



# **"A data and transparency revolution"**

## **Ieso Digital Health**

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# Mental Health: Magnitude of the Problem



**1 in 4 adults**

experience at least one  
diagnosable mental health  
problem in any one year



**~80%**  
of these  
conditions go  
undiagnosed and  
untreated

**£100Bn+**

The economic impact of  
mental illness is estimated at  
**more than £100bn**  
in the UK alone

*Sources: The Office for National Statistics; World Health Organisation; National Survey on Drug Use and Health (NSDUH).*

**Cognitive  
Behavioural  
Therapy (CBT) is  
the most effective  
treatment**

**But...**

- **Stigma and Embarrassment prevent people from seeking help**
- **Access to qualified therapists is limited**
- **Quality is variable**



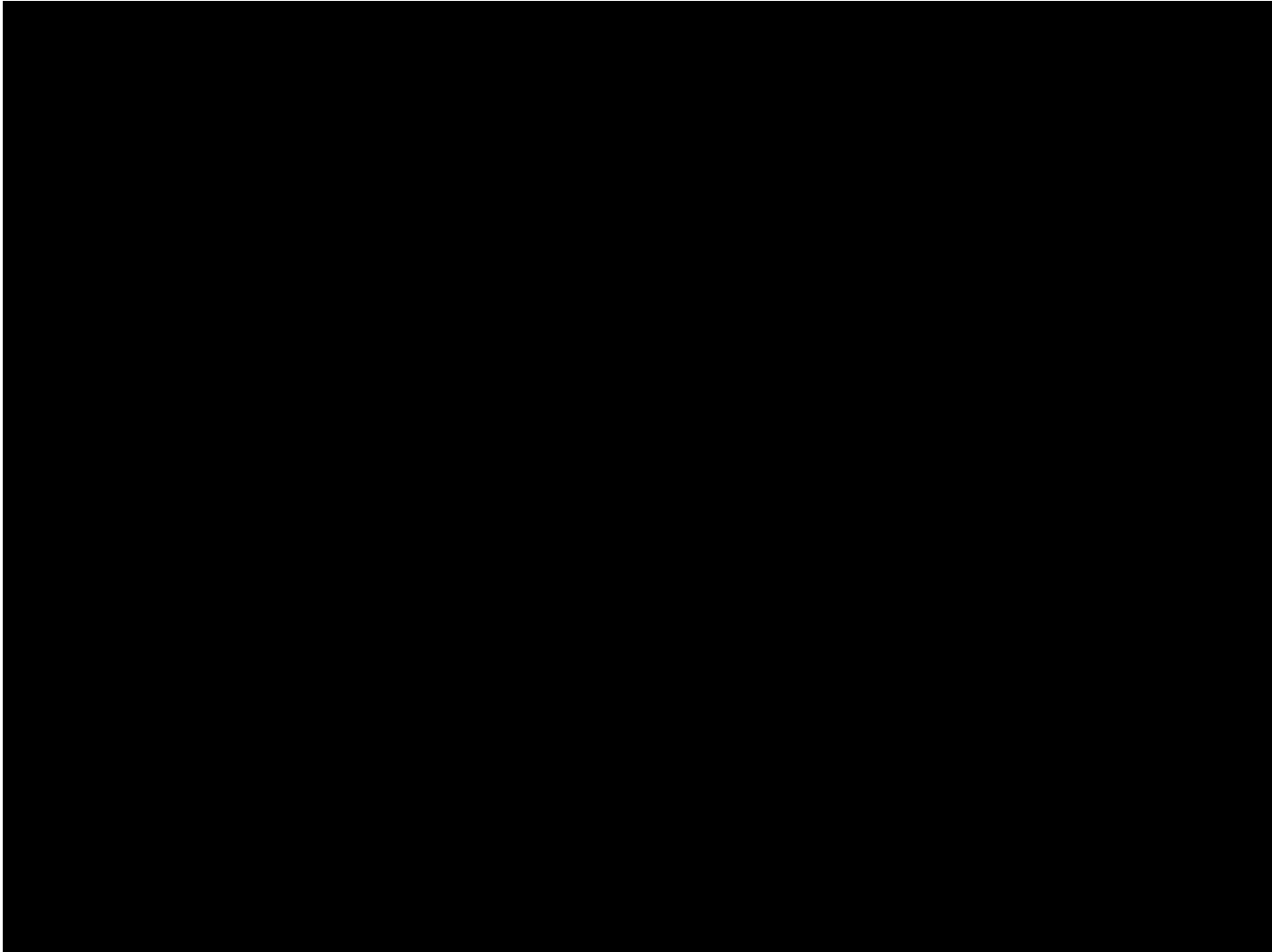
# Ieso Digital Health: Online CBT

Therapy at  
your fingertips

Find out about online therapy



**As seen on the BBC Breakfast**



# Online CBT: Written conversation

Talking Therapy in Surrey



Daniel Fitzgerald

DASHBOARD GOALS APPOINTMENTS THERAPIST QUESTIONNAIRES

Participants

Felicity Wandsworth

ONLINE

DOWNLOAD TRANSCRIPT

Appointment started at 14:56 and finished at 15:32 on 26 January

## Appointment

Thursday 26 January (07:00 - 08:00 Coordinated Universal Time)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec sed suscipit nunc. Sed lorem dolor, ultrices eu risus in, pretium vestibulum ligula. Nullam nibh ipsum, ultrices at nunc id, pretium tristique est. Suspendisse porttitor nulla ut sem euismod pharetra.

07:01

FELICITY WANDSWORTHY  
Summo eirmod mea te, pri suscipit petentium interpretaris ei.

07:01

Curabitur non odio ut lectus porttitor eleifend. Nulla at mollis nisl. Sed et dolor non leo imperdiet porttitor at vel iacus. Praesent non tempus velit, quis mollis mi. Phasellus at feugiat lorem, ut consectetur turpis.

07:03

FELICITY WANDSWORTHY  
Summo eirmod mea te, pri suscipit petentium interpretaris ei.

07:01

Type your response here

SEND

☒ Submit when enter key pressed

[Formatting help](#)

[Preview](#)

- Live Therapy Sessions with a full qualified and accredited CBT therapist
- Taking place in this virtual therapy room
- Messages with therapist between sessions (response within 48 hours)
- Access to all transcripts, homework tasks, goals and site during and after therapy is complete

Send a message to Lynn Choules

Compose new message

FROM Renata Kovacs

TO Lynn Choules

Hi Lynn. Would we be able to schedule our next appointment for next Wednesday? Thank you.

SEND

Attach a file...

Maximum file size: 2MB

Use this facility to send non-urgent messages. Your therapist might take a day or two to respond.

DOWNLOAD TRANSCRIPT Started at 10:40  
and finished at 10:44 on 12 December



Confidential  
and secure

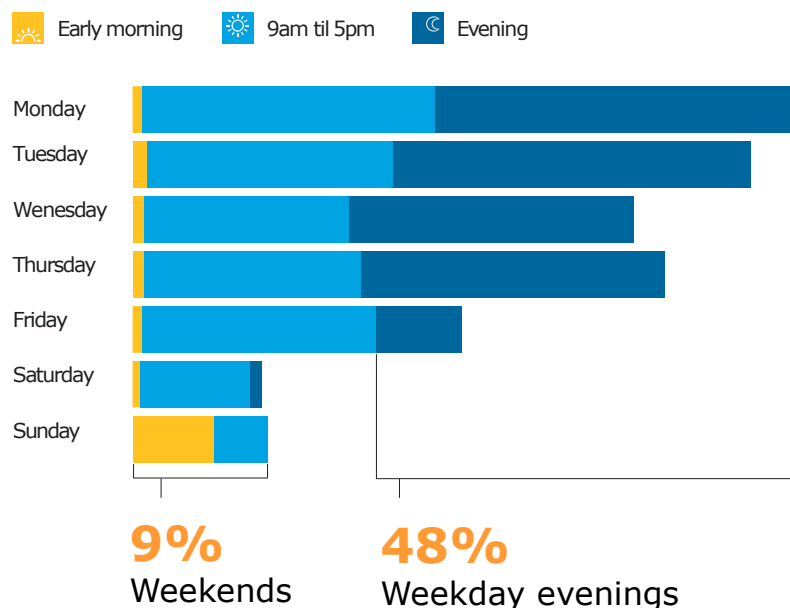


# Accessibility

## Ieso Puts Patient Experience First

**Focussing on patient experience –offering appointments at a time and location convenient to the patient.**

**Patients typically choose to access therapy out of office hours, especially during weekday evenings, to fit around work and other life commitments.**



“ Having therapy in my home environment helped me keep my business private. I felt I could open up and be honest. ”

“ I have a busy schedule so ‘appointments’ which involve driving anywhere add to my stress and become more of a problem than a help. It was great to be able to do this treatment online, whilst at home, a place where I feel more relaxed and in control. ”

# People who benefit



Embarrassed  
or stigmatised



Need unusual  
appointment times  
(inc evenings and  
weekends)



Unable  
to travel



Too  
busy or  
additional  
responsibilities



Remote  
location



Anxiety

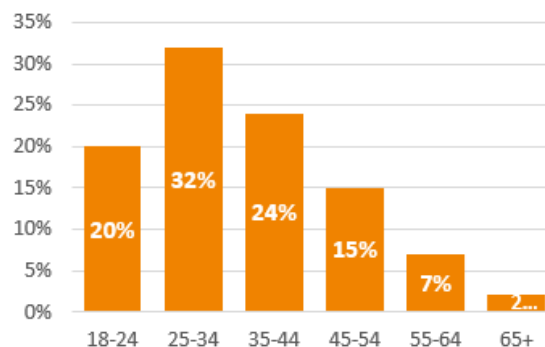


**28%**  
Male



**72%**  
Female

Age profile



**64%**

appointments  
conducted  
'out of hours'

## CBT is a gold standard, evidence-based, psychological intervention for common mental health conditions in the USA and UK

Kessler et al 2009 developed CBT protocols for internet delivery via written conversation

BUPA foundation funded controlled trial demonstrated **efficacy and cost effectiveness** of method in clinical depression. Kessler 2009; Hollinghurst 2010



2003

2007

2009

2013

2017

2018



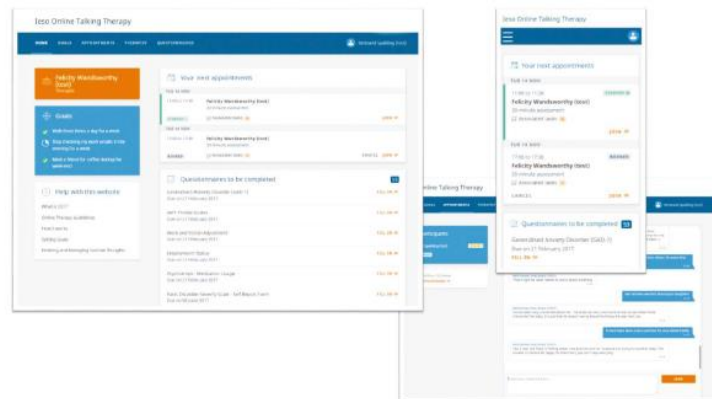
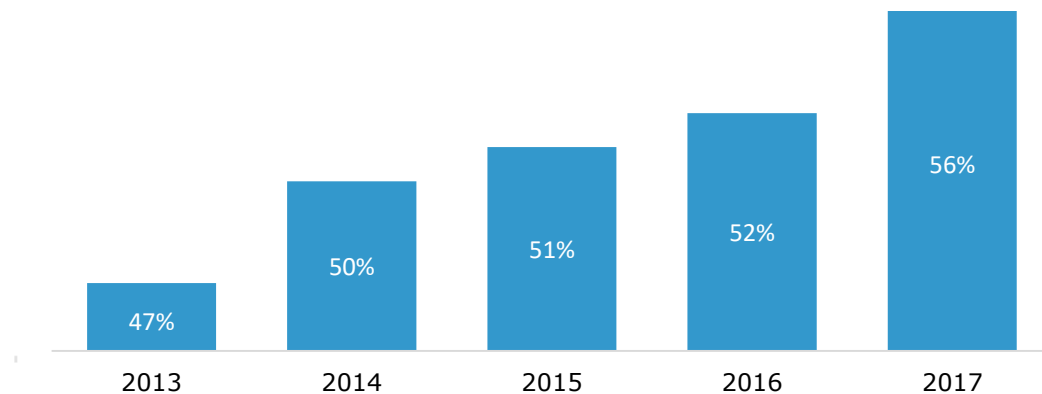


# Excellence in Clinical Outcomes

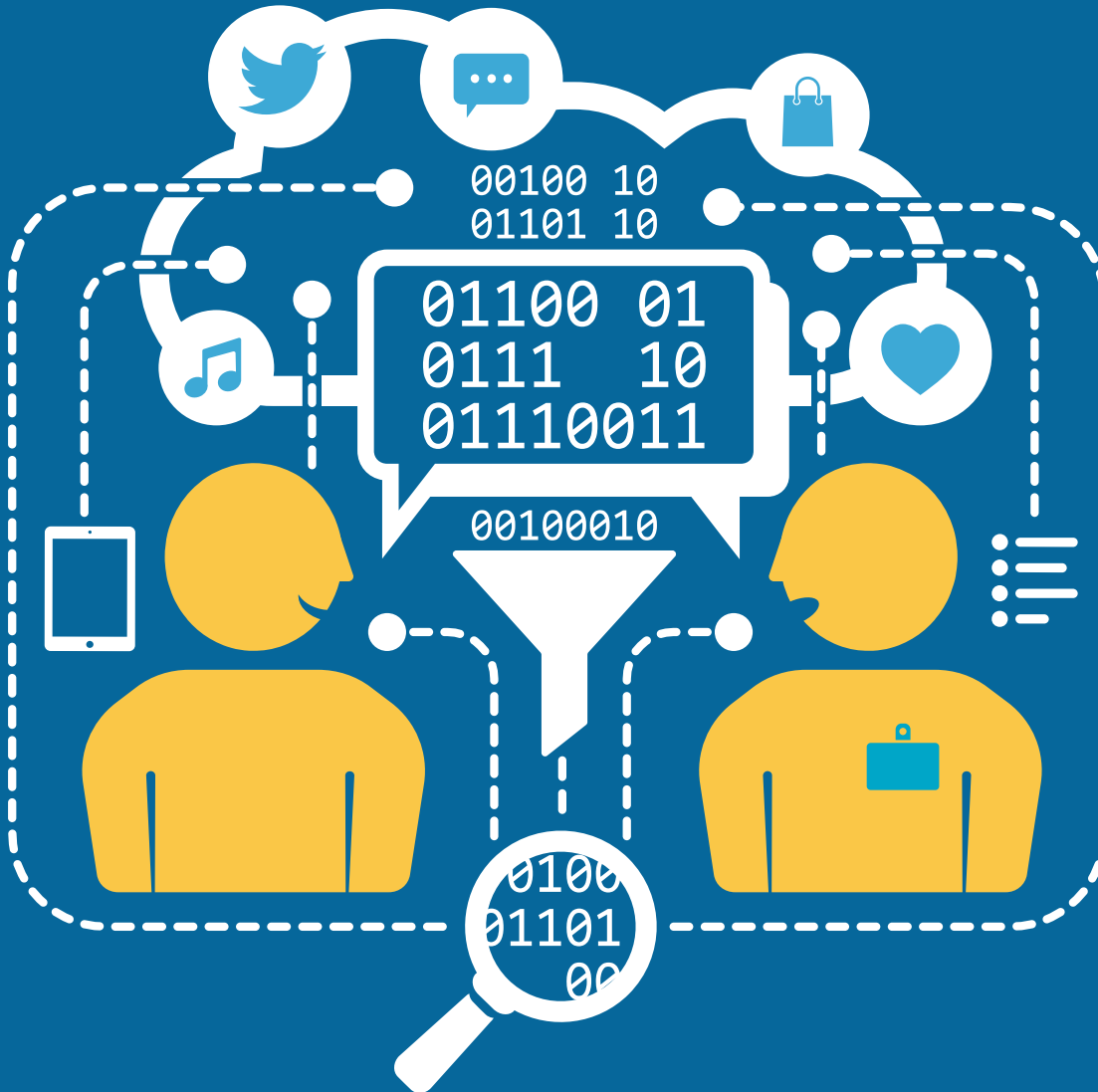
Since 2013 recovery rates have improved incrementally every 6 months

Ieso recovery statistics for UK AQP contracts in the periods displayed. All periods the data was collected for have a predominantly step 3 severity cohort of ~80%\* and case presented were a mix of IAPT suitable conditions

Percentage of cases recovered



# Transforming Mental Health Care



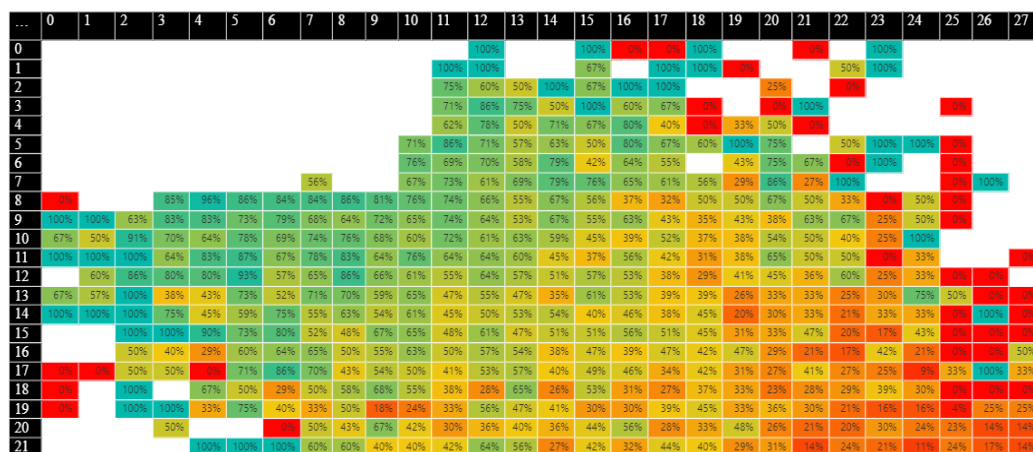
Personalised, clinically validated and quality controlled care augmented by computing for

- **Accessibility**
- **Affordability**
- **Accountability**

We measure outcomes and therapist behaviour. We share insights patients, therapists and providers, so that we all learn what works.

## Recovery rate

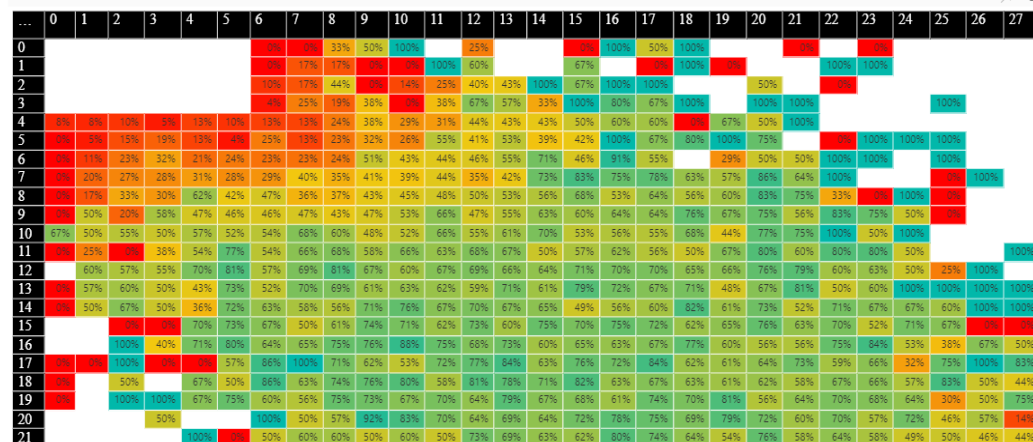
PHQ9 Start Score



## Recovery rates 2016

Condition	Ieso % (N = 3,752)	IAPT % (N = 718,611)	X <sup>2</sup> (p-value)
Depressive disorder	49.6	48.2	0.606 (.436)
Generalised anxiety disorder	59.4	58.0	0.258 (.611)
Mixed anxiety and depressive disorder	50.3	46.8	1.565 (.211)
Social phobias	46.5	44.5	0.227 (.634)
Panic disorder	57.4	54.8	0.258 (.612)
<b>Overall mean</b>	<b>52.1</b>	<b>49.4</b>	<b>7.571 (.006 **)</b>

## Improvement rate



## Sessions:

5.6

Ieso

6.8

IAPT

On average, a course of treatment is over a session shorter for Ieso patients compared to IAPT patients in general.

## Saving:



**£678**  
per patient

2003

2007

2009

2013

2017

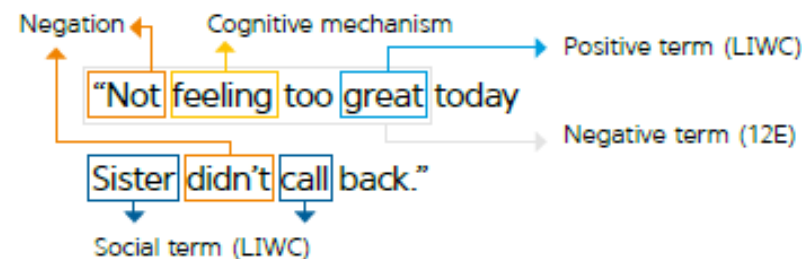
2018



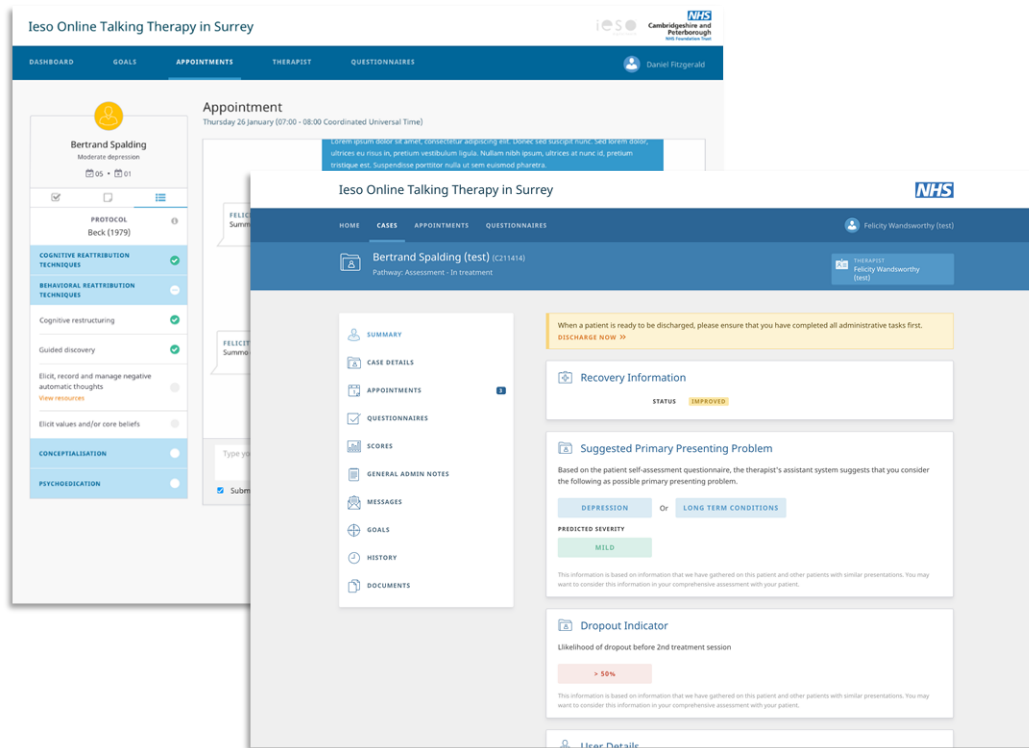
# Standing Research Platform

## Artificial Intelligence (AI) and Natural Language Processing (NLP) Enabling Continuous Quality Improvement at Scale

- Diagnostic triage
- Performance based therapist allocation
- Quality monitoring transcript analysis

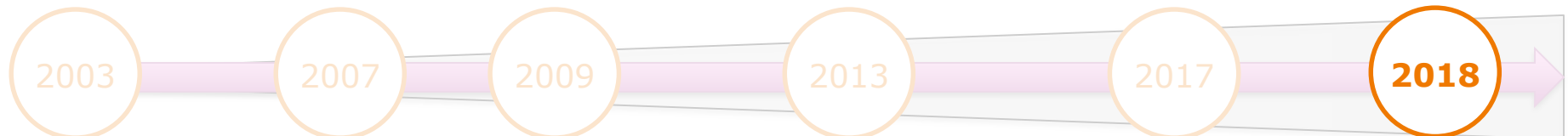
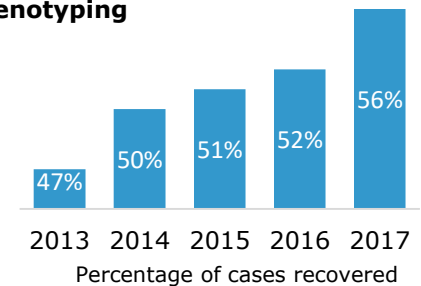


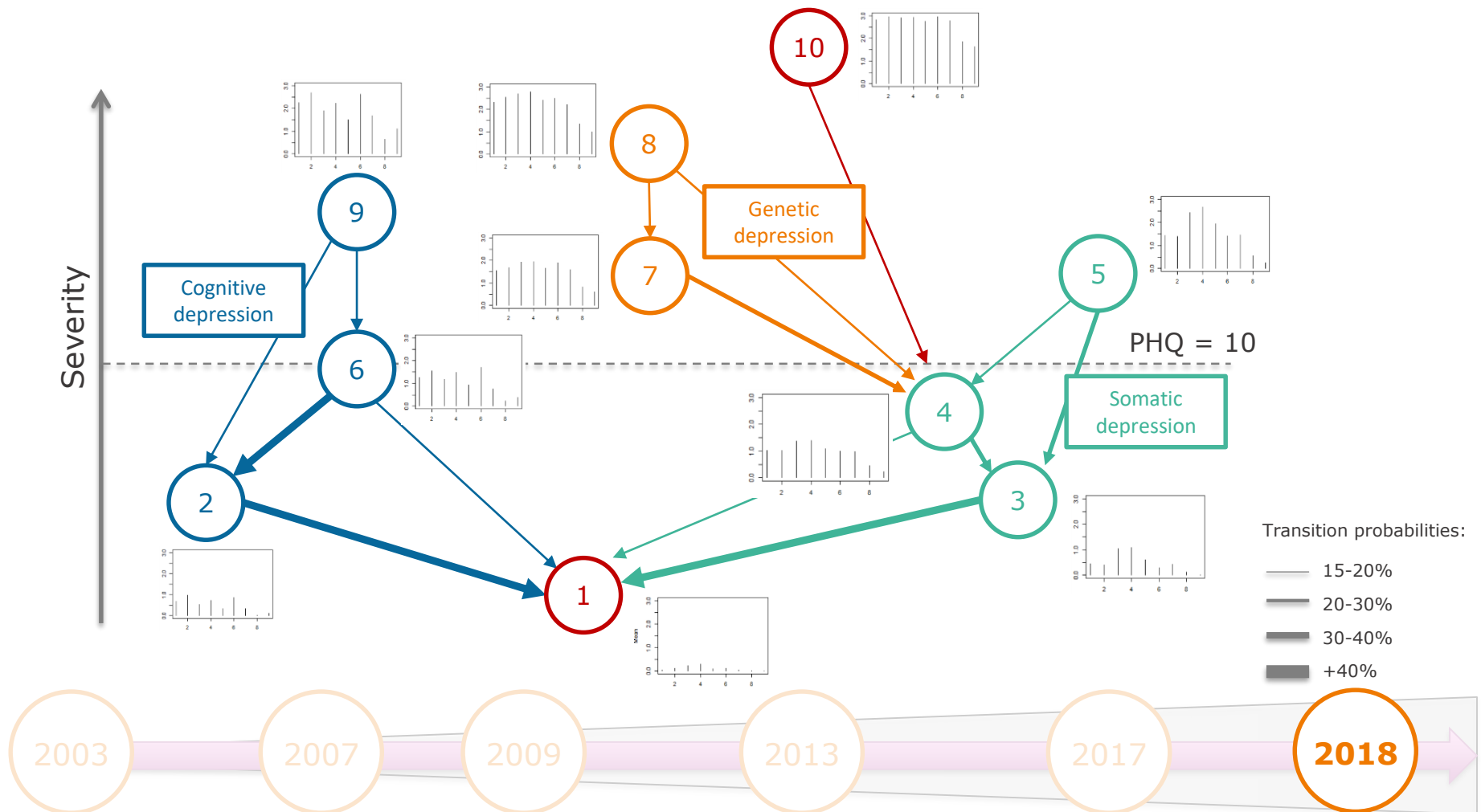
## AI driven clinical decision support



## Competitive differentiation through continuous improvement in clinical quality

- **Recovery near miss**  
11% of patients discharged from treatment just before they reach the threshold for clinical recovery
- **Increased session frequency for severe patients**  
Severe depression patients more likely to respond when given increased therapy dose
- **Add-on interventions for residual symptoms**  
90% of patients who nearly recover have residual sleep difficulties at discharge
- **Depression phenotyping**







Thank you

