

# Patients' Experiences of Using a Smartphone App for Remote Monitoring of Rheumatoid Arthritis, Integrated into the Electronic Medical Record, and its Impact on Consultations



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~ on behalf of the REMORA team ~

Presenter disclosure information:  
This speaker has no conflicts of interest

# REMORA: REmote MOnitoring in Rheumatoid Arthritis



*"How have you been in the last six months?"*

*"Oh... alright, I suppose."*

Treatment decisions are currently shaped by how a patient presents at the time of consultation

Patients have limited access to data that can help them understand their disease and inform self-management

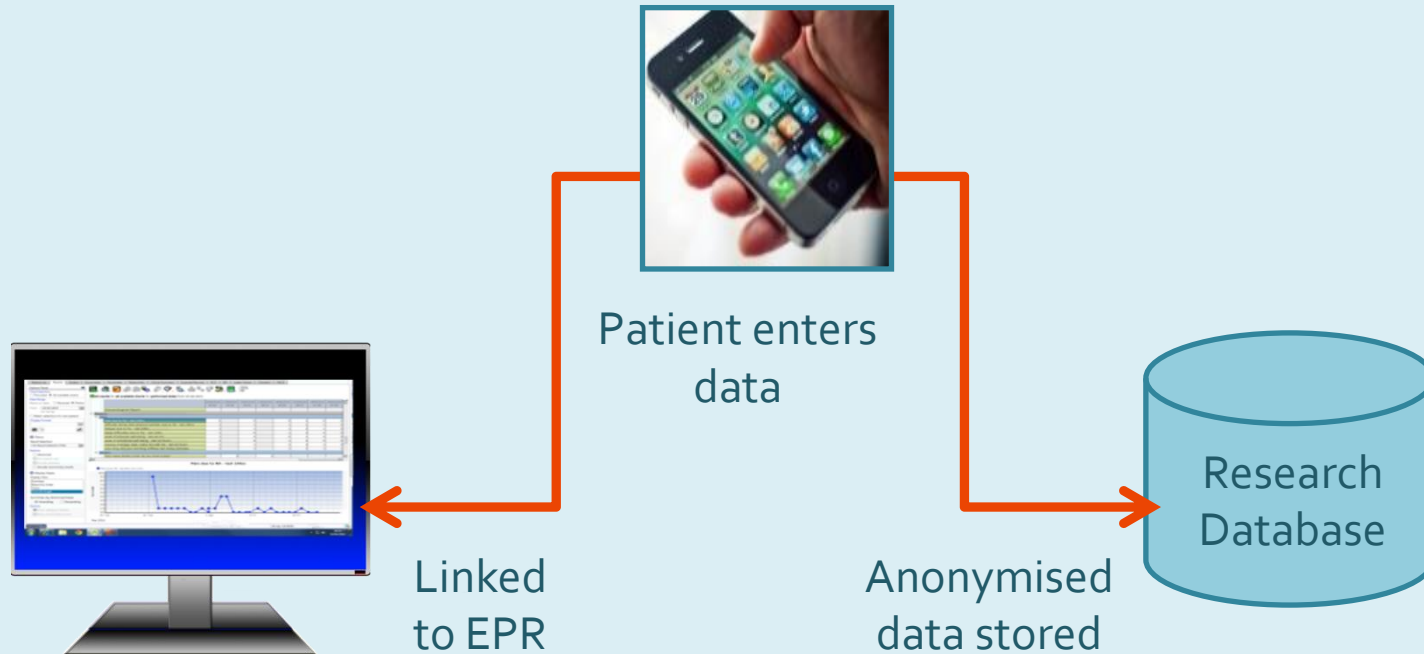
Data that provide a contemporaneous record of patient disease activity are not currently available for research

RESEARCH

# Aims of the study

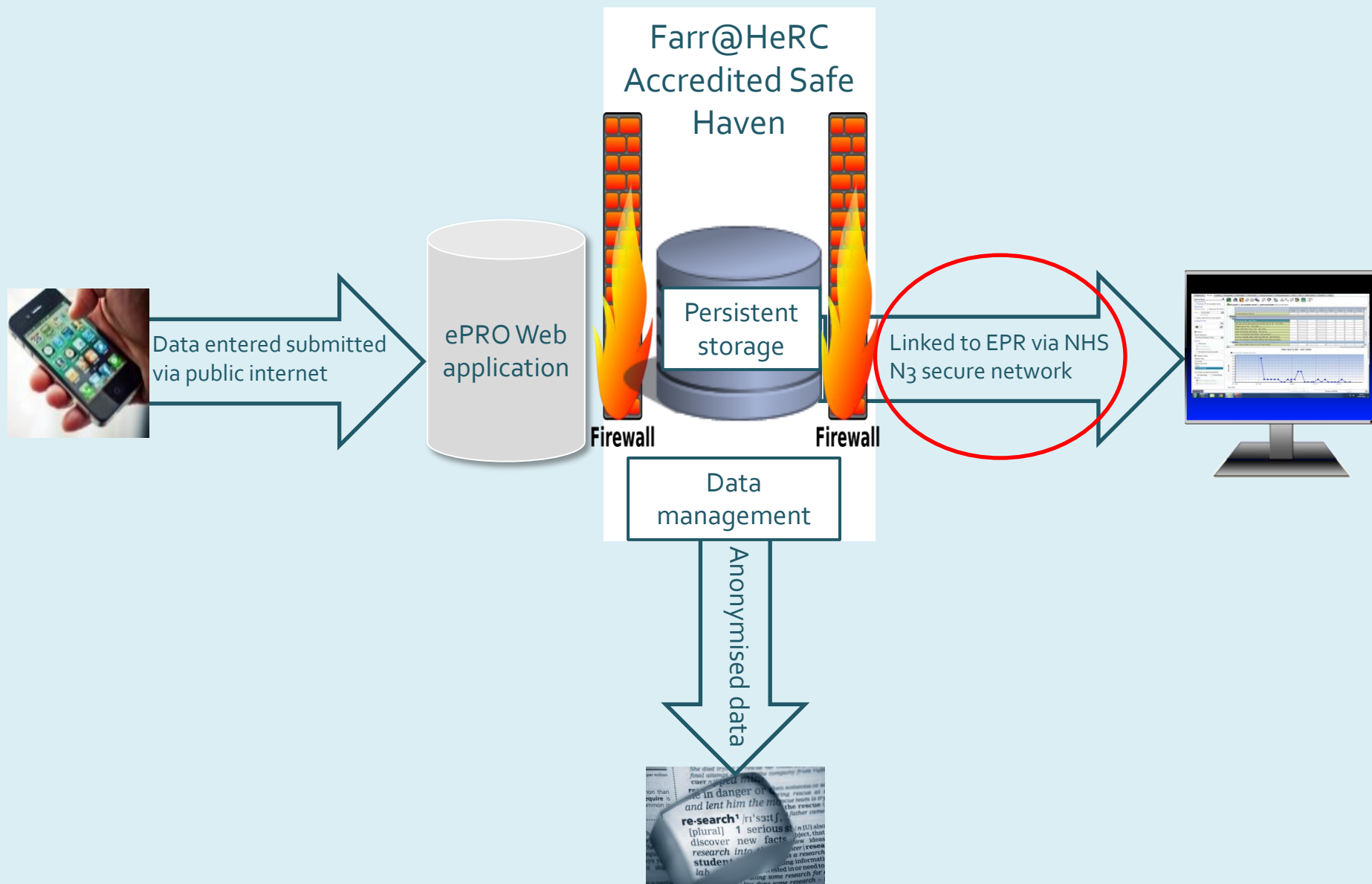


To develop and evaluate a smartphone app for people with rheumatoid arthritis to facilitate regular recording of their symptoms between clinic visits



Collect data once and use for multiple purposes

# REMORA: 'end to end' processes



# Overview of the study



## Stage 1

- Reaching agreement on the components of the app
- Developing the systems required to link the data entered to the Electronic Patient Record

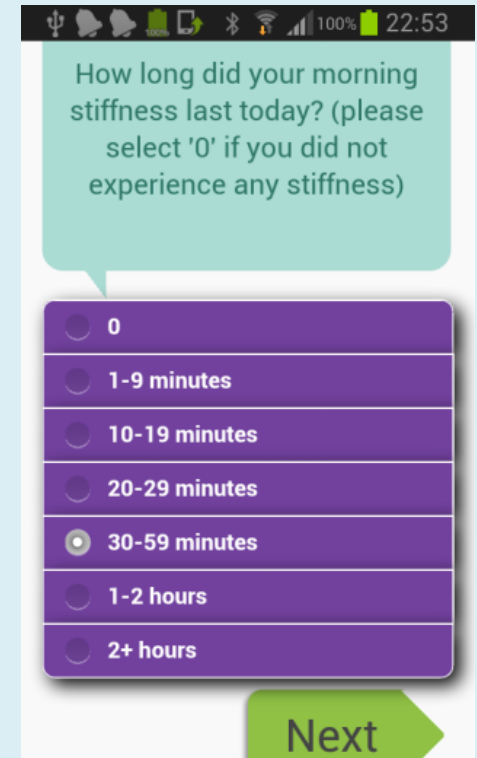
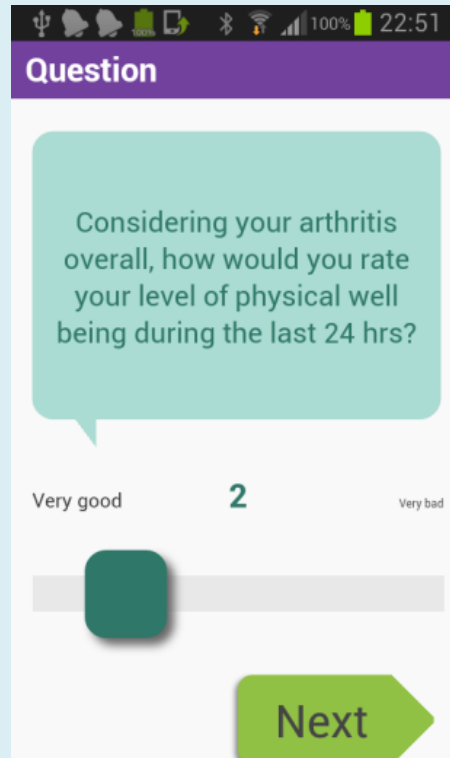
## Stage 2

- Testing the app for 1 month with 8 patients
- Checking system for 'end to end' processes
- 'Bug fixing' & refining the app in response to feedback

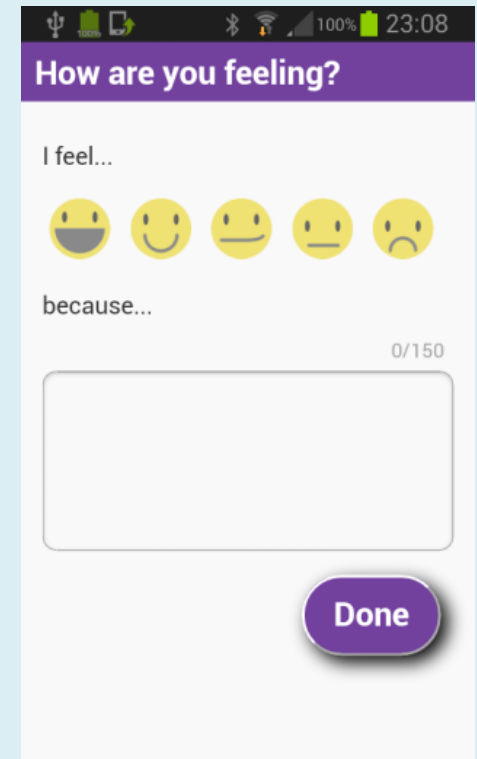
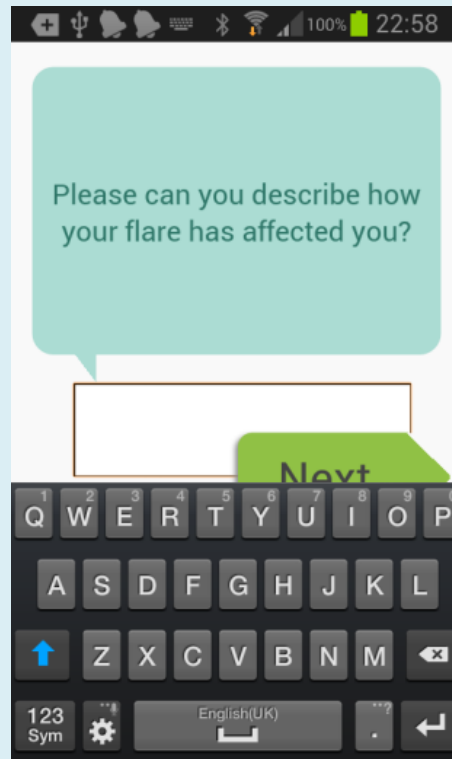
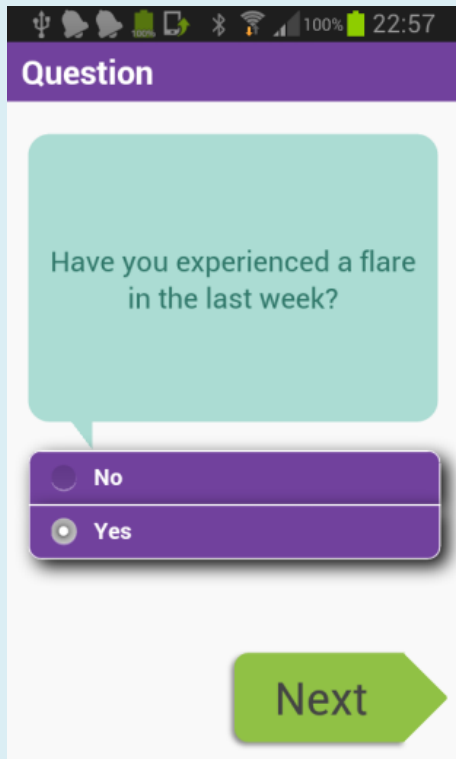
## Stage 3

- Evaluating the refined app for 3 months with 20 patients
- Summarising feedback from a range of stakeholders
- Producing an implementation toolkit for the app developed

# The REMORA app



# The REMORA app





# Integration into the Electronic Patient Record



This chart  All available charts  
 Date Range: Based on date:  Received  Performed  
 From: 18-04-2015 (One Year Ago)  
 Retain selections for next patient  
 Display Format: [Icons]  
 Filters: Result Selection: No Result Selection Filter  
 Options:  Abnormal,  Annotated only,  Include pending,  Include community results  
 Display Styles: Display View: Summary, Report by Order, Trend, **Trend & Graph**  
 Sort Order (by Performed Date):  Ascending  Descending  
 Options:  Show category headers,  Show community source

All results for all available charts for performed dates from 18-04-2015;

	12042016 20:42	12042016 20:43	13042016 19:13	13042016 19:14	14042016 18:54	15042016 18:21	16042016 21:28	18042016 07:40
Echocardiogram Report								
<b>Remora</b>								
<b>Daily</b>								
Pain due to RA - last 24hrs	0		0		0	1	0	0
Difficulty doing daily physical activities due to RA - last 24hrs	1		1		1	1	1	0
Fatigue due to RA - last 24hrs	1		1		1	2	1	0
Sleep difficulties due to RA - last 24hrs	1		0		1	2	0	0
Level of physical well being - last 24 hrs	1		0		0	1	0	0
Level of emotional well being - last 24 hours	1		0		1	2	0	0
Coping (manage, deal, make do) with RA - last 24 hours	1		1		2	2	1	0
How long did your morning stiffness last today (minutes)	1		1		1	1	1	1
<b>Weekly</b>								
How many tender joints do you have today?		0		0				

**Pain due to RA - last 24hrs**

Date	Value
15 Mar 2016	0
22 Mar 2016	9
23 Mar 2016	1
24 Mar 2016	1
25 Mar 2016	1
26 Mar 2016	1
27 Mar 2016	1
28 Mar 2016	0
29 Mar 2016	0
30 Mar 2016	1
31 Mar 2016	1
1 Apr 2016	1
2 Apr 2016	4
3 Apr 2016	4
4 Apr 2016	0
5 Apr 2016	0
6 Apr 2016	0
7 Apr 2016	1
8 Apr 2016	0
9 Apr 2016	1
10 Apr 2016	0
11 Apr 2016	0
12 Apr 2016	0
13 Apr 2016	0
14 Apr 2016	1
15 Apr 2016	0

18-Apr-16 09:59

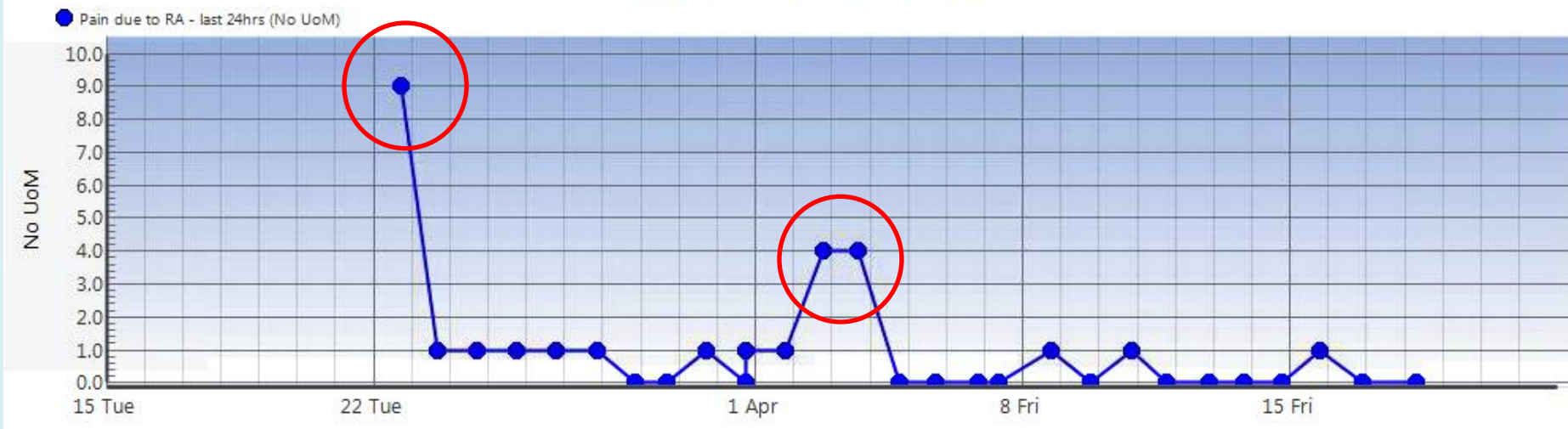


# Post app use consultation



*"No problems since steroid injection 23 March"*

Pain due to RA - last 24hrs

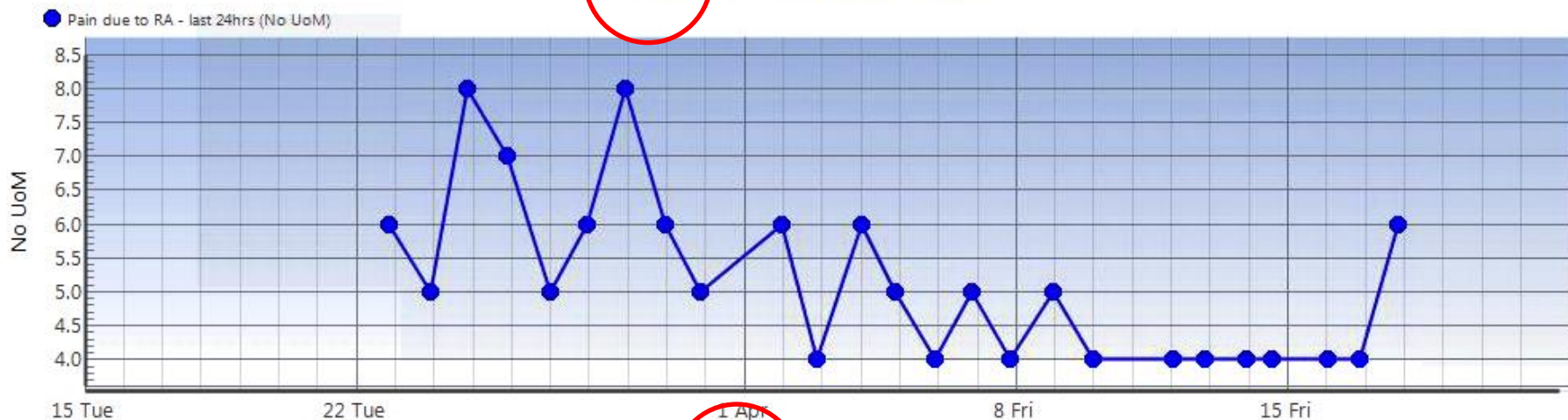


# Post app use consultation



*"No improvement in last month since restarting Tocilizumab"*

**Pain due to RA - last 24hrs**



**Difficulty doing daily physical activites due to RA - last 24hrs**



## Stage 2: Early feedback on using the app



*More personal to you*

*With a graph...you can see what's going on*

*A graph of acknowledgment*

*You've got solid proof straightaway*

*It reassured me*

*It's a shared conversation*

*A great idea*

*A doddle*



# Rheumatology clinic - the future



"Let's see how you've been over the last 6 months"



# Acknowledgements



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