



Professor Paul O' Brien: Elaros CEO

Sheffield

Business & Innovation Network

31st October 2017

Areas to be covered



- ◆ Company Profile
- ◆ Our Approach
- ◆ What we do
- ◆ Current positioning
- ◆ Case Study: Sleepy Fox

Company profile



- ◆ Digital health company created by clinicians
- ◆ Initial focus urology – a Digital Bladder Diary
- ◆ Established by 3 NHS organisations



Our approach

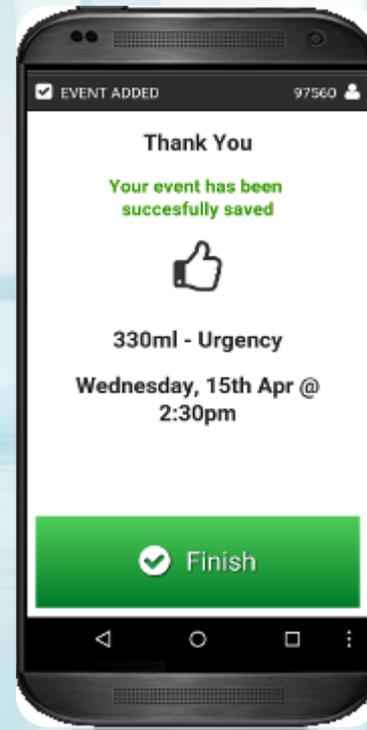
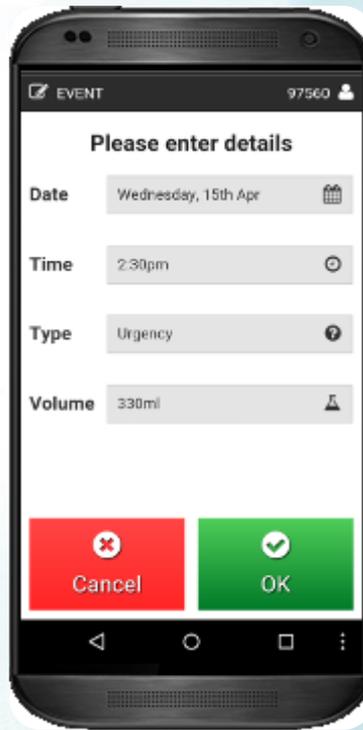
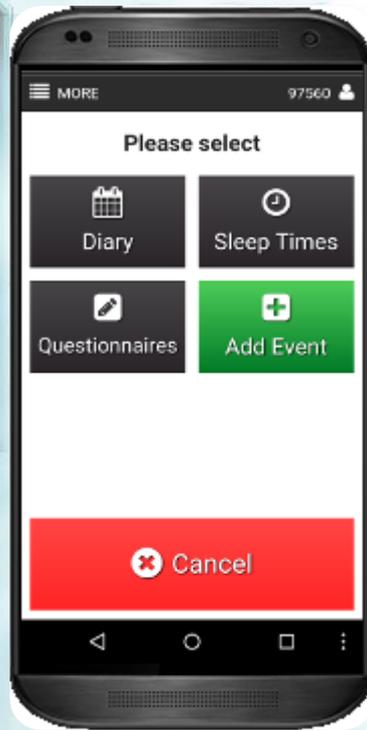
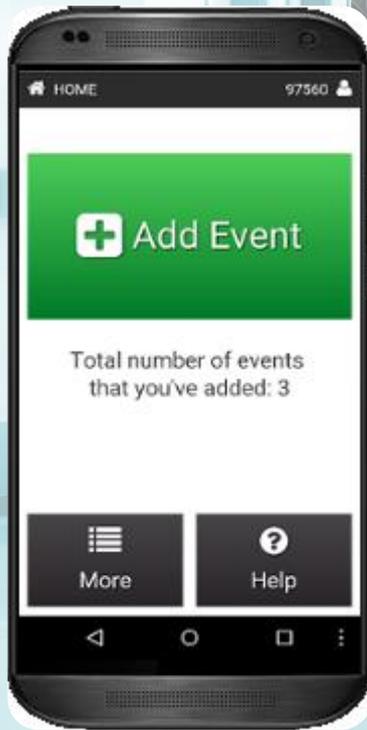


- ◆ Driven by unmet clinical need
- ◆ Co-designed and built with patients and clinicians
- ◆ Self-management tools, clinically underpinned
- ◆ Centred on powerful & validated algorithms
- ◆ Collaborate with clinicians & universities
- ◆ Look to bring NHS organisations on as shareholders



**So what do
we do?**

With digital



- Dashboard
- Patients**
- Add New Patient
- Back to Patient
- List Patients
- Devices
- Reporting
- Help
- Logout



BLADDER DIARY: RESULTS

Glossop Medical Centre

26 May 2015

Patient

NAME	AGE	GENDER	DATE OF BIRTH	NHS NUMBER
Harry Robinson	67	M	18/02/1948	123-334-4566

1 About the bladder diary

This report analyses the information collected by the patient using the electronic bladder diary and calculates the main LUTS diagnostic parameters.

2 Diagnostic parameters (24-hour averaged)

Total output (ml)



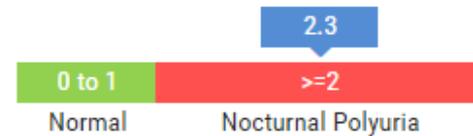
Output at sleep time



Total number of voids



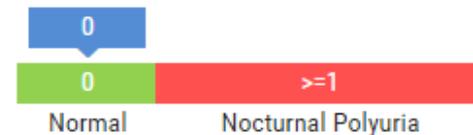
Void Frequency at sleep time



Urgency Events



Incontinence events



Current positioning



- ◆ **Digital Bladder Diary**
- ◆ **Children's Sleep System**
- ◆ **Hydration Management/Monitoring System**
- ◆ Digital Nutrition Diary
- ◆ Digital Bowel Diary
- ◆ Asthma Clinical Management System
- ◆ Children's Asthma Spacer

Sleepy Fox



Creating a new whole system
assessment & management approach

Areas to be covered

- ◆ The Challenge
- ◆ Achievements in Phase 1
- ◆ Plans for Phase 2
- ◆ The Team

The Challenge



40%

of children aged between 1 and 5 years develop some form of sleep problem



300%

increase of hospital attendances for children with sleep disorders in the last 10 years



8,459

Hospital admissions of children for investigations of sleep disorders in England in 2015-16



£1,000

Average cost of a sleep study carried out in a hospital



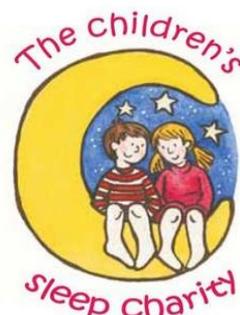
£7M

Annual savings in the NHS of the deployment of the Sleepy Fox system alone



£40,000

spent on melatonin for children each month in Sheffield



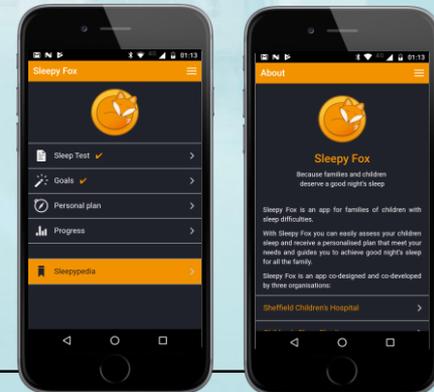
90%

of cases can be self-managed away from clinical practice (Children's Sleep Charity)



Achievements in Phase 1

Activity	Outcome
Extensive public engagement	<ul style="list-style-type: none">✓ 3 Focus Groups of families✓ 1 standing Multi-Professional focus group established✓ 141 questionnaires from teenagers completed✓ 137 questionnaires to define impact of sleep deprivation in children✓ Website launched✓ 2 abstracts accepted for British Sleep Society Conference✓ Elaros CEO invited to speak at SCOPE Sleep event in October✓ BBC to do a follow-on programme with the sleep partnership
Sleepy Fox prototype app developed	<ul style="list-style-type: none">✓ Defined and validated in focus groups✓ Clinical algorithm developed✓ Sleepy Fox name and logo trademarked✓ Technical file created✓ Functional prototype available



Achievements in Phase 1

Activity	Outcome
Enlarged team to deliver Phase 2 created	<ul style="list-style-type: none">✓ Phase 2 scoped✓ Work packages and budgets agreed✓ Partnering arrangements put in place✓ Governance arrangements put in place for Phase 2✓ New Project Director to be seconded into the Project
KidsSleepDr brought into SBRI project	<ul style="list-style-type: none">✓ Talking to Guy's and St Thomas' Hospital about how we might pull their system together with ours.✓ Collaboration Agreement established.



Plans for Phase 2

Who	What	Benefit
Families	Self-manage tool <u>PHASE 1</u>	<ul style="list-style-type: none">✓ Family empowerment✓ Personalised Sleep Plan, guidance and advice✓ Access to videos, sign-posting and professional help✓ No need to access the NHS.



Plans for Phase 2

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GPs in Primary care	Clinical decision support and triaging tool	<ul style="list-style-type: none">▪ Patient data 'converted' into NHS Data▪ Increased accurate diagnosis▪ Improved triage▪ Reduced inappropriate referrals

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Specialists in hospitals	Accurate remote data capturing, intelligent clinical web portal & algorithm and supported by sensors in child's home.	<ul style="list-style-type: none"> ▪ Refined patients lists ▪ Assessment in the home ▪ Less disruptive process ▪ Reduced errors in data capturing ▪ Stratified data for deep analysis ▪ Data analytics integrated ▪ Reduced cost to the NHS. SBRI health economist suggests <u>£7,000,000</u> per year in England alone.

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Clinical trial-global research community	Clinical decision support and triaging tool	<ul style="list-style-type: none"> ▪ New service to international medical device & pharma companies engaged in clinical trials ▪ Supporting rapid developments in global research ▪ Depository of a massive amount of 'big data'

The Team

CORE PARTNERS

Sheffield Children's 
NHS Foundation Trust

Guy's and St Thomas' 
NHS Foundation Trust

elaros



ADVISORY PANEL

University Hospital Southampton 
NHS Foundation Trust

GP from
Birley Health Centre


National Institute for
Health Research



The
University
Of
Sheffield.



COLLABORATORS

Sheffield Teaching Hospitals 
NHS Foundation Trust





Sheffield Children's **NHS**
NHS Foundation Trust

Guy's and St Thomas' **NHS**
NHS Foundation Trust



Thank You



and sleep well!

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