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Working with industry

Libbie Read – Findacure
Katie Cliss – Findacure
Tanya Collin-Histed – Gauchers Association

findacure

Gauchers ASSOCIATION

Introducing us

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National Institute for Health Research

Katie Cliss

Fundraising Officer

findacure

Libbie Read

Projects and Communications Officer

findacure

Tanya Collin-Histed

Chief Executive

Gauchers ASSOCIATION

In this session…

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- Why work with industry?
- Finding a way in
- When and how to work with industry
- Example: Patient-reported outcomes
- Example: Gene therapy
- Managing relationships
- Questions

Why work with industry?

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Industry	Patient Groups
• Researchers • Scientific data • Expertise of research process/science of disease • Money • Resources • Medicines/drugs	• Participants/patient data • Scientific data • Expertise of symptoms/burden of disease • Knowledge of patient priorities/ideal trial design

To increase the chances of a successful trial

Finding a way in

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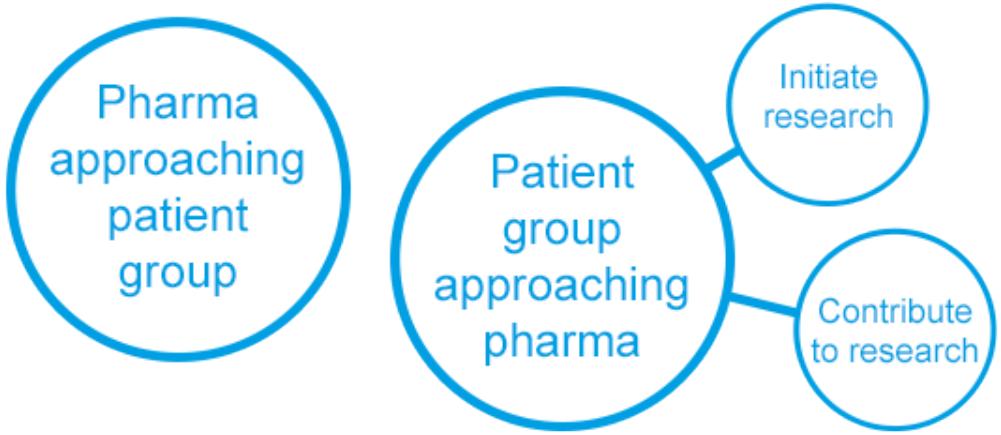
- How you find a way in depends on how you are forming the relationship:



- Regardless of how the relationship is being formed, you need to make sure you are taken seriously and seen as a valuable partner
- Make a **business proposition** and not a charity plea
- What can you offer them, and what role can you play to optimise the research process? How can industry benefit from the relationship?

Finding a way in

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- Unless you already have a contact, try going through their patient advocacy or engagement team
- Note – companies can be cautious about partnering with patient groups. Legally, the cannot be seen to promote their products to patients or influence the way the patient group is run
- Familiarise yourself with the ABPI Code of Practice before initiating a partnership. States the legal responsibilities of each party in the relationship, and clearly shows a lot of potential to work with each other
- Must make sure the relationship works for you, your organisation, and your patients

Ways to work with industry

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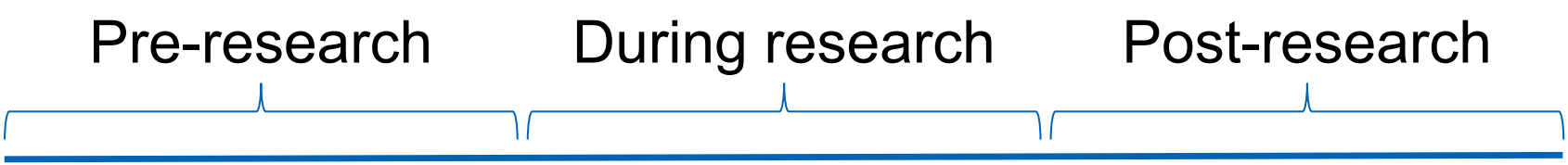

Discuss with the people around you and jot down some ideas of how patient groups can work with industry at each of these stages

Ways to work with industry

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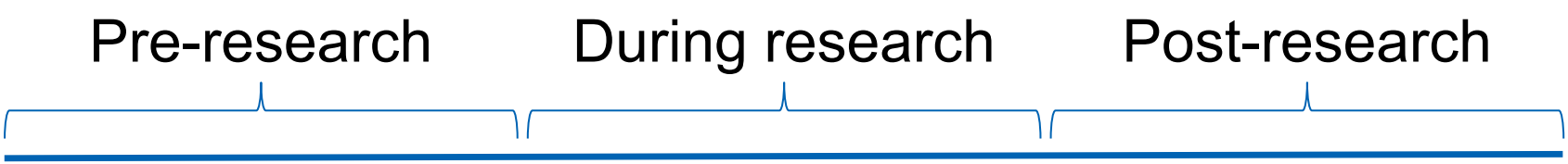

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

Find out more:
- James Lind Alliance Priority Setting Partnerships: http://www.jla.nihr.ac.uk/about-the-james-lind-alliance/

Ways to work with industry

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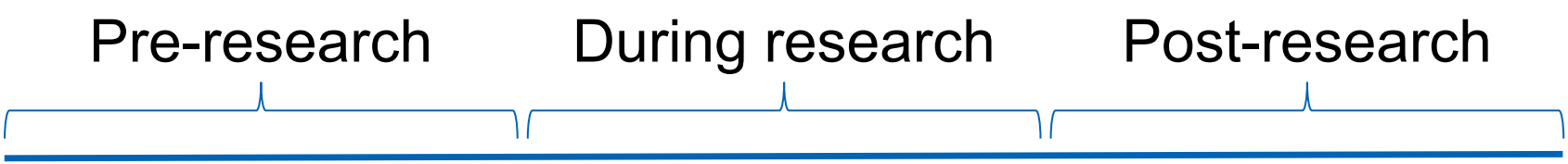

- Priority setting
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- Patient recruitment

Find out more:
- 'Patient registries' on Findacure's e-learning portal: portal.findcure.org.uk

Ways to work with industry

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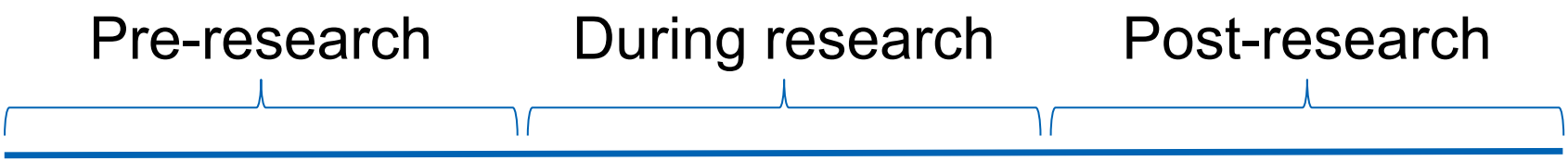

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Ways to work with industry

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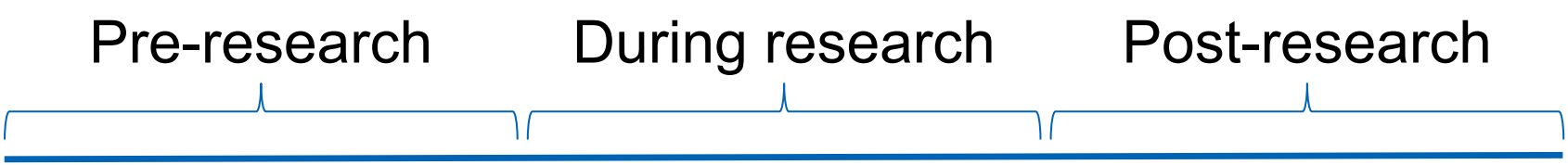

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

Find out more:

- Case study of Parkinson's UK in 'Patient involvement in research' on Findacure's online portal: portal.findcure.org.uk

Ways to work with industry

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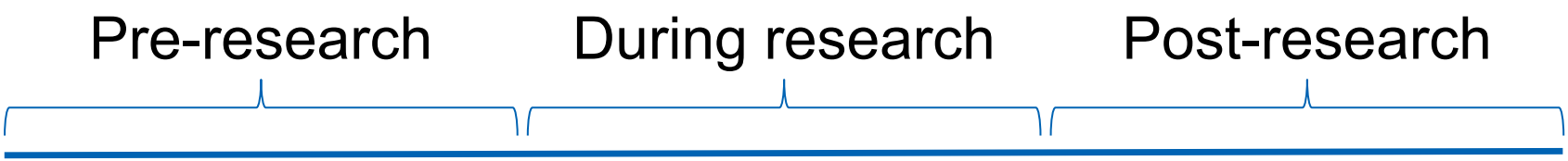

- Priority setting
- Sharing natural history or patient registry data
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- Reviewing research proposals and protocols
- Patient recruitment

Ways to work with industry

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Pre-research

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

During research

- Patient engagement and retention
- Patient-friendly information
- Patient-reported outcomes

Post-research

Ways to work with industry

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Pre-research

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

During research

- Patient engagement and retention
- Patient-friendly information
- Patient-reported outcomes

Find out more:

- NHS toolkit on producing patient information: https://www.uea.ac.uk/documents/246046/0/Toolkit+for+producing+patient+information.pdf
- Findacure webinar on health literacy: https://youtu.be/aHSxxv385yM

Ways to work with industry

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Pre-research

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

During research

- Patient engagement and retention
- Patient-friendly information
- Patient-reported outcomes

Post-research

Ways to work with industry

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Pre-research

- Priority setting
- Sharing natural history or patient registry data
- Sharing scientific data
- Reviewing research proposals and protocols
- Patient recruitment

During research

- Patient engagement and retention
- Patient-friendly information
- Patient-reported outcomes

Post-research

- Communicating and disseminating results
- Approved use of medicines
- Reimbursed access to medicines

Patient Reported Outcomes

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- What they are?

- Why do them?

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Patient Reported Outcomes

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Wearable Technology

- Empowerment Group
- Running the study
- The results and next steps…….

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Wearable Technology

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Patient Reported Outcomes (PROs) (Questionnaires)

Nothing exists specifically for nGD

Our focus:

- Mood
- Behaviour
- Tiredness (fatigue)
- Quality of life

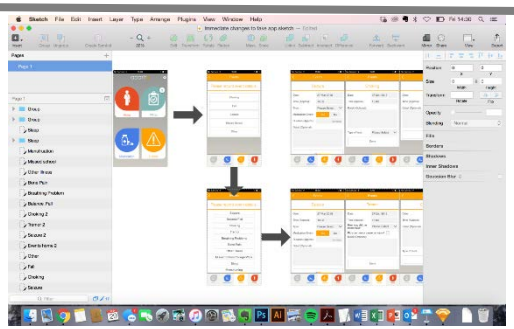
But we also want to see how these things relate to physical aspects of your disease

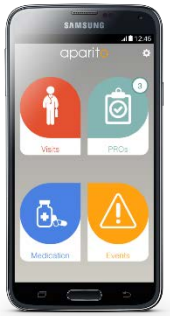
aparito

Disease specific apps for nGD

Patient engagement

aparito has worked with the GA to develop a disease specific app





nGD family conference

- Presented concept
- Workshop with paper mockups
- Feedback and suggestions session

Design and prototype

- Built simple prototypes
- Incorporated feedback/suggestions

nGD empowerment group

- Tested tech demos
- Compared with paper based tests

Feasibility of wearable technologies as an outcome measure in neuronopathic Gaucher Disease (nGD)

A Donald[1]; H Cizer[2]; T Collins-Histed[3]; EH Davies[2]

1. Manchester Foundation Trust; 2. Aparito; 3. UK Gauchers Association

Introduction

Neuronopathic Gaucher Disease (nGD) is a subtype of Gaucher disease characterised by neurological signs and symptoms. Gaucher Disease is one of the Lysosomal Storage Disorders, it results from inadequate production of glucocerebrosidase as a result of mutations of the GBA1 gene. It is subdivided into three types reflecting age of onset and involvement of the CNS; type 1 disease is limited to involvement of the organs but not the CNS, while types 2 and 3 (nGD) involve the brain. CNS pathology in nGD primarily affects the cerebellum[1] resulting in coordination impairment, poor balance, tremor and ataxia. Patients also have varying severity bone disease, eye movement difficulties, hearing impairment, kyphosis and often abnormalities of muscle tone.

Disease severity is typically estimated by clinicians using traditional examination techniques and, more recently, the modified Severity Scoring Tool (mSST[2]. Although useful, these measures fail to account for the functional impact of disease on patients and only give a momentary account of function, overlooking disease fluctuations and the factors which provoke them.

Wearable technologies enable continuous monitoring of activity in a daily living context, and smartphone apps can facilitate recording of patient reported outcomes (PROs) and events in real-time, to account for variable function. Here we report the preliminary data and experience of an approach using this technology to inform our understanding of disease activity in nGD.

Methods

Patients enrolled in the UK Gauchers Association nGD Empowerment Group were initially consulted on the project and helped to direct the aims and study procedures. Patients were then recruited to the study at both Paediatric and Adult Lysosomal Storage Disorder Units in the UK; this included an opportunistic mix of both adults and children, including some patients with 'type 1' Gaucher disease alongside the cohort of interest; patients with nGD.

Participants underwent an initial assessment of diseases severity using the mSST, 6- Minute Walk Test and GaitRITE analysis. Consent for review of clinical notes was obtained along with basic demographics. Participants were then given a wearable device (a 3D accelerometer) which calculates step data in 30 minute epochs and transfers it via Bluetooth to a paired smartphone app downloaded to the patients personal (or carers) mobile phone. The phone app also allowed PROs and event data to be recorded e.g. choking episodes, bone pain, seizures etc. Periodically (once per month) a series of questionnaires would become active and available for participants to respond to on the app; these included validated measures of quality of life, fatigue, stress and self-esteem. The encrypted data collected was sent to a secure database for analysis by the research team. Repetition of the initial assessments was undertaken at 6months in most patients.

Results (1)

Patient characteristics

21 patients were enrolled in the study; 16 patients with nGD and 5 patients with type 1 Gaucher disease (for comparison); age range 6-47yrs.

Clinical severity, as measured by mSST ranged from 0-17 at baseline; mean: 5.8. The most common genotype was L444P homozygous, all patients were ambulant; only 1 requiring assistance to mobilise long distances. The male to female ratio was 6:15.

Patient engagement with the wearable device

3 patients recorded no active days of step data with the wearable device and 7 patients provided no PRO data via the phone app.

Of those considered to be 'engaged users' (with the wearable device), they recorded step data for between 1 – 186 days. Patients with lower mSST scores (milder disease severity) appeared to be more active users; see *Figure 1*. Similarly, when correlated with IQ, those with the lowest IQ's were also less engaged users of the device; ***Figure 2,*** as were children.

Figure 1: Wearable device activity correlated to baseline mSST

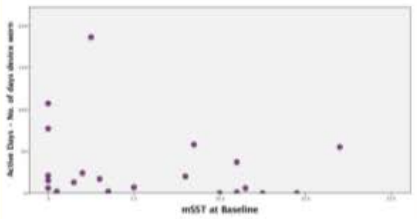
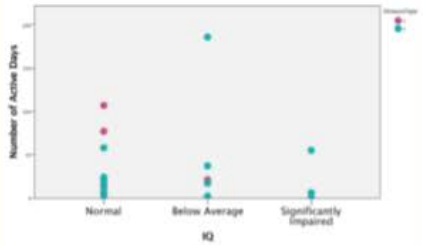


Figure 2: Wearable device activity correlated to IQ

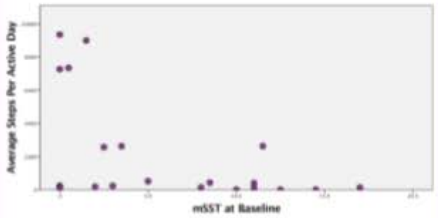


Results (2)

Early data observations

Data from the pilot study is currently under analysis; preliminary evaluation suggests activity as measured by the wearable device reflects disease severity when activity is measured as average steps per active day, see ***Figure 3***.

Figure 3: Average steps per active day of recording in relation to mSST at baseline



Acceptability of approach: App and wearable device

Patients were invited to complete a survey at the end of the study period. All were adults and used the device for a variable period of time but were, mostly, engaged with the project.

Patients reported technical difficulties with the device which limited their participation and were disappointed at the lack of immediate feedback from the app to track their activity and symptoms.

The PROs on the app were generally felt to be easier to complete than in paper format during clinics. However, the engaged patients, as reflected by their mSST scores were patients with low Gaucher symptom impact and as such, struggled to identify the relevance of the PROs and event recording for them as individuals.

Organisational and technical challenges experienced

Patients reported the following technical issues with the app and device:

- Difficulties synching the device to mobile phone
- Bluetooth failures
- Battery failures
- Support from the research team wasn't always consistent
- The wearable device was too big for some children and young adults

Discussion & Conclusions

We have demonstrated with this pilot study that it is feasible to use wearable accelerometer devices as a tool for measuring disease activity. Full analysis of the comprehensive data collected is under way and will be reported in the coming months.

Using technology outside of the hospital setting has a host of challenges both technically and logistically and an accessible and approachable research team is integral to such a projects success.

Identifying the appropriate patient group e.g. adults versus children or patients who have active disease but who have physical and intellectual capacity to engage fully with the technology may generate more outcome data.

As highlighted by the patients, providing real-time or periodic feedback directly to the patients entering data might be a way of making the approach of value to patients and not just clinicians and researchers. The original rationale for not providing such feedback was to relieve patients of the burden of visualising a decline in function where support to interpret the information wasn't available; however this could be negotiated with patients at time of recruitment and may be more reasonable in a disease such as nGD where the decline in function is typically very slow.

Simple technical issues are currently being addressed with the development of a more sophisticated device. Consideration of use of a clip-worn device to clothes may be more acceptable to some children who found the wrist band of the wearable too big or irritating.

Future analysis will aim to identify how well the wearable device data correlates with other measures of disease severity, e.g. 6MWT, GAITRite assessment and clinical evaluation by clinicians. Furthermore, the data reported by patients through the app regarding their experience of disease and quality of life will be evaluated in the context of their disease severity and activity with a view to identifying unmet needs for this patient population.

References

1. Wong, Kondi, Ellen Sidransky, Ajay Verma, Tonghui Mixon, Glenn D Sandberg, Laura K Wakefield, Alan Morrison, et al. "Neuropathology Provides Clues to the Pathophysiology of Gaucher Disease." *Molecular Genetics and Metabolism* 82, no. 3 (July 2004): 192–207.

2. Davies, Elin Haf, Eugen Mengel, Anna Tylki-Szymanska, G. Kleinotiene, Joerg Reinke, and Ashok Vellodi. "Four-Year Follow-up of Chronic Neuronopathic Gaucher Disease in Europeans Using a Modified Severity Scoring Tool." *Journal of Inherited Metabolic Disease* 34, no. 5 (October 2011): 1053–59.

Patient Reported Outcomes

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- **Seeking to identify relevant and meaningful clinical study endpoints**
  - Influencing/Shaping the Project
  - Identifying/Connecting the population
  - Contributing to the next steps
  - Receiving recognition

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Influencing/Shaping the Project

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Literature

- Patient information Guide
- Consent
- Impacts of the Disease

Methodology of collection

- Telephone
- Skype
- Face to Face

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Draft e-mail from UK Gaucher Association for GD 3 UK Interview project

Title: Help shape the future of treatment for Type III Gaucher's disease

Content:

We would like to ask for your help with a research study that the Gaucher Association is involved in supporting.

Many of you know or have heard about a pharmaceutical company called Genzyme, who made the first ERT for Gaucher disease and continues to support the development of future treatments for Gaucher's disease.

Genzyme is interested in learning which symptoms of Type III Gaucher's disease are the most common, and how these symptoms typically affect the lives of patients who live with the disease. This understanding may help improve how the patient's experience is accounted for in clinical trials that measure the effect of disease treatments. It also may help patients and their families by highlighting the consequences of the disease that most need attention, possibly leading to new programs and support services.

Our organization is partnering with Genzyme and a third party called Quintiles Advisory Services, a worldwide consulting firm, for this study. Quintiles' healthcare researchers plan to interview patients who have Type III disease and are looking for interested people to share what they've gone through living with the disease.

The interview would take about an hour and you will not need to do anything to prepare other than being ready to describe what your life has been like while living with this disease. At no point before, during, or after the interview will you be contacted to purchase anything or be asked to take any medication. You will be one of up to 20 patients and caregivers of patients in the UK, as well as others worldwide, participating in the study, each of whom will be kept anonymous.

As a thank you for your participation, we would like to offer you a fee for service of £60 as a gift card from Amazon.co.uk.

If you would like to participate in this project please Facebook, e-mail or call Helen on: 01453 549231 and she will help get you registered.

THANK YOU!

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Preliminary Conceptual Model for GD3

Based on targeted literature/document review and patient advocacy input

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A Conceptual Framework of Patient-Reported Outcomes for Gaucher Type 3

Alaa Hamed[1*], Luba Nalysnyk[1], Milki Tilimo[1], Robert Krupnick[2], Alex Gee[3]

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*Corresponding and presenting author: Alaa.Hamed@Genzyme.com

Contributing to the Next Steps

Gaucher disease type 3 (GD3) is a chronic, progressive, inherited genetic disorder characterized by central nervous system level impact and infiltrative lung disease. GD3 is very heterogeneous in presentation, with neurologic involvement ranging from mild to severe. In addition to visceral, hematological and skeletal manifestations common in GD1, patients with GD3 experience ataxia, strabismus, retinal infiltrates, horizontal saccadic abnormalities, seizures, and significantly shortened lifespan in some cases.

The purpose of this study is to gain an in-depth understanding of the most salient symptoms experienced by patients with GD3 and the effects on their lives. A conceptual model will be developed including the symptoms and impacts that are reported by patients.

A literature review and interviews with leading clinicians treating patients with GD3 in UK, Poland, and Japan were conducted to construct a preliminary conceptual model. Concept elicitation interviews to refine the model were conducted with nine patients in the UK in collaboration with the UK Gaucher Association.

On the basis of frequency of mention and a 0-10 rating scale to measure degree of life disturbance, the final model identifies the most salient GD3 symptoms as: pain (bone and nerve), fatigue, difficulty shifting gaze/tracking objects, and slowness processing new information. The most salient effects of the disease on patients' lives were identified as: less ability to work, limitations in social and family engagement, and psychological/emotional difficulties (anxiety, coping, self-consciousness, fear of uncertain future). The final conceptual model will be used to inform subsequent PRO instrument development for GD3.

This work was funded by Sanofi Genzyme

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Next Steps……..

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A Clinical Trial Phase II - III

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Managing relationships

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- They need patient involvement, make it very clear you are not there to simply tick a box but to make a valuable contribution
- Don't be intimidated, they don't know what patients and parents go through everyday, you do
- Always ask questions and ensure they provide the answers even if its after the event
- Accept the fact that you will not always agree, be honest and always be the patient's advocate they will respect you for that
- Despite everything, they will sometimes do what they want anyway, don't say I told you so, reiterate what you said and move on
- Always know what you want out of a meeting/project and be very clear at the beginning what this
- Maintain your Independence
- In an environment where there is competition, be sure not to get into a position where you are seen as favouring one company – Code of Ethics
- Your needs may not always be what Industry wants to achieve, always keep your focus, you may have to walk away

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Questions

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