



Use of Patient Need Groups (PNGs) to Supportive Innovative Care Programmes in Frimley ICS

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Use of Patient Need Groups (PNGs) to Supportive Innovative Care Programmes in Frimley ICS

<p>Context</p>	<ul style="list-style-type: none"> • At Frimley ICS, and through our ConnectedCare programme, we have developing our digital shared care record and population health capability for many years • A key enabler of population health approaches is to use population segmentation, so that groups of individuals with common needs can be identified and solutions developed that will improve outcomes and reduce health inequalities 		
<p>Key challenges</p>	<ul style="list-style-type: none"> • Lots of options – Resource utilisation bands, bridges to health, PNGs, age bands, deprivation deciles, frailty, chronic conditions • Choosing a model that resonates, where segment descriptions are clinically meaningful and requires little explanation • Segments that can be helpful from individual level through to strategic level • Integrating segmentation info into clinical systems • Sticking with it, maintaining confidence in the methodology among our stakeholders • Using it appropriately – clinical judgement always supersedes any decision support tool 		
<p>Our approach</p>	<p><i>We have established Patient Need Groups as our segmentation model of choice across our system, integrating into clinical and population health management systems and developing its use at both strategic and tactical levels simultaneously through a range of use cases</i></p>		
<p>How we have done it</p>	<p>Implementing ACG in our shared care record</p> <ul style="list-style-type: none"> • Underpinning shared care record that calculates patient segments and applies ACG model through our shared care record provider (Graphnet) • Data then flows information into local pop health tools and back in to clinical systems (e.g. Emis) 	<p>Build understanding and trust in the model</p> <ul style="list-style-type: none"> • Engagement with wide range of stakeholders to explain the model and how it describes their own population • Process for investigating and validating abnormal results • Ensuring principles of how it can be used as a decision support tool are clearly established 	<p>Use the data to drive improvements</p> <ol style="list-style-type: none"> 1. Strategic service design (e.g. Urgent Care) 2. Improving access and demand management (e.g. Primary care) 3. Casefinding for proactive interventions (e.g. Remote monitoring)
<p>Future priorities</p>	<ul style="list-style-type: none"> • Improving seamless flow of information through use of APIs • Scaling out examples of local innovation across our system • Focus on development of evaluation tools, where segmentation helps establish robust control groups 		





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Implementing ACG in the shared care record

Patient Needs Groups Segmentation

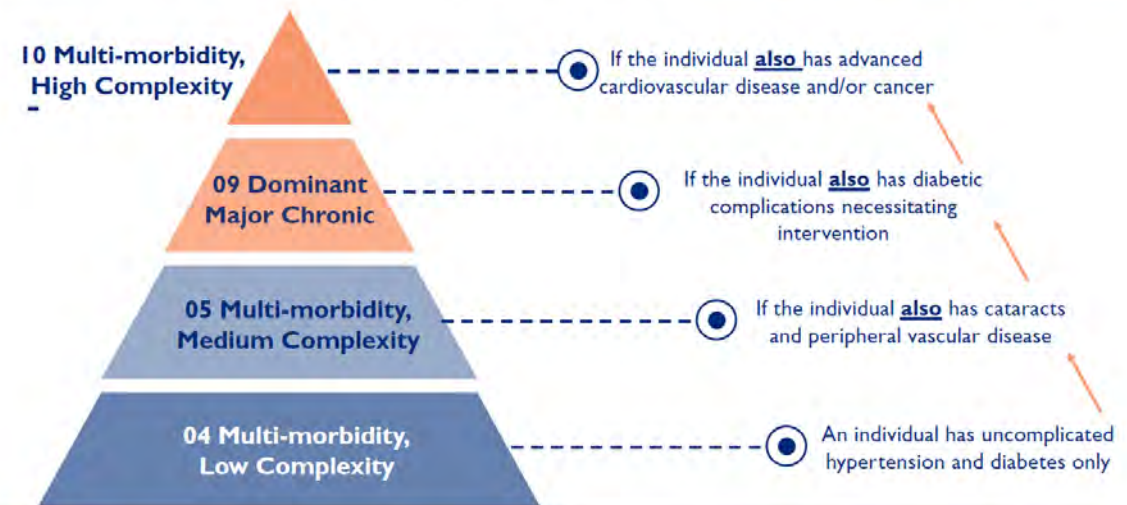


Patient Needs Group (PNG) Segmentation Overview

- The segmentation is based on the Johns Hopkins ACG System, which has been used globally for over 30 years and calibrated for the UK population.
- Patient Needs Group Segmentation refines the current multimorbidity approach in risk stratification.
- It assigns patients into clinically-relevant categories that are easy to understand and apply in a clinical setting.
- The segmentation consists of **11 mutually exclusive and hierarchical groups**.
- These groups are **further divided into a traffic light system (Red, Amber, and Green)**.
- PNG categories help understand a population's health needs & analysing utilisation patterns.
- PNG segmentation also supports developing services and clinical programmes, as well as targeted interventions.

A Clinical Example of How Segments are Defined

Individuals are categorized into higher PNGs segments based on the **severity of their condition and comorbidities**.



ACG Patient Need Groups

PNG01	PNG02	PNG03	PNG04	PNG05	PNG06	PNG07	PNG08	PNG09	PNG10	PNG11
Non User	Low Need Child	Low Need Adult	Multi-Morbidity Low Complexity	Multi-Morbidity Medium Complexity	Pregnancy Low Complexity	Pregnancy High Complexity	Dominant Psychiatric Condition	Dominant Major Chronic Condition	Multi-Morbidity High Complexity	Frailty



PNG User Cases

- Broad initiatives for improving access
- Loaded onto EMIS, practices provided patient lists to support admin/care navigators/ FOH staff.
- Case mix adjustment in Primary Care
- Pop health planning – E.g. Incorporation (along with other criteria) as a case-finding characteristic e.g. Red patients + recent admission
- Targeted interventions for specific conditions / comorbidities / frailty groups
- Candidates for enrolment in initiatives like virtual wards or MDTs

Data Flows used in ACG Linked Primary Care and Secondary Care data (ICD/SNOMED/Read) Dm+d

- Full list of diagnoses recorded/drugs prescribed in previous 12 months
- List of long-term conditions ever in health record
- For hospitalisation predictive models we also want activity in last 12 months

Connected Care Ecosystem



1 Shared care Record

A single view of an individual's care data to support the delivery of high quality, appropriate and effective health and social care



2 Population health

Insight and Intelligence at population and individual level to support integrated and proactive care priorities



3 Remote Monitoring

Supporting patients who may be at risk, by providing a clinical safety net



4 Resident Facing

Helping Residents to manage their Own Health and Wellbeing e.g. apps





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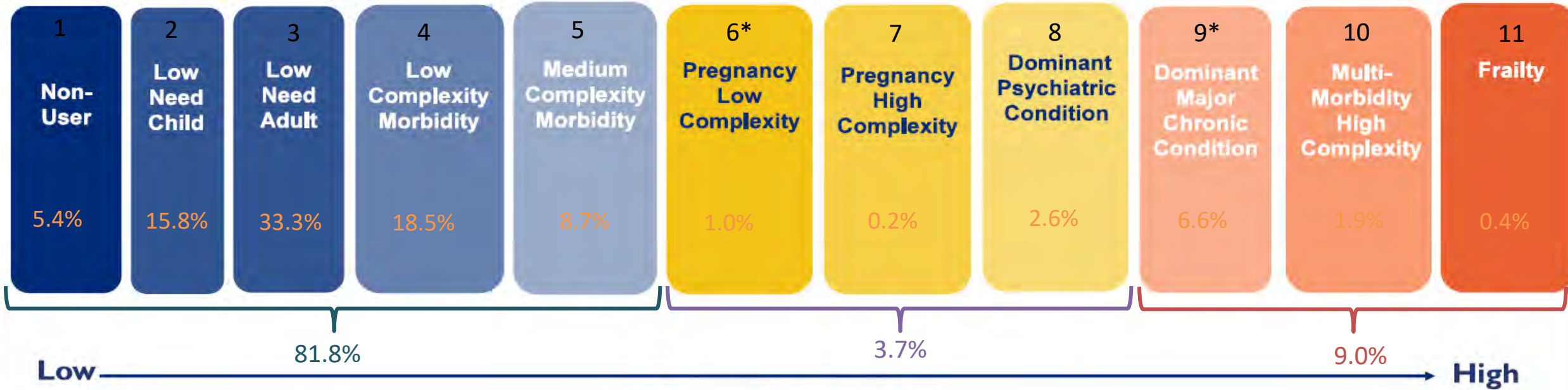
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Building understanding and trust in the model

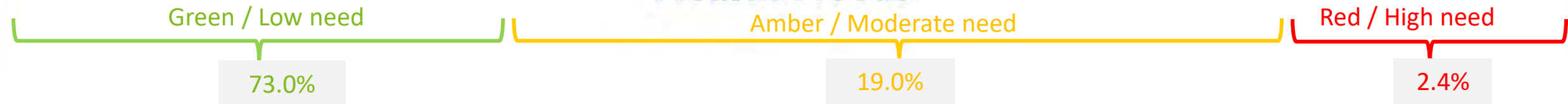
Patient Need Groups and our local grouping into Red, Amber and Green



Health Needs



Health Needs



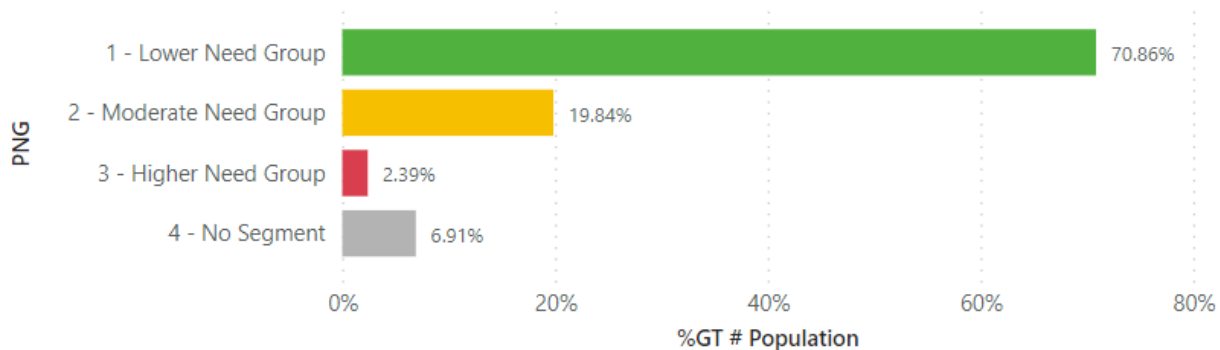
Patient Need Group

Proportions across Frimley ICS

Total Population

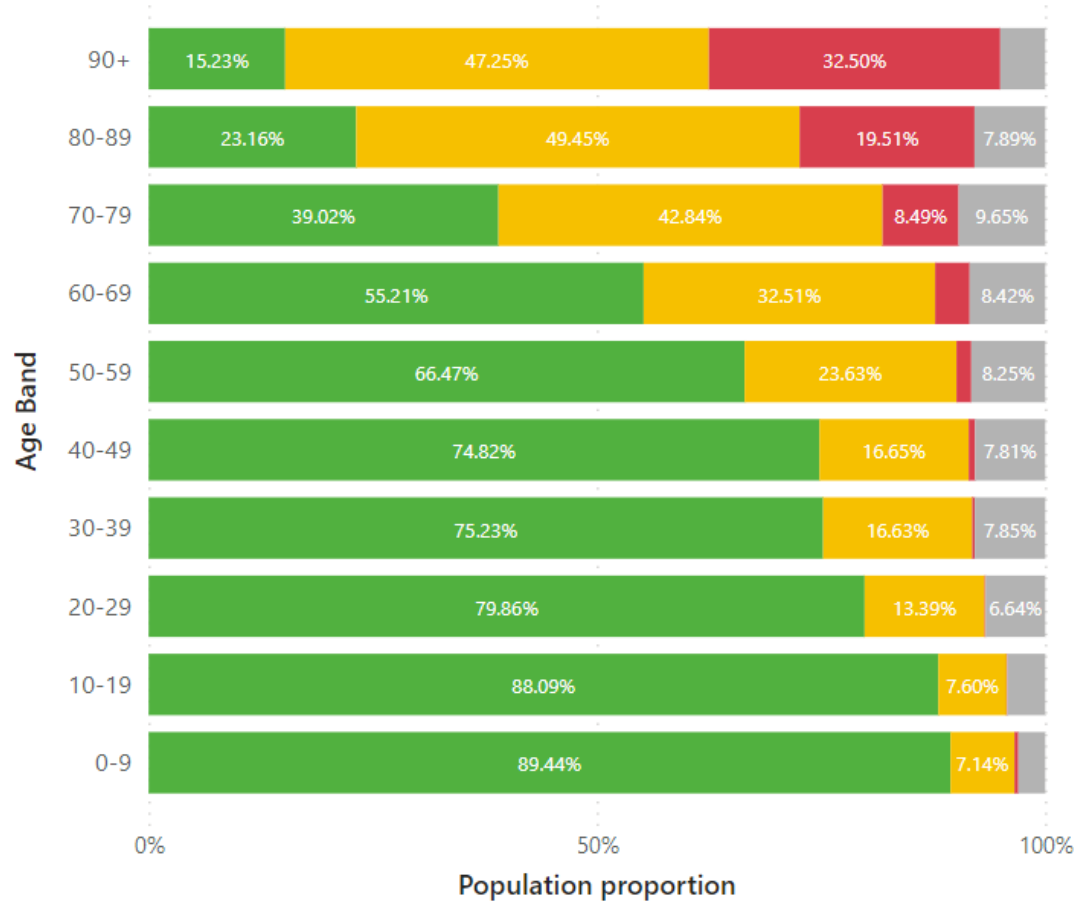
819K

% Population by RAG



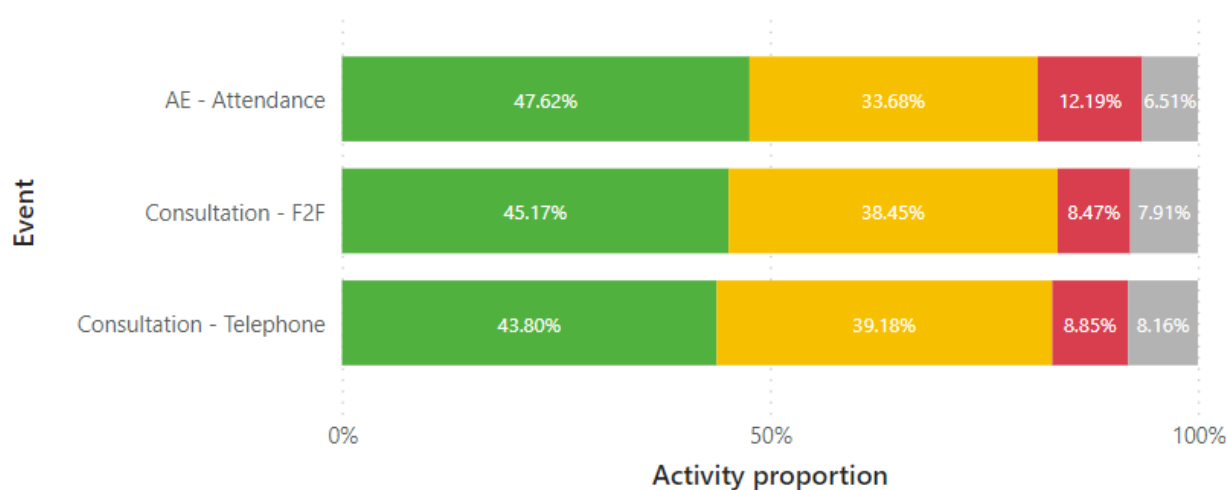
RAG proportions by Age Band

PNG ● 1 - Lower Need Group ● 2 - Moderate Need ... ● 3 - Higher Nee... ● 4 - No Segment



Activity proportions in the last 12 months by RAG bands

PNG ● 1 - Lower Need Group ● 2 - Moderate Need Group ● 3 - Higher Need Group ● 4 - No Segment





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Using the data to drive improvements

Example 1: Urgent Care



The entirety of urgent on the day demand can be structured based on the underlying health of the patient (PNG) and the acuity of their presenting need

		Low need segment (71% of population)				Moderate need segment (19.7%)					High need (2.3%)		Unknown (6.9%)
		1 Non user (2.4%)	2 Low Need Child (16.7%)	3 Low Need Adult (33.2%)	4 Multi-Morbid Low Complexity (18.8%)	5 Multi-morbid Med Complexity (9.1%)	6 Pregnancy Low Complexity (1.0%)	7 Pregnancy High Complexity (0.2%)	8 Dom Psych Behavioural Cond (2.5%)	9 Dom Major Chronic Cond (6.9%)	10 Multi Morbid High Complexity (1.9%)	11 Frailty (0.4%)	
On the day	<ul style="list-style-type: none"> • an upset tummy • pain or headache • sore throat (but if for two weeks or more contact your GP) 		e.g. Low need child with sore throat										
	<ul style="list-style-type: none"> • minor aches and pains, burns and scalds, head lice, etc • bites and stings • queries about medication dosage, type or suitability plus urgent requests • medication related to hospital discharge • repeat prescriptions 		1	2								e.g. Frail patient with minor aches and pains	
Urgent	<ul style="list-style-type: none"> • get help for a condition that has not improved after seeking help from your pharmacy • to report urgent conditions that are not life threatening • to report a deteriorating chronic condition 												
	<ul style="list-style-type: none"> • if you think you need to go to hospital • if you don't know the most suitable place to go or call • if you don't have a GP to call or if your GP practice is closed • if you need advice or reassurance about what to do 												
Emergency	<ul style="list-style-type: none"> • sprains and strains • suspected broken limbs • minor head injuries • cuts and grazes • minor scalds and burns • skin infections 		e.g. Low need child with suspected broken limb									e.g. Frail patient with suspected broken limb	
	<ul style="list-style-type: none"> • loss of consciousness • an acute confused state • fits that are not stopping • chest pain • breathing difficulties • severe bleeding that cannot be stopped • severe allergic reactions • severe burns or scalds 					3							4

Deep dive areas of focus



By examining the share of activity / bed days / population accounted for by each segment, we can identify the segments to prioritise that represent the largest opportunity to impact overall demand

Activity per day																	
PNG_RAG Event	1 - Lower Need Group					2 - Moderate Need Group					3 - Higher Need Group			4 - No Segment		Total	
	1 Non User	2 Low Need Child	3 Low Need Adult	4 MultiMorbidity Low Complexity	Total	5 MultiMorbidity Med Complexity	6 Pregnancy Low Complexity	7 Pregnancy High Complexity	8 Dominant Psych Behavioral Cond	9 Dominant Major Chronic Cond	Total	10 MultiMorbidity High Complexity	11 Frailty	Total	Total		Total
AE	2.7	79.7	64.8	97.8	244.8	81.6	7.0	2.8	27.1	59.1	176.9	50.3	11.5	61.8	39.3	39.3	522.7
Inpatient	1.5	11.4	7.5	21.3	39.0	23.1	1.6	1.3	5.4	20.4	50.1	24.5	6.2	30.7	12.5	12.5	132.3
OOH	1.7	51.7	23.2	42.3	115.2	26.1	3.9	2.4	8.9	20.2	58.0	13.2	6.6	19.2	12.0	12.0	202.5
SCAS 111	2.5	93.9	55.9	89.3	240.5	57.2	6.9	2.5	23.4	41.5	131.0	25.8	8.0	33.8	31.8	31.8	437.1
SCAS 999	1.2	12.3	12.7	20.9	46.2	25.5	2.0	1.5	12.8	21.8	62.3	28.6	10.8	39.3	9.9	9.9	157.1
Total	5.5	222.4	151.1	249.8	628.6	199.5	17.8	6.3	72.3	152.4	448.1	135.7	39.6	175.4	98.7	98.7	1,350.7
Activity per day % of Total																	
PNG_RAG Event	1 - Lower Need Group					2 - Moderate Need Group					3 - Higher Need Group			4 - No Segment		Total	
	1 Non User	2 Low ...	3 Low ...	4 MultiM...	Total	5 MultiMo...	6 Pregnan...	7 Pregnan...	8 Domina...	9 Domina...	Total	10 MultiM...	11 Frailty	Total	Total		Total
AE	0.5%	15.3%	12.4%	18.7%	46.8%	15.6%	1.3%	0.4%	5.2%	11.3%	33.8%	9.6%	2.2%	11.8%	7.5%	7.5%	100.0%
Inpatient	0.4%	7.9%	5.2%	16.0%	29.5%	17.5%	0.8%	0.3%	4.0%	15.3%	37.9%	18.5%	4.7%	23.2%	9.4%	9.4%	100.0%
OOH	0.2%	25.0%	11.2%	20.4%	56.9%	12.5%	1.4%	0.5%	4.2%	9.7%	28.2%	6.3%	2.9%	9.2%	5.7%	5.7%	100.0%
SCAS 111	0.5%	21.4%	12.8%	20.4%	55.0%	13.0%	1.6%	0.5%	5.4%	9.5%	30.0%	5.9%	1.8%	7.7%	7.3%	7.3%	100.0%
SCAS 999	0.2%	7.8%	8.0%	13.2%	29.3%	16.1%	1.1%	0.4%	8.1%	13.8%	39.5%	18.2%	6.8%	25.0%	6.2%	6.2%	100.0%
Total	0.4%	16.5%	11.2%	18.5%	46.5%	14.8%	1.3%	0.5%	5.3%	11.3%	33.2%	10.0%	2.9%	13.0%	7.3%	7.3%	100.0%
GP Appointments per day																	
PNG_RAG	1 - Lower Need Group					2 - Moderate Need Group					3 - Higher Need Group			4 - No Segment		Total	
	1 Non User	2 Low ...	3 Low ...	4 MultiM...	Total	5 MultiMo...	6 Pregnan...	7 Pregnan...	8 Domina...	9 Domina...	Total	10 MultiM...	11 Frailty	Total	Total		Total
Urgent appointments per day	20	443	434	838	1724	694	52	22	195	433	1385	233	41	273	306	306	3644
% of Total	0.5%	12.2%	11.9%	23.0%	47.3%	19.0%	1.4%	0.6%	5.4%	11.9%	38.0%	6.4%	1.1%	7.5%	8.4%	8.4%	100.0%
% Booked on the day	72.6 %	85.4 %	67.4 %	69.6 %	73.1 %	66.5 %	73.5 %	72.6 %	67.5 %	66.3 %	66.9 %	66.4 %	73.1 %	67.4 %	65.9 %	65.9 %	69.8 %
Non Elective Bed Days																	
PNG_RAG	1 - Lower Need Group					2 - Moderate Need Group					3 - Higher Need Group			4 - No Segment		Total	
	1 Non User	2 Low ...	3 Low ...	4 MultiM...	Total	5 MultiMo...	6 Pregnan...	7 Pregnan...	8 Domina...	9 Domina...	Total	10 MultiM...	11 Frailty	Total	Total		Total
Average LoS	7.8	1.4	5.2	7.0	6.0	9.3	1.8	2.6	8.8	10.9	9.8	14.4	18.4	15.5	14.6	14.6	11.5
Total LoS	814	6,007	11,871	25,613	44,305	42,208	3,525	1,075	11,132	37,789	95,729	63,026	24,464	87,490	35,555	35,555	263,079
% of Total Bed Days	0.3%	2.3%	4.5%	9.7%	16.8%	16.0%	1.3%	0.4%	4.2%	14.4%	36.4%	24.0%	9.3%	33.3%	13.5%	13.5%	100.0%
Population size																	
PNG_RAG	1 - Lower Need Group					2 - Moderate Need Group					3 - Higher Need Group			4 - No Segment		Total	
	1 Non User	2 Low ...	3 Low ...	4 MultiM...	Total	5 MultiMo...	6 Pregnan...	7 Pregnan...	8 Domina...	9 Domina...	Total	10 MultiM...	11 Frailty	Total	Total		Total
# Population	21,622	136,510	272,824	155,225	586,181	74,860	8,205	1,693	20,915	56,518	162,191	15,292	3,096	18,388	57,513	57,513	824,273
% of Total Population	2.6%	16.6%	33.1%	18.8%	71.1%	9.1%	1.0%	0.2%	2.5%	6.9%	19.7%	1.9%	0.4%	2.2%	7.0%	7.0%	100.0%



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Using the data to drive improvements

Example 2: Primary Care

Examples of how you might use segmentation to support access, demand and capacity.

There are a number of ways in which a practice can adopt and embed segmentation to support developing and delivering local models. For example

- Building a common understanding of your practices population demographics and activity to support identifying ways to manage demand and capacity more effectively.
- Identifying ways to support access for each cohort and their needs to get the most out of your workforce capacity and skill mix.
- Plan a practices scheduled QOF work based on complexity and risk prioritisation of patients.
- Analysing data to understand activity and % of appt types by each segment to support targeted interventions and/or communications.

Low need segment (71% of population)				Moderate need segment (19.7%)					High need (2.3%)		Unknown (6.9%)
1 Non-user (2.4%)	2 Low Need Child (16.7%)	3 Low Need Adult (33.2%)	4 Multi-Morbid Low Complexity (18.8%)	5 Multi-morbid Med Complexity (9.1%)	6 Pregnancy Low Complexity (1.0%)	7 Pregnancy High Complexity (0.2%)	8 Dom Psych Behavioural Cond (2.5%)	9 Dom Major Chronic Cond (6.9%)	10 Multi Morbid High Complexity (1.9%)	11 Frailty (0.4%)	

Examples of interventions:

- Redirect to CPCS
- Healthier Together App
- Self help apps – Get You Better and Sleepio
- Online consultation
- Embedding care navigation and triage
- Proactive care initiatives
- Digital invitations to QOF
- Nurse/HCA Led QOF
- Paeds QOF

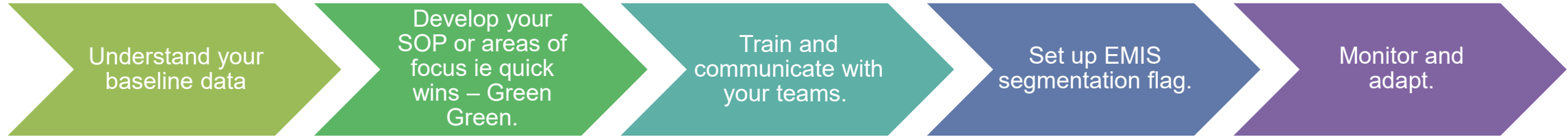
Examples of Interventions:

- Triage –Telephone/F2F
- Maternity Assessment Unit
- CRISIS team
- QOF prioritisation supported by PNG segmentation.
- Blend of digital and face to face QOF
- ARRS led QOF
- Interaction with maternity hub
- Mental Health

Examples of Interventions:

- Senior GP triage – telephone/F2F
- Senior clinician led QOF
- QOF prioritisation supported by PNG segmentation
- Remote Monitoring
- Secondary Care MDTs
- ICT

Segmentation as a signal to support a triage model



Who (PNG)	Red				Book w/ GP
	Amber				
	Green	CPCS			
		Green	Amber	Red	
	Need (presenting reason)				

Reduces 60% rebound we're seeing in Amber and Reds

GPs dealing with the most complex

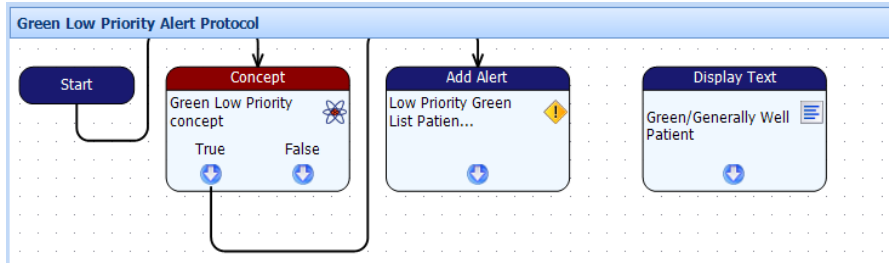
Patient Need Group	RED	GP - FICS (Alternatives in other areas) Integrated Care Team Urgent Care Team Single Point Of Access	GP (Usual in practice)	GP (usual in Practice)
	AMBER	Paramedic Practitioner Nurse Practitioner First Contact Poractionner eg Physio / Pharmacist	GP (Any - FICS) Paramedic Practitioner Nurse Practitioner First Contact Poractionner eg Physio / Pharmacist Mental Health Practitioner	(usual in practice)
	GREEN	CPCS Paramedic Practitioner Nurse Practitioner First Contact Poractionner eg Physio / Pharmacist Mental Health Practitioner / Signposting	Signposting Paramedic Advanced Nurse Practitioner Mental Health Practitioner / Signposting	Adv Paramedic Practitioner Advanced Nurse Practitioner
		GREEN	AMBER	RED
		Need		

Example - work in development.

Admin set up process

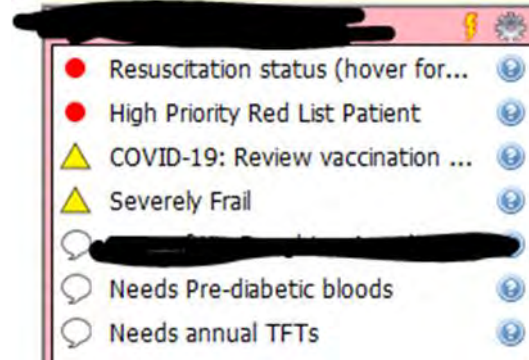
Minimal- all done in <30 min during a call with connected care team

- ✓ CC send csv. File of all patients and their segment
- ✓ Import this list into EMIS
- ✓ Bulk add appropriate code
- ✓ Create a protocol in EMIS



Visibility in EMIS

Appears in QOF pop up box



Option to also/instead add as Warning (enable at setup in protocols)

Staff training required

Again minimal

- 15 min at 2 different triagers meetings 2 weeks apart
- Protocol updated
- 5 min at clinicians monthly meeting

Ongoing admin maintenance

- For now periodic updated list of patient's segments needs to be uploaded (csv. file provided by CC)
- Ultimate aim is Connected Care will automatically integrate with EMIS

Bharani Medical Centre - Approach and early insights

Approach principles

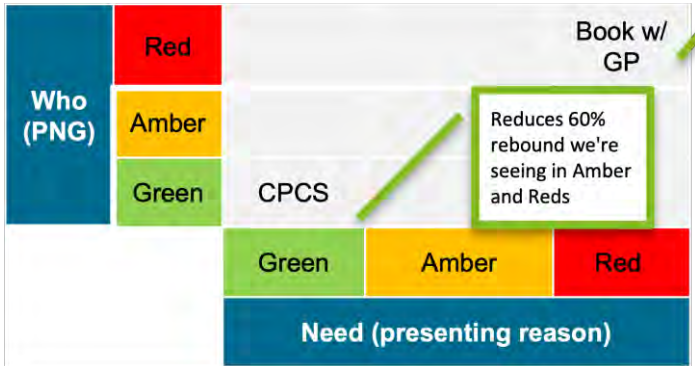
- Segmentation enables developing a SOP that supports the team working from a single
- Can start with a particular cohort or pathway. Local breakdown of PNG and workforce skill mix key
- Segmentation a signal that needs to be supported by local skill mix, exceptions such as = and..
- Segmentation a signal combined with who is presenting (segmentation) and why/needs

How

- Embedding EMIS segmentation flag for refreshed PNG for all the practice (see slide xx for how to do this) as a signal to support decision making.
- Set a clear process and workflow for all staff – communicating and supporting training for care navigators needs time.
- Building confidence in the segmentation across the team- playing the segmentation game!
- Focused on PNG 3 – low need adults because
 - Consuming significant amounts of capacity
 - Cohort of our population we can achieve some behaviour changes in.
 - Continuity to the practice and primary care network
- Embedding wider self help apps available into the care navigation manual – Sleepio, Healthier Together, GetUBetter.

Early reflections

- Building confidence in the team will take time and needs a continued discussion as well as space to feedback and reflect.
- A script to help care navigators on why patients being sign posted.
- Segmentation a signal only and does not overrule clinical decision making.



GPs dealing with the most complex

Reduces 60% rebound we're seeing in Amber and Reds

...ner than a specific clinician is key for this cohort
...can promote use of wider workforce.



Kumar Medical Centre - Approach and early insights

Approach principles

- Prioritising frailest and high risk patients earlier in the year to baseline ahead of winter.
- Risk stratifying approach supported by the segmentation.
- Baseline the most frail and high risk earlier in the year to reduce likelihood hit crisis in winter.
- Use vaccination clinics to mop up those that don't engage.

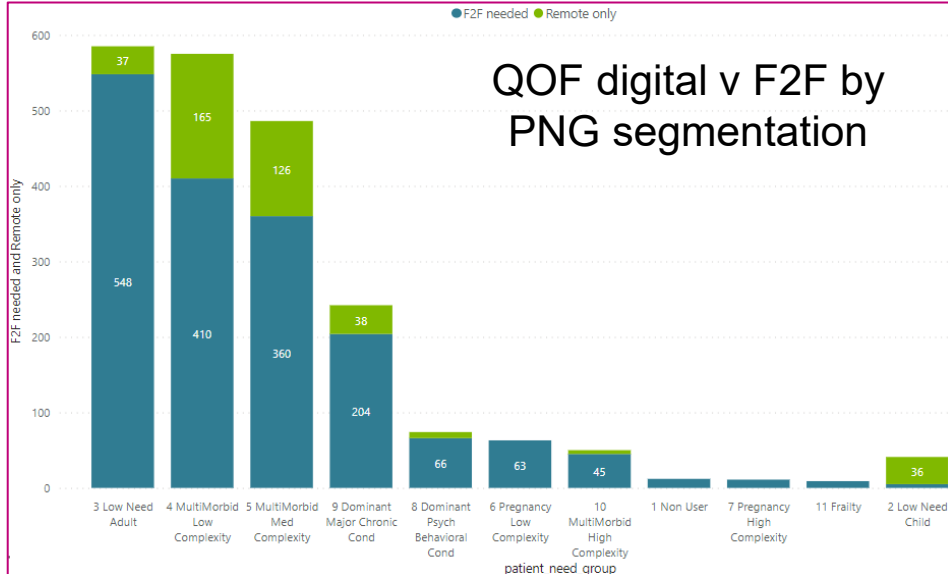
How

- Spreading high risk health checks across the first 6 months of the year PNGs 4, 5, 8, 9 and 10.
- Senior clinical decision makers seeing the most frail/complex/high risk to maximise appointment to cover current needs and any unanticipated needs.
- 30 min appointment a default assumption - 10 min blood test & 20 minute for other activity.
- Segmentation PNG 3 face to face cohort split across the year into "bitesize" chunks as whilst low need are high volume to spread the work across the year.

Early reflections

- Recognising that senior clinical staff will be seeing more complexity and greater numbers earlier in the year.
- Estimated appointment scheduling overestimates actuals as based on PNG group rather than needs.
- Need to consider both how QOF health check is initiated as well as how responses will be followed up including using wider workforce.

QOF digital v F2F by PNG segmentation



PNG_RAG	patient_need_group	Indicator%FY(KMC)	Indicator%FY(CCG)	Difference from System Average %
1 - Lower Need Group	Total	29.8%	27.7%	2.1%
	2 Low Need Child	24.4%	30.4%	-6.1%
	3 Low Need Adult	9.1%	16.2%	-7.1%
	4 MultiMorbid Low Complexity	36.1%	32.2%	3.9%
2 - Moderate Need Group	Total	48.8%	40.2%	8.6%
	5 MultiMorbid Med Complexity	49.6%	41.6%	8.0%
	6 Pregnancy Low Complexity	16.1%	13.6%	2.5%
	7 Pregnancy High Complexity	23.5%	22.8%	0.7%
	8 Dominant Psych Behavioral Co	47.6%	37.2%	10.4%
3 - Higher Need Group	9 Dominant Major Chronic Cond	48.3%	39.4%	8.9%
	Total	54.3%	44.1%	10.2%
	10 MultiMorbid High Complexity	56.0%	44.2%	11.9%
	11 Frailty	46.1%	43.7%	2.4%
Total		44.6%	36.9%	7.6%

QOF achievement for 23/24 so far adopting this approach

PNG 4 and 5: Remote Health Checks completed digitally

PNG 8,9,10: F2F Health Checks prioritised for this group



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Using the data to drive improvements

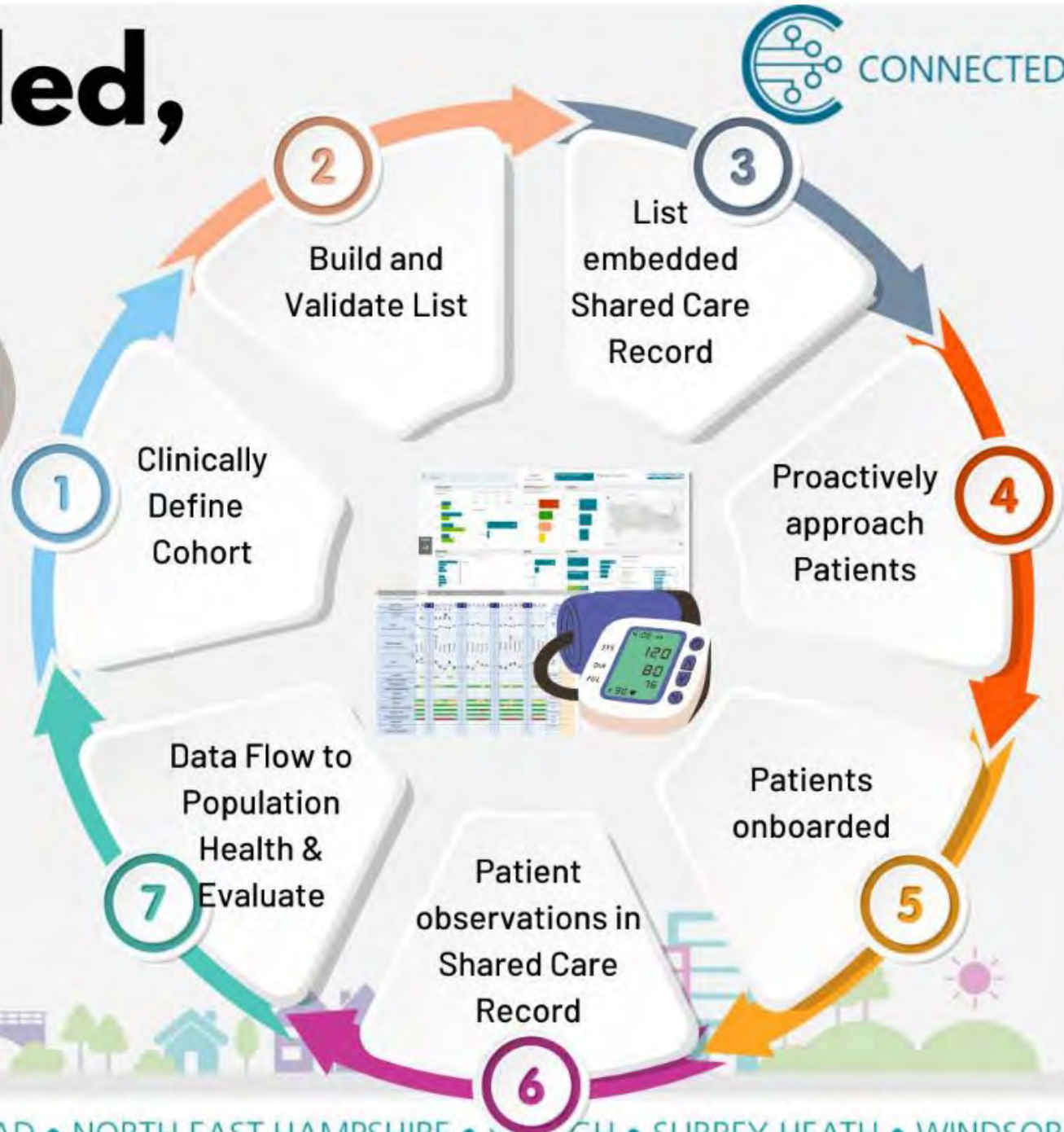
Example 3: Remote monitoring

Digitally Enabled, Data Driven



“There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they are falling in.”

Desmond Tutu



Reactive to Proactive



Using **Advanced Population Health** tools allow us to identify and target our most complex and frail patients. Using patient profiling based on Johns Hopkins ACG System - ACG Patient Need Group segmentation which looks at diagnoses and the needs of a patient. We targeted High Risk Patients in groups 10 and 11.

A Clinical Example of How Segments are Defined

Individuals are organized into higher PNC segments based on the severity of their conditions and comorbidities.



Health Needs



Low ————— High



REMOTE MONITORING SET UP PROCESS

Just one simple step for your practice.....



1 - The Cohort

Connected Care Population Health identifies cohort of patient who will benefit most (High Risk PNG Groups 10 and 11)

2 - Introduction

Connected Care provide the list to your practice and ask you bulk text patients to introduce the service

3 - System Set Up

Connected Care will work with our supplier to upload suitable patients into the Remote Monitoring platform

4 - Onboarding

The Digital Health Team contact patients, explain the service, ensure they have the kit they need and onboard into Remote Monitoring

5 - Monitoring

The Digital Health Team manage the responses that the patient send and make sure appropriate action is taken

WHAT DOES IT INVOLVE?

1

Residents answer questions on a weekly basis or when they feel unwell, covering clinical, mental health, social wellbeing and health promotion domains.

2

The questions will trigger RAG-rated responses which in the main can be dealt with by the **digital health team**, a nurse led clinical team.

3

Where required they may escalate to an appropriate service such as Duty Doctor, UCR, or Specialist Team. All patient entered information is **available** to every clinician in the **Shared Care Record**.

"It's made my life easier"

GP, Slough

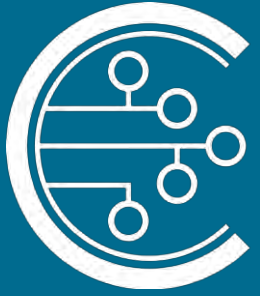
Approximately 2000 alerts flag per week. The digital health team deal with around 98% of these.

Population Health



- ✓ Allows us to indentify a cohort **proactively**
- ✓ Includes **resident self entered** information
- ✓ Includes **alerts, outcomes** and **interventions**
- ✓ **Integrated** with coding and **data** from Primary and Secondary care
- ✓ Enables us to effectively **evaluate** the intervention
- ✓ Allows us to take **action**
- ✓ Integration back into the Shared Care Record





CONNECTED CARE

2023

Thank you