

# Maximising Digital Opportunities in Adult Mental Health

Monday 28<sup>th</sup> January  
#digitalmentalhealth



@HINSouthLondon



healthinnovationnetwork.com



# Session 1

Maximising Digital Opportunities in  
Adult Mental Health

#digitalmentalhealth



@HINSouthLondon



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We connect academics, NHS commissioners and providers, local authorities, patients and patient groups, and industry.

We work to accelerate the spread and adoption of evidence-based innovations and best practice across South London and beyond.



Population  
**3.5+**  
Million



Healthcare  
Workforce of  
**60,000+**



**55**  
Member  
Organisations



of **15**  
AHSNs in  
England



**12**  
South London  
Boroughs



**2**  
STP  
Areas

# Digital Mental Health: Long Term Horizons

Dr James Woollard

Senior Clinical Fellow in Mental Health Technology

January 2019

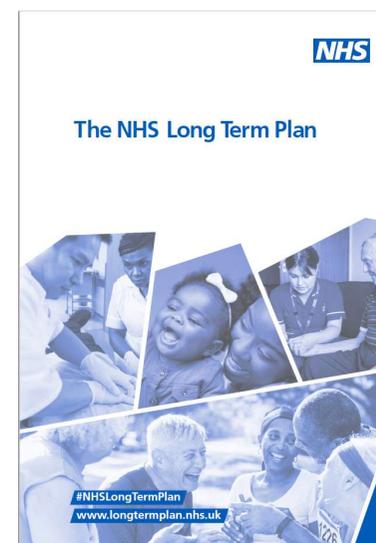


## Mental health in the Long Term Plan (LTP) – an overview

Our headline ambition is to deliver ‘world-class’ mental health care, when and where children, adults and older people need it.

The NHS Long Term Plan published on 7 January 2019 commits to grow investment in mental health services faster than the overall NHS budget. This creates **a new ringfenced local investment fund worth at least £2.3 billion a year by 2023/24**. Further, the NHS made **a new commitment that funding for children and young people’s mental health services will grow faster than both overall NHS funding and total mental health spending**. This will support, among other things:

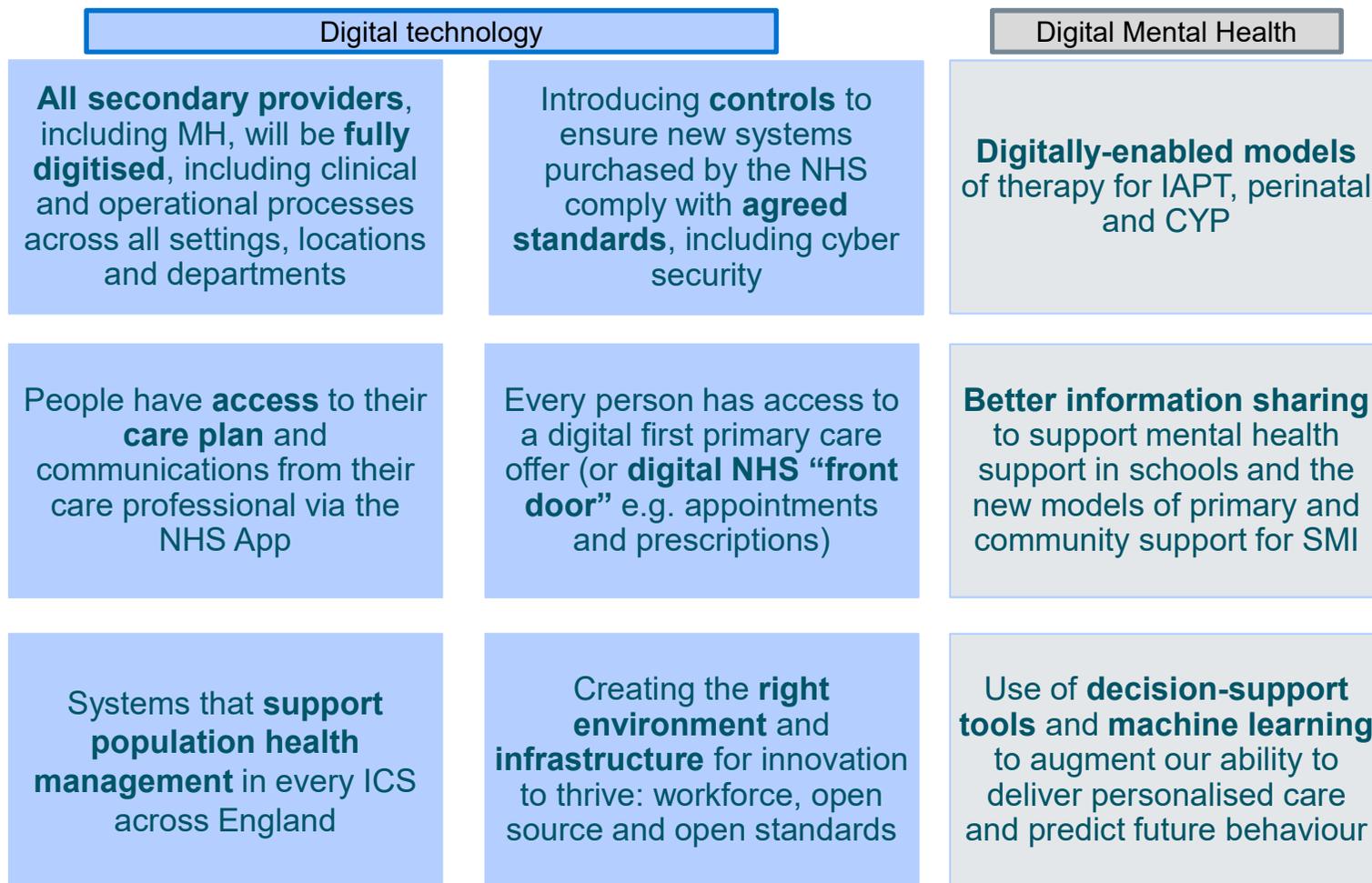
- Significantly **more children and young people from 0 to 25 years** old to access timely and appropriate mental health care. NHS-funded school and college-based Mental Health Support Teams will also be available in at least one fifth of the country by 2023.
- People with **moderate to severe mental illness** will access better quality care across primary and community teams, have **greater choice and control** over the care they receive, and be supported to lead fulfilling lives.
- We will **expand perinatal mental health care** for women who need specialist mental health care during and following pregnancy.
- The NHS will provide a single-point of access and timely, age-appropriate, **universal mental health crisis care** for everyone, accessible via NHS 111.



## Key mental health ambitions at a glance (by 2023/24)

<p>345,000 more <b>CYP</b> will access help via NHS funded <b>mental health services</b> and <b>school or college-based Mental Health Support Teams</b></p>	<p>Provide better <b>community mental health support</b> to 370,000 people with <b>SMI</b> via new and integrated models of primary and community care</p>	<p>24,000 additional women will <b>access specialist perinatal mental health services</b>. The period of care will be extended from 12 months to 24 months post-birth</p>
<p>Anyone experiencing <b>mental health crisis</b> will be able to call <b>NHS 111</b> and have <b>24/7 access</b> to the mental health support they need</p>	<p>380,000 more people will access <b>NICE-approved IAPT</b> services each year</p>	<p><b>Reduced length of stay</b> in units with a long length of stay to the national average of 32 days</p>
<p>Ensure that the parts of England most affected by rough sleeping will have better access to <b>specialist homelessness NHS mental health support</b></p>	<p>Expand geographical coverage of <b>NHS services</b> for people with <b>serious gambling problems</b></p>	<p>Expand the existing <b>suicide reduction programme</b> to all STPs in the country</p>

## Key digital ambitions at a glance (by 2023/24)



## 5 roles of technology

- Education of the public and dissemination of information
- Screening and Diagnosis
- Use in treatment and care
- Effective training and supervision
- Health system level intelligence

From The Lancet Commission on global mental health and sustainable development, The Lancet, 2018

[www.england.nhs.uk](http://www.england.nhs.uk)



# Core Digital Capabilities

**Interoperated  
Electronic Health Record**



**Personal Health Record**



**Electronic prescribing and medicines  
administration**



**Digital tools (apps, therapies and  
enablers)**



**Decision support tools, combined  
with AI and advance analytics**

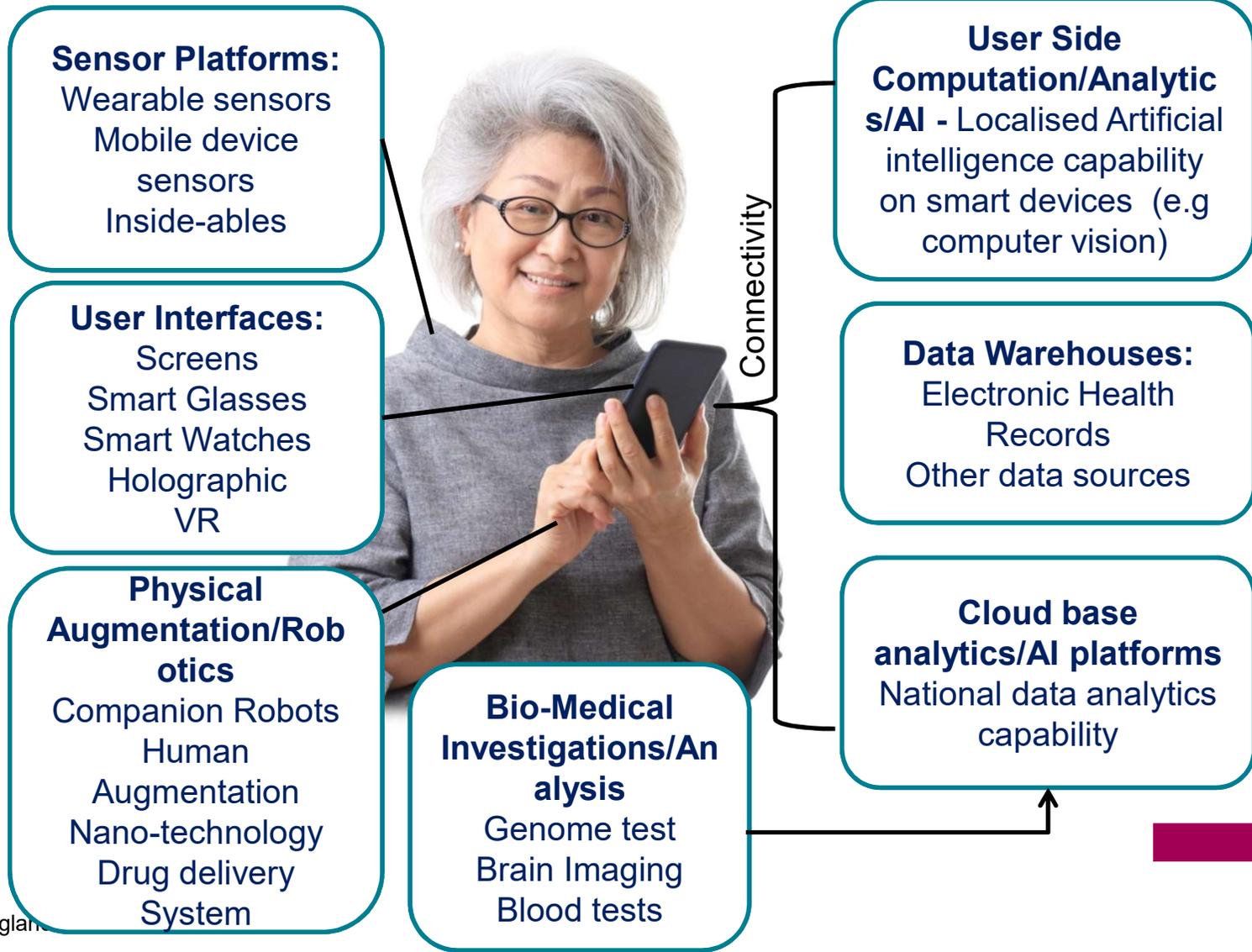


**Remote and mobile working**



# Quantified Patients, Quantified Clinicians





# Personalise journey

Awareness of a problem prompted by an App, a friend, a link on chat forum

Initial connection with help, self-triage through digital tools

Online Self-referral to NHS IAPT service

Tailored, Digital Enabled Therapy

Self-Help through digital tools supporting recovery/wellbeing

**References:**

[London Digital](#)

[Wellbeing Platform](#)

[NHS.UK apps](#)

[NICE IAPT Pilot](#)



# Towards Blended, Assistive Realities



# Digital horizons in mental health



Technology is only as good as the sustainable behaviour change it supports...



Jameswoollard@nhs.net  
**@psycle\_doc**



King's

**Dr Jack Barker,  
Chest and General Physician –  
King's College Hospital**

**Chief Clinical Information  
Officer  
King's College Hospital,  
The Local Care Record and  
Our Healthier South East  
London Sustainability and  
Transformation Partnership**

## What do you actually do Jack?

To improve the use of Health and Care information within King's and across South East London

Deployment and Development of an EPR across King's

- eNoting
- ePrescribing
- eVital Signs

Development of Shared Care Records

- Use of Coordinate my Care for shared care planning
- Integration of Health and Social Care Data
- Creation of a shared data repository for pro-active care and analytics
- Establishment of cross-organisational Personal Health Records

So what has this got to do with integration of physical and mental health?

## What might we want to do?

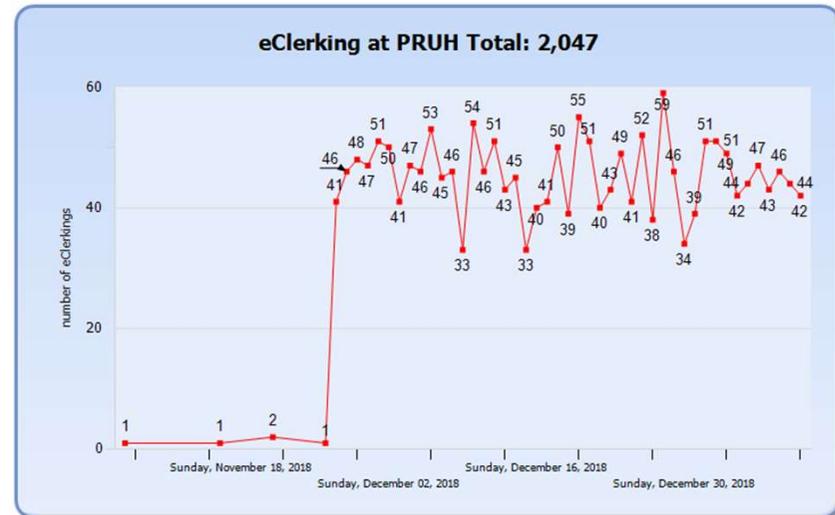
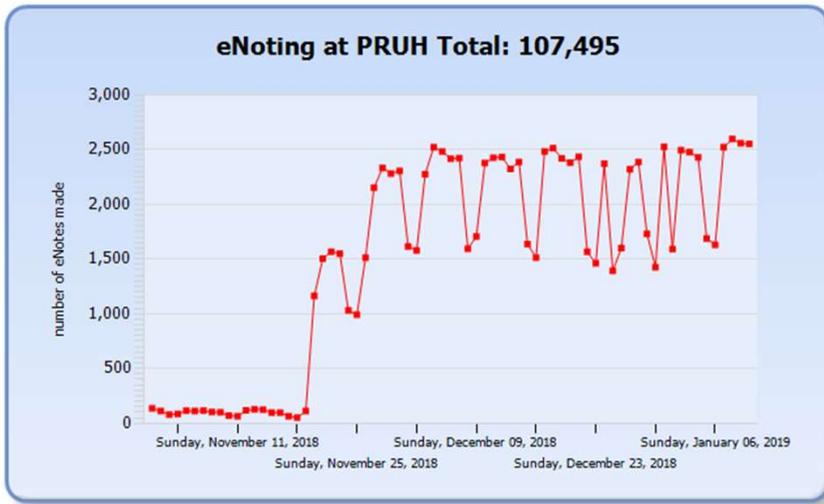
- **Identify patients with mental health issues**
- **Help them appropriately**
- **Allow Mental-Physical teams to interact appropriately**
- **Make sure that we are working to the highest standards**

# All KCH sites now have access to a "modern" Electronic Patient Record

The screenshot displays a web-based EPR interface for a patient named Hamid, Shahid. The patient's details include Medical Ward 9, Allergies: No Known Allergies, and Resus Status: For cardiopulmonary resuscitation. The interface shows a list of lab results for the date 11-Jun-2018.

Test Name	Value	Reference Range	Status
C-reactive Protein (CRP)	42	[0-5 mg/L]	Results Available (Final)
Biochemistry (Renal Profile)			Results Available (Final)
Sodium	137	[135-145 mmol/L]	
Potassium	4.2	[3.5-5.0 mmol/L]	
Urea	7.3	[3.3-6.7 mmol/L]	
Creatinine	130	[45-120 umol/L]	
Estimated GFR	45	[mL/min/1.73m <sup>2</sup> ]	
Biochemistry (Liver Profile)			Results Available (Final)
Total Protein	66	[60-80 g/L]	
Albumin	38	[35-50 g/L]	
Globulin	28	[25-35 g/L]	
Bilirubin (Total)	19	[3-20 umol/L]	
Alkaline Phosphatase	64	[30-130 U/L]	
Gamma-glutamyl Transferase (ALT)	35	[5-60 U/L]	
ALT	34	[5-55 IU/L]	
Full Blood Count			Results Available (Final)
WBC	9.4	[3.7-9.5 10 <sup>9</sup> /L]	
RBC	4.25	[4.32-5.66 10 <sup>12</sup> /L]	
Hb	133.0	[133-167 g/L]	
MCV	96.5	[82-98 fL]	
Haematocrit	41.0	[39-50 %]	
MCH	31.3	[27.3-32.6 pg]	
PLT	174	[140-400 10 <sup>9</sup> /L]	
Neutrophils	8.70	[1.7-6.1 10 <sup>9</sup> /L]	
Lymphocytes	0.30	[1-3.2 10 <sup>9</sup> /L]	
Monocytes	0.50	[0.0-0.8 10 <sup>9</sup> /L]	
Eosinophils	0.00	[0.0-0.5 10 <sup>9</sup> /L]	
Basophils	0.00	[0.0-0.1 10 <sup>9</sup> /L]	
Microbiology (Blood Culture)			Results Available (Interim)
Sample Type: Blood Culture			
Blood Culture			NO GROWTH (FINAL REPORT)- -AEROBIC BOTTLE NO GROWTH (FINAL REPORT)- -ANAEROBIC BOTTLE

# eNoting at the PRUH



# A structured admission clerking

Structured Notes Entry - Zzztest, Major - Admission Clerking

CREATE Preview Date of Service: 18 - Jan - 2019 Time: 10 : 20

Document Information

Sections

Document Information

Authored

Date  Now

18 - Jan - 2019

Time: 10:20

Authored By

Me  Other

Source:

Co - Signer(s)

Document Topic:

Admission details Reason for contact Social history **Assessment** Examination Medications Body Map Clinical Summary Senior Review

### Assessments

#### Pre-morbid Function (before this illness)

Mobility  Independent  Dependent

Mobility aids/assistance

Cooking  Independent  Dependent

Washing & dressing  Independent  Dependent

Shopping  Independent  Dependent

Feeding  Independent  Dependent

Continence  Full continence  Incontinence

Continence assistance/aids  Intermittent self-catheterisation  Long-term catheter

Cleaning  Independent  Dependent

Finances  Independent  Dependent

#### Falls Assessment

Number of falls in the past 12 months

Loss of consciousness  Yes  No

Has the cause of the falls been identified

#### Abbreviated Mental Test (AMT)

**AMT**

Place

Age

DoB

Year

Recognise 2 people

Present monarch

Time (nearest hour)

Countdown from 20

Date of WW2

Place (recall at then end)

**AMT Score**

**6**

If the score is < 8 consider dementia

Add Diagnoses?

Delirium

Dementia

Dementia (Alzheimer's)

Dementia (Vascular)

#### Nutritional Assessment

**Poor appetite**  Yes  No

**Unintentional weight loss**  Yes  No

If you're either class obese following the guidelines you also refer to the dietitian

# Leading to structured diagnosis capture

The screenshot displays a medical software interface with a toolbar at the top containing various icons for actions like 'Add New', 'Show/Modify', 'Discontinue', 'Delete', 'Inactivate outdated code', 'Quick Copy', 'Copy with Details', 'Add To Favorites', 'Manual Mapping', 'Preferred Mapping', 'Type Default Filter', 'Reset', 'Clear All Filters', 'Community Filters', 'Column Selection', 'Grid Options', and 'Acronym Expansion'. Below the toolbar, a dropdown menu shows 'Zzztest, Major Health Issues: Currently showing - Health Issue Types (Clinical Trial, Comorbidities, Consent, Diabetes, Diagnosis, KOPAU, Legal, ...'. The main area features a table with columns: Health Issue, ICD-9, Status, SNOMED CT, ICD-10, Type, Onset Date, Entered, Entered By, Scope, Coding Scheme, and POA. The table lists three diagnosis entries:

Health Issue	ICD-9	Status	SNOMED CT	ICD-10	Type	Onset Date	Entered	Entered By	Scope	Coding Scheme	POA
Acute delirium		Active	2776000		Diagnosis	18-Jan-2019	18-Jan-2019 10:21	Barker, R D Dr (Consultant)	General	SNOMEDCT	
Alzheimer's disease		Active	26929004		Diagnosis	18-Jan-2019	18-Jan-2019 10:21	Barker, R D Dr (Consultant)	General	SNOMEDCT	
Anxiety and depression		Active	231504006	F41.9	Diagnosis		18-Jan-2019 10:18	Barker, R D Dr (Consultant)	General	SNOMEDCT	

Below the table is a section titled 'Add New Health Issue' with a sidebar on the left listing categories: Clinical Trial, Comorbidities, Consent, Diabetes, Diagnosis (selected), Family History, High Cost Drugs, KOPAU, Legal, Oncology, Past Medical Hx, Past Surg Hx, Problems, Procedure, Respiratory, Rheumatology, Safeguarding, SS Surveillance, and Vaccinations. The 'Select a Type:' section includes 'Favorites' and 'Browse | Full Catalog Search'. The 'Select by Favorites:' list includes: Tuberculosis, Cancer, Cardio-Vascular, Fractures, Frailty, Gastroenterology, Gynaecology, Haematology, Infections, Mental Health, Metabolic, Neurology, Ophthalmic, Orthopaedic, Respiratory, Rheumatology, Endocrine, and Urology.

## Past Medical, Surgical, Mental Health History

Delirium  
Dementia (Alzheimer's)  
Hypertension  
Current Smoker  
Alcohol dependence

## The Vital 5

- Hypertension
- Obesity
- Anxiety
- Depression
- Current Smoker
- Alcohol dependence

Bringing prevention to the public: “Fifty percent of the disease burden in England is due to four modifiable health behaviours – poor diet, tobacco, excessive alcohol, and physical inactivity.” (ch.1, p.5)

Source: <https://www.gov.uk/government/publications/chief-medical-officer-annual-report-2018-better-health-within-reach> (December 2018)

# By the end of the clerking .....

Health Issue Manager | Add - Zzztest, Major

Zzztest, Major      ZSCM General Surgery Ward      Male      45y (02-Feb-1973)  
**Allergy - No Known Allergies;**

Zzztest, Major Health Issues: Currently showing - Health Issue Types (Clinical Trial, Comorbidities, Consent, Diabetes, Diagnosis, KOPAU, Legal, ...)

Health Issues | My Ranked | Family History | Past Medical | Past Surgical

Health Issue	ICD-9	Status	SNOMED CT	ICD-10	Type	Onset Date	Entered	Entered By	Scope	Coding Scheme
- Diagnosis (6)										
Hypertension		Active	38341003		Diagnosis		18-Jan-2019 10:26	Barker, R D Dr (Consultant)	General	SNOMEDCT
Current smoker		Active	77176002		Diagnosis		18-Jan-2019 10:26	Barker, R D Dr (Consultant)	General	SNOMEDCT
Alcohol dependence		Active	66590003		Diagnosis		18-Jan-2019 10:26	Barker, R D Dr (Consultant)	General	SNOMEDCT
Acute delirium		Active	2776000		Diagnosis	18-Jan-2019	18-Jan-2019 10:21	Barker, R D Dr (Consultant)	General	SNOMEDCT
Alzheimer's disease		Active	26929004		Diagnosis	18-Jan-2019	18-Jan-2019 10:21	Barker, R D Dr (Consultant)	General	SNOMEDCT
Anxiety and depression		Active	231504006	F41.9	Diagnosis		18-Jan-2019 10:18	Barker, R D Dr (Consultant)	General	SNOMEDCT

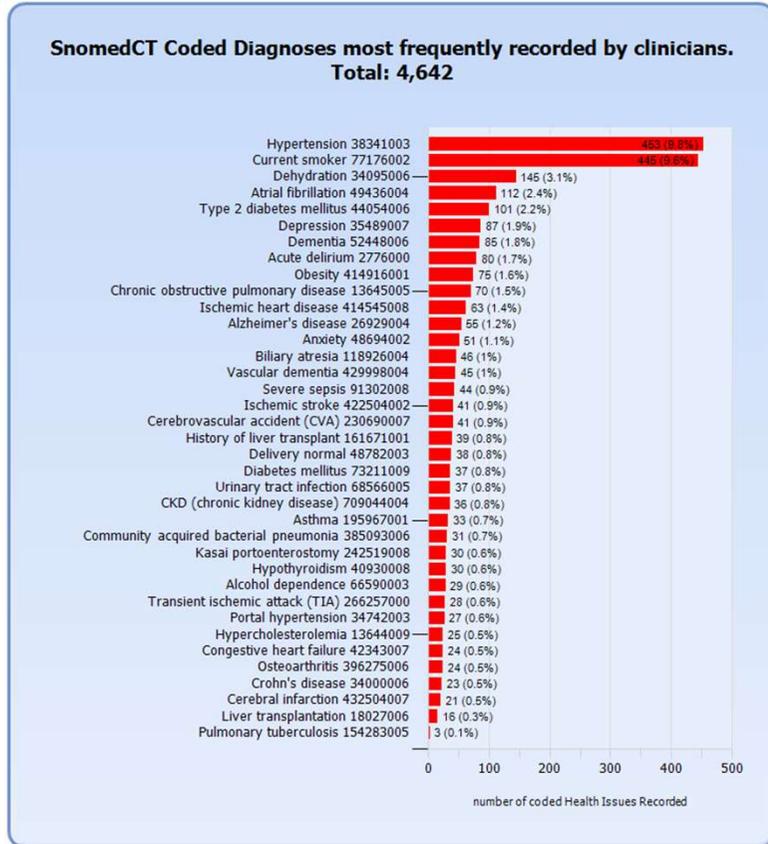
Add New Health Issue

Select a Type:

Clinical Trial

Comorbidity

# Structured and coded diagnosis – why bother and how can we get better at it?

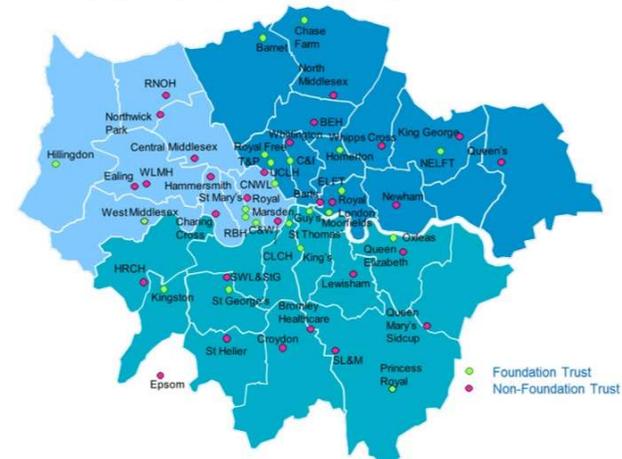


- Why bother?
  - Epidemiology
  - Care Pathways
  - Interoperability
  - Population Health
    - Care Planning
- How do we get better at capturing diagnoses?
  - Agreed work flows
  - Link to prescriptions
  - Link to results
  - Natural Language processing

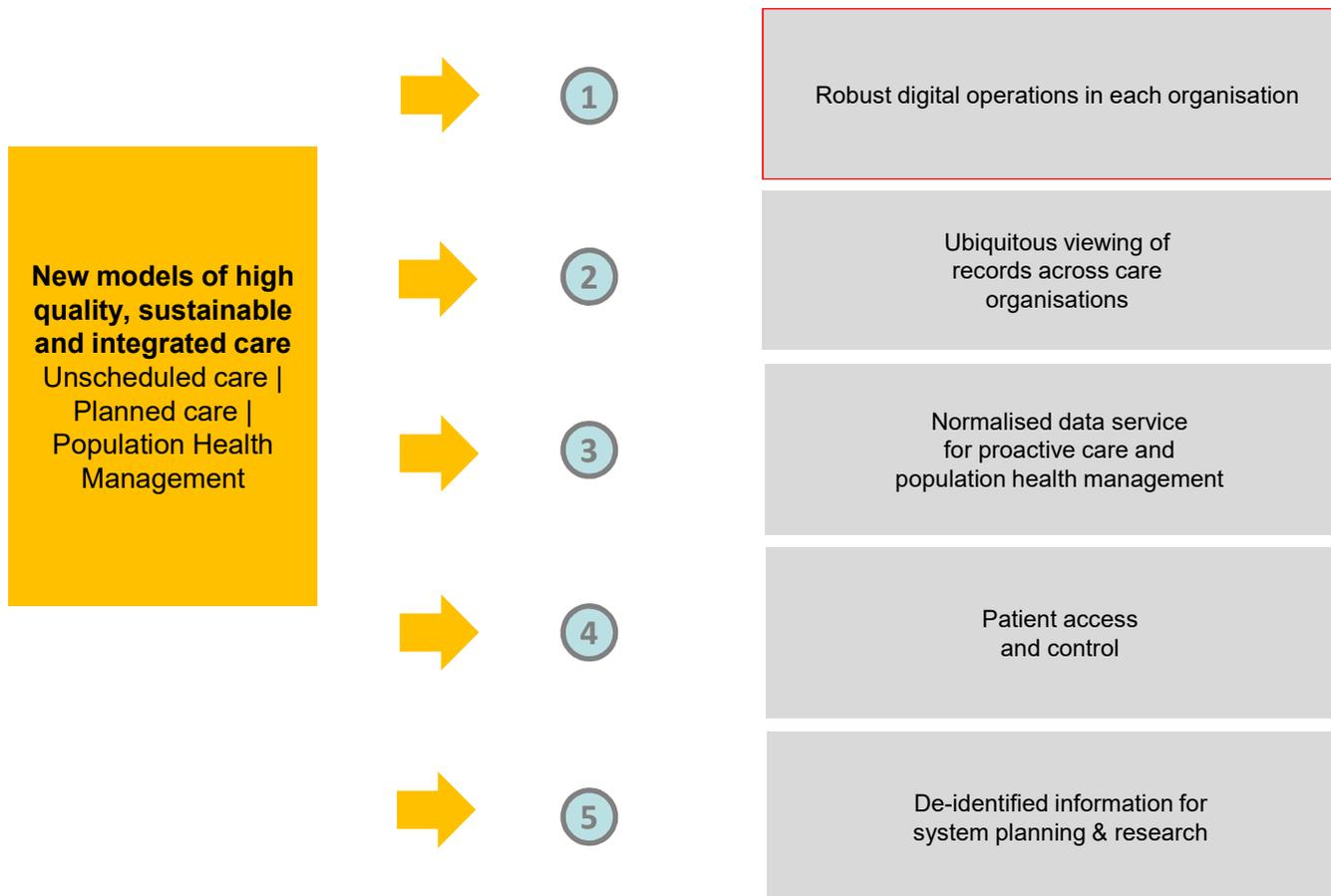
## Organisation of Health and Care in London and the formation of Sustainability and Transformation Partnerships

- **SE London**
- **(1.7 million)**
- **220 General Practices**
- **(2) acute providers** (providing largely hospital-based services)
- **(0.2) ambulance services**
- **(3) community providers** (providing services such as district nursing, health visiting)
- **(1) integrated providers** (for example organisations that provide both acute and community care)
- **(2) mental health providers**
- **6 Social Care Providers**

London has a highly complex health and care system



- **35 Trusts**, including all hospital, mental health and community providers
- **1 ambulance service**
- **19 acute hospital providers** (11 NHS Foundation Trusts, 8 NHS Trusts)
- **10 mental health trusts** (6 Foundation Trusts, 4 Trusts) providing mental health services
- **8600 GPs**
- **1600 Practices**
- **32 Local Authorities**



# The “Ubiquitous view” within an organisation

Chartwell Unit  
Allergies: **No Known Allergies**  
WT: 60.4 kg HT: 174 cm BMI: 20.0 BSA: 1.73 M2 ADM: 29-Apr-2018 DSC: NHS Number: 4661132106(Verified)

Hadley, Elizabeth  
Resus Status: **Not for cardiopulmonary resuscitation** Treatment Escalation Plan: **Level 1**

Patient List Orders Results Documents Flowsheets Patient Info Clinical Summary Lettermaker Clinical Notes

Options Panel  
Chart Selection  
 This chart  All available charts  
Date Range  
Based on date:  Received  Perform  
From: 09-Apr-2018  
One Month Ago  
 Retain selections for next patient  
Display Format  
 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

**Tracking new results. All results for all available charts for performed dates from 09-Apr-2018;**

Date	Test Name	Result	Reference Range	Notes
08-May-2018 12:14	C-reactive Protein	9	[0-5 mg/L]	Corrected Results
08-May-2018 12:25	Coagulation Screen	APTT Ratio: 0.9 INR: 1.1 Partial Thromboplastin Time: 27	[0.6-1.2 ratio] [0.9-1.2 ratio] [25.1-36.5 SEC]	Results Available (Final)
09-May-2018 05:39	Biochemistry (Renal Profile)	Sodium: 141 Potassium: 4.0 Urea: 8.3 Creatinine: 74 Estimated GFR: 88	[135-145 mmol/L] [3.5-5.0 mmol/L] [3.3-6.7 mmol/L] [45-120 µmol/L] [mL/min/1.73m <sup>2</sup> ]	Results Available (Final)
For black afro-caribbean ethnicity result needs to be further multiplied by 1.212				
09-May-2018 05:39	C-reactive Protein	7	[0-5 mg/L]	Results Available (Final)
09-May-2018 05:39	Full Blood Count	WBC: 8.6 RfC: 3.91 Hb: 126.0 Hct: 39.9 MCH: 32.2 PLT: 267	[3.7-9.5 10 <sup>9</sup> /L] [4.32-5.66 10 <sup>12</sup> /L] [133-167 g/L] [39-50 %] [27.3-32.6 pg] [140-400 10 <sup>9</sup> /L]	Results Available (Final)
	Neutrophils	6.90	[1.7-6.1 10 <sup>9</sup> /L]	
	Lymphocytes	0.50	[1.3-2 10 <sup>9</sup> /L]	
	Monocytes	1.10	[0.0-0.8 10 <sup>9</sup> /L]	
	Eosinophils	0.20	[0.0-0.5 10 <sup>9</sup> /L]	
	Basophils	0.00	[0.0-0.1 10 <sup>9</sup> /L]	
	Haematology Comment			Processed at PRUH. Lab No: HH514580G

## The “ubiquitous view” – between organisations

rdarker - Found 4 (6) Allergies

09/MAR/2018 TO...

TEST NAME

RESULT TYPE

- Laboratory
- Nuclear Medicine
- Radiology

KINGS COLLEGE HOSPITAL - PRUH (36)

Expand All Collapse All

09-May-2018 05:39 Full Blood Count

WBC	8.6	N	[3.7 - 9.5 10 <sup>9</sup> /L]	F	
RBC	3.91	L	[4.32 - 5.66 10 <sup>12</sup> /L]	F	
Hb.	126	L	[133 - 167 g/L]	F	
MCV	99.5	H	[82 - 98 fL]	F	
Haematocrit	38.9	L	[39 - 50 %]	F	
MCH	32.2	N	[27.3 - 32.6 pg]	F	
PLT	267	N	[140 - 400 10 <sup>9</sup> /L]	F	
Neutrophils	6.9	H	[1.7 - 6.1 10 <sup>9</sup> /L]	F	
Lymphocytes	0.5	LL	[1 - 3.2 10 <sup>9</sup> /L]	F	
Monocytes	1.1	HH	[0 - 0.8 x10 <sup>9</sup> /L]	F	
Eosinophils	0.2	N	[0 - 0.5 x10 <sup>9</sup> /L]	F	
Basophils	0	N	[0 - 0.1 10 <sup>9</sup> /L]	F	
Haematology Comment		N	Processed at PRUH, Lab N	F	

09-May-2018 05:39 Biochemistry (Renal Profile)

Sodium	141	N	[135 - 145 mmol/L]	F	
Potassium	4	N	[3.5 - 5 mmol/L]	F	
Urea	8.3	H	[3.3 - 6.7 mmol/L]	F	
Creatinine	74	N	[45 - 120 umol/L]	F	
Estimated GFR	68	N	[ mL_min/1.73m2 ] For black afro-caribbean ethnicity result needs to...	F	
Biochemistry Comment		N	Processed at PRUH, Lab N	F	

09-May-2018 05:39 C-reactive Protein

# Sharing vital documents across South-East London

King's College Hospital   
NHS Foundation Trust

Denmark Hill  
London  
SE5 9R  
Tel: 020 3299 9000

**MULTI DISCIPLINARY THORACIC ONCOLOGY TEAM**

Dr Richard Turner	Consultant Respiratory Physician	Tel: 020 3299 4292
Dr Georgia Hardavella	Consultant Respiratory Physician	Tel: 020 3299 4292
Dr Geoffrey Warwick	Consultant Respiratory Physician	Tel: 020 3299 4292
Dr Rohit Lal	Consultant Medical Oncologist	Tel: 020 3299 4849
Dr Shahreen Ahmad	Consultant Clinical Oncology	Tel: 020 3299 4849
Dr Polly Edmunds	Consultant in Palliative Care	Tel: 020 3299 4060
Mr Donald Whitaker	Consultant Surgeon	Tel: 020 3299 4265
Dr Sujal Desai	Consultant Radiologist	Tel: 020 3299 3526
Dr Nicola Mulholland	Consultant Radiologist	Tel: 020 3299 2040
Dr Davide Zardo	Consultant Histopathologist	Tel: 020 3299 6169

**Key Workers**

Mary Mambwere	Clinical Nurse Specialist	<a href="mailto:mary.mambwere@nhs.net">mary.mambwere@nhs.net</a>	Tel: 020 3299 1452
Sarah Kerr	Clinical Nurse Specialist	<a href="mailto:sarah.kerr@nhs.net">sarah.kerr@nhs.net</a>	Tel: 020 3299 4733

We welcome e-mail correspondence with general practitioners

RL/de  
Clinic Date: 04 December 2017  
Date Typed: 12 December 2017

Dr Georgia Hardavella  
Consultant in Respiratory Medicine  
Respiratory Medicine  
1st Floor, Cheyne Wing  
KCH

Dear Dr Hardavella,

Re: 1  
] Hosp No. V258782, NHS No: 4661132106

**Diagnosis: Extensive stage small cell lung cancer**

Many thanks for asking me to see this gentleman in clinic with his family. He is troubled by chest pain but is otherwise well with a good performance status. He has a metal mitral valve and is anticoagulated with Warfarin. He has some basilar insufficiency and no other previous medical history of note. He is a retired accountant with very good family support. His daughter works as a specialist nurse at King's. He is an ex-smoker. We talked in general terms regarding his diagnosis and its enduring nature. I have recommended he consider palliative chemotherapy with the potential for palliative consolidation thoracic radiotherapy and PCI in the future.

I will see him in my clinic at Guy's to discuss this further with him and keep you informed of his progress.

Yours sincerely,

*[Signature]*

## Letter from KCH EPR

### Inpatient Adult Discharge Letter

01/02/2018 11:23:58 : Inpatient Adult Discharge Letter : Earnshaw, Irina

PHARMACY DETAILS  
Approved by (Initials) pb  
Bleep / Ext 2734  
Date: Feb 1 2018  
Time: 12:33  
Medicines Reconciliation completed on admission.  
Medicines discussed with patient? Yes, with patient

INPATIENT DISCHARGE LETTER  
/

DRUG ALLERGIES AND ADVERSE REACTIONS  
None Known, Reaction: N/A

ANTICIPATED DISCHARGE DATE  
Feb 1 2018

PRESENTING COMPLAINTS  
Fever [pyrexia] [PUO]

PRINCIPAL DIAGNOSIS  
Malignant Neoplasm of Bronchus and Lung

#### CLINICAL SUMMARY

Dear Doctor, [redacted] is an 80 year old gentleman with small cell lung cancer who was admitted to us with pyrexia. He has had p unchanged. He has a rightsided pleural effusion, and had a chest drain inserted with samples sent for culture. He was drained to dryness a for your continuing care.

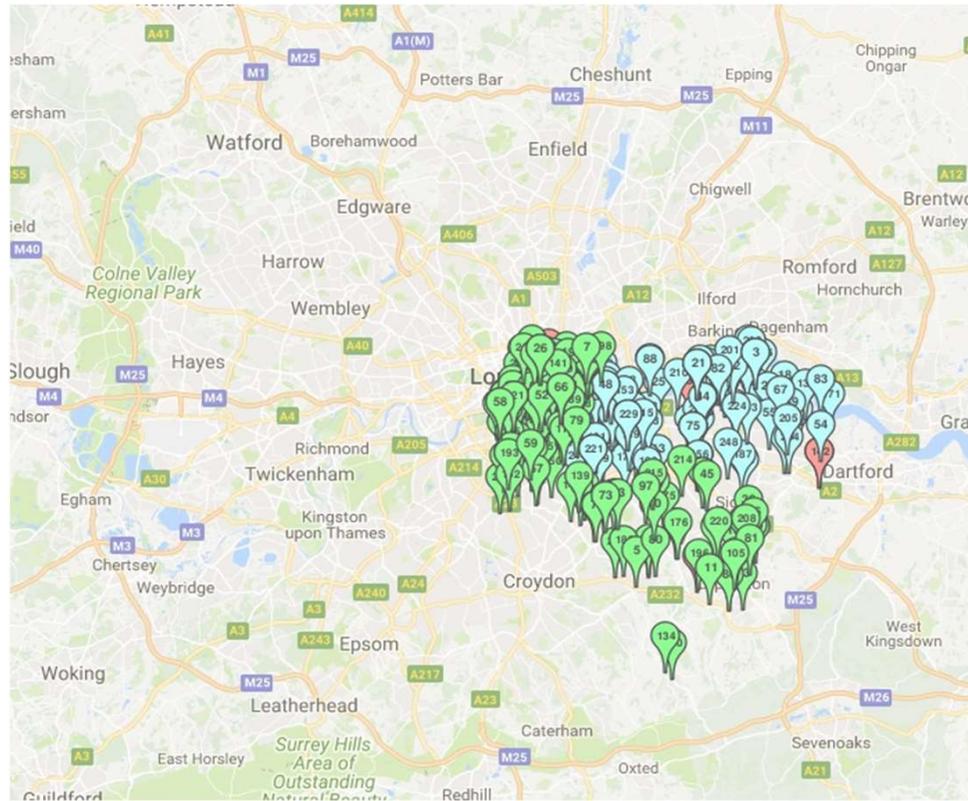
FURTHER RECOMMENDATIONS FOR GP  
PHARMACY NOTICE  
Zopiclone introduced for difficulty sleeping. To be R/V

ADDITIONAL INFORMATION  
PHARMACY NOTICE  
Zopiclone introduced for difficulty sleeping. To be R/V

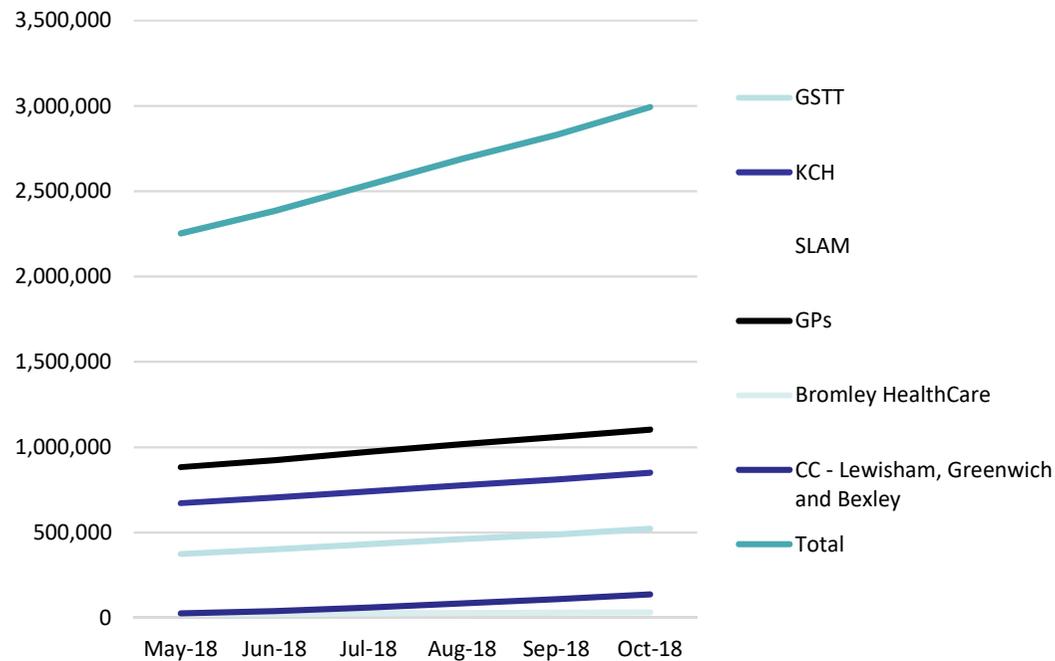
CONTACT DETAILS  
Letter Completed By: Irina Earnshaw  
Bleep Number: 1034  
Extension Number:  
Alternate Contact Name:  
Alternate Contact Extension Number:  
Trust Contact Email Address:

## Letter from GSTT EPR from LCR

# Local Care Record – current coverage



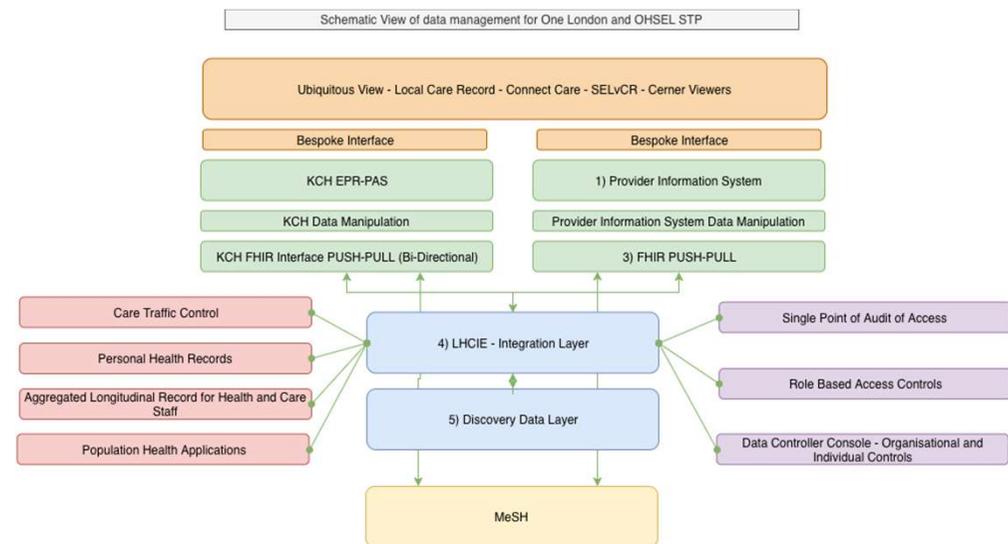
## Cumulative access to our Shared Care Record



- Accessed > 3 million times
- Accessed 160,000 times per month
- 26,000 unique users

## Are we looking after patients with mental health issues properly?

- Normalised data service for proactive care and population health management
- Following the One London Model
- Requiring
  - Data from Primary Care
  - **Data from Secondary Care**
  - Data from other sources



During 2019, we will deploy population health management solutions to support ICSs to understand the areas of greatest health need and match NHS services to meet them. NHS Long term Plan

- We have made big strides in digitizing our inpatient and primary care services
- This has radically improved visibility of care records within organisations
- We need to increase the structure of those records
- We need to use Computerised decision support to improve quality of care and reduce variation
- We need to improve our analytics to support quality of care and reduce variation
- We have made significant improvements in ubiquitous viewing of data across whole care pathways
- We have a distance to travel to quality assure our services across whole care pathways

King's

Thank you



# Measuring happiness

**Dr Derek Tracy**

Consultant Psychiatrist & Clinical Director, Oxleas NHS Foundation Trust, London

Senior Lecturer, King's College London

**derek.tracy@nhs.net ; @derektracy1**

Maximising Digital Opportunities in Adult Mental Health  
January 28<sup>th</sup> 2019

# Overview

- Measuring happiness
- Tracy's paradox of electronic records
- What we can & should do
- Hearts and minds

*since feeling is first  
who pays any attention*

# Measuring happiness

- Mental health presents unique challenges
- We lack biomarkers, and rely on self-reported and observed distresses

- This has raised two profound issues: *to the syntax of things  
will never wholly kiss you*
  - 'What' to measure (how/when valid, reliable is that?)
  - A lack of professionals' use/trust/value in psychometric markers

- *These* are the issues that need challenging: the technological aspects are the easy bit...

# Tracy's paradox of electronic records

- Generally, they can tell us anything we'd like to know about patients *except:*

- Do we get people well
- Do they like the service they receive

*wholly to be a fool  
while Spring is in the  
world*

- Irritatingly, patients seem very keen on knowing:

- Do you get people well
- Do people like the service you provide

- We want to know what is happening

- For individuals
- For teams
- For services

# What we can & should do

- System issues; needed to be:

- Electronic
- Built into digital records

*my blood approves  
and kisses are a better fate*

- Scale issues; needed to be:

- Valid, reliable, free
- Pan-diagnostic: *a critical discussion point for us later....* Common currency across mental health
- Track three broad areas of care:
  - i) symptoms (how are you feeling) – *CORE-10*
  - ii) social (how is your life) – *Camberwell Assessment of Need* (short version)
  - iii) feedback (how was it for you?) - *FFT*

*Lady I swear by all flowers. Don't cry  
- the best gesture of my brain is less than*

## Outcomes Data Summary

### Bromley Home Treatment Team

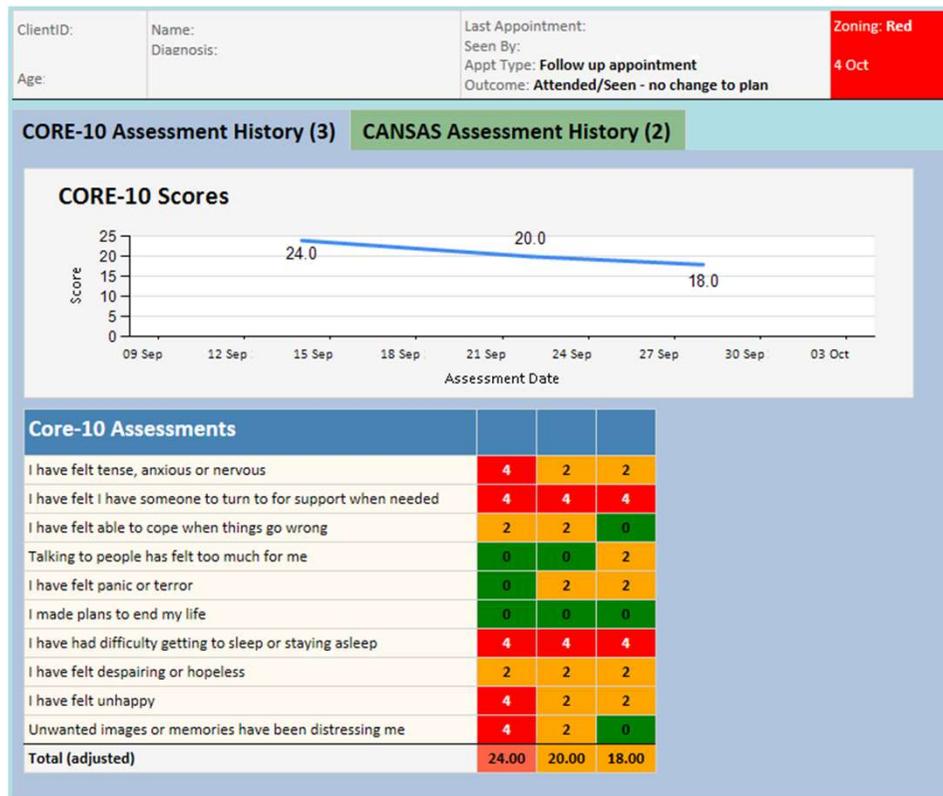
Show/Hide Scores:

CORE-10

CANSAS

#	Client ID	Name	Age	CORE-10 Score	CORE-10 Date	Anxiety	Support	Coping	Social	Panic	Suicide	Sleep	Despair	Unhappy	Images	CANSAS Score	CANSAS Date	Accom	Food	Home	Self Care	Activity	Health	Symptoms	Info
1				18	28 Sep	2	4	0	2	2	0	4	2	2	0	5	28 Sep	0	0	0	0	0	1	0	1
2				19	27 Sep	2	2	1	2	2	2	2	2	2	2	10	27 Sep	0	0	1	0	1	1	1	1
3				17	25 Sep	3	4	1	2	1	0	1	0	3	2	5	25 Sep	0	0	0	0	0	1	0	0
4				32	02 Oct	4	3	1	3	3	3	4	3	4	4	11	02 Oct	1	2	1	0	1	2	0	0
5				28	22 Sep	4	2	0	2	2	2	4	4	4	4	6	14 Sep	0	0	0	0	0	1	1	0
6				31	28 Sep	4	2	1	3	4	1	4	4	4	4	20	28 Sep	0	dk	1	1	2	2	2	1
7				19	22 Sep	2	3	2	2	2	0	2	2	2	2	3	22 Sep	0	0	0	0	0	0	1	1
8																									
9				15	28 Sep	3	3	1	3	1	0	1	1	2	0	20	29 Sep	1	0	2	2	2	2	0	2
10				19	14 Sep	2	2	3	3	0	3	3	0	2	1	9	14 Sep	0	0	1	0	1	0	1	0
11				8	28 Sep	0	3	4	0	0	0	1	0	0	0	2	28 Sep	0	0	0	0	0	0	0	0
12				8	01 Oct	0	4	3	0	0	0	1	0	0	0	9	01 Oct	0	1	1	1	1	0	0	1

*your eyelids' flutter which says  
we are for each other: then*



# What we want to do

- Understand *individuals* & changes in their well-being

- Give people their own data
- Let them log in at any time and feedback (smart phones, online)

*Laugh, leaning back in my arms  
for life's not a paragraph*

- Understand *team* morbidity longer-term

- Types of difficulties our patients tend to face
- Consider our patient make-up, progression, and suitability to manage
- Publish our data online; let people see what we do – a culture of transparency

- Understand *service* issues

- Track people across teams, services, organisations: what works (/doesn't), when, in whom?
- Have services commissioned on outcomes – with educational caveats...
- Life in a post-RCT world: embracing & exploring noisy real-world data

# Hearts and minds

- You are not the people you need to talk to
- Nor are the people beside you
- You need to talk to the people who aren't here

*and death I think is no parenthesis  
- e e cummings*

- Ask staff their opinions on EPR
- It needs to work for front line staff
- Leadership will be making it work for them, not you
- Future challenges: common currency vs mandated markers...

**“I have measured out my life with coffee spoons”  
- T.S. Eliot, Love song of J. Alfred Prufrock**

**derek.tracy@nhs.net ; @derektracy1**

# Q&A

Dr James Woollard, NHS England

Dr Jack Barker, King's College Hospital & Our Healthier South East London  
STP

Dr Derek Tracy FRCPsych, Oxleas NHS Foundation Trust & King's College  
London



@HINSouthLondon



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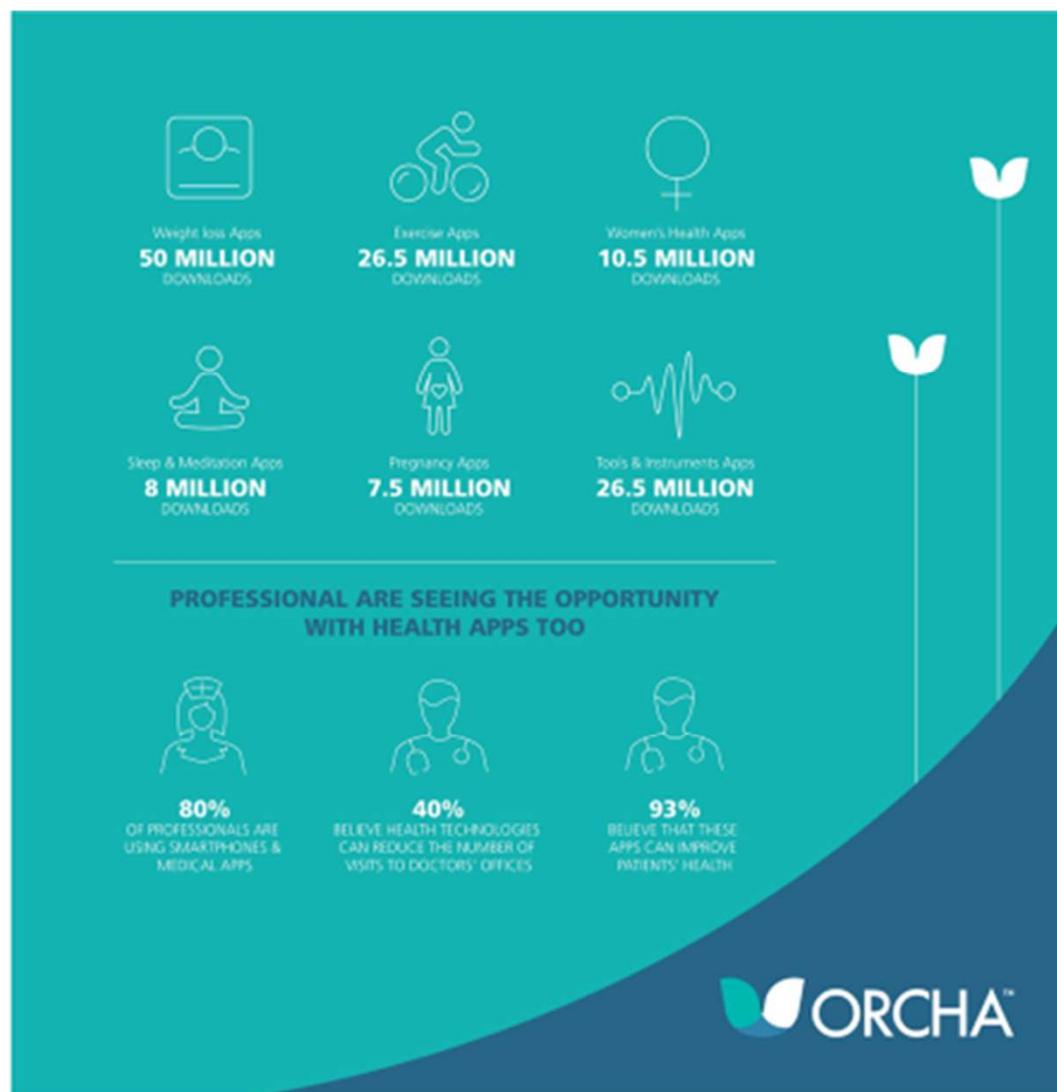
Using mHealth apps in  
Mental Health



## ARE HEALTH APPS AND MOBILE HEALTHCARE THE FUTURE?

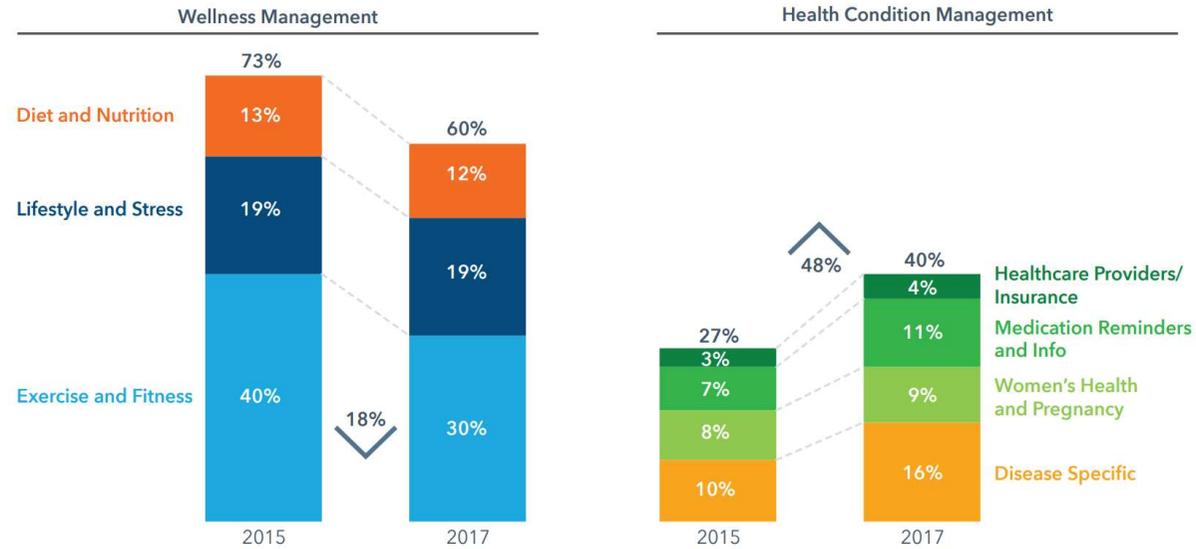


With over **326,000** health & fitness related apps currently on app stores & **5 MILLION** downloads per day it is difficult to deny the rising popularity of the industry





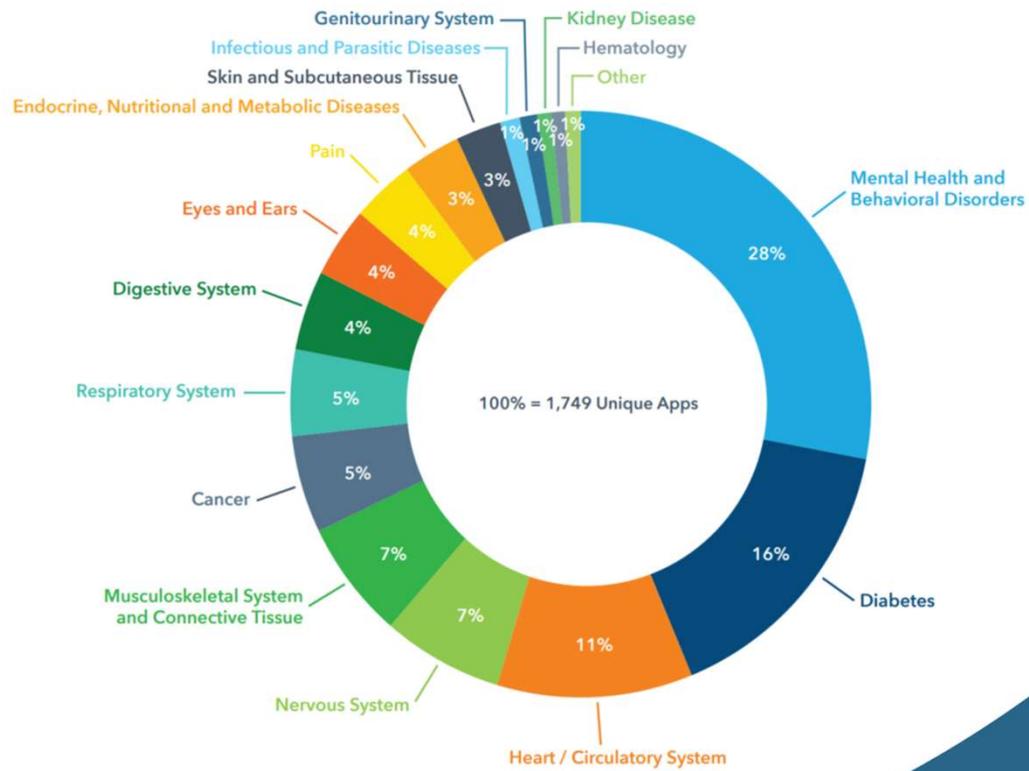
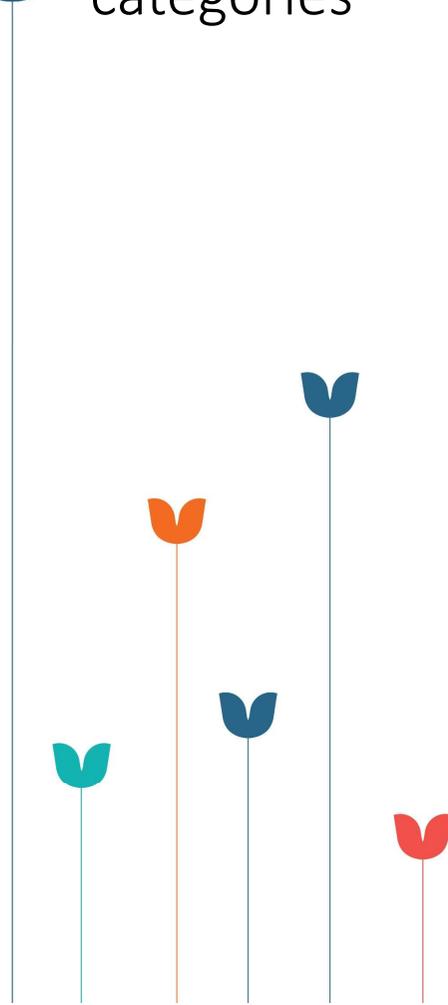
## Digital Health Apps by Category 2017



Sources: 42 Matters, Jul 2017; IQVIA AppScript Database, Jul 2017; IQVIA Institute, Jul 2017

Note: Chart displays share of categorizations. Growth normalized for sample. Numbers may not sum due to rounding; 2017 data includes 11,216 unique app categorizations. 2015 data includes 24,012 apps with 24,088 categorizations. View removes uncategorized apps from 2015 published numbers.

# Disease specific app categories





## What are the major blockers?



### Awareness

Apps are not yet part of the day to day management of health and care related conditions



### Accessibility

Finding and matching Apps to support your needs or those of your patients or service users is very difficult



### Trust

The lack of a suitable quality indicator inhibits the embracing of Apps by end users and professionals in the health and care space.

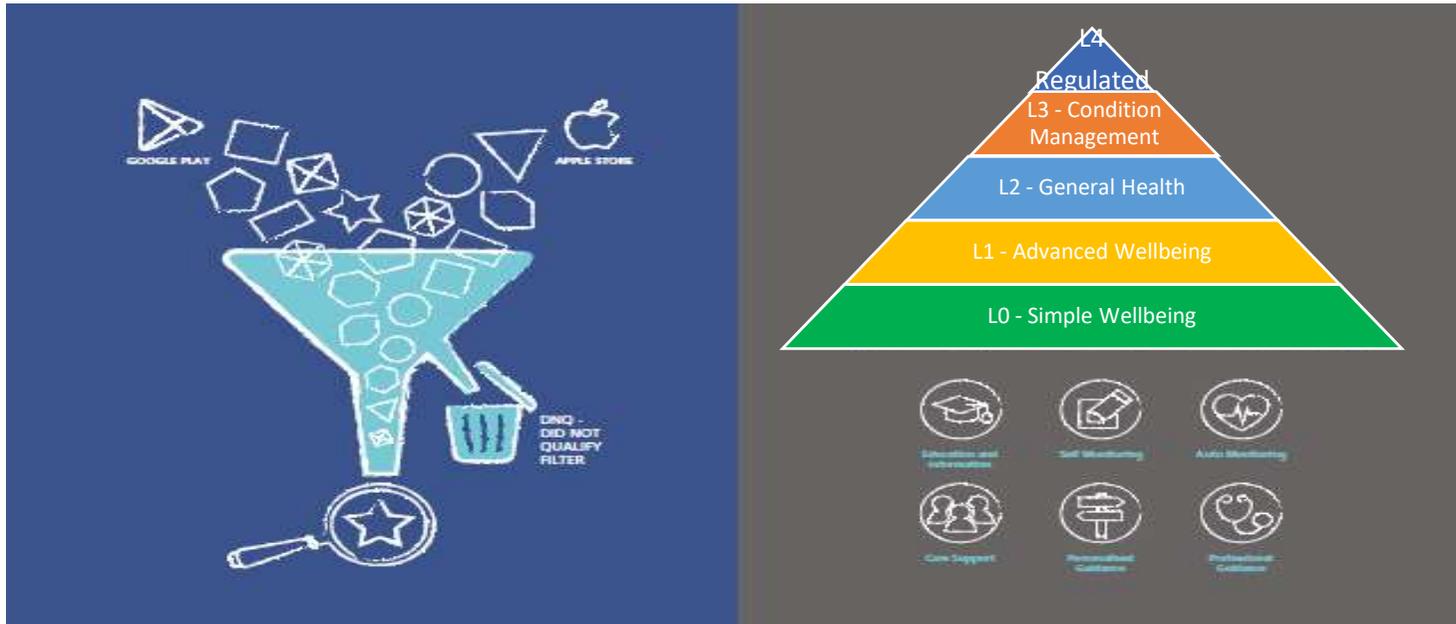


### Governance

The lack of clarity around the regulatory landscape and the appropriate governance foundations delivers organisational uncertainty.



# Introducing ORCHA





# Scoring and Publication

Data Security   Data Safety   Clinical Validity   User Experience   User Feedback

What is the potential value?

What is the possible Risk?

**FULL REVIEW REPORT FOR:**

**b** Busy Body  
Version: 1.0.0 (Oct 2018)    74%  
Level 2 - Self Manager

**WHO ARE ORCHA?**

ORCHA is a digital platform in the form of an app and website. We are the leading provider of health and wellness apps and services. We are a leading provider of health and wellness apps and services. We are a leading provider of health and wellness apps and services.

**WHY HAVE YOU REVIEWED MY APP?**

We have reviewed your app because it is a leading provider of health and wellness apps and services. We are a leading provider of health and wellness apps and services. We are a leading provider of health and wellness apps and services.

**REVIEW INFORMATION**

This review was published on 26/10/2017  
This review was published on 26/10/2017



# Using Apps in Mental Health; a couple of Case Studies



## 01. South Yorkshire NHS Partnership Trust

This deployment is all about CAHM's services and supporting the patients referred into the SWYFT CAHM's service to help manage and improve.

## 02. Lancashire STP

Our earliest Microsite deployment, Lancashire is now going from strength to strength with over 2000 registered Professional users and thousands of visits and downloads



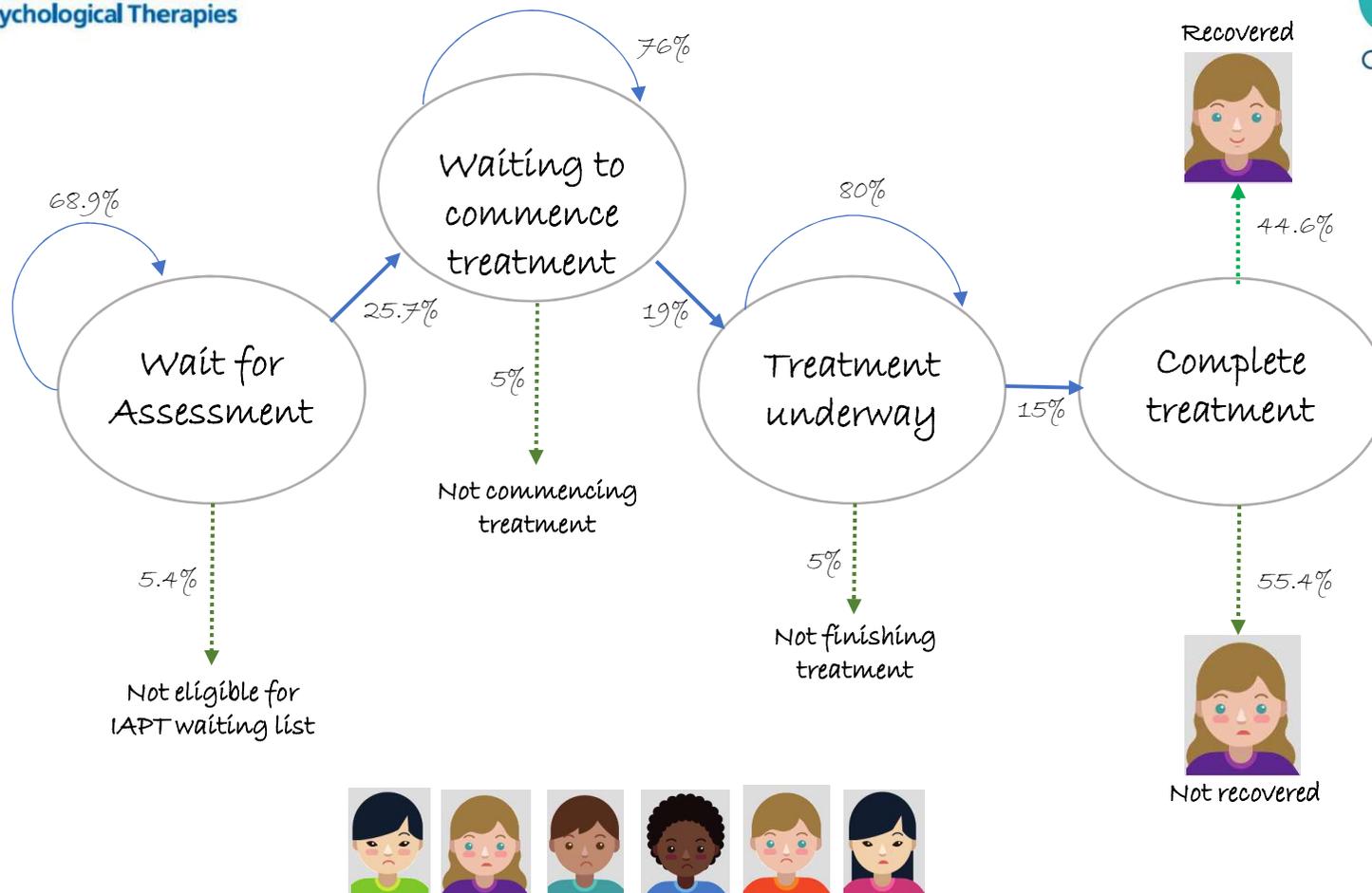
## 03. Digital Healthy Schools

The DHS Programme looks to create activation communities around schools and is supported by a PHSE module to directly engage year 7 and 8 students.

# Impact:

**Take 1000 Patients suffering  
from depression...**





iapt

Improving Access to Psychological Therapies



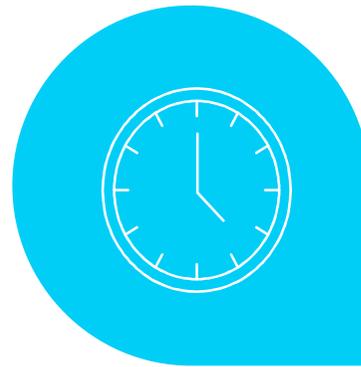
12 weeks later....

1,000 patients over 12 weeks...

Weeks of waiting

442

(23 days per person)



Not seeing a therapist

324



Achieving recovery

128



Investment

GP Apts = £24,000

IAPT = £347,105

£371,105



# iapt

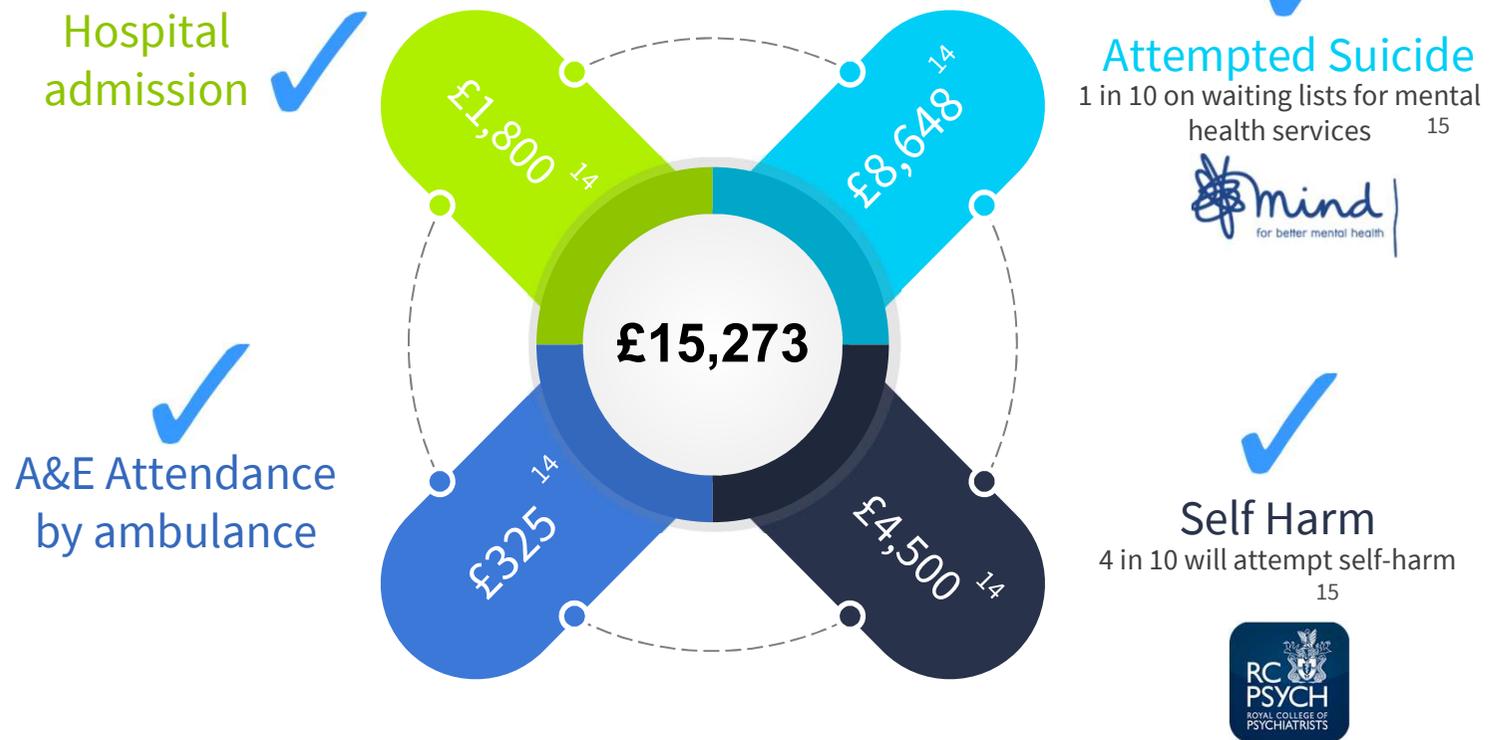
Improving Access to Psychological Therapies





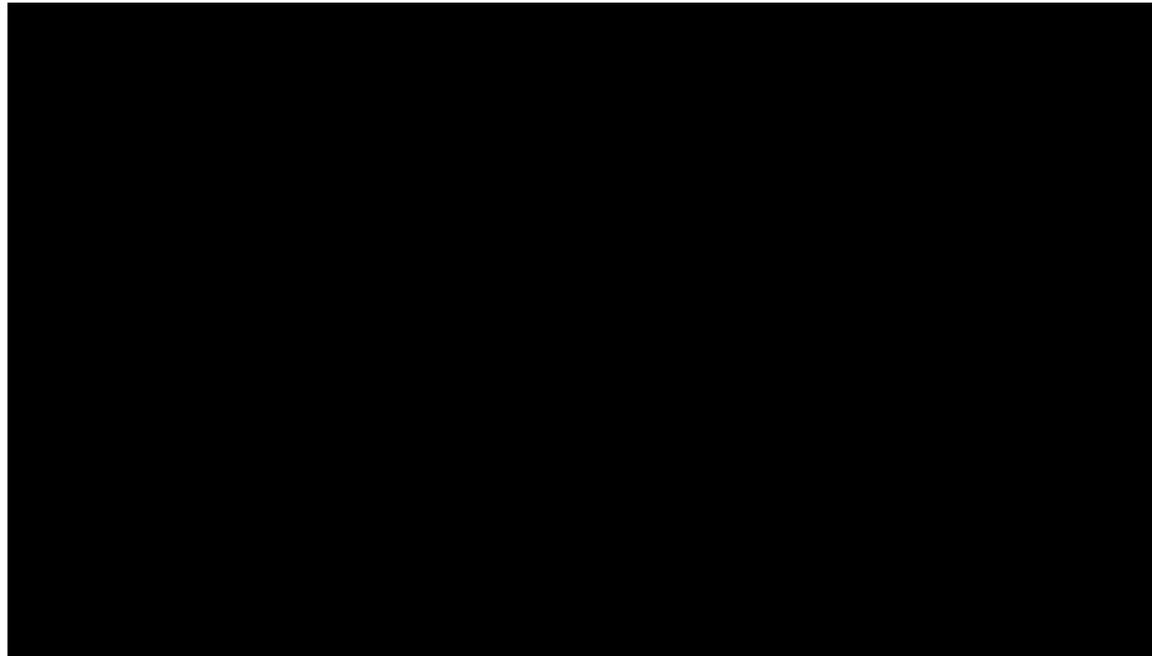
Doing something when  
we would otherwise likely  
be doing nothing?

# The costs & potential savings...?





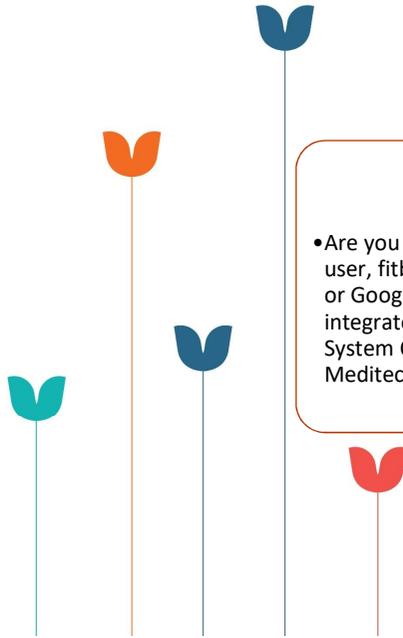
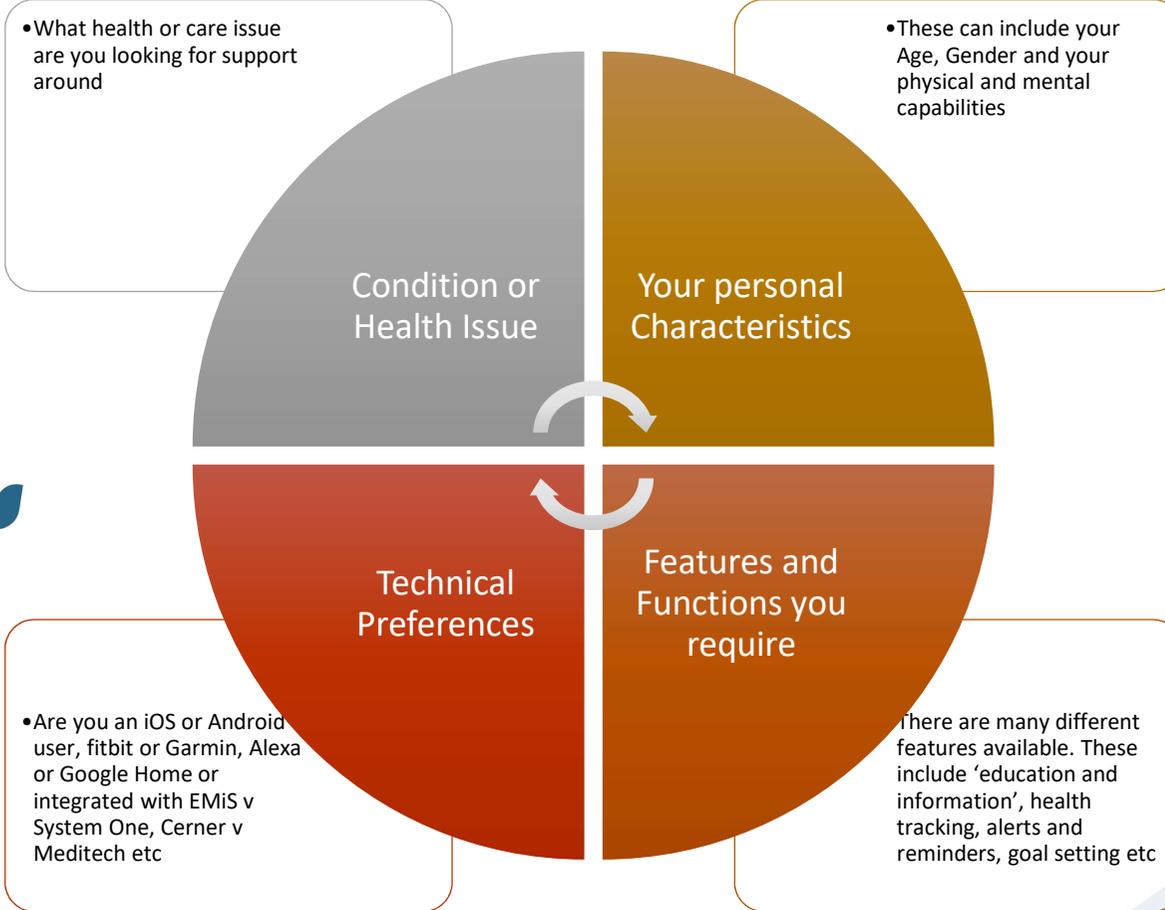
## Listen to a Clinical Psychologist using apps with her patients....



plement  
ity indicator inhibits  
by end users and  
h and care space.



**KEY POINT**  
**1 app will not fit all!**





Thank You



# Refreshments

#digitalmentalhealth



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# Session 2

Maximising Digital Opportunities  
in Adult Mental Health

#digitalmentalhealth



@HINSouthLondon



healthinnovationnetwork.com



**Presentation to HIN**  
**Maximising digital opportunities in mental health**  
**Jan 2019**

## Key challenges

- Are your patients well cared for in a safe environment?
- Is quality consistent?
- What and where are the issues?
- How do you empower front-line staff to own quality in their area?

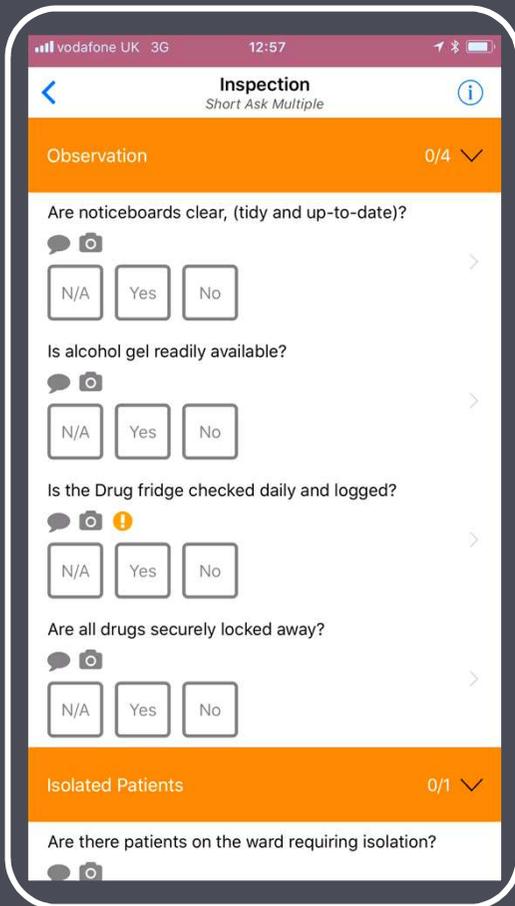
**Typical manual audit process takes valuable clinical time away from patients**



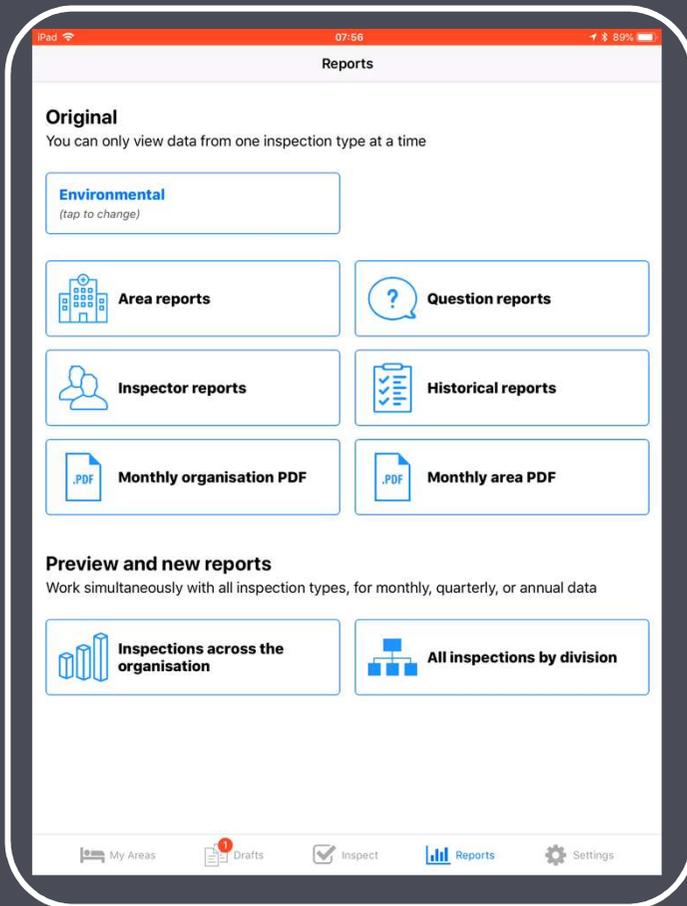




- Live reporting
- Snapshot of quality
- Trend easily visible



- Simple, intuitive inspecting
- Add photos and free text comments
- Reduces inspection time by half
- Results immediately available for all users



- Live reporting
- Drill down transparency
- Area/ward to Divisional/Site/Organisation views
- Easily spot issues and common themes

# The benefits



## Saves money

## Improves quality



Full context



Transparent



Consistent



Quick & easy



Customisable



History & evidence



No paperwork



Comparable

75



Act instantly

## Value-for-money



**From £1 per area per day**

*For 1-2 inspection types. Pricing scales with the range of inspections carried out*



This includes **unlimited:**



Inspectors



Viewers



Devices



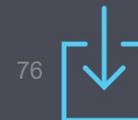
Inspections



Reports



Customisation



Updates



Photos



Comments

# Growing and recognised

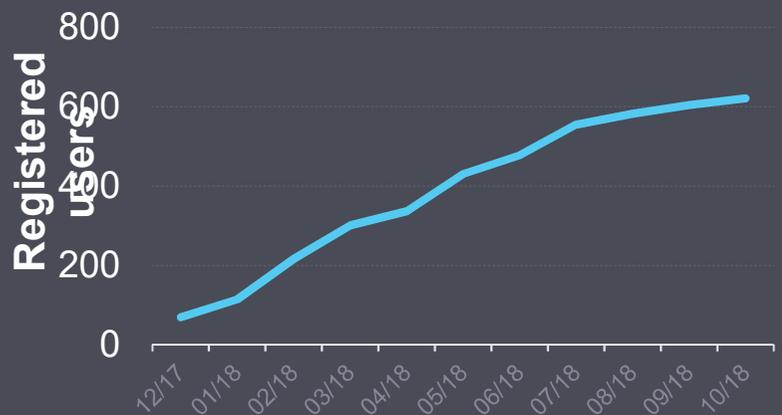
## Customers

Royal Free London NHS Foundation Trust  
 Wirral University Teaching Hospital NHS Foundation Trust  
 Barts Health NHS Trust  
 West Suffolk NHS Foundation Trust  
 King's College Hospital NHS Foundation Trust  
 London Ambulance Service NHS Trust  
 NELFT NHS Foundation Trust  
 Sherwood Forest Hospitals NHS Foundation Trust  
 Wakefield Clinical Commissioning Group  
 North Middlesex University Hospital NHS Trust  
 Barnsley Hospital NHS Foundation Trust  
 London North West Healthcare NHS Trust  
 Weston Area Health NHS Trust  
 The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust  
 Salisbury NHS Foundation Trust  
 Medway NHS Foundation Trust  
 The Dudley Group NHS Foundation Trust  
 THE ROYAL BUCKINGHAMSHIRE HOSPITAL  
 Humber NHS Foundation Trust  
 Buckinghamshire Healthcare NHS Trust  
 Hospital of St John & St Elizabeth  
 Ashford and St. Peter's Hospitals NHS Foundation Trust  
 The Princess Alexandra Hospital NHS Trust  
 Liverline  
 Croydon Health Services NHS Trust

## Recognition

DigitalHealth London ACCELERATOR  
 HSJ 2016 AWARDS  
 HealthInvestor Awards 2017 Finalist  
 Pfizer Healthcare Hub Igniting Innovation Winner 2018  
 techworld FROM IDG  
 ehi 2017 AWARDS  
 HSJ VALUE IN HEALTHCARE AWARDS FINALIST

# Barts experience: implement at scale, at speed



**Caterina Raniolo** @CaterinaRan Jun 13  
Midwife Rebecca Walker doing the Perfect Ward audit on the Birth Centre which gives her assurance that the ward is safe, well led, responsive, caring and effective



**Hazel R. Murwisi** @Hazel\_Rue Jul 9  
Want to know how to do an inspection on the Perfect Ward app? We are in Seminar room 2. Willow lodge @WhippsCrossHosp #WeImprove #ITProud using technology to improve outcomes



**Caroline Alexander** @CAlexanderNHS Feb 12  
Had a live demo of @Perfect\_Ward by andymm1968 and uploaded it to my iPad today – this is going to revolutionise our approach to audit and improvement & key Helping us get 2 good & outstanding consistently across @NSHBartsHealth



**Andrew McGovern RN MSc BSc** @andymm1968 May 25  
And that's 1000 @Perfect\_Ward inspections @NSHBartsHealth

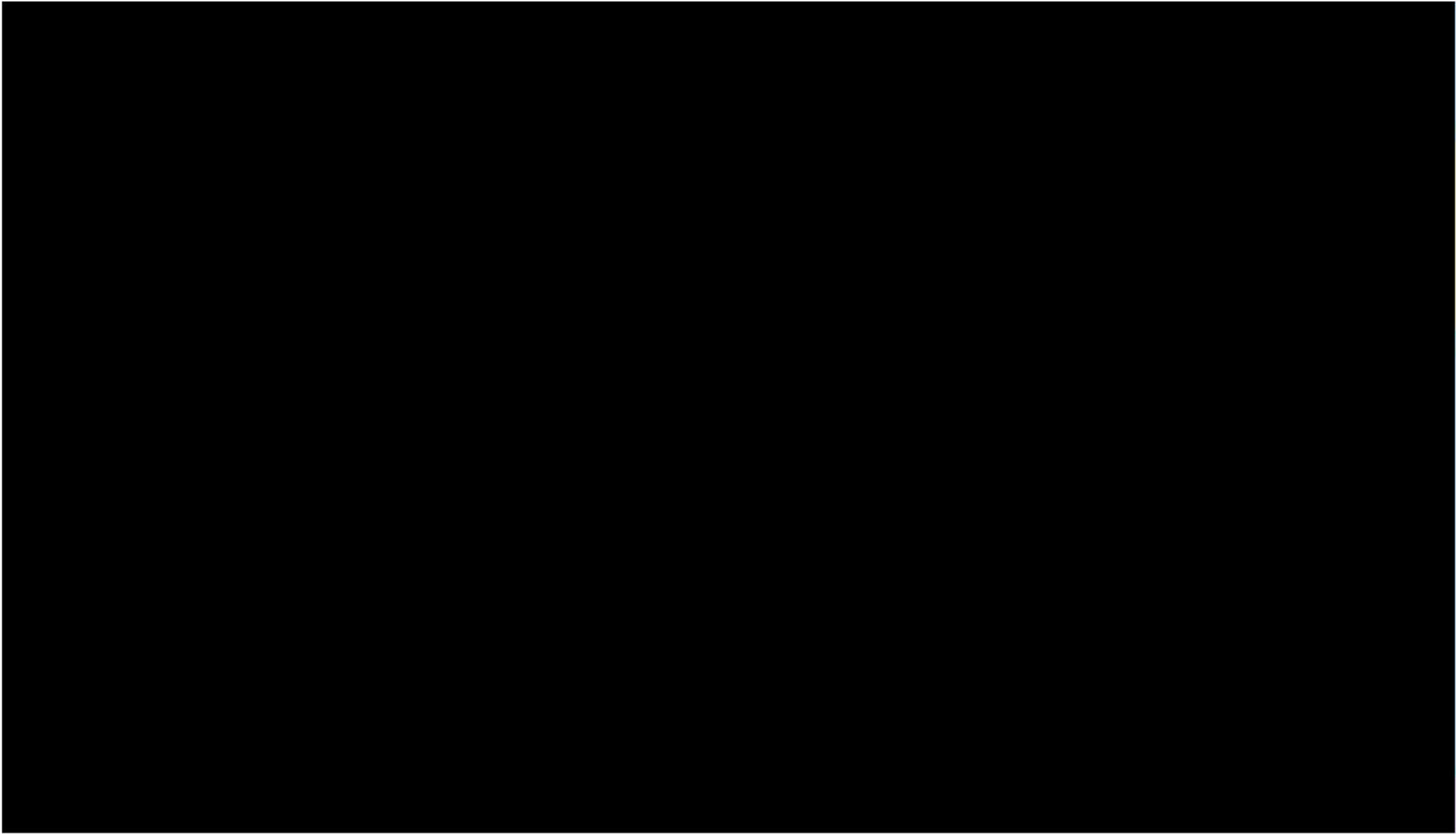


**Alwen Williams** @A\_WilliamsNHS Nov 12  
Many thanks @CGZimuto @Emma23574234 & Zurka for a real time demonstration of @Perfect\_Ward @WhippsCrossHosp @NSHBartsHealth. Huge potential to improve the quality of care to our patients! Very impressive

“The Perfect Ward app has given me that amazing opportunity to look at what we are doing any moment of the day across any part of our geography.”



Stephanie Ward  
Chief Nurse  
North East London NHS Foundation Trust



Perfect ✓ward<sup>®</sup>

Thank you



## Improving access to Advice and Guidance in Mental Health – Oxleas NHS FT

28<sup>th</sup> January 2019

Rachel Matheson & Scott Welpton

## **Oxleas NHS Foundation Trust:**

Oxleas provides a wide range of health and social care services in south east London, specialising in community health, mental health and learning disability services.

Oxleas is the main provider of specialist mental health care in Bexley, Bromley and Greenwich.

## **Consultant Connect:**

Consultant Connect is the NHS's most widely used Advice and Guidance System covering over 60 CCGs and Health Boards in the UK in both physical and mental health.

Consultant Connect has been in use in South East London since 2016 and now covers 4 separate trusts and 6 CCGs

w: [consultantconnect.org.uk](http://consultantconnect.org.uk)  
E: [hello@consultantconnect.org.uk](mailto:hello@consultantconnect.org.uk) T: 01865 261467



## **A third of all GP consultations involve Mental Health. Both the CCG and Trust recognised their GPs needed more support for mental health patients**

- Better support GPs with the care of their patients within primary care
- Improve responsiveness for Greenwich GP patients requiring specialist mental health advice, assessment and treatment
- Better streamline demand for referrals (i.e. better understand the urgency of referral and reduce unnecessary referrals)
- Ultimately advice and guidance given at an early/primary mental health stage aspires to prevent people to go on to use secondary mental health services
- Improve relationships between GPs and mental health services

## Why does Telephone A&G have a large impact in Mental Health?

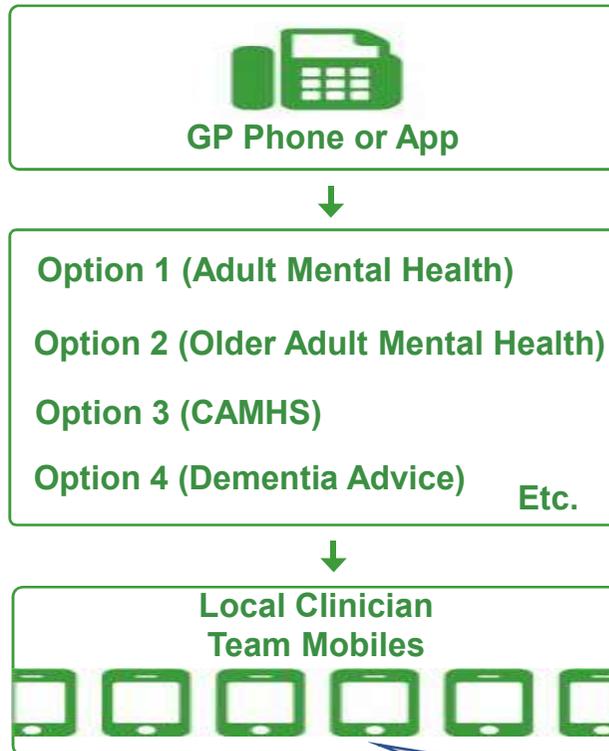
- Reassurance about urgent referrals is time-dependent which favours telephone advice over written advice
- Consultant advice on complex management is often too complicated for email
- Email may work for simple pharmacological or pathway advice, but complexity or nuance favours the speedy exchange of questions of a conversation
- In summary, there is no simple substitute for a clinician-to-clinician conversation.

Clinician-to-clinician conversation is an evidence based, fast and effective form of managing referrals (Kings Fund paper: *Referral Management: Lessons for Success*)

It ensures patients get the right care and reduces unnecessary referrals, assessment appointments and hospital visits.

Whilst Offering Advice and Guidance was a national indicator in the 2017-2019 CQUIN for Acute Trusts, this was not the case for Mental Health services

## How it works



**1. GP accesses system by calling a unique Dial-In Number or through the app**

Accesses advice on all specialties on offer

**2. NHS # input**

For medico-legal tracking

**3. Calls linked to groups of clinicians in "hunt group"**

Improves answer rates

**4. Calls digitally recorded and available to clinicians**

Fully encrypted medico-legal record

**5. GPs & clinicians provide call outcomes**

At end of call by selecting from keypad options, option on App or by SMS

**6. The service is managed and all activity & outcome data is provided to the CCGs, Trusts and Practices**

As calls are routed to clinician's mobile phones, the clinicians do not need to be desk based. Clinicians fit the calls around their existing work by only taking calls if they are in a position to do so. Therefore, no changes to job plans are required.

## The Results so Far

Since launch in August 2018 67 calls have been answered through Consultant connect. On average this is 3 calls per week.

### **Working Age Adults Advice Line:**

- 19% Routine Referral Made,
- 31% Urgent Referral Made
- 50% Referral Avoided

### **Older Adult Advice Line:**

- 30% Routine Referral Made
- 50% Urgent Referral Made
- 20% Referral Avoided

## Next Steps

- Extend to offer Consultant Connect to our Urgent Care Centre which is GP led
- In February 2019 Greenwich will have a single point of access for primary care plus mental health with Consultant Connect becoming an integral part of the new model
- Evaluation in August 2019 to include qualitative measures

**[scott.welpton@consultantconnect.org.uk](mailto:scott.welpton@consultantconnect.org.uk)**

**[rachel.matheson2@nhs.net](mailto:rachel.matheson2@nhs.net)**

w: [consultantconnect.org.uk](http://consultantconnect.org.uk)  
E: [hello@consultantconnect.org.uk](mailto:hello@consultantconnect.org.uk) T: 01865 261467





# Proactive Health Coaching in Mental Health

Background and previous experience

## Background information

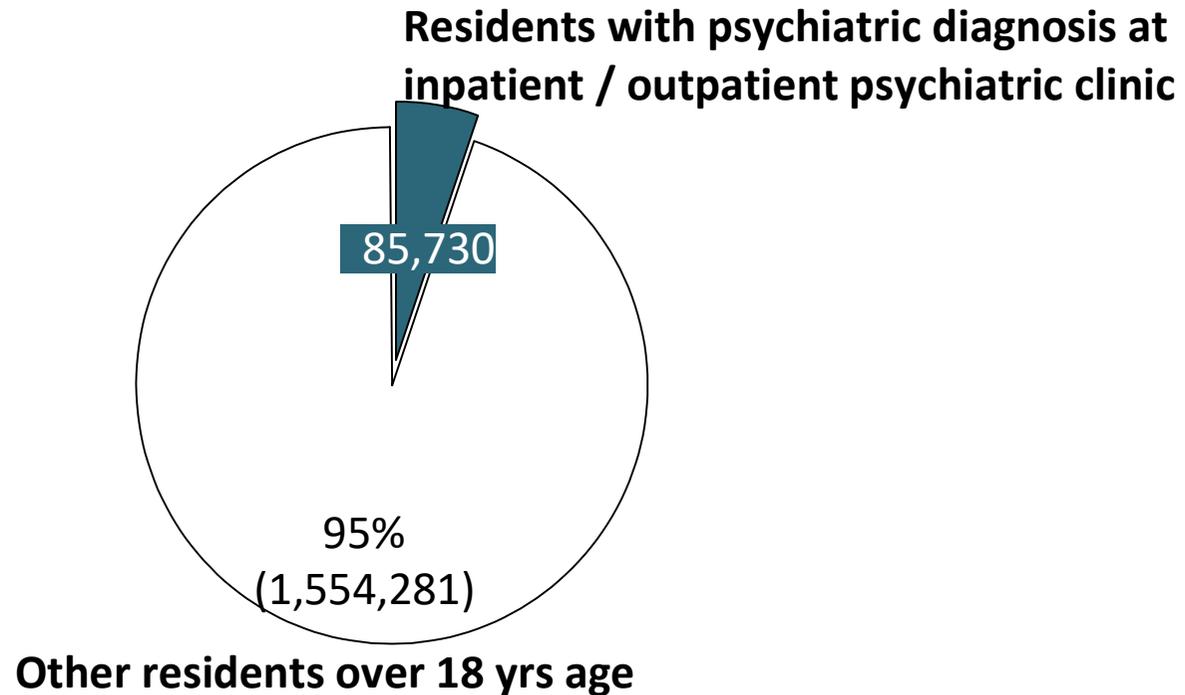
- Health Navigator is an organisation focused on innovative behavioural interventions and offers a Proactive Health Coaching (PHC) service
- This material has been developed with the aim of increasing the understanding of PHC, and to give some background to the intervention
- This material should be regarded as **preliminary and confidential**, and is only complete together with the relevant verbal presentation. This material should therefore not be distributed.
- For more information about this material and PHC please contact Karin Hogsander (Interim Managing Director) at [karin.hogsander@health-navigator.co.uk](mailto:karin.hogsander@health-navigator.co.uk)

# Agenda

- **Example of pre-study to understand population before implementation**
- **Example topics for discussion when setting study up**
- **Preliminary results from Stockholm study**

# Nearly 86 000 Stockholm residents had at least one inpatient event or visit to outpatient psychiatric clinic in 2011

Residents 18+ yrs, Stockholm, 2011

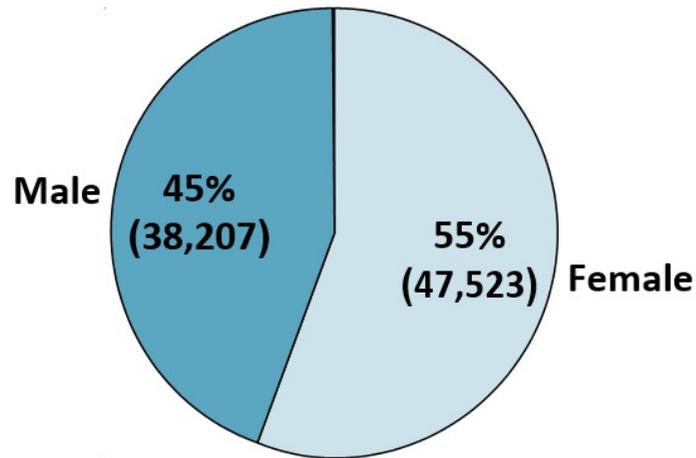


# Predominantly young or middle-aged patients seek psychiatric care

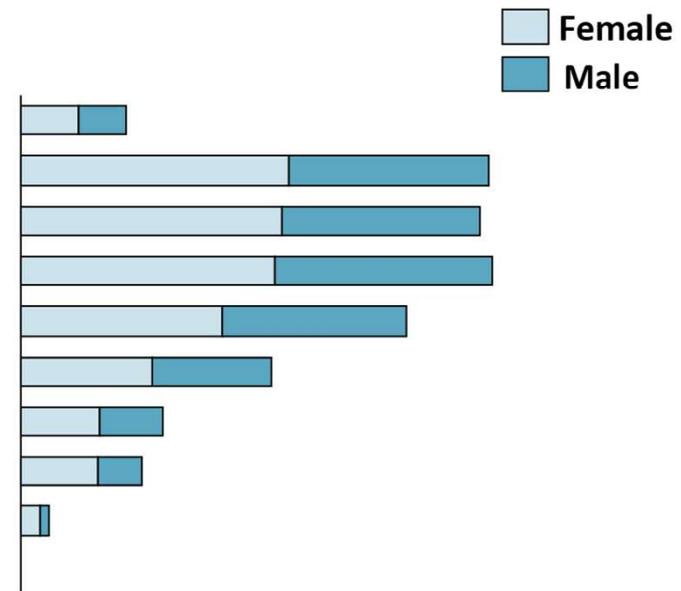
Residents over age 18 receiving a psychiatric diagnosis as psychiatric inpatient or outpatient, 2011

## Gender profile

100% = 85 730



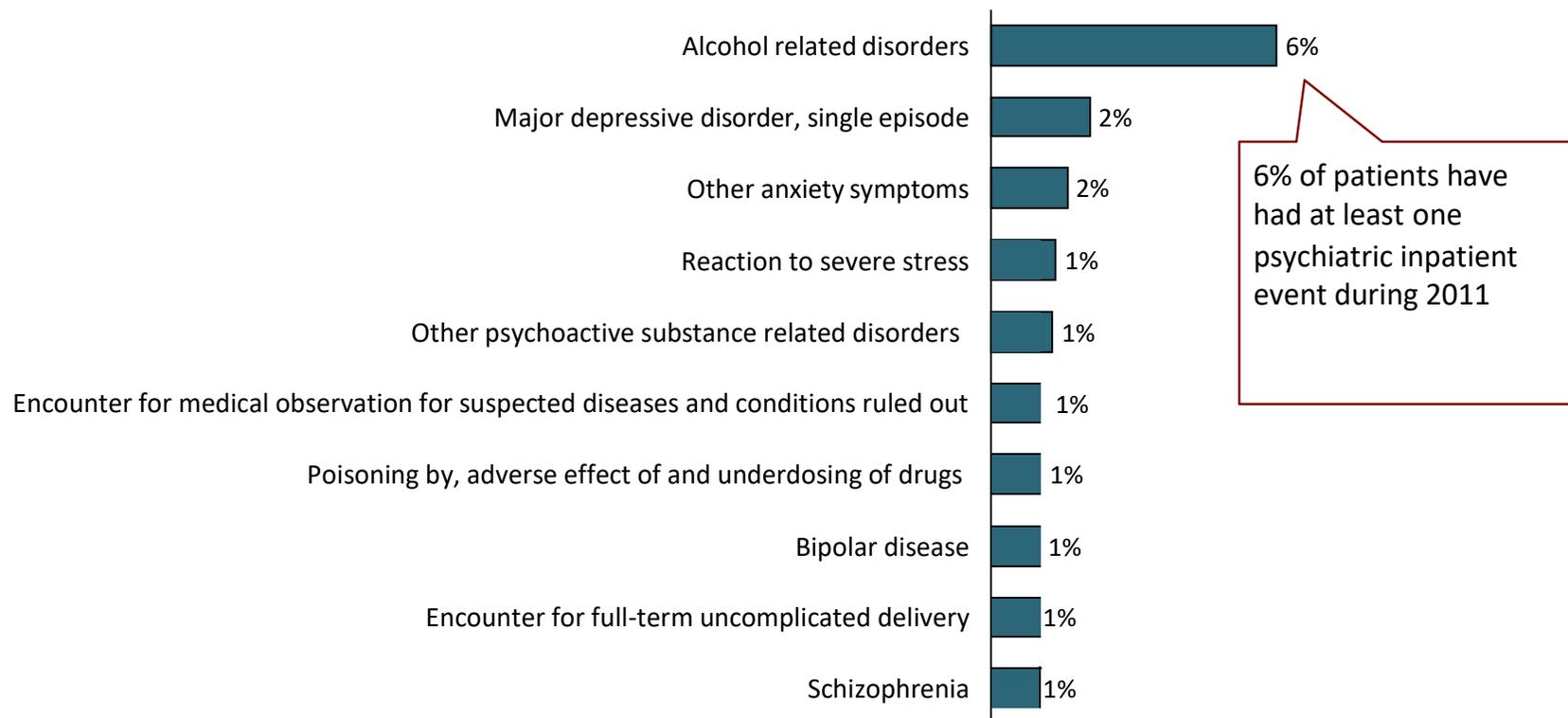
## Age profile



Note: Forensic psychiatry excluded. Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

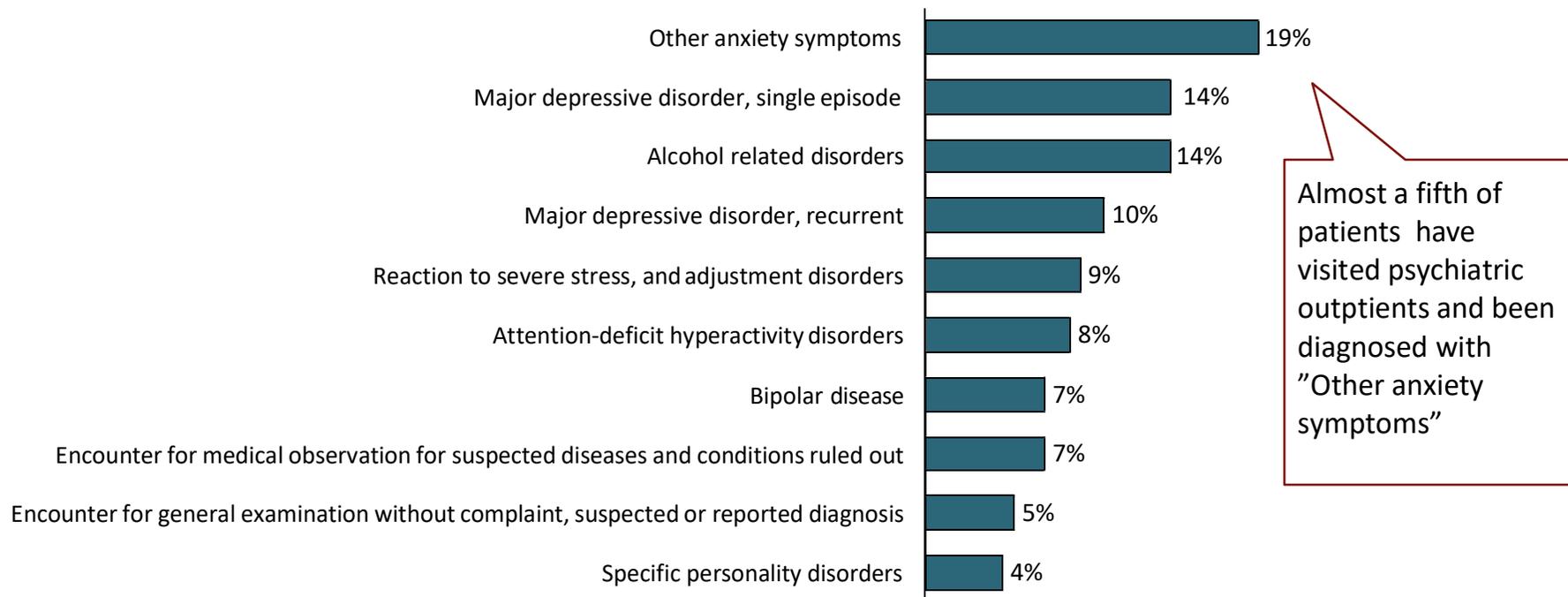
# Alcohol-related diagnoses were the most common among psychiatric inpatients who seek care

Share of patients\* who during 2011 was diagnosed as an psychiatric inpatient at least once



# Diagnoses of anxiety and depression were the most common in psychiatric outpatient clinics

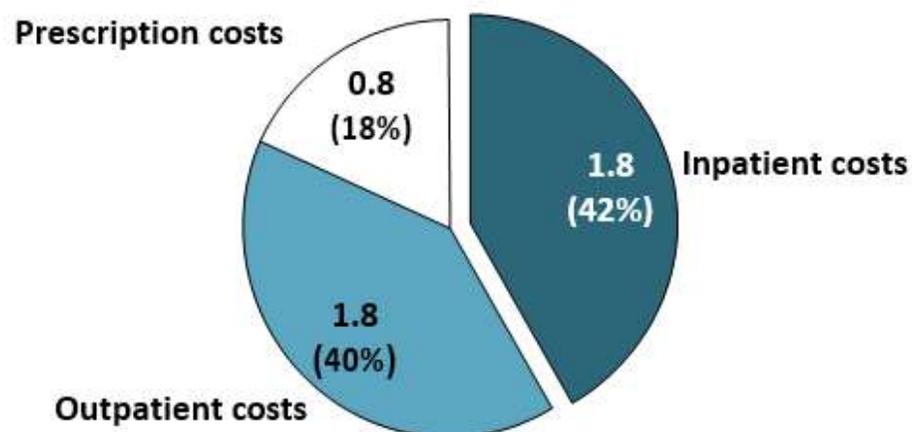
Share of patients\* who during 2011 at least once diagnosed in psychiatric outpatient clinic



\* 85 730 patients with at least one psychiatric inpatient event or visit to psychiatric outpatient clinic with psychiatric diagnosis in 2011

## Care costs for this patient group was SEK4.4bn, equally split between psychiatric inpatient and outpatient costs

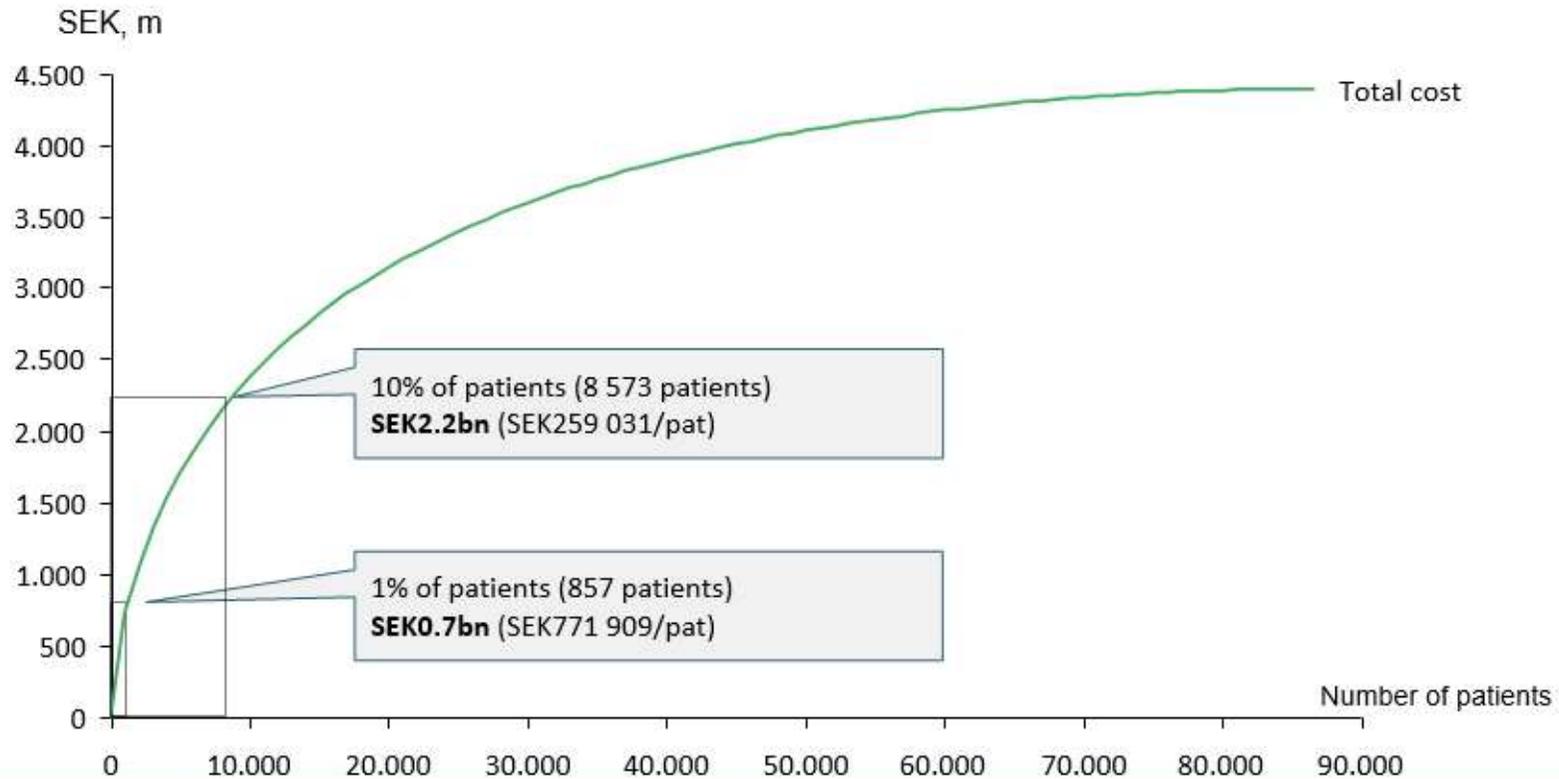
Total care (somatic and psychiatric) including prescriptions, 2011. 100% = SEK4.4bn



Note: Forensic psychiatry excluded. Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

## 1% of psychiatry patients are responsible for ~15% of total care costs, 10% are responsible for half of costs

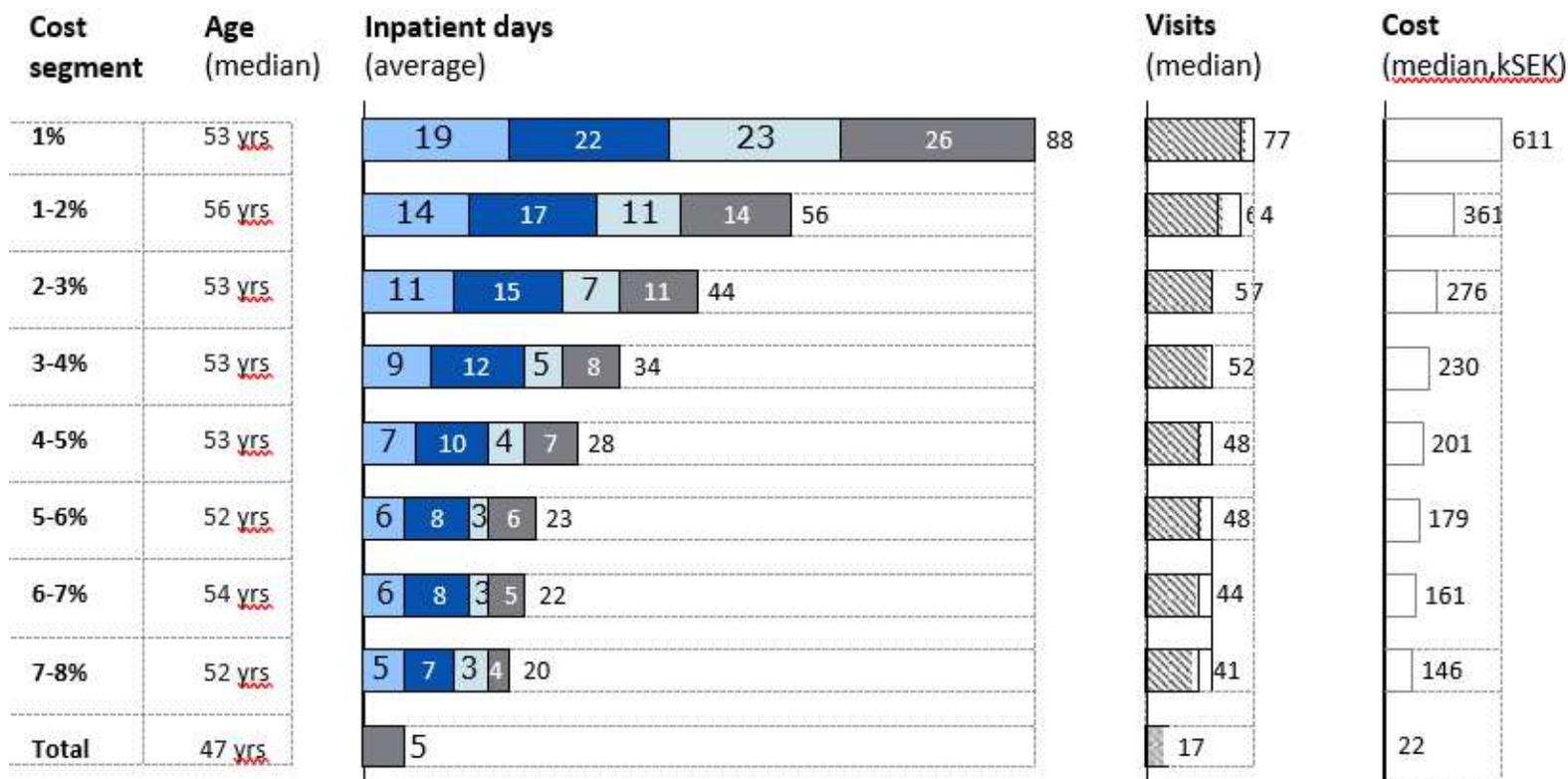
Total care (somatic and psychiatric) including prescriptions, 2011



Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

# Patients have both psychiatric and somatic inpatient events

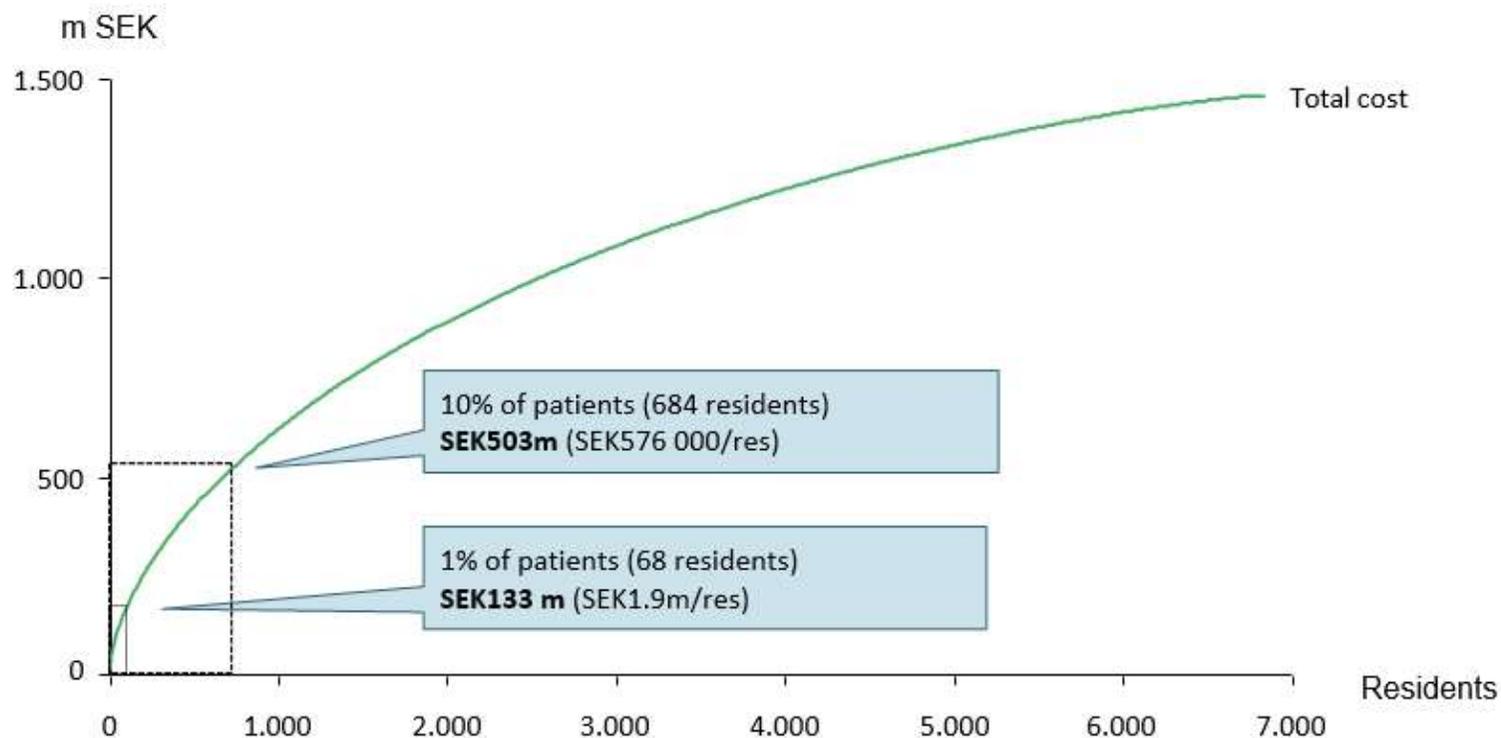
2011



Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

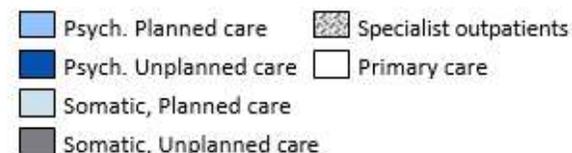
## Small group of very high care costs patients among patients with psychiatric diagnosis and somatic co-morbidity

Residents with both psychiatric diagnosis and =>2 care events with somatic diagnosis 2011 (6 848 residents)

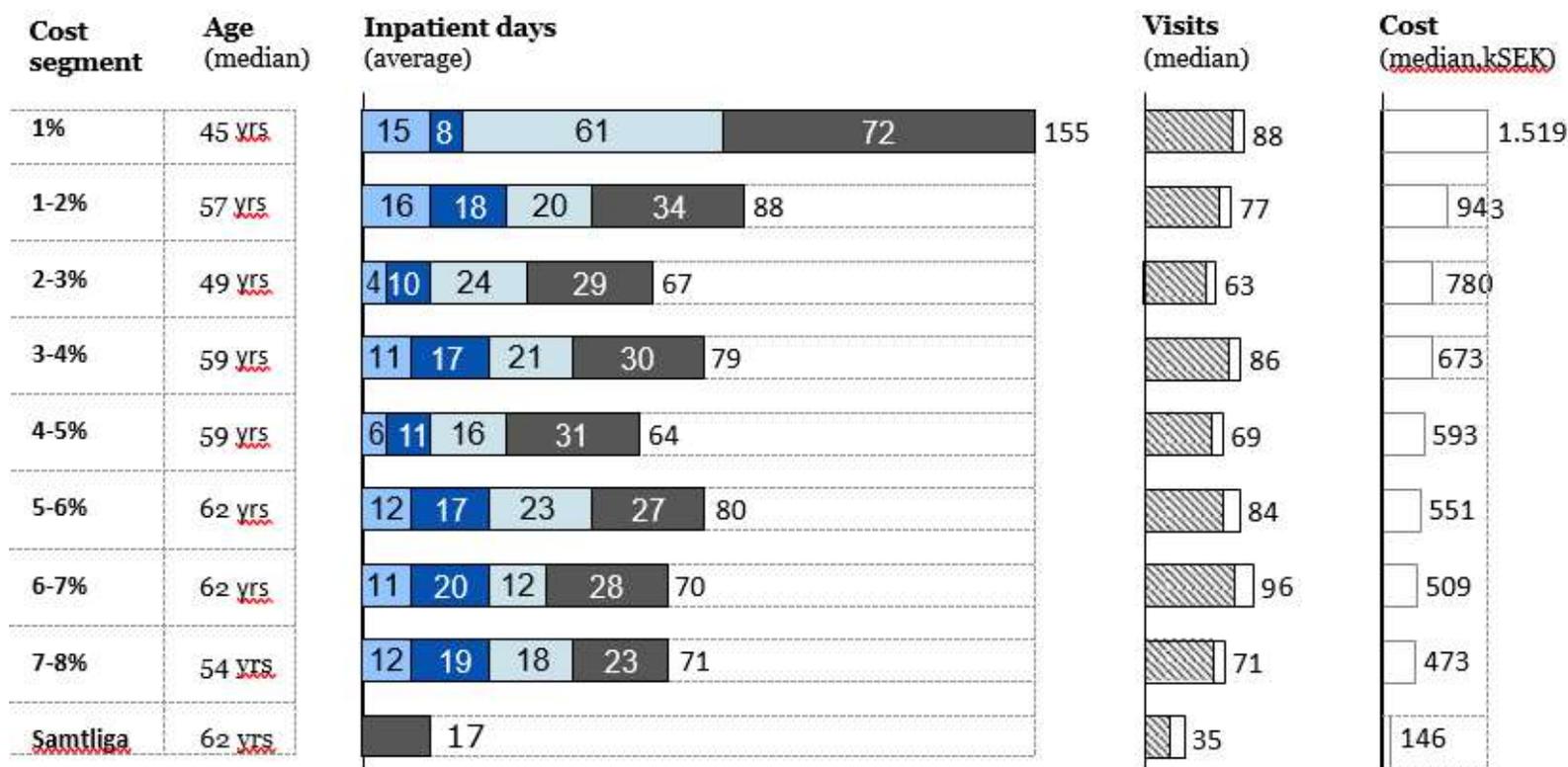


Note: Forensic psychiatry excluded. Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

# These patients are often both somatic and psychiatric inpatients



Residents with both psychiatric diagnosis and =>2 care events with somatic diagnosis 2011 (6 848 residents)



Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.)

## Agenda

- Example of pre-study to understand population before implementation
- Example topics for discussion when setting study up
- Preliminary results from Stockholm study

# How could we in an attractive way design a pilot to evaluate Proactive Health Coaching with psychiatry patients?

FOR DISCUSSION

## Target group

- **Which target group of patients may reap the most benefit from a PHC-like solution?**
  - Which diagnoses?
  - When in the pathway?

## Enrolment

- **When and how are patients most appropriately identified and included in the programme?**
  - At discharge?
  - At the point of an emergency care visit?

## Goals

- **How do we formulate our goals?**
  - Reduced symptoms (overall)?
  - Fewer inpatient stays/shorter inpatient stays/quicker discharge?
  - Improved access?

## Efforts

- **Given goals, which type of effort will give most benefit for the lowest cost?**
  - Which channel? (online, telephone, home visits)
  - Which competences/capabilities? (nurses, multi-skilled teams)

## Which groups of psychiatric patients may be most suitable for Proactive Health Coaching?

	Overview	Benefits	Potential question marks
<b>Patients with psychiatric and somatic co-morbidity</b>	<ul style="list-style-type: none"> <li>PHC with Health Coach offered to patients with psychiatric and somatic co-morbidity, e.g. frequent visitors, (patients who were previously excluded)</li> </ul>	<ul style="list-style-type: none"> <li>Very high care costs</li> <li>Present Health Coaches have excellent ability to help</li> <li>Similar international examples exist</li> </ul>	<ul style="list-style-type: none"> <li>Would only reach the psychiatric patients who have a somatic co-morbidity</li> </ul>
<b>Mixed selection from emergency psychiatry (or at discharge)</b>	<ul style="list-style-type: none"> <li>Health Coaches working with psychiatric emergency provider</li> <li>Patients deemed in need of support (different diagnoses possible) could be offered access to Health Coach</li> <li>Alternatively, support could be offered at discharge</li> </ul>	<ul style="list-style-type: none"> <li>Could offer improved access; no risk of doubling up with existing support programmes</li> <li>Enrolment easier as relatively few locations</li> </ul>	<ul style="list-style-type: none"> <li>Lack of current evidence for this study design</li> </ul>
<b>Schizophrenia and/or bipolar patients</b>	<ul style="list-style-type: none"> <li>Health Coaching (possibly more intense than existing programme) offered after discharge</li> </ul>	<ul style="list-style-type: none"> <li>High care costs</li> <li>Clear evidence base</li> <li>Recommended by Swedish National Board of Health &amp; Welfare</li> </ul>	<ul style="list-style-type: none"> <li>May require more resources and be more <u>challengin</u> than existing PHC programme</li> <li>Alternative support <u>programmes</u> exist for these patients</li> </ul>
<b>Depressed patients in Primary Care</b>	<ul style="list-style-type: none"> <li>Health Coach offered to patients with light/medium severity depression in Primary Care</li> </ul>	<ul style="list-style-type: none"> <li>Existing evidence for clinical benefit and cost effectiveness, recommended by SBU [Swedish Government Agency]</li> </ul>	<ul style="list-style-type: none"> <li>Possibly challenging to enrol patients given <u>disperson</u> across organisations and locations</li> </ul>

## Status update

### Status of study

- 76 patients enrolled; 51 intervention 25 controls, 2 Health Coaches
- We are reaching ca 9% of estimated target group of 854 patients
- Number of patients so far too small to analyse and interpret results, we can so far see a lower care consumption for the intervention group (ca 15%)

### Activities to increase enrolment flow to study

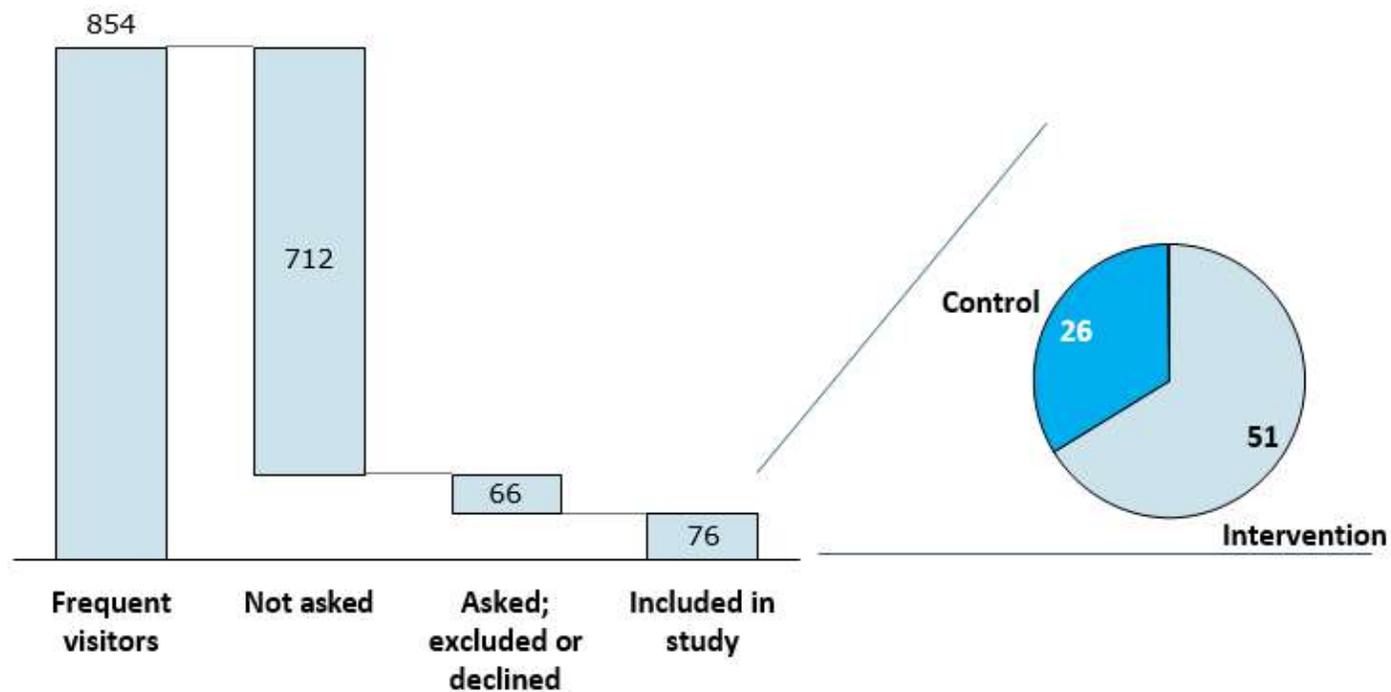
- Activity at psychiatric emergency unit in order to increase enrolment and reinforce the process:
  - In the clinical unit:
    - 12 staff meetings
    - Daily/weekly iteration with Health Coaches
    - Intranet and mailings
  - Process adjustments
    - Enrolment via wards
    - Identification of patients with assistance of medical secretaries

**Top priority to accelerate enrolment or study hypothesis may**

## **Agenda**

- **Example of pre-study to understand population before implementation**
- **Example topics for discussion when setting study up**
- **Preliminary results from Stockholm study**

**76 patients have been included in the study (9% of potential target group of 854 frequent visitors during Jan-Oct 2014)**

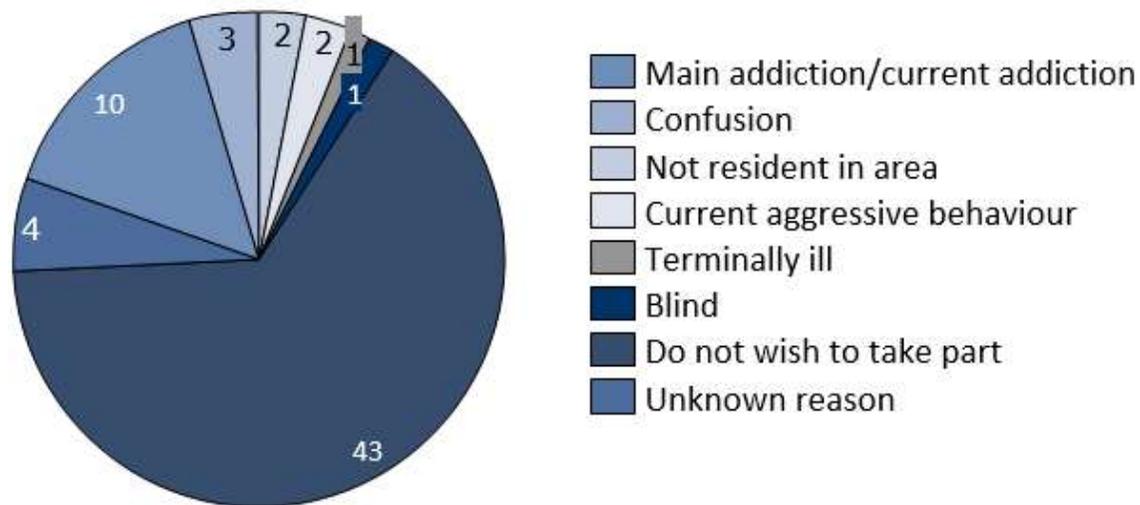


Source: VAL (central database in Stockholm county council covering all healthcare contacts, costs, etc.) OVR 2014, Register of the study, HN analysis

## Reasons given by patients for not participating

### Distribution of reasons:

**43 out of 66 patients state they do not wish to take part**

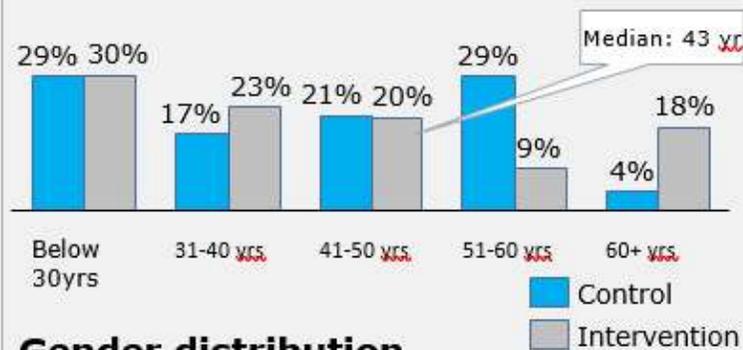


## The study comprises 76 patients, of which 51 receive the intervention and 25 were randomised into control group

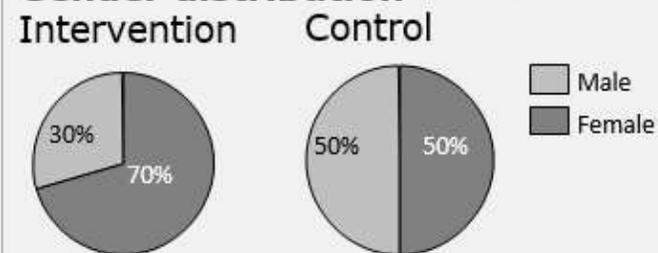
### Overview of the study population

- 51 patients (average 159 days in study) receiving intervention
- 25 patients (average 147 days in study) in control group

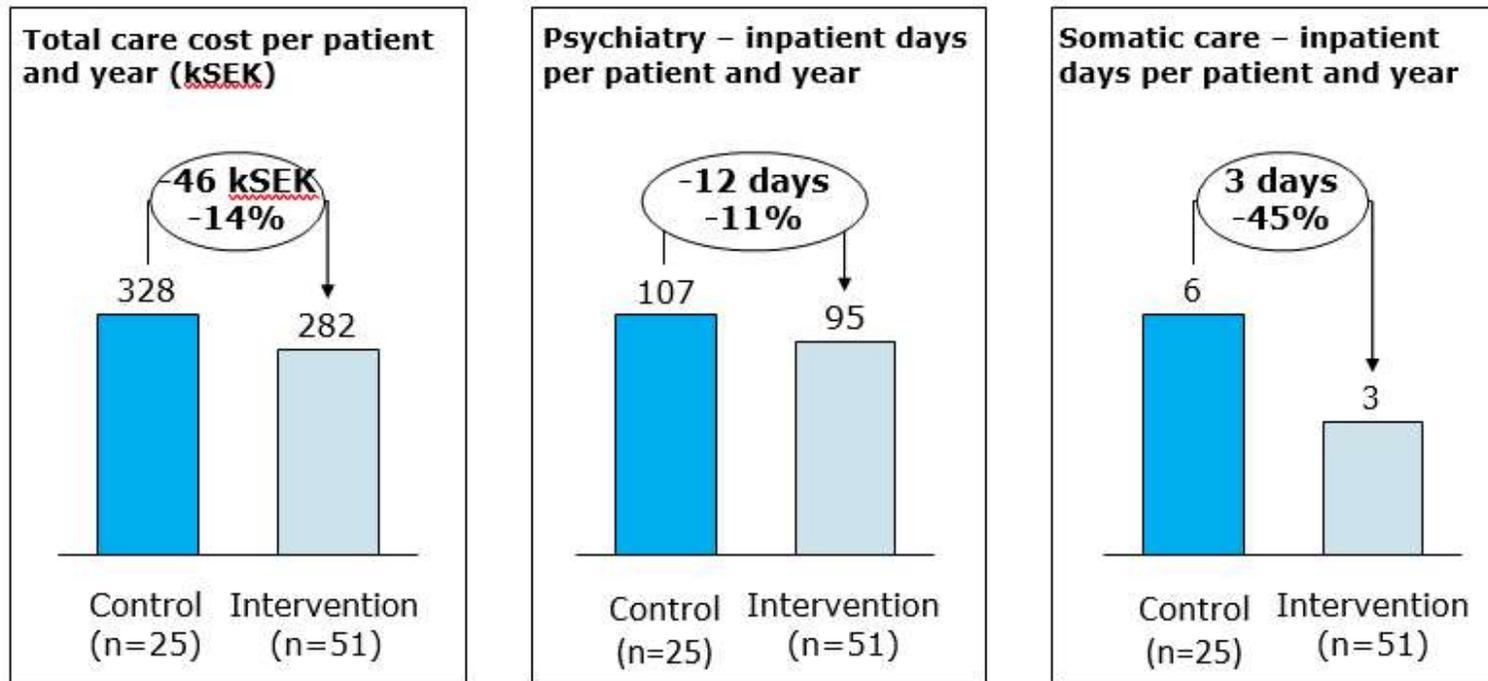
### Age distribution



### Gender distribution



## Patient volumes are low, but we see slightly lower care consumption among those supported by a Health Coach



**In total a stronger effect than in the somatic target groups but not statistically significant**

# Digital Solutions in Practice:

## Kardia Mobile

Alex Lang, Project Manager

Stroke Prevention Programme



@HINSouthLondon



healthinnovationnetwork.com

## Key statistics



There are more than **100,000 strokes** in the UK each year. That is around one stroke every **five minutes**.



There are over **1.2 million stroke survivors** in the UK.



Every **two seconds**, someone in the world will have a **stroke**.



Stroke is the **fourth biggest killer in the** in the UK. Fourth in England and Wales, and the third biggest killer in Scotland and Northern Ireland.



More than **400 children** have a **stroke** every year in the UK.



A **third** of stroke survivors experience depression after having a **stroke**.



More than **8 out of 10 people** in the **England, Wales and Northern Ireland** who are eligible for the emergency clot-busting treatment, thrombolysis, receive it. In **Scotland** only **1 in 10** of all **patients** will receive this treatment.



Almost **two thirds** of stroke survivors leave hospital with a disability.



People of working age are **two to three times** more likely to be **unemployed** eight years after their stroke.



The cost of stroke to society is around **£26 billion** a year.



# Atrial Fibrillation

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# Opportunities across the AF pathway

**AF toolkit** Detect, Protect and Perfect  
Working together across London to prevent AF related strokes



Introduction to pan London programme	Data	<b>DETECT</b>	<b>PROTECT</b>	<b>PERFECT</b>	Anticoagulation myth busters	Resources	Contact us
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Within the three AF domains Detect, Protect and Perfect we have highlighted nine opportunities for improvement. The AF Improvement Cycle on the following page provides a framework in which each opportunity for improvement should be considered.

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# Kardia Mobile ECG device and app by AliveCor

**NICE** National Institute for Health and Care Excellence



## AliveCor Heart Monitor and AliveECG app for detecting atrial fibrillation

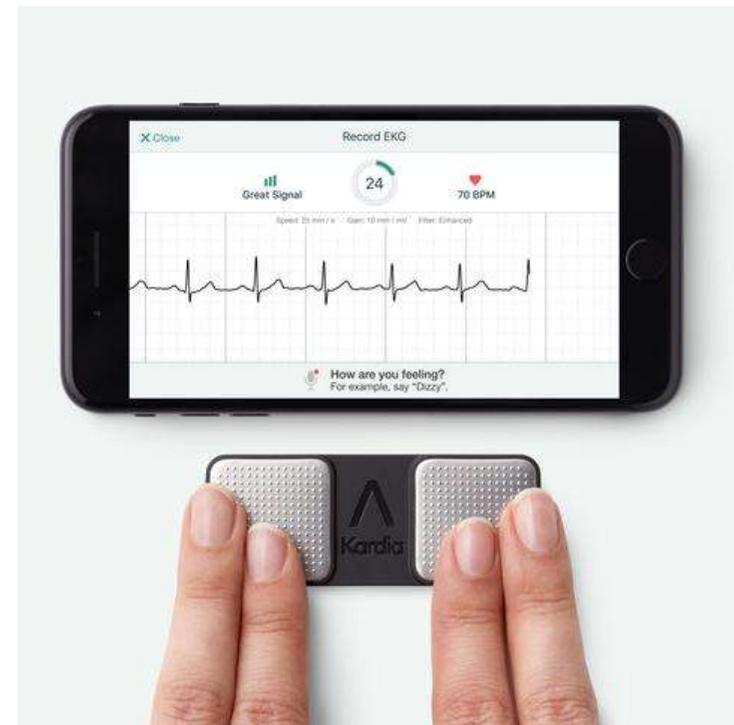
Medtech innovation briefing

Published: 5 August 2015

[nice.org.uk/guidance/mib35](http://nice.org.uk/guidance/mib35)

### Summary

The AliveCor Heart Monitor and AliveECG app are, respectively, a pocket-sized ECG recorder and a mobile device application for analysis and communication of the results. Two fingers from each hand are placed on the AliveCor Heart Monitor to record an ECG, which is transmitted wirelessly to the AliveECG app. The aim of the device is to identify paroxysmal atrial fibrillation (AF). Two

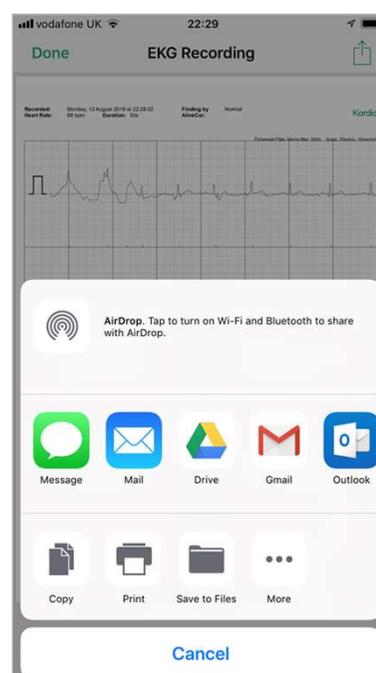
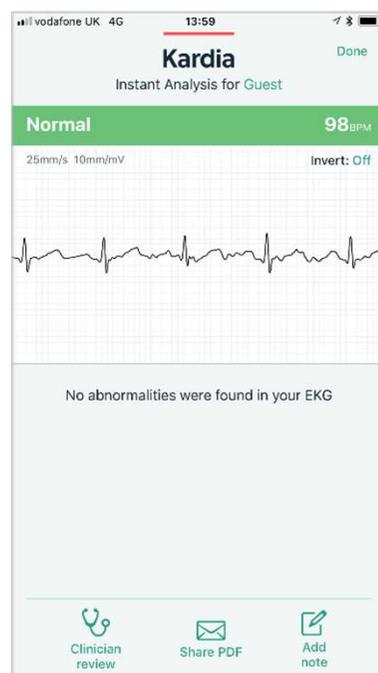
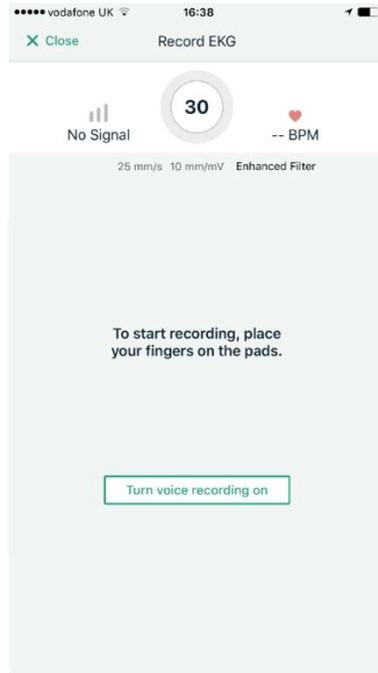


# Recording ECG

# Reporting ECG

# Emailing ECG

# Printing ECG



122



So, which healthcare and non-healthcare settings would you target?

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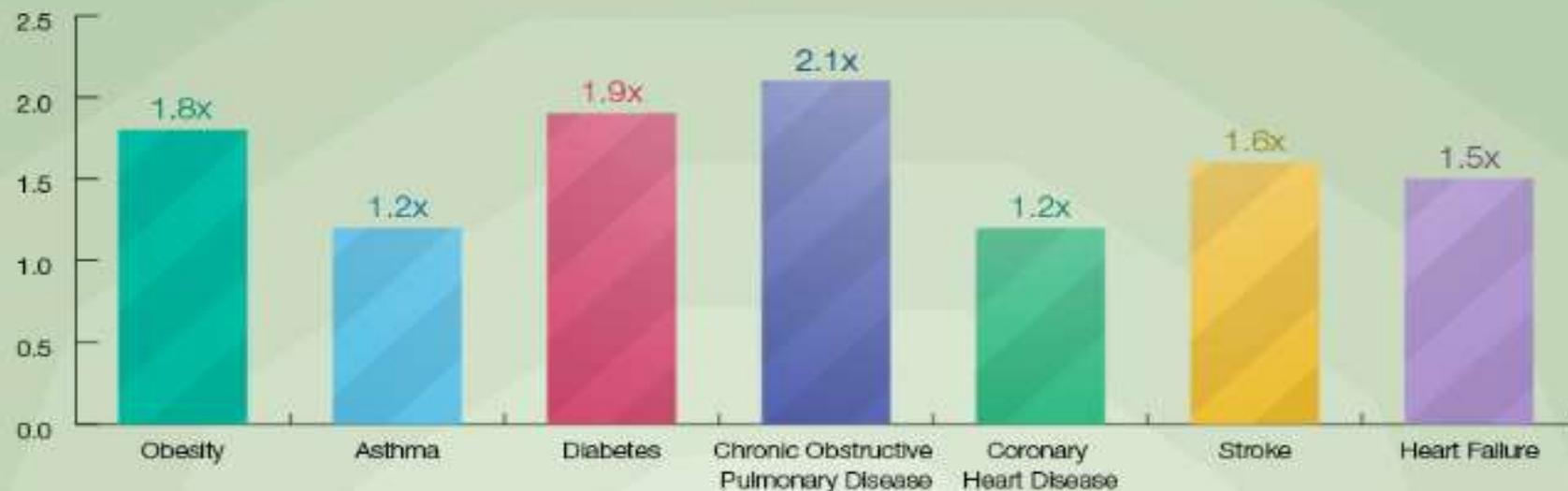
## How will this support people with mental illness?

---

- People living with a serious mental illness experience once of the widest health inequality gaps in England
- 3.7 x higher mortality with a life expectancy 15-20 years less than the general population
- The disparity is complex and multifactorial
- 2 in 3 deaths are from physical illnesses that can be prevented

## Adults with severe mental illness (SMI) are more likely to have physical health conditions

When compared to the general population of the same age group, people with severe mental illness (SMI)\* aged 15-74 are more likely to have:



\*Sample of people with SMI registered with a general practice

## Adults with severe mental illness (SMI) die younger, from a range of conditions, than adults in the general population

A measure of the extent to which adults with SMI die younger than adults in the general population, by condition



*\*People with SMI are defined as people in contact with secondary mental health services*

## Kardia Mobile in mental health settings

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- Discussions with the three mental health trusts in south London
- A digital innovation that may benefit service users and help narrow healthcare inequality
- Clinicians understood rationale behind opportunistic testing for AF to reduce risk of CVD but some barriers to work through
- Trialled Kardia with small number of service users & at staff health & wellbeing events leading to SOP & wider roll out

## Two for the price of one...

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- Service users receiving some mental health medications require ECG monitoring
- 12 lead ECG may be declined or not practical e.g. housebound or acutely unwell
- Although not what it was originally designed for, clinicians using Kardia Mobile ECG to calculate QTc interval to safely prescribe medication
- Can be followed up with 12 lead ECG once practically possible

## Some feedback...

“Thanks for your help with this client. It was a real help to his treatment plan. He was not agreeing to have an ECG prior to this because of his mental state and paranoia. By having this test with the Kardia as part of his treatment plan it has meant that the consultant is able to prescribe medication for his psychotic disorder”.

“He attended the hospital this week and consented to have blood tests- which is a great step forward and I feel is in part due to the use of the Kardia machine”.

Jan - Nov 2018 (inc)	AF detection	Pulse checks	Detection rate	Detection prevalence
Community geriatricians	37	261	14.2%	1 in 7
GP practices	182	3132	5.8%	1 in 17
Hospital	49	923	5.3%	1 in 19
Fire safe and well	1	19	5.3%	1 in 19
Community therapy teams	9	200	4.5%	1 in 22
Podiatry	28	675	4.1%	1 in 24
Mental health	28	913	3.1%	1 in 33
Community nursing teams	5	251	2.0%	1 in 50
Pharmacy	35	1814	1.9%	1 in 52
Public health	29	1832	1.6%	1 in 63
Prison	1	774	0.1%	1 in 774



Preventing 4 strokes saves one life.  
Mean healthcare costs in first year following stroke is £13,452 (Xu et al. 2018)  
Need to treat 25 people with AF the prevent one stroke.

## Some reflections...

---

- Making a compelling case for adoption – e.g. data and infographics
- Relationships are key – face to face training and support
- Capture learning along the way and use it to improve the process e.g. pathway design, sharing resources and feedback
- Build networks that allow adopters to share their experience e.g. community of practice, connecting people / technology
- Innovation at pace and scale – AHSN Network
- Involving service users at all stages of innovation and spread
- Building long term partnerships with multiple stakeholders - CVD
- Sharing success – e.g. abstracts and conferences

## Summary

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- Kardia has proven to add value to service user and clinician, BUT...
- Big opportunity for digital across the CVD detect, protect, perfect pathway to tackle inequalities
- NHS Long Term Plan highlights prevention, CVD, mental health, self management and digital at its centre
- System-wide cultural shift towards a greater emphasis on prevention and embracing digital solutions

# Morning round up & afternoon taster

Dr Geraldine Strathdee CBE  
#digitalmentalhealth



@HINSouthLondon



healthinnovationnetwork.com



# Lunch & Networking

#digitalmentalhealth



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# Session 3

Maximising Digital Opportunities in  
Adult Mental Health

#digitalmentalhealth



@HINSouthLondon



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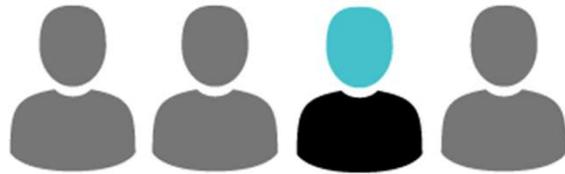
## Good Thinking – London’s Digital Mental Well-being Service

*HIN Conference*  
*28 January 2019*

**Dr Richard Graham – Clinical Lead, Good Thinking**



# Londoners' Mental Health



Every year 1 in 4 people will experience a diagnosable mental health problem



**18%** of adults who have mental illness met criteria for common mental disorders but are not diagnosed

**Anxious?**  
London has the highest proportion of the people with anxiety in all the UK

**£26 billion**

Each year the wider economic & societal impacts of mental ill health costs London billions

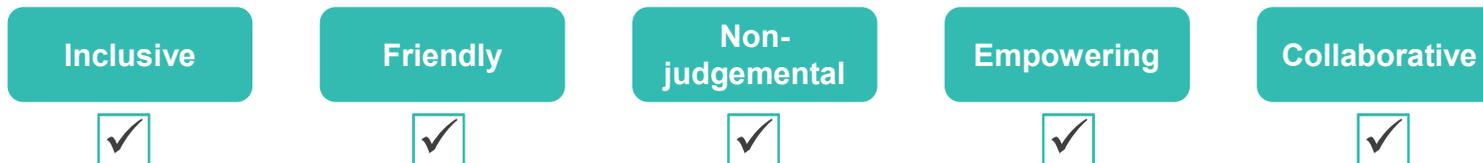
**£550 million**

London boroughs spend millions per year on social care for supporting people with common mental health issues

“Basic and **too-often ignored problems** in our city”

## Discovery and go-live phases

Worked with Londoners to co-design the service. It determined that Londoners wanted the service to be:

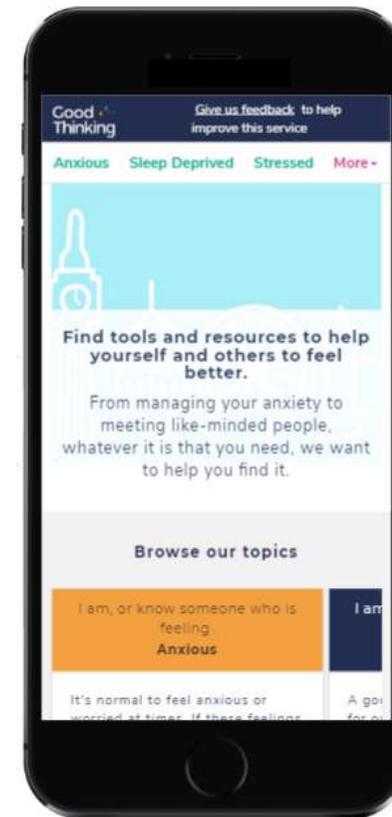
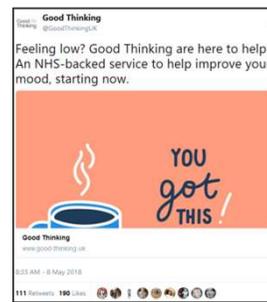


- Multiple ways of offering support outside conventional mental health service
- Avoided the associated stigma
- Available 24/7
- Online – (web and app-based)
- Peer-to-peer
- Face to face
- Good Thinking went live in November 2017,
- Overseen by a steering group with representation including Directors of Public Health, Public Health England (PHE), and Clinical Commissioning Groups (CCGs)

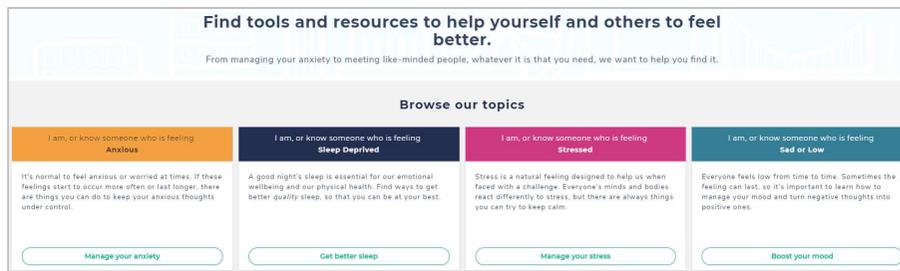
## How does Good Thinking work?



Uses social media marketing (Twitter, Facebook, Google) to find Londoners searching for terms associated with common mental health conditions and directs them to Good Thinking.



Four common mental health conditions: anxiety, sleep deprivation, stress, low mood



# How does Good Thinking work?

Personalised support indicated following a simple three question wellbeing quiz  
A more extensive self-assessment also available.  
Suggests five on and offline products to support and boost good mental health.

**Escape your anxiety**  
It's normal to feel anxious at times. Find tools to keep your thoughts under control.

On this page you can find tools to help understand and manage anxiety – whatever form it takes, for you or a friend.

[Download this guide on how to overcome fear and anxiety.](#)

Q1 OF 3

Are you (or is someone you know) affected by any of the following?  
Select as many as you like

waking up at night   can't leave the house   can't switch off   generally feeling worried   panic attack   thoughts racing

[Edit your selection](#)   **Your wellbeing resources**

**Top 5 picks for you**

We have picked some resources that we think will be useful to you. Our systems are still learning so please let us know whether what you have found is useful!

<p><b>#1</b></p> <p><b>Be Mindful</b></p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"><li>Free for Londoners - exclusive offer</li><li>Evidence-based</li><li>Beginner-friendly</li><li>You receive detailed feedback on your progress</li><li>Includes downloadable meditation tracks</li></ul> <p><b>Considerations:</b></p> <ul style="list-style-type: none"><li>Be Mindful may not be suitable if you have severe depression or are currently going through big life changes</li><li>Committing to regular practice will give you the best results</li></ul> <p><a href="#">Tell me more</a></p> <p><input checked="" type="checkbox"/> No thanks, show me something different</p>	<p><b>#2</b></p> <p><b>Mental Health Foundation</b></p> <p>A website with useful tools and resources for all things related to mental health and wellbeing.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"><li>Free</li><li>Resources include: videos, podcasts, statistics and self-assessments</li><li>Clear and informative</li></ul> <p><b>Considerations:</b></p> <ul style="list-style-type: none"><li>Could be more interactive</li></ul> <p><a href="#">Tell me more</a></p> <p><input checked="" type="checkbox"/> No thanks, show me something different</p>
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## Feeling under the weather?

Our symptom checks can:

- ✓ Check for urgent problems
- ✓ Identify possible causes
- ✓ Suggest if and when you need to see a doctor or tell you how to care for yourself

I'm taking this for...

Myself  Someone else

Age:  years old or DOB:

Male  Female

[START NOW](#)



The Cancer Detective

[Bw](#) Bowel Cancer →

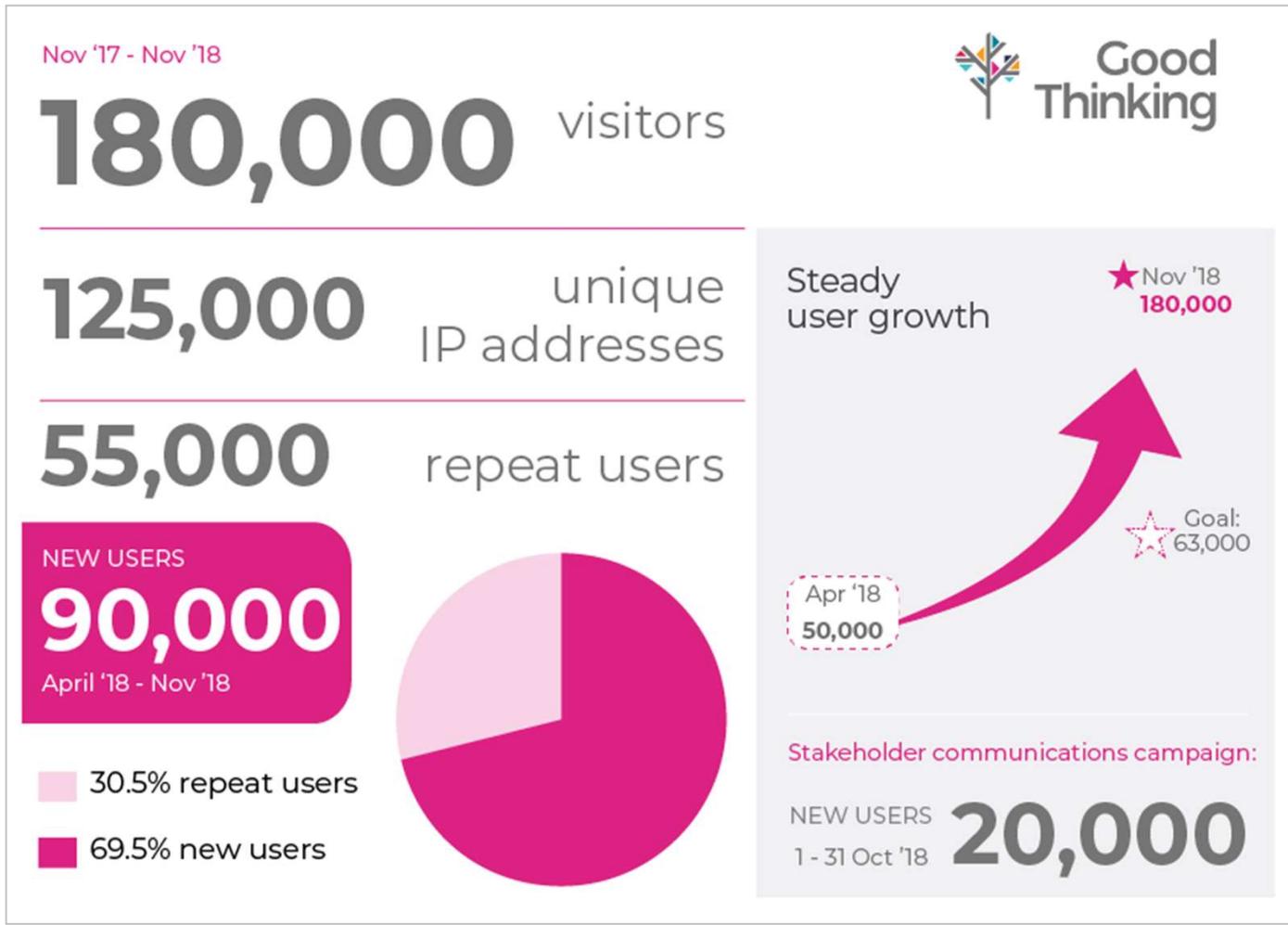
Musculoskeletal Mysteries

[Bo](#) Back Pain →

Mind Over Matter

[De](#) Depression →

# Good Thinking Usage to date



## Good Thinking usage to date



**180,000** visitors Nov '17 - Nov '18

**400,000** personalised searches

**72% free**



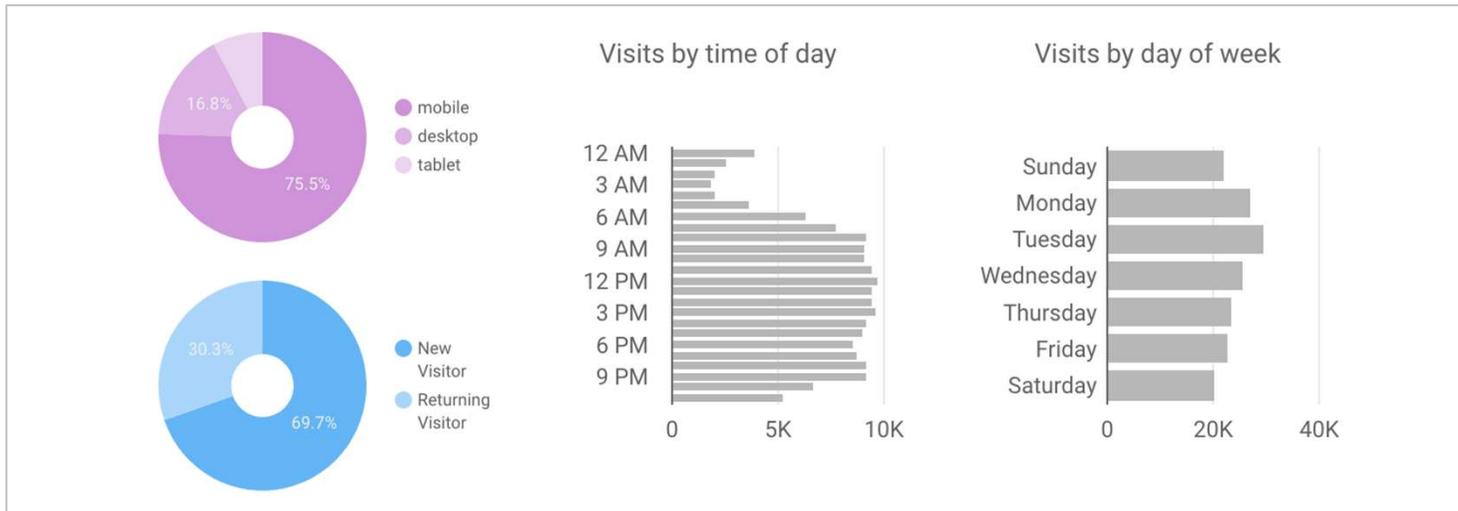
**107** unique resources for common mental disorders

**28% paid**

Common mental disorders
Anxiety
Low mood
Sleepless
Stress

No. resources to treat:		
	<b>62</b>	anxiety
	<b>69</b>	depression
	<b>56</b>	stress
	<b>53</b>	sleeplessness

# Visits by device, time, and day





MyCognition

© Sleepstation



FearFighter™  
Overcome Panic and Phobia



BeMindful.co.uk

AURA



Sleepio

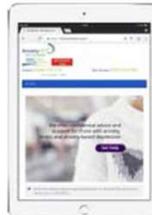
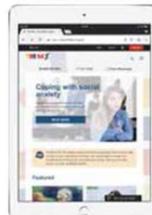


# Top 10 resources accessed



**Top 10 resources**

\* free for Londoners via Good Thinking

<p><b>1</b> <a href="#">Sleepio*</a></p> <p>Online programme that teaches proven techniques to fall asleep faster, stay through and wake up feeling refreshed.</p> 	<p><b>2</b> <a href="#">Be Mindful*</a></p> <p>Online mindfulness course to develop lifelong skills to help manage difficult emotions and better cope with life's stresses.</p> 	<p><b>3</b> <a href="#">NHS Sleep and tiredness advice</a></p> <p>Comprehensive health information and advice using videos, articles and other resources.</p> 	<p><b>4</b> <a href="#">Anxiety UK</a></p> <p>Support service for people living with anxiety; it provides information and support via an extensive range of services, including 1:1 therapy.</p> 	<p><b>5</b> <a href="#">The Campaign Against Living Miserably</a></p> <p>Free helpline and web chat support service for men feeling down or depressed for any reason.</p> 
<p><b>6</b> <a href="#">Rethink</a></p> <p>Charity providing expert, accredited advice and information to anyone experiencing a mental health problem.</p> 	<p><b>7</b> <a href="#">Mental Health Foundation</a></p> <p>Website with useful tools and resources for all things related to mental health and wellbeing.</p> 	<p><b>8</b> <a href="#">The Mix</a></p> <p>Online support service providing free, confidential support and counselling for young people under 25.</p> 	<p><b>9</b> <a href="#">Living Life to the Full</a></p> <p>Free online courses based on the principles of cognitive behaviour therapy to learn skills for coping with stress</p> 	<p><b>10</b> <a href="#">SAM</a></p> <p>Mobile phone app designed to help manage anxiety by building a personalised anxiety management toolkit.</p> 

## Work plan to end March 2019



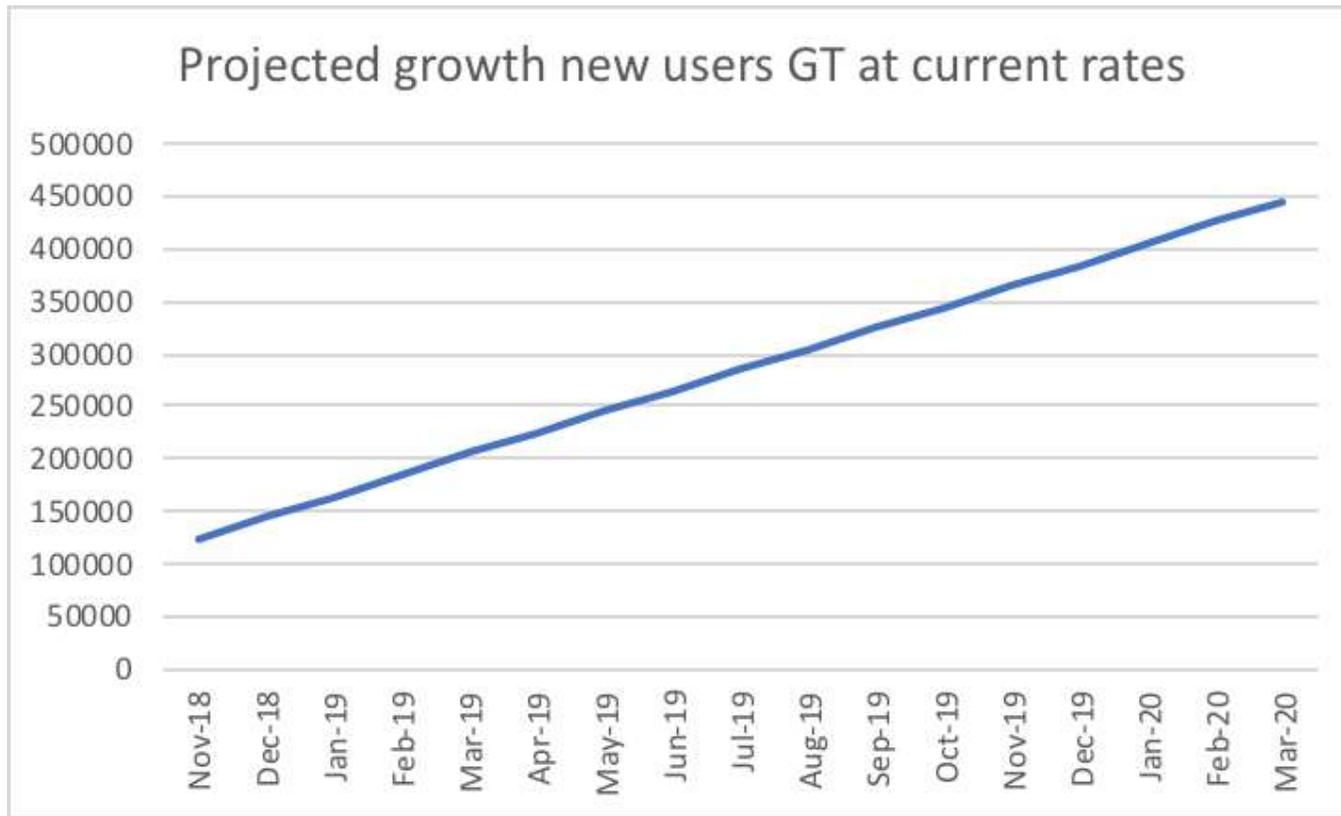
- Aim for 75% of local authority and NHS organisations in London to adopt Good Thinking as a source of self-care for employee well-being.
- Raise awareness to professionals in signposting to Good Thinking as a first-line self-help resource.
- Expand the service and campaign to 16 – 18 year olds.
- Commence initial peer-to-peer input through existing online community forums; making use of this group functionality to establish groups for people that cannot be found easily.
- Pilot and roll-out online self-referral to all London's Improving Access to Psychological Therapies (IAPT) services.

## Proposed work plan for 2019/20

- Scope out the use of Good Thinking to ages 13 – 16 (by 2020).
- Make Good Thinking available to all schools
- Further expand peer-to-peer networks.
- Explore direct referral into London's digital IAPT services.
- Good Thinking introduced to London's top 100 employers as part of their employee well-being support.
- 50% of London's universities using Good Thinking to support student wellbeing.
- Further testing and introduction of apps and resources.
- Exploration of mixed app and online peer support.
- Further development of a range of materials and resources to support the use and adoption of Good Thinking.

## Uptake projections

33% of population with common mental health conditions by 2020



# NHS Innovation Accelerator Exemplar



# Meet the Companies: 90 Second Pitches



@HINSouthLondon



healthinnovationnetwork.com

# braininhand

personal technology for independent living

*“Brain in Hand saves us money, but it also so good for those people who use it”*

Liz Fairhurst.  
Exec Member Adult  
Services HCC



Personal  
Planning



24/7 support



Self management



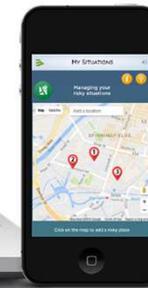
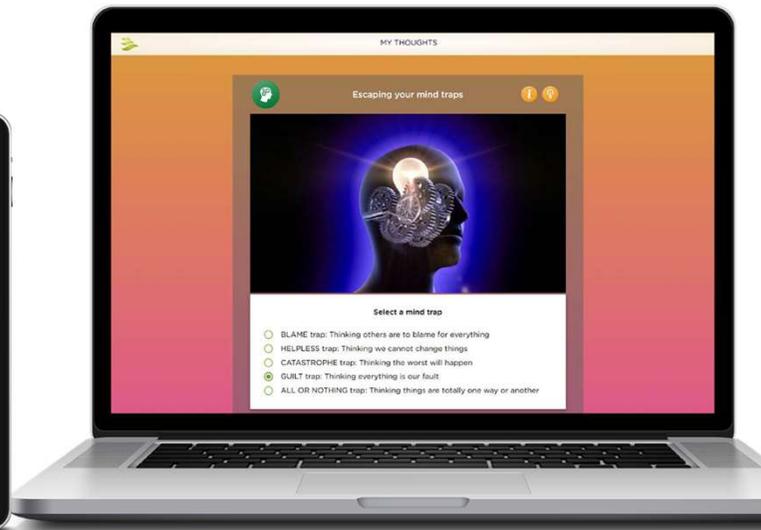
@brain\_in\_hand

David Fry  
07770950380  
davidfry@braininhand.co.uk  
[www.braininhand.co.uk](http://www.braininhand.co.uk)



# BREAKING FREE™

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@Breaking\_Free

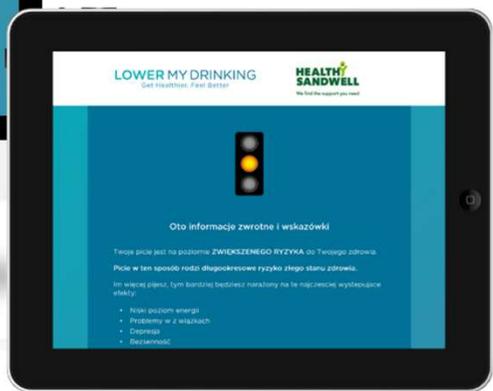
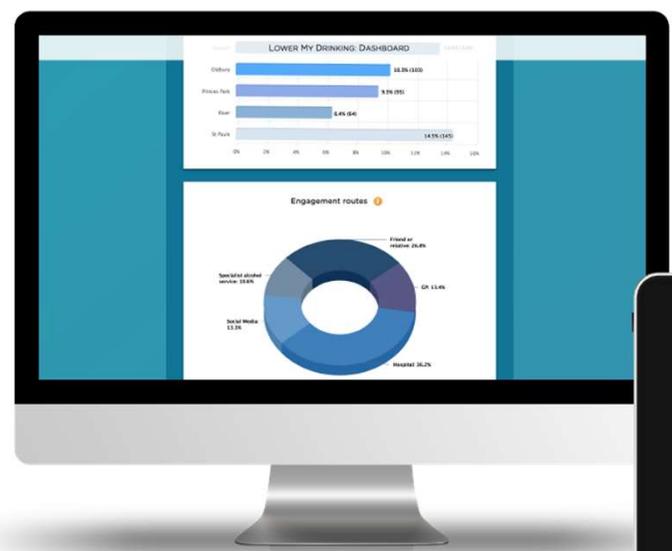
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# LOWER MY DRINKING

Get Healthier, Feel Better



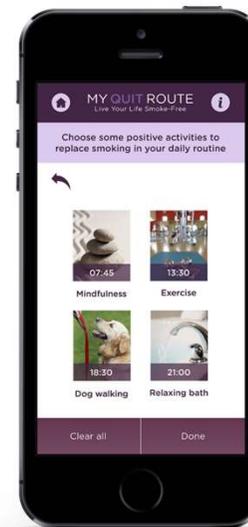
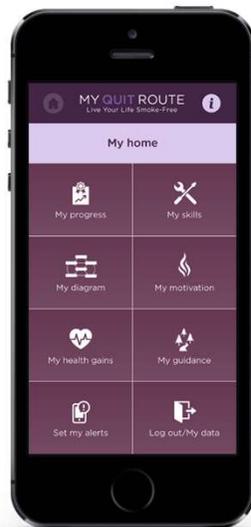
@Breaking\_Free

[breakingfreegroup.com](http://breakingfreegroup.com)



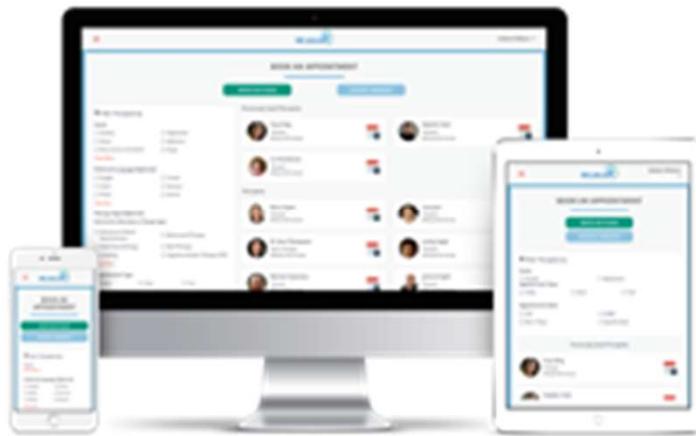
# MY QUIT ROUTE

Live Your Life Smoke-Free



[breakingfreegroup.com](http://breakingfreegroup.com)





@DrJulianapp

hin



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**IOCOM**<sup>®</sup>  
ADVANCED COLLABORATION | MADE EASY



@IOCOM

hin





# LOCUM'S NEST

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## Forget agencies



@LocumsNest

hin



# My Possible Self



@MyPossibleSelf



hin



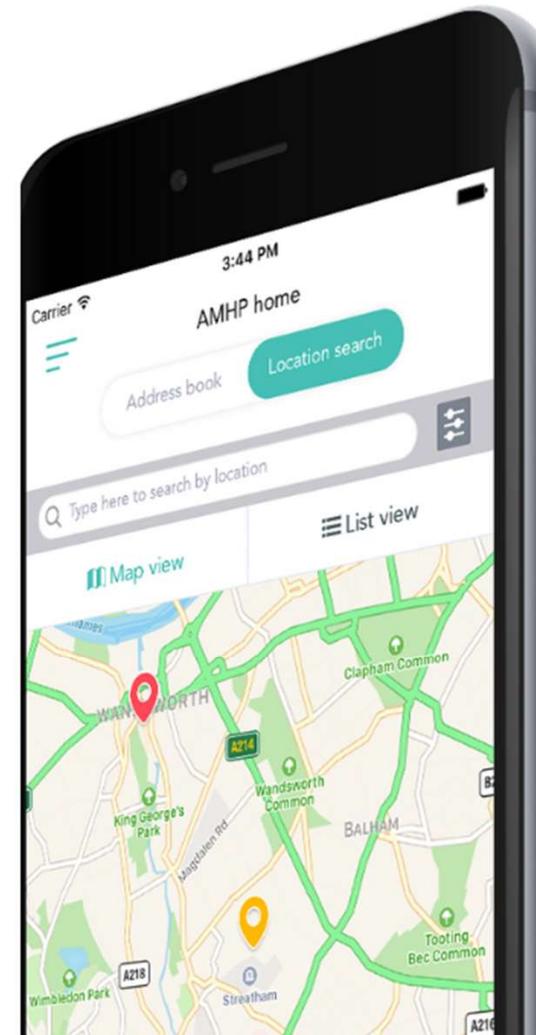


A platform that makes Mental Health Act assessment set-up and claim form submission quicker and simpler.

s12solutions.com  
info@s12solutions.com

 @S12Solutions

 @S12Solutions



The logo for hin, consisting of the lowercase letters "hin" in a blue, sans-serif font.

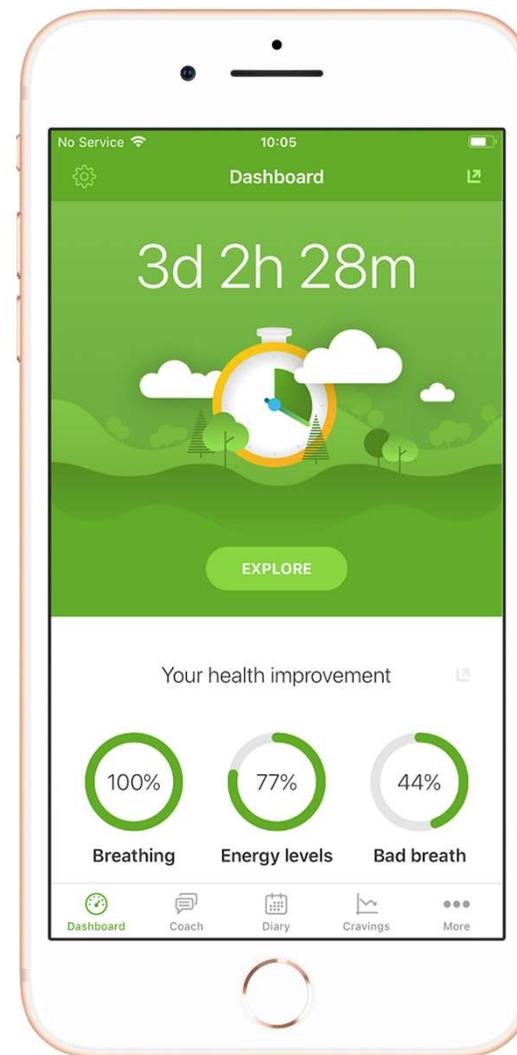


# Smoke Free

Stop smoking now



@SmokeFreeMobile



hin





**Innerstrength  
Health**

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Avril Copeland  
Founder/CEO



@TickerFit





## The Burden of Long Term Conditions



1% At clinic/hospital



@TickerFit



## The Burden of Long Term Conditions

1% At clinic/hospital

99% At home



@TickerFit



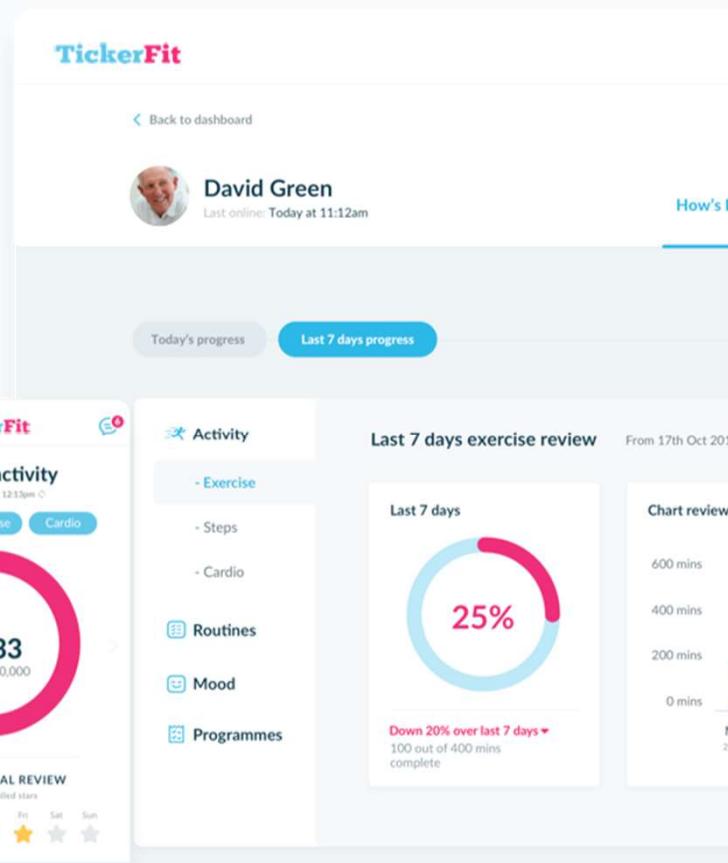
## Our Solutions - TickerFit



For the Primary & Secondary Prevention of Cardiovascular Disease

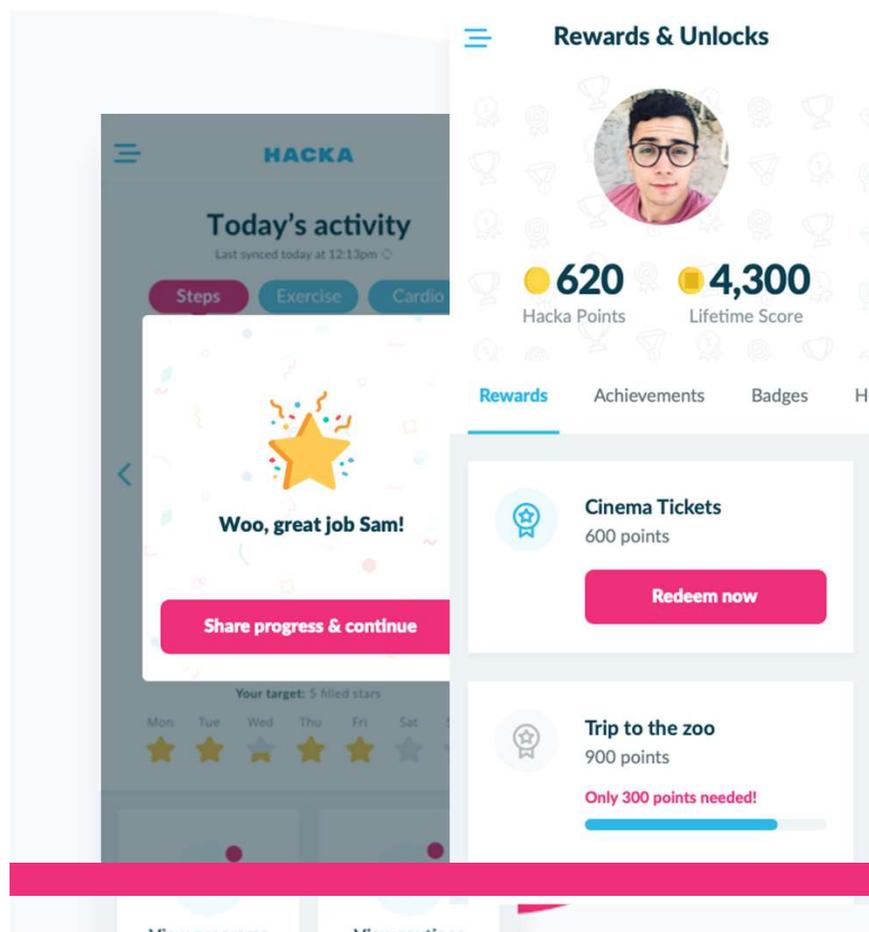


@TickerFit





## Our Solutions - Hacka Health



### For Young People Living with Cystic Fibrosis

- Tailored programmes of education & exercise
- Parent/guardian dashboard
- Trend data V's snapshot view





## Our Solutions - Mental Health

### For Mental Health

- Currently seeking clinicians, academics and patients to partner with to develop a solution to support patients living with mental health difficulties



@TickerFit





Thank you!

Avril Copeland  
avril.copeland@innerstrength.health



# Meet the Companies: Table Discussions

 @HINSouthLondon  [healthinnovationnetwork.com](http://healthinnovationnetwork.com)



Table:	Company:
1	Brain in Hand
2	Breaking Free Group
3	ORCHA
4	Dr Julian
5	IOCOM
6	Locum's Nest
7	My Possible Self
8	S12 Solutions
9	Smoke Free
10	TickerFit

# Opportunities & Challenges: Panel Discussion

Eve Critchley, MIND  
Liz Ashall-Payne, ORCHA  
Dr Asif Bachlani, South West London & St George's Mental Health NHS Trust  
Muj Husian, HIN Mental Health team  
Dr Jonty Heaversedge, Primary Care & Digital Transformation (London),  
NHS England

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# Thank you!



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