

Disponibilidad de los antídotos en Europa

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- ¿Importa la disponibilidad?
- ¿Qué evidencia hay publicada?
- Breve encuesta realizada a países de nuestro entorno
- Iniciativas de otros países

24/7
SERVICE



¿Importa la disponibilidad?



- Tratamientos urgentes, la administración precoz puede condicionar el pronóstico del paciente intoxicado.

Disponibilidad CUALITATIVA
Disponibilidad CUANTITATIVA

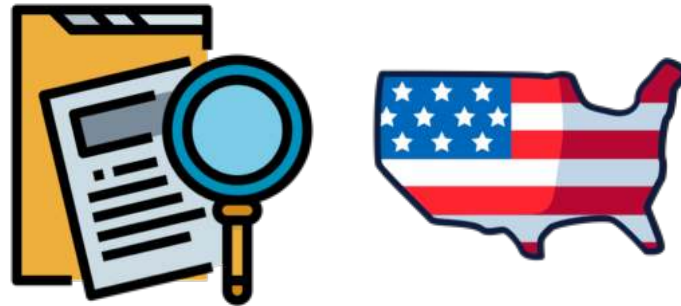
¿Importa la disponibilidad?

- **Condicionantes para la disponibilidad:**

- ✓ **Frecuencia** de una determinada intoxicación
- ✓ **Urgencia** de administración del antídoto
- ✓ **Dificultades de adquisición** (medicamentos extranjeros, fórmulas magistrales, desabastecimientos...)
- ✓ **Elevado coste**
- ✓ **Corto período de validez**



¿Qué evidencia hay publicada?



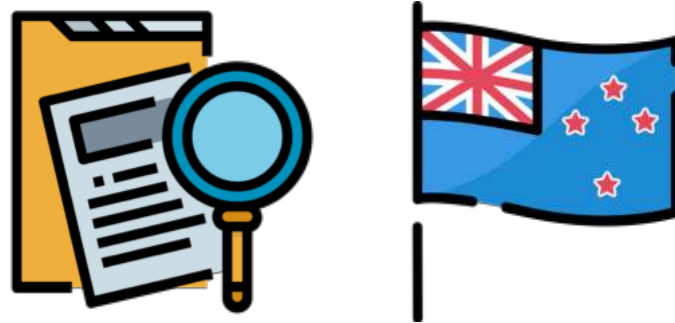
- Dart RC, Stark Y, Fulton B, Koziol-McLain J, Lowenstein SR. **Insufficient stocking of poisoning antidotes in hospital pharmacies.** JAMA 1996; 276: 1508-10.
 - ✓ *Objective: To determine whether antidotes for poisoning and overdose are available in hospitals that provide emergency department care.*
 - ✓ *8 different antidotes; Colorado, Montana, and Nevada.*
 - ✓ *Insufficient stocking of antidotes is a widespread problem in Colorado, Montana, and Nevada*

¿Qué evidencia hay publicada?



- Woolf AD, Chrisanthus K. **On-site availability of selected antidotes: results of a survey of Massachusetts hospitals.** Am J Emerg Med. 1997 Jan;15(1):62-6.
 - ✓ *14 antídotos, 82 centros*
 - ✓ *“We conclude that Massachusetts hospitals do not carry complete inventories of 14 common antidotes”*

¿Qué evidencia hay publicada?



- Schep LJ, Slaughter RJ. **Availability and quantity of antidotes in New Zealand.** N Z Med J. 2015; 128: 1175-8716.
- Fountain JS, Sly B, Holt A, MacDonell S. **Availability of antidotes, antivenoms, and antitoxins in New Zealand hospital pharmacies.** N Z Med J. 2015; 128: 23-33.
 - ✓ 61 antídotos, 24 hospitales
 - ✓ Problemas de disponibilidad con algunos fármacos

¿Qué evidencia hay publicada?



- Wium CA, Hoffman BA. **Antidotes and their availability in South Africa.** Clin Toxicol (Phila). 2009; 47 (1): 77-80.
 - ✓ "The response rate was 94%. None of the responding hospitals stocked all of the antidotes on the list. Tertiary hospitals had the highest percentage (67%) of antidotes available".

¿Qué evidencia hay publicada?



- Arslan N, Khiljee S, Bakhsh A, Ashraf M, Maqsood I. **Availability of antidotes and key emergency drugs in tertiary care hospitals of Punjab and assessment of the knowledge of health care professionals in the management of poisoning cases.** Pak J Pharm Sci. 2016; 29 (2): 603-7.
- Liu Y, Zhu H, Walline J, Wang M, Xu Q, Li Y, Yu X. **The mastery of antidotes: A survey of antidote knowledge and availability among emergency physicians in registered hospitals in China.** Hum Exp Toxicol. 2016; 35 (5): 462-71.
- Al-Sohaim SI, Awang R, Zyoud SH, Rashid SM, Hashim S. **Evaluate the impact of hospital types on the availability of antidotes for the management of acute toxic exposures and poisonings in Malaysia.** Hum Exp Toxicol. 2012 Mar;31(3):274-81.

¿Qué evidencia hay publicada?



Disponibilidad heterogénea

- Nogué S, Munné P, Soy D, Millà J. **Disponibilidad, utilidad y coste de los antídotos en Cataluña.** Med Clin (Barc). 1998; 110: 609-13.
- Aguilar R, Soy D, Nogué S. **Disponibilidad de antídotos en los ámbitos sanitarios de Cataluña.** Med Clin (Barc). 2006; 127 (20): 770-3.
- Broto-Sumalla A, Rabanal-Tornero M, García-Peláez M, Aguilar-Salmerón R, Fernández de Gamarra-Martínez E, Martínez-Sánchez L, Gaspar-Caro MJ, Nogué-Xarau S. **Disponibilidad de antídotos en 70 hospitales de Cataluña.** Med Clin (Barc). 2018; 150 (1): 16-19.

¿Qué evidencia hay publicada?



- Locatelli C, Petrolini V, Lonati D, Butera R, Bove A, Mela L, et al. **Antidotes availability in Emergency Departments of the Italian National Health System and development of a national data-bank on antidotes.** Ann Ist Super Sanita. 2006; 42 (3): 298-309.
 - ✓ *“The results point out an insufficient availability of antidotes in the Italian emergency hospitals, with an almost total absence of those necessary for the treatment of less frequent and less known poisonings”.*

¿Qué evidencia hay publicada?



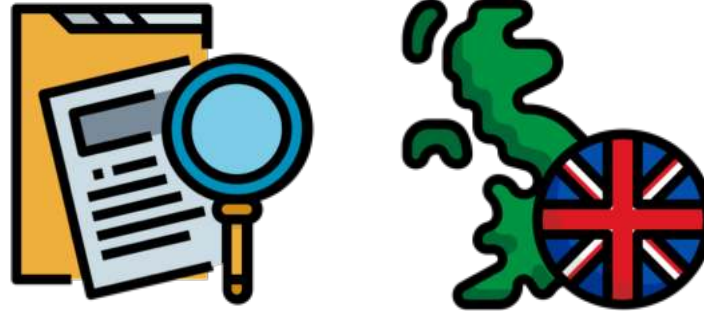
- Plataki M, Anatoliotakis N, Tzanakis N, Assithianakis P, Tsatsakis AM, Bouros D. **Availability of antidotes in hospital pharmacies in Greece.** Vet Hum Toxicol. 2001; 43 (2): 103-5.
 - ✓ 12 antídotos, 68 centros
 - ✓ Only 2/68 hospitals stocked all 12 antidotes.
 - ✓ Sufficient stocking ranged from 6% (for digoxin immune fab) to 91% (for methylene blue).
 - ✓ Recent circulation of government guidelines for antidote stocking and hospital type had no significant effect on antidote stocking.
 - ✓ Storing of key poisoning antidotes is inadequate in regional as well as in prefectural hospitals in Greece.

¿Qué evidencia hay publicada?



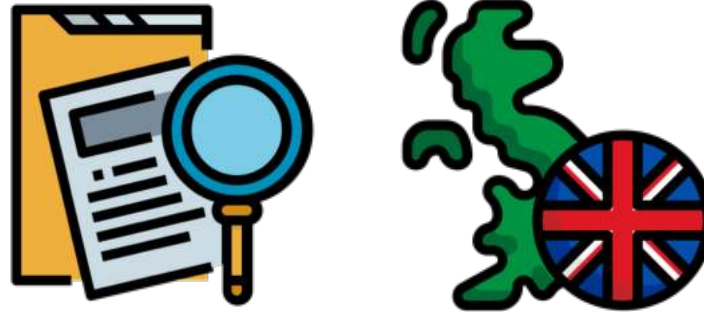
- Lapostolle F, Alayrac L, Adnet F, Maistre JP, Leseur A, Lapandry C. **Availability of antidotes in French emergency medical aid units.** Presse Med. 2001; 30 (4): 159-62.
 - ✓ 102 SAMU, 37 antídotos
 - ✓ *“There is a great disparity of antidote availability. Certain essential antidotes, for which there is no alternative, are not available in emergency intervention vehicles and even in the hospital”.*

¿Qué evidencia hay publicada?



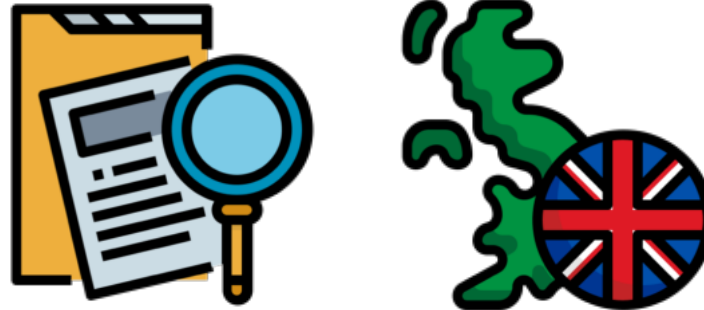
- Higgins MA, Evans R. **Antidotes--inappropriate timely availability.** Hum Exp Toxicol. 2000; 19 (9): 485-8.
 - ✓ 43 centros, 36 antídotos
 - ✓ *All departments held antidotes that were frequently used.*
 - ✓ *The remaining antidotes were variably stocked.*
 - ✓ *58% chief pharmacists were unfamiliar with existing UK guidelines.*
 - ✓ *A trend exists whereby larger departments stocked more antidotes.*

¿Qué evidencia hay publicada?



- Thanacoody RH, Aldridge G, Laing W, Dargan PI, Nash S, Thompson JP, Vale A, Bateman N, Thomas S. **National audit of antidote stocking in acute hospitals in the UK.** Emerg Med J. 2013; 30 (5): 393-6.
 - ✓ *Joint National Poisons Information Service (NPIS)/College of Emergency Medicine (CEM) guidelines for antidote stocking in UK emergency departments and acute hospitals were published in 2008.*
 - ✓ *28 antídotos, 224 hospitales*
 - ✓ *Stocking of less commonly used antidotes is inconsistent. This is likely to result in delayed access to treatment and worse patient outcomes.*

¿Qué evidencia hay publicada?



- Harnett JT, Vithlani S, Sobhdam S, Kent J, McClure L, Thomas SH, Dargan PI. **National audit of antidote stocking in UK emergency departments.** Eur J Hosp Pharm. 2021; 28 (4): 217-222.
 - *Previous audits have demonstrated variable but improving compliance with joint Royal College of Emergency Medicine and National Poisons Information Service guidance on antidote availability in emergency departments. The guidance was updated in 2017.*
 - *178 hospitales*
 - *Most hospitals remain not fully compliant with stocking recommendations for categories A and B antidotes, with limited recent improvement.*

Encuesta europea



Septiembre 2022

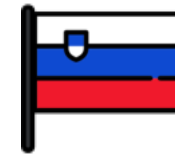


A través de los delegados europeos de la **European Association of Hospital Pharmacists**

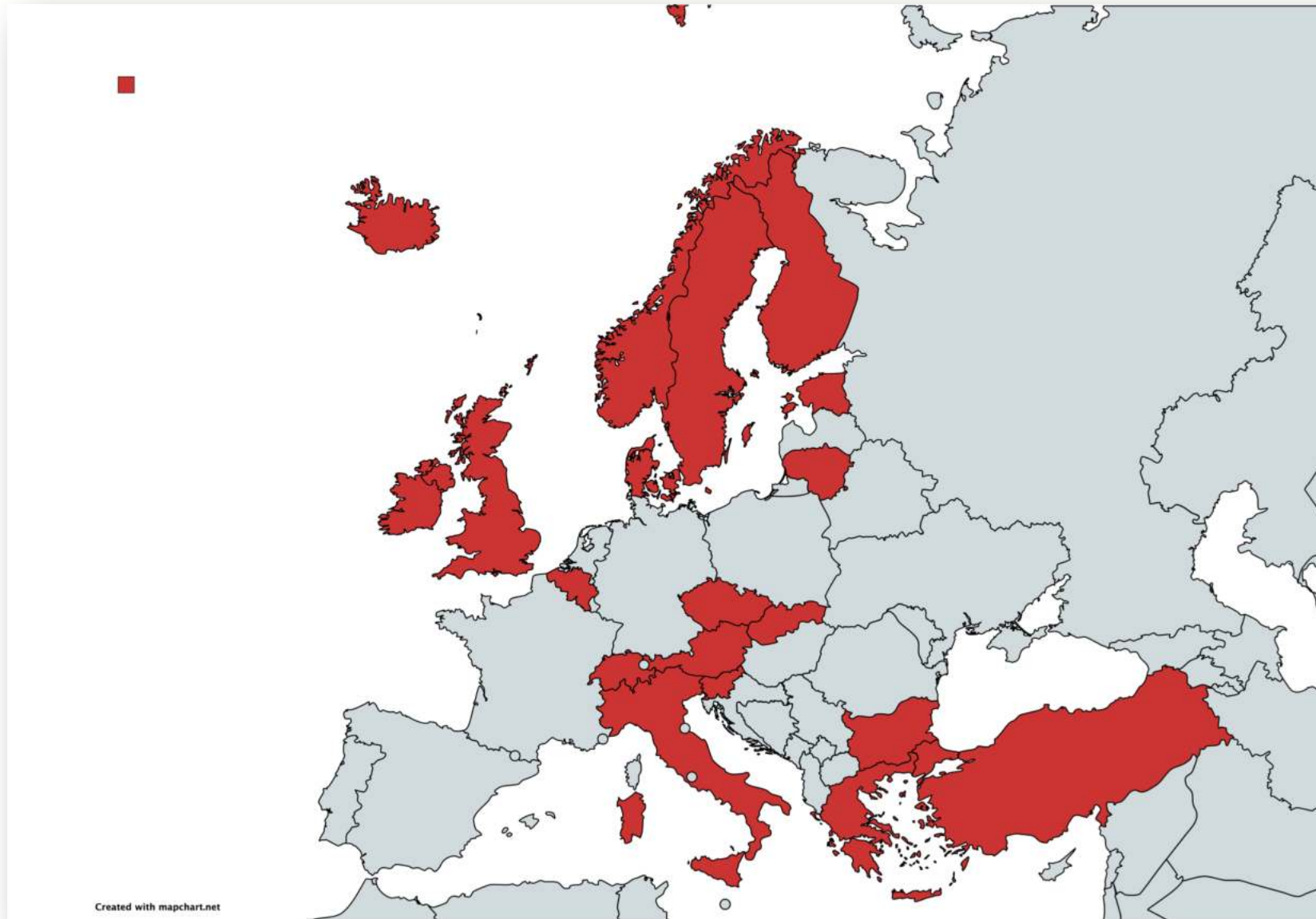
Encuesta europea



Austria	Eslovenia	Islandia	República Checa
Bélgica	Estonia	Italia	Suecia
Bulgaria	Finlandia	Lituania	Suiza
Dinamarca	Grecia	Noruega	Turquía
Eslovaquia	Irlanda	Reino Unido	



Encuesta europea



Encuesta europea



- **Are there national recommendations about antidotes stocking?**
 - ✓ Yes/No/Not national but regional recommendations
- **In case there are national/regional recommendations:**
 - ✓ Is it considered that all hospitals should have the same stock of antidotes
 - ✓ It depends on the hospital complexity

Encuesta europea

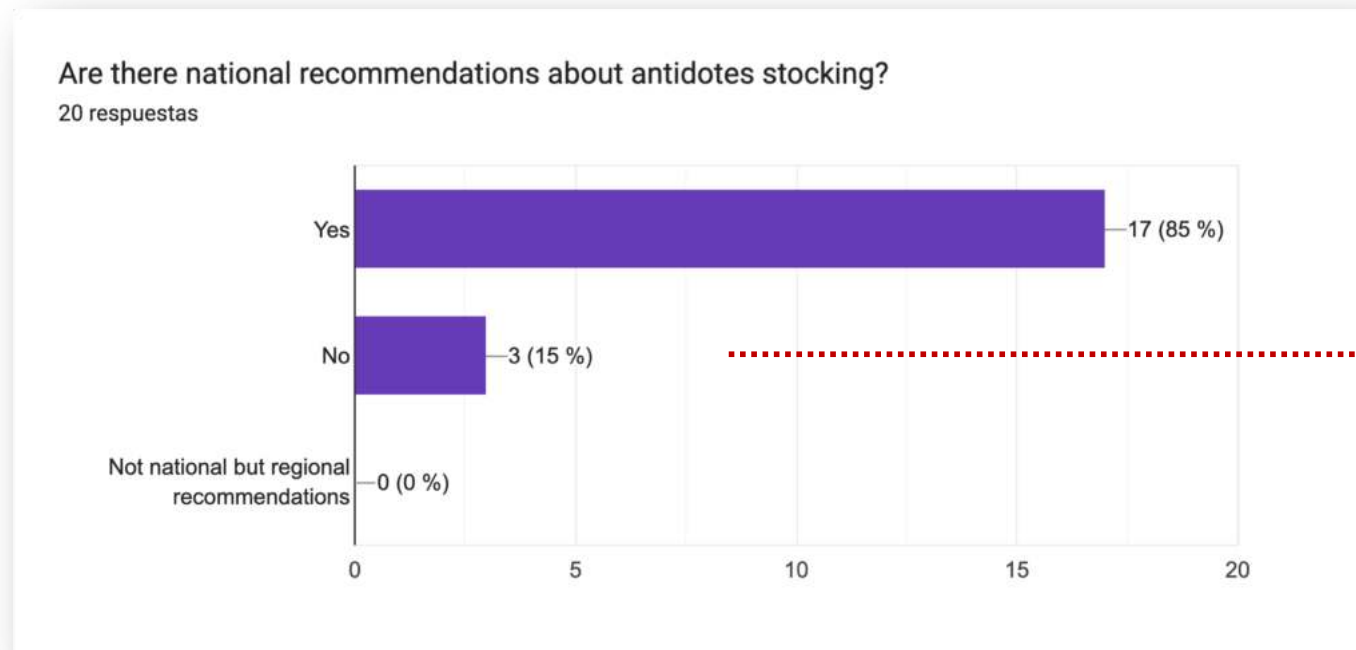


- **Is there a national antidote's network in your country?**
 - ✓ Yes/No
- **Is there a centralized stock of antidotes or special antidotes?**
 - ✓ Yes - managed by hospitals
 - ✓ Yes - managed by the national health system
 - ✓ Yes - managed by toxicology centers
 - ✓ No

Encuesta europea



Are there national recommendations about antidotes stocking?



No
Islandia
Bélgica
Austria

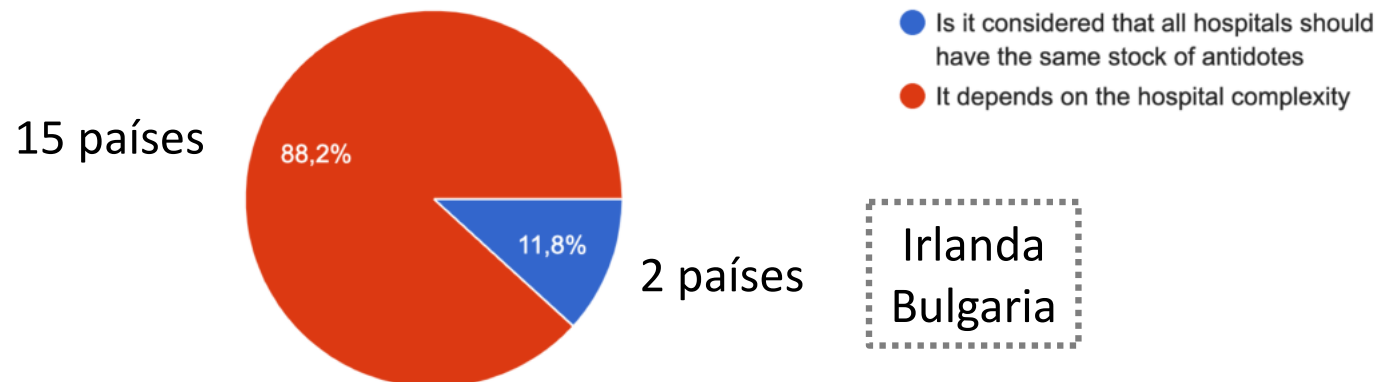
Encuesta europea



In case there are national/regional recommendations:

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17 respuestas



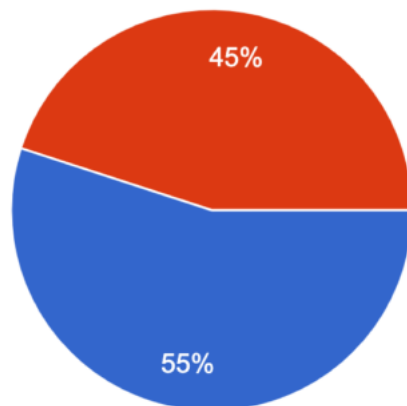
Encuesta europea



Is there a national antidote's network in your country?

Is there a national antidote's network in your country?

20 respuestas



● Yes
● No

Eslovaquia
Estonia
Finlandia
Suecia
Grecia
República Checa
Eslovaquia
Suiza
Austria?
Reino Unido?

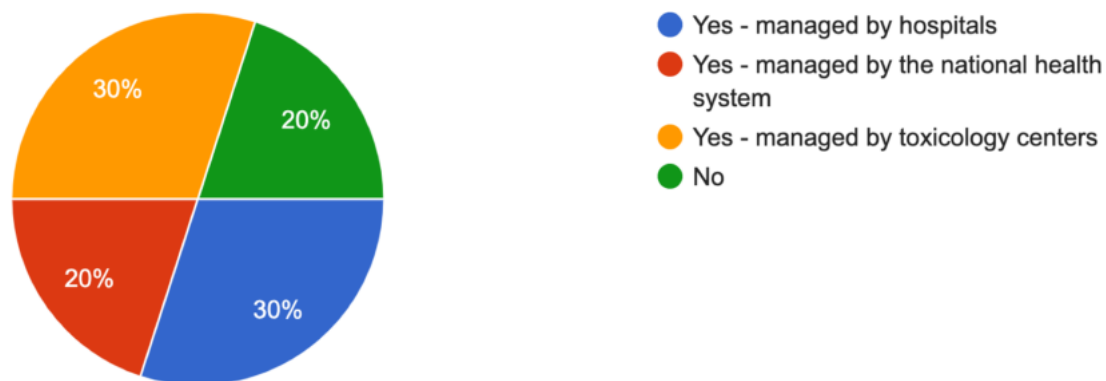
Encuesta europea



Is there a centralized stock of antidotes or special antidotes?

Is there a centralized stock of antidotes or special antidotes?

20 respuestas



Encuesta europea

Is there a centralized stock of antidotes or special antidotes?

Managed by hospitals

Islandia
Italia
Irlanda
Austria
Grecia
Dinamarca

Managed by national health system

Turquía
Suecia
Reino Unido
Lituania

No

Finlandia
Bulgaria
Noruega
Suiza

Managed by toxicology centers

Estonia
Eslovaquia
Bélgica
Eslovenia
República Checa

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



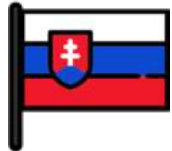
Finlandia: Network is not mandatory, but all participate. We can see each others antidote inventory online.

- ✓ List of antidotes in each hospital in a national database.
- ✓ Each hospital has access, and all update the list as often as possible. Once or twice a year we receive an update reminder, but most hospitals update more often.
- ✓ Distances sometimes very long...

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Eslovaquia: Hospital pharmacists work closely with NTIC and report the status of antidote stocks every month via a remote document (online google document).

- ✓ It was an initiative of hospital pharmacists.
- ✓ The chief of pharmacist can monitor the state of the stock of antidotes within our country.
- ✓ Document: date, contact, stock, expiration date
- ✓ Only hospital pharmacists and the National toxicological information centre have access to that online document.

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Estonia: national antidote's Network organised by Estonian Poisoning Information Centre

<https://www.16662.ee/et/tervishoiutootajale/antidootide-baas>

- ✓ 8 antidotes in the list, 15 hospitals involved. The choice of antidotes depends on the level of care the hospital provides.
- ✓ Simple database with antidote name, location and amount of antidote available in that location. No specific software.
- ✓ Procurement of antidotes done by Estonian Health Insurance Fund. Antidotes will be sent to hospitals for free and each hospital has obligation to inform Estonian Poisoning Information Centre in case any of the antidotes is used or sent to another hospital. Poisoning Information Centre updates database



Ac antidigoxina
Silibinina
Suero antiofídico
Deferoxamina
EDTA
Dimercaprol
Fomepizole
Hidroxicobalamina

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Suecia: The national poison center of Sweden publishes a list of recommended antidotes. It is up to the regional health trusts to organize regional stocks of antidotes - usually at the major acute hospitals in their regions.

Some common antidotes are available at basically every ward or health care center (like naloxone, vitamine K, flumenazil). There is also a national stock of rare antidotes and antisera for various poisonous animals (primarily snakes) located at a special community pharmacy in downtown Stockholm. This pharmacy is the only one in Sweden that is always open 24/7. They will urgently send required antidotes/antisera anywhere in Sweden as required.

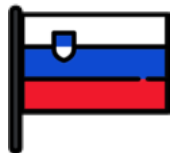
Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Irlanda: There is a national list of the antidotes that must be available immediately in each Emergency Department. Then there is also a list for antidotes that need to be available within 1hr of patients admission. The National Irish list of antidotes is currently being updated and therefore the UK recommended list is currently being used by the National Poison Centre with some exceptions - you can obtain further information on the National Poison Centres website at <https://poisons.ie/>



Eslovenia: Our poison control centre prepared recomendation of antidotes (and amounts) for all hospitals in Slovenia. Amounts depends on size of hospital, presence of specific industry in region and so on.

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Reino Unido:

National recommendations about antidotes stocking are developed by the Royal College of Emergency Medicine and the Specialist Pharmacy Services which broadly describe what should be stocked.

While the guidelines are national there is some local variation allowed e.g. where a hospital is near a nuclear power station, is near areas with venomous snakes or are deemed a regional centre etc.

Over and above the locally held stock there is some nationally held stocks. There may be some variation in Scotland, Wales and Northern Ireland due to devolved administrations

Iniciativas de otros países



Additional information you consider that might be interesting regarding antidotes management



Grecia: there is a specific list for antidotes for which their circulation across the country is done through specific hospital pharmacies, called reference centers and also by central toxicology center located in Athens. All of them are on duty 24h 7/7d.



Suiza: National guidelines and list of antidotes are updated every other year by a federal agency. Some of the antidotes are not available on the Swiss market and we have to import or manufacture part of them.

Ideas para compartir



- **Preocupación por la disponibilidad** de antídotos.
- 17/20 países con **recomendaciones nacionales**.
- **Situación heterogénea**, condicionada por características de los sistemas de salud, recursos, tamaño del país, población...
- **Distintas soluciones**, con distinto formato pero con una **idea común** de mejorar la disponibilidad y la comunicación.



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