

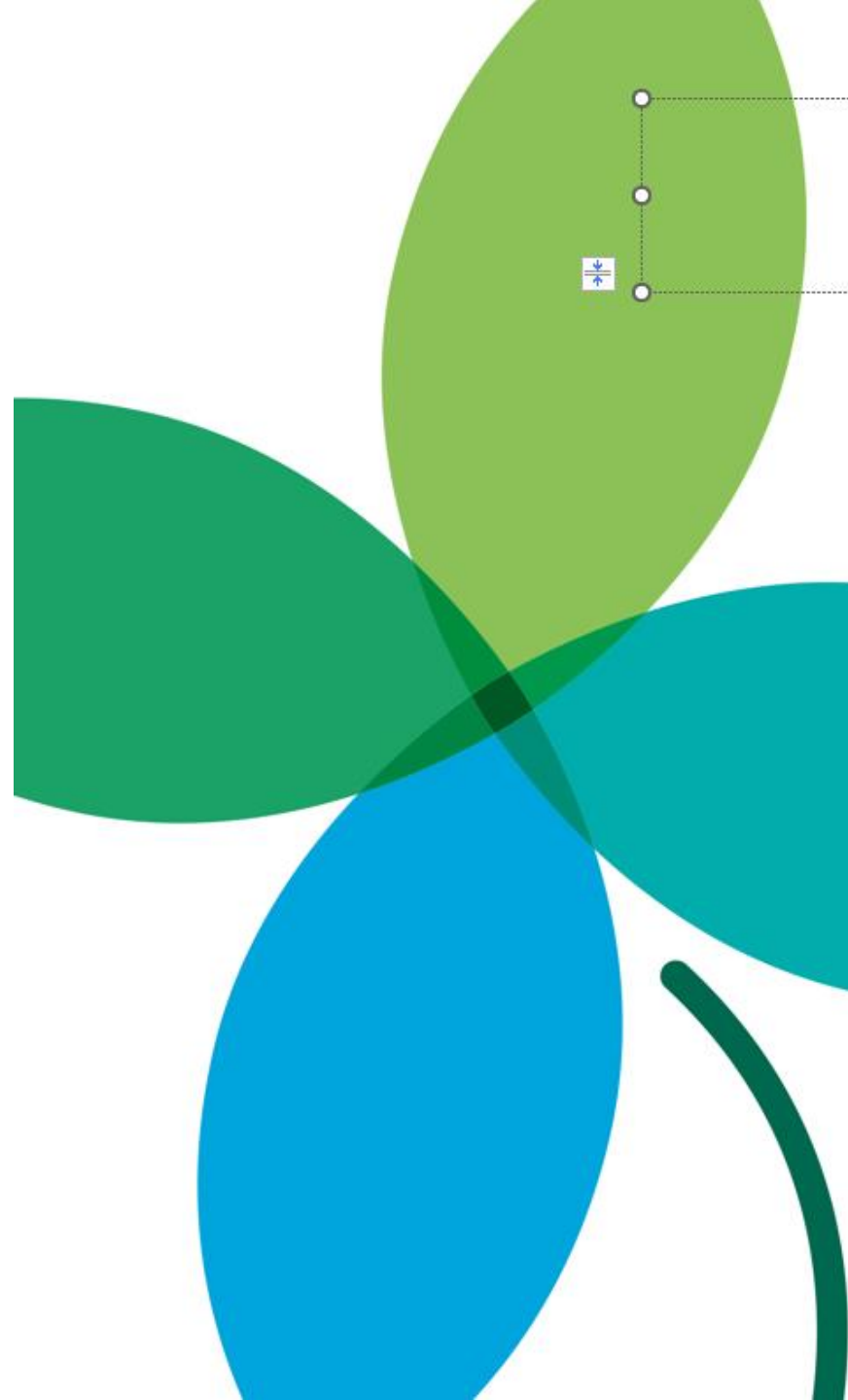


Alicia Dunsby
Diane Baynham
Charles King
Carl Beet





Onwards and Upwards Reaching Base Camp 1, Where Next?



MERIT



Excellence, Resilience Innovation & Training –
Jointly developing Mental Health Service
in the West Midlands

Electronic Health Record Viewer - Case Study



Birmingham and Solihull
Mental Health NHS Foundation Trust

Black Country Partnership
NHS Foundation Trust

Dudley and Walsall
Mental Health Partnership NHS Trust

Coventry and Warwickshire Partnership
NHS Trust

ForwardThinking
Birmingham

Who are we?



-  Birmingham and Solihull Mental Health NHS Foundation Trust
-  Black Country Partnership NHS Foundation Trust
-  Coventry and Warwickshire Partnership NHS Trust
-  Dudley and Walsall Mental Health Partnership NHS Trust
-  Forward Thinking Birmingham

Total population

3.4 million



Birmingham and Solihull
Mental Health NHS Foundation Trust

Dudley and Walsall
Mental Health Partnership NHS Trust

ForwardThinking
Birmingham

Black Country Partnership
NHS Foundation Trust

Coventry and Warwickshire Partnership
NHS Trust

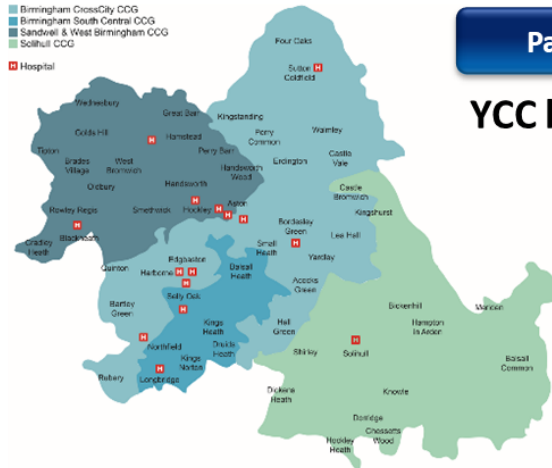




Your Care Connected

Your medical history could **save** your life

Sharing information to improve the care you receive

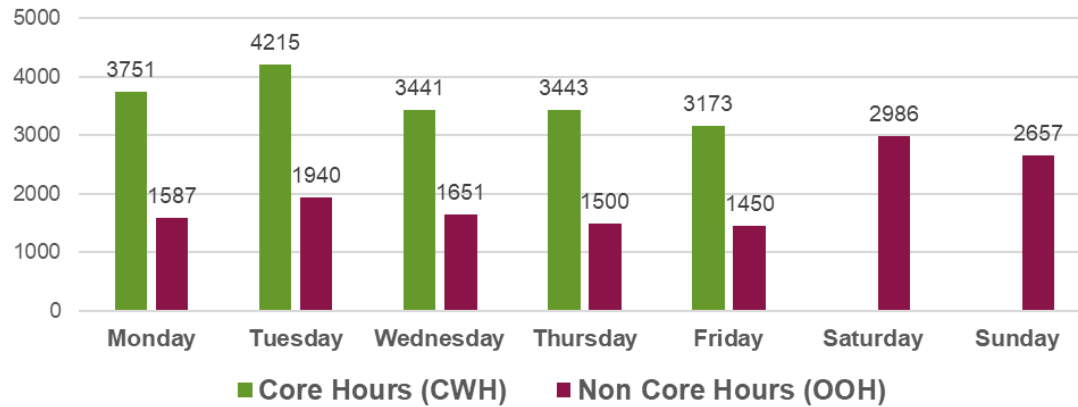


Patients: 1,800,000

GP practices: 244

NHS providers: 10

YCC last month's usage:



[NHS 111](#)
[WMAS](#)
[UHB QE](#)
[UHB HGS](#)
[BSMHFT](#)
[BCHC](#)
[BWCH](#)
[ROH](#)
[St Mary's Hospice](#)
[John Taylor Hospice](#)

111 ♦ 999 ♦ Acutes ♦ Mental Health ♦ Community ♦ Specialist ♦ Hospice

Onboarding

SWBH

FTB

Merit

OOH & WIC

Marie Curie Hospice

Access to GP patient information is available 'in context' from provider clinical system

11 "tabs" of information available:

1. Diagnosis
2. Events
3. Examinations
4. Investigations
5. Medications
6. Patient Details
7. Problems
8. Procedures
9. Risks
10. Summary
11. Supportive Care Data

The screenshot shows a 'CLINICAL PORTAL' interface. At the top, there are navigation tabs: Patient Search, Inpatients Search, My Clinic, Forward Look, MyDay, Activity, and SQL 2012 Test Pas-support. Below this, the patient's name 'SQL 2012 Test Pas-support' is displayed, along with 'WOLFSON QEMC' and 'Hospital No: G123456'. A secondary menu includes PICS, Dictation, Super Scheduler, PACS, Document Import, and myHealth. On the left, a tree view shows a folder for 'G123456' with sub-items like 'GP Record', '18 week RTT Pathways', 'Advanced Directive', 'Bereavement', 'Clinical Noting', 'Clinical Photography', and 'Consent'. The main area displays patient details in a table format:

Name	SQL 2012 Test Pas-support	Hospital No:	G123456
Title	MR	NHS Number:	
Gender	Male	Surname at Birth:	
Date Of Birth	03-May-1942	Place of Birth:	
Address	WOLFSON QEMC Edgbaston BIRMINGHAM	Marital Status:	Not Disclosed
Postcode	B15 2TH	Ethnic Group:	White - British
		Occupation:	SQL 2012 Develo

The screenshot shows a 'CLINICAL PORTAL' interface for patient 'Scrdonotuse Xxtestpatientdzavj'. At the top, there are navigation tabs: Patient Search, Inpatients Search, My Clinic, Forward Look, MyDay, Scrdonotuse Xxtestpatientdzavj, and GP Record. Below this, the patient's name 'Scrdonotuse Xxtestpatientdzavj' is displayed, along with 'C/o Npfit Test Data Mgr Princes Exchange', 'Hospital No: K271768', 'NHS Number: 999 024 3468', and 'DOB:'. A secondary menu includes PICS, Dictation, PACS, Document Import, myHealth, and Print Wrist Band. A red circle highlights a row of 11 tabs: Diagnosis, Events, Examinations, Investigations, Medications, PatientDetails, Problems, Procedures, RisksWarnings, and Summary. Below the tabs is a table showing patient history:

Date	Problem / Detail
22-Dec-2014	Dog allergy
18-Dec-2014 16:51:00	Shoulder pain
01-Sep-1987	Infantile, juvenile and presenile cataracts
01-Sep-1986	Acute anterolateral infarction



Support for standards



We've got it all covered...



Birmingham and Solihull
Mental Health NHS Foundation Trust

Dudley and Walsall
Mental Health Partnership NHS Trust

ForwardThinking
Birmingham

Black Country Partnership
NHS Foundation Trust

Coventry and Warwickshire Partnership
NHS Trust

Access & Audit



- **Role Based Access Controls (RBAC)**
 - determines what users can see and do. Currently 2 roles in use – Clinician and Clinical Administrator. Social Care role for local authority social workers being configured. Further roles can be configured if required. The greater the number of roles the more complex the administration.
- **Supports concept of Legitimate Relationships**
 - Users claim a legitimate relationship with the patient – for on-going care
 - Is option of one-time access where specific reason is given for why user needs to see the record, eg Emergency Admission/Safeguarding where user does not have a relationship with patient
- **Sealed Off Data Function**
 - can be used to 'seal off' particularly sensitive data from the integrated record, e.g. mental health risk assessment, requiring users to state why they need to view – this is audited. Presence of 'sealed off data' is shown via a padlock icon on the patient record. Ability to have option to view any sealed off data can be controlled via RBAC.
- **Auditing Capability**
 - Separate reporting area that IG colleagues can be given access to.



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Birmingham

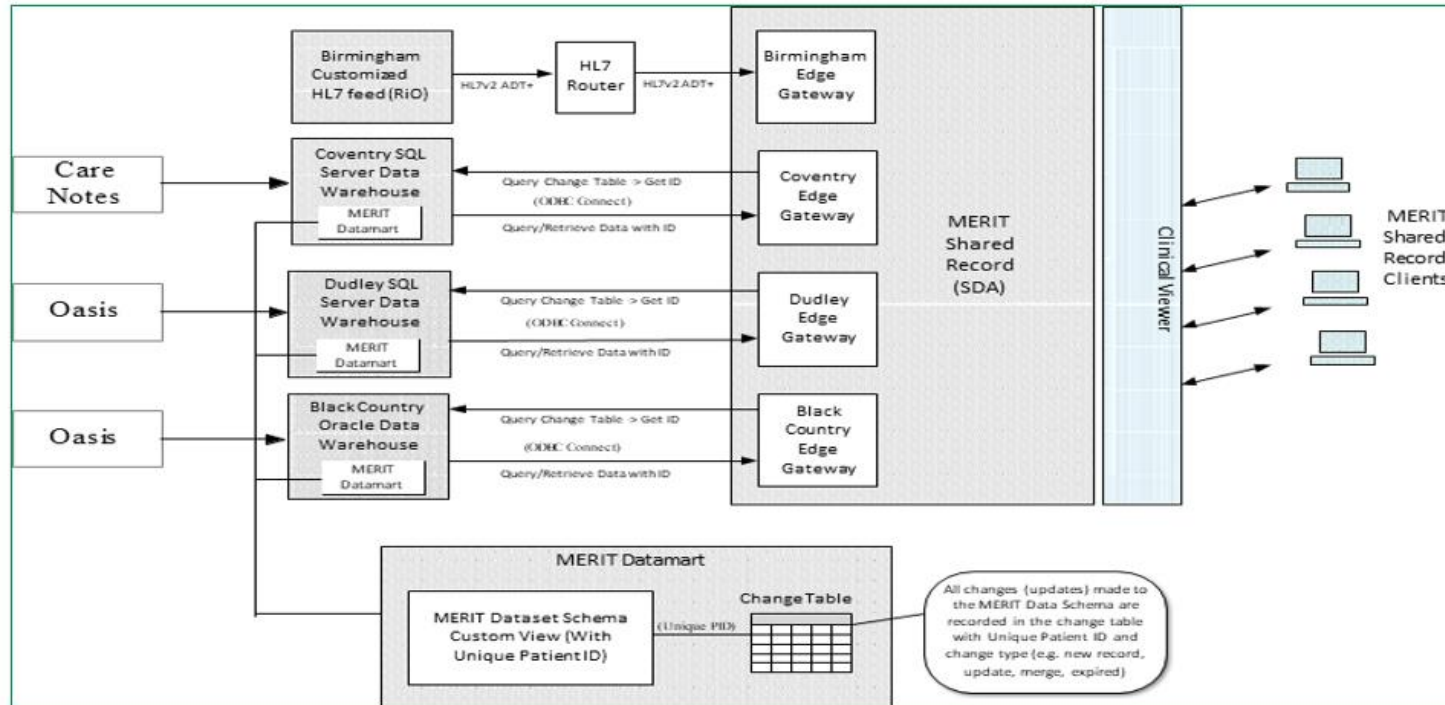
Black Country Partnership
NHS Foundation Trust

Coventry and Warwickshire Partnership
NHS Trust



The MERIT Architecture

Built on Intersystems Health share platform



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Shared Care Records/HIE Europe

Segment definitions can be found on page 36.



Ranked Solutions

Grading methodology can be found on page 11.



Other Notable Performances

Ranked solutions for which at least 95% of respondents answered yes.

*Limited data

Avoids charging for every little thing?	Keeps all promises?	Part of long-term plans?	Would you buy again?
None	None	InterSystems HealthShare Unified Care Record n=6 100%	InterSystems HealthShare Unified Care Record n=7 100%

C-Day

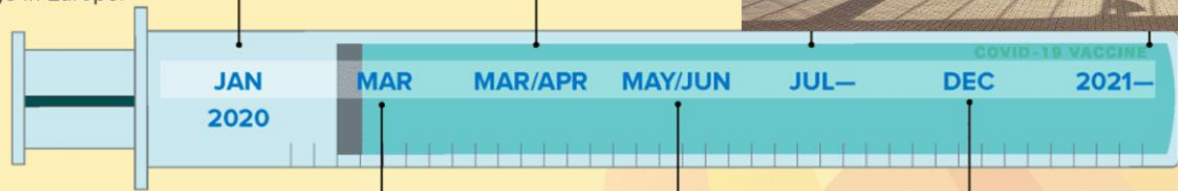


A MYSTERIOUS NEW ILLNESS

Images appear of Wuhan in lockdown, where officials attempt to contain a mysterious virus. Soon after, new cases of and deaths related to (what's later named) COVID-19 surge in Europe.

THE WORLD SHUTS DOWN

Countries seal borders; sports teams cancel seasons; schools close and employees go home. People start wearing masks and "social distancing."



Neal, Michael | [Help](#) [View Summary](#) [My Account](#) **Welcome, Michael Neal** [Log Out](#)

MY LIST RECENT COHORTS RELATIONSHIPS PATIENT SEARCH MESSAGES MY SUBSCRIPTIONS LINKS PATIENT RECORD

Nightingale, William *Born 27-Jan-1925 (95y)* *Gender Male* *NHS No. 850 724 3333*

Address Aqueous II, Birmingham, B6 5RQ Phone 06995761474

Chartbook

- Summary
- Allergies
- Diagnosis
- Documents
- Laboratory Res
- Radiology Results
- > Allergies & Alerts
- GP Records
- Documents
- > Laboratory Results
- Radiology Results
- Diagnoses
- Encounters
- Referrals
- > Appointments
- MHA Status

Allergies

Source	Category	Allergen	Nature Of Reaction	Severity	Onset Date	Last Updated	Comments	Status
WAHT	Allergy	ALLERGY TO ADHESIVE		MI	22 Jul 2009			Active
WAHT	Allergy	Latex		SV	28 May 2020			Active
DGFT	Allergy	ASPIRIN		MO	28 May 2020			Active
WAHT	Allergy	ALLERGY TO NUTS		SV	29 May 2013			Active
WAHT	Allergy	ALLERGY TO LATEX		MO	05 Jun 2011			Active

Diagnosis [Last Updated, Diagnosis Description](#)

Source	Last Updated	Description	ICD Code	Care Provider	Date	Status
BSMHFT	05 Nov 2018	Post-traumatic stress disorder	F43.1			Inactive
DWMH	25 Jul 2017	Acute and transient psychotic disorder, unspecified	F23.9			Inactive

Clinical Notes: Documents [Creation Date, Document Link](#)

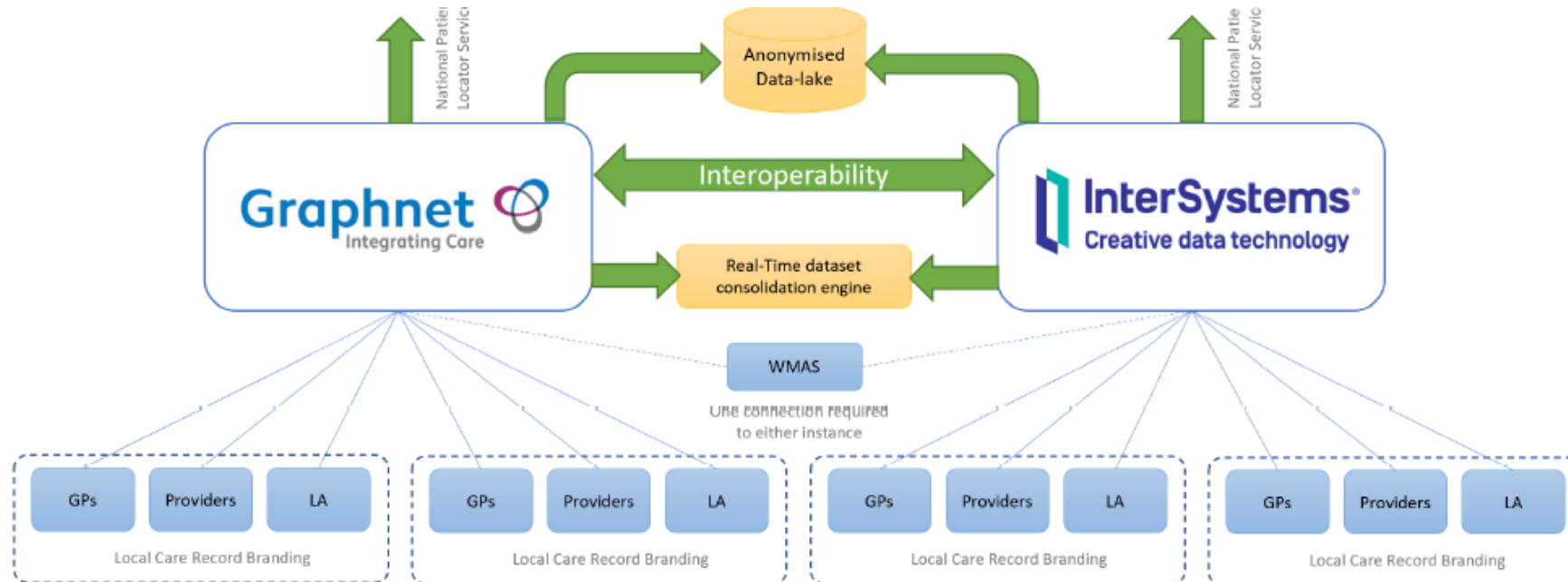
Please be aware some fields for documents entered at CWPT may not display all the relevant information – you can check this by clicking any fields that appear blank. If you experience any issues, please speak to your IT Service Desk for assistance.

Source	Document Link	Clinician	Doc Type	Specialty	Creation Date	Last Updated
WVT	Discharge Summary		DischargeSummary		17 Mar 2020 16:19	18 Mar 2020 11:03
BSMHFT	Level 1 Risk Assessment	Dr Hilary Grant	RA	ADULT MENTAL ILLNESS	13 Sep 2018 14:50	13 Sep 2018 14:50
BSMHFT	CPA Care Plan Part B	Dr Hilary Grant	CP		10 Sep 2018 10:53	10 Sep 2018 10:53

Lab: Laboratory Res [Collection Date, Order Set](#)

Collection Date	Collection Time	Order Set	Test Item	Cumulative	Value	Units	Reference Range	Flag
04 May 2020	09:44	AKI ALERT	AKI Warning Flag	C	2			
04 May 2020	09:44	AKI ALERT	AKI Alert	C	AKI stage 2 warning.			

Almost - West Midlands ShCR



Overview

All client end solutions would access their local health care records through whatever means has already been established (i.e. the current Graphnet or InterSystems solution). This will ordinarily be a patient context orientated single sign on presenting data back into their local solution either as an embedded web page or through presentation of structured data from an API. LHCR functionality (record viewing) will then be achieved through a live call from the users' host system to the peer system to establish if a patient link exists and retrieve any corresponding information according to defined and agreed user levels.

Further investigation is required to establish an approach for healthcare analytics and population health management with potential solutions being either to compile a tertiary anonymised data-lake or through real-time amalgamation of disparate data-sets to form a consolidated dataset.





Working together for safe and effective healthcare

Collaborative Care Record

Over 700 Organisations Connected + GP Connect

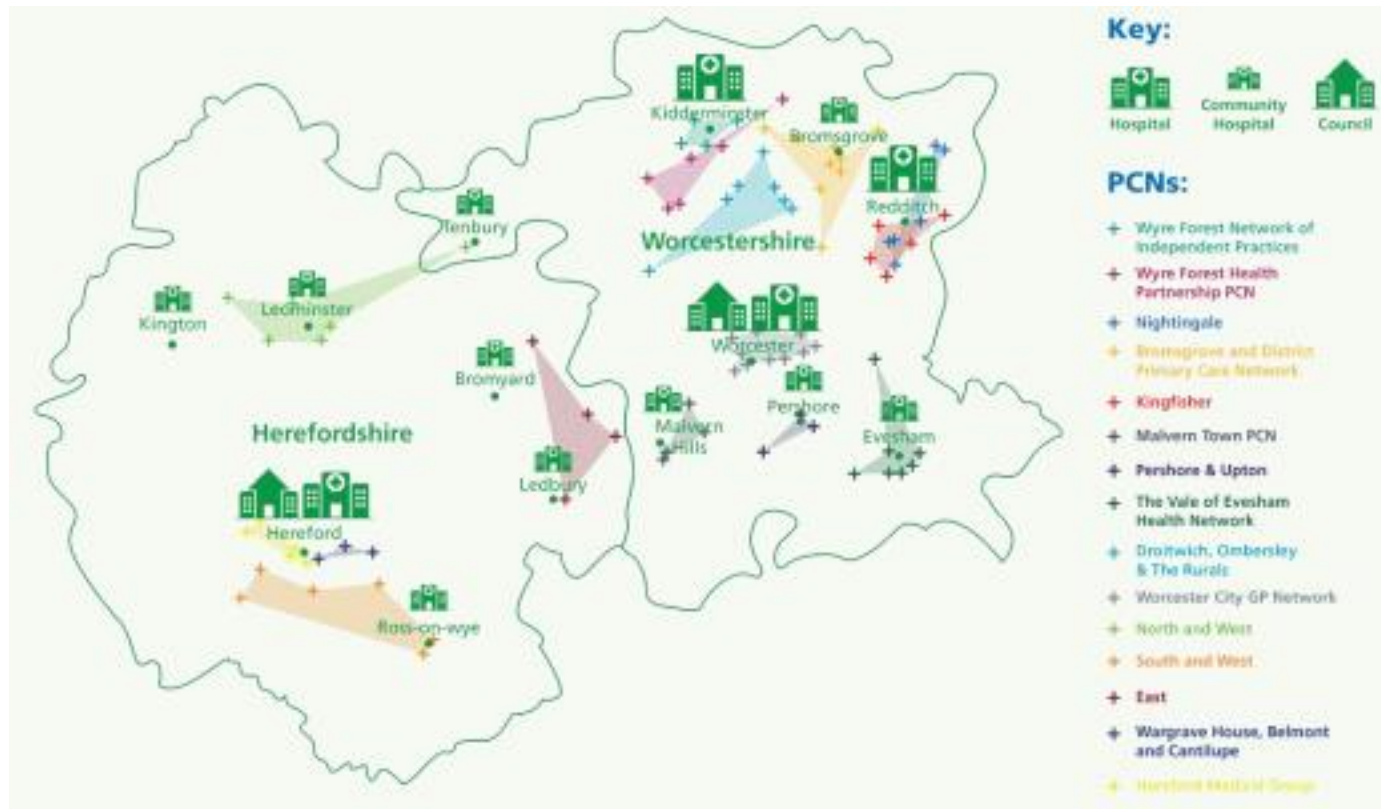


Herefordshire and Worcestershire ICS

Alicia Dunsby, Associate Director – Digital & Technology



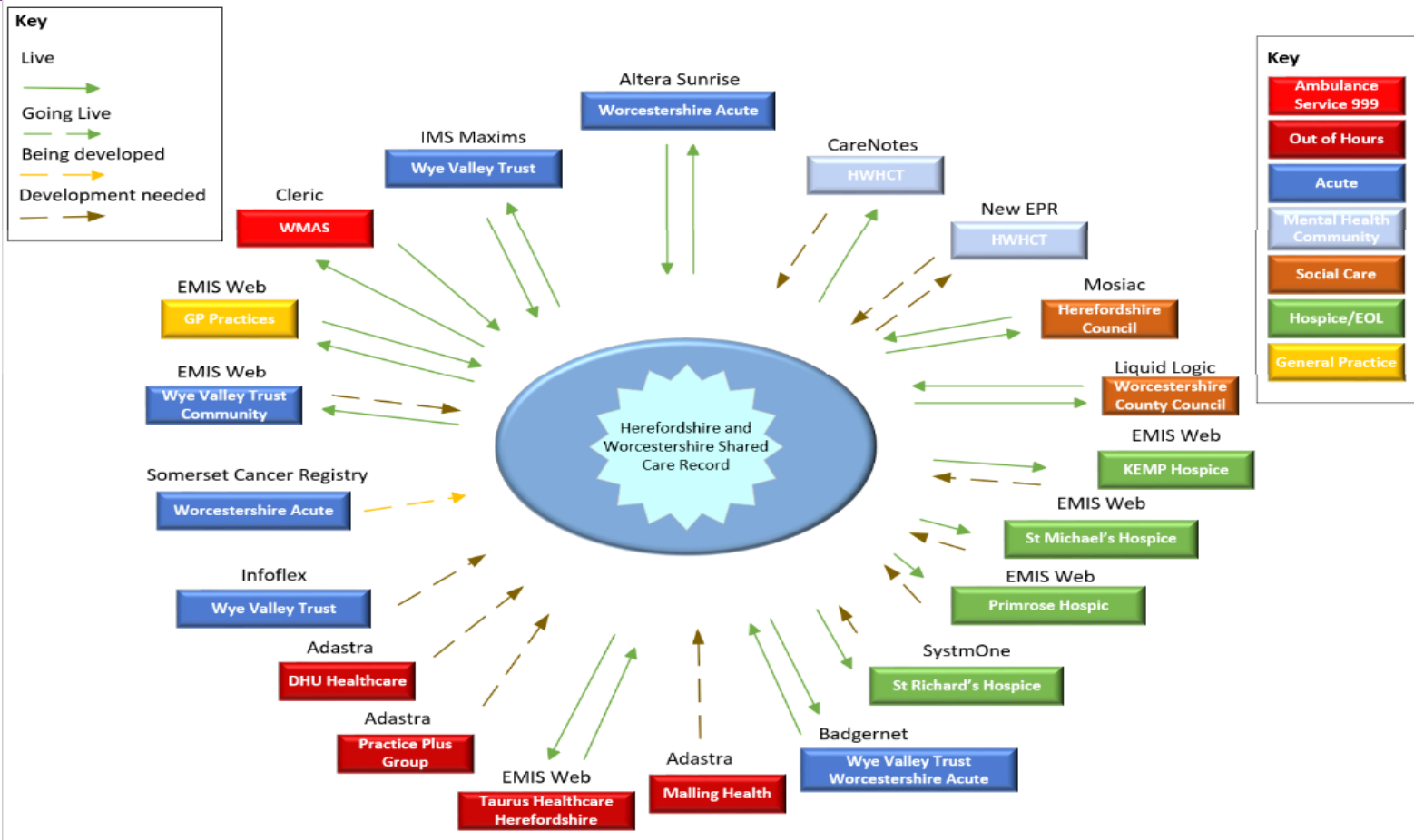
Herefordshire & Worcestershire ICS Overview



- 2 Counties
- 825,000 patients
- 2 Acute Trusts
- 1 Mental Health Trust
- 2 main Community providers
- 2 upper tier Local Authorities & 6 District Councils
- 78 GP practices over 15 PCNs
- 122 Community Pharmacies
- 96 Dentists
- 64 Optometrists
- 4 Hospices
- 1 Police Service
- 1 Fire & Rescue service
- 1 Integrated Care Board
- 20,000 public sector Health and Care staff
- Approx 20,000 home care/care home provider staff

Fun fact: 2.5 times bigger than of Greater London geographically, 10% of the population

Herefordshire & Worcestershire ICS Overview



Herefordshire and Worcestershire ICS Shared Care Record Achieved to date

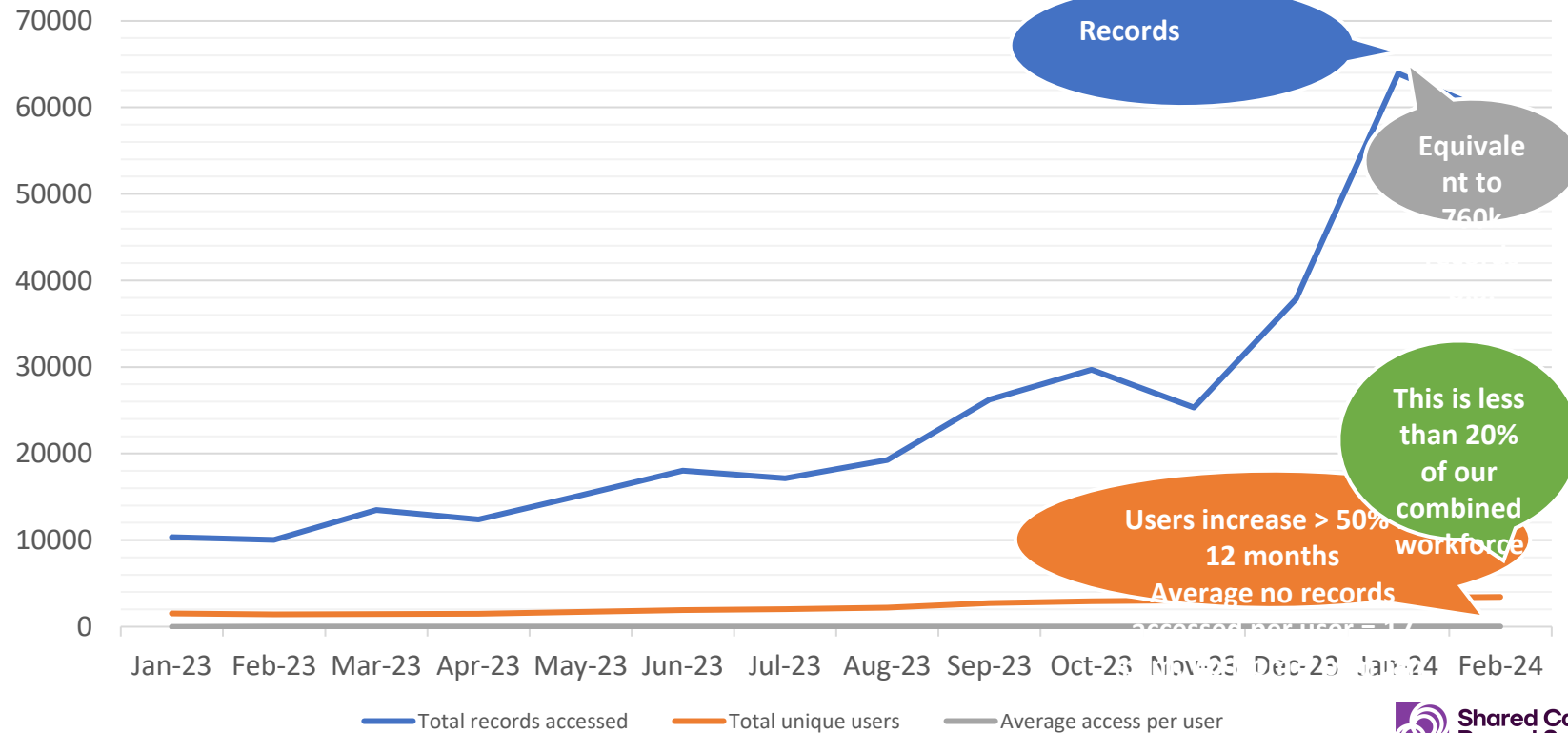
Dataset	Provider Organisation	Source system	Data Consumption enabled	Data Provision enabled	NHS MVS	Data integration	Status
Primary Care	78 practices, 15 PCNS, 2 Federations	EMIS Web	✓	✓	1	GP Connect Unstructured/Structured	LIVE
Acute	Worcestershire Acute Hospitals Trust	Altera Sunrise	✓	✓	1	API	LIVE
	Wye Valley NHS Trust	IMS Maxims	✓	✓		API	LIVE
Mental Health	Herefordshire and Worcestershire Health &Care NHS Trust	Advanced Care Notes	✓	✓	1	API	LIVE
Ambulance Service	West Midlands Ambulance Service	Cleric	✓	✓	1	API	LIVE
Social Care	Worcestershire County Council	Liquid Logic	✓	✓	2	BATCH	LIVE
	Herefordshire Council	Mosaic	✓	✓		BATCH	READY
Maternity	Worcestershire Acute Hospitals Trust	Badgernet	✓	✓	1	API	LIVE
	Wye Valley NHS Trust		✓	✓			LIVE
Hospice	4 hospices (1 inpatient)	EMIS Hospice x 3, TPP x 1	✓	×	2		LIVE
End of Life	All	Multiple	✓	✓	2	MULTI API	LIVE

Herefordshire and Worcestershire ICS Shared Care Record Roadmap

Dataset	Provider Organisation	Source system	Data Consumption enabled	Data Provision enabled	NHS MVS	Data integration	Status
Primary Care	78 practices, 15 PCNS, 2 Federations	EMIS Web	✓	✓	2	Other Structured	DEV
Community health services	Herefordshire and Worcestershire Health & Care NHS Trust (Worcs)	EMIS Community	✓	×	2		SCOPING
	Wye Valley NHS Trust (Hfds)	EMIS Community	✓	×			SCOPING
Cancer registry	Worcestershire Acute Hospitals Trust	Somerset Cancer registry	×	×	2		DEV
	Wye Valley NHS Trust	Infoflex	×	×			SCOPING
NHS111	DHU Healthcare	Adastra	×	×	2		NOT STARTED
GP OOH	Malling Health	Adastra	×	×	2		NOT STARTED
	Patient First Group	Adastra	×	×			NOT STARTED
Digital Social Care	H&W Care Homes - 256	Various	×	×	2		NOT STARTED

Herefordshire and Worcestershire ICS Shared Care Record Utilisation history

Unique Records and Unique User access - all organisations



Herefordshire and Worcestershire ICS Shared Care Record Key Developments



Resuscitation Council UK **ReSPECT**

What is ReSPECT?

Recommended Summary Plan for Emergency Care and Treatment

ReSPECT is...
A personalised conversation between a patient and clinician(s) about their health and care needs.

- A discussion around what is important to a patient if there were to be a future emergency situation and they were unable to express this for themselves.
- Creating a shared understanding about recommendations for care and treatment in a future emergency.
- Summarised onto a nationally recognised plan that the patient keeps.

ReSPECT gives you a voice

Who is it for?

- ReSPECT is for anyone and everyone.
- It has increasing relevance for patients with particular health and care needs.
- It is a process that provides a summary of personalised recommendations to ensure you will receive the best possible care and treatment for your individual situation.

Why me?

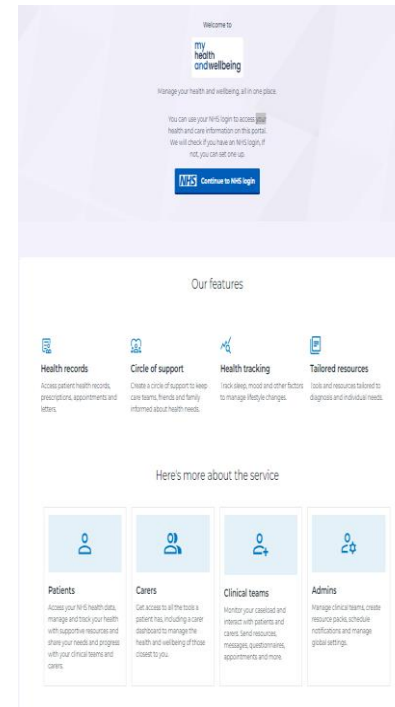
- Many organisations are implementing the ReSPECT process including GPs, hospitals and care homes.
- You, your friends and/or family or people close to you may already have had a ReSPECT conversation and have a ReSPECT plan.
- Now is the time to find out more!

Want to find out more?
www.resus.org.uk/respect

Original content is credited to Charlotte Jenkins, Primary Care Shared

Digitising End of Life

1. HealthShare: End of Life EPaCCS dataset
2. Care Community: Digital ReSPECT Form
3. HealthShare: 2-way data integration with EMIS and Mindwave Patient Portal in development
4. Mindwave Patient Portal: Patient held Advance Statement with integration to HealthShare



Welcome to **my health and wellbeing**

Manage your health and wellbeing, all in one place.

You can use your NHS login to access health and care information on this portal. We will check if you have an NHS login, if not, you can set one up.

[Continue to NHS login](#)

Our features

- Health records**: Access patient health records, prescriptions, appointments and letters.
- Circle of support**: Create a circle of support to help care teams, friends and family informed about health needs.
- Health tracking**: Track sleep, mood and other factors to manage lifestyle changes.
- Tailored resources**: Tools and resources tailored to diagnose and individual needs.

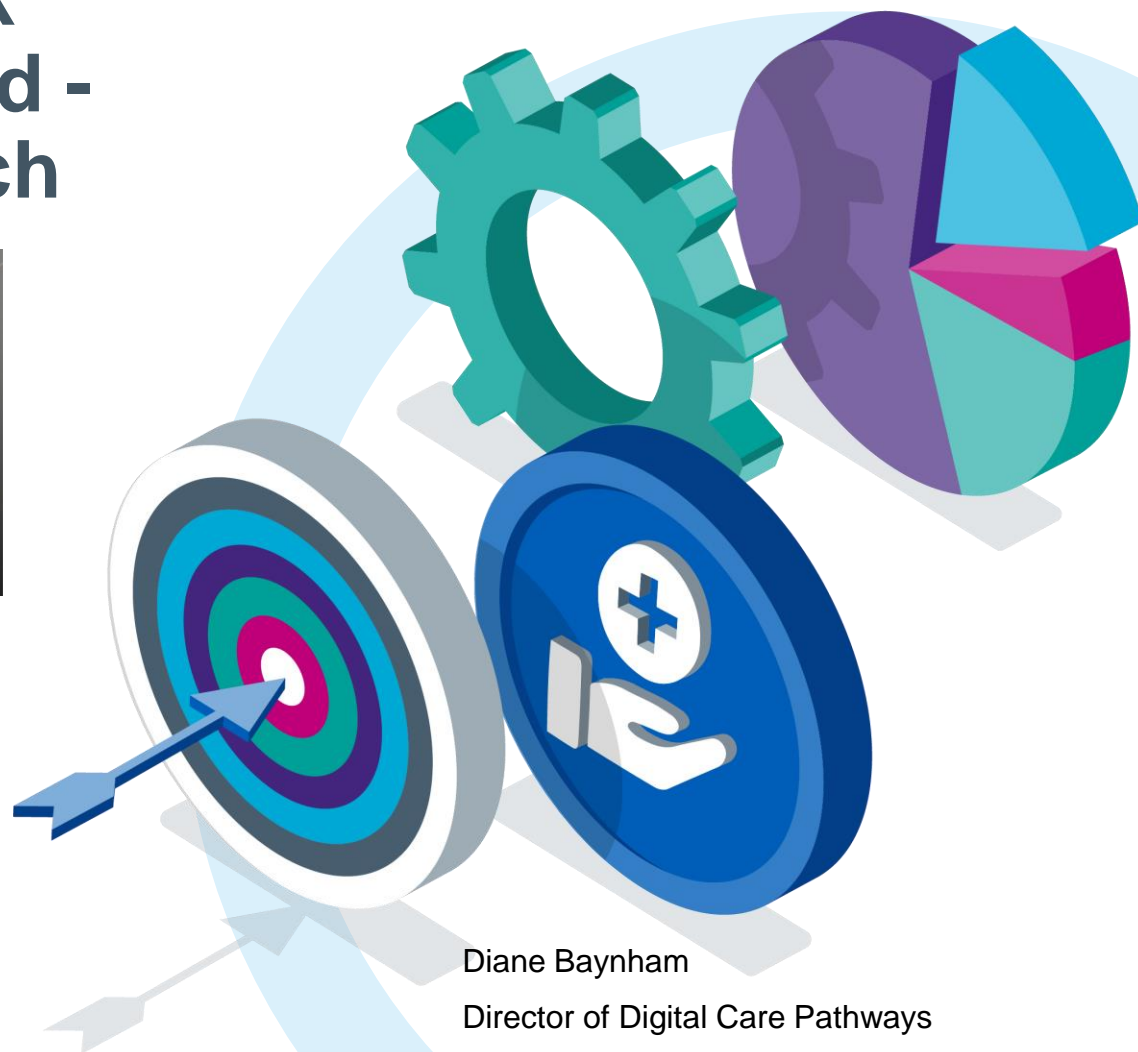
Here's more about the service

- Patients**: Access your NHS health data, manage and track your health with supportive resources and share your needs and progress with your clinical teams and carers.
- Carers**: Get access to all the tools a patient has, including a care dashboard to manage the health and wellbeing of those closest to you.
- Clinical teams**: Monitor your caseload and interact with patients and carers. Send resources, messages, customising, appointments and more.
- Admins**: Manage clinical teams, create resource packs, schedule notifications and manage global settings.

Patient Portal integration

1. FHIR API for Appointments (NHS Wayfinder)
2. Two-way integration for Advanced Care Plans
3. Future Care Plans: Care Plan development & integration – Long term conditions

Coventry and Warwick Integrated Care Record - a user centric approach



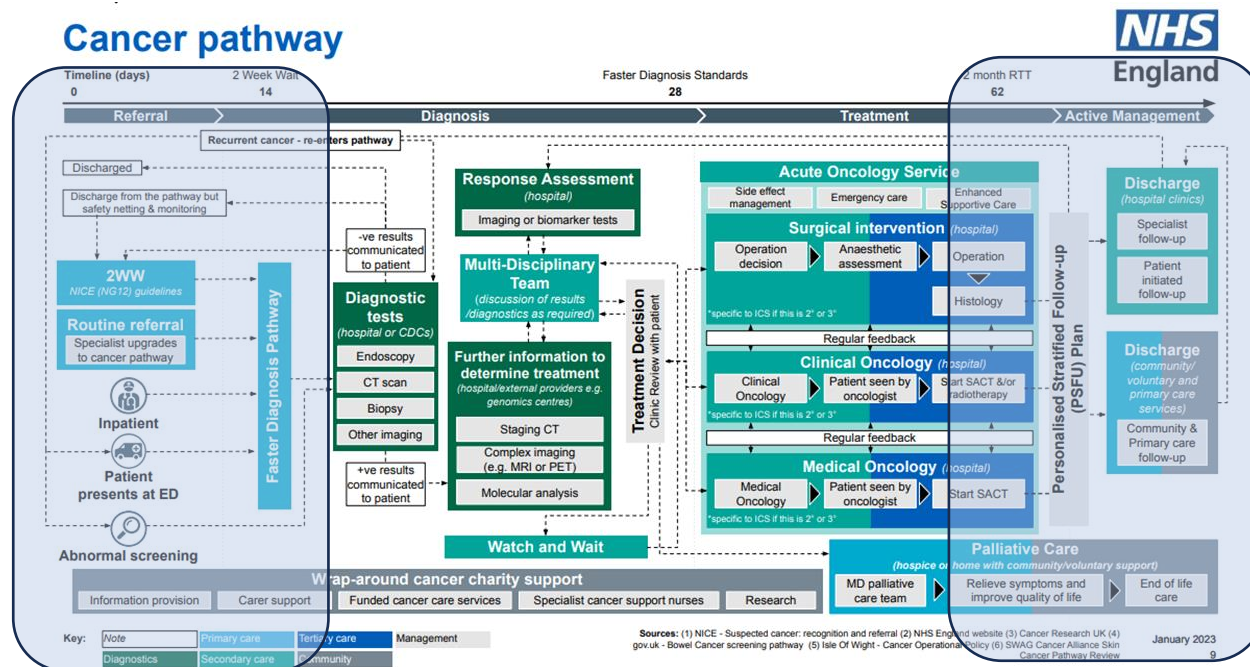
Diane Baynham

Director of Digital Care Pathways

Coventry & Warwickshire Integrated Care Record Status



A care episode might transcend care settings



Entry point could be Primary, Acute, Screening for example

Discharge may involve many organisations outside of the acute

How do you know what information is **needed**?

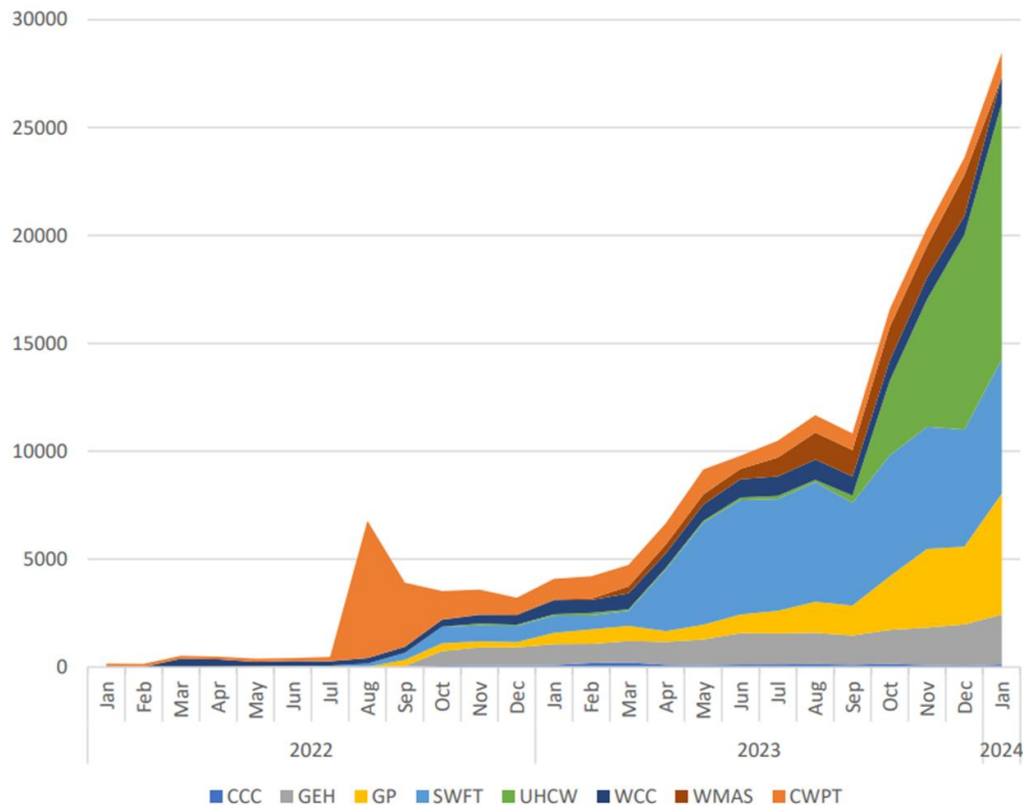
What clinical data is **required** for care?

What **gaps** you have in information access?

What **problems** having access to information would
fix?

How information about the patient might change a
patient pathway?

Unique Utilisation of ICR by Partner Org

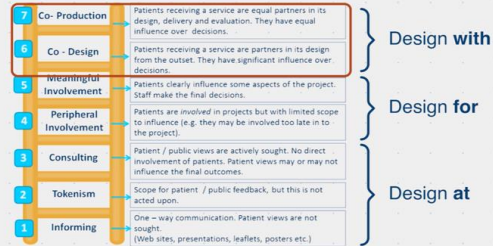


Over 3900 unique users averaging 8 patient record views per month.

What about those not accessing ICR?

How do we drive and increase utilisation?

Ladder of Engagement



(University Hospitals of Leicester NHS Trust, 2019)



“Co-production is a way of working that involves people who use health and care services, carers and communities in **equal partnership**; and which engages groups of people **at the earliest stages** of service design, development and evaluation.”

- A Co-production Model by NHS England

Design with and not for. One person cannot know how every bit of a complex system works, what difficulties people encounter, what problems need to be solved and how technology can help **Together we are better**

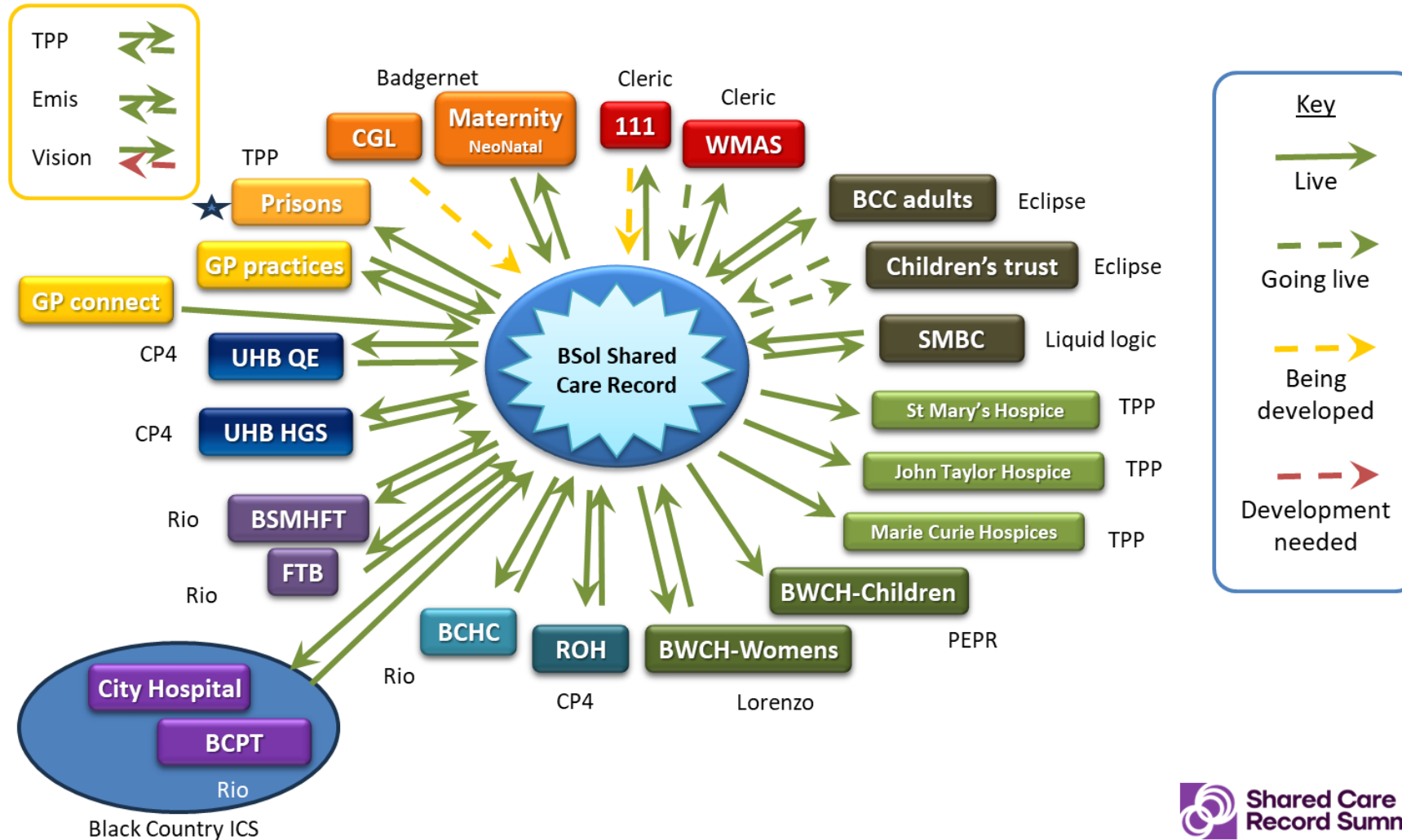
Watch our **language.** As digital leaders we can often talk a baffling language of product cycles and agile backlogs.

Ensure **buy in and ownership** if its not clinically informed then how do we know its right?

The challenge is beyond one of scale, nor whether a product is effective or provides return on investment when the NHS is head down and in tactical mode, transformation & innovation feels harder to achieve, that will not change but *the role of innovation has obvious importance but it is critical that health care leaders learn about their consumers (the patients they serve) and not allow tech to drive the change but for user need to deeply inform how we transform the service.*

Adapted from Imperial College London (2024)

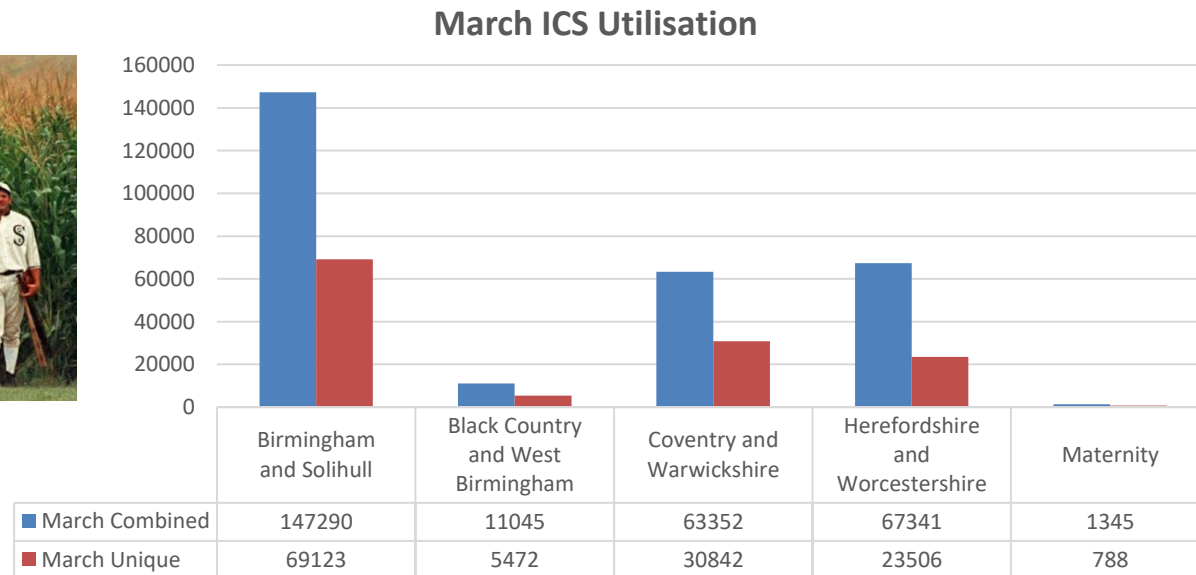
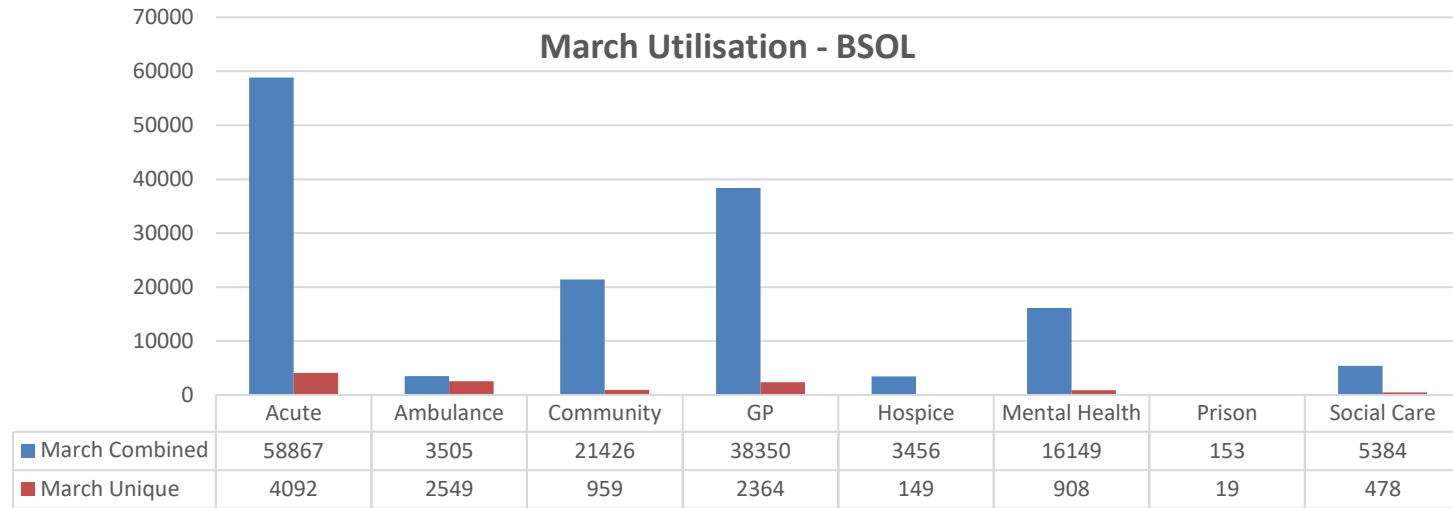
Bsol Shared Care Record



Share what you want

	Birmingham & Solihull												Coventry & Warwickshire					Hereford & Worcester					Other				
	BCC	BCHC	BSMHFT	BCP FT	BCC	DWMHT	FTB	ROH	SanMBC	SoIMBC	SolCOM	SWBH	UHB	WMIAS	CCC	Warcc	CWPT	GEH	SWFT	UHOW	HC	WarCC	HACW	WAHT	WVT	BadgerNet	Cancer
Alerts	✓	✓	✓			✓					✓						✓	✓	✓	✓				✓	✓		
Allergies		✓				✓					✓						✓	✓	✓	✓				✓			
Ambulance Handover													✓														
Appointments		✓	✓		✓	✓	✓					✓					✓	✓	✓	✓			✓	✓	✓		
Cancer eMDT																											✓
Demographics	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diagnoses			✓			✓					✓						✓										✓
Discharge Medications			✓																								
Documents			✓		✓		✓				✓	✓	✓				✓	✓					✓	✓			
Encounters		✓	✓		✓	✓	✓				✓	✓	✓			✓	✓	✓	✓	✓			✓	✓	✓	✓	
GP Records - GP Connect	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
GP Records - MIG	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Laboratory Results							✓				✓	✓					✓	✓	✓	✓			✓	✓			
Maternity				✓								✓														✓	
MHA Status			✓			✓										✓											
Radiology Results							✓				✓	✓					✓	✓	✓	✓			✓	✓			
Referrals			✓			✓										✓											
Social Care	✓								✓						✓	✓					✓	✓					
Support Contacts	✓		✓		✓	✓						✓				✓	✓	✓	✓	✓			✓	✓	✓		

Utilisation



Integrated Care Record



Working together for safe
and effective healthcare

Make the best
decisions for
the people you
provide care for

Comms
campaign



Make the best decisions



The Integrated Care Record gives you the right information, at the right time, in the right way.

Make the best decisions for the people you provide care for.

Use the Integrated Care Record today and see what it can do for your patients, your citizens – **and for you.**





1_SCR_Highlights_V6.mp4
o No Status



2_How long have you be...
o No Status



3_Collaboration with prov...
o No Status



4_Advantages of the Shar...
o No Status



5_Positive examples of usi...
o No Status



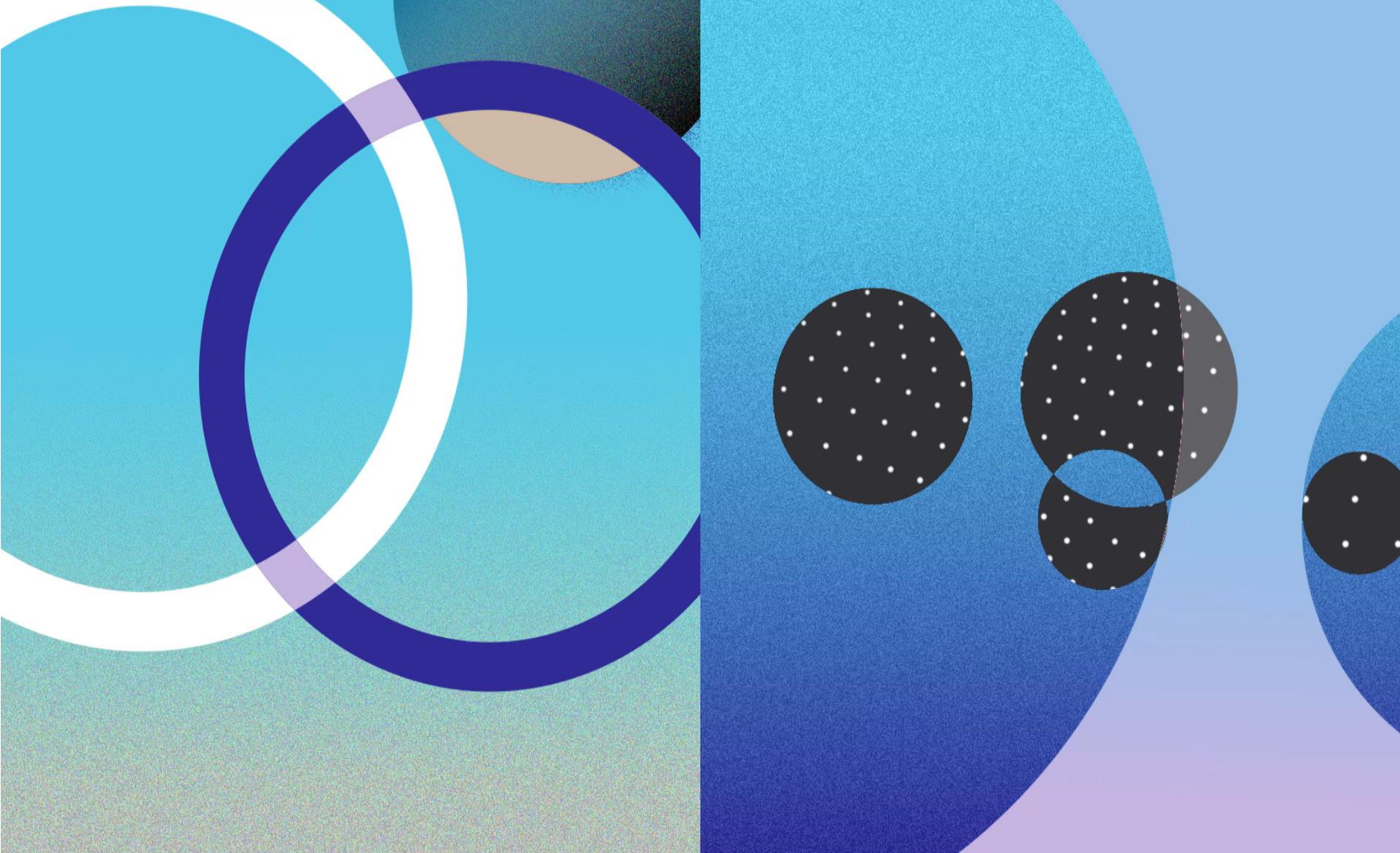
6_Sharecare Record unav...
o No Status



7_The advtages of Share...
o No Status



8_Future access to Sharec...
o No Status



Medicines Management



Mental Health UHB

- All prescribers
 - Discharge Meds
 - TTO's
- safer treatment – clinicians will see medicines, allergies and pre-existing conditions across all organisations



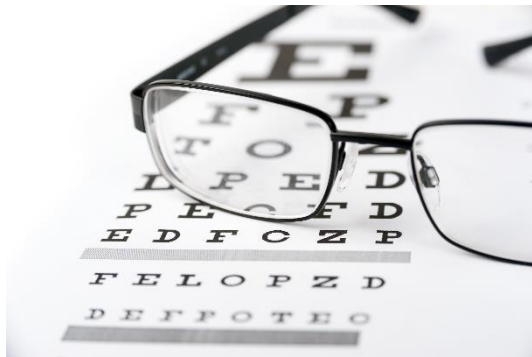
PODAC



PharmOutcomes®

Pharmacists 500+

Live in July 2024

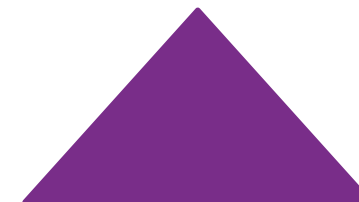


Optometrists (2024/25)

NCRS?



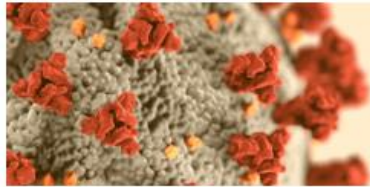
Dentists Live in June 2024



Pharmacy

PharmOutcomes[®] Delivering Evidence

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Want to administer a
COVID vaccination?

[Enter on our sister site](#)



Log In

Go

[Forgotten password?](#)

Urgent: Multi-factor Authentication now required for PharmOutcomes

[Click here for FAQs to support your new log-in process](#)

Dental - REGO



West
Midlands
Air Ambulance





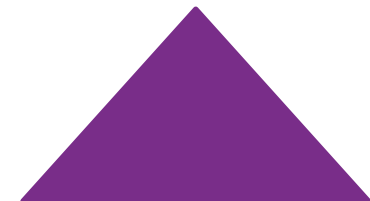
Care Homes



- Nourish
- Patient centred

NRL

25% target in the next
18 months





What is InterSystems focusing on?



- Charles King
 - Account Manager
- 

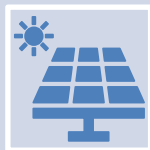
Focus



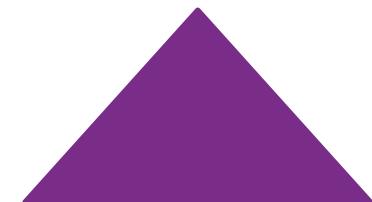
Eco-system





Cost of Care




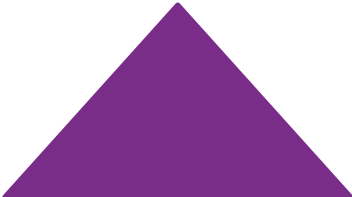
Greater efficiencies



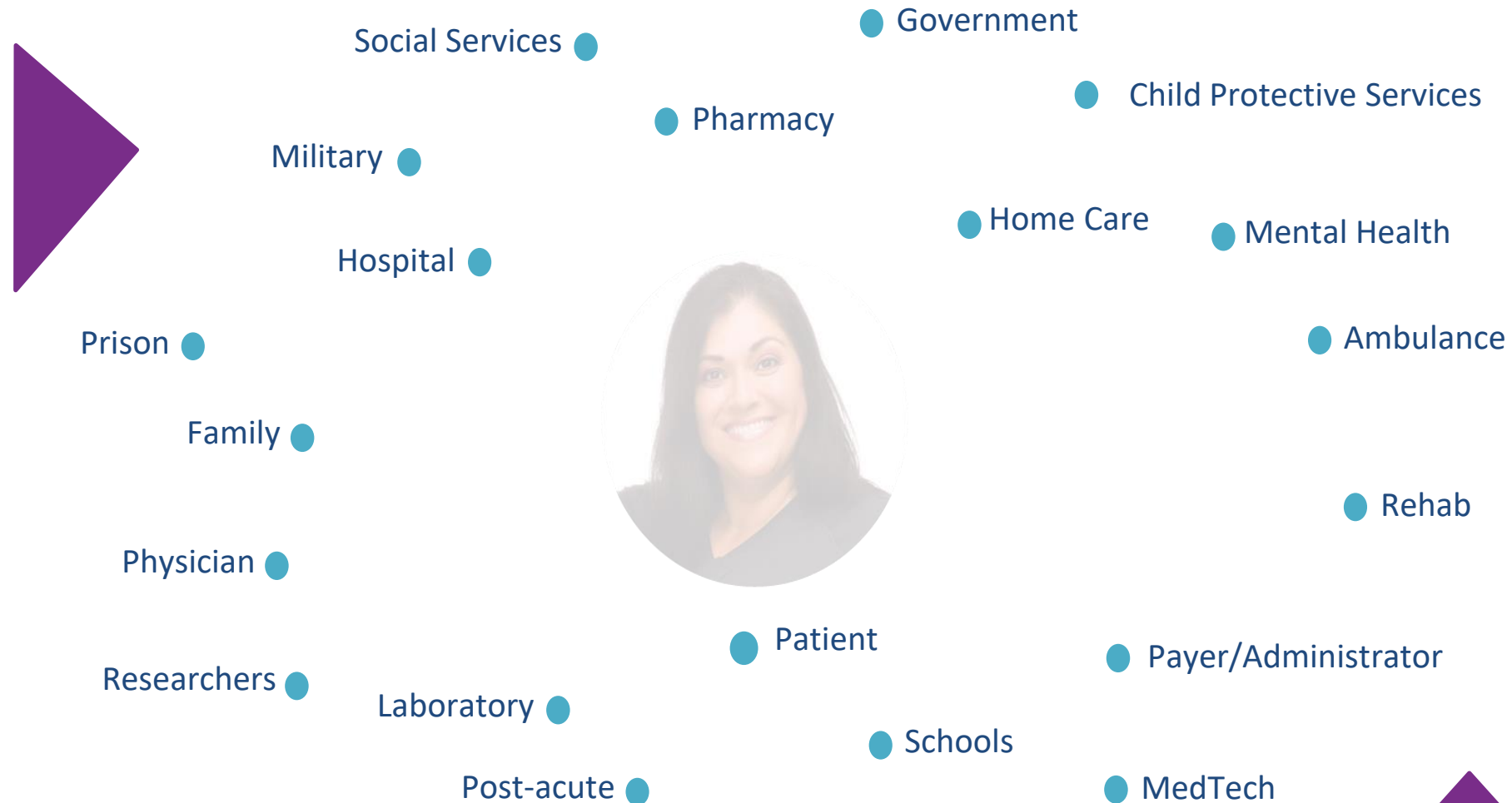
Eco-system

- 
- One supplier cannot meet all requirements of customers
 - Change too difficult so leverage sunk investment
 - Work with suppliers on joint solutions, bring solutions
 - Digital print mailing solutions
 - Patient appointment reminders and call ups
 - ED Scheduling
 - Pain management
- 

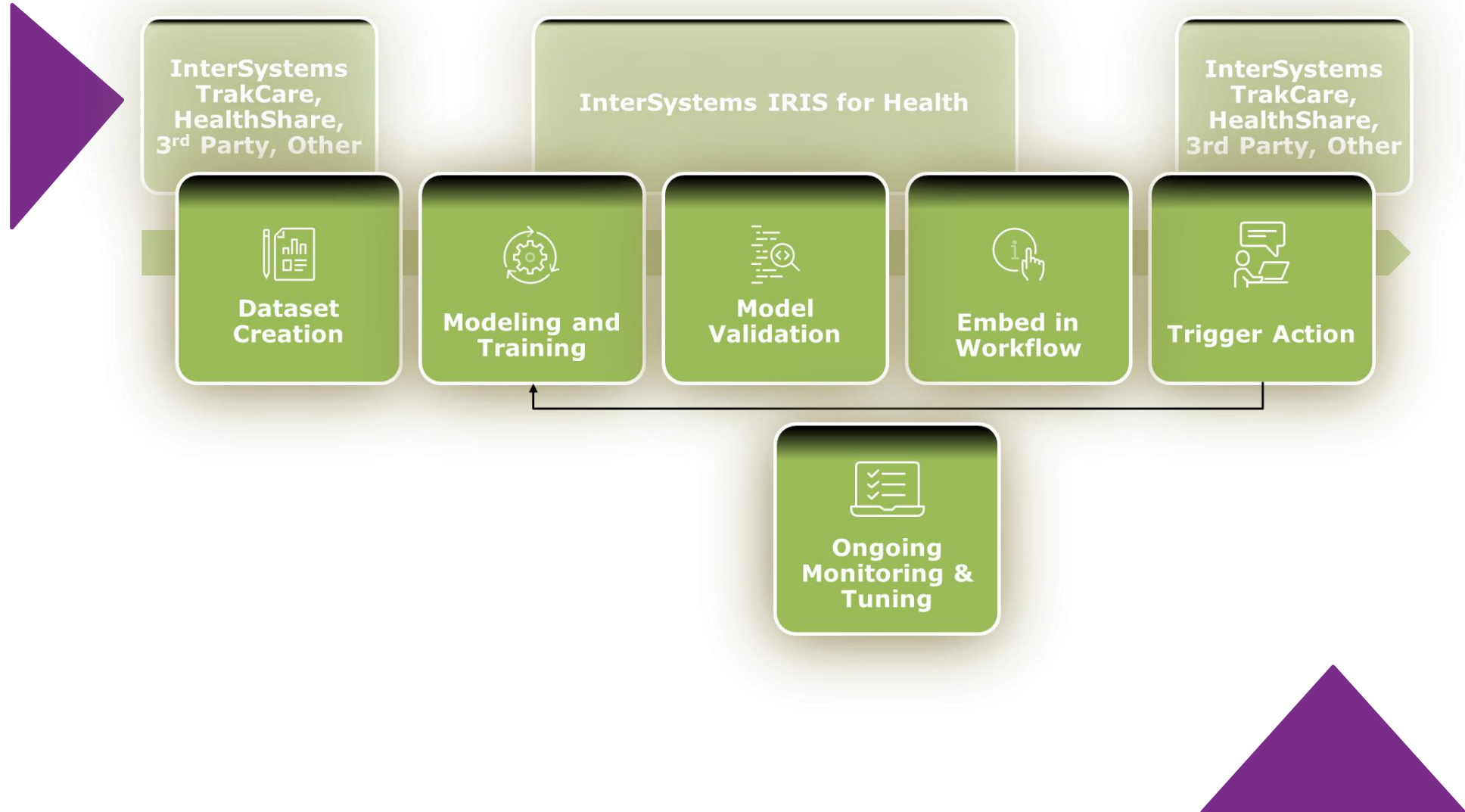
Cost of Care

- 
- Home versus Acute Care
 - Avoiding Hospital Admission
 - Greater co-ordination
 - Making the patient part of their care – managing long term conditions
 - MyPath Cancercare
 - <https://mypath-cancercare.eu/>
 - Facilitating discharge
 - Simple, timely, easy communication, handover and care planning
 - Preventing re-admission
 - Identification of risk, prevention and follow on care
- 

Huge amount of data – how do we derive value



ML Model Development Process





Clinical

- Antibiotic Resistance
- Chronic Disease Package Eligibility
(Diabetes, COPD, Cardiac Myopathy, Essential Hypertension, Hyperlipidemia)
- Diabetes Risk Prediction
- MI Prediction
- Osteoporosis Prediction
- COPD Exacerbation
- Asthma Attack Prediction
- Early Microbiology Pathogen Detection
- Early Sepsis Detection
- Breast Cancer Prediction

Administrative

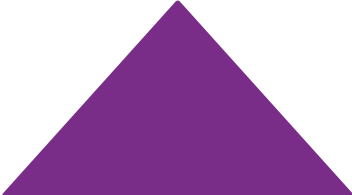
- Clinic No-Show Prediction
- Prediction of Surgical Procedure Time
- Prediction of Emergency Waiting Time
- Predication of Lab Sample Rejection
- Predict the Resources Needed
- Predict Waiting List Acceptance Time
- Predict OPD Pharmacy Waiting Time
- Inpatient LOS Prediction

RCM

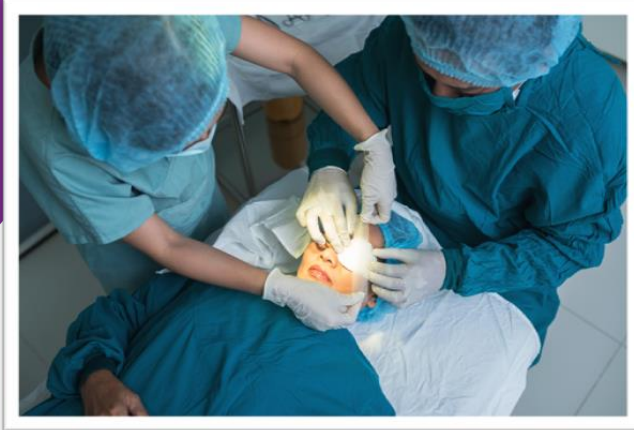
- DRG Discrepancy
 - Inpatient Readmission Prediction
 - Predict Expensive Stock Utilization
 - Service Approval / Denial by Insurance
 - Claims Approvals / Denials
- 

Generative AI

- Identify Gaps in Patient Record
- Create Claims Report
- Generate Handover Lists & Notes
- Create Operative Reports
- Suggest Evidence-based Protocols
- Utilize Dictation Tools to Generate Structured Data
- Enhance Medication Compliance
- Identify Best Stock to Utilize
- Identify Area of Revenue Growth
- Identify Time for HW Upgrade
- Identify Risk for Security Breach
- Issue Recording and Identifying



Emergency Dept Waiting Time Prediction



Highlights

- Numerous potential improvements: improve care, optimize resource utilization, increase patient safety, increase patient satisfaction, etc.
- Inputs involve historical ER utilization data, patient details, and time (day, hour) to generate an estimate

Goal

Predicting wait time from emergency department admission to physician visit

Sample Rejection Rate Reduction



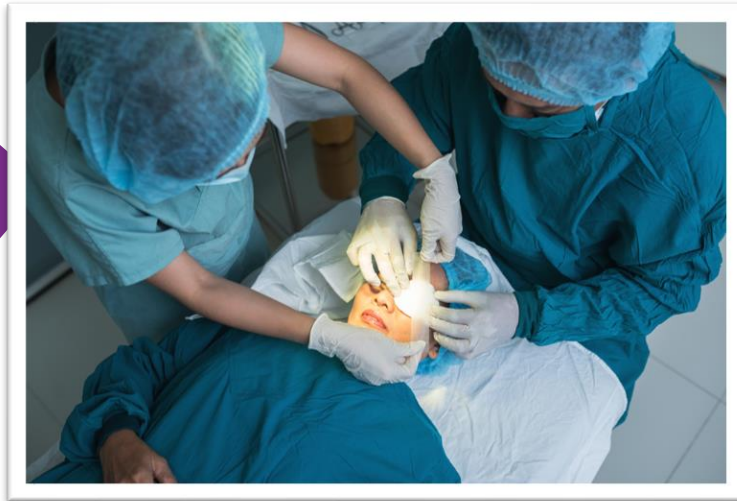
Goal

Reduction in the number of discarded laboratory samples

Highlights

- Analyzes historical data on rejected laboratory specimens
- Alerts personnel on the possibility that a collected sample cannot be used (at the collection site)
- Feedback on the risk of rejection, integrated into the laboratory information system user interface

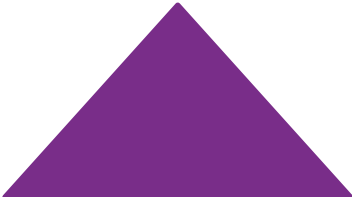
Surgery Duration Prediction



Goal

Predicting the duration of a surgical procedure in a specialized ophthalmology hospital

Highlights

- Optimization of the use of operating room resources (space, equipment and personnel)
 - At the time of booking, the data of the surgery, the patient and the provider are analyzed to allow prediction of the surgery time
 - After implementation and transition to live operation, the solution can be rolled out to other hospitals
- 

Hospital Staff Allocation Optimisation



Goal

Improving the deployment of staff in the various departments of a hospital with the help of a forecasting model

Highlights

- Reduce the need for overtime or "last minute" call-in of employees
- Avoid unexpected spikes in staffing needs and improve operational efficiency and effectiveness
- Based on the patterns identified, analytics are used to measure staffing levels and predict staffing needs
- The model is being developed on behalf of a French hospital and is currently in the design phase
- Introduction in other facilities is planned, as the IP rights will be held by InterSystems

Clinic No-Show Reduction



Goal

Improve quality of care and optimize allocation of time, clinical and financial resources

Highlights

- Implemented and already in live operation in KSA
- Predict the probability that an appointment will not be kept, directly in the appointment booking process
 - Currently 18% of appointments are not kept
- Integration of the "no-show" risk score into the user interface of the appointment information system
- No third-party involvement, InterSystems is the sole owner of the rights to the solution. It can therefore be easily applied to additional use cases
- Alternative use cases: reduce no-shows in surgical procedures, radiology sessions, chemotherapy sessions, etc.

Readmission Rate Reduction




Goal

Reduce readmission rates to improve patient recovery outcomes and lower costs/revenue

Highlights

- Problem description
Determine the likelihood that patients with a diagnosis related to the original admission will be readmitted to the hospital
- Deployment
 - ✓ Data from previous patients are used to train the model
 - ✓ Only inpatient cases are considered
 - ✓ The threshold for readmission is 30 days
 - ✓ Result: probability of readmission
- Solution
At discharge, an alarm informs the physician of the likelihood that the patient will be readmitted within 30 days

Readmission Rate Reduction: Testing the model



Clinicians make daily decisions whether to discharge patients based on a series of observations and standards. It often happens that the patient suffers a complication and is readmitted.

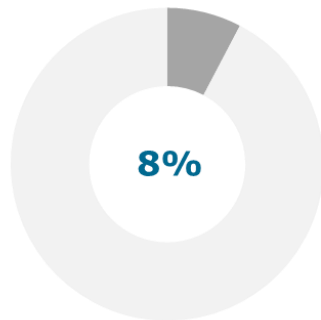
Calculating the probability of readmission allows clinicians to identify patients at high risk for readmission and either extend their stay for further testing and monitoring or schedule more frequent and closer follow-up visits.



ML Use Case: Readmission Rate Reduction

Sample Results

Successful reduction of readmission



**Clinically validated for
2021 data vs. predicted
episodes**

Financial impact

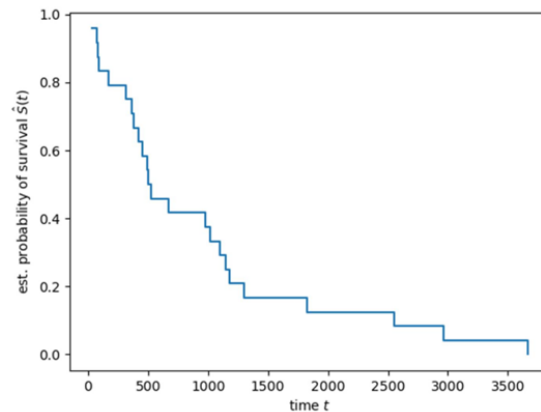
- 5,000**
5.000 IP episodes / year
400 IP readmissions can be avoided
- (6.2 k EUR)**
Average cost per IP episode
AED 25,000. 50% of this
amount may be deducted by
payer if readmission occurs
within 30 days
- (1.24 m EUR)**
Potential loss per year for a
single facility

Diabetes Prediction



- **Objective:** Identify the probability that patients will develop a diabetes diagnosis in a specific time interval (survival time).
- **Implementation:** Survival Analysis -> analyzing the expected duration of time until the diabetes diagnosis occurs. Survival analysis involves the modelling of time-to-event data.
- **Solution:** an indication through an alert of when the patient will likely develop a diabetes diagnosis.

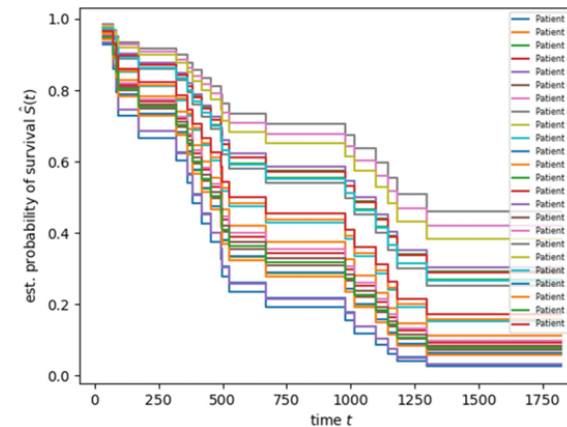
Survival Analysis by entire population



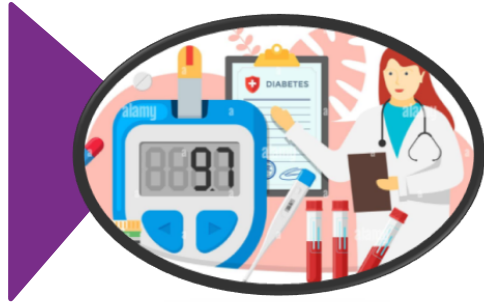
Diabetes diagnosis when the curve reaches 0 on y-axis.



Survival Analysis by single patient



Diabetes Prediction: Results

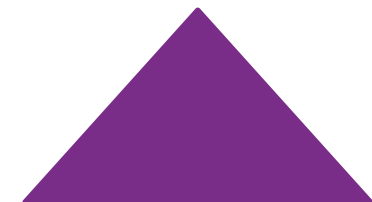
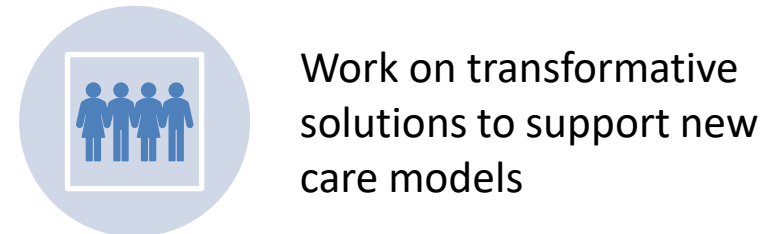
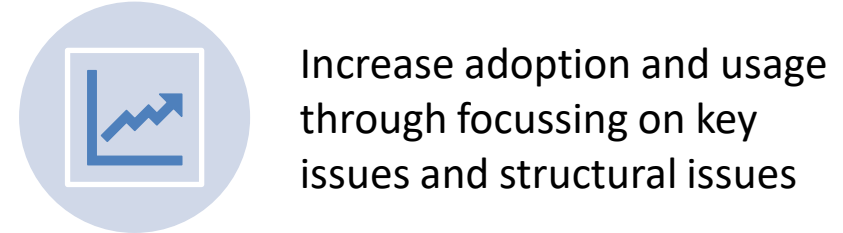


Impact

Diabetes new cases are on a rise across the globe. Early risk identification and preventative modules help reduce this chronic disease impact.

Through a survival monitoring for both the Diabetic patients as well the patient at risk of having diabetes within 5 years doctors can now easily:

- Get Notified of potential risk
- Change treatment protocols accordingly
- Enroll patients into Diabetic prevention protocols
- Continue to monitor throughout the journey
- Extend the use beyond hospitals into the community



Virtual Wards - DOCOBO

Virtual wards provide effective hospital at home monitoring
Remote monitoring at home: helping the frontline
Add value to the residential care home offering



Virtual Wards - DOCOBO

Chartbook

- Summary
- Care Community
- Allergies & Alerts
- GP Summary
- End of Life Care
- Docobo Observations
- Warnings

Docobo Display Refresh Browser Info

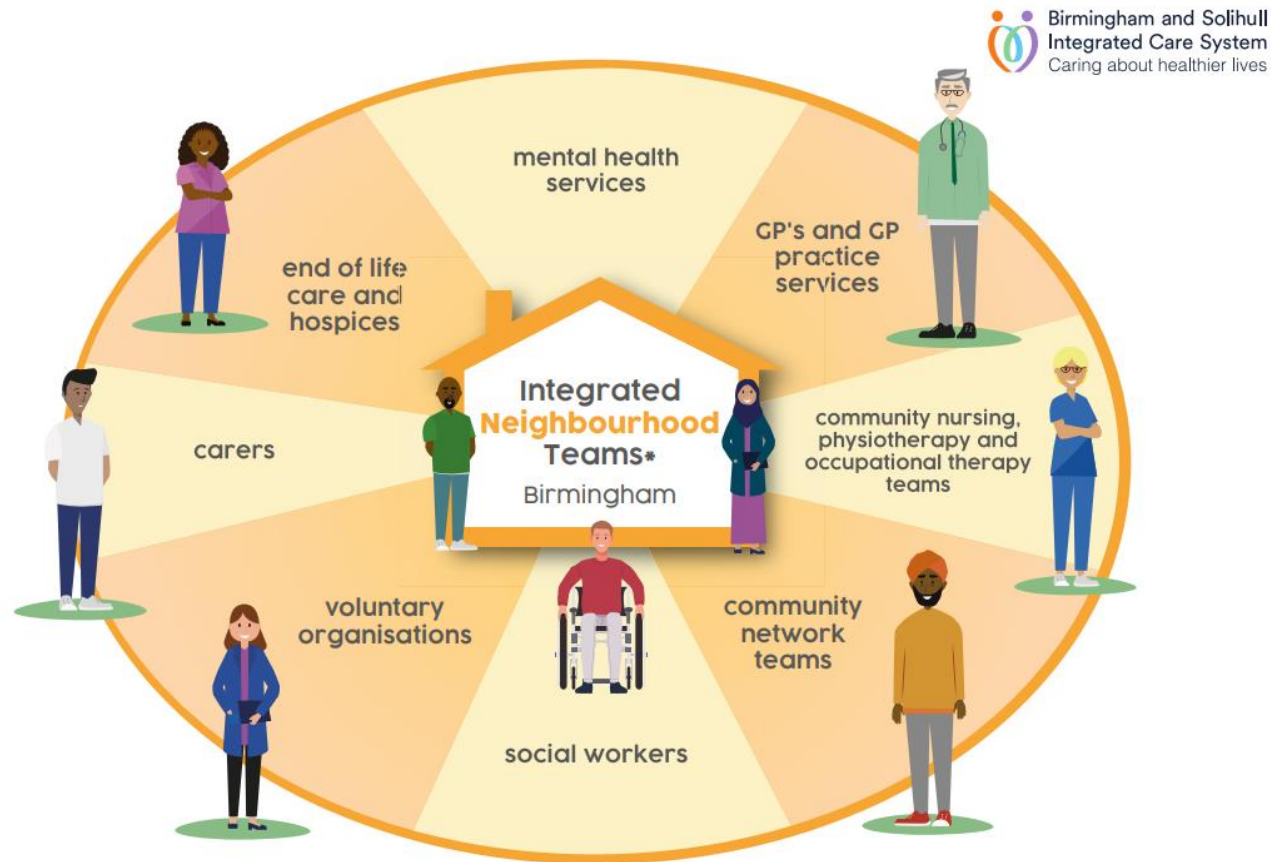
Mr Graham Knight (EBBI Test) (Age 54) Agr Number: 47438 12667 Telephone: (01372) 459866 EBBI (Vale of Evesham) My Resident is Unwell v5.2 Full Monitoring

Patient Info Questions Notes **Data** Survey NEWS2 Alerts Communication Reports Diary

Calendar View Events View

January 2024	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	01	02	03	04	05	06	07	08	09	10	11	12	Date Search	
Alerts & Quality							•																						<< < > >>	
Notes										•																			Latest	Cursor
Blood Glucose	[Redacted]																													
Blood Glucose To Auto Scale	16	•																											12.9 mmol/L	
Baseline not available	2																													
My Resident is Unwell (Ur..)	[Redacted]																													
Immediate Attention																													No immedia..	
Immediate att..																													Positively..	
Soft Signs 1	[Redacted]																													
Restles..																													Yes	
Sweatin..																													No	
Less Mobile																													No	
New Pain																													Yes	
Skin Change																													No	
Short o..																													No	
Soft Signs 2	[Redacted]																													
Confuse..																													Yes	

Integrated Community Teams



For more information click [here](#)

*This shows what a typical team looks like - other services join the team as when needed.

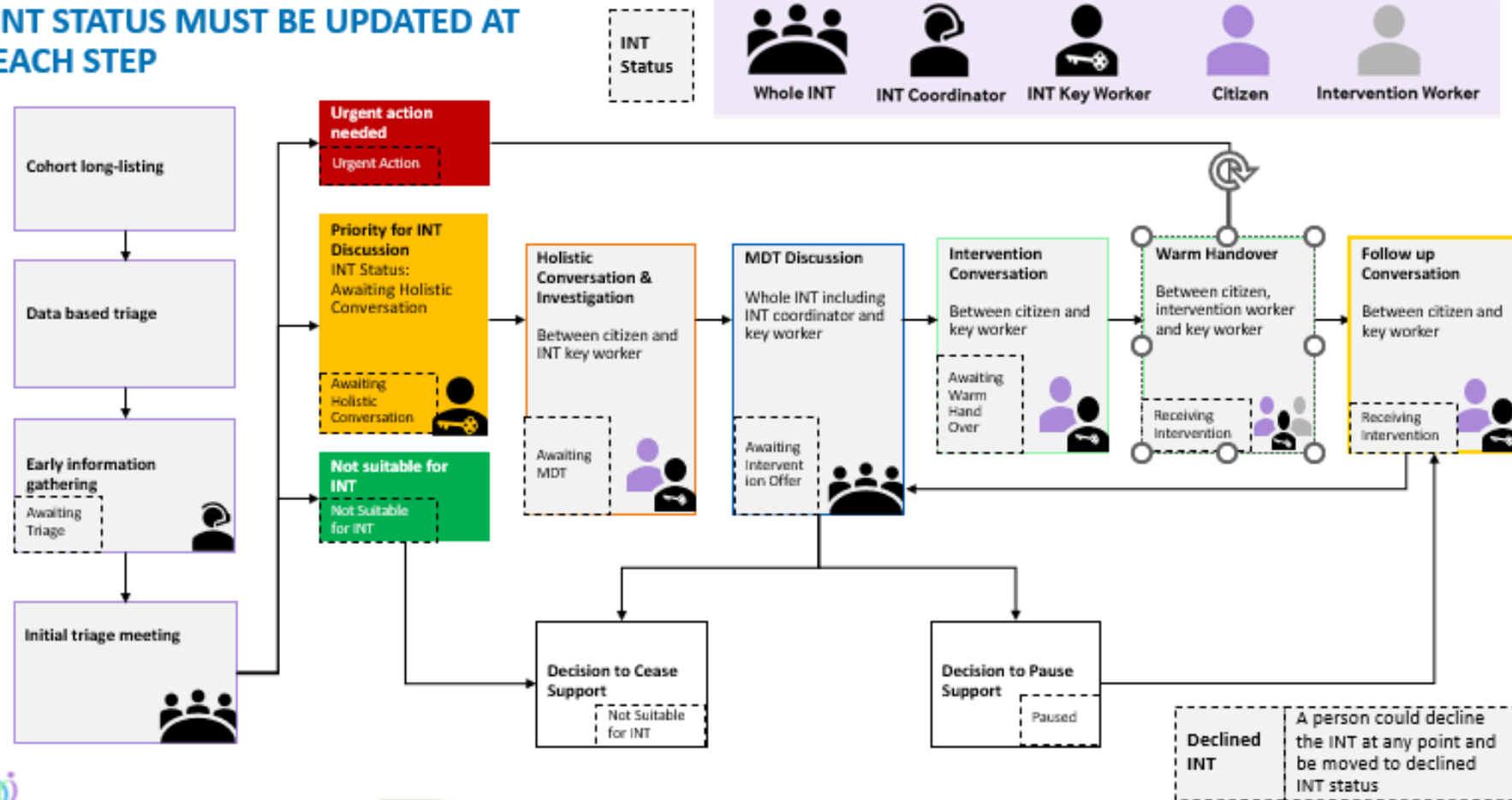
Who makes up an Integrated Neighbourhood Team?*



*what a typical INT could look like

Case Management

INT STATUS MUST BE UPDATED AT EACH STEP

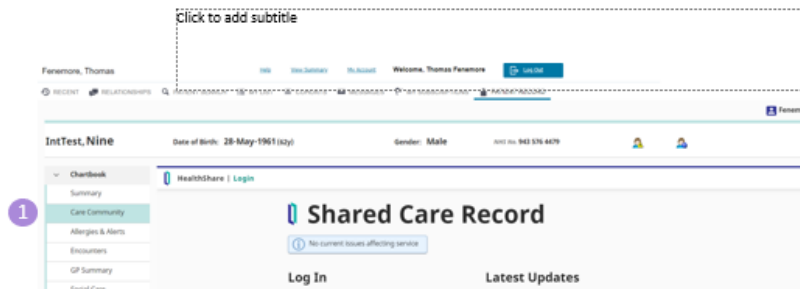


Case Management

FINDING A PERSON'S CARE PLAN

Once you have clicked on a person, you will see the shared care record for the person.

- 1 Select the Care Community Chartbook to bring up the case management tool care plan
- 2 You will be able to use the same tool to create a care plan
- 3 Accept permission



TRIAGE MEETING PROFORMA



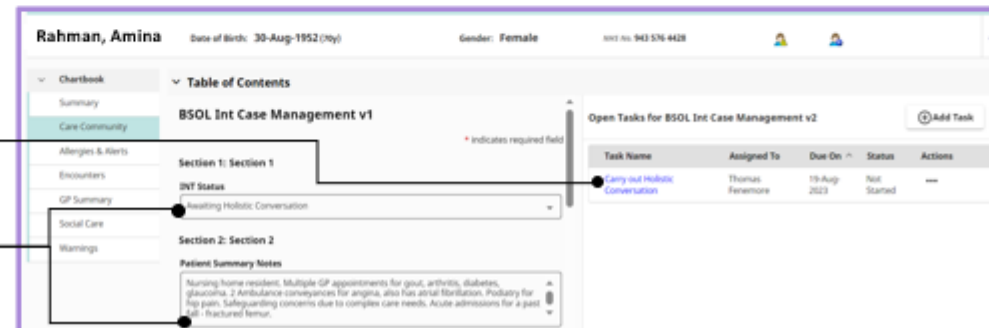
Inputs

- List of citizens
- Supporting Information
- Agenda



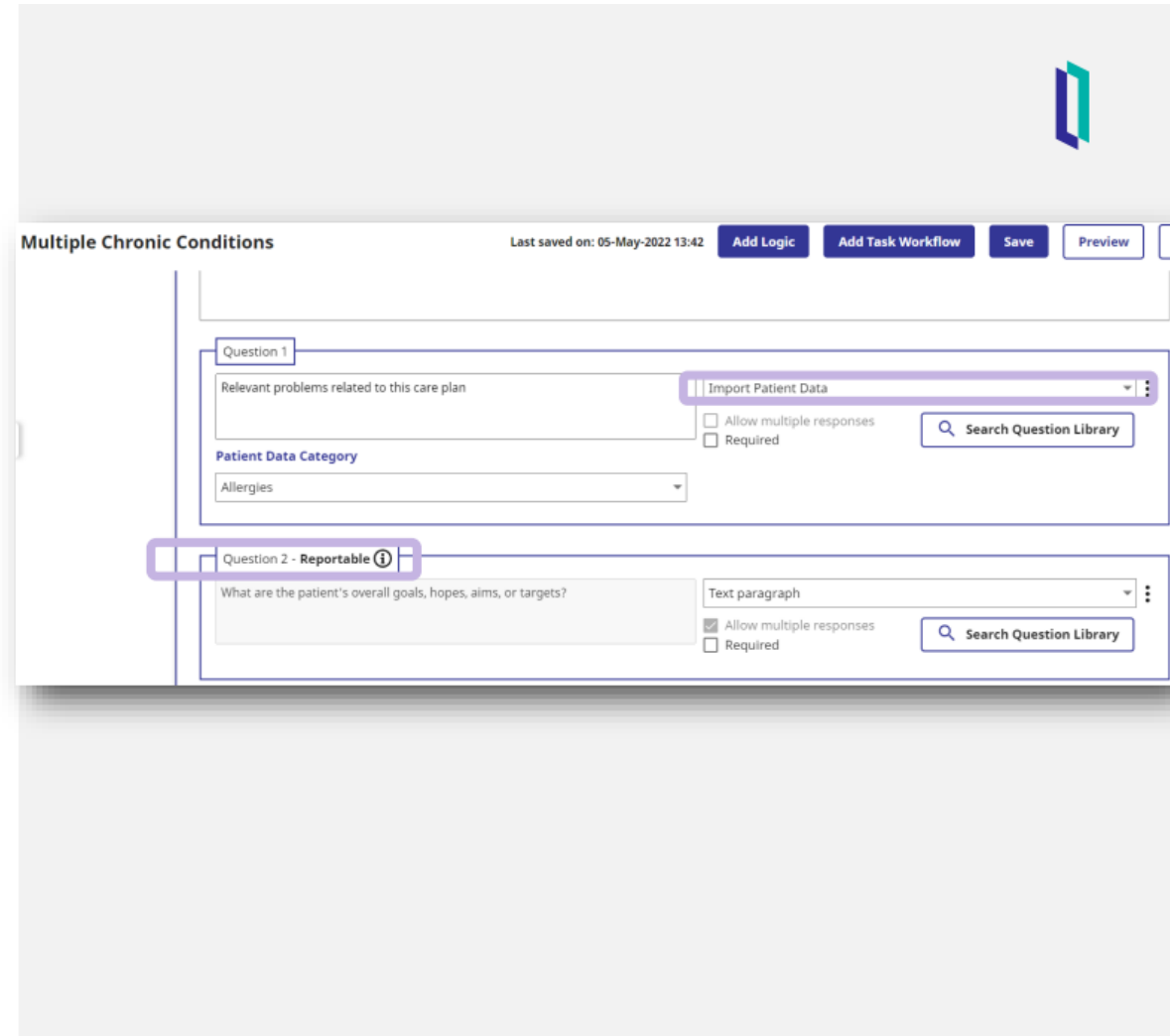
Outputs – on the CMT

- Key Worker decided and Holistic Conversation assigned to them as task
- Streaming decision and rationale (if unsuitable)



Flexible Templates

- Low code/no code way to construct care plans
- Incorporate workflow
- Conditional logic
- Import/Export data from SDA
- Leverage FHIR



Multiple Chronic Conditions Last saved on: 05-May-2022 13:42 [Add Logic](#) [Add Task Workflow](#) [Save](#) [Preview](#)

Question 1

Relevant problems related to this care plan Import Patient Data

Allow multiple responses
 Required [Search Question Library](#)

Patient Data Category

Allergies

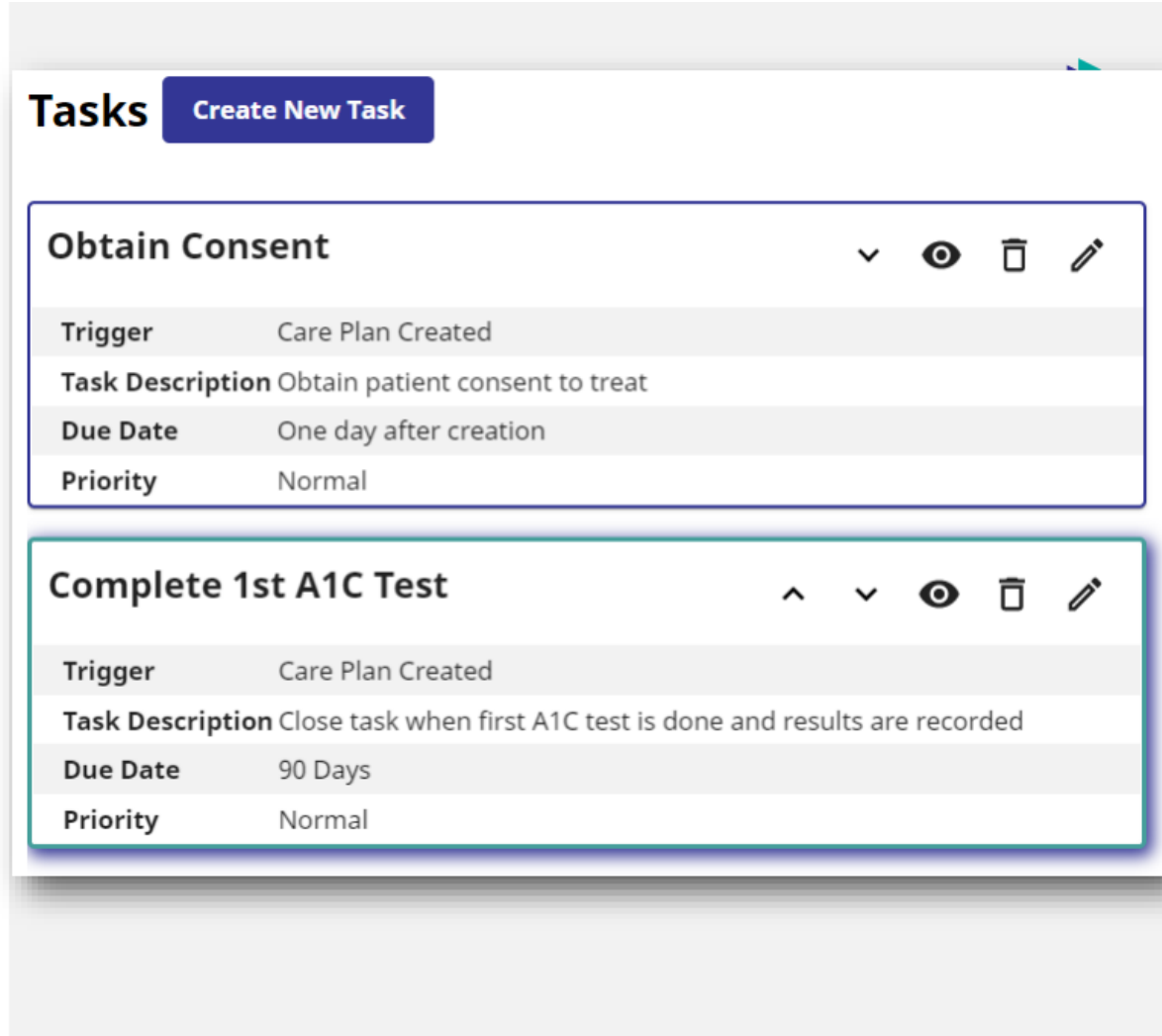
Question 2 - Reportable

What are the patient's overall goals, hopes, aims, or targets? Text paragraph

Allow multiple responses
 Required [Search Question Library](#)

Tasks

- Build repeatable or patient specific tasks
- My Tasks
 - View tasks across patients
 - Manage your worklist
 - Link directly to patient context



The screenshot displays a 'Tasks' interface with a 'Create New Task' button. Two task cards are shown, each with a title, trigger, description, due date, and priority, along with action icons (dropdown, eye, trash, edit).

Obtain Consent

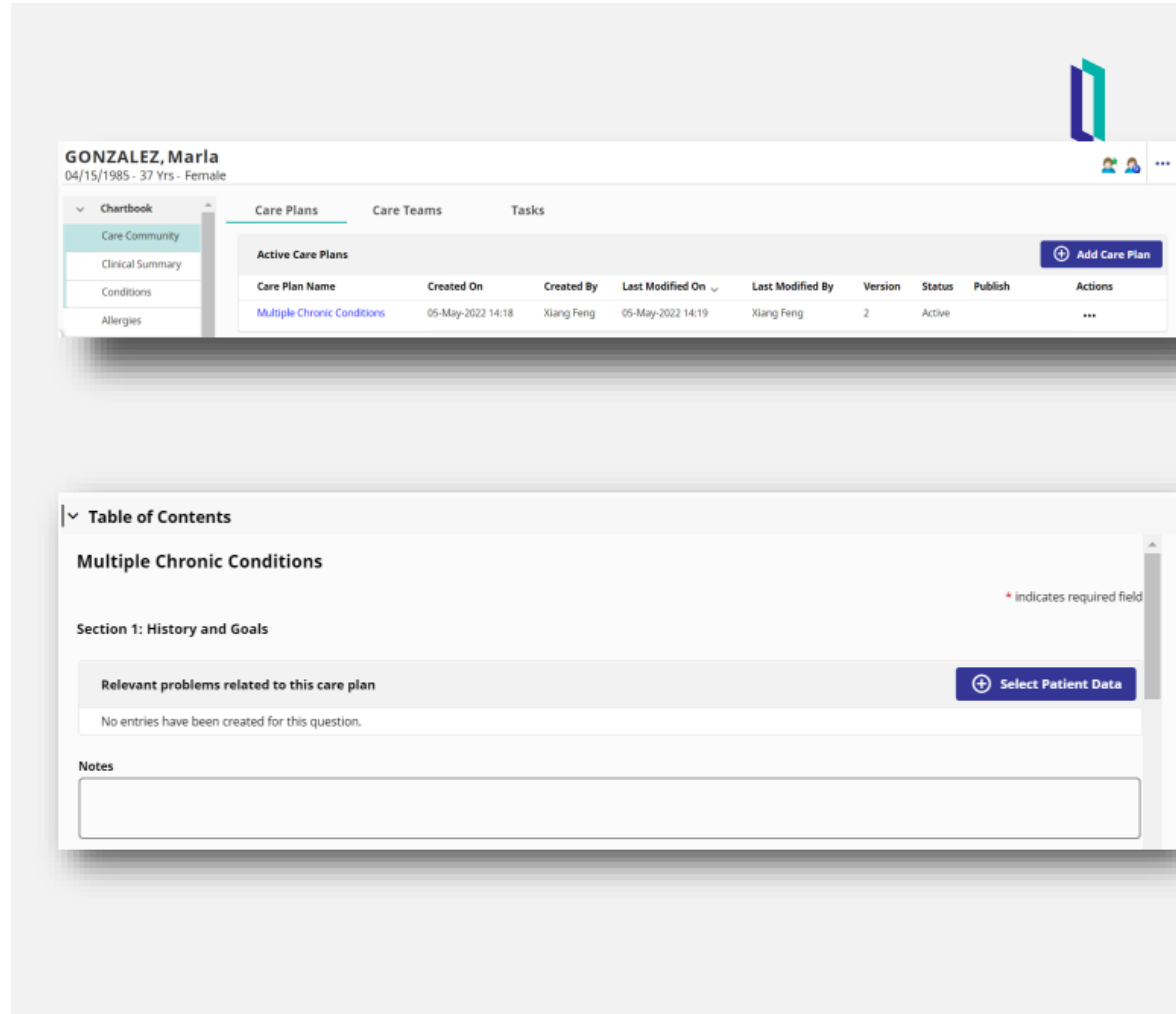
Trigger	Care Plan Created
Task Description	Obtain patient consent to treat
Due Date	One day after creation
Priority	Normal

Complete 1st A1C Test

Trigger	Care Plan Created
Task Description	Close task when first A1C test is done and results are recorded
Due Date	90 Days
Priority	Normal

Shared Care Plans

- Easy to build
- Collaboratively authored
- Within patient context
- Role-based access
- Conditional logic
- Version history



The screenshot displays the Shared Care Record Summit interface for a patient named GONZALEZ, Maria (04/15/1985 - 37 Yrs - Female). The interface is divided into two main sections.

Top Section: Care Plans Overview

The top section shows the patient's name and a navigation menu with options: Chartbook, Care Plans, Care Teams, and Tasks. The 'Care Plans' tab is active, displaying a table of 'Active Care Plans'. A blue button labeled 'Add Care Plan' is visible in the top right corner of this section.

Care Plan Name	Created On	Created By	Last Modified On	Last Modified By	Version	Status	Publish	Actions
Multiple Chronic Conditions	05-May-2022 14:18	Xiang Feng	05-May-2022 14:19	Xiang Feng	2	Active		...

Bottom Section: Care Plan Form

The bottom section is titled 'Table of Contents' and shows the details for the 'Multiple Chronic Conditions' care plan. It includes a 'Section 1: History and Goals' and a 'Relevant problems related to this care plan' section. A blue button labeled 'Select Patient Data' is located in the top right corner of this section. Below the 'Relevant problems' section is a 'Notes' field with a text input area.

End of Life Care

RECENT RELATIONSHIPS PATIENT SEARCH **PATIENT RECORD**

Kilroy, Drake Date of Birth: 19-May-1958 (64y) Gender: Male NHS No. 946 570 1149

rdows

Chartbook

- Summary
- Allergies & Alerts
- GP Summary
- End of Life Care**
- Warnings

End of Life Care details from GP Connect

GpConnect

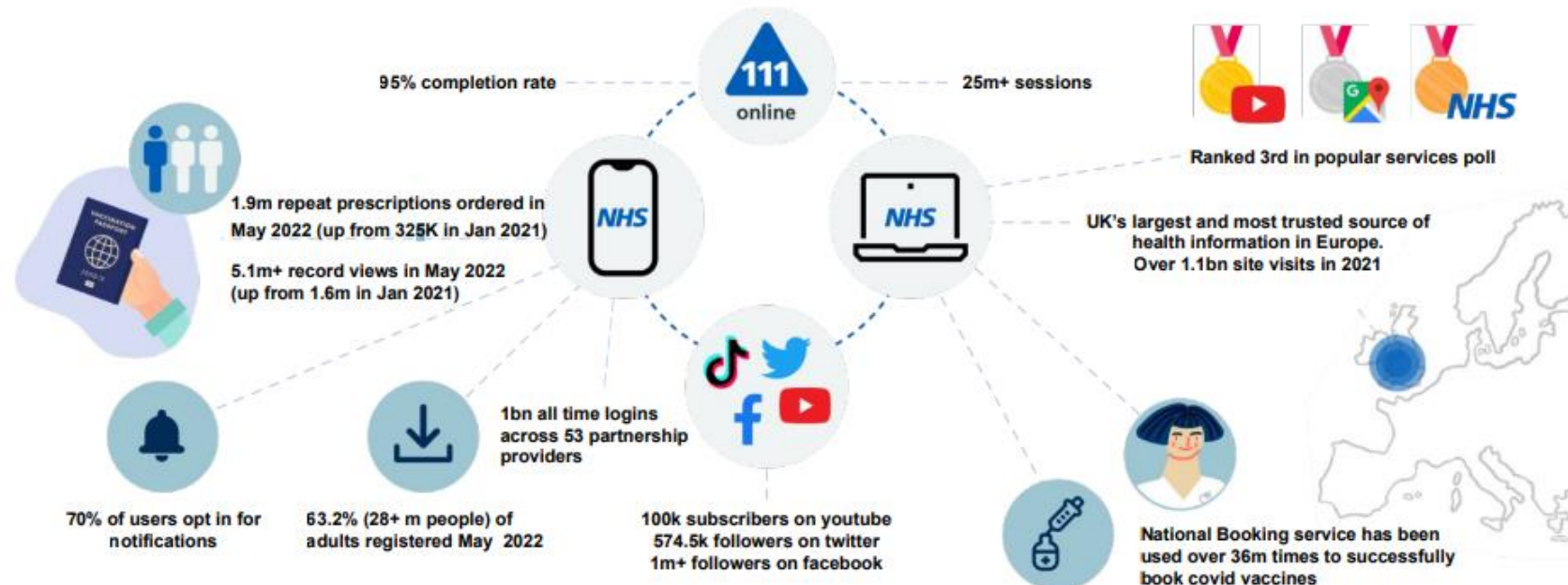
Palliative and End of Life Information

	Response	Updated by	Updated on
On Palliative Care Register			
Primary Diagnosis			
Estimated Prognosis / GSF Stage			
Last days of life		MR GPONE TEMPLE SOWERBY	12/01/2023 16:10
Last months of life	Putting this in as a historic entry which should be back dated a month but not back dating	MR GPONE TEMPLE SOWERBY	12/01/2023 16:11
Gold standards framework prognostic indicator stage B (green) - months prognosis		MR GPONE TEMPLE SOWERBY	28/11/2022 14:26
Legal proxy / PoA			
Review of advance care plan		MR GPONE TEMPLE SOWERBY	12/01/2023 16:14
Advance Care Plan			
Has advance statement		MR GPONE TEMPLE SOWERBY	28/11/2022 14:26
ReSPECT			
Has ReSPECT (Recommended Summary Plan for Emergency Care and Treatment)	Note the code is not 1107891000000100	MR GPONE TEMPLE SOWERBY	12/01/2023 16:17
Advance Decision to Refuse Treatment			
Treatment escalation plan		MR GPONE TEMPLE SOWERBY	28/11/2022 14:26
CPR Recommendation			
For cardiopulmonary resuscitation	- may reconsider depending on how condition advances, to be raised at next review	MR GPONE TEMPLE SOWERBY	28/11/2022 14:26
Not for cardiopulmonary resuscitation	- has changed mind to no CPR due to worsening condition	MR GPONE TEMPLE SOWERBY	28/11/2022 14:42
Organ Donation			
Organ donation information leaflet given		MR GPONE TEMPLE SOWERBY	28/11/2022 14:42
Issue of palliative care anticipatory medication box	Note use of synonym	MR GPONE TEMPLE SOWERBY	12/01/2023 16:27

NHS Login complete – NHS App in flow

Our channels are now mature and serve a significant proportion of the population with specific functions

The scale and maturity of our channels has grown dramatically over the past 18 months, and they are now central to how we intend to deliver health and care services moving forward.



Personal Community Signed In As: Rose Kinley ?

Home Health Records Share My Records Messages Library Calendar My Account Logout

Welcome, Rose Kinley
25 Fifth Ave.
[View Your Personal Information](#)
Last logged in 5 minutes ago

Your Updates
No Updates

Welcome to Personal Community!

Common Tasks

- Ask Medical Question
- Request Appointment
- View Lab Results
- View My Medication List
- Share My Records

News

Have We Created Connected Value for the Healthcare Community?
April 22nd, 2016 4:44 PM

Unrecognized Assumptions and Their Impact on Patient Care
April 11th, 2016 11:32 AM

Interoperability in Human Terms
March 31st, 2016 1:27 PM

[All News](#)

Upcoming Events

Apr 27 **Administrative Professionals Day**
United States

[All Events](#)

v0.2.84 HealthShare Portal © InterSystems Corporation, All Rights Reserved

Sign in

Please enter your username

Please enter your password (required)

Security (Show explanation)

- This is a public or shared device
- This is a private device

Login


[Forgot your username or password?](#)

Not a member? Sign up!

Enroll

[Activate Account](#)

Welcome to Personal Community!



Personal Community

Home Library Calendar

Sign in

Please enter your username

Please enter your password (required)

Security (Show explanation)

- This is a public or shared device
- This is a private device

Login

[Forgot your username or password?](#)

Not a member? Sign up!

Enroll

[Activate Account](#)

Welcome to Personal Community!



News

Healthcare Analytics in the Cloud: Delivering Answers "as a Service"
July 14th, 2016 12:20 PM

Upcoming Events

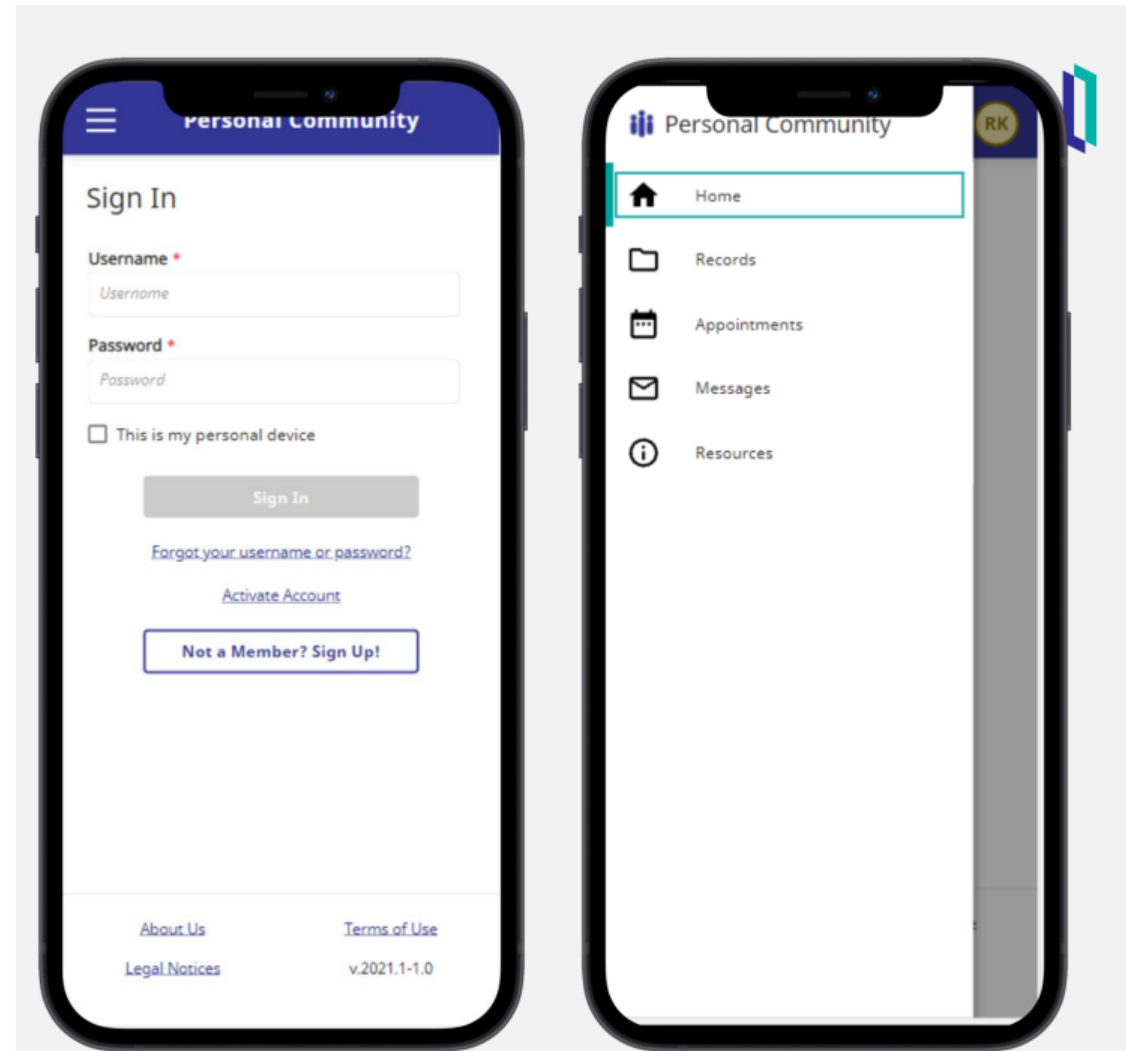
[All Events](#)

v11.1.1-0.0.0 HealthShare Portal © InterSystems Corporation, All Rights Reserved

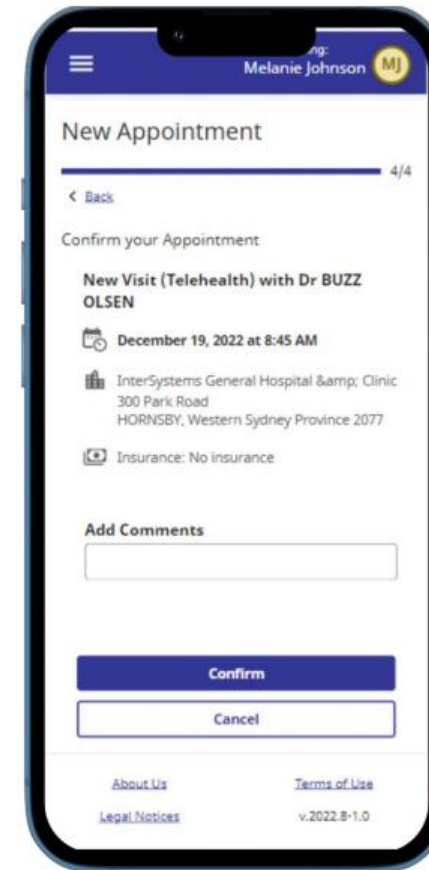
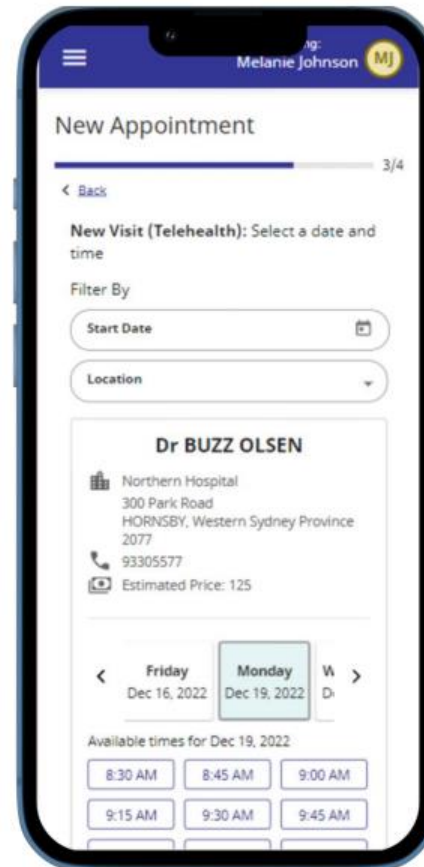
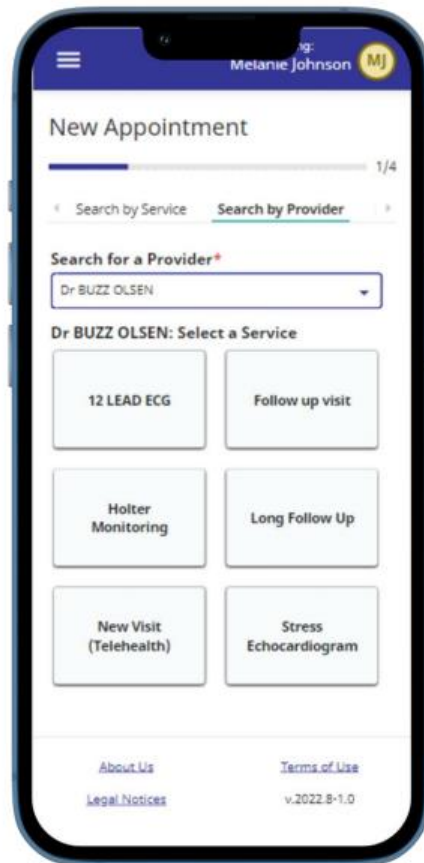
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Modern Design

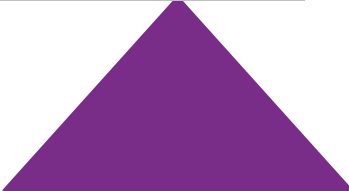
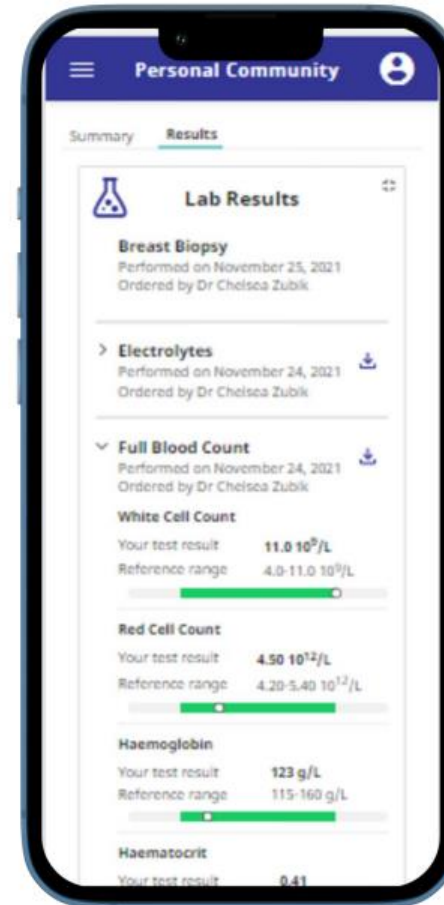
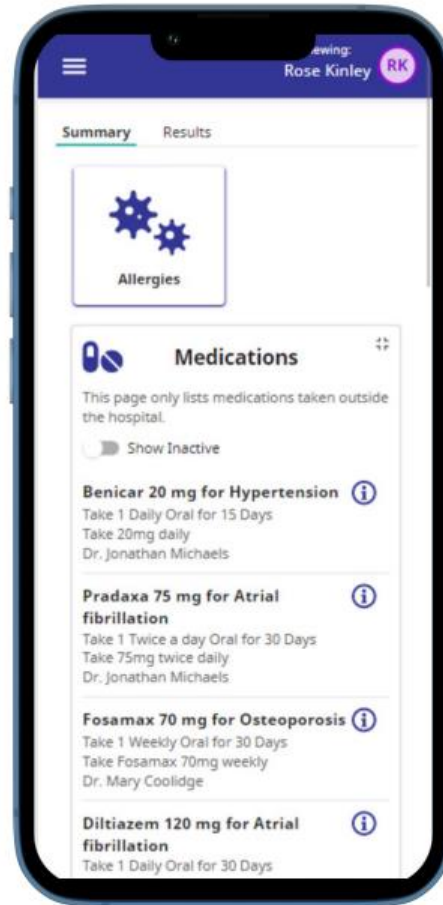
- Provide patients with a modern, accessible, user interface



Appointments

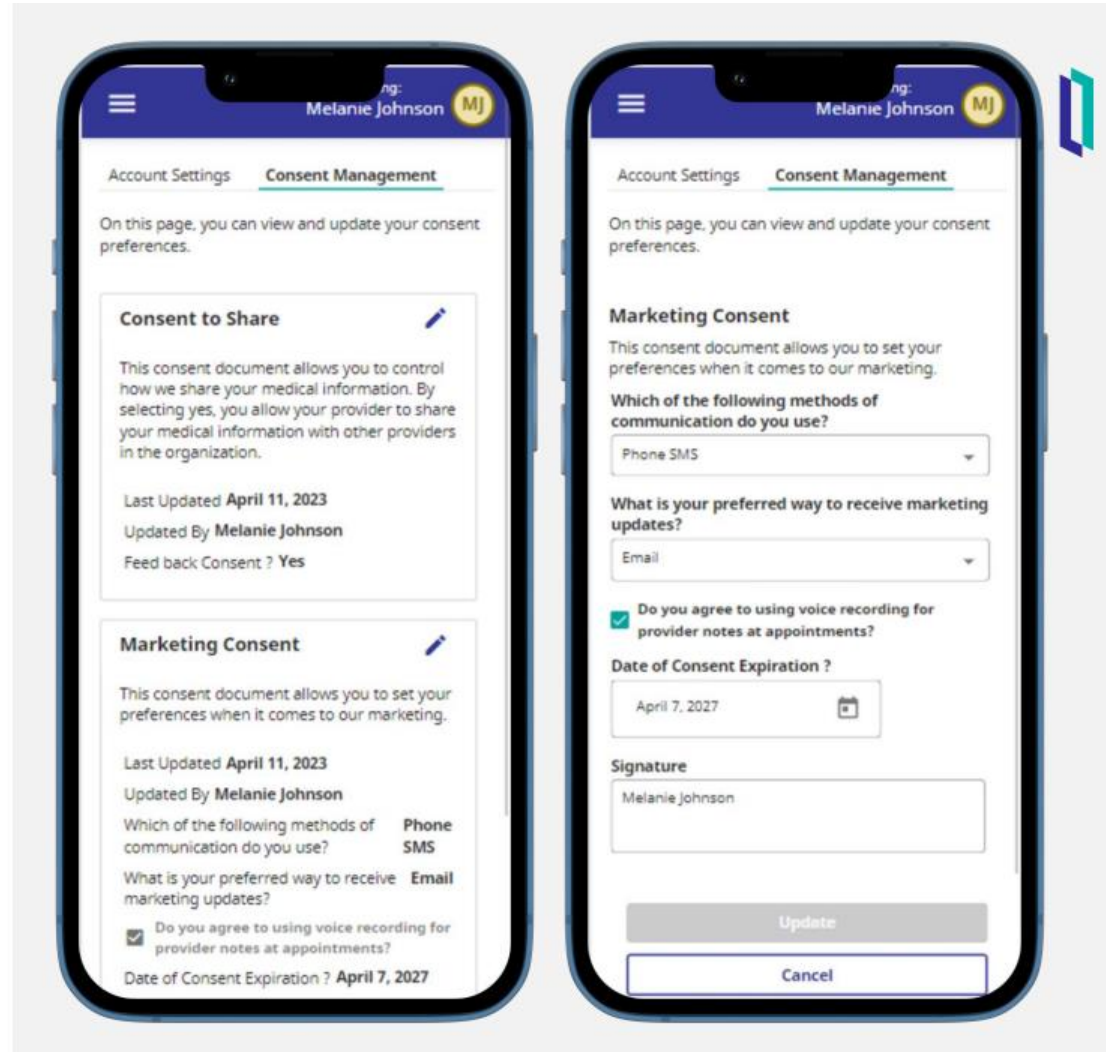


Data Access



General Consent Management

- Allow patients to review and update general consent within Personal Community



Account Settings **Consent Management**

On this page, you can view and update your consent preferences.

Consent to Share

This consent document allows you to control how we share your medical information. By selecting yes, you allow your provider to share your medical information with other providers in the organization.

Last Updated **April 11, 2023**
Updated By **Melanie Johnson**
Feed back Consent ? Yes

Marketing Consent

This consent document allows you to set your preferences when it comes to our marketing.

Last Updated **April 11, 2023**
Updated By **Melanie Johnson**

Which of the following methods of communication do you use? **Phone SMS**

What is your preferred way to receive marketing updates? **Email**

Do you agree to using voice recording for provider notes at appointments?

Date of Consent Expiration ? **April 7, 2027**

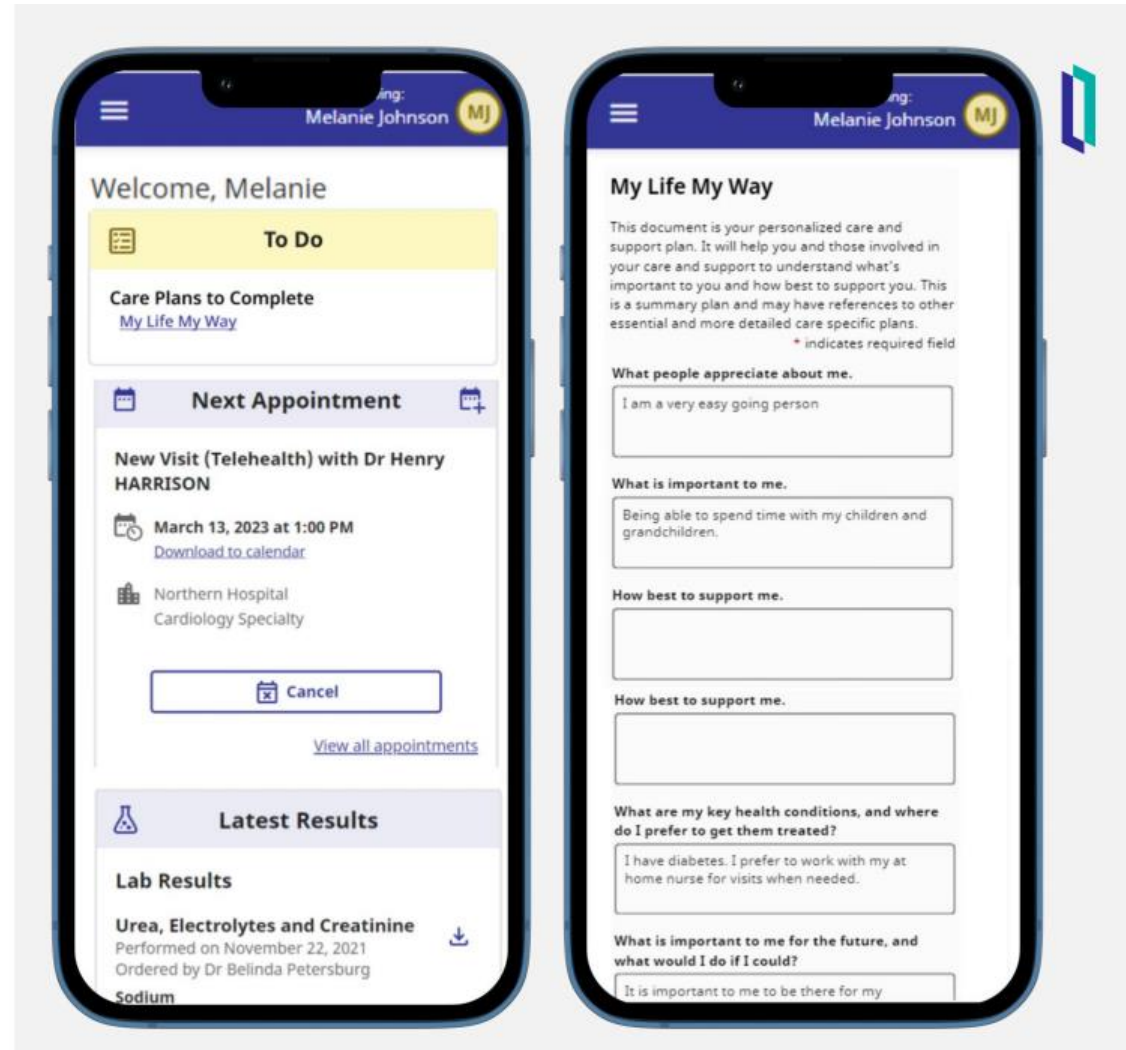
Signature
Melanie Johnson

Update

Cancel

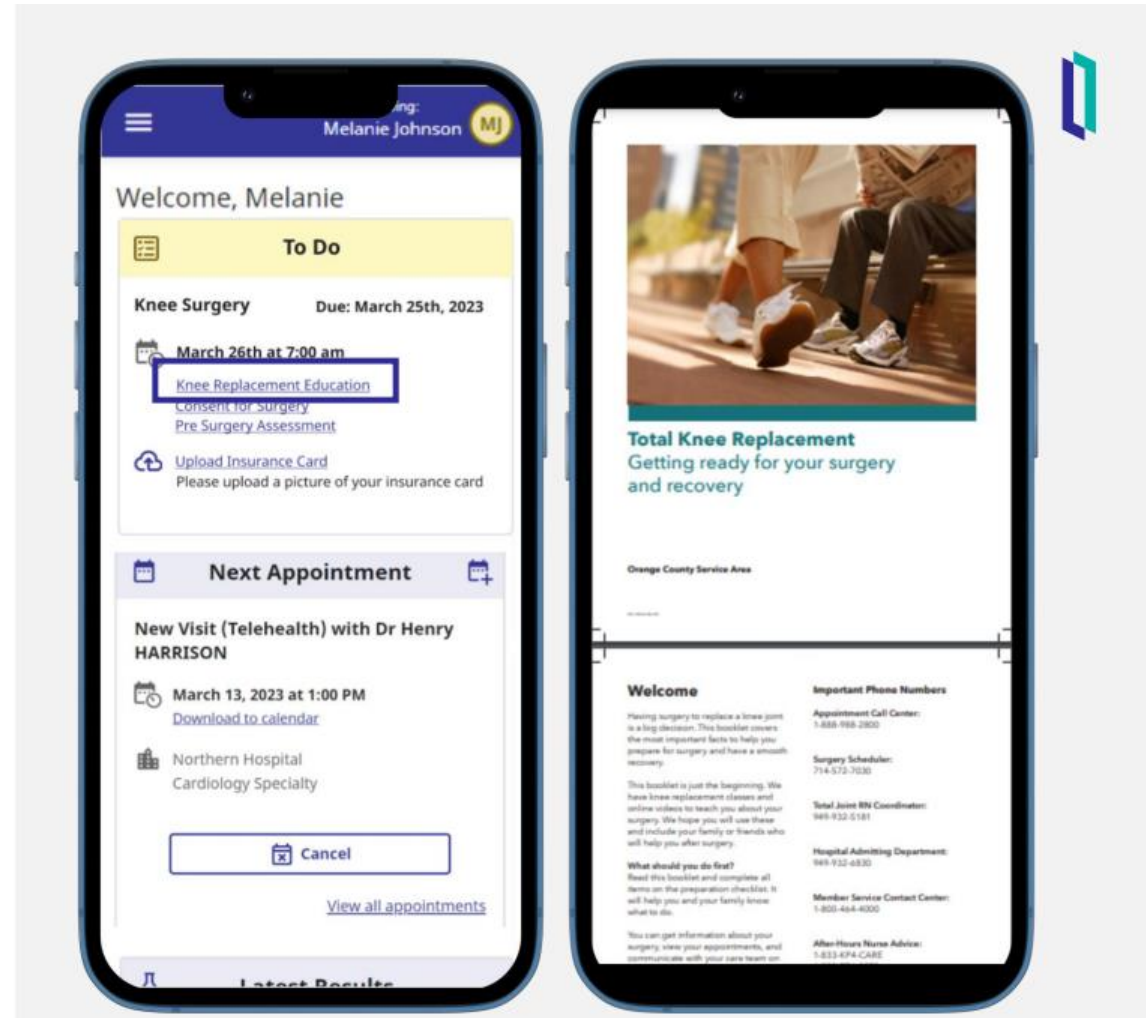
Submitting Care Plans

- Allows patients to access and contribute to a care plan

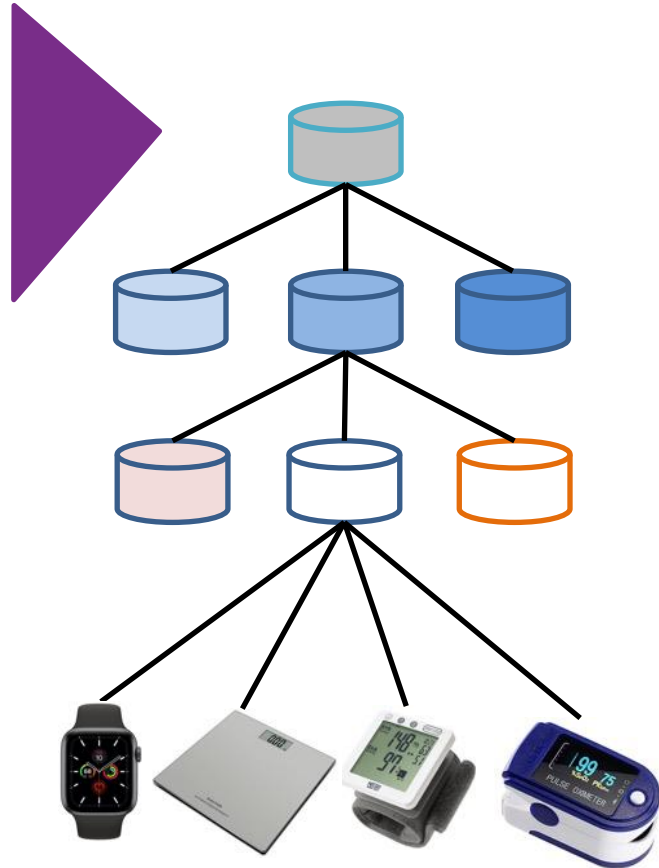


Education

- Provides patients with education and instructions to review



ConCR- NRL (Record Locators)



National PDS – e.g. Name, DoB, NHS Number, address(es), NDOO, Reasonable Adjustment flags, preferred contact details / consents ?

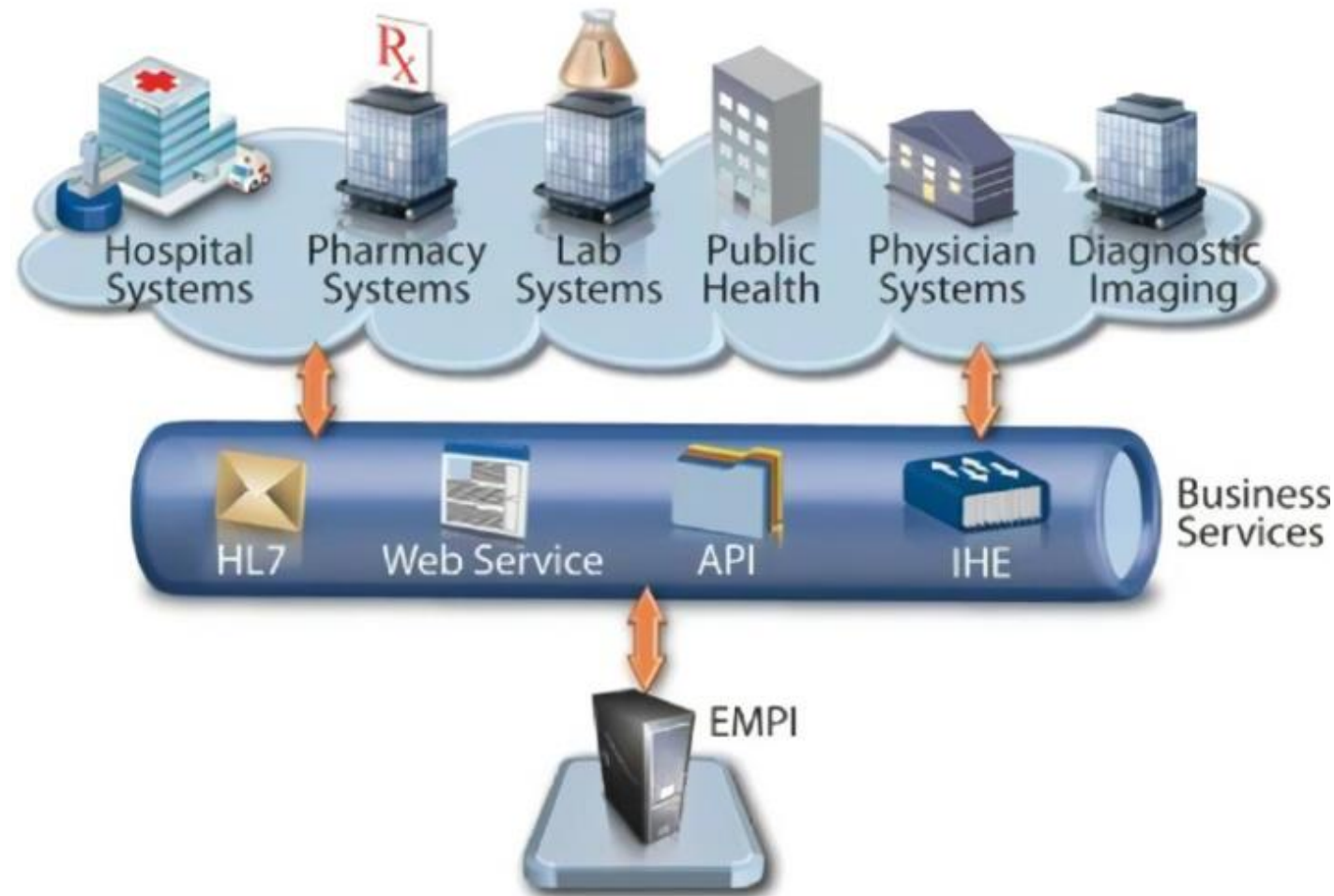
Regional ShCR – key elements (summaries) of a person’s records and plans from across local systems - e.g. care plans, “What matters to me”, imaging networks

Local Individual provider systems – details of care provided - e.g. theatre notes, images, diagnostics, treatments. Manifested through EPRs, GP systems etc.


Personal Person generated data from wearable devices etc.

EMPI Enterprise Master Patient Index

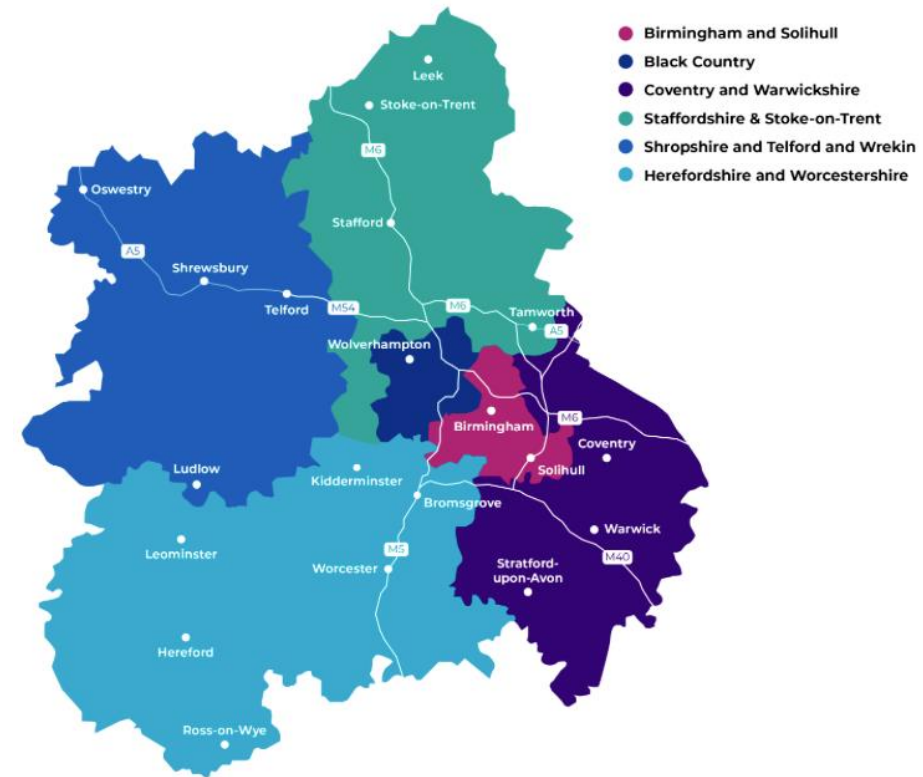
The EMPI works by linking all the records for an individual patient held across several information systems to a single “gold standard” patient identity record.



WM Cancer Network



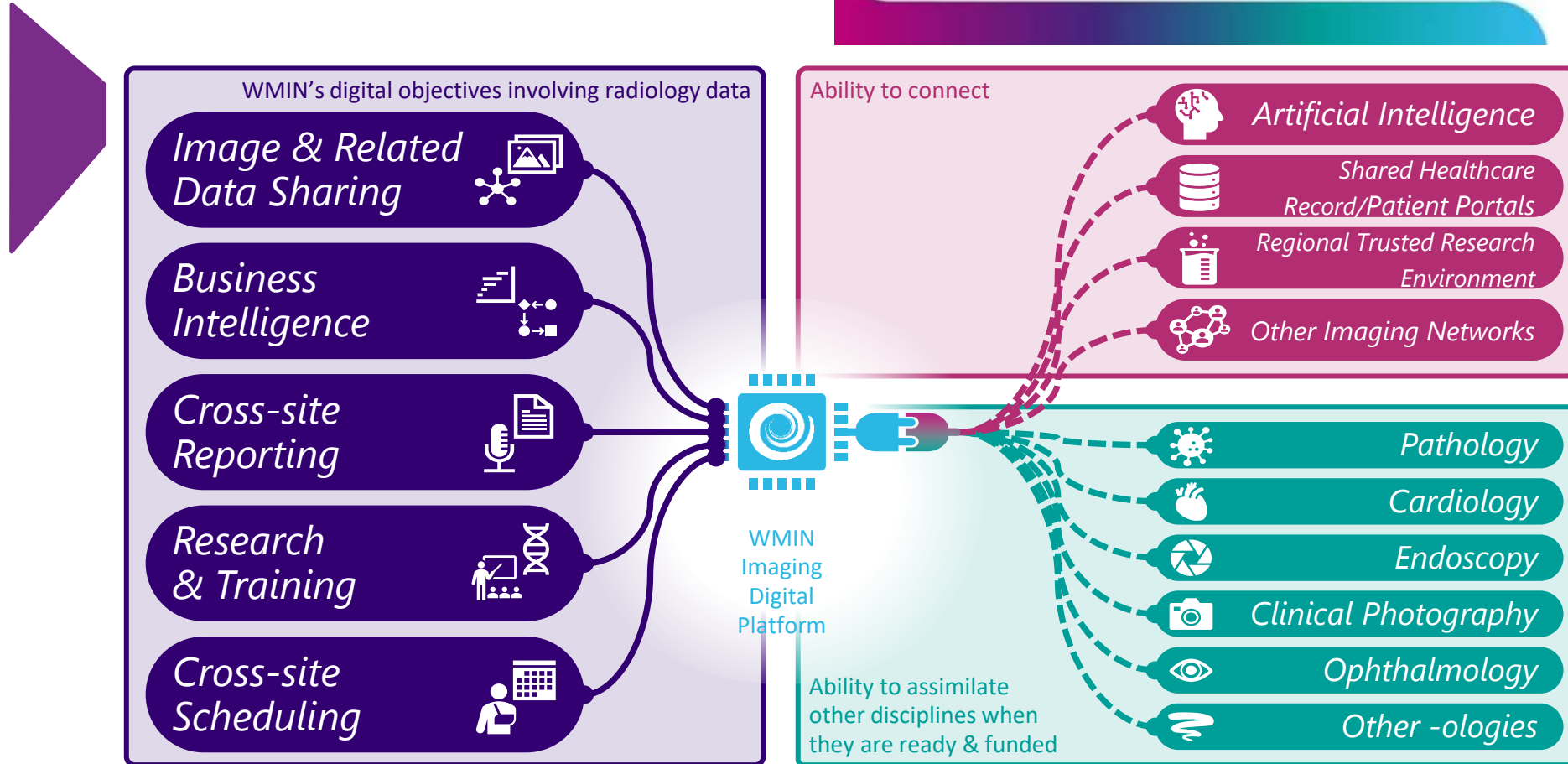
The West Midlands Cancer Alliance fosters productive partnerships with and between its six Integrated Care Boards (ICBs), commissioners (including specialised commissioners), specialised service networks (for example radiotherapy networks), service providers (including GPs, other primary and social care providers and NHS Trusts) and patient groups and has established robust governance to bind these partnerships together.



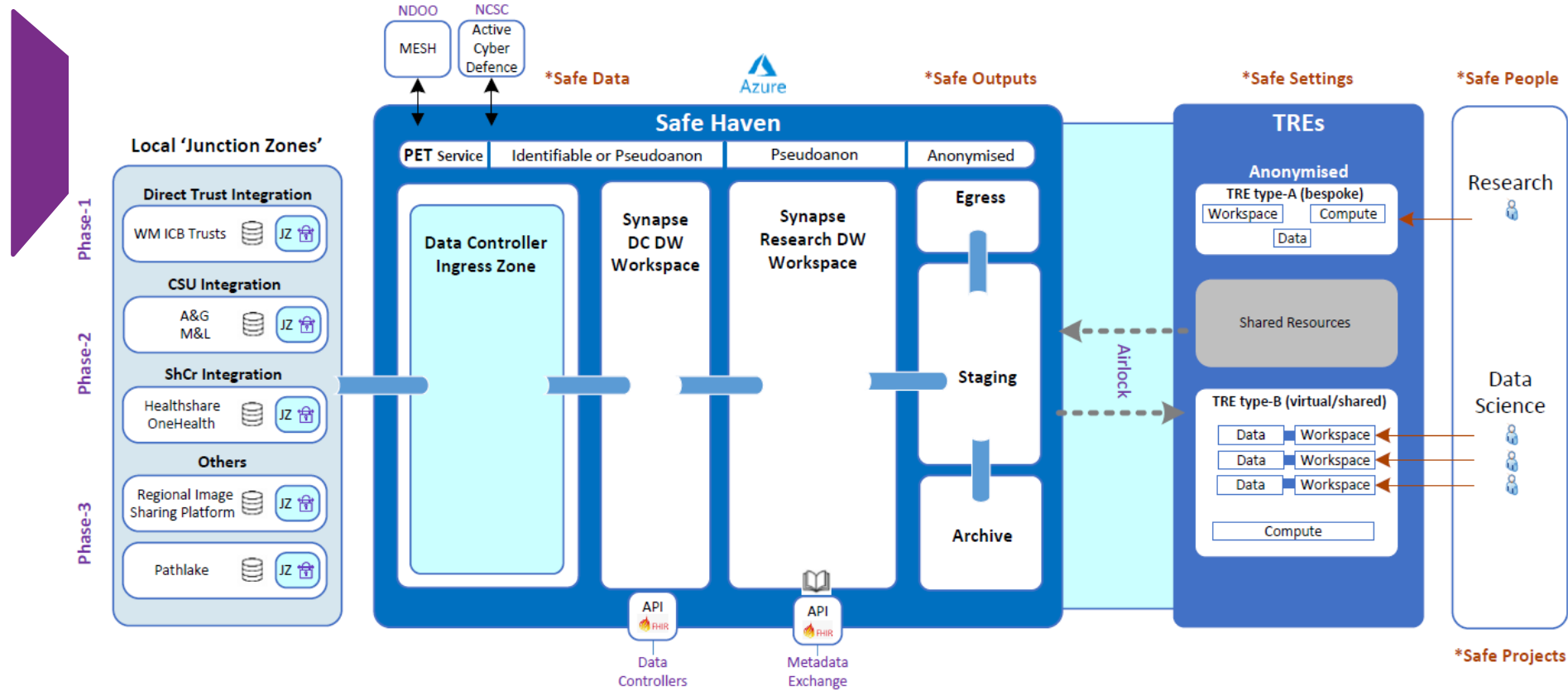
WM Image Network

WEST MIDLANDS
IMAGING NETWORK

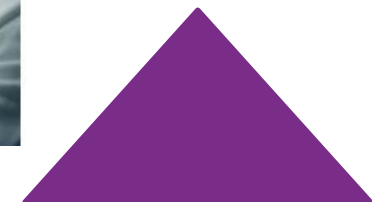
NHS



WM SDE / TRE



Laboratory Information management system



Any Questions?



Shared Care Record Summit

