TREAT-NMD FSHD Global Registry Network:

A Collaboration of Neuromuscular and FSHD Patient Registries

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Introduction:

The TREAT-NMD Global Alliance is an independent network governed by an Executive Committee of academics, clinicians and patient representatives who facilitate collaborative research in neuromuscular disease (NMD). This international not-for-profit network is also governed by a Charter which outlines membership requirements for those who wish to join the Alliance.

The network aims to accelerate drug development, provide new therapies to patients swiftly and improve access to relevant information on standards of diagnosis and care.

One of the key TREAT-NMD infrastructures is the Global Registry Network, governed by the TREAT-NMD Data Systems Oversight Committee. The network is a federation of individual, independent, national (or regional) patient registries where members collect agreed disease specific datasets. The FSHD Global Registry Network collects data from 21 registries, representing four continents (Figure 1).

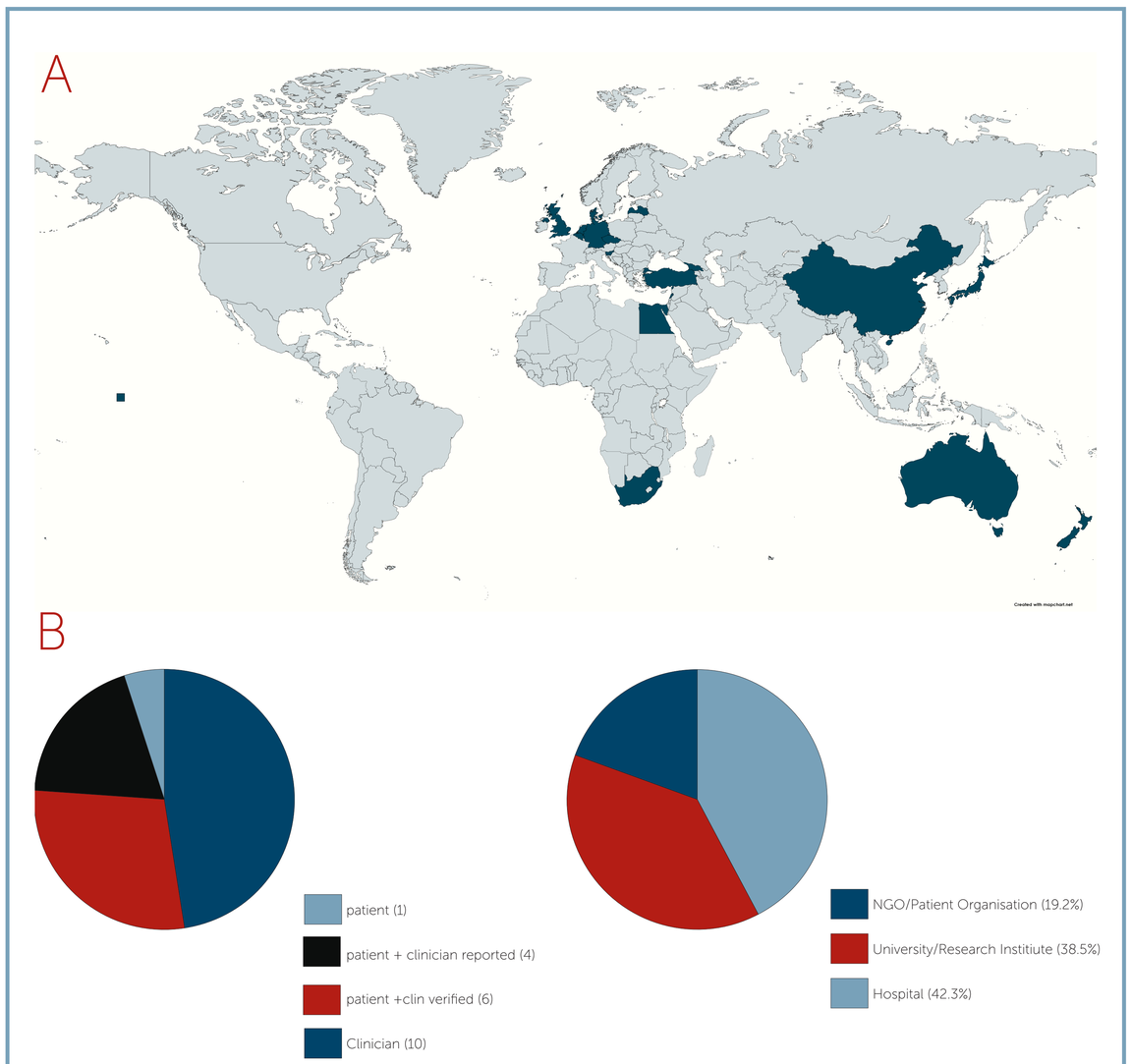

Figure 1

(A) The TREAT-NMD FSHD Global Registry Network includes 21 registries (dark blue shows registry country) across 4 continents. Image: mapchart.net. (B) Breakdown of FSHD member registries by data collection model, and type of organisation responsible for registries.

Method:

An electronic survey requesting demographic and diagnostic data was sent to all TREAT-NMD member registries, collecting FSHD data in 2022.

Results:

There were 13 (62%) survey responses from registries in Australia, Belgium, Czech Republic, Denmark, Germany, Japan, Latvia, Netherlands, New Zealand, Slovenia, Turkey (2 registries) and UK.

Collectively the registries provided data on 3,372 FSHD patients. 1,528 were female, 1,645 male and gender was not reported in 199 cases. Only 90 patients (3%) were aged ≤16 years old.

Most patients had FSHD1 (1,747/3163, 55%) with fewer FSHD2 (82, 3%) cases. However, 42% of patients (1,334) were of unknown FSHD type. Overall, 43% of patients (1,463) received genetic confirmation of FSHD, with FSHD1 cases (1,262/1747, 72%) expectedly higher than FSHD2 (32/82, 39%) or unknown FSHD type (171/1334, 13%).

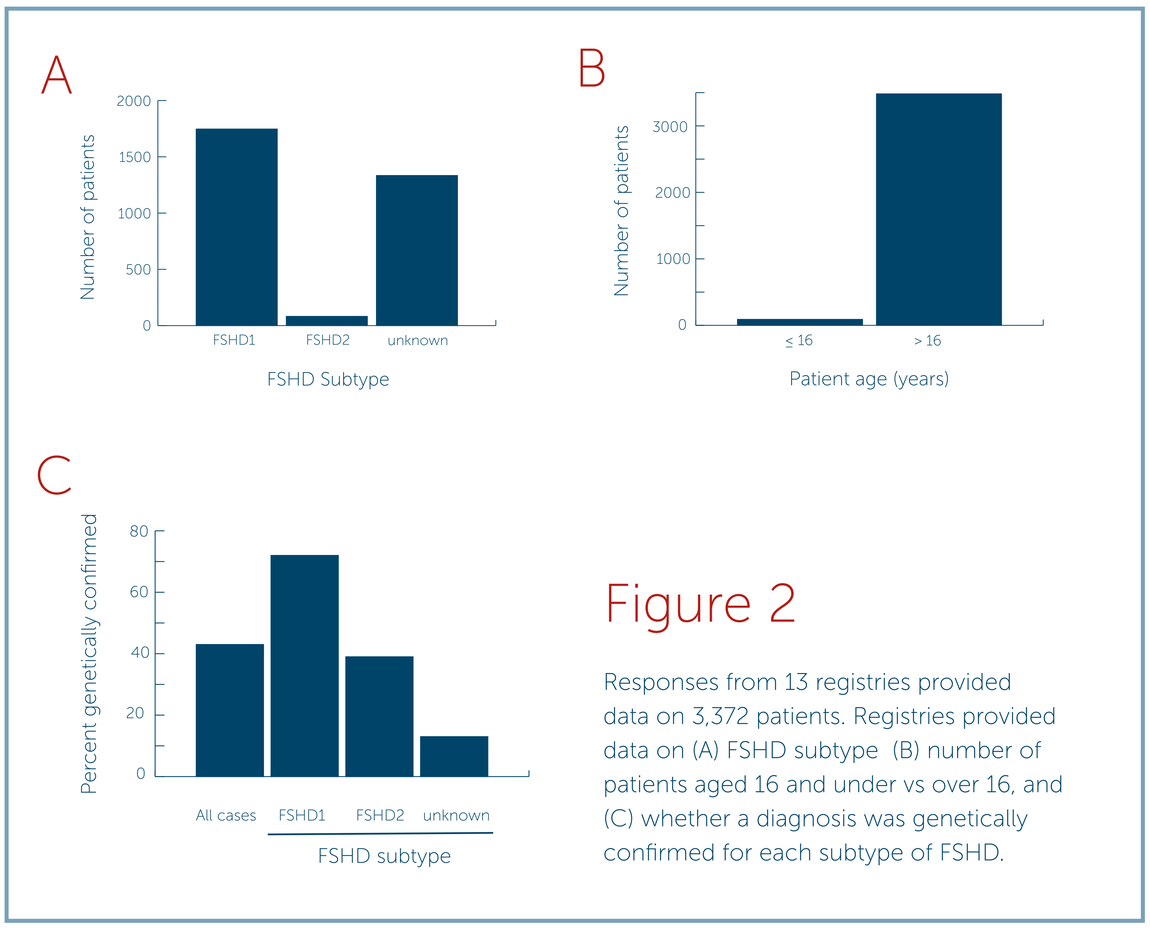

Figure 2

Responses from 13 registries provided data on 3,372 patients. Registries provided data on (A) FSHD subtype (B) number of patients aged 16 and under vs over 16, and (C) whether a diagnosis was genetically confirmed for each subtype of FSHD.

Conclusions:

The TREAT-NMD FSHD Global Registry Network represents an international harmonised data resource, providing opportunities for researchers and industry to support clinical trial planning upon its interrogation. Despite most registries being clinician reported (62%), there were many patients without FSHD genetic confirmation or a specific FSHD type diagnosis. Understanding these aspects nationally will be important as they represent clinical trial essential criteria.

If you are interested in understanding more about the TREAT-NMD Global Registry Network and how interrogating this data could support your research or drug development efforts, please contact registries@treat-nmd.com.

TREAT-NMD FSHD Dataset

The TREAT-NMD Core Dataset for FSHD was updated (v2) in 2021 to incorporate suggestions from the 255th ENMC international workshop on "A Global FSHD Registry Framework." The dataset is available to any system collecting data on FSHD patients, and is suitable for patient- or clinician-reported registries and compatible with Privacy Preserving Record Linkage (PPRL) tools. The dataset's mandatory fields (except for identification fields) are shown on the right.

Scan to download full details of the dataset

https://treat-nmd.org/wp-content/uploads/2021/11/TGDOC-TREAT-NMD-Core-Dataset-for-FSHD-v2-5.11.21.pdf

Clinician-reported	Patient-reported
Signs or symptoms	**Which of these symptoms do you have? (Tick all that apply)**
No signs or symptoms	I have none of the signs or symptoms described above
Facial weakness	Facial weakness (weakness of muscles in the face causing e.g. inability to smile, to whistle, or to close your eyes fully at night)
Periscapular shoulder weakness	Shoulder weakness (weakness of the muscles around the shoulder blades causing e.g. inability to raise your arms sideways above the level of your shoulder)
Foot dorsiflexor weakness	Foot or ankle weakness (weakness of the muscles that help you lift your feet up, causing e.g. foot drop (where the foot tends thang with the toes pointing down), steppage gait (lifting the feet high when walking), or frequent tripping)
Hip girdle weakness	Hip girdle weakness (weakness of the muscles of the pelvis and top of the legs, causing e.g. difficulties in going up stairs or ladders, rising from a chair or getting up from the floor)
Diagnosis and genetic test result	**Diagnosis and your genetic test result**
Confirmed FSHD1 (D424 contraction 1–10 repeats + 4qA)	I have been told I have genetically confirmed FSHD and I can provide a copy of my genetic test result **[UPLOAD]**
FSHD2 (no contraction + 4qA + SMCHD1 mutation)	I have been told I have genetically confirmed FSHD but I do not have my genetic test result.**[FOLLOW-UP: OBTAIN GENETIC TEST REPORT FROM DIAGNOSING PHYSICIAN]**
Clinically confirmed diagnosis but no genetic testing	I have been clinically diagnosed with FSHD but have not been genetically tested
	I have not been tested but wish to be tested
	I have not been tested and do not wish to be tested
Current best motor function	**Which of the following options describes the best motor function you are currently able to achieve?**
Ambulatory (unassisted)	I can walk unaided (without an assistive device)
Ambulatory (assisted)	I can walk with an assistive device (walker, brace, cane, etc)
Non-ambulatory	I cannot walk

Clinician-reported	Patient-reported
Wheelchair use	**Do you use a wheelchair? (please select all that apply)**
No	I don't use a wheelchair.
Part-time (start date year)	I started using a wheelchair part-time from [YEAR]
Full-time (start date year)	I use a wheelchair all the time since [YEAR]
	I started using an assistive device from [YEAR]
Unknown	Unknown
Pulmonary function test	**Has your respiratory capacity ever been evaluated (for example pulmonary function testing)?**
No	No
Yes	Yes
Unknown	Unknown
Non-invasive ventilation	**Do you regularly use a non-invasive (mask) ventilation device?**
Full-time (start date year)	Yes, all day since [YEAR]
Part-time (start date year)	Yes, but only part-time, e.g. at night, since [YEAR])
None	No, never
Unknown	Unknown
Invasive ventilation	**Do you use invasive ventilation (requiring surgery, e.g. tracheostomy)?**
Full-time (start date year)	Yes, full-time since [YEAR])
Part-time (start date year)	Yes, part-time since [YEAR])
None	No
Unknown	I don't know
Age of onset for selected FSHD symptoms (taken from question 3)	**At what age did symptoms related to your FSHD first occur (give approximate year for all that apply, as in question 3)?**
Facial weakness (start date **year**)	Facial weakness (first occurred in [**YEAR**])
Periscapular shoulder weakness (start date **year**)	Shoulder weakness (first occurred in [**YEAR**])
Foot dorsiflexor weakness (start date **year**)	Foot weakness (first occurred in [**YEAR**])
Hip girdle weakness (start date **year**)	Hip girdle weakness (first occurred in [**YEAR**])
Unknown	I don't know
Retinal vascular disease attributable to FSHD	**Have you been diagnosed with retinal problems or abnormal blood vessels at the back of your eye that your doctors think may be related to your FSHD? ("Coat's disease," retinal vascular disease)**
Yes (start date **year**)	Yes, first occurred in [YEAR], but with no visual impairment
	Yes, first occurred in [YEAR], and has caused visual impairment
No	No
Unknown	I don't know

Clinician-reported	Patient-reported
Hearing loss	**Do you have hearing loss?**
Yes (start date **year**)	Yes, first occurred in [YEAR], but I don't use a hearing aid
	Yes, first occurred in [YEAR], and I use a hearing aid
No	No
Unknown	I don't know
Scapular fixation	**Have you had scapular fixation (an operation to fix your shoulder blade to your ribcage)?**
Yes, bilateral (surgery dates **year**)	Yes, both shoulders operated in [**YEAR**] and [**YEAR**]
Yes, unilateral (surgery date **year**)	Yes, one shoulder **[LEFT/RIGHT]** operated in [**YEAR**]
No	No
Unknown	I don't know
Pregnancy (female at birth only)	**(For females at birth only:) Have you ever been pregnant?**
Yes, Number of pregnancies ____	Yes, ____ time(s) in [YEARS]
No	No
Unknown	I don't know
Family history	**Has anybody else in your family been diagnosed with FSHD (tick all that apply)?**
Affected mother	Yes, mother
Affected father	Yes, father
Affected offspring	Yes, one or more children
Affected sibling(s)	Yes, one or several of my siblings (brothers and sisters)
Other affected relative	Yes, further relatives (other than parents and siblings)
No	No
Unknown	I don't know
Epilepsy	**Do you have a history of seizures/convulsions?**
No	No
Yes	Yes
Unknown	I don't know
Cognitive impairment	**Do you have a history of delayed cognitive development or cognitive impairment?**
No	No
Yes	Yes
Unknown	I don't know