DEVELOPMENT OF AN INFORMATIC HAZARD VULNERABILITY ANALYSIS TOOL TO MINIMISE MEDICINES SHORTAGES

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What was done?

We create an informatics **HVA Tool (HVAT) to assess the risk associated with medicine shortage.**

Why was it done?

- The 2018 EAHP Medicines Shortages Survey showed that **91% of responding pharmacists had experienced problems sourcing medicines**
- it is important to use **tools that early identify the shortage risk** associated with each drug in order to adopt appropriate countermeasures.

How was it done?

Creating an Excel spreadsheet subdivided into three macro areas: **PROBABILITY** that the shortage will occur based on shortage in the last 2 years, **MAGNITUDE** factors which increase the risk of shortage, and **MITIGATION** factors which reduce it. The score were assigned as follow:

PROBABILITY	MAGNITUDE			MITIGATION			RISK
	Relevance of the active substance	Budget impact	Impact on patients	therapeutic alternative	Available Stock	Drug's availability	
Have there been shortages in the past for this drug?	What kind of drug is it?	What is the cost of the therapeutic alternative?	What is the percentage of patients involved?	What kind of therapeutic alternative is available	Considering the use history, how much autonomy do you have with the available stock ?	What is the availability of the drug?	Relative threat*
0 = N/A 1 = no one 1,5 = one 2 = 2 or more	0 = N/A 1 = not life-saving and not high-risk medication 2 = not life-saving but high-risk medication 3 = life saving (or life saving and high-risk medication)	0 = N/A 1 = equal to or less than the active principle in shortage 2 = higher but sustainable for all patients 3 = higher and not sustainable for all patients	0 = N/A 1 = less than 20% 2 = ranging 20-50% 3 = more than 50%	0 = N/A 1 = same active substance/ same route of administration 1,5 = same active substance/ different route of administration 2= Different active substance/different route of administration (not IV) 2,5= Different active substance/different route of administration (IV) 3= no alternative	0 = N/A 1 = more than 1 month 2 = ranging from 1 week to 1 month 3 = less than 1 week	0 = N/A 1 = The drug is available in UE 2 = the drug is only available outside from UE 3 = the drug is not available at all	0 - 100%

What has been achieved?

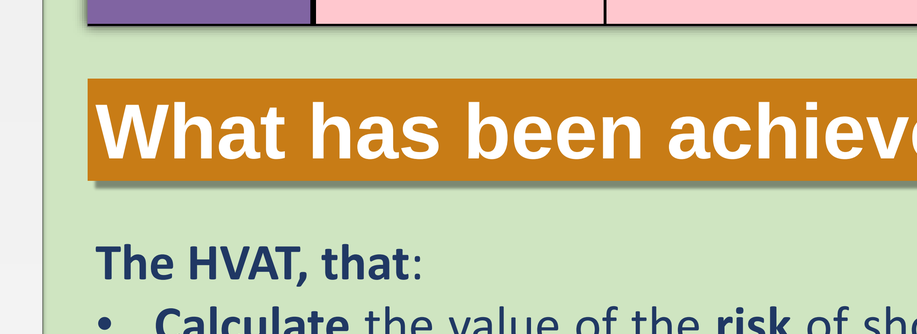
RISK=	PROBABILITY *	SEVERITY
0,25	0,50	0,50

The HVAT, that:

- **Calculate** the value of the **risk** of shortage **multiplying P*S**, in which **P is the percentage of probability** (value of probability obtained/2) and **S is percentage of severity** [(sum of values of magnitude obtained + sum of values of mitigation obtained)/18].
- Based on the score obtained, **classify drugs as** at: **low (<30%); medium (30–60%) and high (>60%) risk of shortage.**

What next?

We will implement the HVAT in our hospital in order to reduce the impact of shortages.



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