-based essential medicines (Duthey and Scholtern 2013 classification)	Particular scale with possible values (ACM = Adequacy of Consumption Measure): a. Virtually no consumption (ACM<3%) i. score = 1. b. Very Low (3% < ACM < 10%) i. score = 3. c. Low (10% < ACM < 30%) i. score = 5. d. Moderate (30% < ACM < 100%) i. score = 7 e. Adequate (ACM ≥ 100%) i. score = 10.
	4.2 Cannabis (medical use) Legal status of non-pharmaceutical cannabis use	Particular scale with possible values: a. Not legally allowed: score = 1. b. Legally allowed: score = 10.
	4.3 Legal Narcotics Legal status of recreational narcotic use	Particular scale with possible values: a. All substances are criminalized i. score = 1. b. Substances are partially decriminalized (regionally or legally) i. score = 3. c. One or more substances are decriminalized i. score = 7. d. One or more substances are legalized i. score = 10.
5. Unintended Consequences	5.1 PWID (low rate) Percentage of PWID (Persons Who Inject Drugs) among total population	Calculated as the inverted percentage ² of the max. value: a. PWID rate i. 0 < score < 10.
	5.2 Deaths (low rate) Ratio drug-related deaths/1'000'000 inhab.	Calculated as the inverted percentage of the max. value: a. Death rate i. 0 < score < 10.
	5.3 HIV (low rate) HIV (Human Immunodeficiency Virus) prevalence among PWID	Calculated as the inverted percentage of the max. value: a. HIV rate i. 0 < score < 10.

For these spider graphs, for each indicator, the normal steps to build the scale are as follows:

- Identify the maximal value across the countries,
- Compute the weighted score of all other values as:

$$\text{Score} = \text{Value} / \text{Maximal value} * 10$$

This builds a scale with an interval of 0-10.

For all indicators, a missing value gives a score of "N/A", which won't be included in the mean calculations. Depending on the indicator's nature, the scale is adapted. Indeed, some data is numerical, while some indicators are nominal. Some non-numerical classifications were proposed by the authors of selected studies. Nevertheless, for all indicators, the final score correspondence was based on our choice.

For particularly elaborate scales, the determination of the scores was based on the concept of decriminalization:

- 1.3 Stigmatization: we consider that there is an important difference in the sanction type (prison or not) for minor cannabis possession, which explains the gap between "Low" and "Severe".
- 4.3 Legal Narcotics: we consider that there is an important difference in fully decriminalizing (if not: legalizing) and partially or completely criminalizing drug use.

² With « inverted percentage », we mean that the calculated percentage of the max. value was subtracted from 100%. So the « best » score is equal to 1.