

Identification of cases of rare diseases through the use of orphan drugs

L. Pruneda González, A. Gutiérrez, M. Errezola,
JA. Palomar & M Margolles Martins

Conference of SpainRDR- Madrid 11-12 December 2014

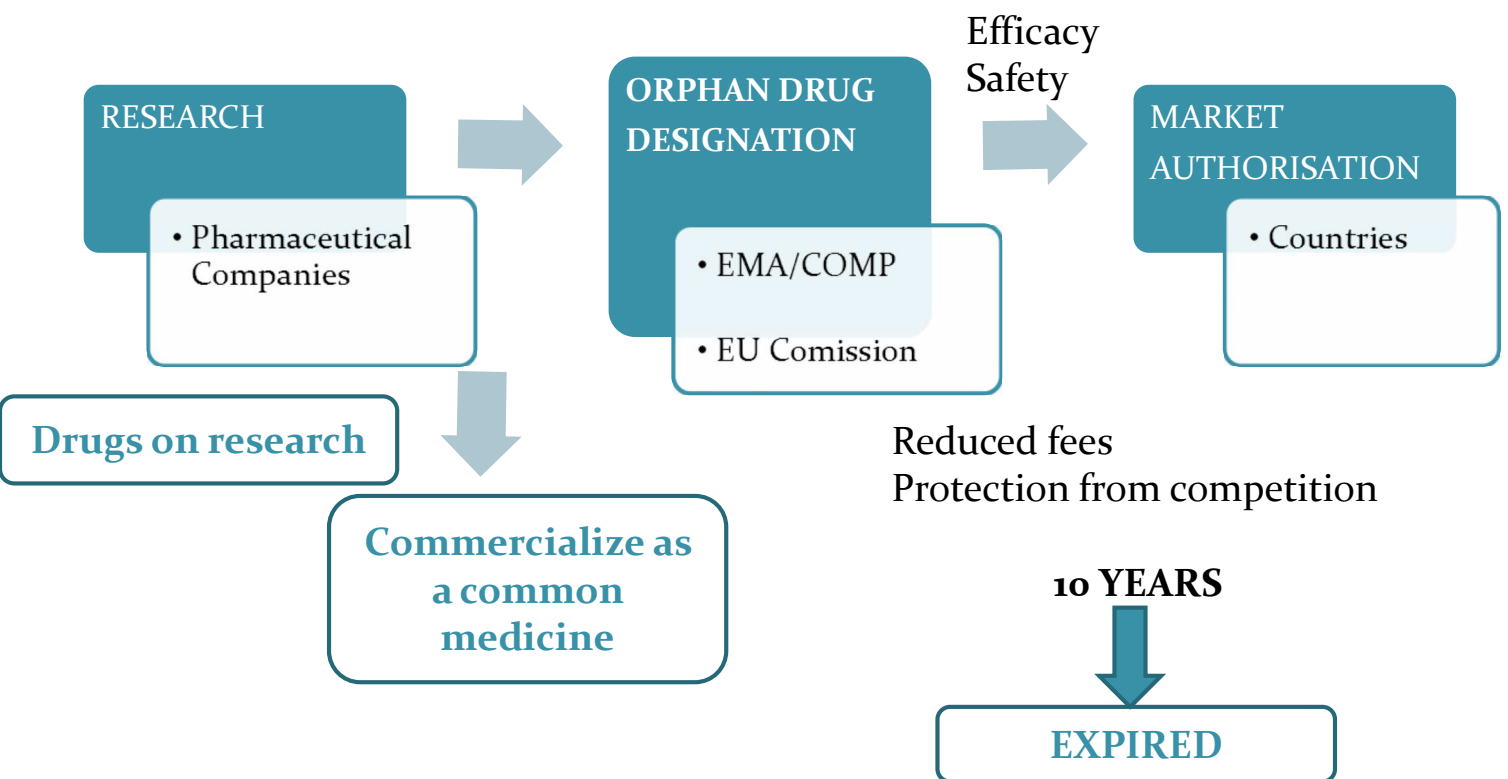


Orphan Drugs – Rare Diseases

- it must be intended for the **treatment, prevention or diagnosis** of a disease that is **life-threatening** or **chronically debilitating**;
- the prevalence of the condition in the EU must **not be more than 5 in 10,000** or it must be unlikely that marketing of the medicine would generate sufficient returns to justify the investment needed for its development;
- **no satisfactory method** of diagnosis, prevention or treatment of the condition concerned can be authorised, or, if such a method exists, the medicine must be of **significant benefit** to those affected by the condition.

Regulation EC N° 141/2000 (16/december/1999) about orphan drugs

Orphan medicines designation in Europe



Expired Orphan Drugs

Medicines not granted with Orphan designation

	Expiration Year
FABRAZYME	2011
REPLAGAL	2011
ALDURAZYME	2011
SOMAVERT	2012
TRACLEER	2012
ZAVESCA	2012
VENTAVIS	2013

ADVATE	Hemofilia A
BENEFIX	Hemofilia B
FAHNDI	vW Disease
Somatropine	GH Deficiency
Rilutke/riluzol	ALS



MA Orphan Drugs not in Spanish Market

BRAND NAME (active substance)	Treatment for	Auth. EU	Auth. SPAIN
FIRDAPSE (3,4-diaminopyridine phosphate)	Lambert-Eaton miastenic syndrome	23/12/2009	-
BRONCHITOL (mannitolum)	Cystic fibrosis	13/04/2012	-
PROCYSBI (mercaptamine bitartrate)	Cystinosis	06/09/2013	-
VIMIZIM (rh n- acetylgalactosamine-6-sulfatase)	Mucopolysaccharidosis IV	28/04/2014	-
OPSUMIT (macicentan)	Pulmonary arterial hypertension	20/12/2013	07/05/2014
PLENADREN (hydrocortisone)	Primary adrenal insufficiency	03/11/2011	07/05/2014

Early access to orphan drugs



- Compassionate Use
- unapproved **drugs** (off label)
- Unauthorised Drugs by AEMPS



[REAL DECRETO 1015/ 2009, de 19 de junio](#), por el que se regula la disponibilidad de medicamentos en situaciones especiales (B.O.E nº 174 de 20 de julio de 2009)



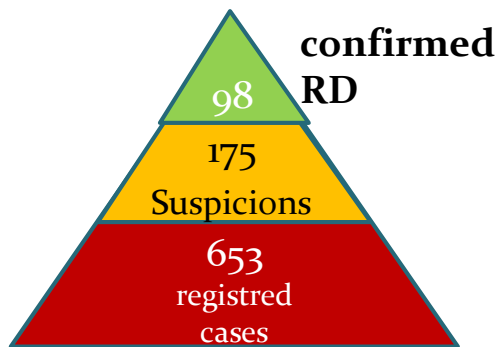
Objective

- To evaluate Orphan Drugs use and medicine information systems to identify RD patients

Medicines under exceptional circumstances



Orphan Drugs without market authorization in Spain



Murcia Region population
Period: 2010-2012

CIE9CM	RD Name	#	F	M
710.2	Sjögren syndrome	30	26	4
255.6	Pheochromocytoma	13	4	9
253.4	Hypogonadotropic hypogonadism	10	0	10
595.1	Chronic interstitial cystitis	9	6	0
277.87	Mitochondrial disease	6	6	0
243	Congenital hypothyroidism	2	1	1
258.3	NEM Syndromes	2	2	0
271.3	Lactose intolerance	2	2	0
272.7	Xanthomatosis	2	1	1
275.1	Wilson Disease	2	2	0

Moreno López AB, Segura Aroca M., Cruz Juanes Y, Forcada Navarro O, Ibáñez Pérez MC, Hernando Arizuleta L, Palomar Rodríguez JA

Patients treated with Hospital Orphan Drugs in Euskadi

- Methodology
 - Descriptive transversal Survey
 - Hospital Pharmacy Departments
 - Patients Data
 - Number of drugs: 30
- Period: July, 2013
July, 2014



A. Gutiérrez Fernández, M. Errezola Saizar

Patients treated with Hospital Orphan Drugs in Euskadi

- July, 2013:

- 413 Orphan Drugs prescriptions
- 393 Patients

Prevalence: **18 x 10⁻⁵ inhab.**

- July, 2014:

- 76 new patients

Incidence: **36 x 10⁻⁵ inhab.**



A. Gutiérrez Fernández, M. Errezola Saizar

Orphan Drugs Consumption and Economic Impact in Asturias, 2013

- Methodology
 - Descriptive Survey
 - Pharmacy Department & **Electronic Prescription**



Hospital Diagnosis

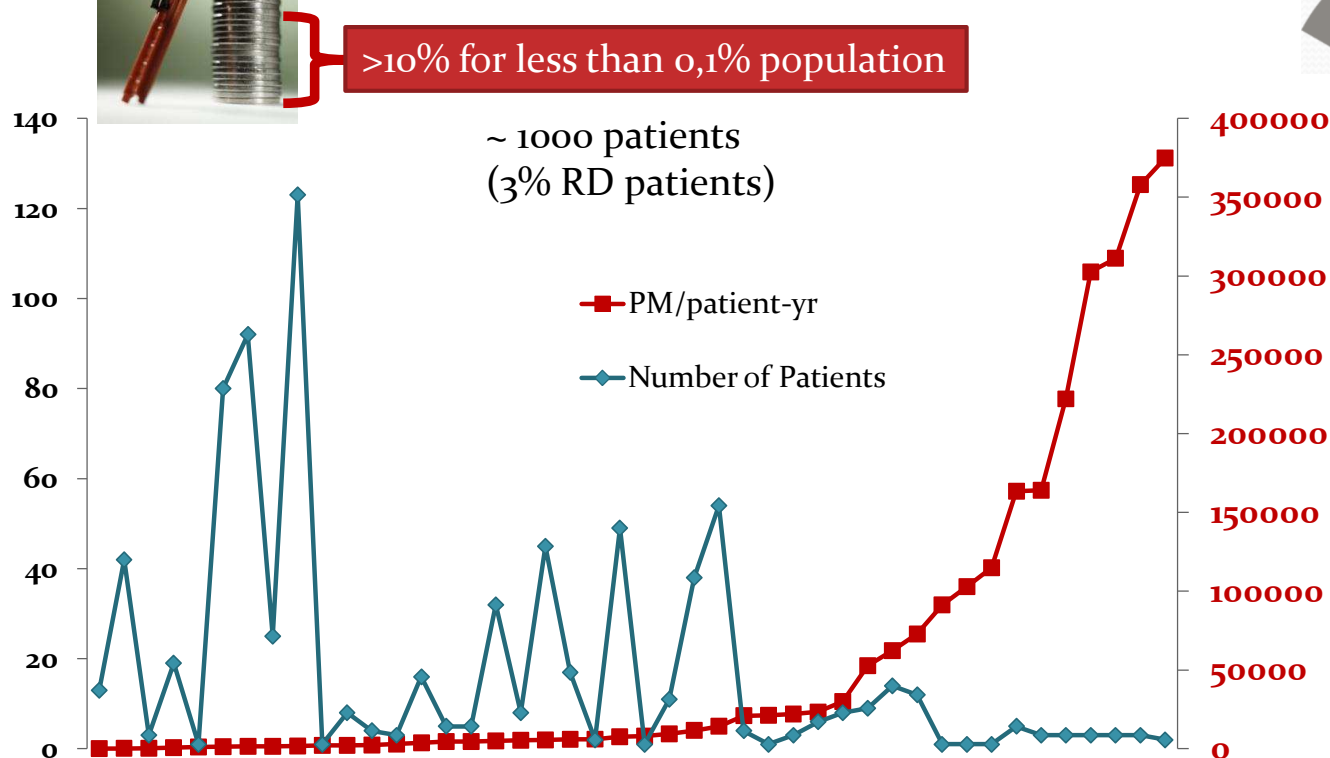
- Number of Drugs: 80
- Patients Data
- OD expenses



- Period: **from** January, 2013 **to** December, 2013 (1 year)

Total Budget:
130 million
Euros

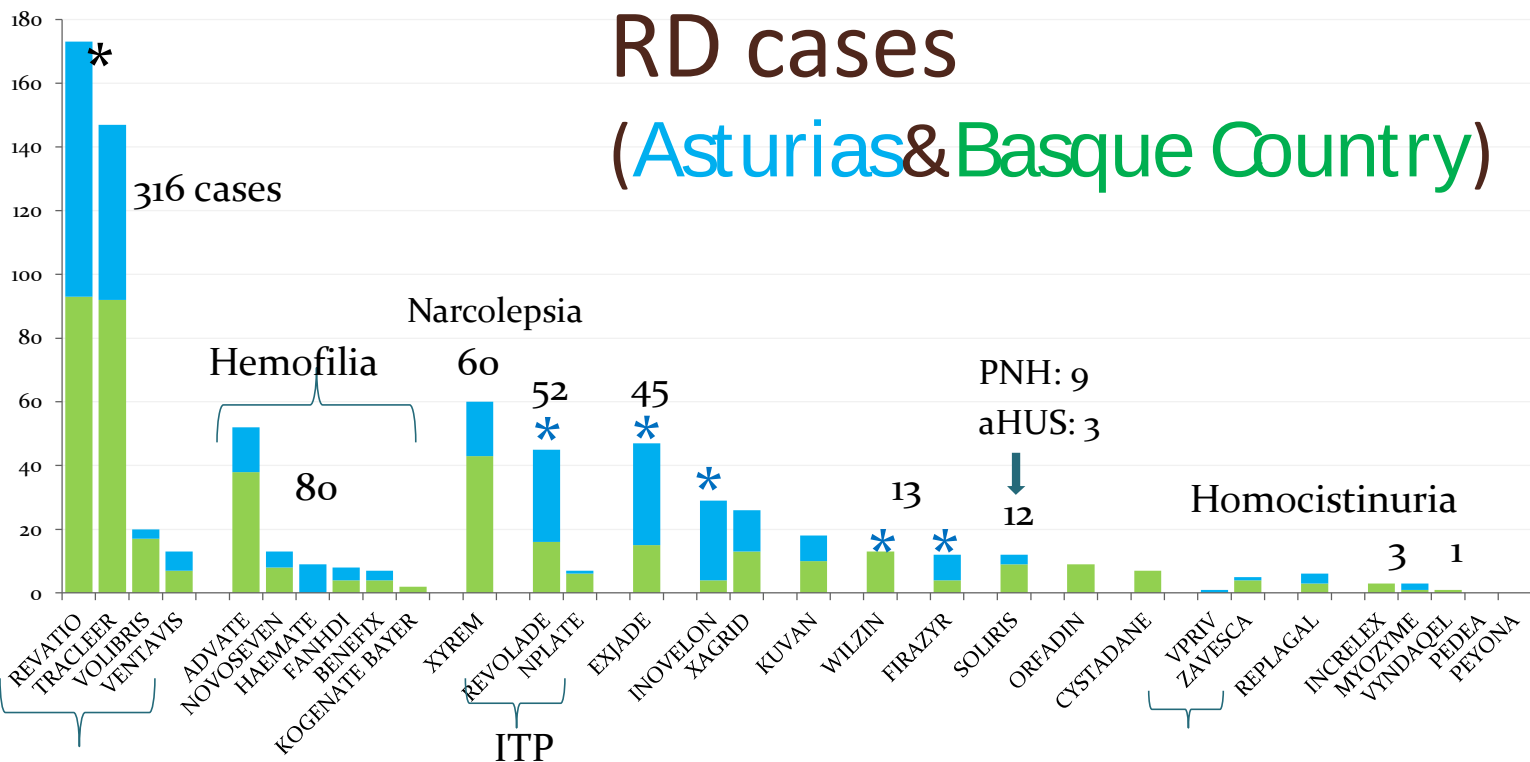
Cost of RD Drugs



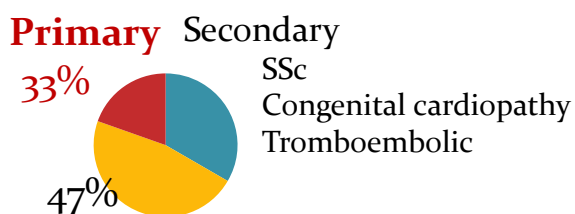
L Pruneda González, A Rogada, E García
Fernández, M Argüelles, P Margolles, M Margolles

25 patients 50% OD budget

RD cases (Asturias & Basque Country)



Pulmonar
Hypertension
&
Systemic
Sclerosis



RD Name	#
Fabry Disease	6
IGF-1 deficiency	6
Pompe Disease	3
Gaucher Disease	3
Familial amyloid polyneuropathy	1

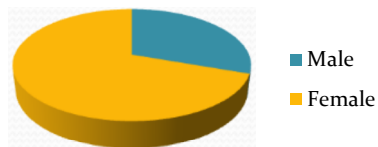
* Significant difference between Asturias and Euskadi (Electronic prescription)

Patients being treated with orphans

Asturias



Basque Country

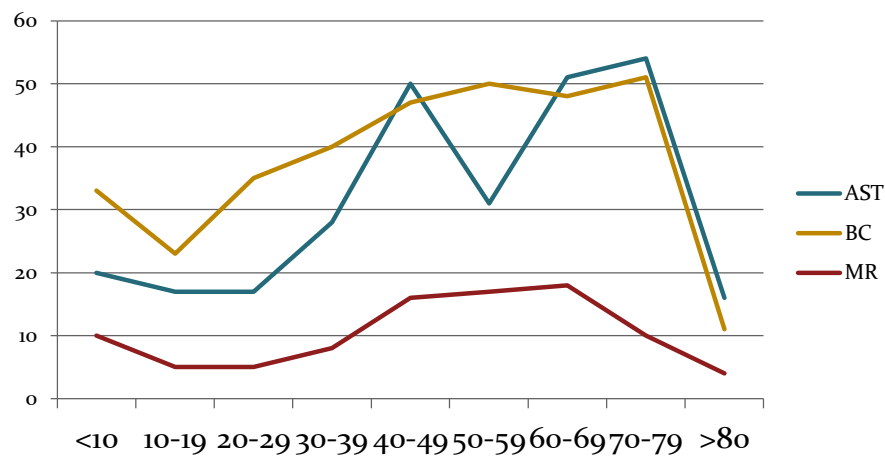


Murcia Region



Sex
Distribution

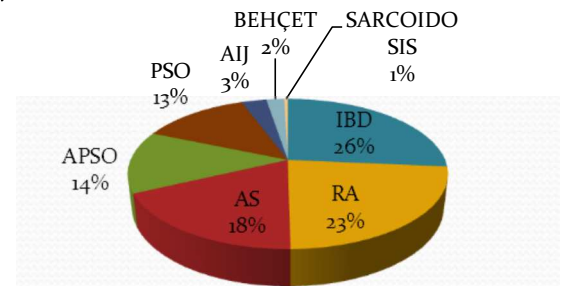
Age
Distribution



More medicines... more cases



- **Tobramicine:** 52 cases (70% not hospitalised 2010-2013)
- **Somatropine:** 94 cases (GH deficiency, Turner syndrome, Prader-Willi syndrome)
- **Adalimumab (Humira):**
 - 12 Idiopathic Juvenil Arthritis
 - 2 Behcet
- **Cinacalcet (Mimpara):**
 - Hyperparathyroidism (6primary, 36 secondary-renal)



Applicability to SRDR Registry

- **Only 25%** patients on OD were hospitalized in 2013
- 29% were hospitalized from 2010
- 58% from 1996-2014
- Compassionate use:
 - ~83% are new cases

Hospital Discharge Databases
(CIE-9MC)

- **Emergency Units** (Hereditary angioedema)
- **Outpatient Clinics** (Phenylketonuria)
- Patients discharged without RD diagnosis
- Admitted to **Private** Clinics and Hospitals

Medicine Registries

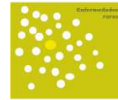
Conclusions

- Orphan Drugs and other Medicines /treatment Informations Systems are **useful for identifying RD cases**:
 - Exceptional Circumstances (Compassionate Use, not authorised)
 - Hospital Pharmacy Departments (Orphan & non orphan drugs)
 - Electronic Prescription databases
- **Provide more information to SpainRDR**: pharmacologic, economic information (cost of patient treatments)
- **Diagnoses validation** could be needed depends on
 - RD Diagnosis
 - Drugs with various indications
 - Not diagnosis information registred

Authors



- Laura Pruneda
- Arantza Gutiérrez
- Manu Errezola
- Joaquín Palomar
- Mario Margolles



SIERA



Región de Murcia
Consejería de Sanidad y Política Social
Dirección General de Planificación, Ordenación
Sanitaria y Farmacéutica e Investigación

