

Clinical Trial Readiness in Rare Disease in Aotearoa – the experience of the NZ neurogenetics research group

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Chair TREAT NMD global registries network



scope

Clinical trials in NZ

Challenges in rare disease clinical research

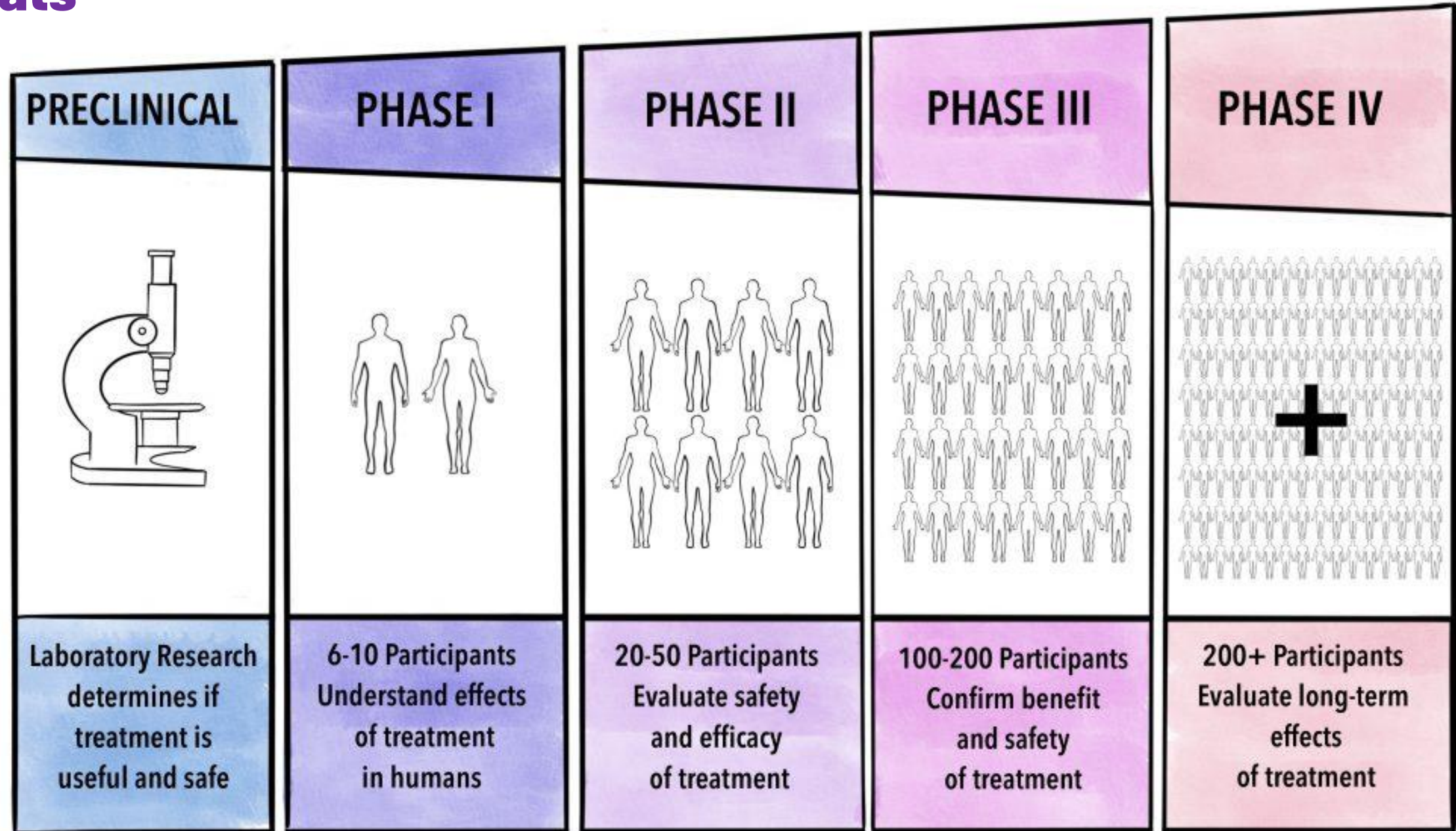
Other issues

Our story

Addressing the challenges



Clinical trials



Clinical trials



- Promotes and supports clinical research in New Zealand
- Advises on regulatory processes
- Provides templates

Challenges in neurogenetic clinical research

These are rare disorders - there aren't many patients

These are progressive disorders - the patients may not meet eligibility criteria

These are rare disorders - there aren't many treating clinicians to be PIs

Patients have mobility issues and other needs that distinguish them from healthy volunteers

Other issues in clinical research

Developing therapeutics

N = 1

Ethics and Regulatory approvals

Clinical trial processes

Contracting

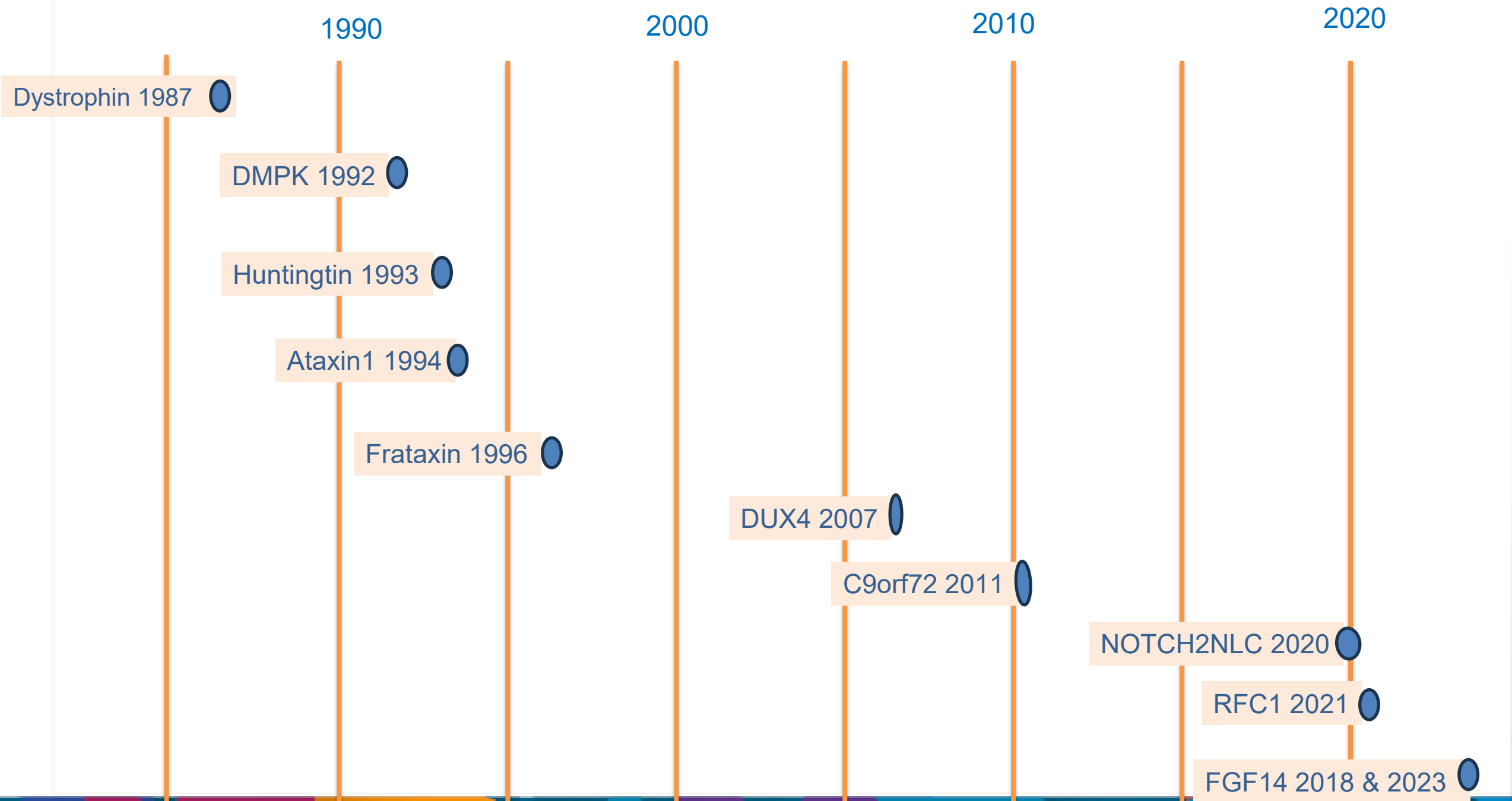
The promise of therapeutics in genetics ...



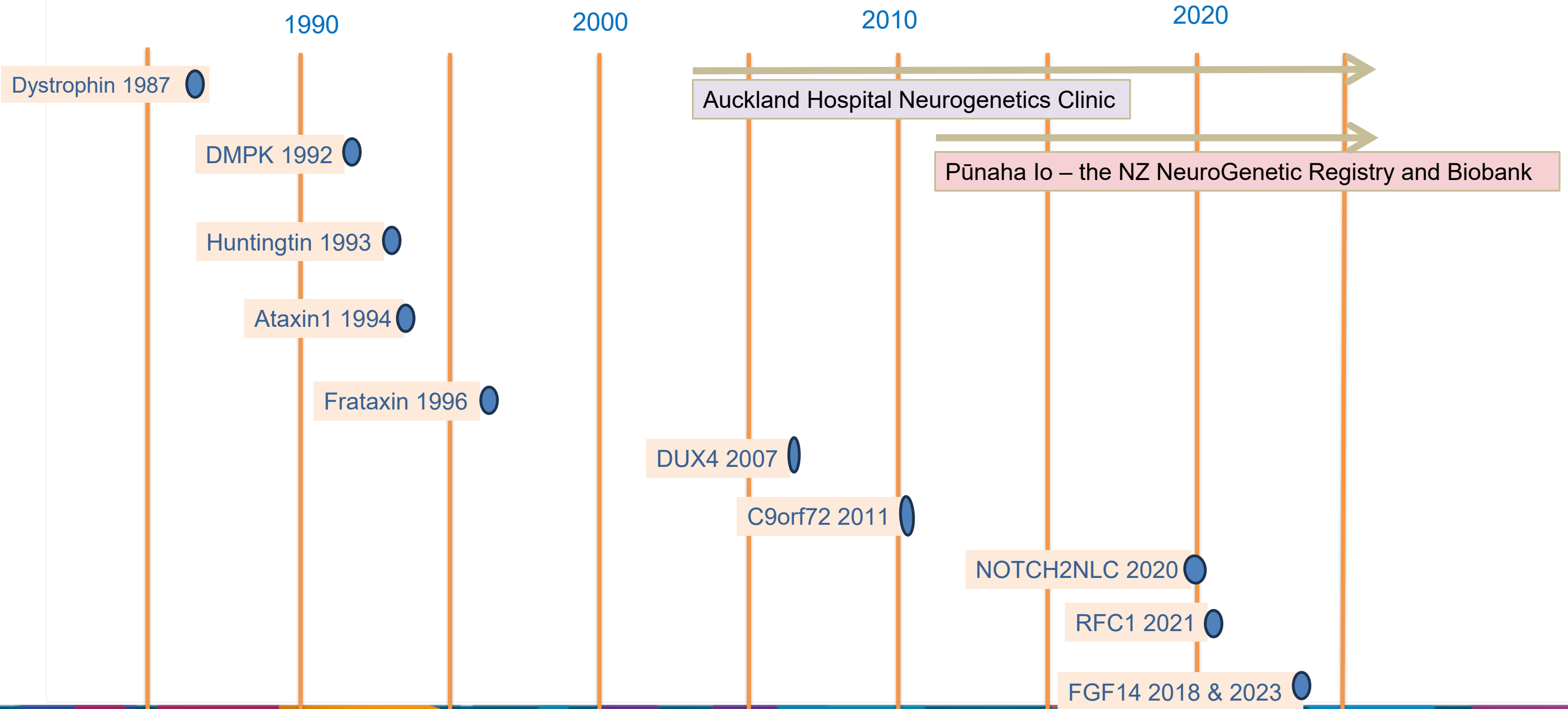
is based on a presumption

if we know the cause we can fix it at the source

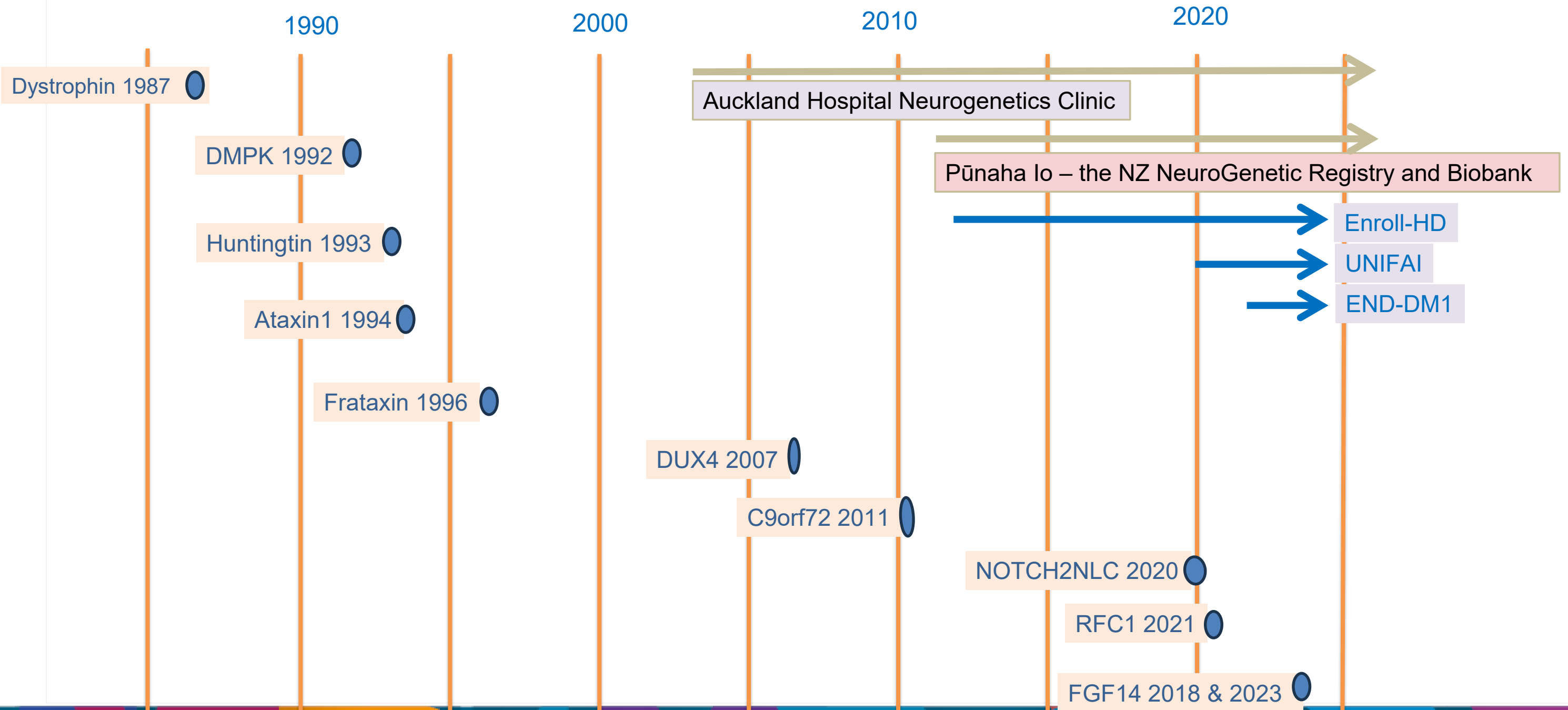
The promise of genetics ...



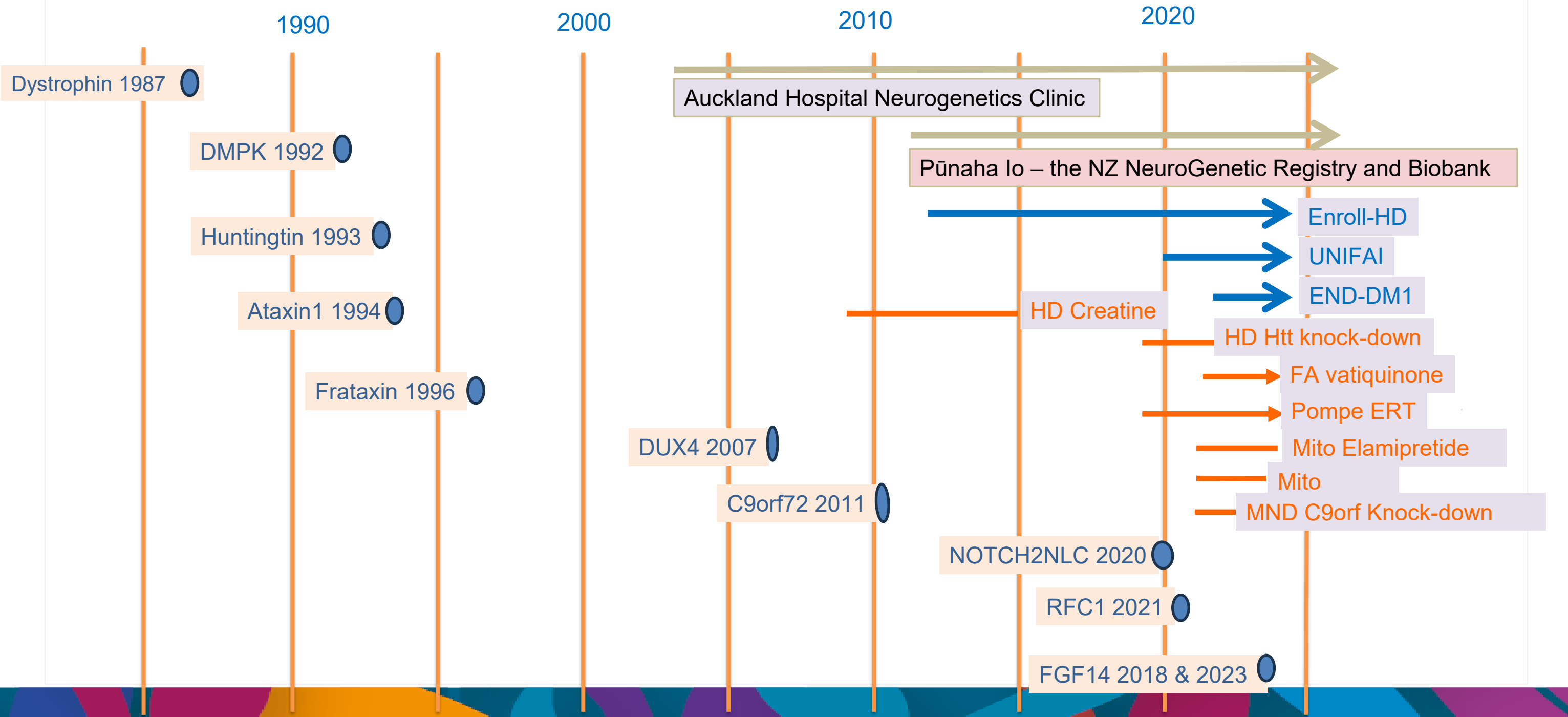
Getting ready – patient registries



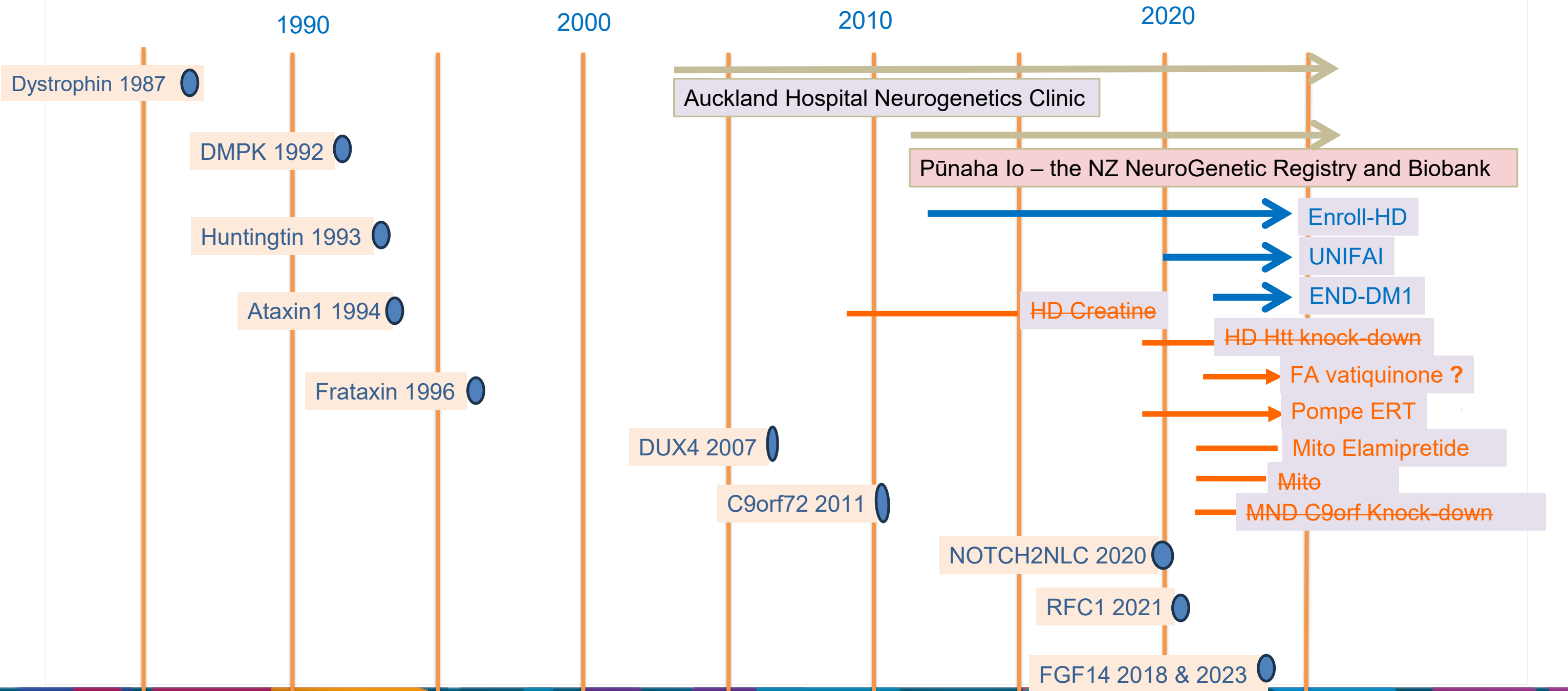
Getting ready – natural history studies



Getting ready – clinical trials



Getting ready – clinical trials



NZ - from trial pariah to the place to go

- X Small country with fewer people
- X Pharmac seen as obstacle
- X New Zealand not on world map

- ✓ Ethics infrastructure straightforward
- ✓ English speaking
- ✓ Well-regarded specialists & allied health clinicians
- ✓ Private sector well-established in First-in-Human clinical trials
- ✓ Motivated patients
- ✓ Patient registry



Pūnaha Io

the New Zealand Neurogenetic Registry & Biobank

Ongoing research study – HDEC approved since 2011

Nationwide

Opt-in

Internationally networked

Includes multiple neurological disorders

Pre-specified disease-specific datasets

FAIR Findable, Accessible, Interoperable, and Reusable



Dame Naida Glavish

Pūnaha Io

the New Zealand Neurogenetic Registry & Biobank

Principal Investigator	A/Prof Richard Roxburgh
Exec. Committee	Gina O'Grady, Christina Buchanan, James Cleland, Miriam Rodrigues
Access Committee	Ronelle Baker, Eloise Watson, Erik Andersen, Emma Scotter, Gemma Poke, Alana Cavadino
Māori consultation	Tauwehe Tamati, Ronelle Baker, Nicole Edwards, Blair McNaughton



Richard Roxburgh

Neurogenetic Clinical Research in Aotearoa

Access to treatment

Clinical Trials*

Research Studies

Natural History Studies

Prevalence Studies

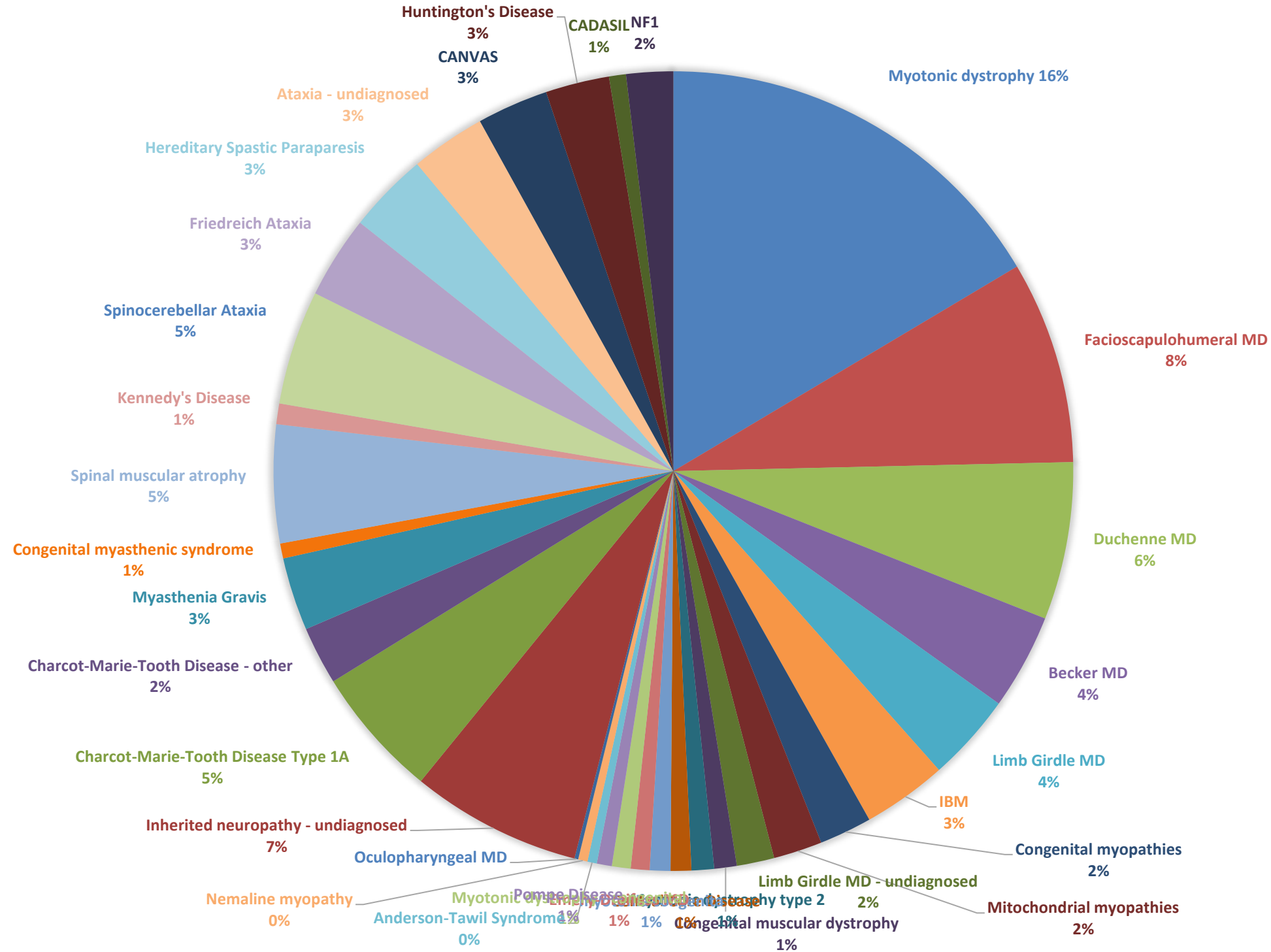
Pūnaha Io Neurogenetic Registry & Biobank

* Feasibility Studies
& Trial Recruitment

Finding the
genetic cause

Accurate
diagnosis

CONSENTED PARTICIPANTS



Supporting academic endeavours with natural history and observational studies



Observational Study`	Disorder	n =	Course of Study
END DM1 – establishing biomarkers & endpoints	Myotonic Dystrophy	52	
Balance in DM1		20	Clinical fellowship
UNIFAI – natural hx study	Friedreich Ataxia	20	
Vestibulopathy in FA		20	PhD
Characterising VIII cranial nerve	CMT1A	24	
Impact of FA on well-being, mood, social cognition	Friedreich Ataxia	10	Masters Psychology
RFC1 natural hx study	RFC1 associated disorders	26	
Cognition in CANVAS	CANVAS	14	BMedSci (hons)
Motor measures in untreated adults	Spinal muscular atrophy		PGDip
Movement in SMA	Spinal muscular atrophy	10	Masters Physiotherapy*
Gut microbiome analysis	Duchenne & Becker MD	12	MSc*
PINK1/parkin mitophagy pathway	PINK1 Parkinson’s	10	PhD
Newborn screening assay	Congenital myotonic dystrophy	50	PhD

*students with lived experience

Clinical trials of ‘genetically informed therapies’ in 2026

Phase	IP	IP type	delivery	indication	Site	N =
1/2a	Dyne-101	ASO	IV infusion	DM1	Private Clinical Trials Co.	15
3	Dyne-101 zeleciment basivarsen	ASO	IV infusion	DM1	University Clinical Research Centre	4 - 10
1	EPI-321	AAV delivered crispr mediated epigenetic therapy suppressing DUX4 expression	IV infusion	FSHD	Private Clinical Trials Co.	2
1/2a	ARO-DUX4	RNA interference	IV infusion	FSHD	Private Clinical Trials Co.	15
1/2a	ARO-ATXN2	RNA interference	Intrathecal	SCA2	Private Clinical Trials Co.	1
2 & 3	EDG-5506 sevasemten	Small molecule. Dystrophin stabiliser	oral	Becker MD	Private Clinical Trials Co.	12
3	SkyHawk	Small molecule. HTT knockdown + somatic stabilisation	oral	HD	Hospital	6
1	DT-216P2	Direct GAA repeat targeting to increase transcription	IV / SubQ	FA	Private Clinical Trials Co.	6 - 10
1	DT-818	Direct CTG repeat targeting to decrease transcription	IV/ SubQ	DM1	Private Clinical Trials Co.	6 - 10

Patients considering trial involvement

Time – Frequency of study visits / Fitting around work/studies and family commitments

Unknown side effects of drugs – Earlier phase studies carry bigger risks
Doing nothing/delaying is not without risk

Uncertainty of whether there is any effect

Is there a placebo arm? What chances of active drug?

Availability of drug beyond study - if I don't go in trial but it works will it ever be funded in New Zealand?

Trial Procedures – how is the drug administered? oral, subcutaneous, IV infusion, intrathecal injection Investigations: muscle biopsy, lumbar puncture, MRI

Contraception - How long?

Is this the right drug trial now or should I wait for the next trial?



Māori engagement

Longstanding relationships with Māori with lived experience of the condition

Request review and input on protocols early – not just tick box at the end

Start the trial (the site initiation visit) with whakanoa

Positive discrimination in recruiting

Kaupapa around, for example, return of samples or stating when we can't



Challenges in neurogenetic clinical research

These are rare disorders - there aren't many patients

Solution: patient registries for recruitment / ? shared clinical trial units

These are progressive disorders - the patients may not meet eligibility criteria

Solution: natural history studies and up-to-date patient registries

These are rare disorders - there aren't many treating clinicians to be PIs

Solution: ? training, education, part of the job

Patients have mobility issues and other needs that distinguishes them from healthy volunteers

Solution: ? appropriate clinical trial units and trained staff

Thanks & acknowledgement

1500 patients with neurogenetic conditions and their families

Our funders: The Stern Foundation
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The Team: Harry Fraser, Saraya Hogan, Christina Buchanan, Joe Donnelly, Justin Kao, Benson Chen, Kay Yeoman, Mary McKenzie, Angela Stewart, Tingting Yu, Ming Wu, Zay Melville, Reju Sam John, Sarah Mollett, Cat Watts, Cris Barker

