# Madeira and Azores regions, cluster of $\alpha$ -PHP $\alpha$ -PiHP related deaths.

#### Antonio Castañera, Cláudia Margalho

National Institute of Medicine and Forensic Sciences - Portugal









# <u>Madeira and Azores regions, cluster and $\alpha$ -PHP and $\alpha$ -PiHP</u>

#### Drogas sintéticas. 60% das novas substâncias detetadas na Madeira e nos Açores

60% dos pedidos de identificação de substâncias feitos ao Laboratório de Polícia Científica da PJ com origen nas ilhas. Consumo de Novas Substâncias Psicoativas tem "peso enorme" em Madeira e Açores.



#### Expresso<sup>5</sup>

#### SOCIEDADE

Droga nos Açores: substâncias sintéticas muito baratas e abundantes viciam jovens e deixam consumidores "no fundo do poço"

#### Novas substâncias psicoativas apreendidas na Madeira quadruplicam em 2022 face a 2021

Em 2017, a PSP confiscou 100 gramas de novas substâncias psicoativas em 2017, num total de oito apreensões, enquanto em 2022 foram apreendidos 12kg e feitas 145 apreensões.



#### SOCIEDADE

# Madeira com «aumento significativo» de internamentos devido a novas substâncias psicoativas

A Casa de Saúde São João de Deus, na Madeira, registou um "aumento significativo" dos internamentos devido ao consumo de novas substâncias psicoativas, disse hoje o diretor da instituição, indicando até junho deste ano já foram assistidas 110 pessoas.



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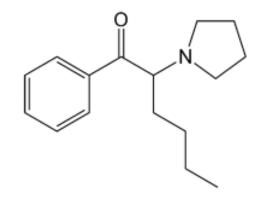
## <u>Madeira and Azores regions, cluster and $\alpha$ -PHP and $\alpha$ -PiHP</u>

- Low incidente of NPS consumption in Portugal
- Disproportionality in the number of analysis requested for the detection for NPS compared with the rest of the country (60% correspond to Madeira and Azores).
- Increase in admissions due to psycothics breaks in mental institutions.
- NPS sales price lower than classic drugs.



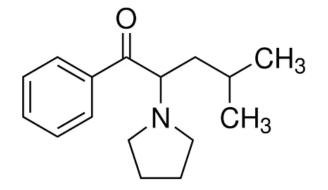


### <u>Madeira and Azores regions, cluster and $\alpha$ -PHP and $\alpha$ -PiHP</u>



 $\alpha$ -PHP ( $\alpha$ -Pyrrolidinohexanophenone)

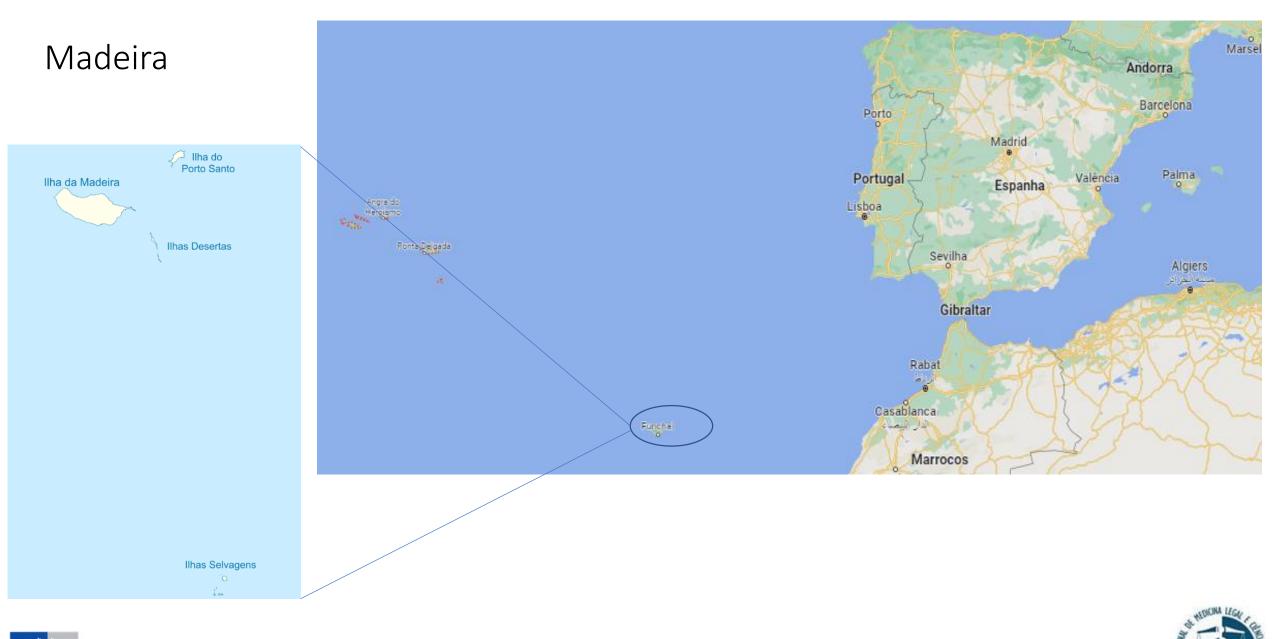
- Synthetic cathinones (pyrovalerone derivatives).
- Street name: "Bloom".
- Powder or cristal form.
- Strong abuse potential.
- Increase energy and libido, improved mood, empathy and openness in comunication to euforia, hallucinations, anxiety and insomnia.



 $\alpha$ -PiHP ( $\alpha$ -Pyrrolidinoisohexanophenone)





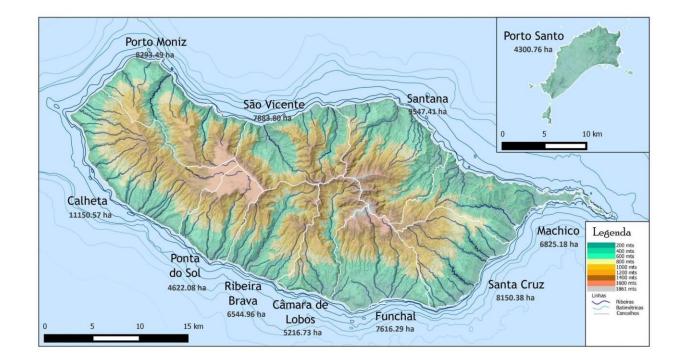




Expert meeting on Drug-Related Deaths (DRD) / 10-11 October 2023

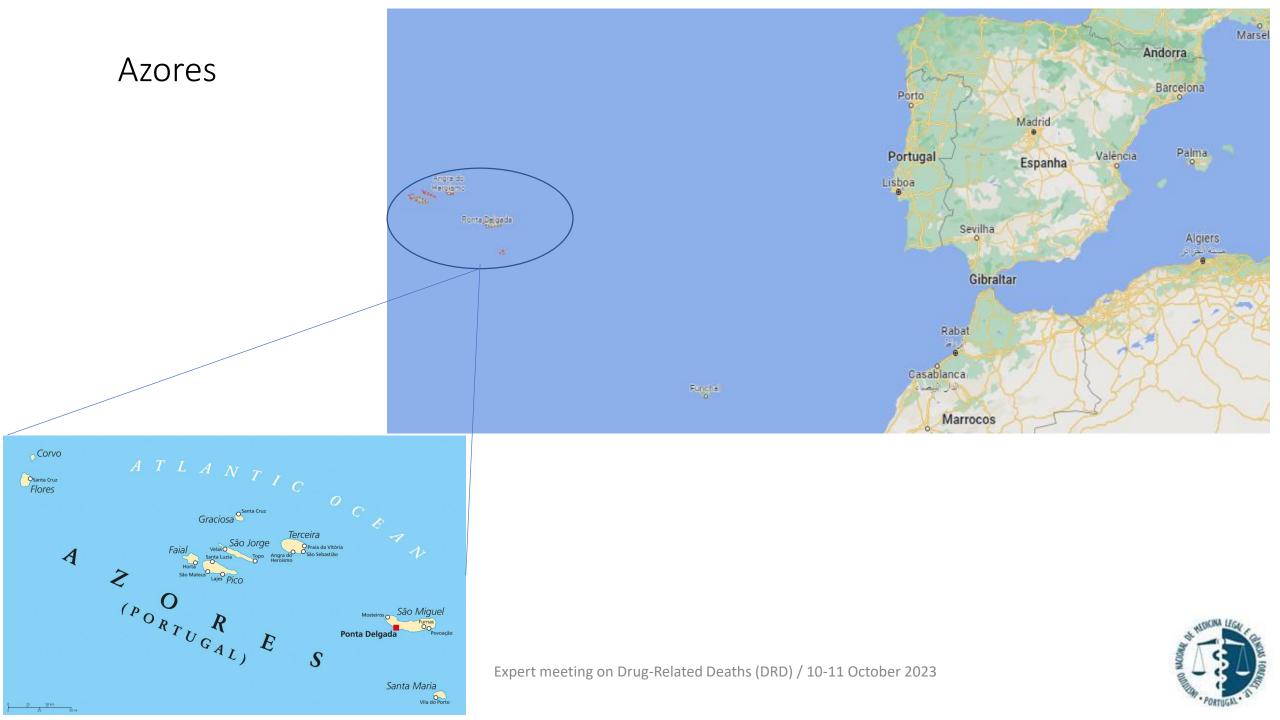
# Madeira region. Social and demographic characteristics

- Total population --> 250.000 Habitants (2,4% of Portugal population).
- **Population density -->** 309 hab/Km2.
- **Economy -->** Tourism.
- Agriculture --> Bananas, potatoes, flowers and sugar cane.
- **Fishing -->** Tuna, swordfish.









### Azores region. Social and demographic characteristics

- **Total population -->** 250.000 Habitants (2,4% of Portugal population).
- **Population density -->** 106 hab/Km2.
- **Economy -->** Agriculture, livestock, tourism
- **Agriculture -->** Pineapple, banana, tea.
- Livestock --> Meat, milk, cheese.
- Tourism --> Whale watching







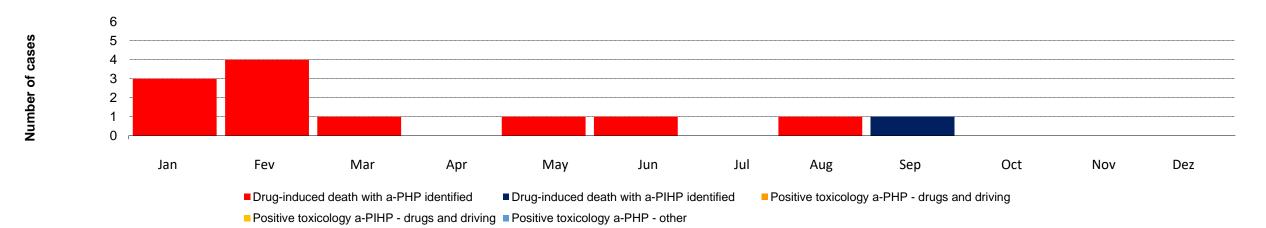
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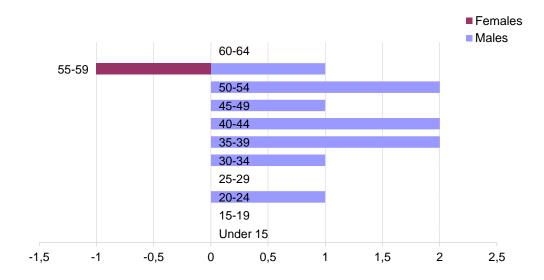


### Case reports (2022)

Region	Sex	Age	Case data	α-PHP concentration in peripherical blood (ng/mL)	Other drugs confirmed
Madeira	Female	56	Undetermined cause of death. Drug addict, with a background of alcoholism, addiction and depression. Cadaver found at home	63	Diazepam, nordiazepam, ethanol
Azores	Male	41	Undetermined cause of death. Drug addict. Consumption of synthetic drugs	227	Diazepam, nordiazepam
Azores	Male	24	Suicide by hanging. Possible consumption of drugs of abuse	160	Alprazolam, diazepam
Madeira	Male	57	Homicide: traumatic injury caused by assault with a knife. Drug addict, medicated with methadone	109	Methadone, EDDP
Madeira	Male	40	Undetermined cause of death. Intestines with purulent contente and signs of necrosis	47	Phenytoin, levomepromazine
Madeira	Male	36	Suspected intoxication with "bloom". Drug addict with a history of assídous consumption of narcotics	128	Methadone, olanzapine, paracetamol, tramadol, temazepam, oxazepam, nordiazepam, diazepam
Madeira	Male	37	Suicide by jumping off a bridge	60	Morphine, codeine
Azores	Male	31	Traumatic injury from falling from a high place. Regular consumer of synthetic drugs	100	Alprazolam, diazepam, nordiazepam, oxazepam and temazepam.
Madeira	Male	47	Unknown cause of death. Drug addict	215	Methadone, EDDP
Madeira	Male	53	Traumatic injury (domestic accident). Drug addict	195	Diazepam, nordiazepam, ethanol
Madeira	Male	41	Falling from a bridge	30	
Madeira	Male	50	Suicide by hanging. <b>(α-PiHP)</b>		Ciamemazine, diazepam, nor-Fluoxetine, olanzapine, paliperidone, risperidone, tramadol

#### Epi curve / Age and Gender





#### **Conclusions**

- Outbrake of  $\alpha$ -PHP in Madeira an Azores islands (11 cases of  $\alpha$ -PHP and 1 of  $\alpha$ -PiHP).
- The vast majority of cases belonged to male indiviuals (age ranged between 24 and 57 years).
- $\alpha$ -PHP concentrations in PB (min: 30 ng/mL max: 227 ng/mL mean: 121 ng/mL).
- Other toxicologial findings: Benzodiazepines (n=7); Methadone (n=2); Ethanol (n=2); Antipsychotics (n=3).
- The most prevalente cause of death was traumatic injury.



# Development and Validation of a GC–MS-El Method to Determine $\alpha$ -PHP in Blood: Application to Samples Collected during Medico-Legal Autopsies

Francisca Machado 1,2, João Franco<sup>3</sup>, Duarte Nuno Vieira<sup>2</sup> and Cláudia Margalho 1,\*

<sup>1</sup>Serviço de Química e Toxicologia Forenses, Instituto Nacional de Medicina Legal e Ciências Forenses—Delegação do Centro, Pólo das Ciências da Saúde (Pólo III), Azinhaga de Santa Comba, Coimbra 3000-548, Portugal

<sup>2</sup>Faculdade de Medicina, Universidade de Coimbra, Pólo das Ciências da Saúde (Pólo III), Azinhaga de Santa Comba, Coimbra 3000-548, Portugal

<sup>3</sup>Serviço de Química e Toxicologia Forenses, Instituto Nacional de Medicina Legal e Ciências Forenses—Delegação do Sul, Rua Manuel Bento de Sousa, 3, Lisboa 1169-201, Portugal

\*Author to whom correspondence should be addressed. Email: claudia.i.margalho@inmlcf.mj.pt



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