TREAT-NMD
Neuromuscular Network

Welcome to Year 2

Expanded SMA Dataset Implementation Project

Jo Bullivant

Project Manager

Joanna Das

Project Coordinator

Welcome Meeting Agenda

10:00	Introductions
10:05	Project overview, scope and purpose
10:10	The SMA Dataset
10:30	Support and expectations
10:40	Universal Registry Platform (URP) update
10:45	Q&A
11:00	Close

Introductions

TGDOC Chairs

- Craig Campbell
- Anna Ambrosini
- Nathalie Goemans

Core Project Team

- Jo Bullivant
- Joanna Das

Wider Project Team

- Victoria Hodgkinson
- Miriam Rodrigues
- Marcel Heidemann
- Anna Mayhew

★ Year 2 Registries ★

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Year 2 Registries

1. Argentina (tbc)	*Maria Soledad Monges*
2. **Armenia**	Kristine Hovhannesyan
3. **Bulgaria**	Kristina Kastreva
4. **Colombia**	Claudia Sánchez
5. **Croatia**	Nina Barisić
6. **Egypt**	Sahar Hassanein
7. **Georgia**	Nana Nino Tatishvili
8. **Malaysia**	Teik-Beng Khoo
9. **Norway**	Magnhild Rasmussen
10. **Sweden**	Anne-Berit Ekström

Brief introductions:

- **Name**
- **Role**
- **Registry type**

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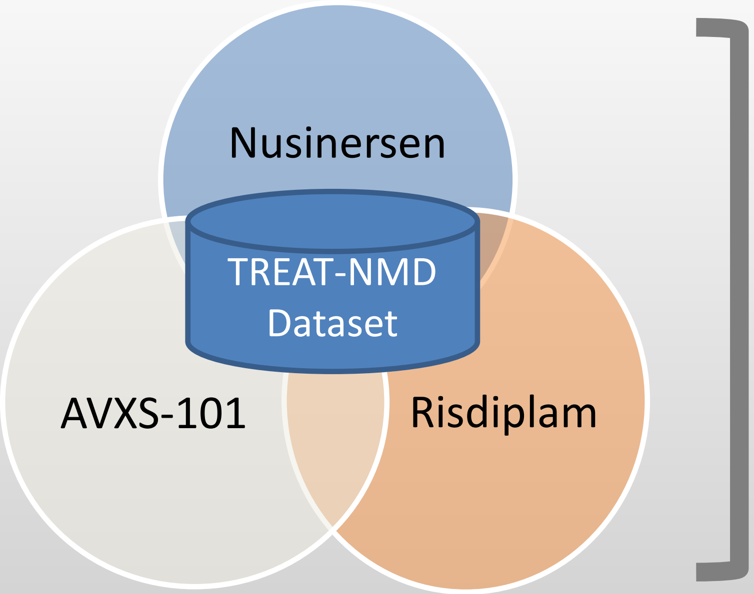
SMA Dataset Expansion - Context

- New SMA therapies receiving regulatory approval
- Paradigm shift: Drug-specific phase 4 studies -> RWE from existing registries
  - Data collection, analysis and publication independent of industry filter
  - Wider data access
  - Avoid duplication of effort and non-comparable results



- Regulatory response
- Multiple/combination therapies
- Clinical burden
- Comparable and accessible data
- Reimbursement criteria
- Long term profile

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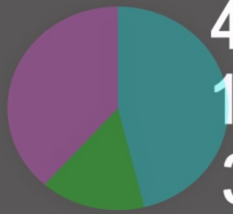
TREAT-NMD GLOBAL SMA REGISTRY SURVEY 2019

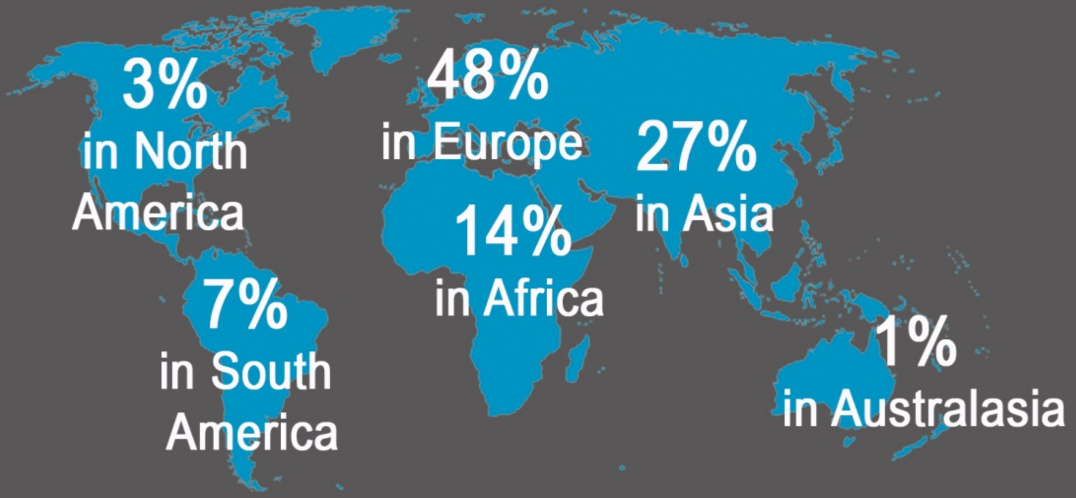
37 registries participated



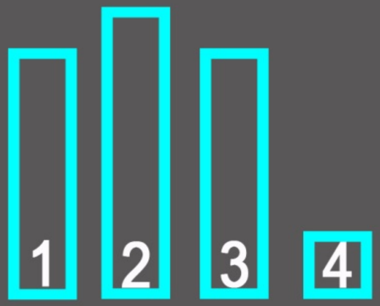
46% clinician-entered
15% patient-entered
39% combination

15%	19%	54%	4%	8%
patient organisations	hospital	university	government	other

Over 9100 patients represented



3% in North America
48% in Europe
27% in Asia
14% in Africa
7% in South America
1% in Australasia



29% SMA I
38% SMA II
30% SMA III
2% adult onset
<1% undefined 5q

Prepared by Victoria Hodgkinson 2019

PMS for SMA: TREAT-NMD Response

Expand the TREAT-NMD core SMA dataset to support affiliated registries in the collection of robust longitudinal data that ***(a)*** *captures natural history,* ***(b)*** *measures the effectiveness of interventions and* ***(c)*** *informs standards of care for patients.*

Selection Factors:

- Importance • Value to post-marketing • Validity of item • Feasibility

Principles:

Pre and post consultation with multiple stakeholders

Openness and collaboration with other groups

Pilot study to test real-life feasibility

Phased and supportive approach

3 year project to support remaining registries with implementation (June 2019 – May 2022)

Project Deliverables

Biogen

Year 1	Year 2	Year 3
1. Dataset manual 2. Financial bursaries for Y1 registries 3. Establish Dataset Revision Process 4. Year 1 workshop for Curators 5. Outcome Measure Library 6. Year 1 Project Report	7. Financial bursaries for Y2 registries 8. Year 2 workshop for Curators 9. Year 2 Project Report	10. Financial bursaries for Y3 registries 11. Year 3 workshop for Curators 12. Final Project Report

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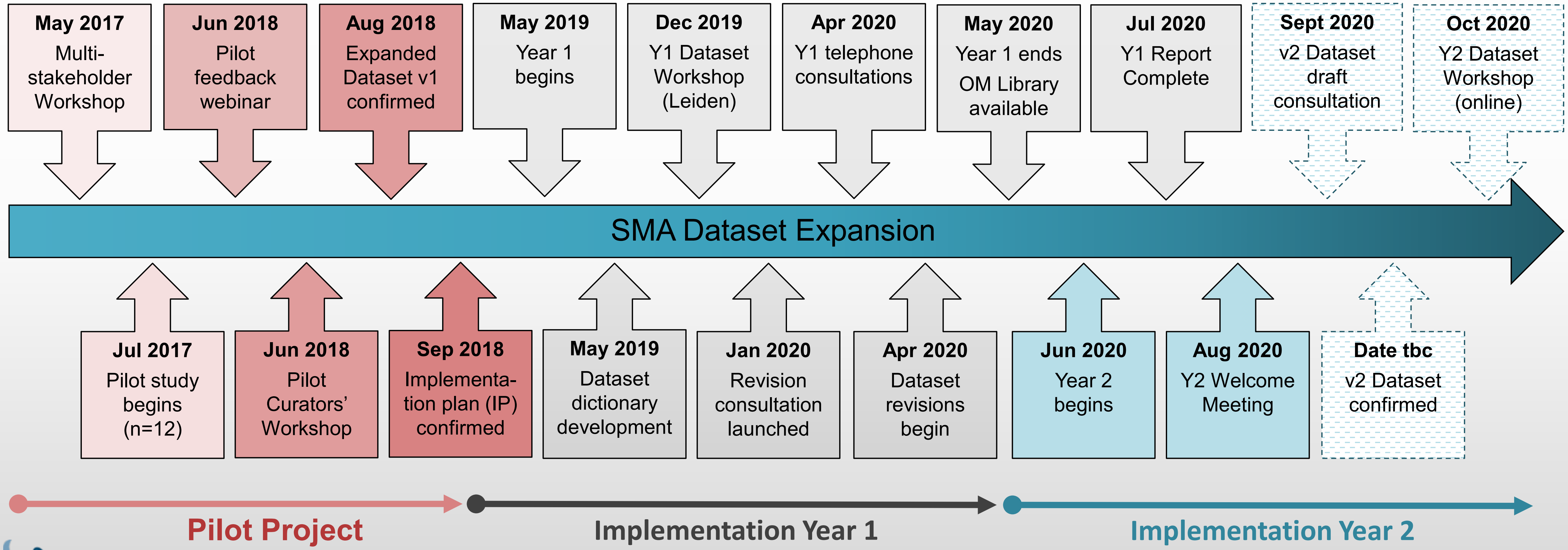
Project Timelines



May 2017
Multi-stakeholder Workshop

Jun 2018
Pilot feedback webinar

Aug 2018
Expanded Dataset v1 confirmed

May 2019
Year 1 begins

Dec 2019
Y1 Dataset Workshop (Leiden)

Apr 2020
Y1 telephone consultations

May 2020
Year 1 ends
OM Library available

Jul 2020
Y1 Report Complete

Sept 2020
v2 Dataset draft consultation

Oct 2020
Y2 Dataset Workshop (online)

SMA Dataset Expansion

Jul 2017
Pilot study begins (n=12)

Jun 2018
Pilot Curators' Workshop

Sep 2018
Implementation plan (IP) confirmed

May 2019
Dataset dictionary development

Jan 2020
Revision consultation launched

Apr 2020
Dataset revisions begin

Jun 2020
Year 2 begins

Aug 2020
Y2 Welcome Meeting

Date tbc
v2 Dataset confirmed

Pilot Project

Implementation Year 1

Implementation Year 2

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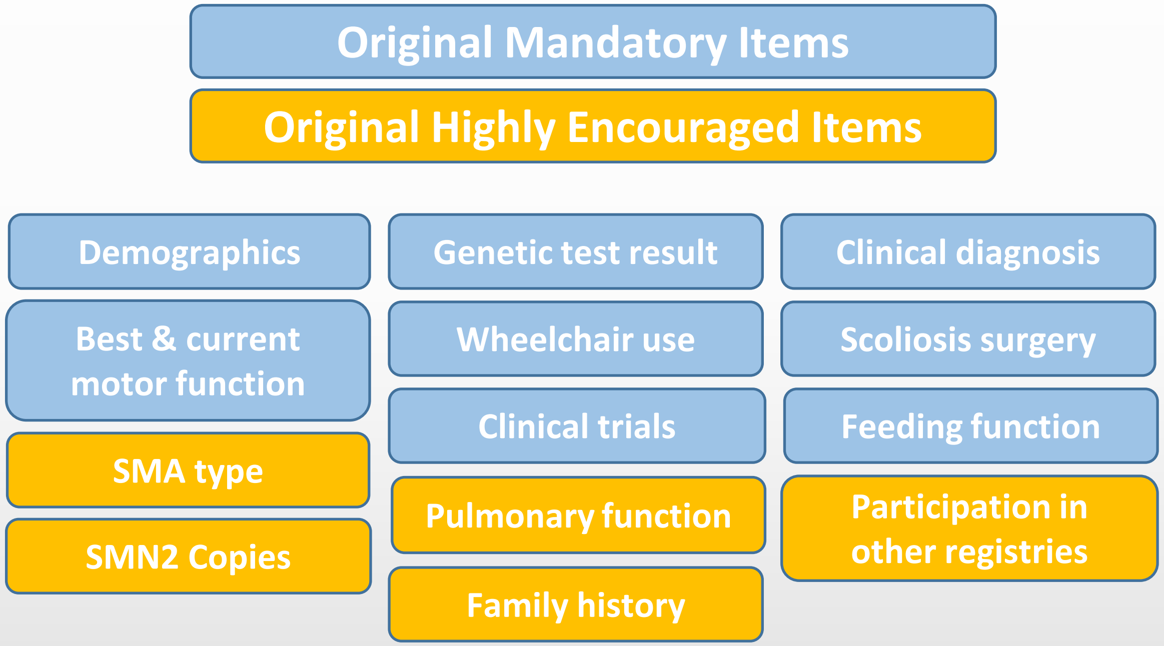
Original Core Dataset (v0)



Original Mandatory Items

Original Highly Encouraged Items

Demographics

Best & current motor function

SMA type

SMN2 Copies

Genetic test result

Wheelchair use

Clinical trials

Pulmonary function

Family history

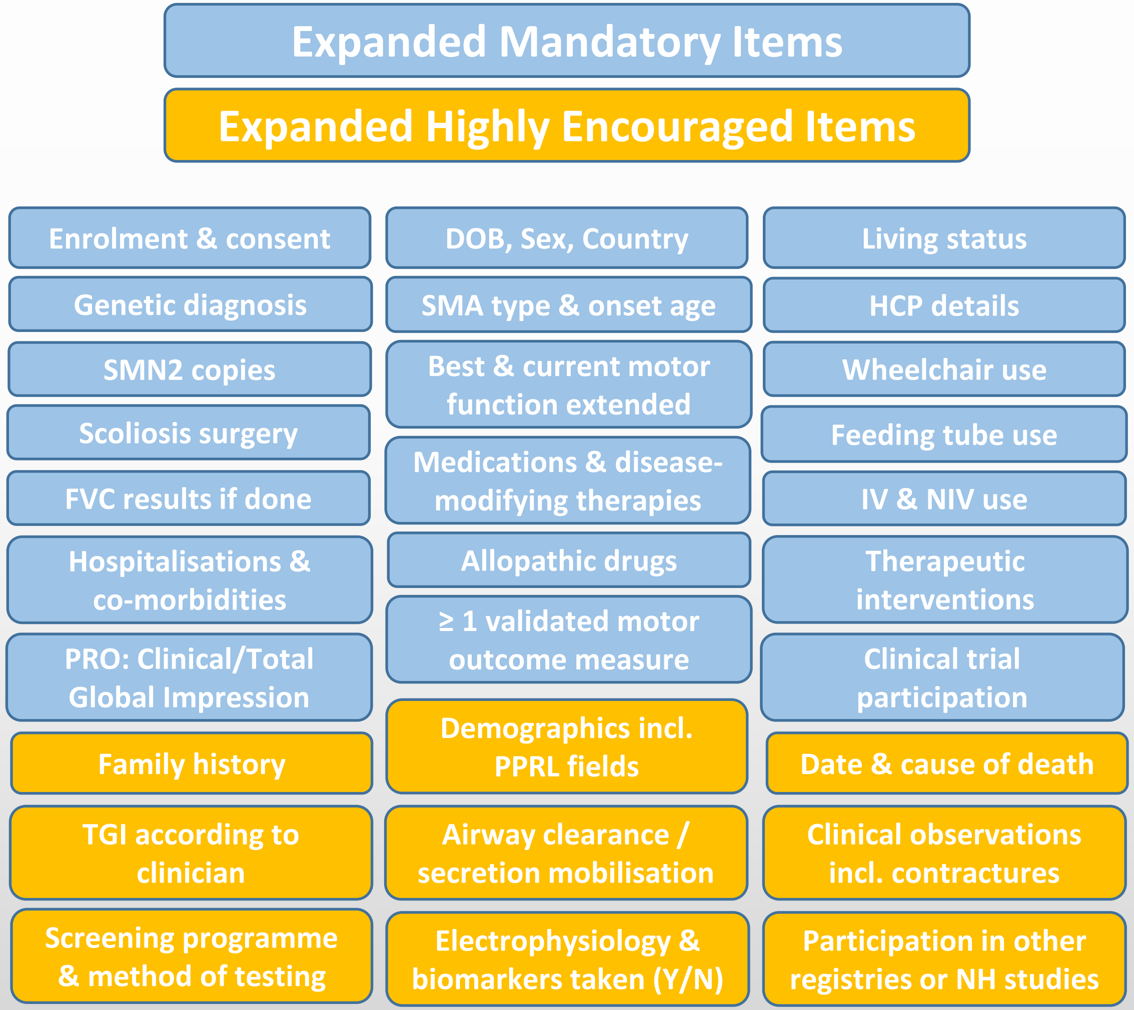
Clinical diagnosis

Scoliosis surgery

Feeding function

Participation in other registries

Expanded Core Dataset (v1)



Expanded Mandatory Items

Expanded Highly Encouraged Items

Enrolment & consent

Genetic diagnosis

SMN2 copies

Scoliosis surgery

FVC results if done

Hospitalisations & co-morbidities

PRO: Clinical/Total Global Impression

Family history

TGI according to clinician

Screening programme & method of testing

DOB, Sex, Country

SMA type & onset age

Best & current motor function extended

Medications & disease-modifying therapies

Allopathic drugs

≥ 1 validated motor outcome measure

Demographics incl. PPRL fields

Airway clearance / secretion mobilisation

Electrophysiology & biomarkers taken (Y/N)

Living status

HCP details

Wheelchair use

Feeding tube use

IV & NIV use

Therapeutic interventions

Clinical trial participation

Date & cause of death

Clinical observations incl. contractures

Participation in other registries or NH studies

131 items › 85 mandatory › 37 ‘parent’ mandatory

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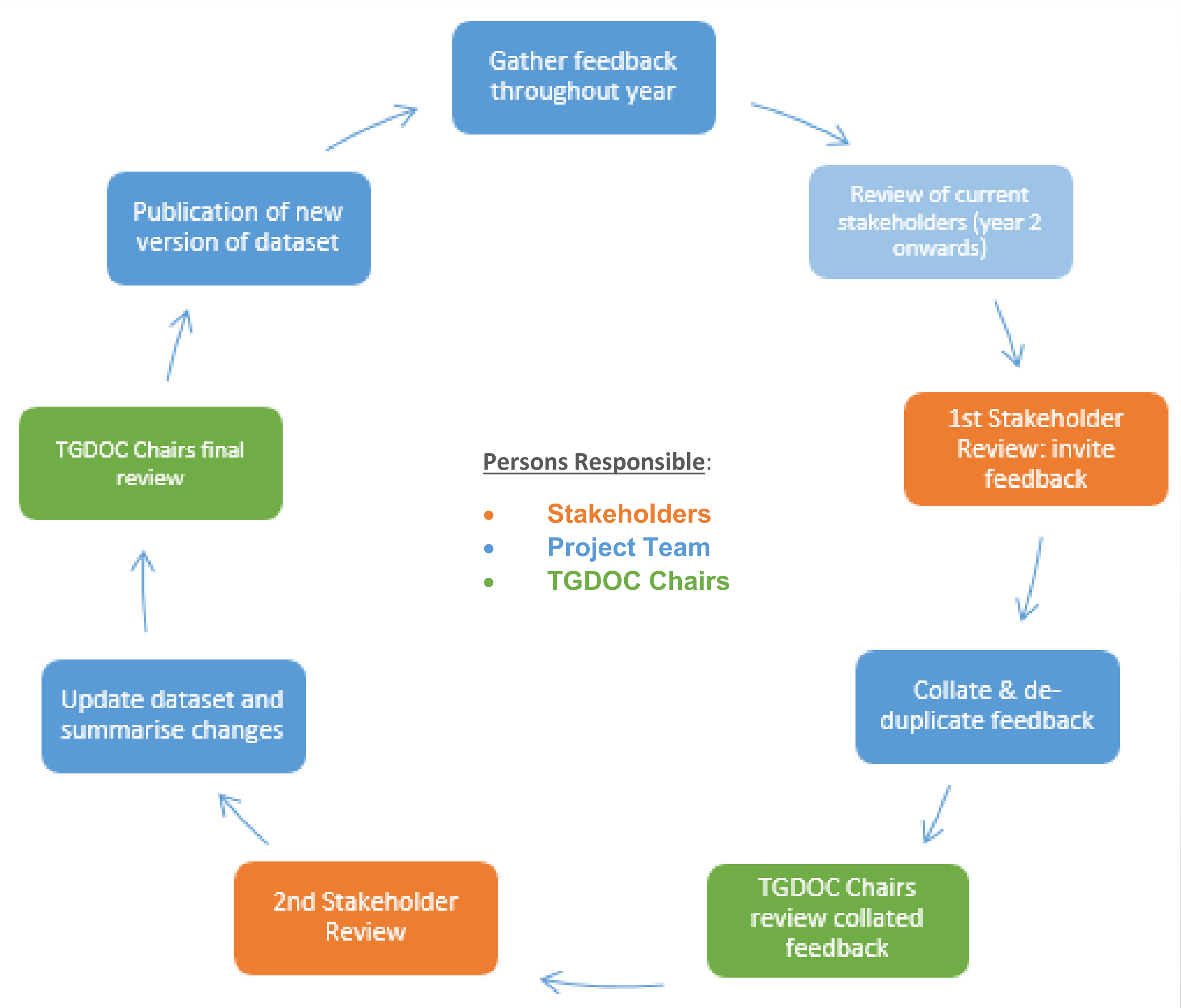
Dataset revision

The SMA landscape is evolving rapidly and the dataset for our global registry needs to be able to adapt to the changing needs of the SMA community.

A formal dataset revision process reflects our commitment to:

1. ensuring that the dataset remains relevant, feasible, collaborative, harmonised with other initiatives, and responsive to the needs of the SMA community.
2. managing (and minimising wherever possible) the burden of dataset changes on all stakeholders.
3. supporting high quality data collection, global standards and continuous improvement.



Gather feedback throughout year

Review of current stakeholders (year 2 onwards)

1st Stakeholder Review: invite feedback

Collate & de-duplicate feedback

TGDOC Chairs review collated feedback

2nd Stakeholder Review

Update dataset and summarise changes

TGDOC Chairs final review

Publication of new version of dataset

<u>Persons Responsible</u>:

- Stakeholders
- Project Team
- TGDOC Chairs

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v2 Dataset Modelling

- Clearer distinction between the dataset and an example data collection form
- Removed: anything not collected centrally (e.g. contact details, confirmation of consent, name of treating physician etc.)
- Clearer definitions; e.g. what exactly is meant by mandatory? Item? Value?
- Machine-readable format, stable and unique item ID's, single source file, international standards (e.g. RFC 2119, ISO 8601)
- Complex areas: Example questions for data collection forms and example data representations to demonstrate best practise
- Meaningful and usable for software developers / IT colleagues (platforms or e-CRFs)

= Better quality and more standardised data

= Clearer guidance for registries on what to collect (but flexibility to collect it in a way to suit them)

= FAIRification of data within our registries

= Easier to view, understand, use, navigate the dataset

Demonstration of v2 format

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Core SMA Dataset - clarifications

‘Mandatory’ items

- must be included in data collection forms (C-R / P-R / both)
- not necessarily a mandatory field – e.g. name of therapy
- if not mandatory; encouraged to collect if relevant and feasible

Outcome measures

- *Mandatory requirements*:
  - Motor function section of core dataset
  - ≥1 validated motor outcome measure per patient
  - Total Global Impression according to patient (1 question; how do they feel their condition has changed)
- *Optional*:
  - Additional motor outcome measures
  - Patient-reported outcome measure

Revisions: 6 months to implement

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SMA Outcome Measure Library

- Quick-reference information tool, to help registries choose and implement the right OMs for their patients (open resource).

- We encourage independent decision-making. The best OM for any given patient can depend on many factors. Clinicians/registries should check for national or local guidelines, review the information in this library and elsewhere, and use professional judgement to identify measures which will:

    - pick up meaningful change in their patient cohorts and

    - be feasible for their registry to collect.

- Working document, will be updated as needed, check the project web page for the current version.

- Feedback, missing information, or suggestions for additional outcome measures can be provided by completing the short feedback form on the web page.

				Suitable age ranges				Suitable function levels					
Outcome Measure (OM)	Type of OM	SMA Specific?	Full name of OM	≤2 yrs	3-5 yrs	6-17 yrs	≥ 18 yrs	Non-sitter	Sitter	Walker	Validated Languages	Terms of use	Scales available
10MWT	Motor	No	10-Metre Walk Test	No	Yes	Yes	Yes	No	No	Yes	English	Free	N/A. Measure tim
6MWT	Motor	No	6-Minute Walk Test	No	Yes[1]	Yes	Yes	No	No	Yes	English	Free	N/A. Measure dis
9HPT	Motor	No	9-Hole Peg Test	No	Yes[1]	Yes	Yes	Yes	Yes	Yes[3]	English	Free	https://www.sral
ACEND	PROM	No	Assessment of Caregiver Experience with Neuromuscular Disea	No	Yes	Yes	Yes	Yes	Yes	Yes	English	*tbc*	*tbc*
ACTIVE	Motor	Yes	Ability Captured Through Interactive Video Evaluation	No	Yes	Yes	Yes	No	Yes	Yes	English	*tbc*	*tbc*
ACTIVLIM	PROM	No	Measurement of Activity Limitations	No	No	Yes	Yes	No	Yes	Yes	French, English	Free but must re	http://rssandbox
AIMS	Motor	No	Alberta Infant Motor Scale	<18m	No	No	No	Yes	Yes	No	English, Brazilli	Purchase Require	In manual, publis
BBT / ESBBT	Motor	No	Box and Blocks Test / Endurance Shuttle Box and Blocks Test	No	No	Yes	Yes	Yes	Yes	Yes	English	Free	*tbc*
Brooke	Motor	No	Brooke Scale of Upper Extremity Function	Yes	Yes	Yes	Yes	Yes	Yes	Yes	English	Free	https://www.rese
BSID-III	Motor	No	Bayley Scales of Infant and Toddler Development	Yes	≤42m	No	No	Yes	Yes	Yes	English	Purchase require	https://www.pea
CHOP-INTEND	Motor	No	Children's Hospital of Philadelphia Infant Test of Neuromuscul	Yes	Yes[1]	No	No	Yes	No	No	English	Free	http://columbias
DISABKIDS	PROM	No	Measurement of Quality of Life and Level of Distress	No	No	≤8y	No	Yes	Yes	Yes	*tbc*	Purchase require	*tbc*
EK2	Motor & PROM	No	Egen Klassification 2	No	Yes	Yes	Yes	Yes	Yes	No	Danish, UK Eng	Free	http://rcfm.dk/e
ES9HPT	Motor	No	Endurance Shuttle Nine Hole Peg Test	No	Yes[1]	Yes	Yes	Yes	Yes	Yes[3]	English	Free	https://www.sral
FSS	PROM	No	Fatigue Severity Scale	No	No	No	Yes	Yes	Yes	Yes	English	Free	https://www.sral
HFMS	Motor	Yes	Hammersmith Functional Motor Scale	No[1]	Yes	Yes	Yes	Yes	Yes	No	English, Spanis	Free	http://www.treat
HFMS-E	Motor	Yes	Hammersmith Functional Motor Scale Expanded	No[1]	Yes	Yes	Yes	Yes	Yes	Yes	English	Free	http://columbias
HINE Section 2 (Posture)	Motor	No	Hammersmith Infant Neurological Examination	Yes	No	No	No	Yes	Yes	No	English	Free	http://hammersr
MFM	Motor	No	The Motor Function Measure (MFM-32 & MFM-20)	No	Yes[2]	Yes	Yes	Yes	Yes	Yes	English, Arabic	Free	https://mfm-nm
PEDI-CAT	PROM	No	Pediatric Evaluation of Disability Inventory - Computer Adaptiv	Yes	Yes	Yes	No	Yes	Yes	Yes	English (USA a	Purchase require	https://www.pec
PedsQL (NM & fatigue scales)	PROM	No	Paediatric Quality of Life Inventory	Yes	Yes	Yes	No	Yes	Yes	Yes	160 languages	Varies according	https://www.pec
PROMIS	PROM	No	Patient-Reported Outcomes Measurement Information System	No	≥5y	Yes	Yes	Yes	Yes	Yes	Multiple	Free for English a	http://www.heal
r9HPT	Motor	No	Repeated (5 times) Nine-hole peg test	No	Yes[1]	Yes	Yes	Yes	Yes	Yes[3]	English	Free	https://www.sral
Revised Brooke	Motor	No	Revised Brooke Scale of Upper Extremity Function	Yes	Yes	Yes	Yes	Yes	Yes	Yes	English	Free	Found as Entry It
RHS	Motor	Yes	Revised Hammersmith Scale	No[1]	Yes	Yes	Yes	Yes	Yes	Yes	English	Free	http://www.sma
RULM	Motor	Yes	Revised Upper Limb Module	No	Yes	Yes	Yes	Yes	Yes	Yes	English	Free	http://columbias
SMA FRS	PROM	Yes	SMA Functional Rating Scale	No	No	No	Yes	No	No	Yes	*tbc*	*tbc*	*tbc*
SMA HI	PROM	Yes	SMA Health Index	No	No	≥12y	Yes	Yes	Yes	Yes	*tbc*	Purchase require	*tbc*
SMAIS[4]	PROM	Yes	SMA Independence Scale[4]	≤2y	Yes	Yes	Yes	Yes	Yes	No	English, Bulgar	*tbc*	*tbc*
TIMP/TIMPSI	Motor	No	Test of Infant Motor Performance / Test of Infant Motor Perfo	>4m	No	No	No	Yes	No	No	English, Spanis	https://www.the	https://www.the
TUG	Motor	No	Timed Up and Go	No	Yes	Yes	Yes	No	No	Yes	English	Free	https://www.cdc
WHO Motor Milestones	Motor	No	World Health Organisation Motor Milestones	Yes	Yes	No	No	Yes	Yes	Yes	English	Free	https://www.wh

[SMA Outcome Measure Library]

Core SMA Dataset – support and expectations

Why?

To support Curators to implement the new core SMA Dataset which can be time consuming and costly.

What support is available?

- Access to a network of registries and curators who have already successfully implemented the expanded dataset.
- Monthly project support drop-ins to access information and guidance from the project team and supporting experts.
- 2020 SMA Dataset Workshop.
- Additional resources available on the project webpage.
- Direct linkage with other TREAT-NMD Dataset projects (DMD and LGMD)

Date	**Time (UK)**
Thu 27 Aug 2020	09:00-09:30 BST
Thu 24 Sept 2020	14:00-14:30 BST
Thu 29 Oct 2020	09:00-09:30 GMT
Thu 26 Nov 2020	14:00-14:30 GMT
Dec 2020	*No call*
Thu 28 Jan 2021	09:00-09:30 GMT
Thu 25 Feb 2021	14:00-14:30 GMT
Thu 25 Mar 2021	09:00-09:30 GMT
Thu 29 Apr 2021	14:00-14:30 BST

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Bursary

An **€8000 bursary** is available to registries taking part in the SMA Dataset Implementation Plan.

Who is not eligible?

Registries receiving financial support directly from Biogen for their data collection activities.

How will it be paid?

- Paid in two parts:
  - **Part A:** 50% (€4,000) is available when the registry starts work on implementing the expanded SMA Dataset (available immediately if work has already begun)
  - **Part B**: 50% (€4,000) is available when the registry provides:
    - evidence of all mandatory items being collected
    - feedback on the dataset and implementation process.

Both parts can be claimed together if all part B conditions can already be met.

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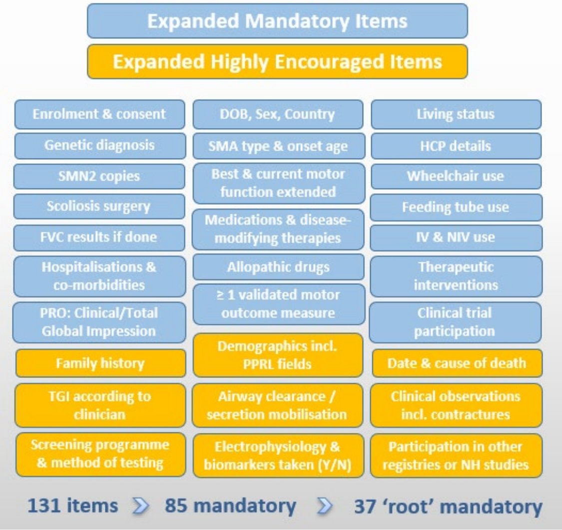
Core SMA Dataset – support and expectations

What you will need to do:

- Commit to start collecting all relevant mandatory items in the expanded dataset by the end of May 2021.
- Keep us updated on progress
- Tell us if you experience difficulties in collecting any specific items
- Tell us how you use the bursary and how it has helped your registry
- Confirm/renew your TGDOC membership (core or affiliate)



🟦 Expanded Mandatory Items

🟨 Expanded Highly Encouraged Items

🟦 Enrolment & consent	🟦 DOB, Sex, Country	🟦 Living status
🟦 Genetic diagnosis	🟦 SMA type & onset age	🟦 HCP details
🟦 SMN2 copies	🟦 Best & current motor function extended	🟦 Wheelchair use
🟦 Scoliosis surgery	🟦 Medications & disease-modifying therapies	🟦 Feeding tube use
🟦 FVC results if done		🟦 IV & NIV use
🟦 Hospitalisations & co-morbidities	🟦 Allopathic drugs	🟦 Therapeutic interventions
🟦 PRO: Clinical/Total Global Impression	🟦 ≥ 1 validated motor outcome measure	🟦 Clinical trial participation
🟨 Family history	🟨 Demographics incl. PPRL fields	🟨 Date & cause of death
🟨 TGI according to clinician	🟨 Airway clearance / secretion mobilisation	🟨 Clinical observations incl. contractures
🟨 Screening programme & method of testing	🟨 Electrophysiology & biomarkers taken (Y/N)	🟨 Participation in other registries or NH studies

131 items › 85 mandatory › 37 ‘root’ mandatory

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Universal Registry Platform (URP) Update

Ben Watling (CEO, TREAT-NMD Enterprise)

URP Development

- TREAT-NMD Enterprise will lead on the URP development. Software developers have been appointed, build commenced on 10th August 2020.
- Will initially contain DMD & SMA modules, designed to capture the respective core datasets.
- For registries using the URP, data will remain under local governance and control.
- A Central Data Warehouse (CDW) will be built to house (de-identified) data submitted to TREAT-NMD.
- Data Sharing Agreements will be established for all registries providing data to TREAT-NMD, either directly (via the URP) or indirectly.
- TREAT-NMD will not have access to data within registries unless it has been submitted to CDW.

URP Completion Timelines

- Registries will be invited to ‘pilot’ the URP for their disease, in the beta –testing (user acceptance testing) phase. **Oct – Dec 2020.**
- Development, Build & Testing (for clinician entered data) will be complete **by December 2020.**
- A ‘Patient Portal’ will be added and the URP (for SMA & DMD) will be complete **by March 2021**
- The URP will ‘go live’ for use, available to TGDOC registries (clinician and patient entered) **from April 2021.**
- We will encourage as many TGDOC Registries as possible to use the URP as their own data collection platform, and it will be provided free of charge.
- Registries using other platforms will still be able to submit data for enquiries by uploading into the URP.
- A further LGMD Disease Module will be built **in Q3/4 2021.**

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URP Benefits to TGDOC Registries

- ✓ Stable, high quality, disease-specific registry platform, free of charge. Full access to and control over own data.
- ✓ Access to data dashboards and reporting functionality to analyse their own registry data and view comparable summary data from other registries.
- ✓ Quality assured data-collection, within an independent and collaborative platform, regulator-approved.
- ✓ Simple and safe data submission for TGDOC Enquiries.
- ✓ Contribute standardised, high quality, reproducible data for the benefit of research, trial planning/ recruitment and postmarketing surveillance; managed appropriately and responsibly through TREAT-NMD.
- ✓ Future expansion will allow for additional data capture (e.g. individual studies or research questions) to support wider stakeholder requirements whilst still under TGDOC governance.

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10:00	Introductions
10:05	Project overview, scope and purpose
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10:30	Support and expectations
10:40	Universal Registry Platform (URP) update
10:45	**Q&A**
11:00	Close

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Questions?

(URP questions: Caroline.Ogden@treat-nmd.com)

Jo Bullivant

Project Manager

Joanna Das

Project Coordinator

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