



**European  
Reference  
Network**

for rare or low prevalence  
complex diseases

 **Network**  
Neuromuscular  
Diseases (ERN EURO-NMD)

How can ERNs add value to clinical research in RD and highly specialised domains?

## **EURO-NMD Case study**

**Teresinha Evangelista**



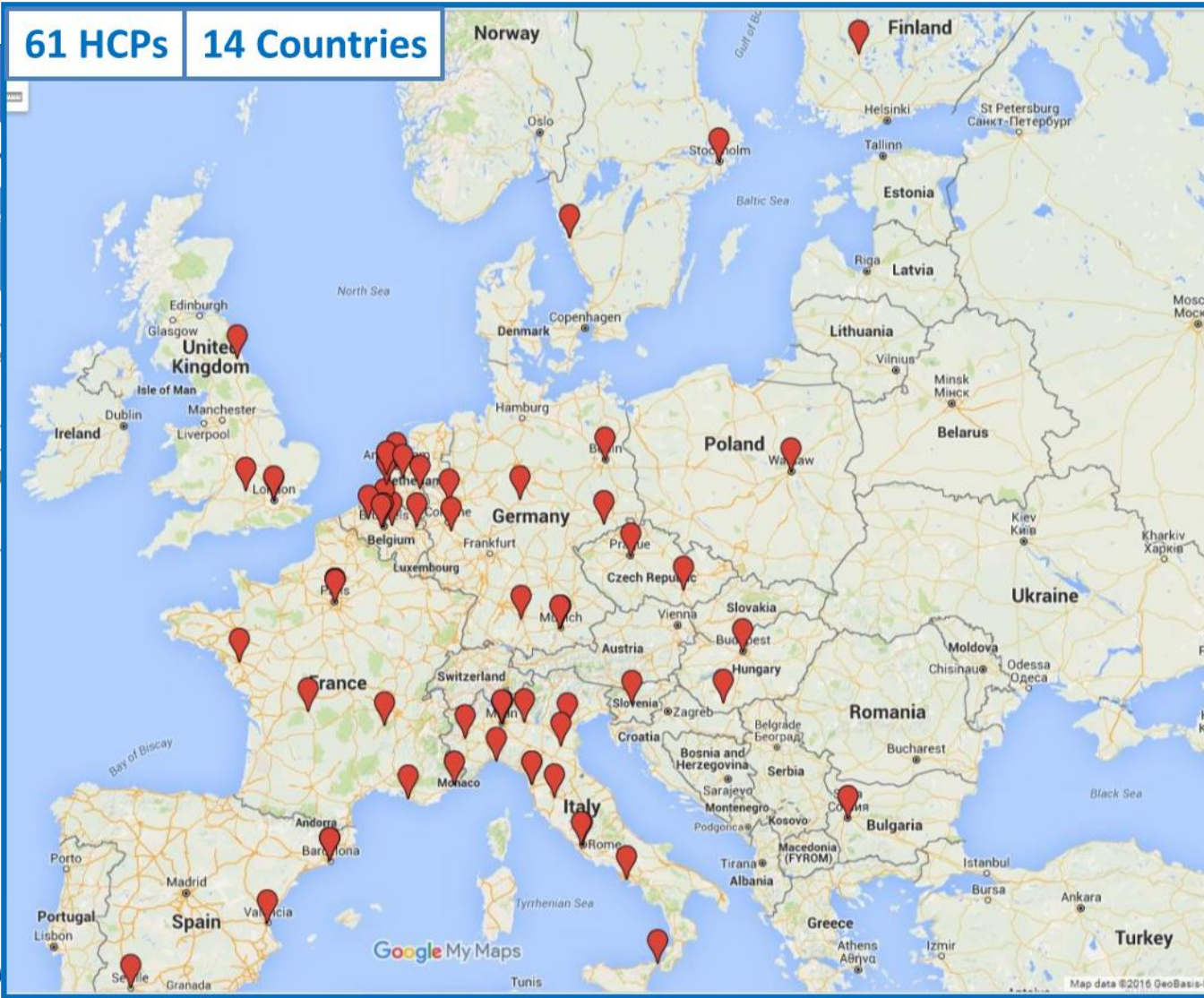
**RD-ACTION, European Medicines Agency, and DG SANTE Workshop**

61 HCPs 14 Countries

Rare muscle disease  
ORPHA98472  
1 in 3500

Acquired skeletal muscle  
diseases  
ORPHA 206638

Genetic skeletal muscle  
disease  
ORPHA 206634



Mitochondrial Diseases  
ORPHA68380  
1 in 5000

Mitochondrial  
omyopathies caused by  
DNA mutations  
ORPHA 68380

Gene defects causing  
mitochondrial encephalo-  
pathy, myopathy or  
opathy ORPHA 68380



# EURO-NMD Strategic Research Plan

## Main goals:

- Promote research activities within the network
- Ensure a harmonized baseline that will enable standardization and reuse of network data and samples for research
- Develop better Research Services



## Key deliverables for the first year:

- Mapping of research infrastructures and studies for NMD patients
- Agreed consent elements
- Agreed data sharing standards and mechanisms
- Database of shared samples through deposition at biorepositories and –omics data with associated phenotypic data via submission to databases and RD-Connect



**Resources**
[Resources overview](#)
[Care overview](#)
[Neuromuscular care and trial centres](#)
[Post marketing surveillance](#)
[Patient Registries](#)
[TACT](#)
[Outcome measures](#)
[BioBanks](#)
[Social & ethical framework](#)
[Training & education](#)
[Regulatory affairs database](#)
[Resources for researchers](#)

## Resources available through the network

*"TREAT-NMD provides tools and infrastructure to help the neuromuscular field collaborate better internationally, addressing areas that often get missed in individual research projects. From patient registries to international consensus publications, the resources below are available to clinicians, researchers, industry and patients across the world."*

### Patient registries

Find out about different types of national and international registries for over ten neuromuscular diseases



### Care and trial site registry

A database of clinical sites and medical centres caring for patients with NMDs and participating in clinical trials



### Outcome measures

"Outcome measures" are the tests that investigators perform to decide whether a treatment being tested in a clinical trial is having any effect



### TACT

An expert multidisciplinary body providing independent and objective guidance on advancing new therapies for NMDs



### Biobanks

EuroBioBank: a network of biobanks distributing DNA, cell and tissue samples to scientists conducting research on NMDs



### Regulatory affairs

A valuable source of advice to people who are involved in the planning of mono- or multi-centre clinical trials



### Training and education

Information on specialist training courses covering neuromuscular disorders

### Social and ethical framework

TREAT-NMD is undertaking research to explore, identify and examine ethical and social issues in clinical research of neuromuscular disorders



# Registries

The registries were developed to:

- Help **researchers** to answer questions such as:  
how common the individual diseases are
- Support activities to improve patient care, such as the assessment of care standards in different countries.
- Help **Pharmaceutical** companies interested in locating patients for a clinical trial.
- Facilitate contact with **Patients**. Patients will be informed through their own national registry of upcoming trials





**CMD**  
Congenital Muscular Dystrophies

# Congenital Myasthenic Syndromes

**CMS**  
Congenital Myasthenic Syndromes



**CMT**  
Charcot Marie Tooth Disease



**DM**  
Myotonic Dystrophy



**DMD & BMD**  
Duchenne & Becker Muscular Dystrophy

# Facioscapulohumeral Muscular Dystrophy

**FSHD**  
Facioscapulohumeral Muscular Dystrophy



**GNE / HIBM**  
Hereditary Inclusion Body Myopathy



**LGMD**  
Limb Girdle Muscular Dystrophies



**MTM / CNM**  
Myotubular & Centronuclear Myopathy

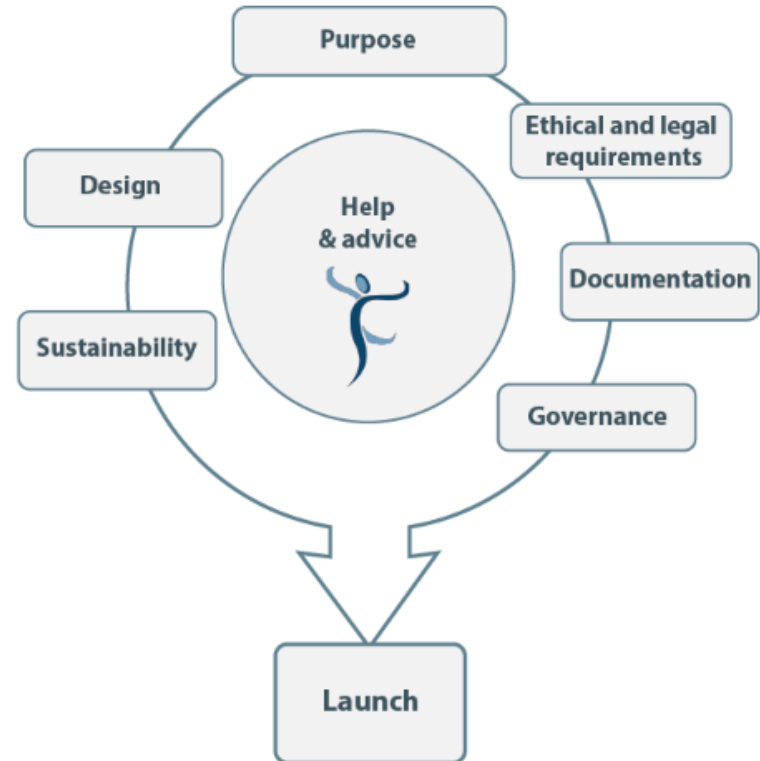


**SMA**  
Spinal Muscular Atrophy

## Registries tool kit

### Things to consider when setting up a registry

TREAT-NMD, along with many patient organizations, are experienced in the creation and implementation of registries for neuromuscular conditions. All registries are tailored to not only the disease they cater for but also the location in which they operate, making the creation of each registry a unique process. A registry can vary by purpose and design and can be a very simple collection of data to an elaborate database using bespoke software. That said many common factors still exist and we have tried to outline some of the fundamental things that should be considered when setting up any type of rare disease registry. Click on the boxes below for more information.



# Care and Trial Site Registry – CTSR

- One of the major hurdles to overcome before initiating a clinical trial is to **identifying trial sites** able to
  - recruit enough patients
  - offer a specific standard of care
  - offer experience in clinical trials
- The concept behind the CTSR was to **collect information** on **personnel, facilities and patient population** to help industry and clinical investigators select trial sites, and to help to **identify potential partners** for upcoming research projects.





# Care and Trial Site Registry – CTSR

Established in 2007

It is a flexible database with the ability of being expanded with pertinent questions

From 2013 includes data on NMD and Neurodegenerative diseases

**Registration at the CTSR was one of the specific criteria for the EURO-NMD HCPs**

Advantages:

Real knowledge of the infrastructure of the centres

Allows identification of gaps in patient care

Building bridges and breaking barriers in rare neuromuscular diseases



# Information gathered in the CTSR

- **General Site Information**
- **Patient Cohorts**
  - Number of patients and available diagnostic tools
- **Clinical Trial Infrastructure**
  - Personnel and experience, GCP training, equipment
- **Care Settings**
  - Members of interdisciplinary team
  - Arrangements for transition from paediatric to adult care
  - Pulmonary and cardiologic care
- **Research and Education**
  - Participation in clinical trials
  - Peer-reviewed publications
  - Participation in networks
  - Training activities



# TREAT-NMD Advisory Committee for Therapeutics (TACT)

- Established in 2009, TACT is a unique structure constituted by a multi-disciplinary international group of well recognized **academic** and **industry** drug development **experts** as well as representatives of **patient** foundations and **institutional and governmental scientific research centres**
- Review and provide guidance on the translation and development path of therapeutics programs in rare neuromuscular diseases.

Review therapeutics with the long-term goal of an intended clinical trial and potential registration.

Address issues of drug formulation, bioavailability and toxicology

Address possible regulatory requirements and marketing considerations.

Provide applicants with a comprehensive written review



## Future (EURO-NMD/TREAT-NMD)

- EURO-NMD will make use of these available tools as a baseline for its clinical research activities (agreements have been established)
- The remit of the disease groups of EURO-NMD is broader than in TREAT-NMD; we will work together to expand and share activities to other disease areas (funding?)
- Concern: how to replicate the success of TREAT-NMD in engaging with Industry – It is a **safe, ethically-sound** and **mutually beneficial model** developed over many years... how to continue?



Format: Abstract v

Neuromuscul Disord. 2018 Apr 20. pii: S0960-8966(18)30196-2. doi: 10.1016/j.nmd.2018.04.009. [Epub ahead of print]

### Meeting report of the "Regulatory Exchange Matters" session Conference: Lessons in communication: How an early dial academics can further therapy development for neuromuscular diseases

Aartsma-Rus A<sup>1</sup>, Mercuri E<sup>2</sup>, Vroom E<sup>2</sup>, Balabanov P<sup>1</sup>.

Send to v

Format: Abstract v

Clinical Neurophysiol. 2017 Dec 15;118(12):2655-2662. doi: 10.1016/j.clinph.2017.11.001. [Epub ahead of print]

### Psychometric properties of the Zarit Caregiver Burden Interview administered to caregivers to patients with Duchenne muscular dystrophy: a Rasch analysis.

Landfeldt E<sup>1</sup>, Mieskes AF, Straub V<sup>2</sup>, Bushby K<sup>3</sup>, Lochmüller H<sup>4</sup>, Lindgreen D<sup>5</sup>.

Author information

Abstract

OBJECTIVE: To evaluate the psychometric properties of the 10-item Zarit Caregiver Burden Interview (ZBI) in patients with Duchenne muscular dystrophy (DMD) and their caregivers.

Send to v

Format: Abstract v

J Child Psychol Psychiatry. 2017 Apr;58(4):493-500. doi: 10.1111/jcpp.12705.

### Clinical Outcomes in Duchenne Muscular NMD DMD Global Database.

Orphanet J Rare Dis. 2015 Apr 23;10:49. doi: 10.1186/s13023-015-0258-1.

Sentis J<sup>1</sup>, Balesar RA<sup>2</sup>, Smeets D<sup>3</sup>, van Zandbergen J<sup>4</sup>, Essers R<sup>5</sup>, Bax JJ<sup>6</sup>, et al.

### The TREAT-NMD advisory committee for therapeutics (TACT): an innovative de-risking model to

Format: Abstract v

PLoS One. 2018 May 18;13(5):e0197388. doi: 10.1371/journal.pone.0197388. eCollection 2018.

### Natural disease history of the dy2J mouse model of laminin $\alpha 2$ (merosin)-deficient congenital muscular dystrophy.

Pantazis N<sup>1</sup>, Pylas D<sup>2</sup>, Tzeng-Yeh C<sup>3</sup>, van der Meulen W<sup>4</sup>, van Meer L<sup>5</sup>, Ceylan M<sup>6</sup>, et al.

Author information

Abstract

Merosin-deficient congenital muscular dystrophy 1A (MDC1A) is a very rare autosomal recessive disorder caused by mutations in the LAMA2

Send to v

berg R<sup>6</sup>, Flanigan KM<sup>7</sup>, Kaufmann P<sup>10</sup>, McNeil E<sup>11</sup>, Mendell

Send to v

) in cell and animal models only a handful reach clinical

SEARCH TERMS: CONGENITAL MUSCULAR DYSTROPHY; DYSTROPHIN; MUSCULAR DYSTROPHY; DYSTROPHIN

Send to v

led to improving quality in the preclinical phase of drug development very future steps regarding common standard experimental protocols.

research

Send to v

### Facilitating orphan drug development: Proceedings of the TREAT-NMD International Conference, December 2015, Washington, DC, USA.

Collaborators (44)

Author information

PMID: 26434609 DOI: 10.1016/j.nmd.2017.02.013

Send to v

Send to v

PDF  
HTML  
XML  
JSON  
RSS  
Print

