European Reference Network
for rare or low prevalence complex diseases

Network Neuromuscular Diseases (ERN EURO-NMD)

7th ERN EURO-NMD
ANNUAL MEETING

GUIDELINES & OTHER TOOLS

21st – 23rd February 2024

Michelangelo Mancuso,

MD, PhD, Prof.

AOU Pisana, Pisa, Italy

Funded by the European Union

To address the needs of the rare neuromuscular diseases community, EURO-NMD has defined Specific Objectives broken down to several Work packages

Work package 7: pool and spread knowledge by updating and developing Clinical Practice Guidelines (CPGs), Patient Preferences (PPs), Patient Experience (PEs), PROMS on pain and fatigue in NMDs, and other Clinical PROMS and other Clinical Decision Support Tools (CDSTs)

Pool and spread knowledge by **updating** and developing Clinical Practice Guidelines (CPGs)

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PIPELINE

1. MND
2. PMM
3. ATTRy NEUROPATHY
4. MFMs/DMs
5. Nutrition flyer

to update the consensus recommendation on MND

- Updated guidelines on the management of amyotrophic lateral sclerosis to be delivered (Q1 2024) (EAN/ERN/ENCALS) – paper in revision
- Lay version of the EAN/ERN ALS guidelines promoted after publication
- Further updates will be needed for specific recommendations
- Genetic testing and counselling in ALS/FTD proposed as a topic to the ERN-MND working group (Meeting 21 June 2023; 8 Nov 2023) combined with measurement of plasma/CSF NFL

PRIMARY MITOCHONDRIAL MYOPATHIES (PMM)

Genetically defined disorders leading to defects of oxidative phosphorylation affecting predominantly, but not exclusively, skeletal muscle

Workshop report

International Workshop:
Outcome measures and clinical trial readiness in primary mitochondrial myopathies in children and adults. Consensus recommendations. Rome, Italy, 16–18 November 2016

Michelangelo Mancuso [a,*], Robert McFarland [b], Thomas Klopstock [c], Michio Hirano [d] on behalf of the consortium on Trial Readiness in Mitochondrial Myopathies [1]

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Received 26 June 2017

Clinical Decision Support Tools
Consensus recommendations on primary mitochondrial myopathies (PMM)
Expected F2F meeting: Q4 2024

to revise/update the consensus paper on PMM in order to cover

1. **diagnostic criteria for primary mitochondrial myopathy**
2. **outcome measures for natural history studies and clinical trial readiness in PMM**

endorsed by the inter ERN mitochondrial working group

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PNS/EAN Guideline (GRADE)
Diagnosis and treatment of ATTRv neuropathy

To produce guidelines on ATTRv neuropathy

1. **Treatment (first GL to develop)**

2. **Diagnosis (second GL)**

Chairs (Isabel Conceiçao, Michael Polydefkis / Davide Pareyson) and Task force defined

Funding from PNS and EAN

First call to present project: 27th Oct 2023

Second call to refine methodology: 21st Dec 2023

Collected clinical questions from Task Force members (January 2024)

F2F meeting to define PICOs = 16-17 Feb 2024 in Vienna

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ERN consensus on available clinical outcome measures to be used in clinical practice
Proof of concept focused on MFMs/DMs (adult/pediatric)

The project consisted of two sections, completed in 2023:

1. Review of literature and assessment of the level of evidence.
2. Delphi process.

Currently, drafting of the manuscript is ongoing.

Coordinators: Lorenzo Maggi (ITA) and Antonio Atalaia (FRA) (plus Sabrina Sacconi-FRA- and Michael Keogh-UK- as moderators).

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Clinical Decision Support Tools
GRAPHIC DOCUMENT FOR THE ERN NMD WEB PAGE
Nutrinion flyer

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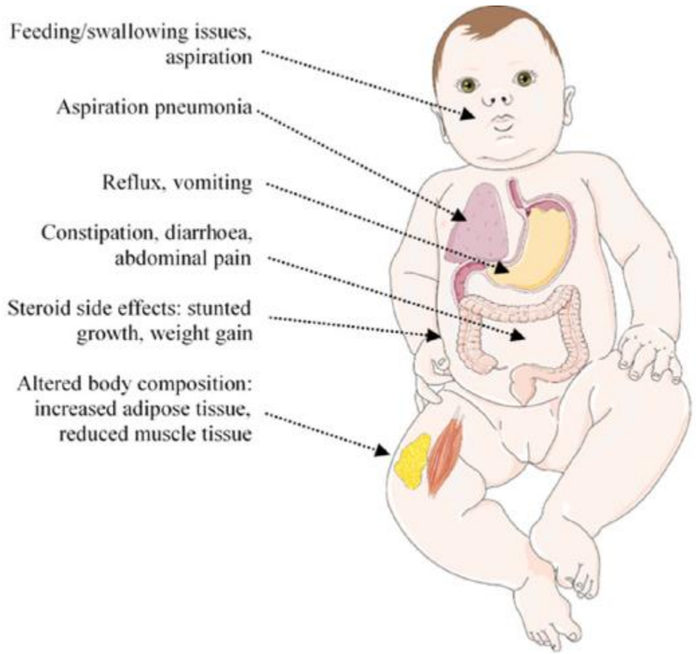
Why do we need it:

1. **Poor knowledge in non expert centers of the nutritional needs of NMD patients**

2. **Chocking due to swallowing difficulties is common**



In collaboration with all ERN NMD working groups
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Next call planned March 2024

Patient Reported Outcome Measures: development of a PROM for muscle pain and fatigue for patients with neuromuscular diseases

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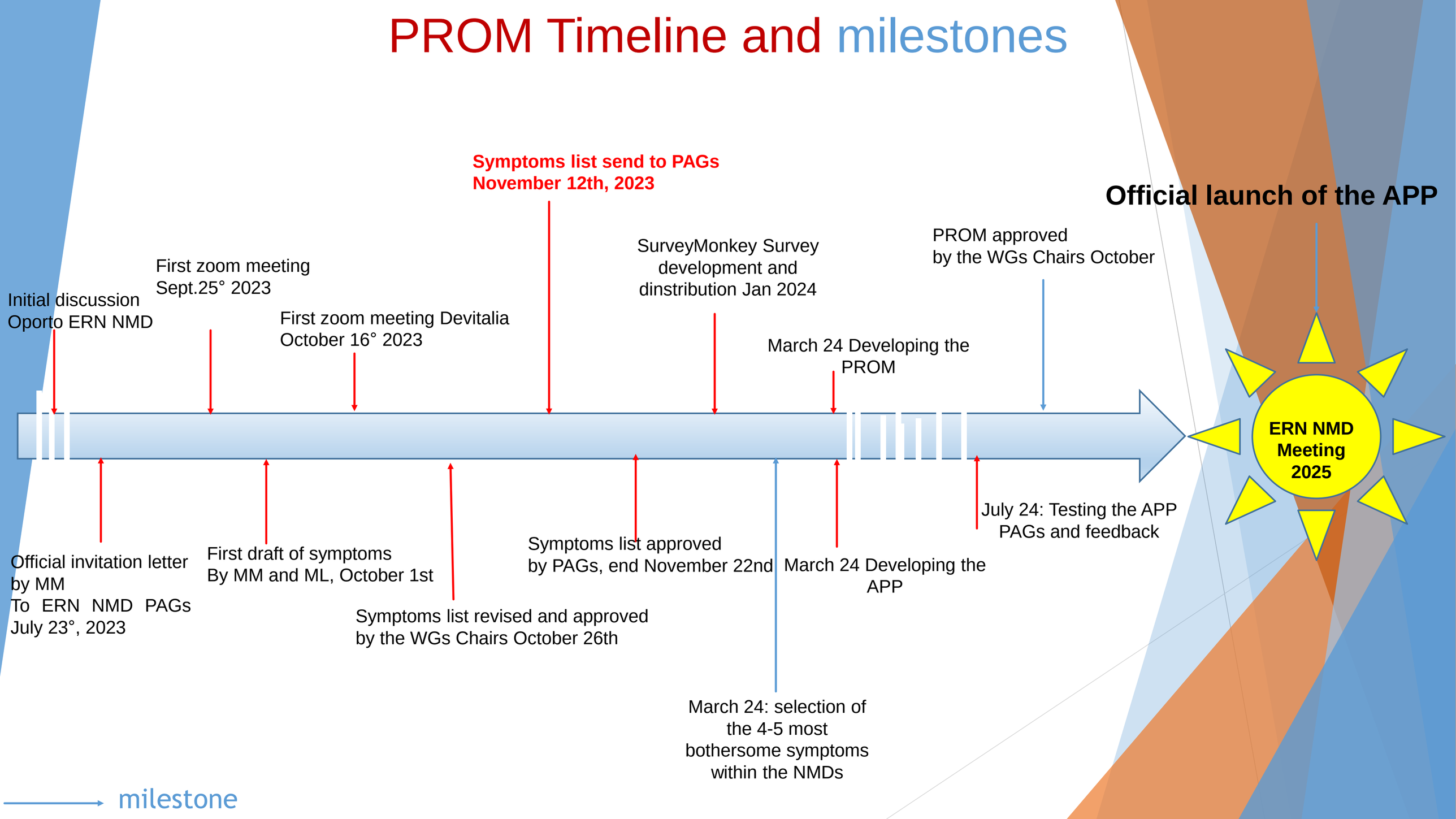
European Reference Network for Rare Neuromuscular Diseases

- To develop a new PR outcome measure that will allow to identify the most burden symptom(s) in patients affected by Neuromuscular Diseases (NMDs) among the different disease groups, to quantify them, and to monitor their evolution over time (naturally or with a new treatment/rehab)

- To enrich data sharing allowing improvement of diagnostics, therapies, and knowledge regarding the disease natural history

There is no PROM that uses a unique cross-sectional approach to accumulate information about the symptomatology of patients with different neuromuscular diseases

PROM Timeline and milestones

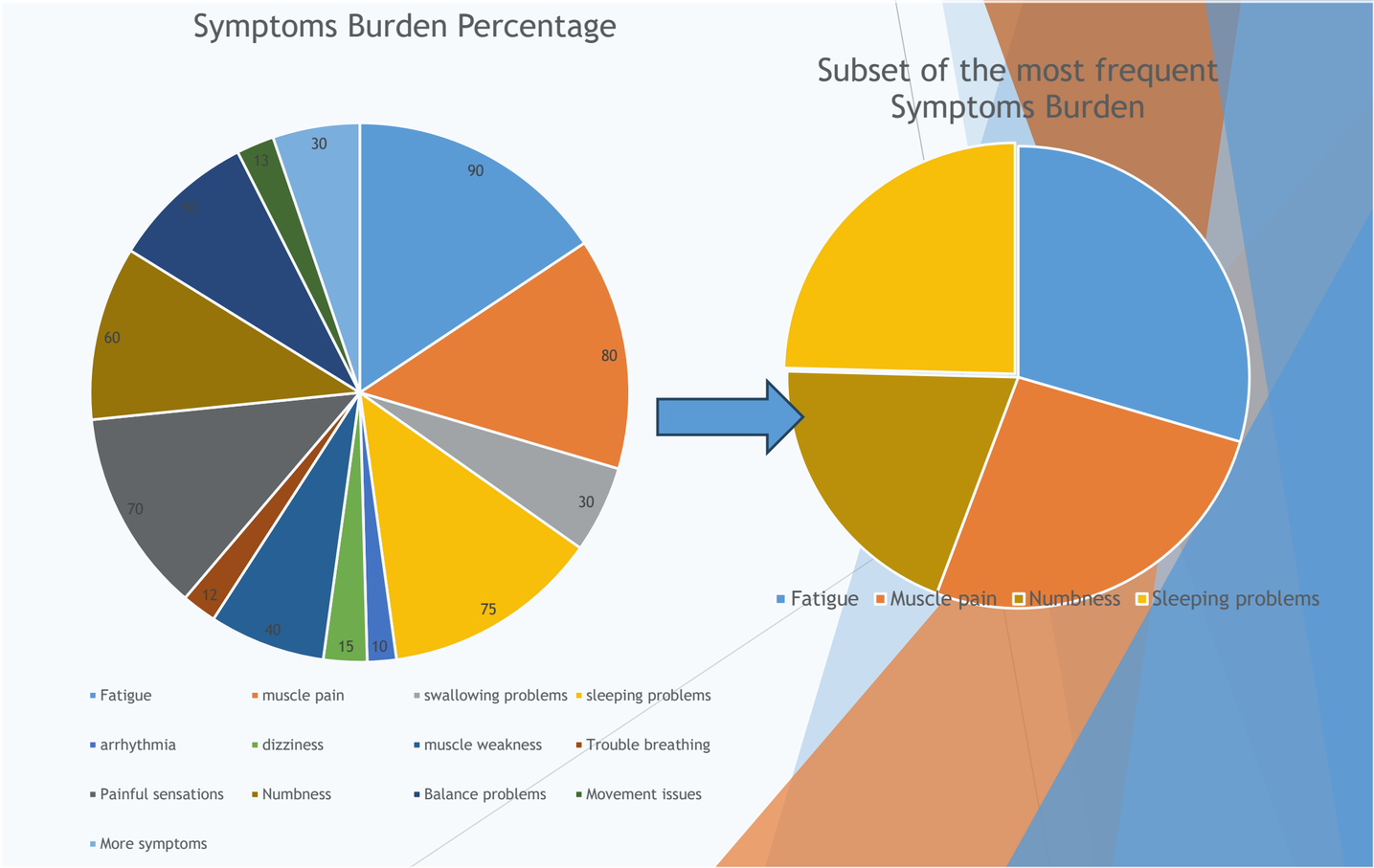


Which one is the most critical symptom for NMDs patients?

How do we get this information from patients?

- List of all NMD symptoms
- Make and send out a Survey Monkey: the patient chooses the most burden symptom(s) (Sleeping issue, headache, fatigue, pain…)
- We will collect the most burden symptoms chosen by the patients (a subset of 4-5 symptoms) among different disease groups.
- Two mandatory symptoms: pain and fatigue

Example……



Where we are so far

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EURO-NMD | Building bridges and breaking barriers in rare neuromuscular diseases

Copy of ERN NMD PROM FOR ADULTS

Welcome to the Assessment of the Neuromuscular Disease (NMD) patients' symptom burden

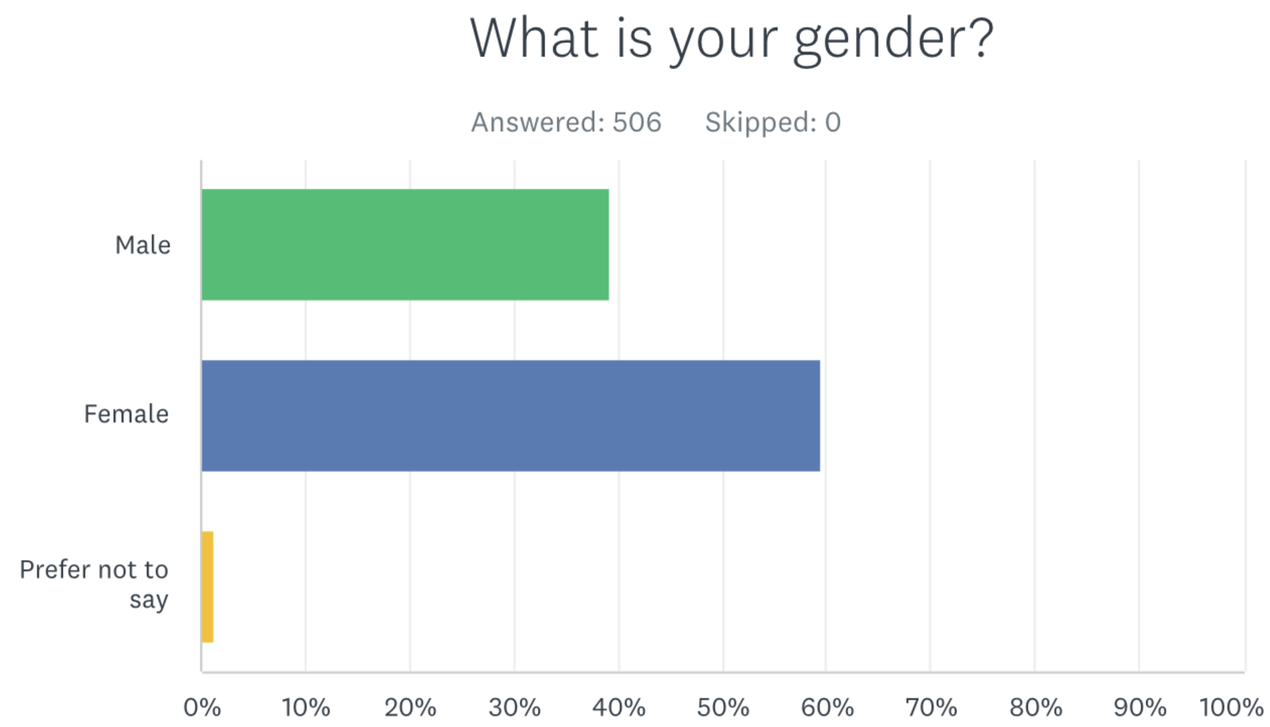
Thank you for participating in our survey. Your feedback is important.

This survey will allow us to better identify your symptom burden!

This survey is only for adult patients (18 years and older)!
The survey must be completed by the patient only! If you are not able to complete it, please ask help to your caregiver!
Data protection. This is an anonymous survey.
We are not collecting any personal data and we will not share or make public information that can link you to individual responses presented in our final report.
Please continue the survey if you agree on that thank you

SURVEY MONKEY - WHAT IS YOUR GENDER?

Total Responses on February15th 2024: 506



ANSWER CHOICES	RESPONSES	
Male	39.33%	199
Female	59.49%	301
Prefer not to say	1.19%	6
TOTAL		506

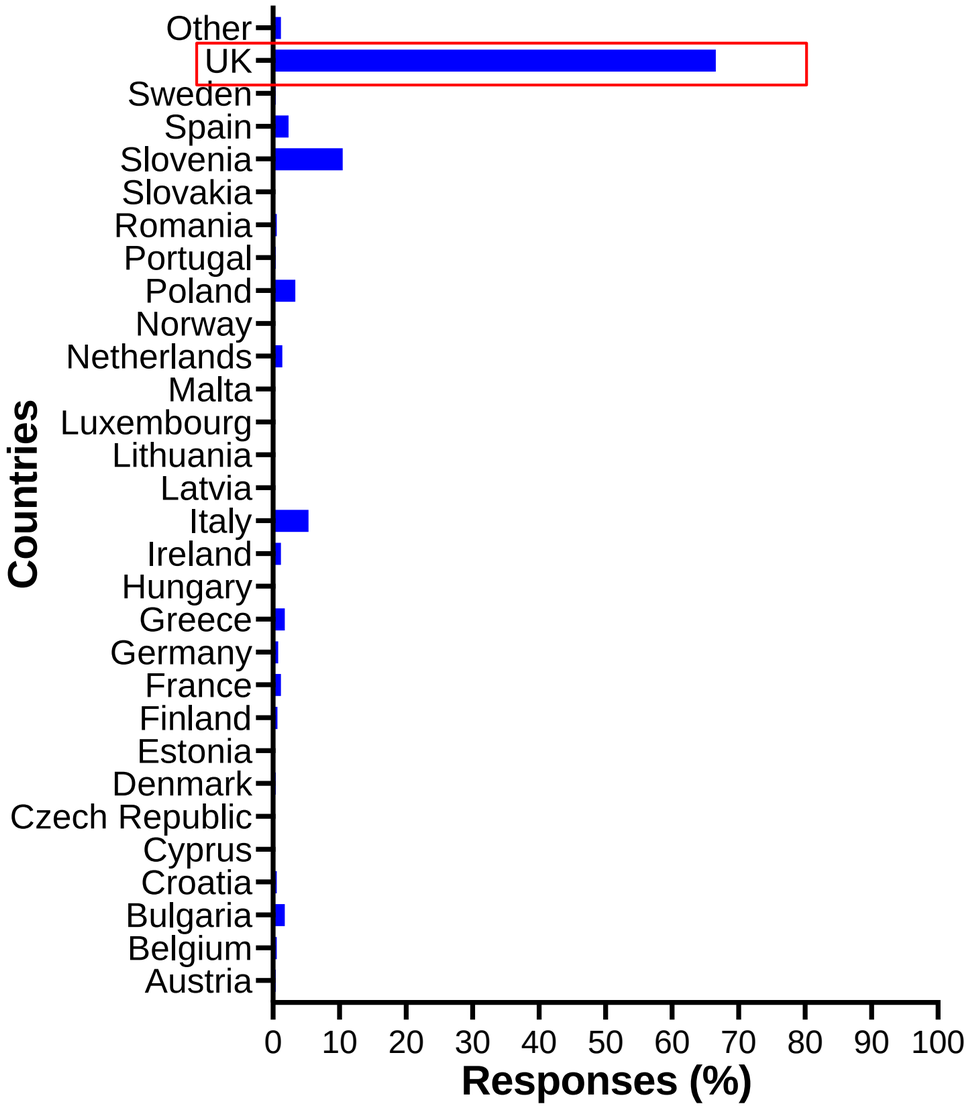
SURVEY MONKEY - WHAT IS YOUR AGE?

What is your age?

ANSWER CHOICES	RESPONSES	
18-25	5.73%	29
26-35	7.51%	38
36-45	14.43%	73
46-55	18.58%	94
56-69	31.03%	157
70 and older	22.73%	115
TOTAL		**506**

SURVEY MONKEY - WHERE DO YOU LIVE?

ANSWER CHOICES	RESPONSES	
Austria	0.20%	1
Belgium	0.40%	2
Bulgaria	1.78%	9
Croatia	0.40%	2
Cyprus	0.00%	0
Czech Republic	0.00%	0
Denmark	0.20%	1
Estonia	0.00%	0
Finland	0.59%	3
France	1.19%	6
Germany	0.79%	4
Greece	1.78%	9
Hungary	0.00%	0
Ireland	1.19%	6
Italy	5.34%	27
Latvia	0.00%	0
Lithuania	0.00%	0
Luxembourg	0.00%	0
Malta	0.00%	0
Netherlands	1.38%	7
Norway	0.00%	0
Poland	3.36%	17
Portugal	0.20%	1
Romania	0.40%	2
Slovakia	0.00%	0
Slovenia	10.47%	53
Spain	2.37%	12
Sweden	0.20%	1
UK	66.60%	337
Other	1.19%	6
TOTAL		506



SURVEY MONKEY - HAVE YOU BEEN DIAGNOSED WITH ONE OF THE FOLLOWING DIRSEASES?

ANSWER CHOICES	RESPONSES	
Mitochondrial Diseases	14.43%	73
Duchenne or Becker Muscular Dystrophy	2.37%	12
Facioscapulohumeral Muscular Dystrophy (FSHD)	3.75%	19
Myotonic Dystrophies	1.58%	8
Other Muscular Dystrophies (excluding Duchenne, Becker, FSHD, myotonic dystrophies)	1.19%	6
Metabolic Myopathies	0.20%	1
Idiopathic Inflammatory Myopathies	0.20%	1
Myofibrillar Myopathies	0.20%	1
Congenital Myopathies and Congenital muscular dystrophies	0.79%	4
Skeletal Muscle Channelopathies	0.00%	0
Amyotrophic Lateral Sclerosis and other motor neuron diseases (excluding SMA)	0.79%	4
Spinal Muscular Atrophy (SMA)	6.72%	34
Myasthenia gravis	3.56%	18
Congenital Myasthenic Syndromes	0.20%	1
Charcot-Marie Tooth and related neuropathies (HNNP, HSAN, dHMN)	56.72%	287
Hereditary Amyloid Neuropathy	0.20%	1
Neuropathies associated with haematological disease and monoclonal gammopathy (MGUS, POEMS, ETC)	0.40%	2
Inflammatory and Dysimmune Neuropathies	0.99%	5
Small Fibre Neuropathies	0.20%	1
Idiopathic Neuropathies	0.20%	1
I do not know the name of my disease	1.38%	7
Other	3.95%	20
TOTAL		506

Patient Journeys

- One PJ per disease group
- Coordinated in AP-HP with PAB
- Volunteers needed!

ALREADY IN THE PIPELINE

- Myositis
- Mitochondrial myopathies
- ALS