

# Changes in pharmacovigilance, signal detection and surveillance

Jos Olaerts









## **PhV Pillars**

### • AE collection and recording

- 30 days + non-serious cases
- Yearly sales (+ estimation of exposed Number of target species)

### • Continuous AE analysis by MAH (signal management)

- Using EVVET database or own database (+ 1 yearly SD analysis on EVVET)
- Yearly MAH statements + SM outcomes submitted to database

### Regulator oversight through

- PhV Inspections
- Risk based signal surveillance by regulators
- Ad-hoc targeted surveillance

### • Pharmacovigilance Master File (+ Quality Management System)





### (However: annual statements (2) + sales)



### **Essential DATA systems**



### PhV related activities ("Burden")







### AER recording – EVV

Laura Descalzo





## Regulation (EU) 2019/6 vs Volume 9B of The Rules Governing Medicinal Products in the European Union Main differences

- All suspected adverse event reports (AERs) recorded directly to EVV
- Timeframe for AERs recording in EVV: 30 calendar days
- No difference between serious and non-serious adverse events for reporting obligations and signal detection, however the field 'Serious AE' is mandatory in EVV (Yes, No)
- Requirement for collection and recording of any observation of a lack of efficacy of a veterinary medicinal product (VMP) following its administration to an animal, whether or not in accordance with the summary of product characteristics
- Requirement for collection and recording of environmental incidents (NEW DEFINITION)
- Requirement for collection and recording of any unfavourable and unintended reaction in an animal to a medicinal product for human use



### MESSAGING FLOW ALL reports



**EVVET** Central DB

## LOGIN- EVVET (1)



🕑 Eudra Vigilance × +	<b>o</b> – d ×
← → C  adr-web-xcomp.azurewebsites.net/adrwebui/	* 🛎 E
	Descalzo Laura 🗸



## LOGIN- EVVET (2)



AERs Mailbox		Descalzo Laura Eudravigilance Veterinary 💙
	Create and Send Search AE Reports Search AE Messages	
✓ ∧ Search Ξ	New Import XML Export XML	Validate Validate and Send
✓ AE Message + 0	AE Message <	
✓ AE Report #1 🖻 📱 🌒	Batch Identifier *	0
✓ A - Administrative and Identification Information ●	This field is required Batch Sender Identifier (EVVETTBL) Eudravigilance Veterinary	
> A.2 Marketing Authorization Holder (MAH) ()		
> A.3 Person(s) Involved in AER ()	Batch Receiver Identifier *	Q (?)
A.4 AER Information ()	Date of Batch Creation * 2021/10/19 17:37:05	0
> B - Description of Animal Data Information ()		

## AE REPORTING- EVVET (1)



- ✓ AE Message +
  - 🗸 🖌 AE Report #1 🖺 📱 🌒
    - A Administrative and Identification Information ()
      - A.2 Marketing Authorization Holder (MAH) ()
      - > A.3 Person(s) Involved in AER ()

#### A.4 AER Information ()

B - Description of Animal Data Information ()

#### **B.1 Animal Data**

- B.2 VMP(s) Data and Usage +
  - > VMP #1 🖺 🔳 🕚

Animal/Human [	Data 🤈
----------------	--------

Number of Animals Treated

1

Number of Animals Affected \*

1

Attending Veterinarian's Assessment of Health Status

Species (Type of Species) \*

Dog 😒



Purebred

Akita 区

## AE REPORTING – EVVET (2)



B.1 Animal Data	B.3 Adverse Event Data ()
B.2 VMP(s) Data and Usage +	B.5 Assessment of AE
• VMP #1 🖻 🔳	B.6 Report Number(s) of Linked Report(s)
> B.2.1 Registered or Brand Name	B.7 Supplemental Documents

- > B.2.2 Active Ingredient(s) +
- B.2.3 Lot Number +
  - B.2.4 Who Administered the VMP
  - B.2.5 Use According to Label
  - B.3.9 Previous Exposure to the VMP
  - B.3.10 Previous AE to VMP
  - B.4 Dechallenge-Rechallenge Information

✓ B

 $\sim$ 

B.3 Adverse Event Data

## AE REPORTING – EVVET (3)

#### Narrative of AE \*

					<i>"</i> ⑦
This field is required					
Adverse Clinical Manifestations 🧿					
AER Term Name *	Number of Animals		Accuracy of the Number of Animals *		_
Application site abscess 😒 🔍 🤇	<u>1</u>	0	Actual	~ (?)	•
AER Term Name *	Number of Animals		Accuracy of the Number of Animals *		_
Lethargy 😒	<u>1</u>	<u>()</u>	Actual	<b>~</b> ⑦	•
+ Add					
Choose a Date Format * Day, Month and Year		Date of Onset of AE (/	AE Start Date) *		t ?
Length of Time between Exposure to VMP & Onset of AE <12 hours					• ?
Duration of AE					
Duration (Time) 3					0



14

### Label Usage

Use According to Label

Explanation for Off-Label Use 🥐

Was the target species Off-label?

Was the route of administration Off-label?

Was the animal overdosed?

Was the animal underdosed?

Was the treatment regimen Off-label?

Was the indication Off-label?

Was the storage condition Off-label?





### Search for Messages and AERs

AERs	Mailbox	Descalzo Laura Eudravigilance Veterinary 💙
	Create and Send Search AE Reports Search AE Messages	Search Q
Criteria(5)		^
+ More criteria Message Receive Date	Occur Country 😒 Sender 😒 Species 😒 Unique AER Number 😒	٩
Outcome Died		
Outcome Euthanized		^
Product Name	Date 🛞 Occur Country 🛞 Results in Death 🐼 Message Sender 🛞 Species 🐼 Type of Information in Report 🐼 Unique AER Number ⊗	Q
Substance Name		
Type of submission		



### **EVV DWH Dashboard and Reports**

19 - March - 2021



### Searching flow: where to begin?





As a general rule, if the user wants...

# Dashboards: how to get an overview of data for a product/substance/ group of products



## ADVERSE EVENT OVERVIEW

To obtain baseline data: Number of AERs per product and species, Number of animals affected, Number of fatalities



#### Filters page selection

e event overview	
ådverse event overview	
	Clear all values
roduct information (Required)	
Active substanceSelect	alue 💌
Product short name,	
ATC vet codeSelect	alue
Reported brand nameSelect	alue 🔽
Product authorisation numberSelect	alue 🔽
Reported authorisation numberSelect	alue 🔽
Product composition (Type = Composition)Select	alue 🔽
Product composition (Type = Strength)Select	alue 🔽
Product composition (Type = Formulation)Select	alue 🔽
Product composition (Type = Pharma Product)Select	alue 🔽
dDRA hierarchy	
VedDRA SOC nameSelect Value VedDRA HLT name	elect Value 🔽 VedDRA PT nameSelect Value 💟 VedDRA LLT nameSelect Value 🔽
eport filter (Required)	
Human or animal 🗹 Animal 📝 Human	
ll cases or new cases (Required)	



\* Occurence region filter not applied

\* Occurence region and message received date filters not applied



#### Number of cases and fatal cases (LAST 10 YEARS)



#### Number of cases by species and VedDRA SOC over product

	Cat	Dog	Human
Application site disorders		2	
Behavioural disorders	22	45	
Blood and lymphatic system disorders	1	4	
Cardio-vascular system disorders	5	19	
Digestive tract disorders	10	109	
Ear and labyrinth disorders	3	1	
Endocrine system disorders		3	
Eye disorders	1	18	
Hepato-biliary disorders		3	
Immune system disorders	2	16	
Investigations	4	58	
Musculoskeletal disorders	2	26	
Neurological disorders	27	190	
Renal and urinary disorders	1	16	
Reproductive system disorders	1	3	
Respiratory tract disorders	19	27	
Skin and appendages disorders	15	15	
Systemic disorders	34	140	
Unclassifiable event		1	

#### Number of animals affected and animals died (LAST 10 YEARS)



\*Message received date filter not applied

\* Species and VedDRA hierarchy filters not applied

#### See details

#### Links to signal detection reports

Animal/Human adverse events overview

ROR calculations based on number of animals reacted\*

\*Please fill in at least one field from VedDRA terms

#### Link to data stratification report

Adverse events overview for associated products

Product Hierarchy Level Medicinal product shortname V VedDRA Hierarchy Level VedDRA PT name V

#### Species Cat 🗸

vedDRA SOC name	VedDRA PT name	ROR (AER)	ROR (+) (AER)	ROR (-) (AER)	Number of animals affected	Number of cases (period specified)	Number of NON EEA cases (period specified)	Number of EEA cases (period specified)	Number of cases (Total ALL)	Number of NON EEA cases	Number of EEA cases	r Number of cases (Total ALL reactions)	Number of fatal cases (period specified)	Number of fatal cases	Case count (AERs)	Reaction count	Case count by product (filter applied)	Case count (filter not applied)	t Reaction count total	Percentage of reactions	Percentage of cases	Known VedDRA terms code	Numbe of AER (ROR)	er Ls
3ehavioural	Aggression	N/A	N/A	N/A	2	2	2	2	3			2 153	3		2	1	68	691	123	0.81	2.94	0		2
disorders	Anxiety	N/A	N/A	N/A	2	2	2	2	3	1		2 153	3		2	1	68	691	123	0.81	2.94	0		2
	Behavioural disorder NOS	1.27	1.65	0.98	5	; 5	5	5	9	)		5 153	3		5	2	68	691	. 123	1.63	7.35	0		5
	Grooming disorder	15.30	22.19	10.55	7	' 5	5	2 3	9	2	: :	3 153	3		5	1	68	691	. 123	0.81	7.35	0		5
	Hyperactivity	6.83	9.10	5.13	15	13	3	2 11	31	. 2	1	1 153	3		13	4	68	691	123	3.25	19.12	0	1	13
	Self mutilation	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	123	0.81	1.47	0		1
	Vocalisation	2.47	3.24	1.88	5	5 5	5	1 4	9	1		4 153	3		5	2	68	691	123	1.63	7.35	0		5
Blood and lymphatic system disorders	Other coagulation abnormality	N/A	N/A	N/A	1	. 1	L	1	. 2	2	:	1 153	3		1	1	68	691	123	0.81	1.47	0		1
Cardio-vascula system	r Circulatory shock	N/A	N/A	N/A	1	. 1	L	1	. 2	!	:	1 153	3		1	1	68	691	. 123	0.81	1.47	0		1
disorders	Pericardial effusion	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	. 123	0.81	1.47	0		1
	Tachycardia	2.26	2.99	1.70	3	3	3	1 2	9	1	. :	2 153	3		3	1	68	691	123	0.81	4.41	0		3
Digestive tract	Diarrhoea	N/A	N/A	N/A	2	2	2	1 1	. 8	1	. :	1 153	3		2	1	68	691	123	0.81	2.94	0		2
disorders	Digestive tract disorder NOS	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	123	0.81	1.47	0		1
	Dysphagia	N/A	N/A	N/A	1	. 1	L :	L	1	. 1		153	3		1	1	68	691	123	0.81	1.47	0		1
	Emesis	0.52	0.67	0.40	5	5 5	5	1 4	18	1		4 153	3		5	1	68	691	123	0.81	7.35	0		5
	Hypersalivation	N/A	N/A	N/A	2	2	2	1 1	. 7	1	. :	1 153	3		2	1	68	691	123	0.81	2.94	0		2
	Intestinal disorder NOS	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	. 123	0.81	1.47	0		1
	Intestinal stasis	N/A	N/A	N/A	1	. 1	L :	L	1	. 1		153	3		1	1	68	691	. 123	0.81	1.47	0		1
	Nausea	N/A	N/A	N/A	1	1	L	1	. 3	1		1 153	3		1	1	68	691	123	0.81	1.47	0		1
	Paralytic ileus	N/A	N/A	N/A	1	1	L	1	. 1			1 153	3		1	1	68	691	123	0.81	1.47	0		1
Ear and labyrinth	Ear canal disorder	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	. 123	0.81	1.47	0		1
disorders	Internal ear disorder	N/A	N/A	N/A	2	: 2	2	2	2	!	:	2 153	3		2	2	68	691	. 123	1.63	2.94	0		2
Eye disorders	Blepharospasm	N/A	N/A	N/A	1	. 1	L	1	. 1		:	1 153	3		1	1	68	691	123	0.81	1.47	0		1
Immune system disorders	Anaphylaxis	N/A	N/A	N/A	2	. 2	2	2	2	1	:	2 15	3		2	1	68	691	123	0.81	2.94	0		2
Investigations	Abnormal necropsy finding	N/A	N/A	N/A	1	. 1	L	1	. 2	1	:	1 153	3		1	1	68	691	123	0.81	1.47	0		1

💮 🏠 🕹 🛐 Rows 1 - 25



### Signal Management

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### **Dashboards: product-based analysis**



ADVERSE EVENT OVERVIEW

To obtain baseline data: Number of AERs per product and species, Number of animals affected, Number of fatalities



SIGNAL EVALUATION

To analyse the profile of affected animals (i.e. breed, age) for adverse reactions of interest (potential signs) and identify potential risk factors, effects of co-medication, geographical distribution or pharmaceutical form



SIGNAL DETECTION

To view the type of Adverse Events reported for a selected product or group of products (at SOC and PT) and to compare the frequency to the number of reports involving other products and other clinical signs = ROR / ROR(-)



DATA STRATIFICATION To compare a product to products of the same class, or to identify and exclude certain products from the comparison (products with a disproportionate number of reports for a specific AE)



### **Filters selection page**

Jigilai		
te Between	iza -	120
nt Between	E-	20
reSelect Value		
eSelect Value		
Ealact Value		
nselect value		
elSelect Value		
elSelect Value elSelect Value cy  Yes		
elSelect Value cy Yes s Yes		
	elSelect Value cy  Yes	elSelect Value cyYes



### **Overview of AERs per product/active substance/ATC Vet code**



Analyze - Refresh - Print - Export

Product Hierarchy Level Medicinal product shortname

		Human or animal	Animal				Human		Number of cases	Number reacted
		Seriousness	Yes		No		Unknown			
			Number of cases	Number reacted	Number of cases	Number reacted	Number of cases	Number reacted		
Medicinal product shortname	Occurrence region	Occurrence country								
	EEA	Belgium			1	1			1	1
		Denmark			1	1			1	1
		France	25	25	33	43	1	1	59	69
		Germany	5	11	5	5	1	1	11	17
		Italy	2	2					2	2
		Netherlands	2	2	1	1			3	3
		Norway			1	1			1	1
		Portugal	4	4					4	4
		Spain	6	7					6	7
		Sweden			1	1			1	1
	Non EEA	Australia	2	2					2	2
		Brazil	9	9					9	9
		Canada	19	19					19	19



### Signal detection with 2 RORs up to date 2 and up to date 1

Signal detection da	shboard							Home	Catalog Favorites 🗸	Dashboards 🗸 🛛 🚺	New 🗸 📄 (	Open 🗸 🛛 Signed In	As Laura Patt
Filters Overview of	AERs per product/active substance/ATCVET	Signal detection (with 2 RORs,	up to Date 2 and up to Date 1) Stati	c ROR Evaluation									E.
SIGNAL DETECT	TION QUERY(WITH 2 ROR CALCULA	ATIONS, UNTIL DATE 2 AN	ID UNTIL DATE 1)										
Product Hierarchy	Level Medicinal product shortname V												
Date 1: 19/02/2020 Date 2: 19/03/2021													
Species Cat	<b>•</b>		Number of cases between date 1 and date	Number reacted between date 1 and date	ROR (-) until date	ROR until date	ROR (+) until date	Number of cases until date	Number reacted until date	ROR (-) until date	ROR until date	ROR (+) until date	Number of
shortname	VedDRA SOC name	VedDRA PT name	2	2	2	2	2	1	1	1	1	1	cases
	Behavioural disorders	Aggression	2	2	1.52	1.80	2.14			1 0.15	5 1.0	5 7.6	1
		Anxiety	2	2 2	1.50	1.78	2.12			1 0.15	5 1.0	7 7.72	2
		Behavioural disorder NOS	5	5 5	1.14	1.35	1.59	1		4 0.90	1.1	2 1.4/	0
		Grooming disorder		7	12.22	14.88	18.10			+ <u>4.4</u>	12.1	5 15.5/	.8
		Hallucination			N/A	N/A	N/A			1 N/4	N//	A N/2	A
		Hyperactivity	13	15	5.52	6.62	7.93	1	1	8 5.4	6.9	8.79	9
		Self mutilation	1	1	N/A	N/A	N/A	<u> </u>		N//	N//	A N//	A
		Vocalisation		5	1.61	1.91	2.26	-		+ 1.2	1.5	1.89	8
	Blood and lymphatic system	Other blood disorder NOS	0		N/A	N/A	N/A			1 N//	N//	A N//	A
	disorders	Other coagulation abnormality	1	1	N/A	N/A	N/A			1 N//	N//	A N//	A
	Cardio-vascular system disorders	Bradycardia		)	N/A	N/A	N/A			1 N//	N//	A N//	A
		Cardiac arrest			N/A	N/A	N/A			1 N/4	N//	A N/2	A
		Cardiac insufficiency	0		N/A	N/A	N/A			1 N/4	N/4	A N/2	A
		Circulatory shock		1	N/A	N/A	N/A			1 N/4	N//	A N/A	A
		Hypotension			3.24	3.92	4.70			4 3.5	7.1	9.07	1
		Murmur			N/A	N/A	N/A		-	L N//	N/A	A N/A	A
		Pericardial ettusion		1	N/A	N/A	N/A			N/F	N//	A N/A	A
	Direction broad directions	Tachycardia			2.8/	2.45	2.90			2.3	2.9	3.6;	3
	Digestive tract disorders	Diarmoea		2	0.85	1,00	1.18			1	1.3	1./1	0
		Digestive tract disorder NUS		1	N/A	N/A	PK/A			N/A	N PAPA	A N/A	A
		NOS			NJA	n/A	N/A			2 N/3	PN/2	N/A	A.
		Dysphagia		1	N/A	N/A	N/A	-		N/4	N//	A N/7	A
		Emesis		5	0.63	0.75	0.88	1	1	5 0.78	0.9	1.2	5
		Fluid in abdomen			N/A	N/A	N/A			1 N//	N//	A N//	A
		Haematemesis	(		N/A	N/A	N/A			2 N/4	N//	A N//	A



### Static ROR Evaluation (e.g. may help identify masking if C very high)

Signal detection dashboard			Home	Catalog	Favorites				
Filters Overview of AERs per product/active substance/ATCVET Signal detection (with 2 RORs, up to Date 2 and up to Date 1) Static ROR Evaluation									
Static ROR evaluation									
Ve	dDRA SOC nameSelect Value Ve	edDRA HLT name	rdia VedDRA LLT nameSelect Value						
Product Hierarchy Level Medicinal product shortname 💙 VedDRA Output Level VedDRA PT nam	e 🗸								
Species Cat									
Medicinal product shortname VedDRA PT name Number reacted A - Reports with product and reaction	B - Reports with product without reaction C -	- Reports without product but with reaction D - Reports without product	and without reaction ROR (-) ROR ROR (+)						
Tachycardia 3	65	194	9,497 1.70 2.26 2.99						
		ROR - A is greater than <b>0</b>							
		and Choose optional report filters	View						
		and Classification = Case Report	View						
		VedDRA PT name is equal to Tachycardia							
		and Age filters	View						
		and Medicinal product shortname is equ							
		and Message received date is between 19/02/2020 and 19/03/20	21						
		and Human or animal is equal to Animal, Human							
		Analyze - Refresh - Print - Export							



### **Filters selection page**

Signal e	valuation							Home Catalog	Favorite
Filters	Animal data Product information Produ	ct association As	sociated VedDRA	Link to VPhS					
					Sign	al evaluat	ion		
					Cle	ar all value	5		
1. Pr	oduct information (Required)								
	Active	substanceSe	elect Value	~					
	Product	short name		~					
	TA	C vet codeSe	elect Value	~					
	Reported b	rand nameSe	elect Value	~					
	Product authorisati	on numberSe	elect Value	~					
	Reported authorisati	on numberSe	elect Value	~					
	Product composition (Type = Co	mposition)Se	elect Value	~					
	Product composition (Type =	Strength)Se	elect Value	~					
	Product composition (Type = Fo	ormulation)Se	elect Value	~					
	Product composition (Type = Pharm	a Product)Se	elect Value	~					
2. Me	essage received date range (Require	d)							
	Message received date Between 19	/02/2020	3 - 19/03/202	21 🕅					
		,02,2020							
3. Re	port filter (Required)								
D. RC									
	Human or animal 🗹 Animal 🗌 Hu	man							
4. Ve	dDRA hierarchy (Required)								
						_			
	VedDRA SOC nameSelect Value	VedDRA HLT nar	meSelect Value	VedD	RA PT name Convulsion	~	VedDRA LLT name	Select Value	



### Animal Data (species/breed, age, weight, time to onset, off label use analysis)





**Product information** (Geographical, information type and pharma form breakdown)



#### Number of animals affected by pharmaceutical form or active substance

#### Pharmaceutical product form

Species Cat 🗸

#### Information type Safety issue 🗸

			Animal			Number of AERs	Number of animals affected	Number of animals died
Pharmaceutical product form	Occurrence region	Occurrence country (U)	Number of AERs	Number of animals affected	Number of animals died			
CHEWABLE TABLET	Non EEA	UNITED STATES	3	3	0	3	3	0
SPOT-ON SOLUTION EEA	FRANCE	2	2	0	2	2	0	
		GERMANY	2	2	1	2	2	1
	Non EEA	AUSTRALIA	3	3	1	3	3	1
		BRAZIL	1	1	1	1	1	1
		CANADA	1	1	0	1	1	0
		NEW ZEALAND	1	1	1	1	1	1
		SOUTH AFRICA	2	2	1	2	2	1
		UNITED KINGDOM	1	1	0	1	1	0
		UNITED STATES	25	25	4	25	25	4
Grand Total			39	39	9	39	39	9

Return - Analyze - Print - Export

**Product association** (were there other products administered to the same animal(s)?)

Filters Animal data Product information Product assoc	iation Associated VedDRA Link to VPhS	
Number of cases 565		Animals affectedAnimals died1,360210
Medicinal product shortname	<b>v</b>	Product shortname used in association with others 1
Number of cases by product used in associatio	n with others	Number of cases by species
	APOQUEL CONVENIA	
	HEARTGARD CREDELIO NEXGARD SIMPARI.	
UNKNOWN	CEFALE CERENIA BRA CAR DEP	Dog Dog Dog Cases with no other products reported Cases with no other
	CYTOPO MET	
	MILBEM NOBI	
	OTO NOBIVAC L4 PANA	0 1 2
Size Number of cases Color Number of cases	Low	igh
Number of cases by species		
Neurological	disorders 1	Cases with other products reported Cases with other product reported



### **Associated VedDRA** (other VedDRA terms involved)

Species Dog 🗸

Medicinal product shortname	VedDRA SOC name	Associated vedDRA SOC name	Reaction count	Reaction count total for the combination	Number of cases	Total Number of cases (VedDRA)	ROR (-) for the combination
	Application site disorders	Neurological disorders	3	234	5	3	0
•							



### Overall approach to signal management by MAHs

A **signal** is defined as information that arises from one or multiple sources, including observations and experiments, which **suggests** a potentially **new** causal association, or a new aspect of a known causal association between an intervention and an **adverse event** or a set of related adverse events, that is judged likely to justify further **investigation** of possible causality (Article 1(c) of the Implementing Act)

- The focus should be on identifying **<u>new</u>** information
- A signal is an <u>hypothesis</u>; it does not always translate into a definitive causal association
- Not all signals represent risks or require further regulatory actions

### DATA ANALYSIS – EXAMPLE METHODOLOGY



#### **Define baseline: Overview of data:**

Number of reports, data distribution, eg. Species, geographic origin

#### **Prioritisation:**

#### Identify which AEs should be investigated

Focus on VeDDRA terms not included in the SPC taking into account:

Relative frequency of the VeDDRA terms Nature and severity of the VeDDRA terms

#### Identify issues that might need urgent attention

Screen the data for issues that may require urgent consideration e.g. human reports, or high numbers of animal deaths.

## Consider the possible association with the product at report level for each of the signals investigated:

- Geographic origin
- Breed
- Age
- Other reactions reported
- Time to onset, detailed dose, and route of administration
- Off label use?
- Narrative

Many signals might be due to confounding factors. These are mainly of two types, confounding by disease (indication) and confounding by medication:

#### **Confounded by disease**

This is when it is considered that the AE might be regarded as symptoms of the disease the product has been administrated for, and not as a reaction to the product itself. However, it is important to consider that when the AE is typical for the indication it may also denote aggravation of the disease. Clinical judgment should be used.

#### **Confounded by medication**

This is when it is considered that the AE may be due to concomitant medication.



### Pharmacovigilance data analysis – Signal management





### **Medically Important Events (MIE) list**

			Fish body	Fish	
MIE PTs	Species association #	Excluded LLTs *	deformity	11511	
Abdominal nain	Havea	Abdominal cramp, Abdominal discomfort, Praying	anaemia	All	
Abdominal pain	Horse	position, Stomach cramp, Tense abdomen	Haemorrhagic	All	
Abomasitis	Ruminant, Camelid		gastroenteritis	A II	
Abortion	All		Henatic failure		
Acute mastitis	Ruminant, Camelid, Horse		Hypersensitivity reaction	All	
Anaphylaxis	All		Hypocalcaemic	Ruminant, Camelid	
Anorexia	Horse		Hypomagnesaemic		
Apnoea	All		condition	Ruminant, Camelid	
Birth defect	All		Impaired hearing	All	
lindness			Impaired vision	All	
			Ketosis	Ruminant, Camelid	
hvpoplasia	All		Loss of	All	
Cardiac arrest	All		consciousness	All	
Cardiac insufficiency	All		Lying down	Horse, Ruminant, Pig, Camelid	
Circulatory shock	All		Metastatic	All	
collance NOS			neoplasia	All	
Comp			Metritis	Horse, Ruminant, Camelid	
Somulaion	All		Moribund	All	
	All		Multi-organ failure	All	
Jeanless		line and shareh. The selected shareh	NOS Myoglobinuria		
Jeath	All	Unexplained death, Unrelated death	(Horses only)	Horse	
Diabetes meilitus	All		Paralysis	All	
Dyspnoea	All		Paresis	All	
pileptic seizure	All		Perinatal mortality	All Harso Duminant Dia	
Fish asphyxia	Fish		Recumbency	Camelid	
			Renal insufficiency	All	
			Reticulitis	Ruminant, Camelid	
			Stillbirth	All	

Suspected infectious agent

transmission

All



## How to decide on the frequency of monitoring

Marketing authorisation holders shall perform signal management using a **risk-based approach** and monitor the data with a **frequency proportionate to the identified risk**. The risk-based approach shall take into account the following topics: **type of product**, length of **time on the market** and **stability of the pharmacovigilance profile**, **identified** and **potential risks** and the **need for additional information**. The risk-based approach shall be applied to determine the methodology, extent and frequency of the signal management process and the rationale shall be documented.

Article 17(3), Commission Implementing Regulation 2021/1281



### Overall approach to signal management by MAHs

- Signal management is a **continuous** process throughout the product life-cycle
  - MAHs are expected to continuously monitor the safety of their products
  - Continuous monitoring of the Union Pharmacovigilance Database
  - Risk-based approach
- Transition from time-based into a **<u>data-driven</u>** pharmacovigilance system
- Flexibility and sound scientific and clinical judgement should always be applied



### Practical aspects of signal detection

Statistical analyses in signal detection should always be complemented by qualitative review of the cases.

### • Clinical judgment:

- Injection site reaction, anaphylactic type reaction.
- Rare events, long-term effects, confounding factors concomitant products, underlying disease, possible interaction
- Observational data versus prospective study
- Signal Detection advantage:
  - facilitates lifecycle overview
  - Relative comparison (however skewed dataset)



EUROPEAN MEDICINES AGENCY



## Signal Management Guideline

- Veterinary good pharmacovigilance practices (VGVP) on Signal Management
- Provides general methodological principles, describes the roles, responsibilities and procedural aspects
- Date for coming into effect **28 January 2022**
- Glossary for definitions

SCIENCE MEDICINES HEALT	Y H
November 2021 MA/399713/2020	
Guideline on veterinary good pharmacovig VGVP) Module: Signal Management Version 1.0	ilance practices
Endorsed by Coordination group for Mutual recognition and Decentralised procedures (veterinary) (CMDv) for release for consultation	14 May 2021
Endorsed by Coordination group for Mutual recognition and Decentralised procedures (veterinary) (CMDv) for release for consultation Draft agreed by Committee for Medicinal Products for Veterinary Use (CVMP) Pharmacovigilance Working Party (PhVWP-V)	14 May 2021 26 May 2021
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2019/6: Union pharmacovigilance database

#### Training on Signal Management



### Annual submission statements

### Commission Implementing Regulation (EU) 2021/1281

### Article 19 (1) Conclusion on the benefit-risk balance

Marketing authorisation holders shall annually record a conclusion on the benefit-risk balance for each of their products in the Union pharmacovigilance database and confirm that the signal management process has been conducted

### Benefit-risk balance

X I confirm that the benefit-risk balance remains unchanged

### Adherence to GVPV guidelines

I confirm that the signal management process has been conducted in compliance with

the pharmacovigilance guidelines published by the Agency (VGVP) and all assessed signals have been submitted



## Overview of comments and changes

### Still to be clarified

Due dates for annual submission (ATC vet based + existing workshare)

Regulatory procedures

Incidence / sales data – to be further developed and agreed (legal deadline 2023)

### To be clarified during training sessions

Guidance on the possibilities for grouping

How to use the MI terms for prioritisation

Queries available for MAHs and how to perform analyses, perform signal management and take advantage of the full dataset



### Pharmacovigilance system and PSMF

Presented by Laura Descalzo on 30 March 2021





## COMMISSION IMPLEMENTING REGULATION (EU) 2021/1281

CHAPTER 1 GENERAL PROVISIONS AND PHARMACOVIGILANCE SYSTEM

Article 2 Pharmacovigilance system & Article 3 Qualified person responsible for pharmacovigilance)

- CHAPTER 2 QUALITY MANAGEMENT SYSTEM (Articles 4-9)
- CHAPTER 4 THE PHARMACOVIGILANCE SYSTEM MASTER FILE (Articles 21 25)
- CHAPTER 5 CONTROLS AND INSPECTIONS BY COMPETENT AUTHORITIES (Articles 26-27)

*Complemented by VGVP Modules on Controls and Pharmacovigilance inspections & on Pharmacovigilance systems, their quality management systems and pharmacovigilance system master files* 



### Main changes and simplifications

Past - present
DDPS describing the PhV system
DDPS filed in every MAA (variations)
DDPS assessed and verified at inspection

EU Member State where PSMF is located to lead the inspection (Supervisory Authority)

Delegation & Worksharing

PhV inspection outcome, captured in the database, valid for all EU

Avoid duplication, adjust scope and frequency of inspections (risk-based approach)

#### **Future**

- PSMF describing the PhV system, tool for QPPV oversight, audit/inspections

- PSMF kept by MAH not in MA dossier -PSMF summary in MA dossier

## Summary of the pharmacovigilance system master file

The summary of the pharmacovigilance system master file shall contain the following information:

- (a) the pharmacovigilance system master file reference number;
- (b) the pharmacovigilance system master file location;

(c) name, contact details and place of operation of the qualified person responsible for pharmacovigilance;

(d) the signed statement referred to in Article 22(2)(b), point (i);

(e) the type of record management system used for adverse events reports including the name of the database, if applicable



## Pharmacovigilance system master file (PSMF) (1)

- The PSMF is not just a requirement laid down in the legislation, should be a useful tool for the MAH and QPPV to facilitate oversight, contribute to the management of and improvement(s) to the pharmacovigilance system.
- The PSMF will be kept by the MAH/QPPV (not part of the MA dossier), a copy should be available to competent authorities upon request.
- PSMF does not need to be printed as hard copy in the physical location. It can be kept electronically and be accessible in an electronic format (printable and searchable).
- PDF and other document formats, such as Excel files for certain annexes acceptable. For the main body of the PSMF, formats to allow version control.

## Training - Good Vigilance Practice (until Jan 2022)



Торіс	Elements	Target	Format	Timeline
Adverse event collection and recording	Regulatory framework and topics to highlight Demo session on EVV (Log-in, AE recording, AE search and download, Duplicate management)	NCAs + MAHs	Webinar (recorded and published)	10/11/2021
Signal detection and analysis	SD process. ROR Querying the Dbase	NCAs + MAHs	Webinar (recorded and published)	23-24/11/2021
PhV systems and their PhV system master files and quality management systems + PhV Inspections - Introduction and principles	PSMF elements Inspections process	NCAs + MAHs	Webinar (recorded and published)	8/12/2021
Signal management process		NCAs	Webinar (recorded and published)	09/12/2021
Adverse event collection and recording	Regulatory framework and topics to highlight Demo session on EVV (Log-in, AE recording, AE search and download, Duplicate management)	NCAs + MAHs	Webinar (recorded and published)	13/01/2022 (tbc)
Signal detection, evaluation and yearly reporting (1)	SD process. ROR Querying the Dbase	NCAs + MAHs	Webinar (recorded and published)	18-19/01/2022 (tbc)