

Welcome to the 09<sup>th</sup> NHS Virtual Wards Summit: Embracing Hospitals at Home!

**NVENZIS** 

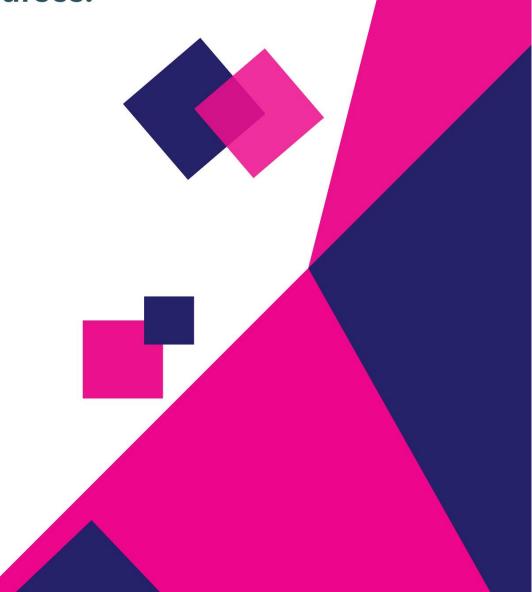


06<sup>th</sup> November 2025 The Studio, 03<sup>rd</sup> Floor, 7 Cannon St, Birmingham, B2 5EP



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# Join the Healthcare **Engagement Society (HES)**

- What it is A secure, year-round platform bringing NHS professionals together across six specialist communities.
- Why it matters Stay connected beyond today's event, share challenges, and learn from peers facing the same priorities.
- Your benefits Exclusive access to interviews, insights, best practice, and real-time discussion threads with colleagues nationwide.
- How to join Simply scan the QR code, choose your community, and start connecting today.





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# **Chair Opening Address**

ONVENZIS



**Dr Gurnak Singh Dosanjh**GP
LLR ICB







ONVENZIS

Natasha Dalton
Consultant Practitioner
East Lancashire Hospitals
NHS Trust



Amy Ross
Advanced Clinical Practitioner
East Lancashire Hospitals NHS
Trust



# Hospital at Home

Natasha Dalton – Consultant Practitioner

Amy Ross – Advanced Clinical Practitioner

### **Hospital at Home**



- Launched in October 2022 with 60 beds
- Since seen over 43,500 patients and now operating with 160 beds at 80% occupancy
- Serving a population of 532,500 across a significant geographical footprint
- Average LOS = 2.8 days
- Average patient age = 78
- Respiratory patients make up 52% of referrals, followed by Frailty patients (25%)
- 90.4% patients remain in their usual residence

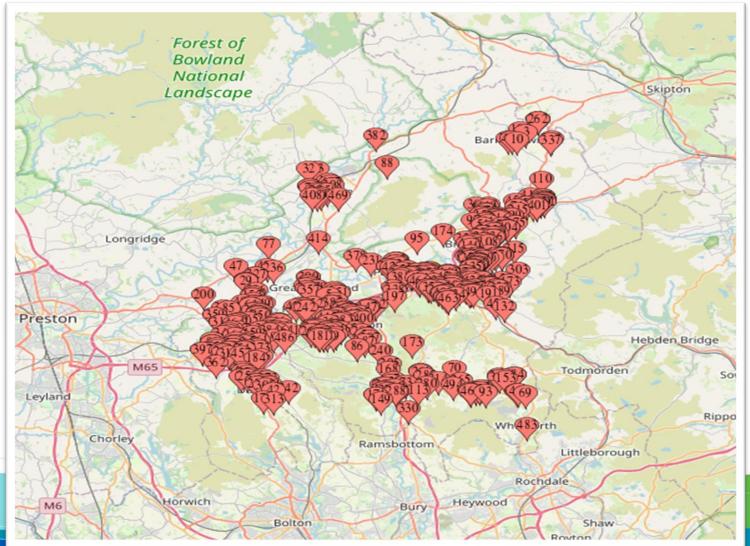


# **Pennine Lancashire Footprint**



**East Lancashire Hospitals** 

A University Teaching Trust



## The beginning...



- National Directive to start aligning staff ready
- Work with ICB to look at budget and number of beds required weighted on population size.
- Further discussions (internal and external) regarding staff requirements, what bands, how many, medics
  or not etc.
- Modelled bed and staff numbers, decision made to utilise IHSS as the provider for HaH to provide more resilience and continuity.
- Expanded IHSS to ensure HaH patients were cared for 24/7 rather than hand back to on-call medics (no access to the same systems).
- Job descriptions pulled together for future workforce and sent to job matching for assurance and quality check of bandings.
- Recruitment event held at the local football ground 8am-8pm with support from trust wide staff.
- <u>Lisa.kay@elht.nhs.uk</u> Clinical. <u>Natalie.wood@elht.nhs.uk</u> Operations. <u>Cheryl.forrest@elht.nhs.uk</u>

### **Service offer:**

**NHS**East Lancashire Hospitals

A University Teaching Trust

Lancashire

- Generalist Acute team with specialist input.
- Furosemide
- IV Fluids
- Radiology requesting
- Bloods urgent (back within 2 hours, routine back within 24 hours)
- POC bloods.
- POCUS utilised by Acute Medic.
- Rapid equipment provision to support function and independence and facilitate early discharge from hospital ED and AMU wards.
- Social provision of crisis care to support patients to remain in their own homes
- Access to Age UK, Steady On! and Care Home Nurses
- Wearable tech talking point x 2 attempts failed



ageuk

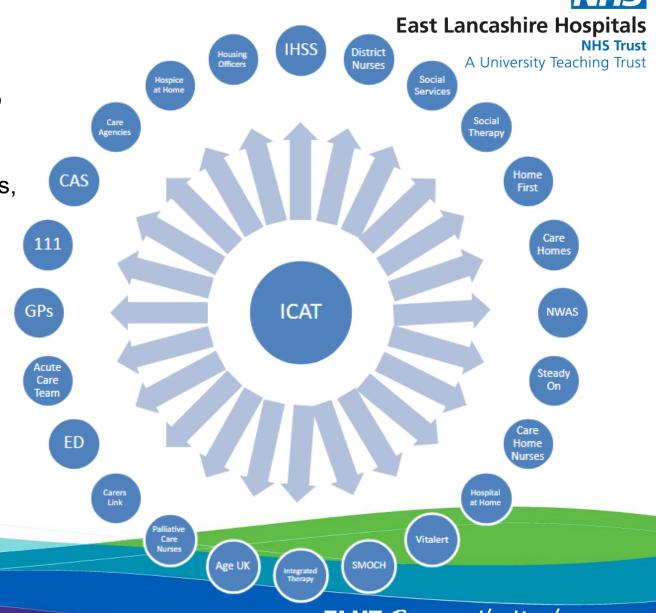
## Referral in (ICAT):

- Intermediate Care Allocation Team (ICAT) take NWAS ref which are reviewed and stepped up to HAH Cheryl.whittaker@elht.nhs.uk
- Direct contact number for HAH hospital colleagues e.g. Acute medics and ED step downs, GP and other community services step up.
- Step up from the team
- DN team EOL support/ senior decision making

### **EXCLUSION** criteria:

- Asthma
- Acute abdomen
- Mental Health crisis
- Alcohol XS
- Under the age of 18 years

INCLUSION criteria ......



### **Clinical team structure:**



- 4 Consultant Practitioners
- 1 Respiratory Consultant
- 1 Acute Medical Consultant
- 1 General Practitioner
- 7 Advanced Clinical Practitioners

### Nursing –

- 17 B7 Senior Community Practitioners
- 27 B6 Community Practitioners
- 5 B4 Nursing Associates
- 9 B4 Assistant Practitioners

### Therapy –

- 6 Physiotherapists
- 4 Occupational Therapists
- 1 Mental Health Practitioner

# **Acuity allocation:**

### Case example

- 59-year-old female
- NWAS referral SpO2 69% on room air
- PMH COPD and drug use no o2 or nebuliser at home
- Refusing hospital admission (has capacity)
- CFS 7
- Has carers BD at morning and night – considering crisis block
- Consultant Practitioner asked to review following clinical discussion via H@H phone

Acuity score: 4

Clinical Complexity	Clinical Acuity	Social Complexity	Interventional Intensity	Workforce Requirement	Acuity Score
One area for clinical focus (e.g. UTI, improving exacerbation, resolving delirium)	Stable/improving trajectory and/or News 0-1	CFS ≤6 and/or current CFS is unchanged from that 2 weeks prior to acute illness. Home environment and social needs met and not impacting on clinical delivery	Telephone, video or face to face visit as needed not necessarily daily, including diagnostics (e.g. bloods, ECG, clinical observations) or a virtual review	Suitable for remote monitoring, Band 4 face to face visits Routine therapy assessment	ACUITY 1
Two areas for clinical focus (e.g. Unmanaged HF & COPD)  or  one area of clinical focus with a high-risk comorbidity (e.g. LRTI and Immunocompromise)  or  acute deterioration with established cause and treatment commenced	Unstable, at risk of deterioration <b>and/or</b> NEWS2 is 2	CFS ≤6 and current CFS level would reflect a 1 level increase from that 2 weeks prior to acute illness or Unmet needs in home environment or social support that requires enhanced clinical care to address (e.g. extended visits, multi-agency liaison)	Once a day visit for routine monitoring/support or > 1 hour of care planning in the same day	In person reviews, complexity identified requiring discussion with clinical co-ordinator and adding to the daily safety huddle sheet  or requiring escalation/discussion with consultant of the day. (discussion to establish if step up to Acuity 3 required)  or Urgent Therapy assessments	ACUITY 2
Acute deterioration or failure to respond to initial treatment or unanticipated End of life care without Advanced Care Plan (ACP)	Unstable, deteriorating trajectory and/or NEWS2 is 3-5 or 3 in single parameter	CFS ≤7 and current CFS level would reflect a 2-level increase from that 2 weeks prior to acute illness or Requires crisis care package for pop in visits or social support that requires additional clinical care (e.g. visiting in pairs)	Time intensive visits or MDT joint visit or one visit and > 1.5 hours of care planning in same day or input for high-intensity interventions (e.g. IV fluids or medication, urgent end of life care planning)	In person Advanced Practitioner review and/or Reviews daily at Hospital at Home MDT meeting and/or Complex/Specialist Therapy input	ACUITY 3
Acutely unwell, rapidly deteriorating (e.g. refusing admission or risk of sepsis)	Unstable, rapidly deteriorating trajectory and/or NEWS2 is 6 or above	CFS 8 or 9, or CFS ≤7 and current CFS level would reflect a 3-level increase from that 2 weeks prior to acute illness or Safeguarding concerns that mean patient not safe in current place of residence or Block crisis care required to keep patient at home	Urgent same day senior review or ≥2 in person visits to monitor suitability to remain at home or one visit and complex or multiple interventions or Joint Nursing & Senior Therapy visit	Consultant Practitioner/Medic in person reviews and/or Hospital at Home MDT discussion with external specialist input to agree management plans	ACUITY 4

## **Respiratory:**



- Respiratory is our most referred condition
- Respiratory Consultant supporting the team since November 2023
- Specialist advice via e-mail throughout the week
- Attends Hospital @ Home MDT four times a week
- Physically on patch one day a week and visits patients with specific respiratory conditions, mainly unclear diagnoses or concerns E.G. COPD exacerbation or disease progression and approaching EOL

FUTURE VISION - Setting up an MDT with local GP services to discuss complex respiratory patients who are often frequent attenders – an adjunct to referral for advice and guidance referrals

Peppa.denny@elht.nhs.uk

# **Frailty:**



- Links with secondary care step down pathway, structure change therefore lost step-up pathway.
- Medicine For Older People/ Pharmacy and Therapy all sit on MDT to support.
- All Hospital @ Home patients have a medications review by a Consultant Practitioner and Lead Pharmacist with the aim to reduce the anti-colonergic burden scores where possible.
- FUTURE VISION Developing a combined falls and frailty assessment (part 1 and part 2) which
  combines to a complete CGA this will formalise the frailty and falls plan between primary and
  secondary care (including DN's Podiatry, Community rehab, Treatment rooms etc) AND create action
  plans.
- ACP/ ACMP collaborative work between primary and secondary care underway to standardise the
  documentation and promote the proactive conversations to support patient needs and preferences. This
  also sits within part 2 of the CGA workstream.

Stacey.brailsford@elht.nhs.uk



## **Pharmacy:**



- Daily Lead Pharmacist input.
- Medicines support team available daily with dedicated two days a week to visit the patients, they also support with wider community services supporting compliance/ counselling/ waste/ over ordering.
- Daily MDT input to support care planning.
- Involved in pathway developments to support the team PGD's, IV Furosemide, IV fluids.
- Developing non medical workforce and review and analysing the patient data.
- Creating links for future collaborations including:
  - Microbiology consultant and antimicrobial stewardship for future IV antibiotic pathway.
  - IT issues overcoming barriers between secondary systems and primary care systems to support safe and consistent prescribing practices.

John.Vaughan@elht.nhs.uk

### **Case studies:**





Improvement Test of Change – IHSS Hospital at Home | Safe Personal Effective Acute Decompensated Heart Failure using Intravenous

Established, fully investigated heart failure including echocardiography showing moderate to severe left ventricular systolic dysfunction (LVSD)

Patients who require supplemental diuretic therapy, following optimisation of oral treatment, where it is deemed to be in the patient's best interest to recove treatment within their usual place of residence. These groups of patients are likely to be the base based committee and of decommentation.

Patients will be identified via 2-hour Urgent Community Response initial review and escalated to the Hospital at Home coordinator for face-to-face assessment by Hospital at Home Consultant Practitioner and discussion in the Hospital at Home

Intervenous furosemide will be administered to treat an acute decompensation of Heart failure until the patient achieves recovery, or VI treatment is deemed no longer appropriate or necessary. Treatment will be commenced at the equivalent dose or increase by one dose increment if clinically

Difficult IV access

### Insufficient carer support

Pulmonary oedema with signs of un respiratory distress and still for active management (if this is an expected a treatment then symptomatic palliative



Hospital at Home MDT meeting.













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# **Panel Discussion**



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Alison Johnson UK Health Lead ORCHA



Miss Katie Andrew
Care Community Coach for
Macclesfield Neighbourhood
Team, District Nursing Out of
Hours and Hospital at Home
(UCR and VW)
East Cheshire NHS Trust



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# **Case Study**







# **Case Study**

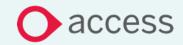


Laura Thompson
Director of Marketing
Access Group



# Virtual Wards: Solving Real Challenges with Integrated Technology

Laura Thompson, Director of Marketing, Access HSC



### Virtual Wards are Now Core NHS Infrastructure



Backed by the 10-year plan



Designed to reduce hospital admissions and improve outcomes



Critical for managing demand from ageing populations



 Must be scalable (work across your whole system), interoperable (connect to existing technology), and inclusive (serve all patients regardless of language or digital skills)



### **Operational Challenges Faced by Virtual Wards Teams**



Manual processes causing delays



Fragmented data flows and poor system integration



No centralised bed management



Complex discharge processes



Lack of real-time clinical alerts



Limited inclusivity for patients with low literacy or non-English speakers





### Workforce and System Challenges Faced by Virtual Wards Teams



Disconnected systems creating data silos



Poor digital infrastructure and limited training



Workforce shortages and unclear staffing models



MDT coordination challenges



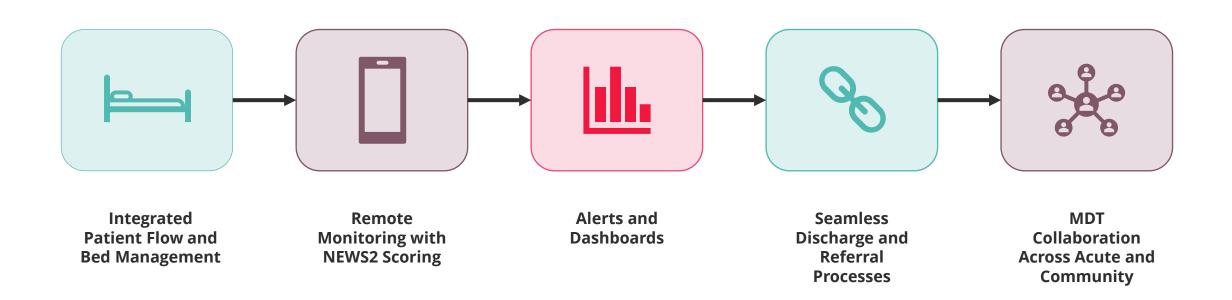
Lack of clinical buy-in and inconsistent engagement



Difficulty proving impact to commissioners



### **NELFT Case Study – A Model for Success**





### **Key Elements of Success**

### People

- Comprehensive training
- Specialised consultants

### **Process**

 Patient-centred design empowered patients to avoid unnecessary hospital visits

### Technology

- User-friendly devices
- Integrated data into the EPR to provide a complete picture of each patient

Reduction in admissions

97%

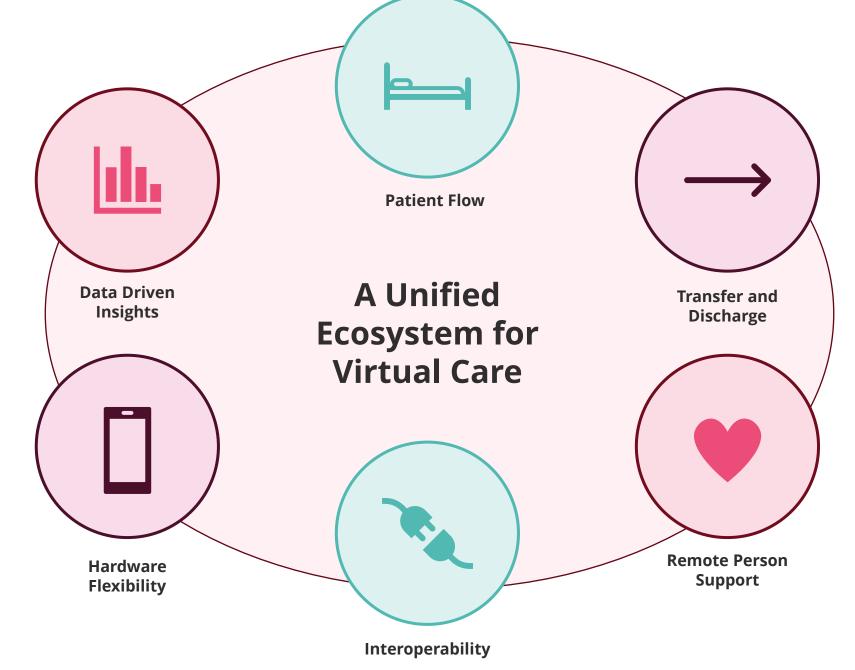
Patients surveyed would recommend virtual wards



1,250 bed days saved

"I'm happy and more relaxed than I have been in a long time" – Staff Feedback "Instant feedback from my monitor gives me confidence" – Patient Feedback













200+

Local Authorities using Access social care, education and youth services solutions

150,000+

Clinicians use Access Rio EPR

10,000+

CQC registered locations using Access HSC solutions providing domiciliary and residential care **Preventative Care** 

60,000+

Individuals accessing Technology Enabled Care

30,000+

Wearable devices

687,000+

Visits carried out using our Social Prescribing solution by more than 4,000 link workers

**Longitudinal Data** 

25m+

Unique patients within our market leading EPR

4.1bn+

Patient records, growing by 350m annually

25+ years

Of continuous operation in the mental healthcare market



### What next?

- 1. Understand your gaps. Review your current processes and produce a gap analysis. How can this work within your existing systems. How do you map the gaps and see what you need. Codesign the solution, building on what you already have.
- 2. Share what works. Meet teams already running virtual wards. Ask them direct questions. Learn from their mistakes.
- **3. Empower teams.** Virtual wards work. The evidence proves it. NELFT reduced admissions by 75%. They saved 1,250 bed days. Their patients are happy. Their staff are less stressed.





# Thank you









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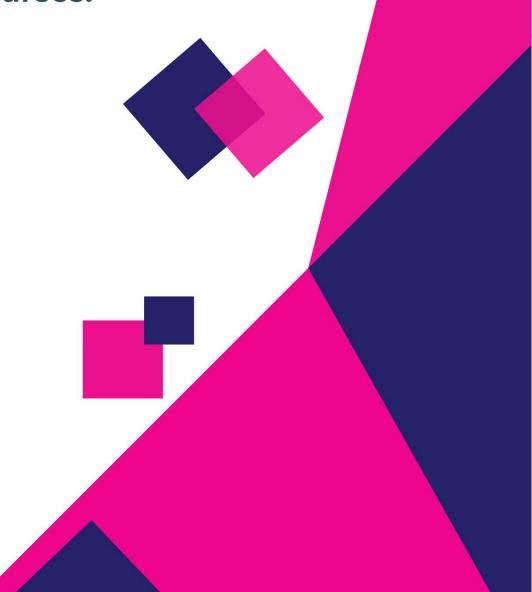


# Refreshments & Networking



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**Chair Morning Reflection** 

ONVENZIS



**Dr Gurnak Singh Dosanjh**GP
LLR ICB





**Case Study** 

doccla





## **Case Study**



Rishan Rahman
Strategic Partnerships Manager
Doccla



James Wolfenden Senior Partnerships Manager Doccla

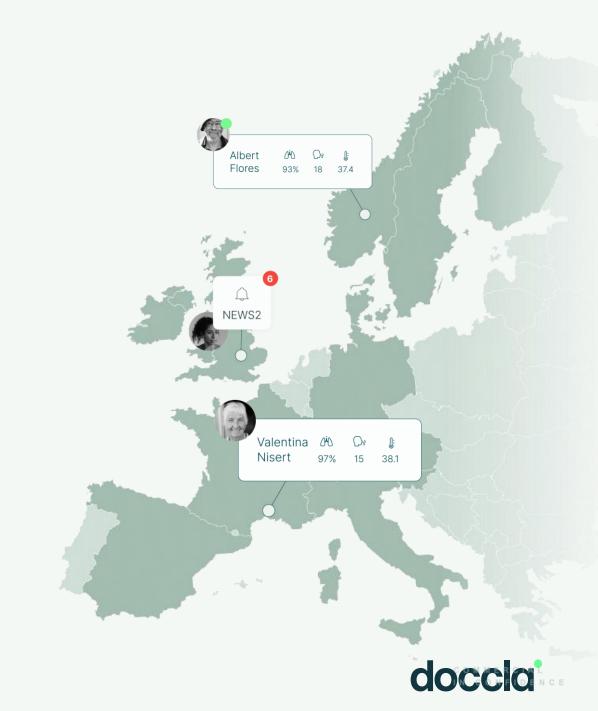


## doccla Virtual Care. Redefined.

Virtual Wards | Proactive Care | Remote Monitoring

Presented by

Rishan Rahman & James Wolfenden



## So we can help more people like Brian.





I've got my own bed and I've got my own dog...

It just makes sense.



## We are the UK standard, partnering with over 60% of NHS ICS's



Cambridgeshire
Community Services
NHS Trust

University Hospitals of Leicester NHS Trust

NHS
Northern Care Alliance
NHS Foundation Trust

Guy's and St Thomas'

University Hospitals
Coventry & Warwickshire
NHS Foundation Trust







Derby and Derbyshire
Integrated Care Board

NHS
Central and North West
London
NHS Foundation Trust

NHS
Hertfordshire Community
NHS Trust

NHS
Surrey Heartlands
Integrated Care Board







NHS
Barts Health
NHS Trust

Bath and North East Somerset, Swindon and Wiltshire

NHS
South Yorkshire
Integrated Care Board

Integrated Care Board

NHS
North West London
Integrated Care Board





NHS
East Kent Hospitals
University
NHS Foundation Trust

NHS Solent NHS Trust

Gloucestershire
Integrated Care Board

Oxleas

NHS Foundation Trust

Northampton General Hospital NHS Trust

















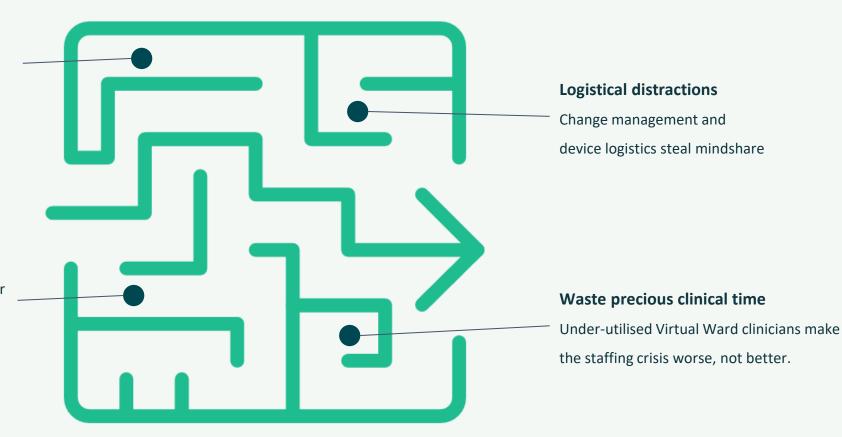
## But Virtual Wards are complex to implement, with "tech-only" failing to live up to the hype

#### Poor patient compliance

>15% of Patients fail to use equipment correctly or forget to send observations because they receive inadequate support

#### Low patient referrals

~50% of VW beds are empty. Clinicians won't refer patients if they don't understand or trust the system, or it's too hard to use.



### doccla



### More than software. 'End to end' Virtual Care.

#### Software



#### Mobile app & Clinician Dashboard

- Sends patients vital signs & symptoms
- √ Smart alerts / NEWS2
- √ Video / Messaging
- ✓ Full EHR/SPINE Integration
  ✓ SSO NHSMail

#### **Devices & Logistics**



#### Device Agnostic

- √ Bluetooth enabled medical devices
- ✓ Intermittent & Passive Devices
- √ SIM-enabled Mobile & Tablets
- Delivery, Collection, Cleaning.MDM all handled

#### **Patient Support**



#### 365 days a year

✓ Patient onboarding
 ✓ Compliance monitoring
 ✓ Training
 ✓ Tech Support
 ✓ Implementation
 ✓ Dedicated Project Manager

#### **Clinical Capacity**



#### **CQC Registered Clinical monitoring**

- Relieve healthcare staffing shortages
- ✓ Specially trained in RPM
- HCA, Nurses, GPs, Consultants
  - ✓ Support pathway design
    - Prescribing



Doccla: Europe's leader in Virtual Care, a trusted partner to the NHS 4,000,000

Patient days monitored

400k

Vital signs monitored per week

>60%

Coverage in NHS England, HSE, Scotland and Wales

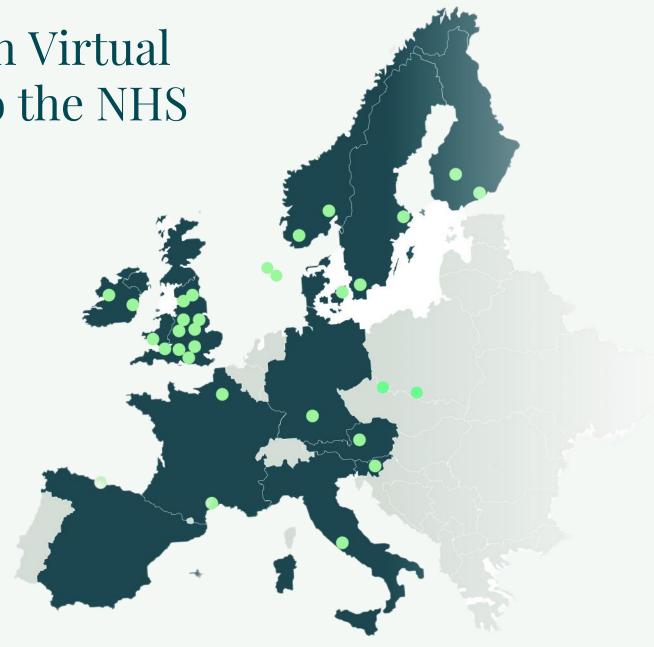
10+

Countries











## One partner across the spectrum of acuity

The only way to meet future demand is shifting left into proactive care.

Use PHM insights to prevent admissions for

patients with LTCs

Lower acuity

Higher acuity

Proactive Care
Remote Patient Monitoring
Step Up

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Manage rising-risk patients before crisis

Enable early discharge & avoid admission

## Distinguishing between VWs and Proactive Care Jon, 75, Heart Failure



Virtual Wards
10's or 100's of patients



Jon is a diagnosed HF patient





His situation sadly worsens, and is admitted into





Jon is able to be discharged early, allowing him to recover from home

~£1,000





Jon is a diagnosed HF patient and is high risk





He is identified as high risk and proactively treated using remote monitoring technology, health coaching and more





This intervention reduces the likelihood of an admission and Jon is able to avoid a visit to the hospital

~£3,400-£7,000

Savings from admissions avoided per patient

## Existing deployments evidence 20-40% total health cost

avoidance

#### **BNSSG ICB**

34%

Reduction in NEL admissions

18%

Reduction in A&E attendance

77%

Reported program helped manage overall health better

The Doccla team have worked with us every step of the way offering support, solutions, expertise, and professionalism. initial findings demonstrate benefits to both primary and secondary care, but most of all benefits to our patients who feel safe Senior Transformation Manager



55%

Reduction in NEL admissions

79%

Reduction in A&E attendance

#### **Barts**

57%

Reduction in NEL admissions

50%

Lower 90-day mortality for target disease group

29%

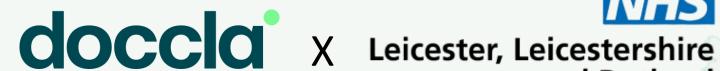
Fewer decompensated patients at 30 days







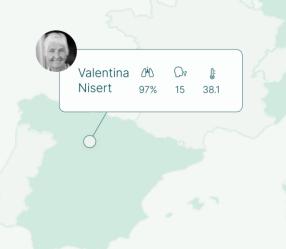




NHS and Rutland

**Integrated Care Board** 





## The Challenge - Long term condition management

#### **National Context: Long-Term Conditions in the UK**

- Demand for chronic disease management is increasing, particularly among older populations and deprived communities (NICE, 2016).
- By 2040, 9.3 million people in England will be living with a major illness, an increase of nearly 2.5 million in 20 years (Raymond et al., 2024).
- Age is a major risk factor for chronic diseases like dementia, heart disease, diabetes, arthritis, and cancer.
- The ageing population is leading to a rise in multimorbidities, placing significant pressure on the NHS.
- Deprivation accelerates the onset of chronic illnesses, people in the most deprived 10% of areas developed 10% (Raymond et al., 2024).

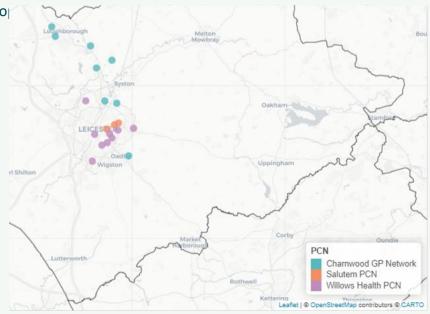
#### Challenges in Leicester, Leicestershire, and Rutland (LLR) ICB

#### Ageing Population:

- LLR has a higher proportion of older adults than the national average.
- Leicestershire: 20.6% of the population is over 65.
- Rutland: 24% of the population is over 65.
- o National average: 18.5% (LSR, 2021; LLRHWP, 2025).

#### Deprivation & Health Inequalities:

- LLR ICB serves a diverse population of 1.1 million.
- o 35% of Leicester residents live in the most deprived 20% of areas nationally.
- Pockets of significant deprivation exist in Leicestershire and Rutland.
  - Higher deprivation levels drive increased demand for chronic disease management.







## The LLR approach: Cross-ICB collaboration

**Primary Care Organisations** 







**ICB** 



Health Tech Organisations

doccla

Independent Evaluation Partner







## Programme Structure: patient journey



#### Risk stratification

Identifying patients at highest risk that could benefit from proactive intervention using John Hopkins ACG Risk Strat Tool



#### Outreach & enrolment

Multimodal outreach to engage. Patients are then delivered kit directly and enrolled by Doccla



#### **Multidisciplinary support**

MDTs bring GPs, specialists, CNS and health coaches to address patients' holistic needs



#### Population segmentation

Patients are grouped by risk profile to enable targeted care delivery.



#### **Patients Submission**

Submit daily readings for review from Doccla clinical team



#### Clinically 'Optimised'

Patients receive clinical interventions, on top of the self-management tools, tailored to their risk profile.





## Patient selection

#### **Inclusion Criteria:**

- √ Aged 18+
- √ Gives consent for remote monitoring
- ✓ Capacity to consent, or a "best interests" decision made
- ✓ Dexterity to use devices or a carer/NOK to assist

#### Identified from risk criteria:

- Patient Needs Group (PNG) 9, 10, 11 (Johns Hopkins)
- AND risk of admission >33%
- AND has one of the following long term conditions:
  - o Asthma, COPD, Heart Failure or Diabetes

#### **Exclusions Criteria**

- Does not give consent to go onto Remote Monitoring
- Does not have capacity to give consent and it is not assessed as being in the person's best interests.
- Severe/acute mental health issues or substance abuse issues that are significant enough to greatly impact ability to maintain compliance, contact with clinicians, and safety with remote monitoring.
- Any other significant social/physical/mental health issue that will have a significant impact on maintaining compliance and communication with clinicians
- Diagnosed with a cognitive impairment that would impair ability to maintain compliance with no additional support.
- Patient is acutely unwell at the point of onboarding the patient's observations are outside of an acceptable range for the individual.
- Receiving active treatment for malignancy
- Patients who are immunosuppressed due to active malignancy, severe renal impairment requiring dialysis or organ transplants
- Patients on end-of-life management





## Example patient story



#### **Background**

- 'David' is 91 years old
- He has multiple chronic conditions;
  - History of type 2 diabetes
  - Parkinsonism
  - Hypertension
  - CKD Stage 3



#### Referral

- He was referred to the LLR virtual ward pilot.
- He was given a box including:
  - Devices to check pulse, temperature, oxygen saturations and blood pressure
- A mobile phone to submit results and communicate with his clinical team.
- An information leaflet explaining how to use the service



#### **Monitoring**

- Via the patient app, he submitted daily readings (mon-fri)
- Each day he was offered the opportunity to speak to a clinician (via telephone, video or SMS) if he had any questions or concerns.
- He had access to educational materials on managing her symptoms at home
- He was given clear safety netting instructions

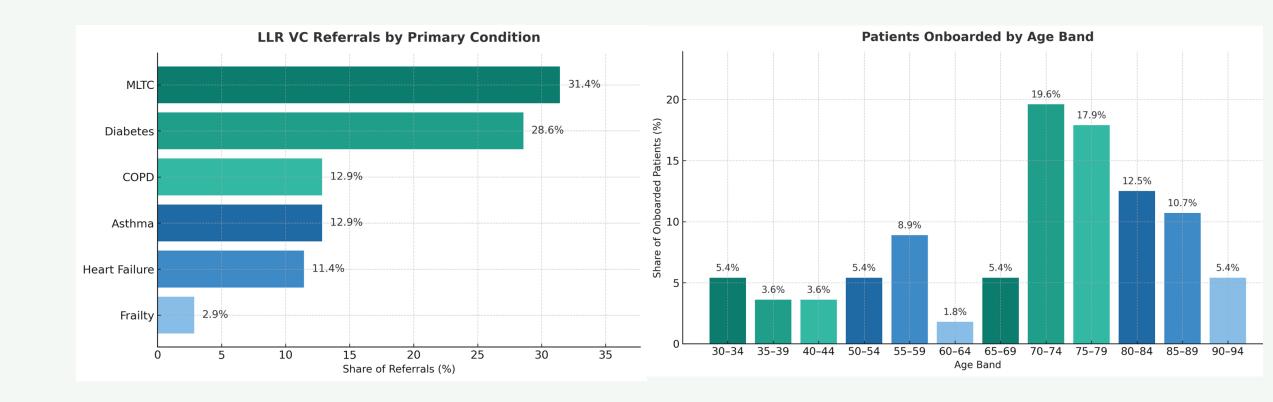


#### **Outcome**

- Remote patient monitoring, allowed for early detection of general physical decline, stool samples and urinalysis were arranged alongside face to face clinical visits.
- RESPECT form was reviewed and agreed that the patient would not be for resuscitation and to avoid hospital admissions.
- Clear plan agreed and ceiling of care.
- Parkinson's medicines reviewed by patients own general practitioner as a result of remote monitoring.



## Patient Demographics



Condition mix: MLTC 31.4%, Diabetes 28.6%; respiratory COPD 12.9% /
 Asthma 12.9%; HF 11.4%; Frailty 2.9%.

- Higher onboarding rates among older age groups
- Average mean age of 67 years old



## Project Independent Evaluation report

"In nine months, the LLR—Doccla pilot showed that proactive virtual care can catch deterioration earlier and ease pressure on GP, ED, ambulance and hospital services, unlocking capacity and patient confidence, provided future phases hit recruitment targets and secure robust bed-day control data."







## Project Evaluation Outcomes

System Impact

**GP** Appointments avoided

Hospital admissions



ED attendances



Inpatient hospital days

Net capacity-releasing savings of £262,967 with a cost-benefit ratio of 1.96 i.e., every £1 invested returns £1.96 to the NHS.

$$71^{0}$$

Readmissions within 30 days





## LLR Patient Feedback

95% of patients rated the service Good/Very Good.

#### What patients valued

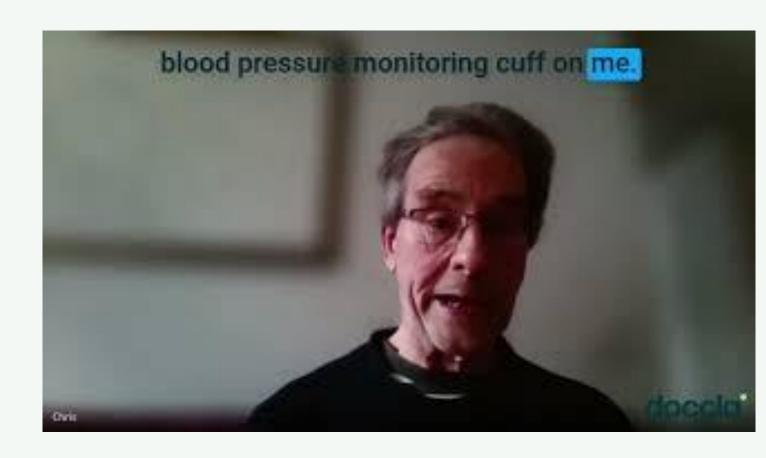
- Felt informed at first contact; clear guidance from Customer Support on the app and devices.
- Positive experience using the equipment and completing inapp surveys.
- >80% reported positive experiences speaking with a Doccla clinician.
  - Reported feeling **safer**, **more informed**, **more in control**, and an **improved quality of life**.

#### Voice of patient:

"Felt like I have been listened to and been given good advice."

"The service is very responsive and reacts quickly if there are any issues."

"Always good advice and good suggestions."







## Slido

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## **Case Study**

## livework





## **Case Study**



Tracy Stocker

Director of Operations for Flow and Integration

Medway NHS Foundation Trust

## Virtual Hospitals – The journey we've been on

Catching up on 2 years of working Tracy & her team

livework

## How did it all start?

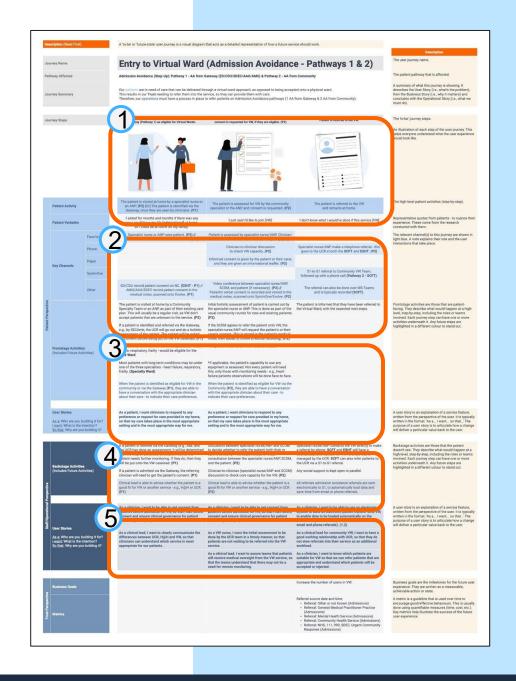
From intent to implementation....

Livework Studio 2025 liveworkstudio.com London Rotterdam São Paulo

#### Virtual Wards 2023

## How to design the ideal Virtual Ward

- 1. Start with patient experience
- 2. Align the team(s)
- 3. Support clinical governance
- 4. Connect to systems & financials
- 5. Lead IT



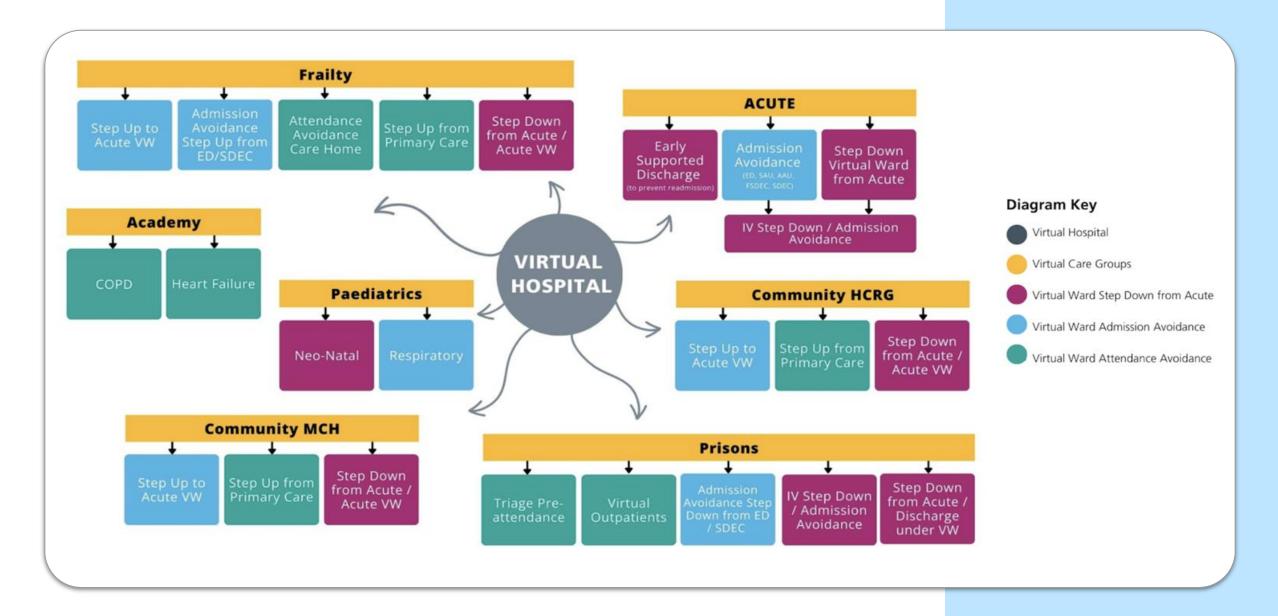
livework

# How did you design a safe, joined up process with the justice system?

Designing complex services....

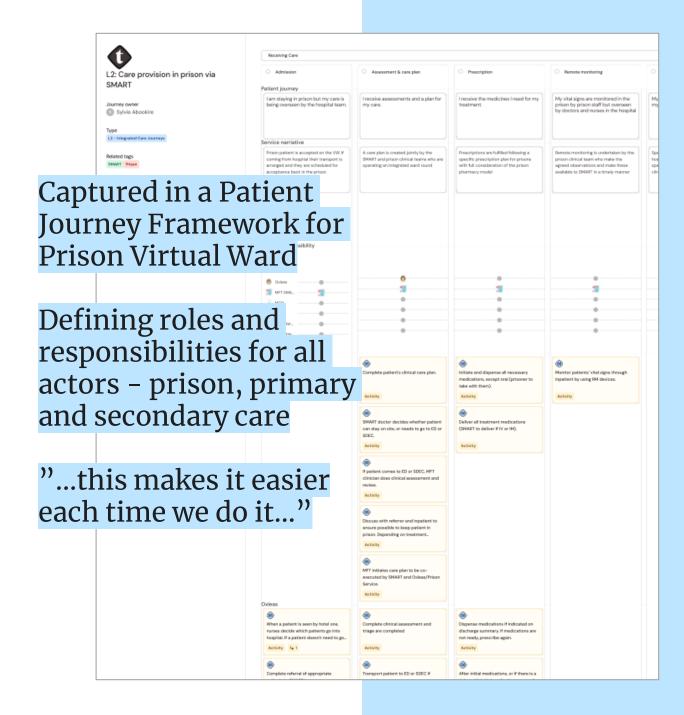
Livework Studio 2025 liveworkstudio.com London Rotterdam São Paulo

## **Vision of Virtual Hospital**



# Four hour workshop on site at the prison with all stakeholders to design it!





# What did you put in place to create the shift from Virtual Ward to Hospital?

Governance and oversight in an evolving service

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The Solution

## **Virtual Hospital**

Patient Flow: Patient Journey Frameworks Interactive SOP's

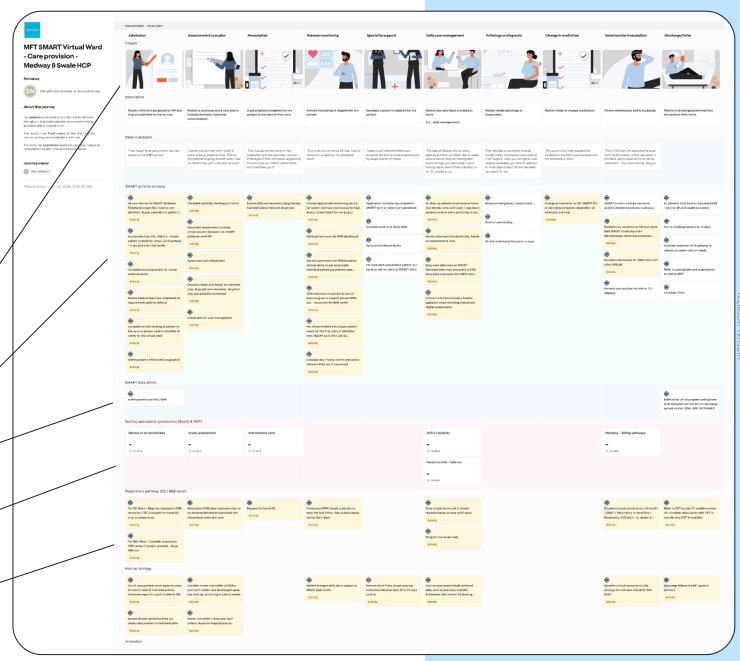
Patient experience structures around comprehensive view of activities from admission to escalation

General process & activities for SMART

Administrative actions – EPR

Governance procedures

Pathway specific process and activities e.g. Respiratory 02 Wean



# What advice would you give to someone starting out on the journey to Virtual Hospital?

Anticipating how to get there...

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### NHS Virtual Hospital Playbook

A design-led approach to scaling Virtual Care across systems



### livework

Designing better services for better care



# Patient Flow & Data Integration

System-wide data models connecting acute and community



# All

# **EPR Optimisation**

Making existing systems work harder through design thinking



## **Procurement Specification**

Ready-to-use framework for scalable, interoperable solutions



## Standard Operating Procedures

Best-practice clinical and operational pathways



## Innovation Evaluation

Frameworks to assess safety, value and impact of new technology



#### Template Business Case

Evidence-led investment model for system-wide Virtual Care

### livework

# Open to questions!

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### livework

# Thank you

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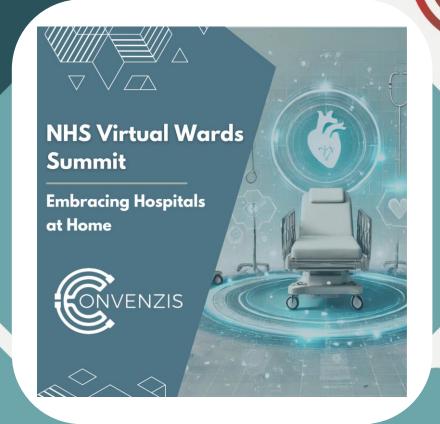


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# **Keynote Presentation**



**NVENZIS** 

Alison Davis

Clinical Quality Improvement

Lead/Virtual ward Lead

University hospitals of Leicester NHS

Trust



Esther Birrell
Lead nurse Paediatric
virtual ward
UHL University Hospitals
Of Leicester NHS Trust

# UHL Adult Virtual and PVW (Paediatric Virtual Ward) Programme

#### **Alison Davis**

Quality improvement lead/Virtual ward Lead

**Esther Birrell** 

Lead Nurse PVW







### UHL to date

UHL launched its first virtual wards on the back of the covid pandemic.

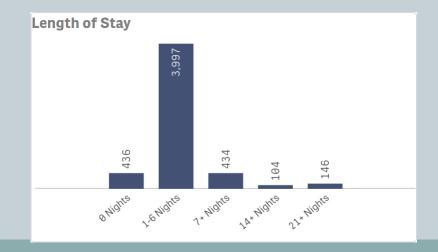
187 beds for UHL/LPT, 11 vw across 3 sites,

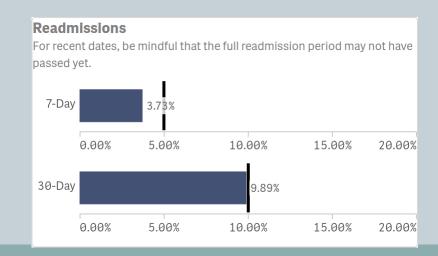
UHL VW 24/25 Outcomes.	Totals
Bed numbers	217
Patients admitted onto VWs	4,131
Bed Days Released to system	18,228
Additional Bed Capacity added to system	50
Percentage of patients avoiding admission	33%
Percentage of patients with a reduced LOS	67%

# Paediatric Care in Hospital



- UHL has approximately 5,000 emergency paediatric admissions every year.
- UHL has over 200 Children & Young people attend ED everyday.
- UHL Children's Emergency-approximately 60,000 children each year.
- o 17 years of age within the children's hospital.
- Variety of medical and surgical problems
- Winter pressures from respiratory viruses is especially high increasing hospital admissions
- Average length of stay 1-6 nights for 3997 of those hospital admissions (2024)





### Identifying Need for Improvement







- Paed's ED admission number reach on average 200-300 patients a day in winter
- In April 2022, NHS England launched its national virtual ward programme with the long- term aim of providing 40 to 50 virtual ward beds per 100,000 people in England.
- The NHS Long term Plan 2024/2025 the plan emphasizes utilizing technology and innovation to improve efficiency and patient experience.
- In line with the NHS National plan 2024/2025- transform the NHS and create a health service fit for the future,

Priorities for 2025/2026- reduce the time people wait for elective care,

improve A&E waiting times



### Goals set



- To reduce length of stay nursing children at home has huge benefits and they recover quicker.
- Aid flow through the childrens hospital- providing early discharge
- allows better flow from Paeds ed to the ward.
- Improve patient experience- one to one care, in their own home with experienced staff to support them, quick response to concerns and further monitoring for patient peace of mind, reducing reattendance to a&e.
- Keep families together- reduce child care costs (siblings) and patient distress and anxiety being separated from family.



• Reduce financial cost Patient/ NHS- Bed cost, travel expense for family, time from work, child care, costs parking.



### Benefits of Virtual Wards

- Preventing admissions and attendances
- Virtual ward models reduce hospital admissions and readmissions with knock-on impacts for emergency department (ED) presentations through the provision of timely consultant-led\* multidisciplinary care (NHS England, 2024; Wessex Academic Health Science Network, 2022).
- Reduced hospital length of stay
- Step-down virtual ward models reduce length of stay for specific cohorts
- Improved patient experience and choice
- Feedback from patients is positive (Nunan J, et al 2022; Chen H, et al, 2024) and suggests that virtual wards support increased patient choice and personalised care as well as providing opportunities for family members to visit and engage with patients (Chua CMS, et al, 2022).
- Cost-effectiveness and productivity
- The South East evaluation found that the annualised net benefit was £10.4 million for the 18 pathways analysed for non-elective admissions
- Research of benefits into virtual wards is prodominately in Adult care as the move to Paediatric wards is new, we believe the benefit to the whole family is even more valuable



### Adult Virtual Wards/ Paediatric Wards



- There is growing evidence that for adult patients H@H services are safe and well-accepted and may be cost effective.
- There is an increasing policy drive to implement H@H services to reduce hospital admissions and reduce length of stay.
- UHL already has 9 Adult Virtual Wards
- Are virtual wards for children safe and effective? A 3- year retrospective service evaluation of an urban Hospital at Home service for children and young people

(Cheung CR, Farnham L, Al-Mukhtar R, et al Arch Dis Child 2025; 110:369-376)

"suggests that it is feasible, safe and potentially cost -effective"

### GIRTH and ICB

	Functions	Why?	Who?	Referral sources	Core components across both functions	Key outcomes
Frame	Step-up  Alternative to attendance or admission	Alternative to hospital attendance/ admission, enabling provision of care ideally without individuals having to leave home	Acutely unwell patients deteriorating in the community — may be known to services and would otherwise be (re)admitted to hospital	<ul> <li>Care homes</li> <li>999/111</li> <li>SPoAs/ ICC</li> <li>UCR</li> <li>Primary and community care</li> <li>ED/SDEC</li> </ul>	<ul> <li>Effective governance and clinical leadership, with consultant physician/consultant practitioner/GP oversight</li> <li>Operating hours (8am-8pm, 7 days a week at a minimum) and out -of-hour provision</li> <li>Clear admission criteria and assessment processes</li> <li>Personalised care and support planning and shared decision-making</li> <li>Daily board rounds incl. a senior clinical decision - maker, medical input and the wider MDT</li> <li>Hospital-level diagnostics</li> <li>Hospital-level interventions and treatment</li> <li>Technology-enabled care, incl. remote monitoring</li> <li>Pharmacy, medicine reconciliation and optimisation</li> <li>Clear discharge processes, including monitoring of length of stay</li> <li>Clinical pathways supported:         <ul> <li>Respiratory</li> <li>Cardiac</li> <li>Frailty</li> <li>Paediatrics</li> <li>General medicine</li> </ul> </li> </ul>	Hospital attendance and admission avoidance     High-quality comprehensive assessment, and treatment     Improved recovery following period of acute illness or injury     Positive experience of care at home     Patient safety and protection from avoidable harm  - Reduction in bospital length.
	Step-down  Earlier transfer from an inpatient ward	Enables early discharge from inpatient wards when not medically optimised to go home without medical support	Patients in hospital who are not medically optimised for discharge but on recovery trajectory that can be managed via a virtual ward	Hospital inpatient wards     Transfer of care hubs		

### ADULT & PAEDS SET UP -Overcoming challenges

- Developed question sets to support various respiratory conditions- Broncs, Viral wheeze, Respiratory tract infections
- Developed Holistic Paediatric question sets for <1 and >1 years
- Holistic gastro >1 year
- Paediatric Feeding Questionnaire
- Consultant lead pathway
- Nephrotic Questionnaire + Blood pressure observations age related as required
- All with inbuilt safety questions to highlight areas of concern.



#### Test Patient-



# Biggest challenge

- Backing from consultants and specialist registrars =
  - Patient safety
  - Visualising the patients
  - × Communication
  - Understanding
  - × Readmission
  - Sudden deterioration



#### Overcoming-



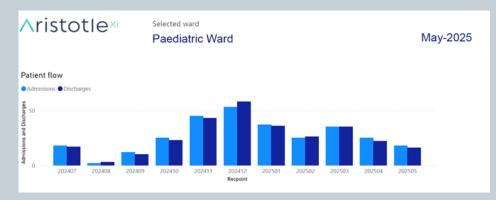
Daily huddles 3 times a day,

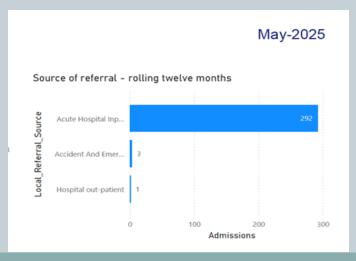
- × Patient updates
- × Patient Reviews
- Escalating concerns
- × Minimal readmissions-

# **Improvement**

### Progress to date from Launch July 2024:

- 746 bed days save
- 364 referrals
- 321 admitted
- 1 patient excluded safeguarding
- 5 patients excluded no transport
- 4 Gap in service (staffing)
- 9 refused service parent choice
- 13 Dr decision/ not met criteria/ deteriorated no longer safe for PVW
- 5 Language barrier
- 1 Out of area
- 3 Direct admissions from PED
- Readmissions- (since start of service) 19 patients





### **ICB** Review

- Comprehensive review of the value of Virtual Wards, commissioned by the **Recovery and Sustainability Group**.
- Recommendations to be aligned with the **System Executive's difficult decisions work**, in light of:
- Programme not fully optimised (occupancy below ambition).
- Reduced impact on urgent and emergency care (UEC).

#### **Review Focus**

- Clinical effectiveness
- Quality
- Financial impact
- Appropriateness of use
- Overall benefit to patients and the system
- This review has been undertaken to determine whether the VW programme is delivering sufficient clinical, financial, and system value to justify continued investment.

### Clinical Review

#### **Purpose**

- To test whether Virtual Wards were being used appropriately and delivering genuine clinical benefit.
- Provided an objective assessment of patient need, care quality, and impact on system flow.

#### Methodology

- Full-day, face-to-face reviews with senior UHL and ICB clinicians.
- Reviewed **multiple electronic records** (S1, NerveCentre, and others).
- Random sample of patients across three timeframes.

#### **Core Questions Considered**

- Did the patient have an *acute-level clinical need* at the time of VW admission?
- Did this acute-level need last for the duration of their VW stay?
- Did the VW facilitate an *earlier discharge* from a physical inpatient bed?
- Could the patient have been referred to the VW earlier in their clinical journey?

## Findings- System Benefits

#### Intended Benefits of VWs

- Cash-releasing savings.
- Additional bed capacity released to the system.
- Improved patient flow through earlier discharge and admission avoidance.
- Improved clinical outcomes (reduction in hospital acquired infections and deconditioning)

#### Reality to Date

- These benefits have been difficult to fully evidence in practice.
- Bed capacity gains, patient flow improvements, and cash-releasing savings remain limited and problematic.
- Impact depends heavily on patients meeting the *criteria to reside*.

## **Clinical Review Insights**

- Some pathways (HF, COPD, Asthma, CAP, Elective Colorectal, Ambulatory Jaundice) have included patients who did not meet 'criteria to reside', with reduced throughput and challenges in accepting step-up referrals further limiting demonstrable value for money.
- Many patients had no acute clinical need or were already medically/surgically optimised.
- Some VWs functioned more as remote monitoring / deterioration detection services rather than hospital-level care.
- Patients often remained for the full two-week duration without clear discharge review.
- Use of other system services (GP, OOH, ED) was common, highlighting pathway overlap and inefficiency.

## Clinical Review Insights

- Opportunities for Improvement
- Focus resources on high-impact pathways (AF, diabetes, frailty, paediatrics) that show clear benefits.

- Explore alternative pathways for lower-acuity patients:
- PIFU, virtual review clinics, generic remote monitoring, rapid access to investigations.
- Optimise care for higher-acuity patients by providing at-home IV fluids, antibiotics, diuretics, enabling true hospital-level care at home.
- Strengthen discharge review processes to avoid unnecessary full-duration stays.

### **Procurement**

- Procurement process started July 2024
- Supplier engagement Day 10<sup>th</sup> October 2024
- Tender scores completed 14th February 2025
- Tender moderation 24<sup>th</sup> February 2025
- Second presentation 30<sup>th</sup> May 2025
- Identified chosen supplier 26<sup>th</sup> June 2025
- Creating pathways October 2025
- Go live 3<sup>rd</sup> November 2025



# Value- Patient Feedback

Amazing communication, quick responses, the care is outstanding via the app and FaceTime. Friendly nurses and in-depth understanding before going home.

Amazing results, great work on helping my baby get better

#### Very useful

Support at hand when needed

You're 100% there if we need you. Its daunting at first but soon enough we felt completely comfortable

It meant we could come home and be more comfortable while still getting the care we needed, which made all the difference.

The virtual ward enabled us to go home and monitor our son the comfort of his own bed

Very kind and helpful

"We/and our son wanted to come home. He wanted his own bed/toys and surroundings.

This allowed us to continue with the level of care he needed, and we felt fully supported every step of the way.

"It was much less disruptive for Rory (and the whole family) to be cared for/monitored at home. He could sleep in his own bed and eat his favourite food. Probably less stressful for me than being surrounded by other poorly children/babies.

"The monitoring kit was excellent quality and we felt extremely well supported by the PVW team at all times."



### Consultant feedback

My opinion of the PVW implementation is that this has been very successful. Reducing pressure on inpatient beds has been invaluable.

The efforts of the team should be highlighted. The PVW team has worked very well to initiate the service and work with the hospital team to launch this successfully. Patients are on-boarded quickly and monitored safely in the community with regular updates to the duty consultant. The PVW team have been very proactive in seeking out suitable patients, always being visible and accessible in handovers and making the process smooth and effortless. One of the main reasons for the success we've seen in this service is having an adequately skilled and resourced team to make the pathway so smooth.

I would say there's scope to expand this service, and this is exactly the sort of innovative work we need for safe and efficient care.

Thanks

Kind regards Razi Paracha Consultant Paediatrician



# Spread, Intergration & Collaboration

"Doctor WhatsApp" helps Katy and her twins at home





A mother of baby twins has hailed our Paediatric Virtual Ward (PVW) team for providing 'the personal touch', while allowing her to care for her children at home.

Katy Keddie's twins, Jessica and Jaxon, were born in November 2024, at 34 weeks. After a stay in our neonatal unit, and separate readmissions for both twins with different conditions, the family were offered the opportunity to be discharged under PVW supervision.

The PVW nursing team provides enhanced monitoring and assessment for paediatric patients who are deemed appropriate to use the service, and who meet a defined criteria pathway. It provides video or telephone consultations, support and follow-up for patients who would otherwise be admitted into hospital



The service has been shortlisted for an HSJ Patient Safety Award 2025, in the category of Improving Care for Children and Young People Initiative of the Year.

"The biggest benefit is the personal touch the team provides", says Katy. "They are specialist children's nurses, and nothing is ever too much for them. They always call you back and have empathy and understanding. They clearly love what they do."

The twins were discharged after Katy had been taught to use a kit including a thermometer, and a small monitor that reads oxygen saturation, heart and breathing rates.

"It's simple and straightforward to use", said Katy. "I checked the twins three times a day and logged the results to an app. They go straight to the team, who get in touch straight away if anything doesn't look right.

"Being at home is so much better for us all, and the team are a brilliant reassurance. On a ward, you are one of a number of patients, but through the virtual ward, we can contact them via WhatsApp or telephone, and they always respond as soon as they can.





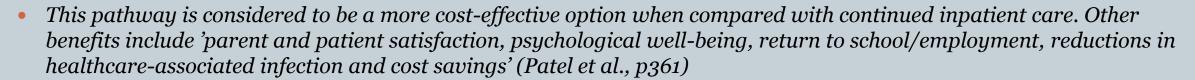






# Benefits for Patients/families

- Nursed at home with siblings and other parent supporting too in the night, when only 1 parent can stay in hospital.
- Financial saving- travelling and parking, work, child care.
- Time- Travelling to and from the hospital, time from work, time With rest of the family/siblings.
- Parent and PVW staff decide when ready for discharge so they Feel part of the decisions being made about their care.







### Plans for the future-

- PVW success can be rolled out easily to other paediatric hospitals- with huge benefit to both patients and hositals across the UK this step down model is easy to implement with pathway criteria for patients.
  - Development now for PVW is looking at cohorts of elective admissions bronchiectasis patients admitted for 2 weeks at a time for IVAB and physio
  - Admission avoidance- Nephrotic, diabetic patients with poor compliance.
  - Direct referals from midwifery /health visitors and GP's for weight loss babies to remain managed in the community.
  - Other pathways still to be developed- Cardiac monitoring and pre op patients.



## **PVW**





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# **Case Study**





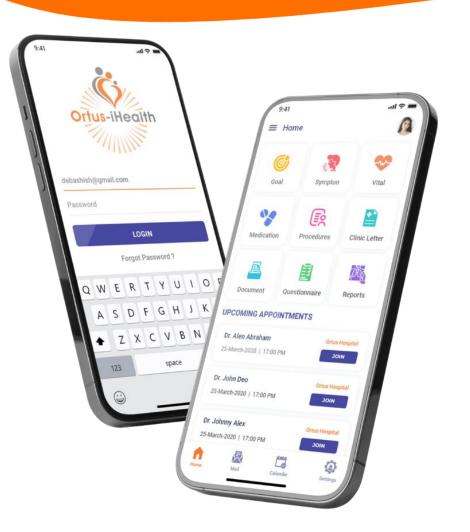
# **Case Study**

NVENZIS



**Dr. Debashish Das**Consultant Cardiologist, Barts NHS Trust
CEO & Founder, Ortus-iHealth





# Comprehensive Remote Patient Care Addressing the Full Acuity Spectrum

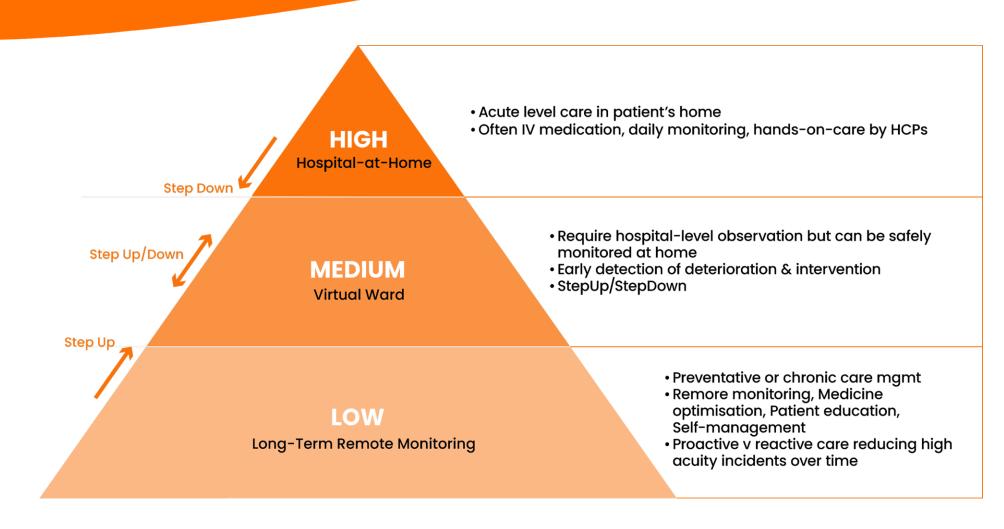
Moving Beyond Hospital at Home with Integrated Long-Term Remote Monitoring and Early Intervention

#### Debashish Das

Consultant Cardiologist St Barts Hospital Clinical Director Cardiology Whipps Cross Hospital CEO Ortus-iHealth

## The Acuity Pyramid in Remote Patient Care





### **Definitions**



#### **Hospital-at-Home – avoid hospitalisation**

Provides acute-level care in a patient's home as an alternative to hospital admission.

Often includes IV medications, daily monitoring, and hands-on care by healthcare providers

#### Virtual Wards - reduce re-admission and prevent clinical decline

Monitor patients remotely after discharge for early detection of deterioration.

Manage patients who may still require hospital-level observation safely outside the hospital environment

#### Long-Term Remote Patient Monitoring – prevent disease progression, detect deterioration early

Ongoing, non-acute monitoring, typically patients with chronic conditions, or on an elective care pathway

Proactive rather than reactive care reducing high acuity incidents over time

Includes wearable devices, patient-reported outcomes (PROMs), digital rehabilitation, and education

# **Acuity Pyramid Features**



Feature	Hospital-at- Home	Virtual Ward	Long Term Remote Monitoring
Target Population	Acute High Acuity	Post Acute Medium Acuity	Chronic Low to Medium Acuity
Objective	Substitute Hospitalisation	Prevent Readmissions	Prevent Disease Escalation
Duration	Short-Term episodic care	Transition Phase (1-3 weeks)	Continuous Long-Term
Care	IVs, Daily Visits,	Monitoring	Digital

## Value of the Acuity Pyramid



#### **Hospital-at-Home and Virtual Ward**

Addressing only the top of the pyramid limits impact to short-term, high-acuity cases.

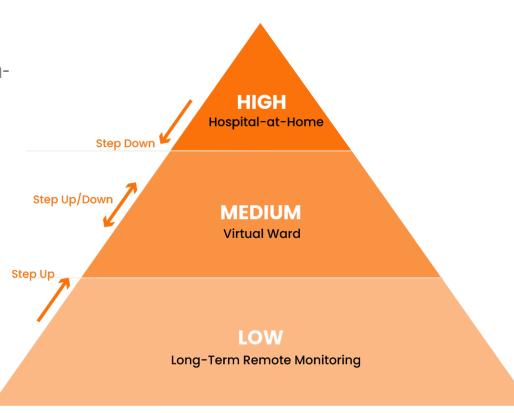
#### **Long Term Monitoring**

Adds value across all acuity levels, supporting long-term health outcomes and reducing demand on acute services.

#### **Evidence**

Studies show that preventive and early intervention (bottom and middle of the pyramid) lead to:

- A 20-30% reduction in hospitalizations in chronic disease patients.
- Improved quality of life, with reduced morbidity in long-term conditions like heart failure, diabetes, and COPD.



#### **Benefit of the Acuity Pyramid**



#### **Improved Patient Outcomes**

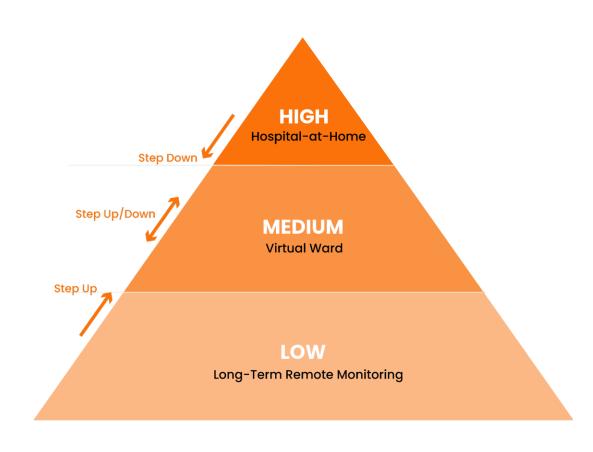
Proactive care reduces emergency admissions – example: Liverpool HF remote monitoring

#### **Cost Savings**

Long-term RPM has been shown to reduce total healthcare costs by 10-15% per patient by lowering the frequency and severity of high-acuity events (Reference: Digital Medicine Studies, 2020).

#### **Patient Satisfaction**

Patients experience continuity of care, feel empowered through digital tools, and report higher satisfaction scores.



#### **Building your Digital Pathways**



#### **Build Your Service Pathways**

- Is this H@H, VW or LTC -RPM?
- Cadence of intervention/review
- What Data do we want
  - What Observations? Vitals, Blood Wounds?
  - Symptoms tracking -**Ouestionnaires**
- What are the signs of deterioration?
- Asynchronous messaging
- Health education & Rehab
- PROMS/PREMS
- Medication updates & advice



Patients in the Community

The Patient receives automated and timed contact:

- 1. Prompts and reminders for taking measures
- 2. Health education info
- Review notifications
- Medication updates



The option to provide feedback as appropriate



Patients can communicate back with care provider through asynchronous Messaging and using device



Medications & messages can be reviewed. Care adjusted and escalations managed

Connecting Systems and **Platforms** 









Private and Confidential

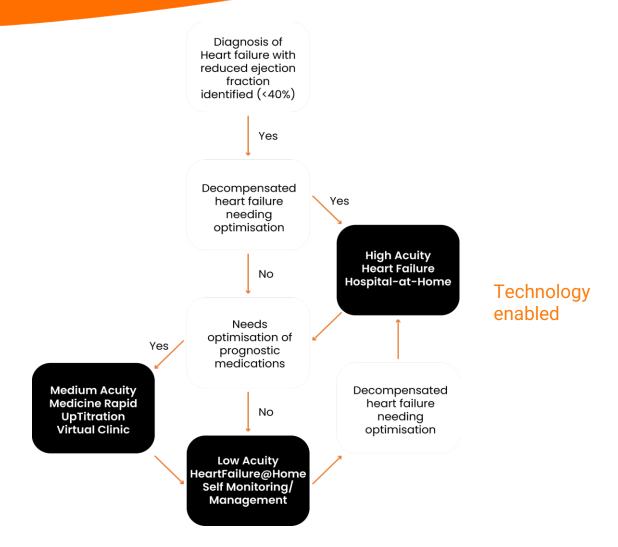
#### **Barts End-to-End Heart Failure Pathway**

Spanning Entire Acuity Pyramid

**Technology** 

enabled



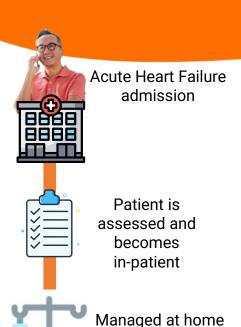


Technology enabled

#### **Heart Failure**

#### Virtual Ward, Rapid Up-titration, Long-Term Monitoring





with Oral diuretics/
IV Diuretics SDEC

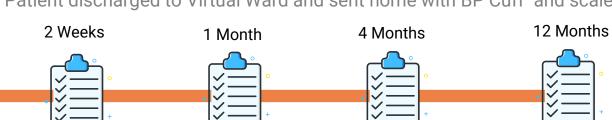


Virtual Ward

Stay

- Early discharge Uptitration at home
- Chronic disease/medication management
- Remote monitoring Patient-input vitals, symptoms, observations
- Reviews according to NICE guidelines
- Asynchronous messaging /appointments

Long Term Remote Monitoring



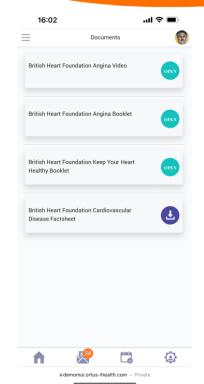
Rapid

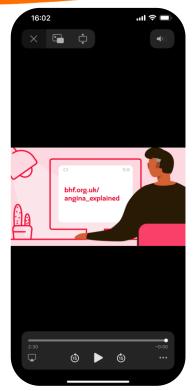
Up titration

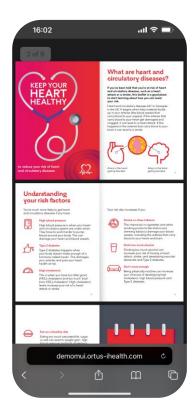
Patient discharged to Virtual Ward and sent home with BP Cuff and scales

## Patient Support and Self-Management

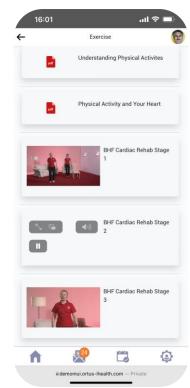












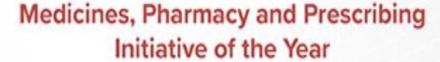


**Supplement with Digital Education/Care Plans** 

**Digital Rehabilitation Support** 



#### **DELIGHTED TO BE A FINALIST**







## Structured Titration and Rapid Treatment for Heart Failure



#### Heart Failure

NHS Trust

Delayed waiting times: 40-45 weeks for diagnosis

~80% diagnoses made in hospital with 13-day length of stay

25% readmission rates

CHANGE: 4 new heart failure drugs since 2015

Silent epidemic: >1M UK sufferers 690,000 on GP Heart Failure register

1-2% of those *under* 70 10-20% of those *over* 70

£2bn annually

NHS Futures, 2025



#### STaRT-HF

STANDARD CARE

Appointment duration

Patients per week

Weeks to first review

(mins)

**Titrations** 

Time to optimal therapy

10 - 12

15 - 30

8 - 12 weeks

15 - 20 months

60 - 80

< 5

Twice weekly

6 – 10 weeks







#### **Inpatients & Outpatients**

Reviewed by Heart Failure Team

30-minute Phonecall

6 weeks of patient led titration

Daily HR / BP Weight

15-minute Phone call

3-month appointment

ECG

Echo

#### **Patients**

↓ Mortality & Readmissions↑ Quality of lifeRapid access to Devices

#### **Trust**

↑ OPD Slots
↓ Echocardiography
Finance

#### NHS

Hospital to Community
Analogue to Digital
Sickness to Prevention

STRONG-HF, Lancet 2022

Ambition **Outcome** Spread Value Involvement Reasons for Winning

#### Index of Multiple Deprivation





230 patients onboarded191 discharged



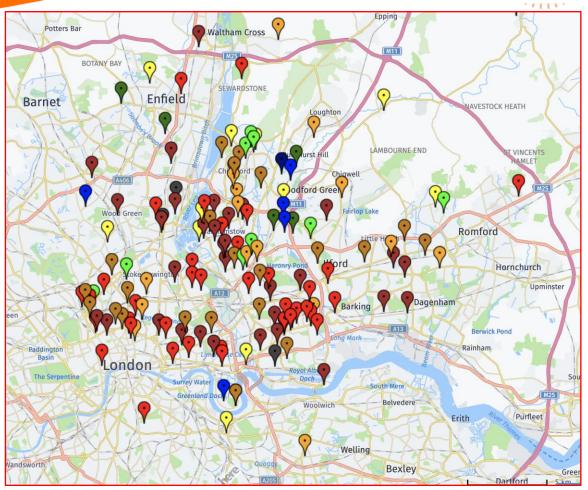
#### Patient profile

- 35% In + 65% Outpatient
- 73% male
- mean age 60y (range 24-88)
- 52% non-white



#### **Clinical profile**

- Mean Charlson index 3 (0-9)
- IMD in highest quintiles



High Deprivation









230 patients onboarded191 discharged



#### **Patient profile**

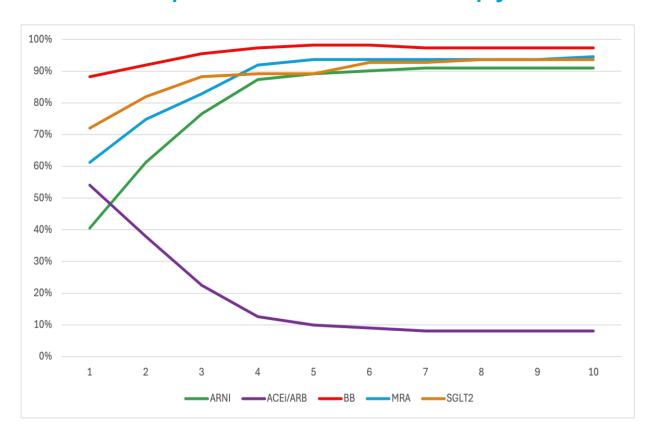
- 35% In + 65% Outpatient
- 73% male
- mean age 60y (range 24-88)
- 52% non-white



#### **Clinical profile**

- Mean Charlson index 3 (0-9)
- IMD in highest quintiles

#### **Optimisation of Therapy**





#### **Primary Care: QOF**

HF with exclusions

ACEi / ARB 82%

ARNI Unknown

βB 82%

#### **NICOR HF Audit**

HF with exclusions

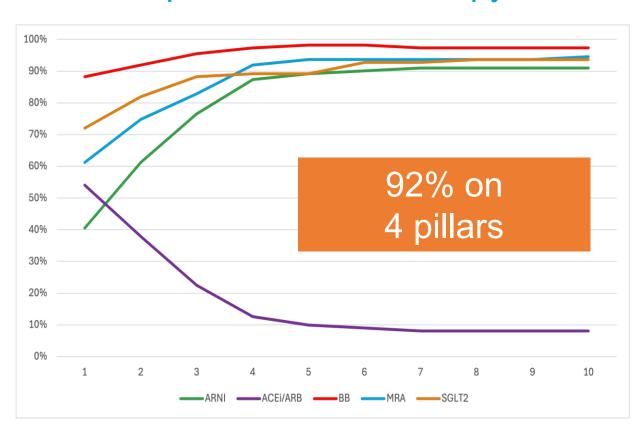
ACEI / ARB / ARNI 82%

βB 89%

MRA 69%

SGLT2i 70%

#### **Optimisation of Therapy**



NICOR Heart Failure Audit Report, 2025

#### STaRT-HF Treatment Success





#### **NTproBNP**

- Presentation: 2027ng/L (SD 129)
- Discharge: 710ng/L (SD 959)
- Mean change: -1315ng/L



#### Echo\*

- Presentation: LVEF 30% (SD 7.5)
- 3-months: LVEF 44% (SD 10)
- Mean change +14%



#### **Device therapy (ICD)**

- Presentation: 59% met criteria
- Discharge: 16% met criteria
- Mean reduction 43%



- Median time on platform: 8.6 weeks (IQR 6.0 10.4)
- Median 6 appts (IQR 5 − 8)



- 100% "very satisfied"
- 86% found communication "very clear"
- 57% saved more than 2hrs travel



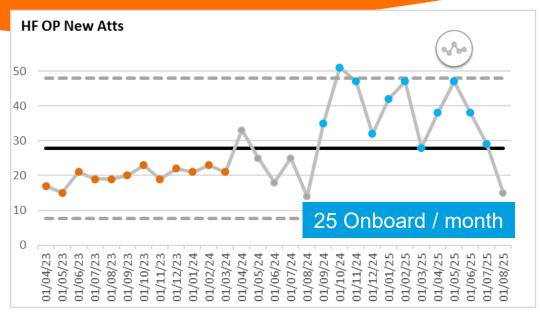
0% readmissions vs 25%

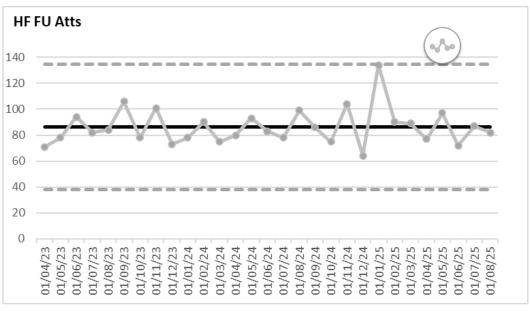
\*3 months after medication optimisation

#### 191 Patients



#### **Innovation & Transformation**







1,133 Appointments



50% reduction in waiting times across Trusts



22,850 miles & ~6.5 tonnes CO<sub>2</sub>

Ambition Outcome Spread **Value** Involvement Re

191 Patients



**Appointments** 

Readmissions

Echo

ICD

# STANDARD CARE

#### Band 7 AHP

- 5 patients per clinic, twice per week
- 15 30 mins appointment
- Single titration once every 8
  12 weeks

£125 per consultation

## STaRT-HF

#### Band 7 AHP

- 60 patients, twice per week
- Asynchronous appointments
- Titrations <5 mins</li>
- Titrate at every appointment

£15 per consultation

Driving cost-effective prescribing

191 Patients



**Appointments** 

Readmissions

Echo

ICD

# STANDARD CARE

#### **NHS Futures**

- 25% readmissions
- £3,000 per admission
- 13-day length of stay
- NEL (2024/25)
  - 315 admissions
  - 2,895 bed days
  - £1.9m

# **START-HF**

#### Over 13 months

- ZERO HF hospitalisations
- 8 all cause admissions:
  - Sepsis x5
  - AKI with bowel cancer
  - Pulmonary embolus
  - Atrial fibrillation

Yr 1 Saving ~£285,000 & 435 bed days

Data provided by Peter Grummit & Amy Bowkett, LTC Team, NEL ICB

Ambition Outcome Spread **Value** Involvement Reasons for Win

93 Patients



**Appointments** 

Readmissions

Echo

ICD

103 studies (clinician request)

3-fold reduction in use

**NTproBNP** 

↑ resource utilisation

~£45,000 saved

50% fit for discharge





Appointments

Readmissions

Echo

ICD

1/3 reduction in need



£150k saved

6-monthly follow-up ~£37,350 saved over 5 years

1% annual infection rate

Ambition

Outcome

Spread

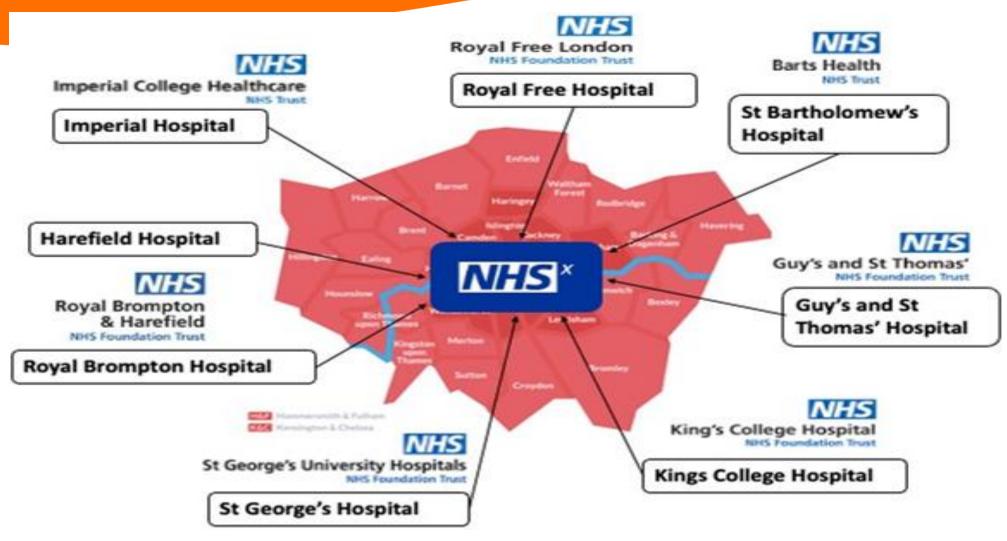
**Value** 

Involvement

Reasons for Winning

#### **London Cardiac Surgical Patients**





#### Pan London Cardiac Elective Surgery Wait List



Currently 1,800 patients are on the Elective Cardiac Surgery waiting list, as part of a total of 7,000 patients who receive surgery annually

Waiting times are steadily increasing. Large majority of patients facing P2 clearance times <u>in</u> <u>excess of 12 weeks</u>

Substantial and increasing risks of morbidity and mortality whilst waiting for cardiac operations

An end-to-end Elective Cardiac Surgery pathway transformation was needed to enable <u>operationally</u> efficient and <u>clinically</u> safe, effective, high-quality care

### Elective List Remote Care Pathway

LOW

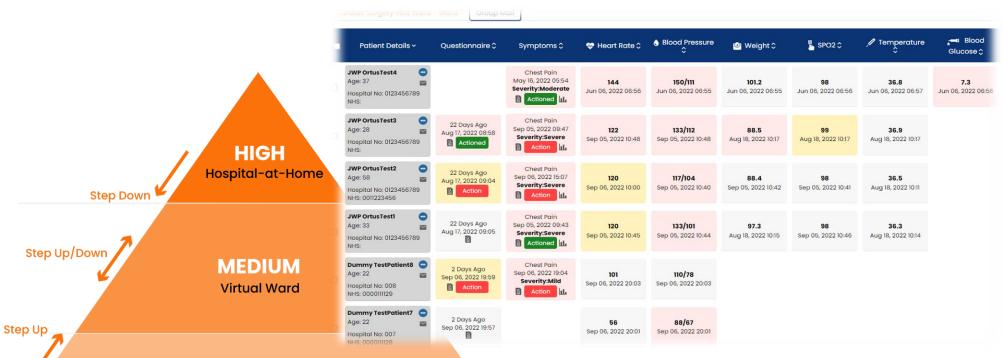
Long-Term Remote Monitoring





1. Observations
Tracking





2.Symptoms Monitor

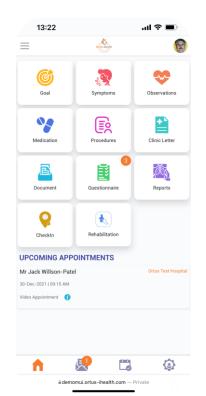
3. Deteriorating patient questionnaire

4. Templated Individual and Group Messaging

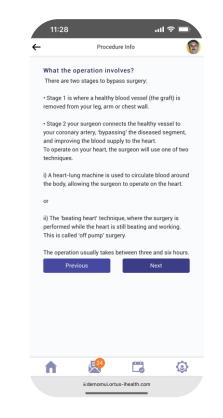
5. Prioritise Patients and Take Action

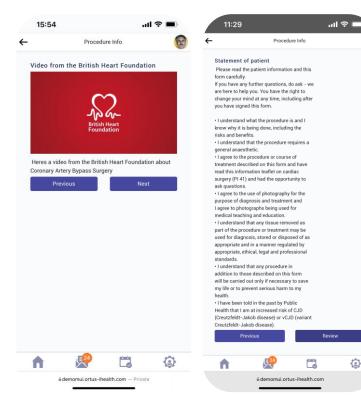
#### **Digitally Enhanced Pathways**

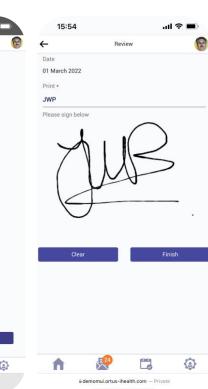










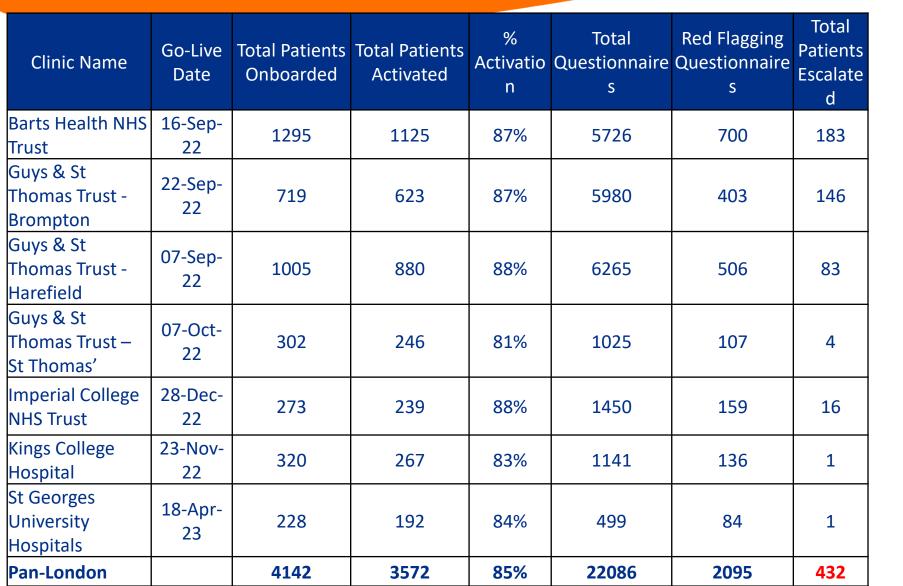


Questionnaires

**Automated Care plans** 

**Configurable and sharable E-Consent** 

#### Data from October 2023







- 4 year of programme
- >10000 patients put through
- 2500 patient monitored at a time
- Harm reduction
- Unplanned admission avoidance



#### Cardiac Surgery Think Tank Recommendations

Cardiac Transformation Programme and Specialised Elective Recovery

Remote monitoring and managing harm - Adoption of remote monitoring for patients on cardiac surgery waiting lists and development of a tailored approach to ongoing monitoring and harm reviews

### Barts Remote Monitoring Surgical Data



#### Scope

1164 patients enrolled (Sept 2022 –Sept 2023) remotely monitored up to Sept 2025

74% Males, 26% Female, 69% engaged with the Remote Monitoring programme

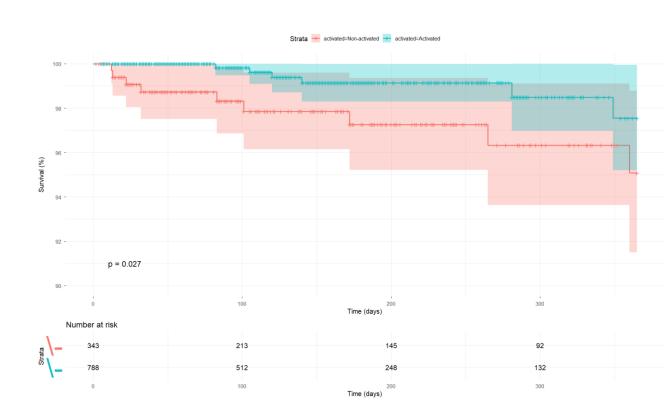
#### Results

120 patients escalated as deteriorating and surgery brought forward

**Unplanned admissions** 2.1% RPM vs 4.3% not P<0.05 **Mortality remotely monitored** 0.59% RPM vs 2.2% P<0.05

Bed days saved1200 days - Cost Saving £1M Cost per live saved £15K

Cost per QUALY £1.5K - highly cost-effective (below £20,000-£30,000 per QUALY NICE Threshold)





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## Lunch & Networking



Today's Sponsors & Partners



**NVENZIS** 



























#### **Chair Afternoon Reflection**

ONVENZIS



**Dr Gurnak Singh Dosanjh**GP
LLR ICB



#### **Keynote Presentation**

**NVENZIS** 



Tracy Stocker

Director of Operations for Flow and Integration

Medway NHS Foundation Trust





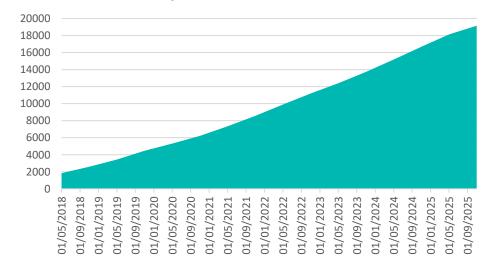




#### Over the last 8 years, the service has:

- Cared for >20,000 patients
- Evolved from hospital at home, through tech-enabled virtual ward for COVID, to a full virtual hospital
- The average length of stay has decreased
- Readmission into hospital

#### Total patient numbers over time





#### **MFT Wards Audit**

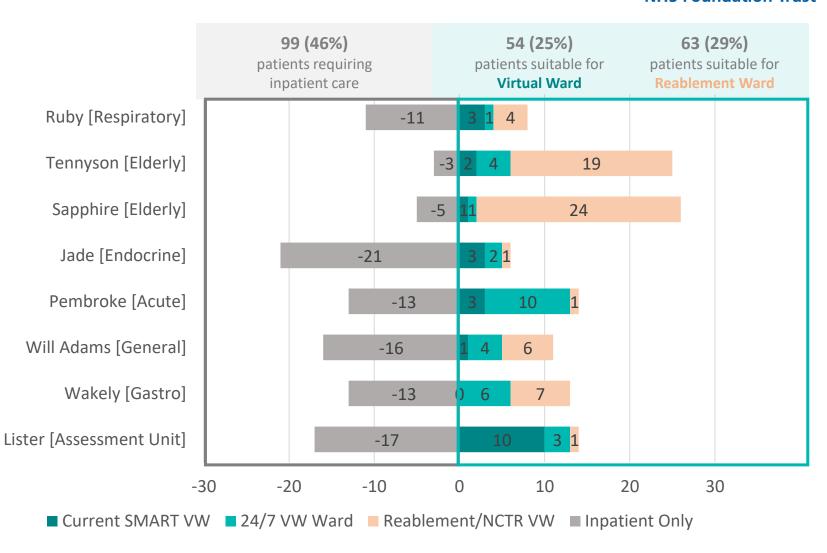
Medway
NHS Foundation Trust

In August 2025, an audit was carried out by clinicians within the Trust, to assess the proportion of patients currently in the hospital, who could be managed by the virtual hospital.

Just within 8 wards (~30% of wards, 40% of bed capacity):

- 54% of patients were suitable for the virtual hospital if current service model increased;
- 54 patients (25%) were suitable for virtual hospital, if the 24/7 component is activated.
- 63 patients (29%) were suitable for the NCTR and potentials for the reablement ward;

Scaled across all wards, this suggest: >180 patients potentially suitable for reablement ward; >160 patients suitable for virtual ward (from inpatients alone).



#### Proposed Model: Virtual Hospital (24/7 | 200 Beds)



The **Virtual Hospital programme** offers a transformative solution to financial and capacity pressures. Building on the success of MFT's SMART virtual ward, the business case proposes a step-change: scaling to 200 virtual beds—including high-acuity care—while activating 24/7 coverage and integrated admission avoidance pathways. Importantly, this is a clinically robust, patient-centred, and scalable model of acute care delivered outside the hospital walls.

This model will enable the closure or repurposing of up to three inpatient wards, freeing 91 hospital beds, and delivering a strong return on investment within 9-12 months.

The figure on the next page illustrates:

- the current physical bed state for MFT
- the opportunities for change as outlined in the full business case
- the future state which shows the reduced physical estate and the new virtual estate

#### The proposal delivers:

- 1. Operational benefits: improved patient flow, and significant physical estate release (repurpose of 91 beds over 12m, equivalent to 3 wards).
- 2. Clinical and workforce gains: safer, more personalised care; flexible working models; and strengthened staff retention.
- **3. Financial returns**: a minimum benefit-cost ratio of 3.6x, driven by reducing need for resourcing physical estate, additional capacity for revenue generating from electives or a regional virtual hub service. **Committing to implementing at speed from end of October** can deliver:
  - Implementation of the model requires £0.7M in investment (£0.1M CAPEX and £0.6M OPEX);
  - Net cash inflow of £0.5M by Mar-26 (i.e. returned investment and generated positive inflow);
  - Net cash inflow of £5.2M in 2026/2027.

#### What is the Medway Virtual Hospital?





#### **200 BED VIRTUAL CAPACITY**

Bringing clinically robust, patient-centred, and scalable acute care to patients' homes. Providing and end-to-end service: monitoring, virtual consultations and visits.

#### Mid-acuity (8AM – 8PM | 7 Days)

Building upon current **SMART Virtual Ward** (80 beds) to support additional capacity and safe recovery at home for more patients

#### High-acuity (24h | 7 Days)

Launching a 24/7 service to support patients overnight with continuous monitoring ensuring highest levels of safety and quality

#### **Opportunities for Change**

#### The Hospital of the Future



#### **Improve ED Flow**

Admission avoidance Alternatives to ED

#### Reduce costs | Free up ward Improve Flow & Efficiency

Reduce LOS

Reduce deconditioning

Prevent readmission

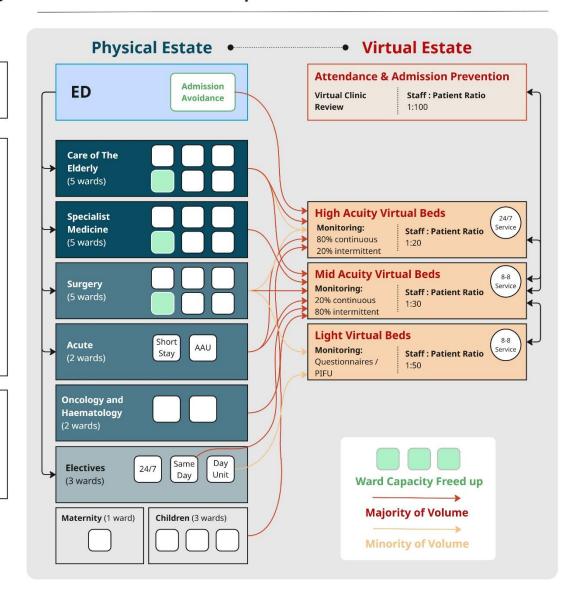
Increase bed turnaround

Reduce patients waiting in bed for diagnostics

#### More electives with less/same resource

Reduce LOS (pre- and post-op)

Increase bed turnaround (same-day cases)

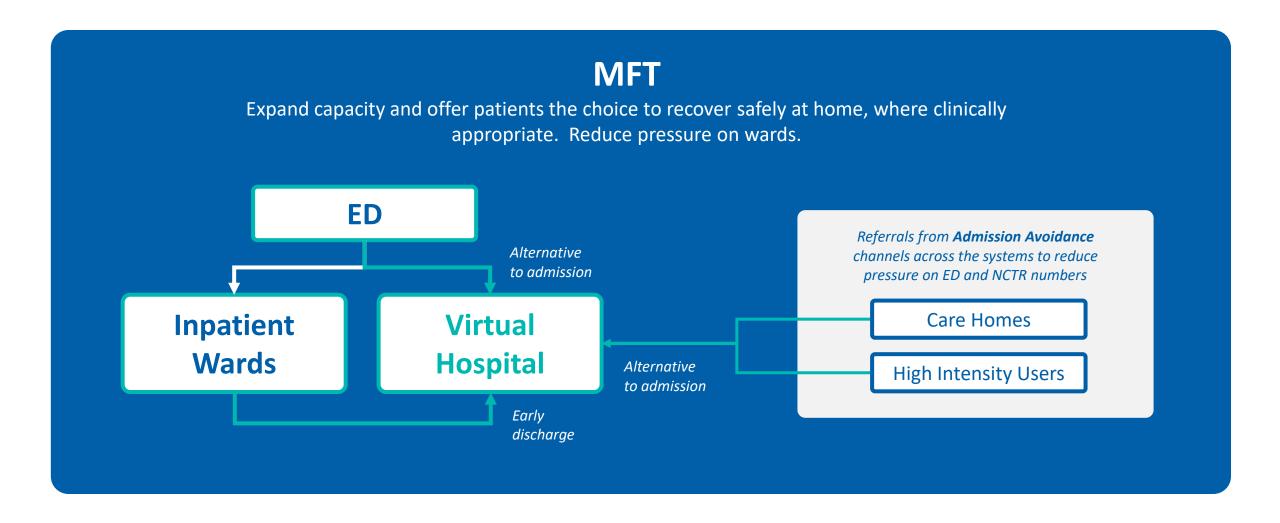


The programme is designed to free up **91 beds**, enabling us to repurpose **3 wards**.

This means we can see more patients, whilst reducing costs.

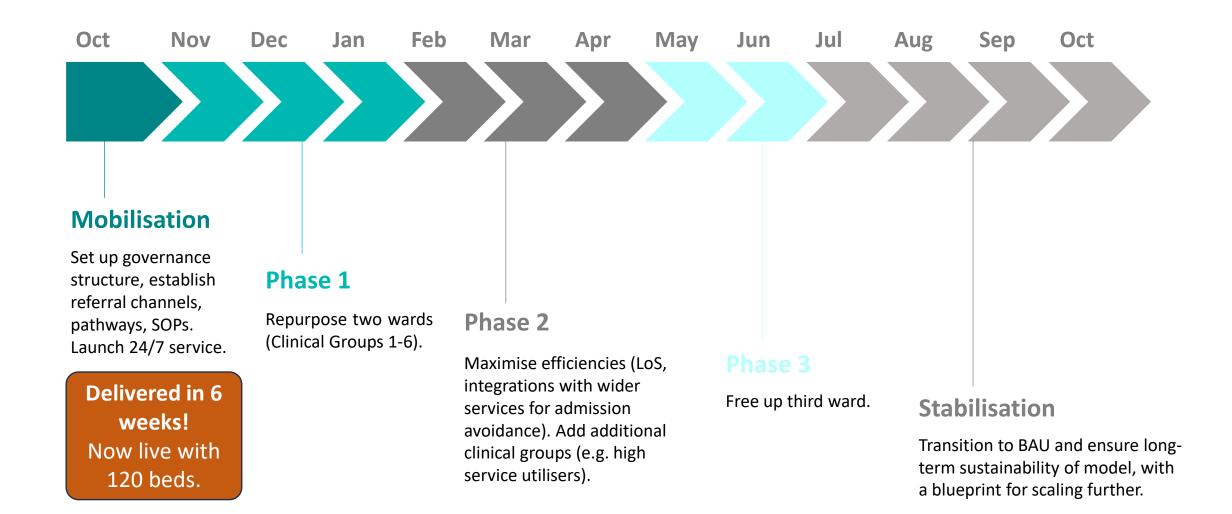
#### How does the virtual hospital impact patient flow?





## **Programme Phasing Overview**









Over the next 6 months, we will target the following 6 groups of patients to ensure we prioritise impact on patient safety experience and flow, and can free up capacity to support winter.

Group	Patient Profile	Volume	Comments
Group 1	Patients waiting for inpatient investigation	20-30 per day	<ul> <li>Ensure patients do not experience further delays to investigation due to waiting at home.</li> <li>Secure buy-in from radiology department (develop workflows for referral, MDT)</li> <li>Patients on continuous 24/7 monitoring to evidence safety and effectiveness.</li> </ul>
Group 2	Patients in ED corridors	10-20 per day	<ul> <li>Likely to be frailer patients, avoid admission and deconditioning in hospital.</li> <li>Triage and refer to virtual ward directly from ED.</li> <li>Secure buy-in from ED team (develop workflows for referral, MDT)</li> </ul>
Group 3	Patients with ARI (flu/COVID)	15-25 per day	<ul> <li>Volume will increase from December</li> <li>There is already an established relationship between the SMART team and respiratory team</li> </ul>
Group 4	Patients from care homes	5-10 per day	<ul> <li>Onboard 2 care homes per month, prioritising high conveyance homes.</li> <li>Have a bespoke initial pathway that simplifies referrals to prove value, before scaling to more homes.</li> </ul>
Group 5	Oncology patients	5-10 per day	<ul> <li>Require daily bloods</li> <li>At risk of fast deterioration (neutropenic sepsis)</li> <li>Already have some on SMART VW so established relationship</li> </ul>
Group 6	Hepatology Patients	<5 per day	<ul> <li>Long LoS</li> <li>Wakeley ward currently but it's saturated so they spill into other wards</li> </ul>

## **Structure and Staffing**



#### **Multi-Tier Service**

- Catering to variable levels of risk
- Mixture of virtual and visiting service driving resourcing

We have many years of experience delivering an acute virtual model, driving evidence-based decisions about staffing and structure of pathways.

Virtual Hospital Breakdown						
	<u>Patients</u>					
Red Ward	80					
Amber Ward - Type A	50					
Amber Ward - Type B	40					
Green Ward	30					
TOTAL	200					

Red Ward		Visits Freque	ency	Monitoring		Staffing		
	% Patients	<u>Weekly</u>	<u>Duration [h]</u>	<u>8AM-8PM</u>	<u>8PM-8AM</u>	<u>Grade</u>	<u>Day Ratio</u>	Night Ratio
Virtual	70%	7	0.5	Active	Active	Band 6	20	40
Visiting	30%	7	1	NA	NA	Band 6	7	NA

Amber Ward - Type A	Visits Frequency			Monitoring		Staffing		
	% Patients	<u>Weekly</u>	Duration [h]	<u>8AM-8PM</u>	<u>8PM-8AM</u>	<u>Grade</u>	<u>Day Ratio</u>	Night Ratio
Virtual	100%	1	0.33	Active	Passive	Band 6	210	NA
Visiting	100%	2	0.75	NA	NA	Band 5	33	NA

Amber Ward - Type B	Visits Frequency			Monitoring		Staffing		
	% Patients	<u>Weekly</u>	Duration [h]	<u>8AM-8PM</u>	<u>8PM-8AM</u>	<u>Grade</u>	<u>Day Ratio</u>	Night Ratio
Virtual	50%	4	0.33	Active	Active	Band 6	53	50
Visiting	50%	3	0.75	NA	NA	Band 5	22	NA

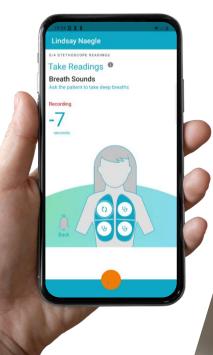
<b>Green Ward</b>	Visits Frequency			Monitoring		Staffing		
	% Patients	<u>Weekly</u>	Duration [h]	<u>8AM-8PM</u>	<u>8PM-8AM</u>	<u>Grade</u>	<u>Day Ratio</u>	Night Ratio
Virtual	100%	1	0.33	Passive	Passive	Band 5	210	NA
Visiting	100%	1	0.5	NA	NA	Band 4	98	NA

## What technology are we using?





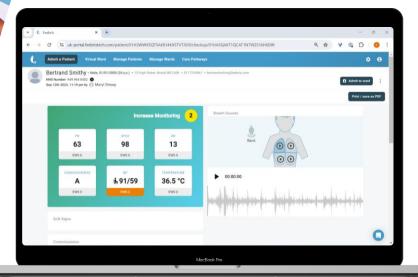
Enabling patients and their care givers to automatically capture clinically reliable information





**t** feebris

Enabling clinicians to monitor and manage patients virtually, with actionable insights at their fingertips



## What technology are we using?



#### FEEBRIS PATIENT APP

- Clinical questionnaires
- Intermittent and continuous vitals signs
- Hardware agnostic a large portfolio of medical devices and ability to integrate new devices
- Intuitive interface for people with poor digital capabilities
- Messaging and video calls
- "I need help" button
- Quality assurance of data captured
- Offline functionality





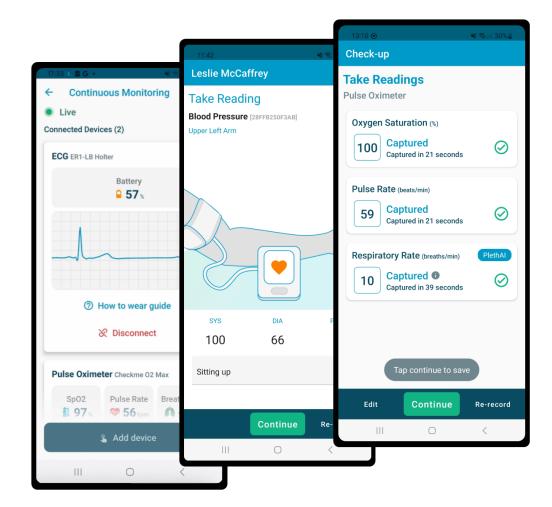












## What technology are we using?



#### FEEBRIS CLINICAL DASHBOARD

- Unlimited clinical pathways
- Smart alerts to highlight patient risk
- Risk stratification tools to priorities need
- Personalised patient baselines
- Actionable clinical insights (e.g. ECG, lung sounds, medical images etc.)
- Patient communication tools (messaging/video calls)
- Single patient record across services (care homes, primary care)
- Full interoperability with EPR/PAS at MFT (Coming next)

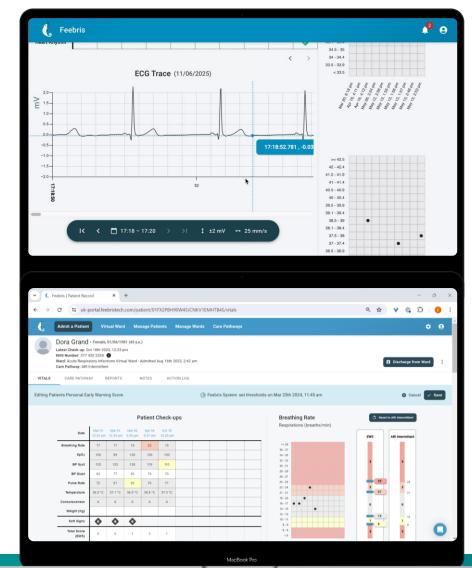












## What are the benefits of the virtual hospital?



#### **GREAT PATIENT CARE**

- Reduced risk of hospital-acquired infections and deconditioning
- More effective recovery familiar environment, less stress



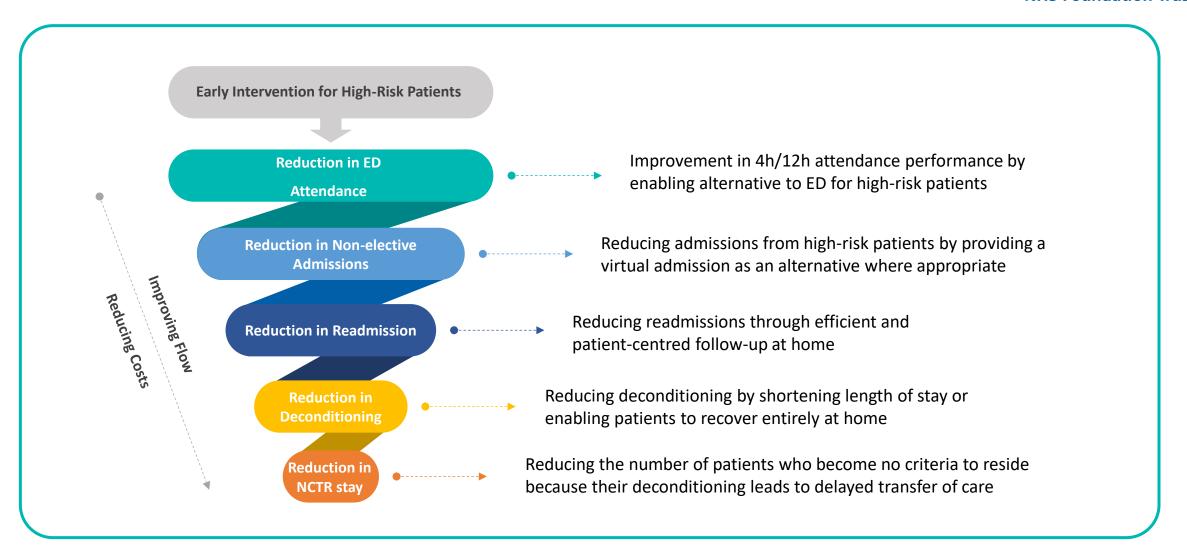
#### **OPPORTUNITIES FOR STAFF**

- New growth opportunities flexible workflows
- Efficiency support technology supporting information capture and freeing up time for care

#### **OPERATIONAL CAPACITY**

- Improved patient flow freeing up capacity and reducing bottlenecks in services
- Greater resilience and scalability in response to seasonal pressures

# Unlocking downstream impact for patients and the hospital Medway



## **Examples of Patient Journeys in the Virtual Hospital**





#### **Early Discharge**

Alan, 58, is frequently admitted into hospital due to complications from chemotherapy. Each stay disrupts his recovery and leaves him anxious about returning home. When he becomes unwell again, the hospital team offers him a place on the virtual ward. He is provided with a remote monitoring kit, access to regular video check-in with the clinical team, and 24/7 escalation support. When his temperature rises, the team prescribes antibiotics within hours. Alan remains stable at home and avoids hospital admission.



#### **Alternative to Admission**

Dorothy, 87, lives in a care home and has mild dementia. After a minor fall, she is distressed. In the past, this would have triggered a call to 999 and a long wait in A&E - only to be discharged hours later. This time, the care home conducts a quick digital health assessment, automatically capturing all vital signs and answering a series of questions. A virtual ED team reviews the readings, including her ECG immediately, confirms all is normal and schedules a follow-up review next morning. Dorothy is put on continuous monitoring for overnight observation to be safe. She stays in her familiar surroundings, with no ambulance, no A&E corridor and no hospital-acquired complications.







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# **Case Study**







# **Case Study**



Jonathan Lewis

Managing Director, UK

Luscii



Chris Malone Commercial Director Luscii

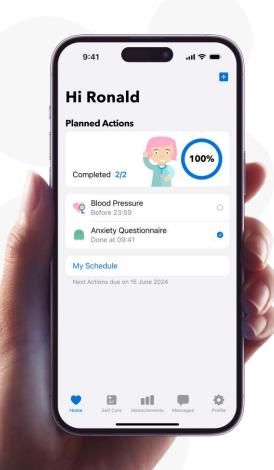




# #1 in the NHS and Europe

- 350+ successful implementations in 11 countries
- 150+ programs supported by 35+ clinical studies
- 25 million patient registrations
- Over 150,000 active users





THE CHALLENGE HAS CHANGED

# Why is remote monitoring important?



**Direct services it enables** 



1:1 / Many:1 | PHM / RPM = organising principle (PT need) | flips the system



Attention on patient need / live data = action, not reporting



Web based / information sharing by default













# Flour, yeast and water





## PHM / RPM tech that SCALES

Auto enrol at scale (beyond persuasion)

No scale / No impact

Tech that clinicians and users like (avoid .ppt)



#### **Change Agents**

Multi Year Change Programme

Safe Passage

Empower, protect and champion the people who will not accept the status quo



#### **Define End State**

Business model - why?

Common Vision

Sequencing and alignment



#### **Quick Wins**

Programmes you know work

Sell Sell Sell

**Proof** 

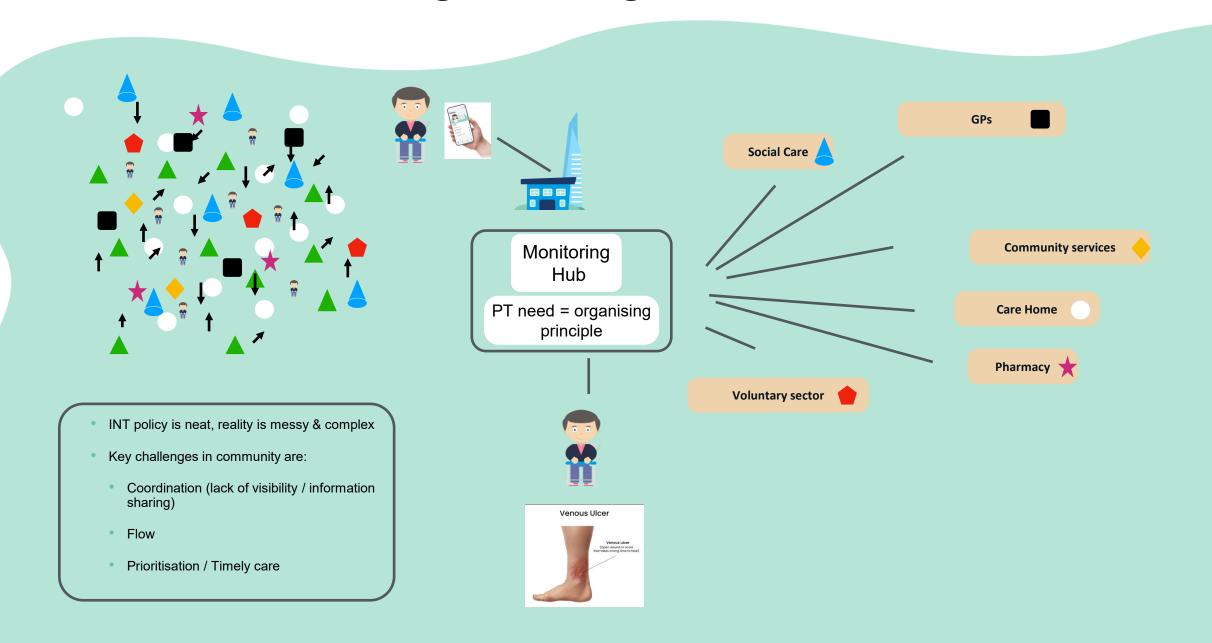


#### **Coordination Hub**

Critical component of scale

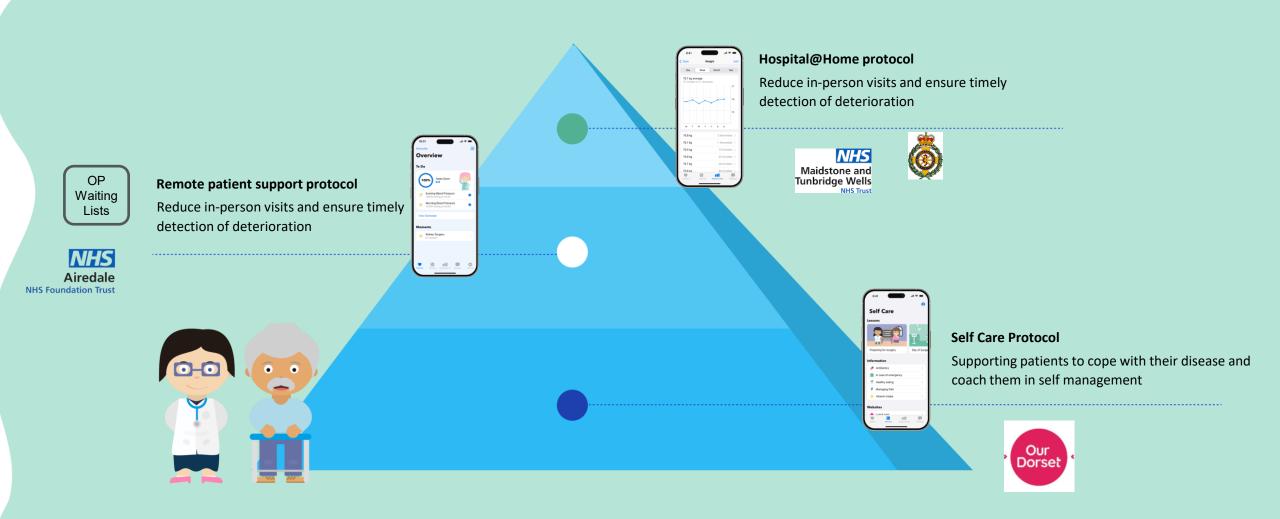
Coordination / Flow

## RPM / PHM enables Integrated Neighbourhood Teams



## How to System Level RPM

PHM AUTO ENROL / PHM CORE ENABLERS



## MTWs Multispecialty VW - System Wide

## **Our Partnerships**





#### **Technology Partners**

Electronic bed management (TeleTracking)

Luscii



#### **NHS Community**

South East Coast Ambulance Service (SECAMB)

Kent Community Health

West Kent Health and Care Partnership



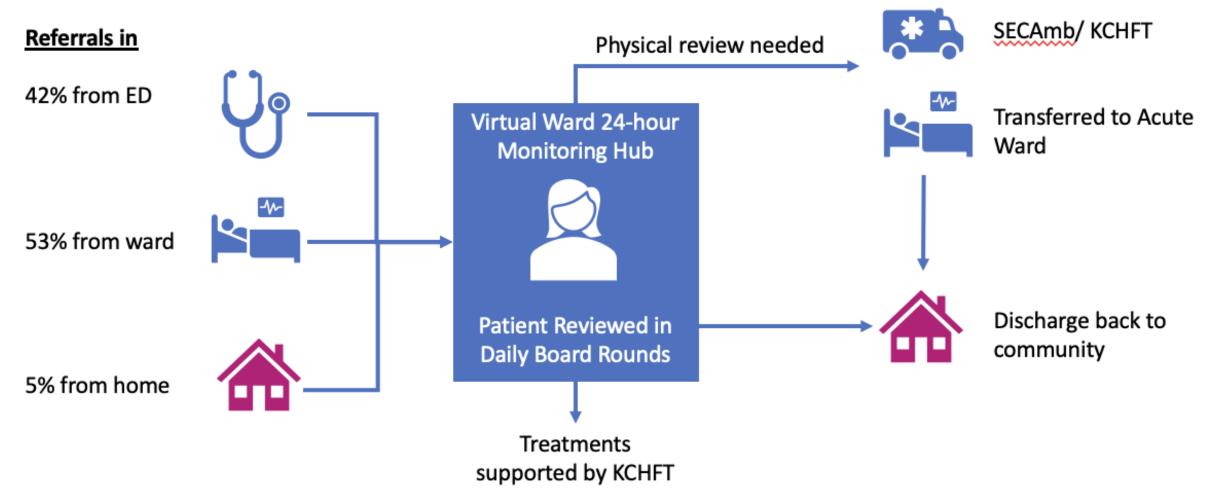
### **External Agencies**

Kent County Council
Age UK

## **Built to Scale**

## **Our Patient Journey**





## **Outcomes That Matter**



Scale: 2000+ Patients

Capacity: 7,200+ acute bed days saved

Safety: <5% escalation; 0 never events</li>

• Experience: 94% good/very good

• Cost: £33 vs £350 per episode

Equity & reach: supports complex / frail patients at home



## Vital Signs, Virtually - Why did we need to innovate and change?





#### **Technology Enabled Care**





#### **Telephone Advice/Triage Services**

Triage focuses on telephone triage. Limited access to clinical diagnostic information.



#### **Hospital Focused**

A number of patients are conveyed to hospital due to lack of available community services.



#### **Response Focus**

A number of patients require a response. Timelines of response is significantly impacted by wider system pressures (i.e. handover delays).



#### System Harm

Patient harm occurs due to inability to provide timely response, handover delays, increased demand and missed opportunity to recognise deterioration



#### Remote Consultation, Wearable/Enabled Technology

Triage informed by wearable clinical diagnostics at the point of care for the patient.



#### **Care Closer to Home**

Patients will be supported to remain closer to home by gathering appropriate clinical information, supporting patients 'virtually' and developing resilience.



#### **Community Focus**

Volunteer networks, guided by clinicians will enable and support patient to remain closer to home and/or access secondary care.

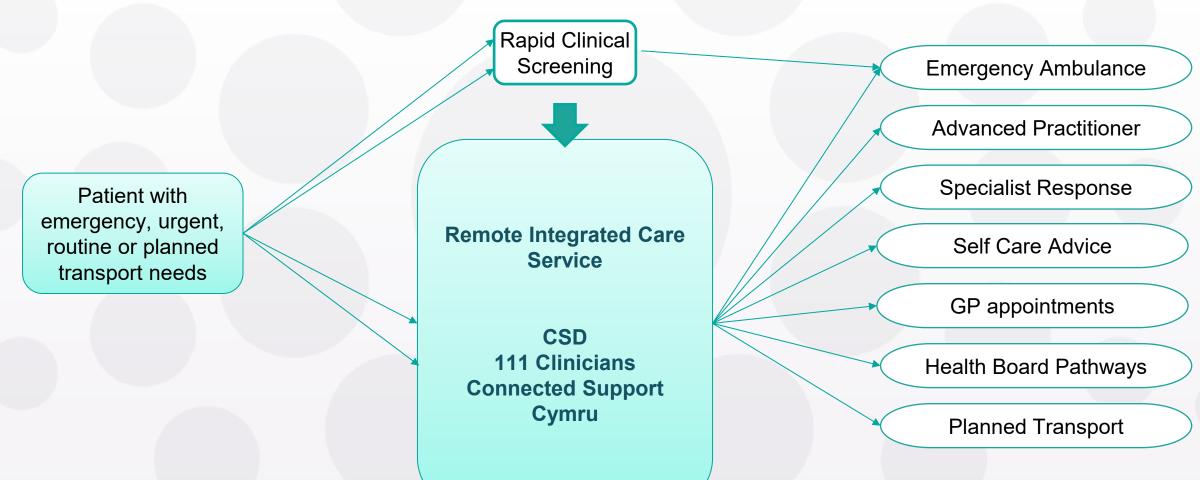


#### **Reducing System Harm**

Increased clinical intelligence and monitoring of individual clinical parameters will ensure deterioration can be identified and appropriate care provided.

# Transformation of the Clinical Model – more than just ambulances





### What Did We Do?



#### **Care Home Support**

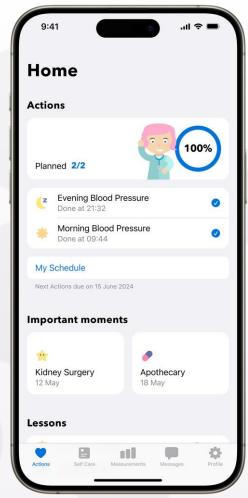
Support for nurses and carers accessing the 999 system who care for residents with urgent or emergency care needs



#### **Community Support**

Support for people accessing the 999 system with urgent or emergency care needs





## WHAT DID WE FIND? (BETWEEN AUGUST 2024 AND JANUARY 2025)





**36%** of patients did not require attendance and were supported via remote clinicians, GPs (both in and out of hours) or referred to community-based teams following remote assessment and monitoring.



**64%** of patients required on scene assessment post remote assessment - with 63% requiring conveyance. 27% required ECG.

Clinicians were able to identify the most suitable resource to meet the care need of the patient.

### WHAT DO PEOPLE THINK OF REMOTE MONITORING?





In 70% of incidents, clinicians strongly agreed or agreed that remote monitoring influenced their clinical decision-making



"We can do our bit, the ambulance service can do their bit, and it means that we can get to a **better decision together**"

~ Care home manager





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# **Panel Discussion**



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**NVENZIS** 

Alison Johnson UK Health Lead ORCHA



Sue Armstrong
Advanced Nurse Practitioner in
Arrhythmias
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Dr. Matea Deliu

Academic GP, Clinical Lead Digital

Delivery, Clinical Safety Officer

NHS South East London ICB



Tracy Stocker
Director of Operations for Flow and
Integration
Medway NHS Foundation Trust



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# **Chair Closing Remarks**

ONVENZIS



**Dr Gurnak Singh Dosanjh**GP
LLR ICB





# Drinks & Nibbles