

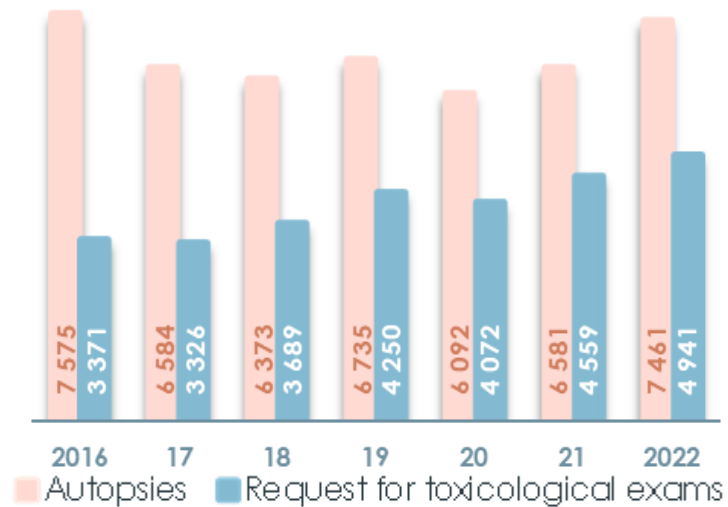
# Post-mortem toxicology (higher concentrations) and a place for cocaine.

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# Post-mortem toxicology in Portugal



- The number of autopsies requested by authorities has been increased over the last few years. In 2023, probably, there will be performed the highest number of autopsies ever.
- In 2022, 66% of the autopsies were requested toxicological exams, a proportion has been increasing over the last few year.

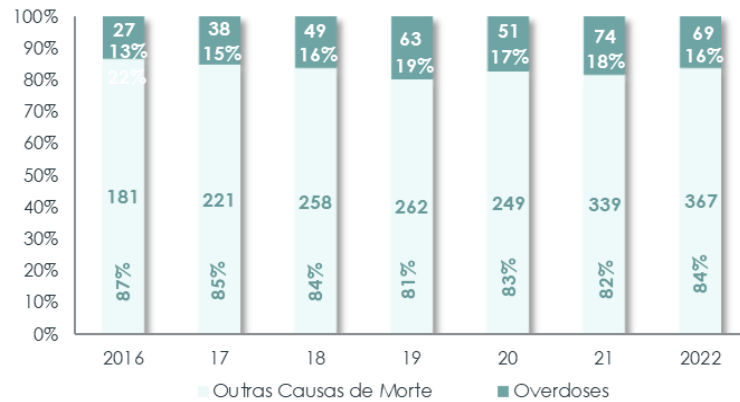
Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal



- In 2022, there were 501 cases with positive toxicological results for illicit substances, representing the highest figure in the decade.

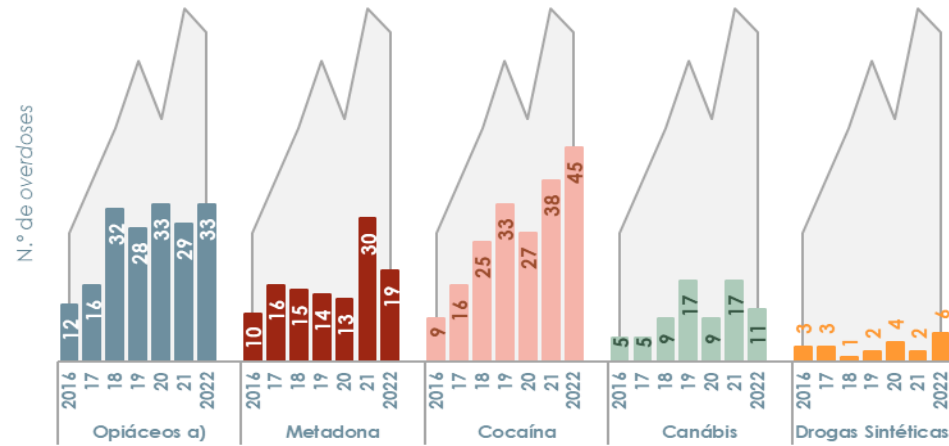


- In 436 cases with information of cause of death, 69 (16%) were considered overdoses based on the direct cause of death and medical forensic etiology
- The figures for the last two years were the highest since 2009
- In the last five-year period, more overdoses were registered than in the previous corresponding period, with the figures for the last five years being the highest since 2011

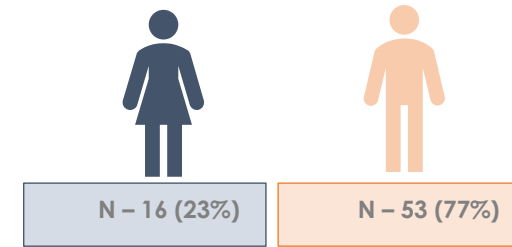
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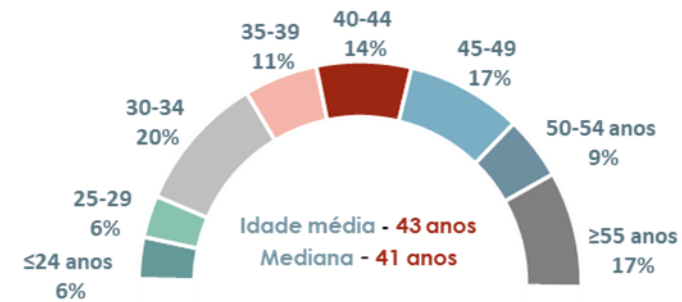
# Post-mortem toxicology in Portugal



Overdose Deaths, by year and substance (2016-2022)



Overdose by gender (2022)



Overdose by age (2022)

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências

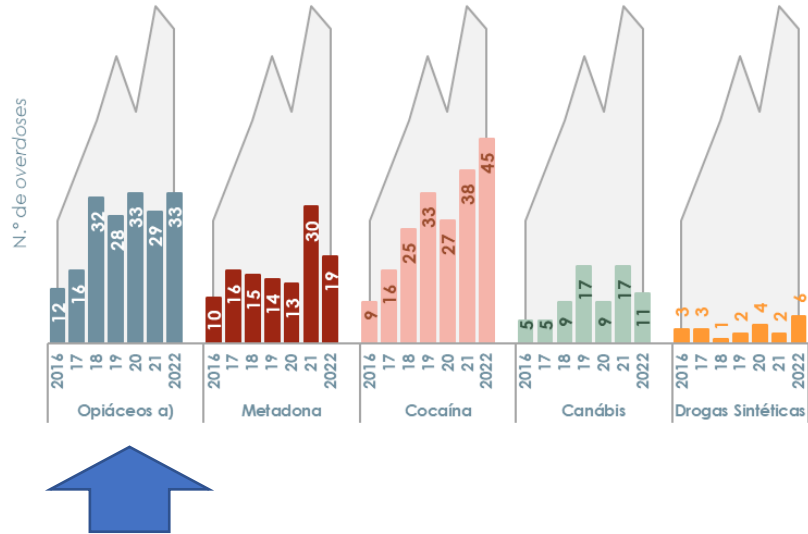


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# Post-mortem toxicology in Portugal - Opiates

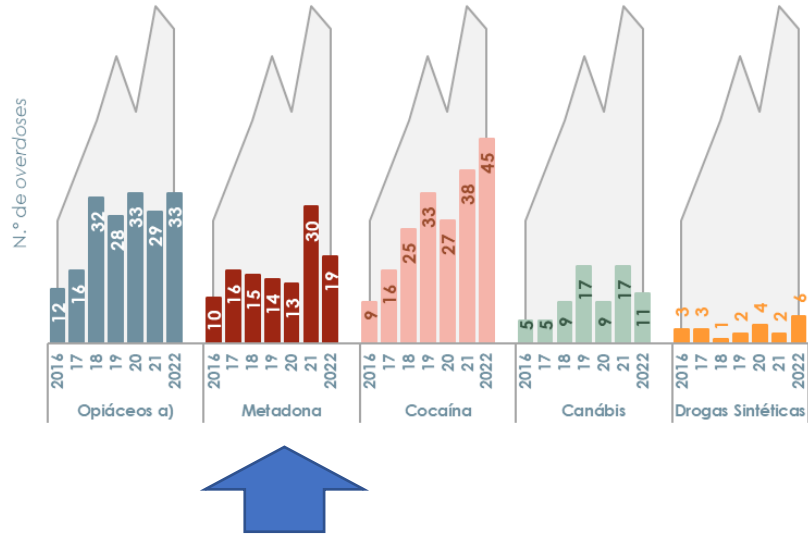


- Situation more or less “stable” in the last five years.
- The figures recorded in the last five years were the highest since 2011.
- The vast majority of opiates DRD cases correspond to heroin metabolites (morphine, and 6-MAM).

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal - Methadone

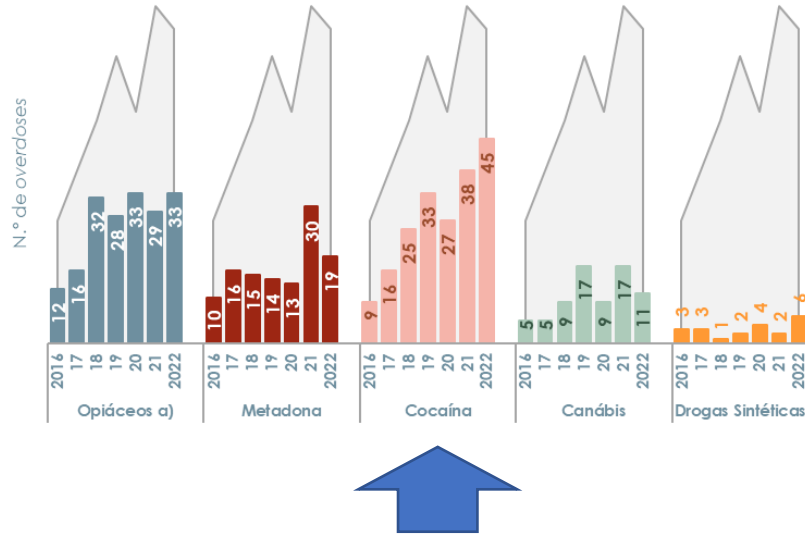


- Significant increase in methadone DRD cases in 2021.
- Methadone DRD figures in 2021 and 2022 are the highest in the decade.
- The figures of overdoses with the presence of methadone in 2021 and 2022 represents the highest values since 2008.

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal - Cocaine

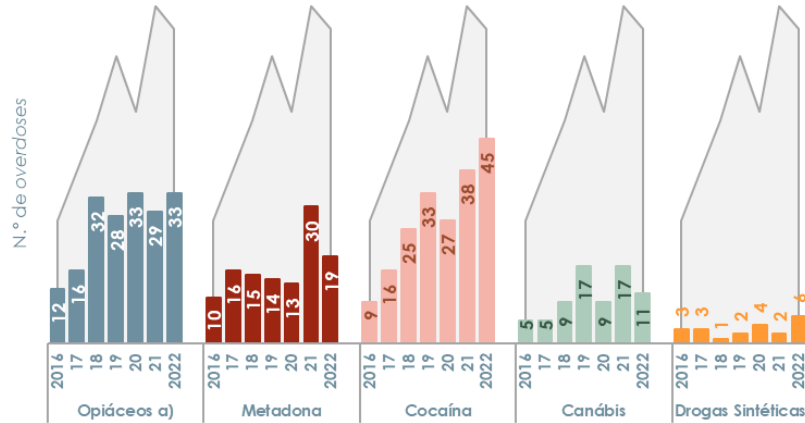


- Cocaine figures represents one of the main concerns in overdoses cases. Cocaine is the second most popular drug in Portugal.
- Compare to 2021, there was an increase in overdoses with the presence of cocaine(+ 21%).
- The figures of overdoses with the presence of cocaine in 2022 represents the highest value since 2009.

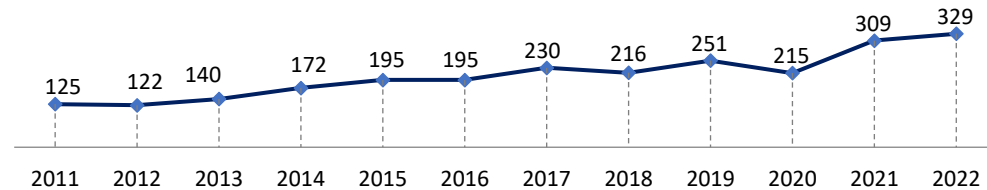
Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal - Cannabis



- Cannabis is the most popular drug in Portugal.
- Compared to 2021 there was a decrease in overdoses with the presence of cannabis (-35 %).



Δ9-THC positive cases (antemortem + postmortem) in the South Branch of INMLCF, IP

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



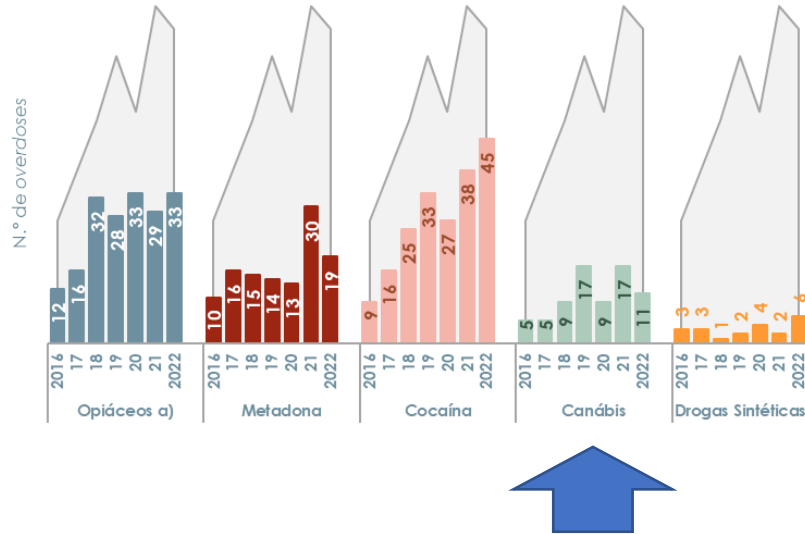
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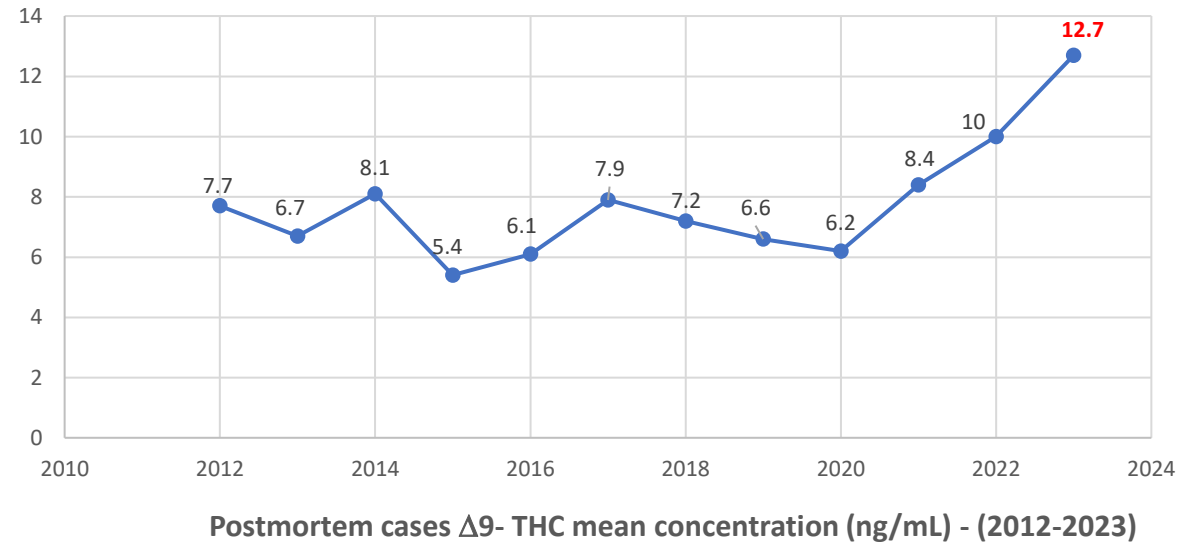




# Post-mortem toxicology in Portugal - Cannabis



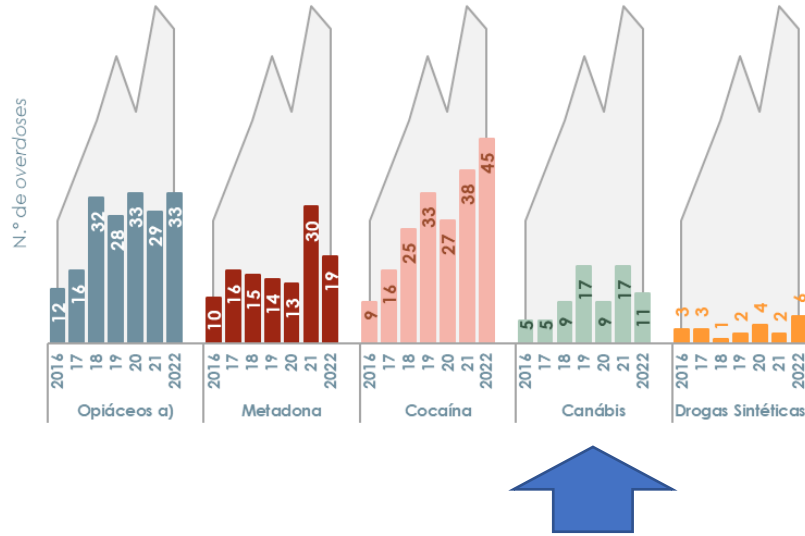
- In recent years, a clear increasing trend has been observed related to  $\Delta$ 9-THC concentration detected in positive samples.



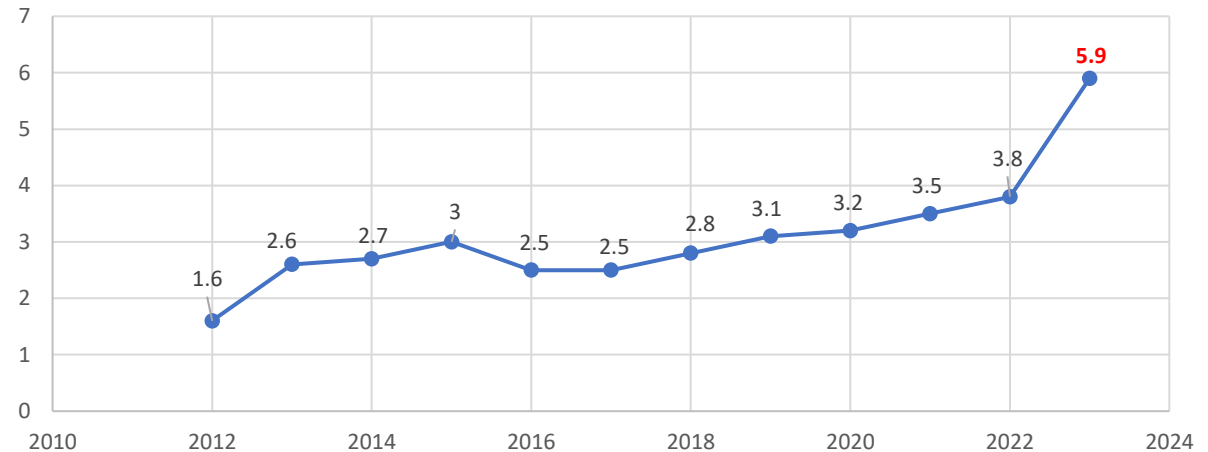
Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal - Cannabis



- In recent years, a clear increasing trend has been observed related to  $\Delta 9$ -THC concentration detected in positive samples.



Road Side Survey samples -  $\Delta 9$ -THC mean concentration (ng/mL) - (2012-2023)

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências

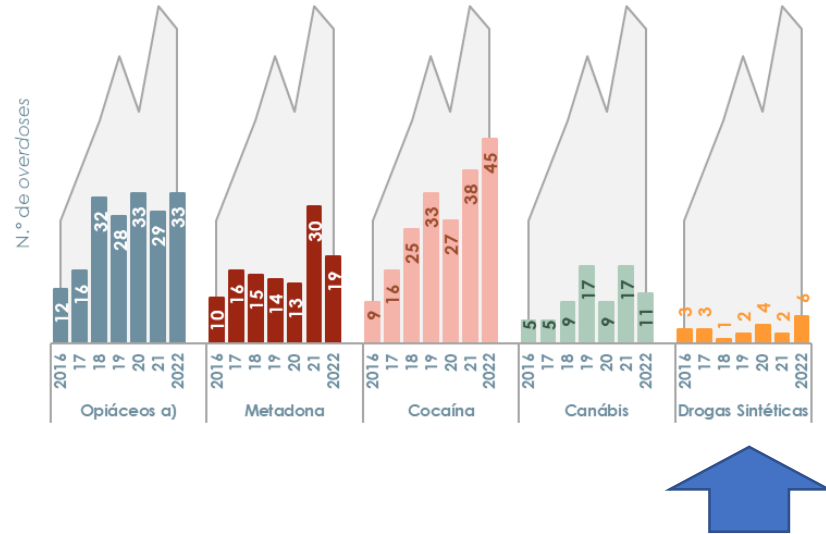


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# Post-mortem toxicology in Portugal – Synthetic drugs

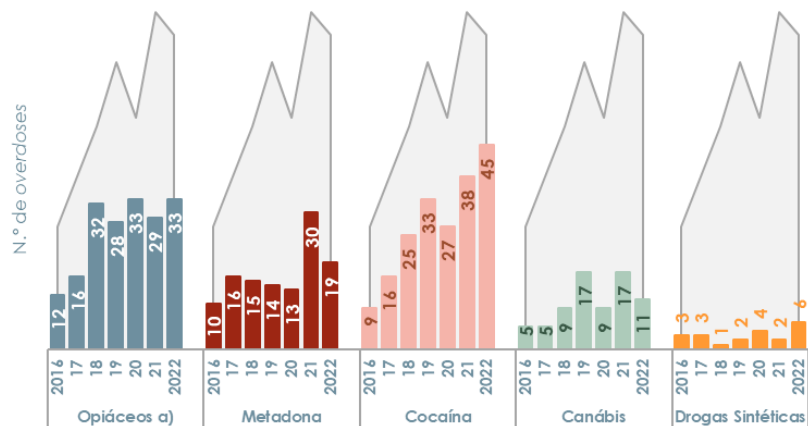


- Although with residual values, the number of overdoses with the presence of synthetic drugs also increased in 2022.
- The majority of synthetic drugs DRD cases correspond to MDMA cases.
- Cluster of  $\alpha$ -PHP in Madeira and Azores islands (2022)

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências



# Post-mortem toxicology in Portugal – Overview



- As in previous years, in most of these overdoses (91%) more than one substance was detected.
- Compared to 2021, DRD cases with the presence of benzodiazepines decrease from 58% to 42%.
- Compared to 2021, DRD cases with the presence of ethanol increase from 22% to 25%.

Outras causas de morte*	2016	%	2017	%	2018	%	2019	%	2020	%	2021	%	2022	%
<b>Total</b>	<b>181</b>	<b>100</b>	<b>221</b>	<b>100</b>	<b>258</b>	<b>100</b>	<b>262</b>	<b>100</b>	<b>249</b>	<b>100</b>	<b>339</b>	<b>100</b>	<b>367</b>	<b>100</b>
Acidente <sup>o)</sup>	71	39,2	72	32,6	99	38,4	94	35,9	81	32,5	121	35,7	96	26,2
Homicídio	8	4,4	7	3,2	8	3,1	6	2,3	11	4,4	11	3,2	22	6,0
Natural	64	35,4	83	37,6	108	41,9	108	41,2	94	37,8	141	41,6	152	41,4
Suicídio	28	15,5	51	23,1	35	13,6	37	14,1	44	17,7	44	13,0	55	15,0
Causa Indeterminada	10	5,5	8	3,6	8	3,1	17	6,5	19	7,6	22	6,5	42	11,4

- In 2022, excluding overdoses, the causes of death with the presence of at least one illicit substance were attributed to natural death (42 %), accident (36%), suicide (13%), homicide (3%) and undetermined (6%).

Source: Instituto Nacional de Medicina Legal e Ciências Forenses, I. P. / Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências

