

# Early identification and assessment of frailty

Joanne Payne, Occupational Therapy Service Lead, NHS Ayrshire & Arran

Billy Davidson, Project Analyst, Clinical Informatics Team, NSS Digital and Security

Dave Kelly, Technical Director, Albasoft (Escro)

Supporting better quality health and social care for everyone in Scotland

# Welcome

## **Anthea Fraser**

National Professional Lead for Social  
Services,  
Healthcare Improvement Scotland

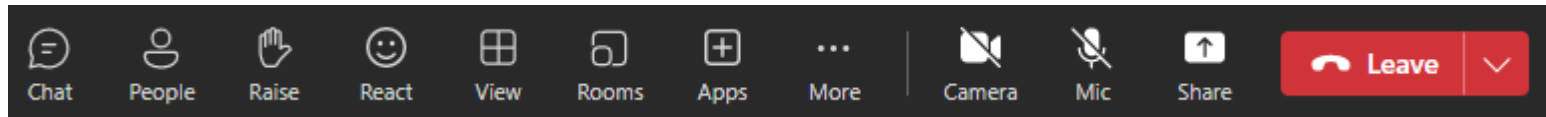


# Housekeeping

Use **Chat** to introduce yourself, raise any questions you may have for the speakers and also post comments.

**React** to others contributions with emojis.

Press **leave** at the end of the webinar.



Your camera and mic has been automatically switched off for this webinar

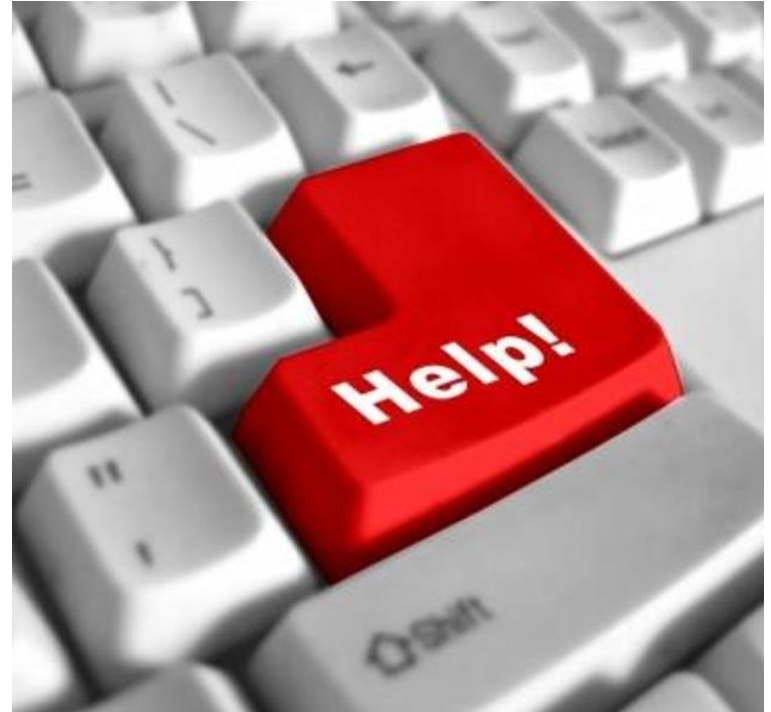
# Troubleshooting

Any technical issues please contact:

**Carol Ann Reid**

MS Teams chat @Carolannreid

Email: [carolann.reid@nhs.scot](mailto:carolann.reid@nhs.scot)





**This webinar will be recorded.**

**The link will be shared following the webinar to enable those not able to join us to listen to the session.**

# Agenda

Time	Topic	Lead
13:00	Welcome and introductions	Anthea Fraser, National Professional Lead for Social Services, Healthcare Improvement Scotland
13:05	Early identification and assessment of frailty	Joanne Payne, Occupational Therapy Service Lead, NHS Ayrshire & Arran
13:35	Update on Albasoft (Escro)/NSS Digital and Security in relation to eFI	Billy Davidson, Project Analyst, Clinical Informatics Team, NSS Digital and Security Dave Kelly, Technical Director, Albasoft (EScro)
13:45	Q&A	All
14:00	Thank you and close	Anthea Fraser, National Professional Lead for Social Services, Healthcare Improvement Scotland

## **Joanne Payne**

Occupational Therapy Service Lead,  
NHS Ayrshire & Arran

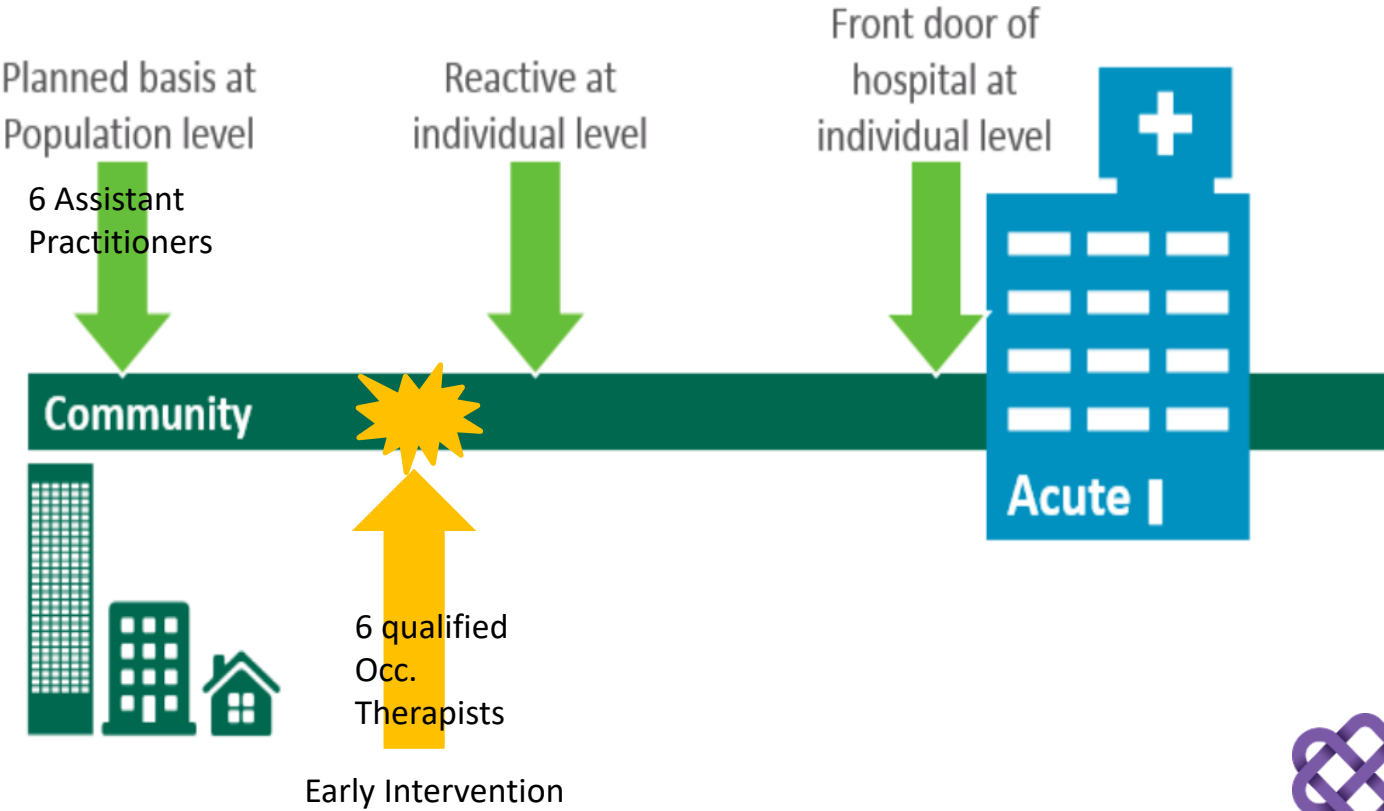


# Overview

- Background
- Service structure
- Measuring outcomes
- Electronic Frailty Index
- Impact on wider system



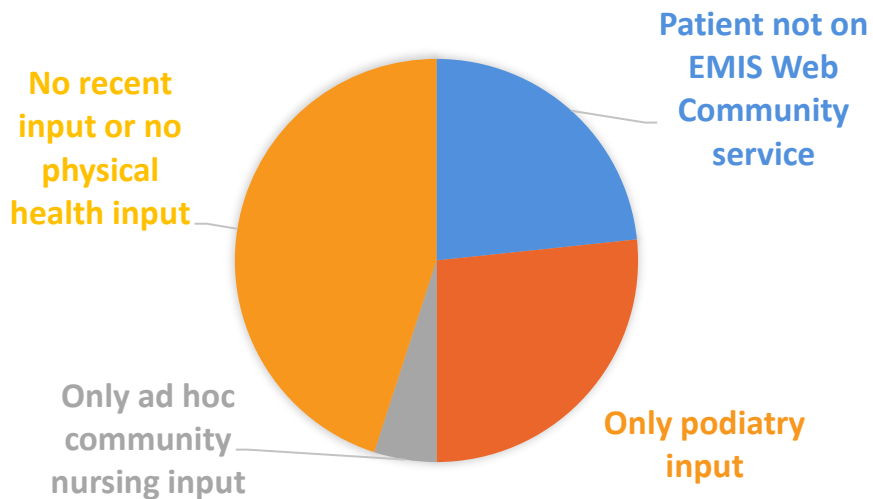
# Background



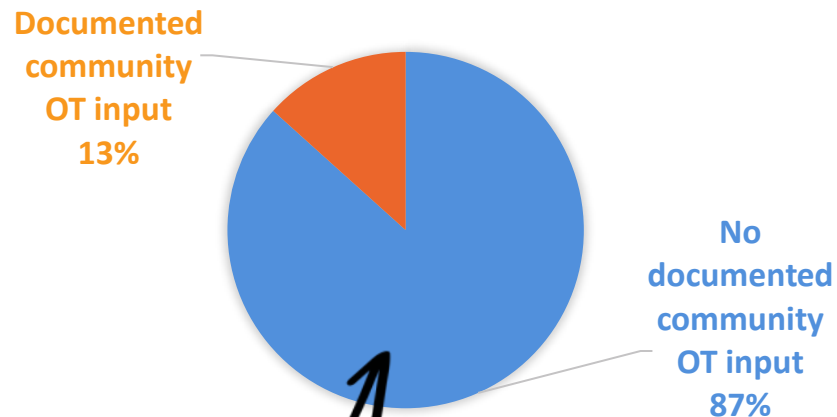
Source: iHub (2019)

# Benchmark exercise

## BREAKDOWN OF PREVIOUS SERVICE USE OF PATIENTS SCREENED AS SUITABLE FOR EARLY INTERVENTION



## PROPORTION OF PATIENTS WITH EMIS-WEB DOCUMENTED COMMUNITY OT INPUT



Possible unmet OT-related functional needs?

# Service structure

- Funding for 6 band 4 Occupational Therapy Assistant Practitioner and 6 qualified Occupational Therapists
- Band 4 Assistant Practitioners creating networks in the community to encourage individuals to have conversations about maximising their independence
- Qualified Occupational Therapy staff aligned to Primary Care settings. Currently the team are covering 10/18 practices

Workstream 3 - Proactive, co-ordinated community-based care  
**Driver Diagram**



# Service structure

## Referral by GP practice staff:

Partnered with GP practices, developed through OT-led relationship building, MDT meetings, physical presence in surgeries and shared records access

## eFI screening:

Using eFI Moderate frailty lists, with clinical reasoning to identify and proactively contact patients

## Self-referral:

From local leaflet distribution & community engagement

## Other:

Through relationships with other professionals

## Initial assessment

### OT-led assessments

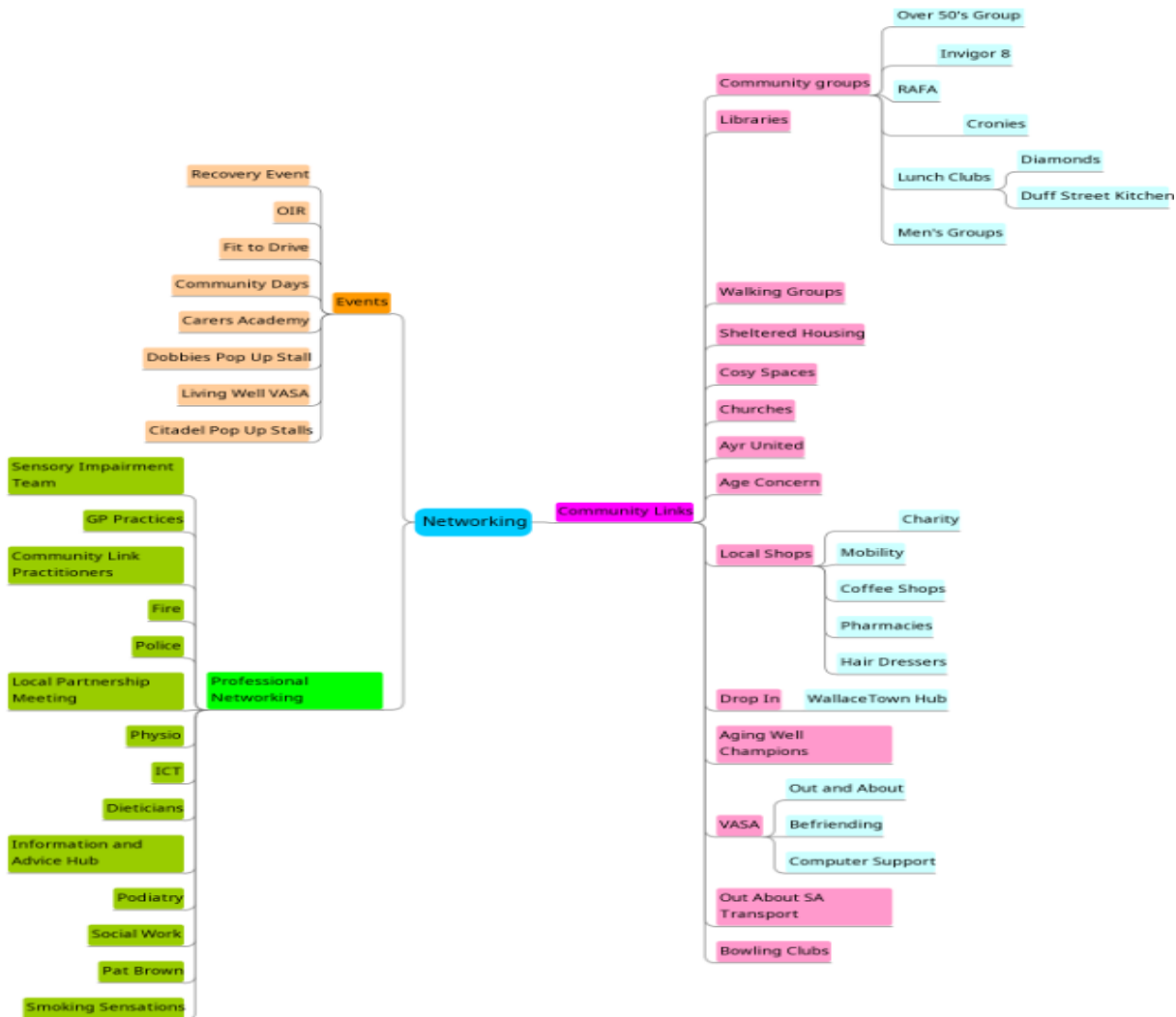
- Frailty indicators
- Core OT functional assessment
- Standardised tools

### OTAP-led wellbeing reviews

OR redirection to secondary care services

Interventions

Outcomes



## STAY AHEAD OF THE CURVE



Do you feel that you would benefit from a **FREE** health and wellbeing review from the comfort of your own home?



- Have you noted a decline in your appetite?
- Can you be unsteady on your feet at times?
- Are you easily tired?
- Do you feel lonely or isolated?
- Have you noticed any difficulties attending to your usual tasks?
- Has moving around your home become more of an effort?



As we age it may feel like our bodies are slowing down. Often this is accepted as normal part of the aging process.

However, we can make a difference to how we age, and getting older does not have to mean losing your independence.

**We are here to help.**

As an Occupational Therapy Team we understand how to support people to manage healthy ageing. With our help, you can make a difference to how you age well.

Please get in touch if you would like to have a chat with one of our team to see if we can help support you to live your life in a way that is important to you, a life as independent as possible.

**Contact us today!**

01292 665699

aa.clinicalstayingaheadofthecurve@aapct.scot.nhs.uk

Stay ahead of the curve with the LifeCurve App:



# Assessment

- Two levels of assessment were created based on Comprehensive Geriatric assessment and Frailty indicators
- Wellbeing review
- Frailty assessment

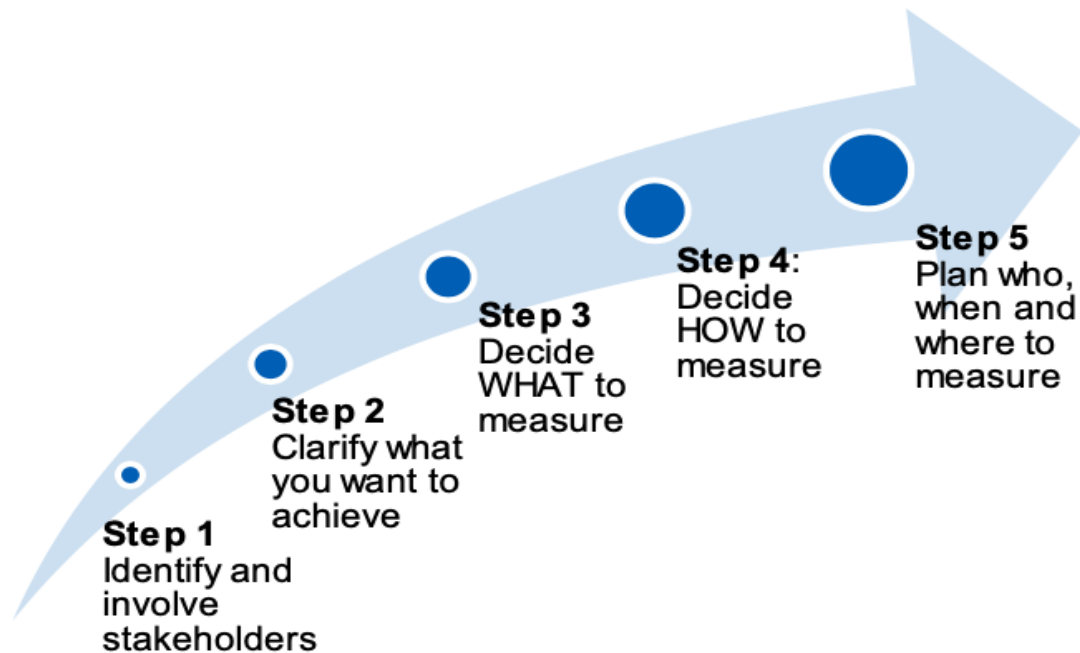


# Questionnaire

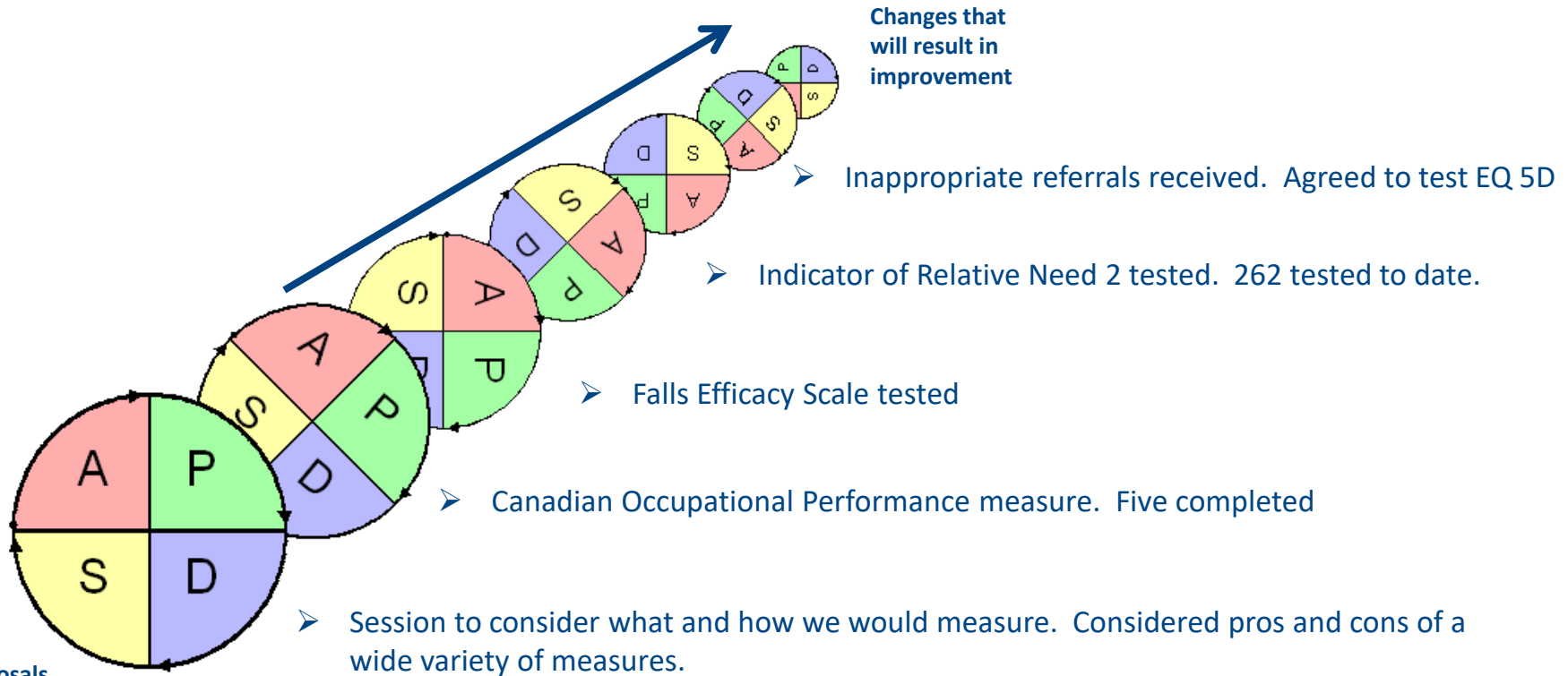
Getting to know you Lifestyle Questionnaire					
Discuss and record any concerns					
	YES	NO		YES	NO
Are you physically active?			Have you had any slips, trips or falls in the past year?		
Do you smoke?			Do you drink alcohol?		
Do you have any difficulties with hearing?			Do you have any difficulties with your vision?		
Do you have any skin problems?			Do you have any difficulties with continence?		
Do you have any problems with your feet?			Can you cut your toe nails?		
Do you eat a healthy diet?			Do you drink plenty of fluids?		
Do you have hobbies and interests?			Do you feel supported?		
Do you worry or experience low mood?			Do you have difficulties with your memory?		
Do you feel lonely or isolated?			Do you experience pain or discomfort?		
Additional Information (any other concerns);					

Frailty Indicator	Self-managing	Concern or clinical input required	Comments
Physical activity level			
Hand Function			
Falls			
Fear of falling			
Dizziness or blackouts			
Pain			
Medication management			
Nutrition and fluid intake			
Dysphagia			
Continence (Bowel/Bladder)			
Skin			
Foot care			
Sensory (vision, hearing and touch)			
Mental Health			
Loneliness/isolation			
Memory			
Smoking/alcohol consumption			

**Figure 1: Five steps to choosing how to use measurement in supported self-management**



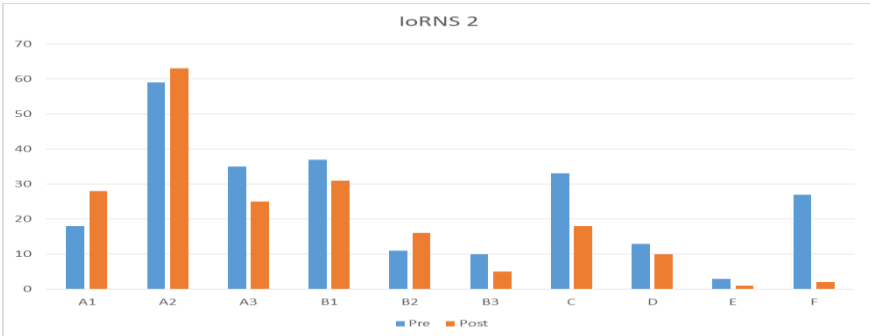


# How do we measure?

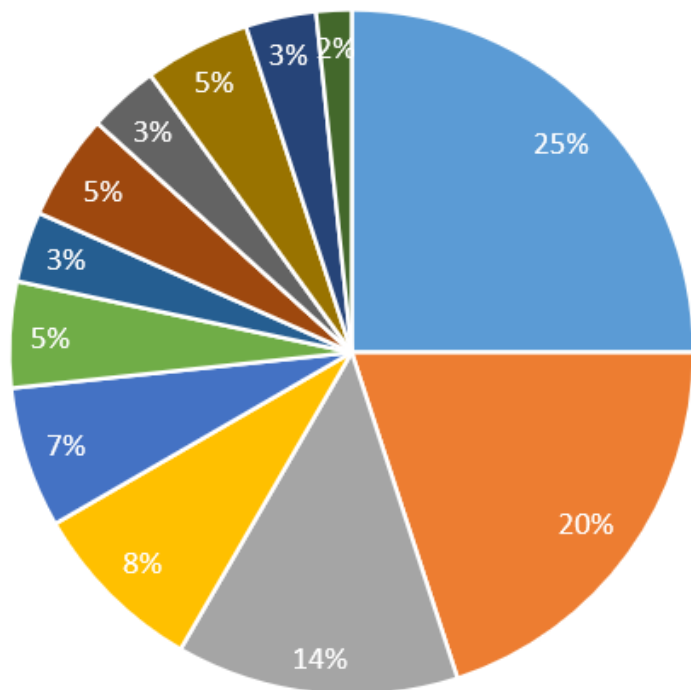


Proposals,  
theories,  
hunches,  
intuition

# Service outcomes

	Scale & detail	Pre-intervention	Post-intervention	Change
<b>Rockwood Clinical Frailty Scale (CFS)</b>	1 – 9 <i>Higher number indicates greater frailty</i>	4.5 (n=262) <i>'Vulnerable' to 'Mildly Frail'</i>	4.3 (n=262)	4.5%
<b>EQ-5D</b>	1 – 25 <i>Higher number indicated greater degree of problems with aspect of ADLs</i>	Qualified staff 12.8 (n=121)  Assistant Prac. 11.1 (n=105)	10.4 (n= 121)  7.8 (n=105)	 21% 30%
<b>Self-Management Ability Scale (SMAS)</b>	1- 60 <i>Higher number indicates greater self-management knowledge, confidence and skills</i>	39.4 (n=36)	45.6 (n=36)	 16%
<b>Indicator of Relative Need 2 (IoRN2)</b>	A – G <i>Non-numerical scale, earlier alphabetical letters indicate greater independence with ADLs.</i>			

# Interventions



- Equipment provision
- Falls prevention advise
- Community alarm referral
- Mental Health advise
- Sleep hygiene
- Carers support
- Signposting to Community resources/third sector
- Invigorate
- Goal setting
- Pain management advise
- Fatigue management
- Confidence building

# Electronic Frailty index

## Disease State



Arthritis



Diabetes



Heart Valve Disease



Parkinson's Disease



Skin Ulcer



Atrial Fibrillation



Foot Problems



Hypertension



Peptic Ulcer



Stroke and TIA



Dizziness



Polypharmacy



Activity Limitation



Requirement for Care



Anaemia & Haematinic Deficiency



Chronic Kidney Disease



Fragility Fracture



Hypotension /Syncope



Peripheral Vascular Disease



Thyroid Disorders



Falls



Urinary Incontinence



Hearing Loss



Vision Problems - Blindness



Coronary Heart Disease



Heart Failure



Osteoporosis



Respiratory Disease



Urinary System Disease



Memory and Cognitive Problems



Weight Loss and Anorexia



Mobility and Transfer problems

## Symptoms / Signs

## Disability

## Abnormal Lab Value

# Electronic Frailty index

35%  
Mild frailty



15%  
Moderate frailty



5%  
Severe frailty



20%

40%

70%

Risk of hospitalisation

*People registered with test GP practices aged 65 and over*



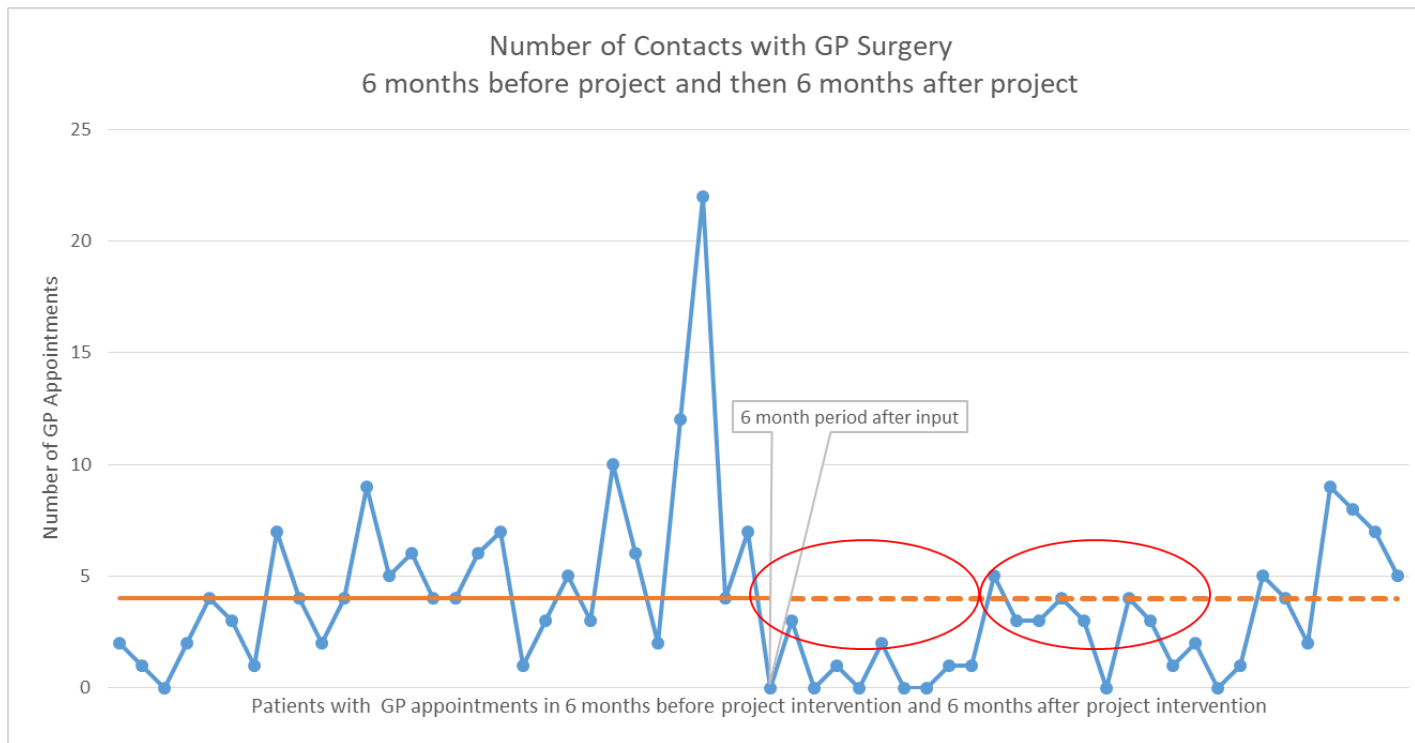
# eFI

- Pilot in one practice.
- 105 moderate list (45 triaged out)
- Letter sent out with follow up phone call after two weeks
- Of the 60 individuals left on the list 34 individuals accepted a frailty assessment.
- Pre EQ 5D 12.7
- Post EQ 5D 10.1
- Rockwood CFS – 4.5

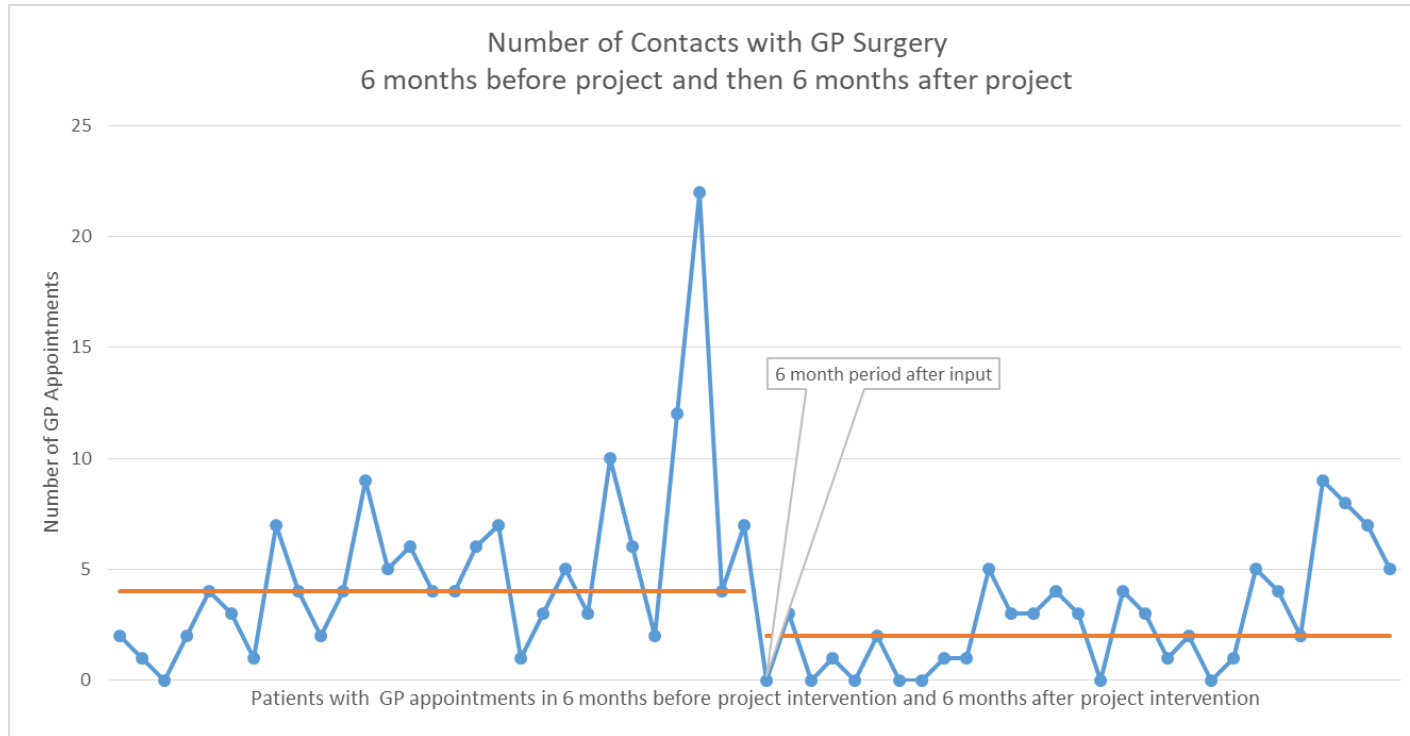
# Lessons learned

- Not perfect
- Variance in how items are coded and if they are coded
- One of a number of useful ways of proactively identifying individuals

# Impact on wider system



# Impact on wider system



# Establishing reliable predictors of frailty from primary care data



## Billy Davidson

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## Dave Kelly

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# Scottish Frailty Projects

## Current frailty workflows

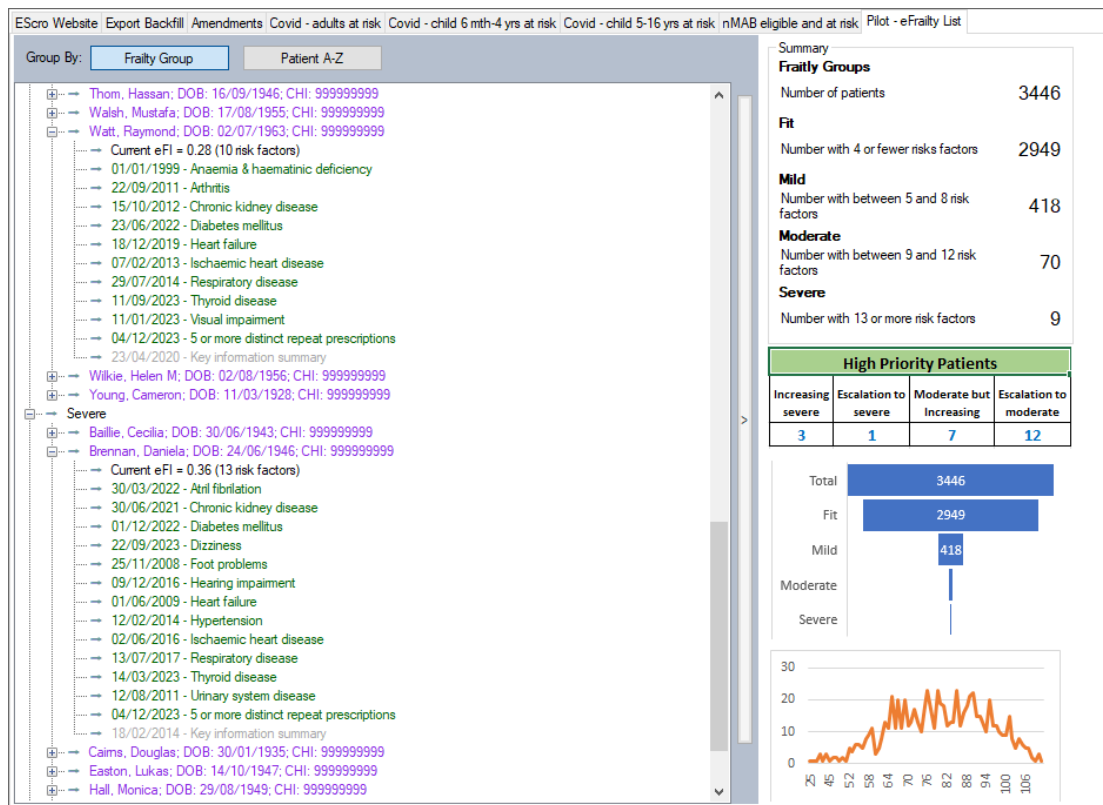
- **SPIRE eFrailty transition**  
Migration of existing eFI calculator to Escro platform  
Primary Care Intelligence Service for Scotland (PCIS)
- **STU – Polypharmacy indicators**  
Polypharmacy Review in Adults living with Moderate to Severe Frailty  
Therapeutics Branch Scottish Government ([Alpana.Mair@gov.scot](mailto:Alpana.Mair@gov.scot))
- **NHS Highland**  
Using Primary and Social Care Data To Optimise The Identification Of Patients At Risk Of Frailty In Highland. ([stephen.makin@abdn.ac.uk](mailto:stephen.makin@abdn.ac.uk))
- **AnticiPal** – Supportive and Palliative care Indicator Tool (SPICT)  
Searching GP records and care-planning in the community  
([Scott.Murray@ed.ac.uk](mailto:Scott.Murray@ed.ac.uk), [Bruce.Mason@ed.ac.uk](mailto:Bruce.Mason@ed.ac.uk))



# SPIRE eFrailty and eFI algorithm

Existing SPIRE eFrailty model integrated into the “Escro vaccination tool” and deployed in pilot to ALL Scottish GP practices.

Now in final stages of testing





# STU risk indicators

Developed initially from the “Lean in Lothian” project, **STU** has evolved over the past several years as the most advanced risk-based case finding review tool for practice-based pharmacists in the UK



## Scottish Therapeutics Utility

- Updates
- Dashboard
- Number of repeats
- Repeatable acutes
- Duplicate issues
- All repeats issued
- Repeats not issued
- Priority patients
- CMS
- EFIPPS
- Respiratory
- Chronic pain
- Antidepressants, benzos and z-drugs
- Diabetes
- Polypharmacy**
- Clinical safety checks

Export to excel > Polypharmacy - Select filters from the options A to C below to identify patients for medication review

Data tables

A: CHI number OR Surname  
 Enter 10 digit CHI number, OR

B: Age and number of repeat items  
 All ages Age All

C: Select ONE of the following: Any/all indicators  
 Any/all indicators

Select	Risk group	No of patients
<input type="checkbox"/>	Falls, fractures, delirium	184
<input type="checkbox"/>	Bleeding	165
<input type="checkbox"/>	AKI	125
<input type="checkbox"/>	Hypotension	28
<input type="checkbox"/>	Cardiac decompensation and/or bradycard	21
<input type="checkbox"/>	Opioid and gabapentinoid dependency	19

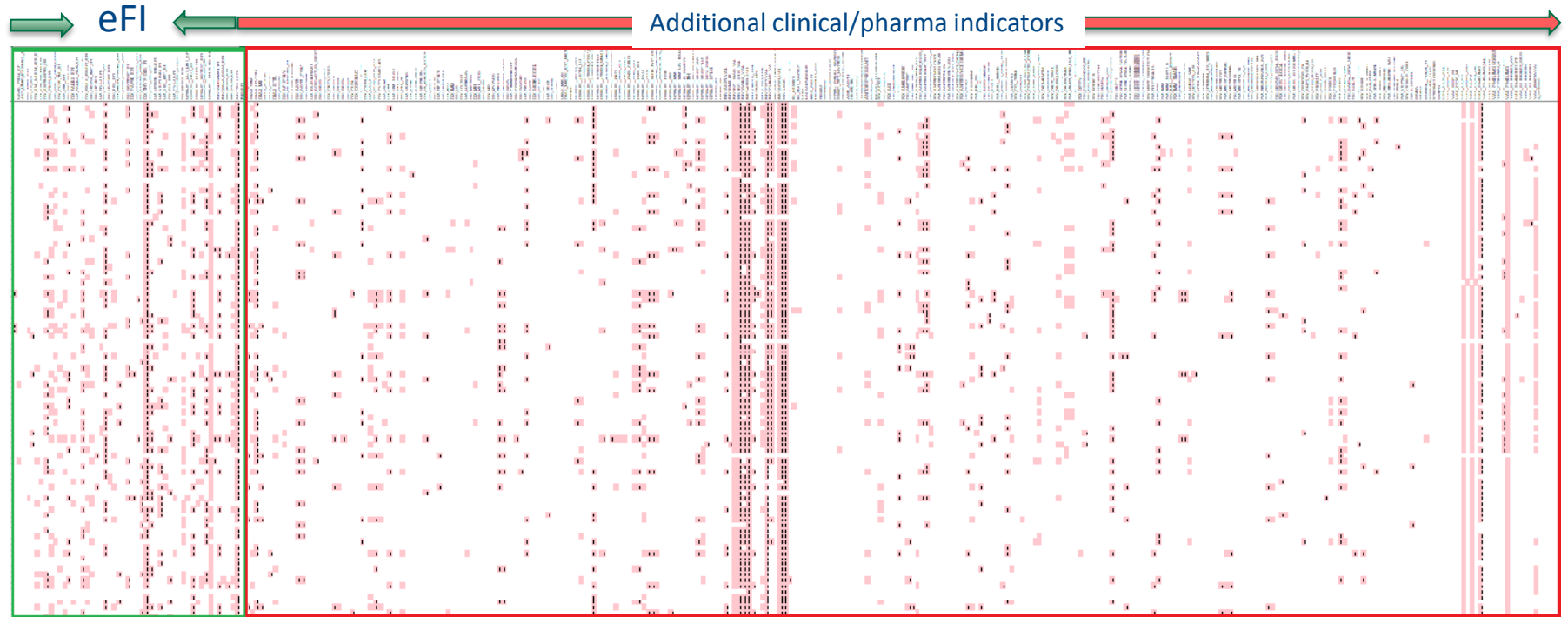
Select	Indicator	Description	No of patients
<input type="checkbox"/>	IND_169	Aged 65 years or older and on drug(s) with significant sedating or anticholinergic effects (excluding drugs only for epilepsy)	174
<input type="checkbox"/>	IND_135	CKD stage 3, 4 or 5 or eGFR <60ml/min and on an NSAID.	75
<input type="checkbox"/>	IND_090	On an ACEI/ARB and a diuretic and on an NSAID	67
<input type="checkbox"/>	IND_084	Aged 65 years or older and on an NSAID WITHOUT gastroprotection	66
<input type="checkbox"/>	IND_085	On an antiplatelet and on an NSAID (with or without gastroprotection)	44
<input type="checkbox"/>	IND_134	CKD stage 3, 4 or 5 or eGFR <60ml/min and on an ACEI or ARB and on an NSAID.	44
<input type="checkbox"/>	IND_083	Previous gastrointestinal ulcer and on an NSAID (with or without gastroprotection)	33
<input type="checkbox"/>	IND_136	CKD stage 3.4 or 5 or eGFR <60ml/min and on a diuretic and on an NSAID.	26
<input type="checkbox"/>	IND_033	Aged 75 or older on BP lowering treatment and SBP is less than 110 or DBP less than 65mmHg	22

Right click on a patient to display further options.

Name	CHI Number	Age	No of indicators triggered	No. of items	Risk categories	Last
WILLIAM MCLAUGHLIN	1174160367	76	8 (Indicator numbers: 041, 086, 135, 136, 154)	18	Cardiac, Bleeding, Renal, HypoNa+, Falls	
HOLLIE Boyle	7710351676	89	7 (Indicator numbers: 087, 090, 099, 134, 135)	17	Bleeding, Renal, Falls, HyperK+	
Roderick Gilmour	4398432902	86	7 (Indicator numbers: 033, 084, 090, 134, 135)	11	LowBP, Bleeding, Renal, Hypoglyc	
FERGUS McNeil	3975570851	82	7 (Indicator numbers: 084, 090, 112, 134, 135)	6	Bleeding, Renal, HyperCa++, Falls	
Yvonne Pollock	7212127956	66	7 (Indicator numbers: 083, 085, 087, 089, 134)	21	Bleeding, Cardiac, Renal, Falls	
James Robert Barnes	7238608347	91	6 (Indicator numbers: 084, 135, 136, 161, 165)	9	Bleeding, Renal, LowBP, Falls	
James P MURDOCH	8085066046	82	6 (Indicator numbers: 158, 160, 161, 165, 167)	14	Hypoglyc, LowBP, Falls	

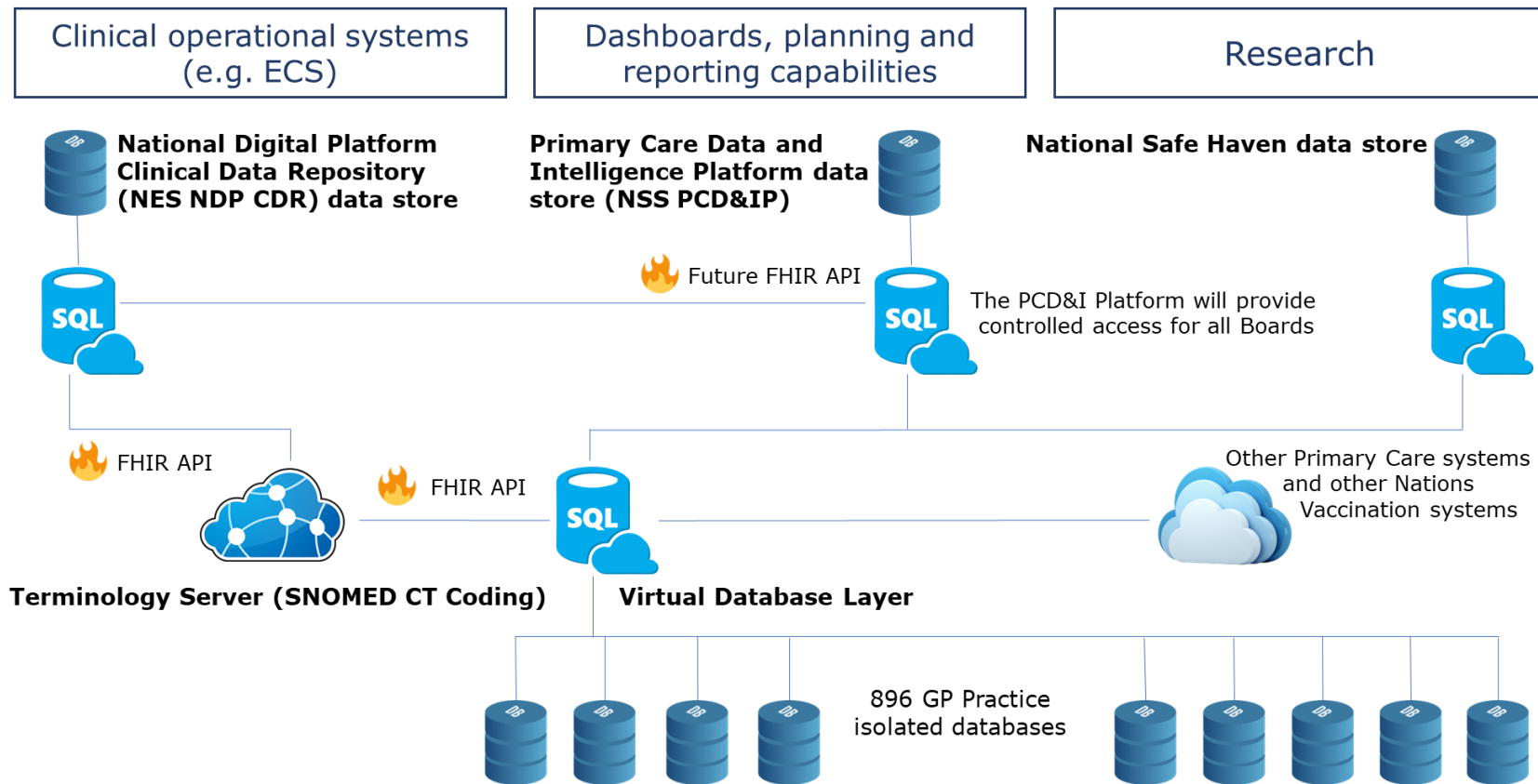


# Potential indicators available (350+)



An ideal opportunity for the testing/implementation of Machine Learning (AI)

# Primary Care Data and Intelligence Platform



# Questions



# Evaluation form

[Webinar evaluation form](#)



# Keep in touch

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Blog: [blog.healthcareimprovementscotland.org](http://blog.healthcareimprovementscotland.org)



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