

Evaluation Showcase - Atrial Fibrillation (AF) Virtual Ward

Health Innovation East Midlands

Wednesday 26th June 2024



What is evaluation?



What is evaluation?

“an essential part of quality improvement and when done well, it can help solve problems, inform decision making and build knowledge”

Source: Evaluation: What To Consider?
2015, The Health Foundation

- “The process of determining the merit, worth or value of something”
- “Using systematic, data-based inquiries about whatever is being evaluated”
- “A process undertaken for purposes of improvement, decision making, enlightenment, persuasion”

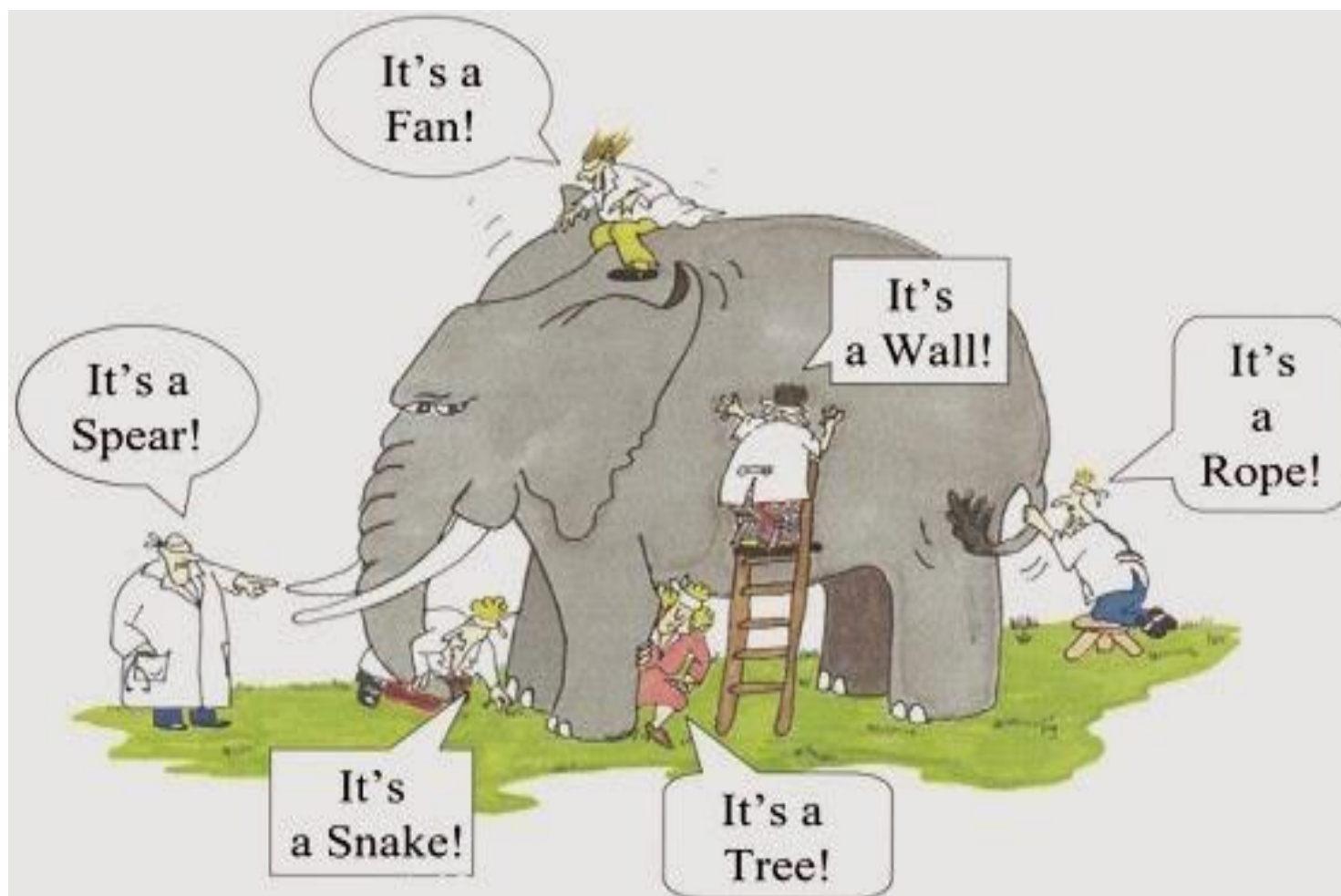


What was The Evaluation Fund

- Up to £300k available in total to NHS organisations in the East Midlands to independently evaluate innovative projects already in place.
- Two Cohorts:
 - Cohort 1 – Deadline September 2022
 - Cohort 2 – Deadline February 2023



More than the sum of its parts...



- What is already known?
- What other work has been done locally or in related projects?
- What do the implementation team know?
- Synthesize into a coherent whole
- An evaluation needs all of these to work

Leicester Atrial Fibrillation (AF) Virtual Ward - digitally enabled acute care for Atrial Fibrillation

Professor G. André Ng

Professor of Cardiac Electrophysiology and Consultant Cardiologist

Sue Armstrong

Advanced Clinical Practitioner Cardiac Arrhythmias

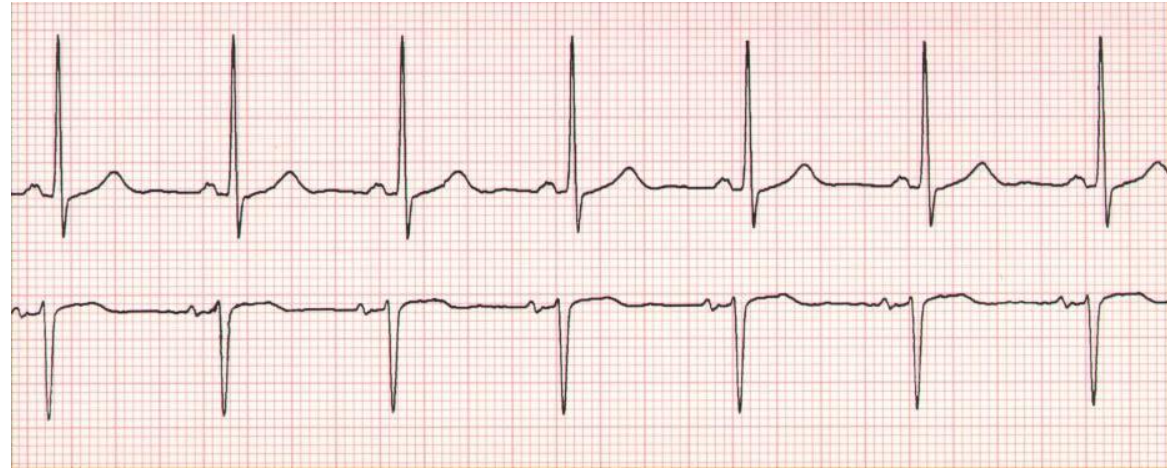
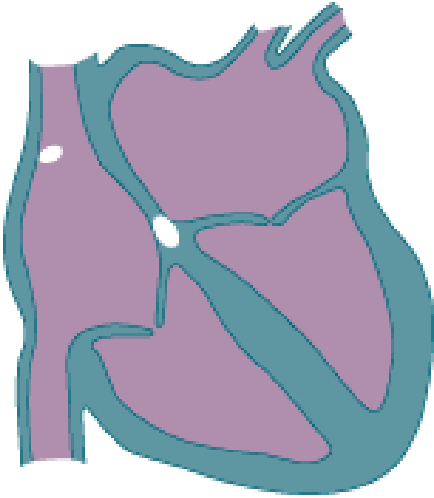


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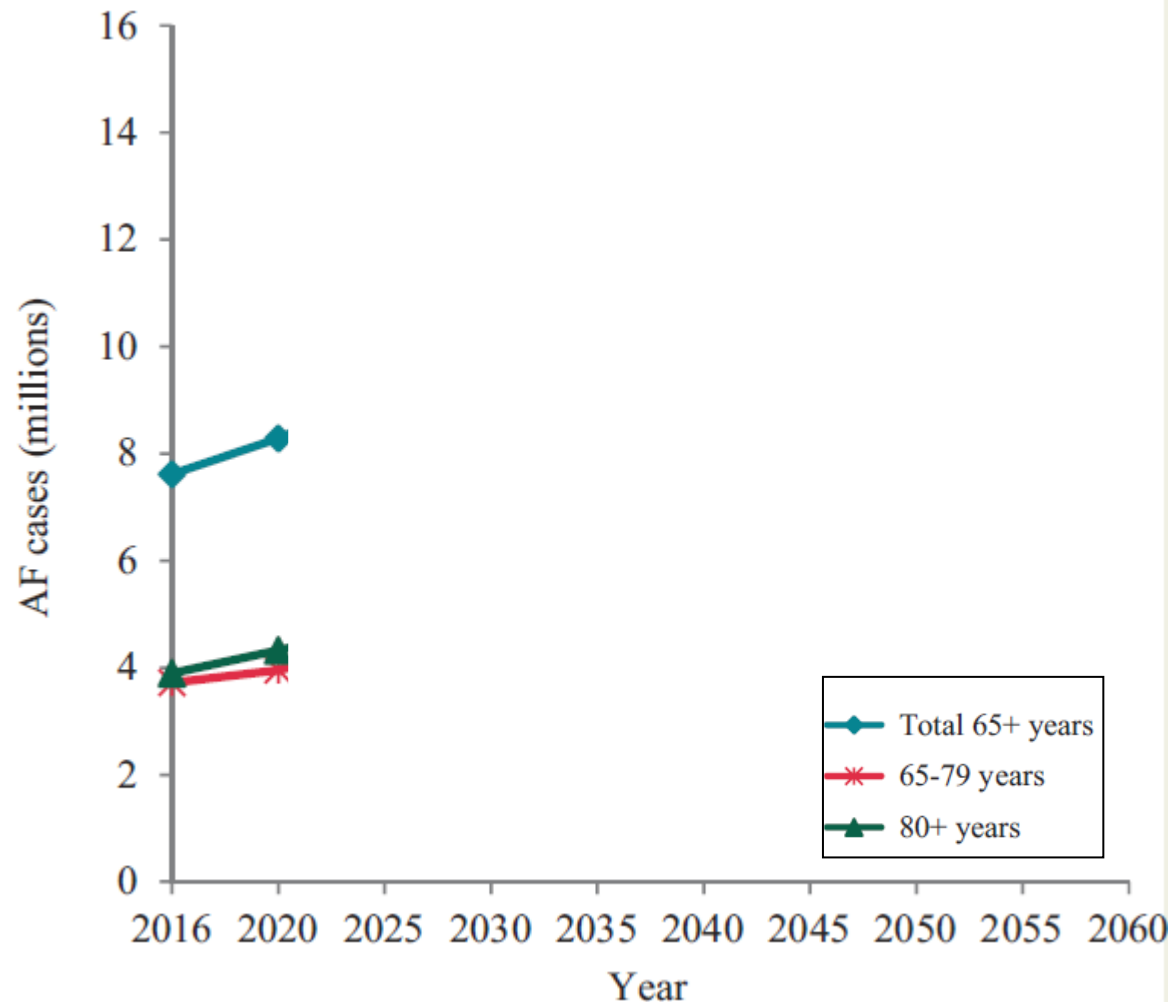
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What is Atrial Fibrillation?

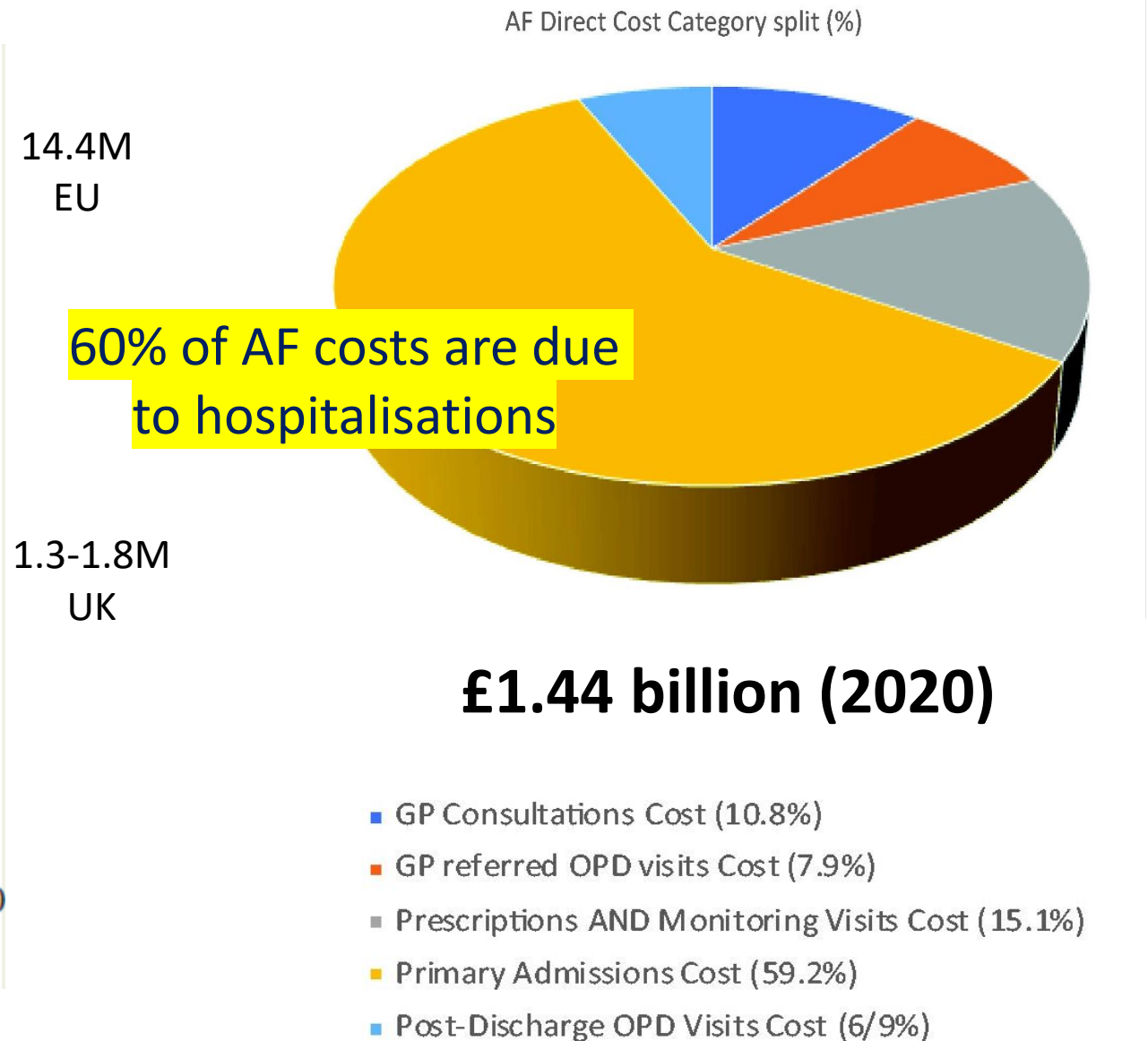
Normal
Rhythm



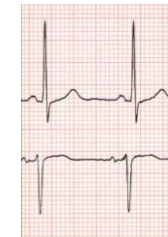
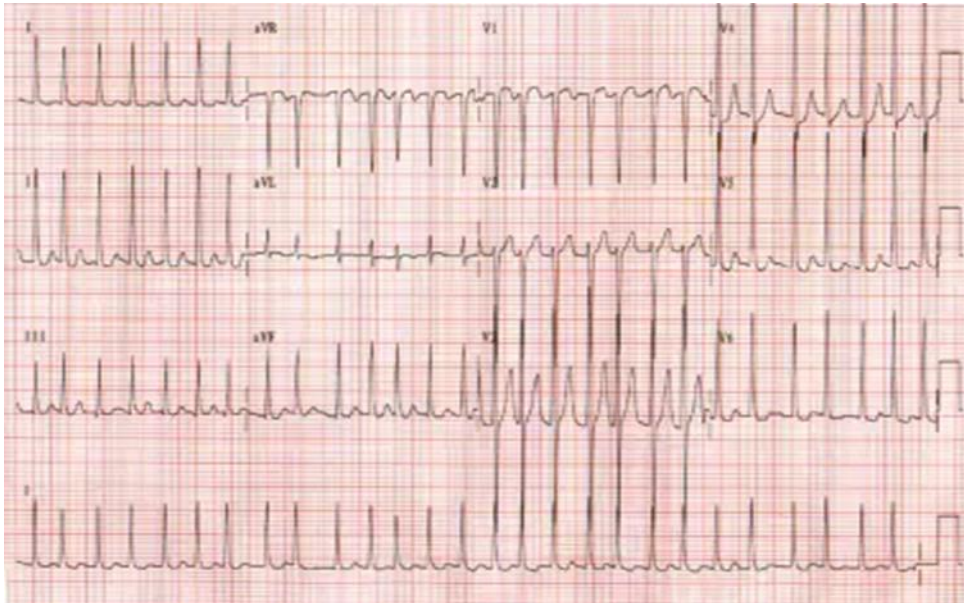
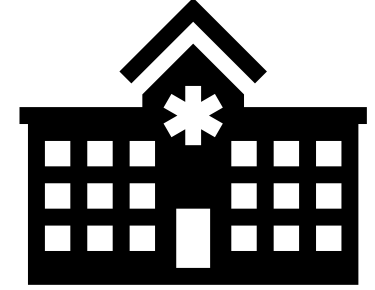
Atrial Fibrillation – an epidemic



Di Carlo et al. Europace (2019) 21, 1468–1475



How is Fast AF treated?



>100 bpm

2-5 days stay



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British Cardiovascular Society



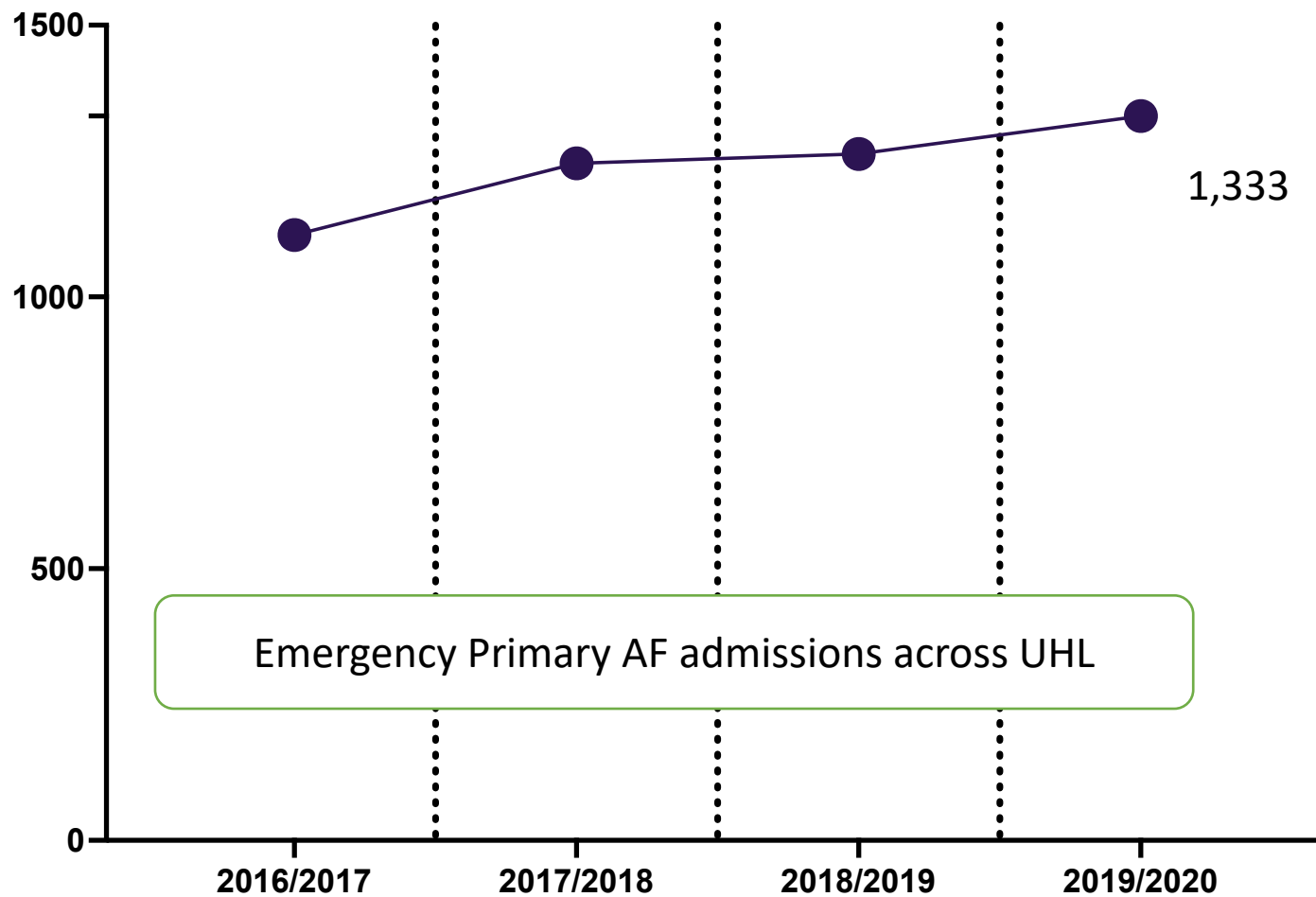
British Association
for Nursing in
Cardiovascular Care
Your Voice in Cardiovascular Nursing

NHS
University Hospitals
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NHS Trust

**Can we safely and effectively
manage the fast AF patient
using digital platform and
remote monitoring technology?**



Locally





AliveCor®

University Hospitals of Leicester

NHS Trust



**Leicester, Leicestershire
and Rutland**



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Patient and Public Involvement (PPI) Strategy



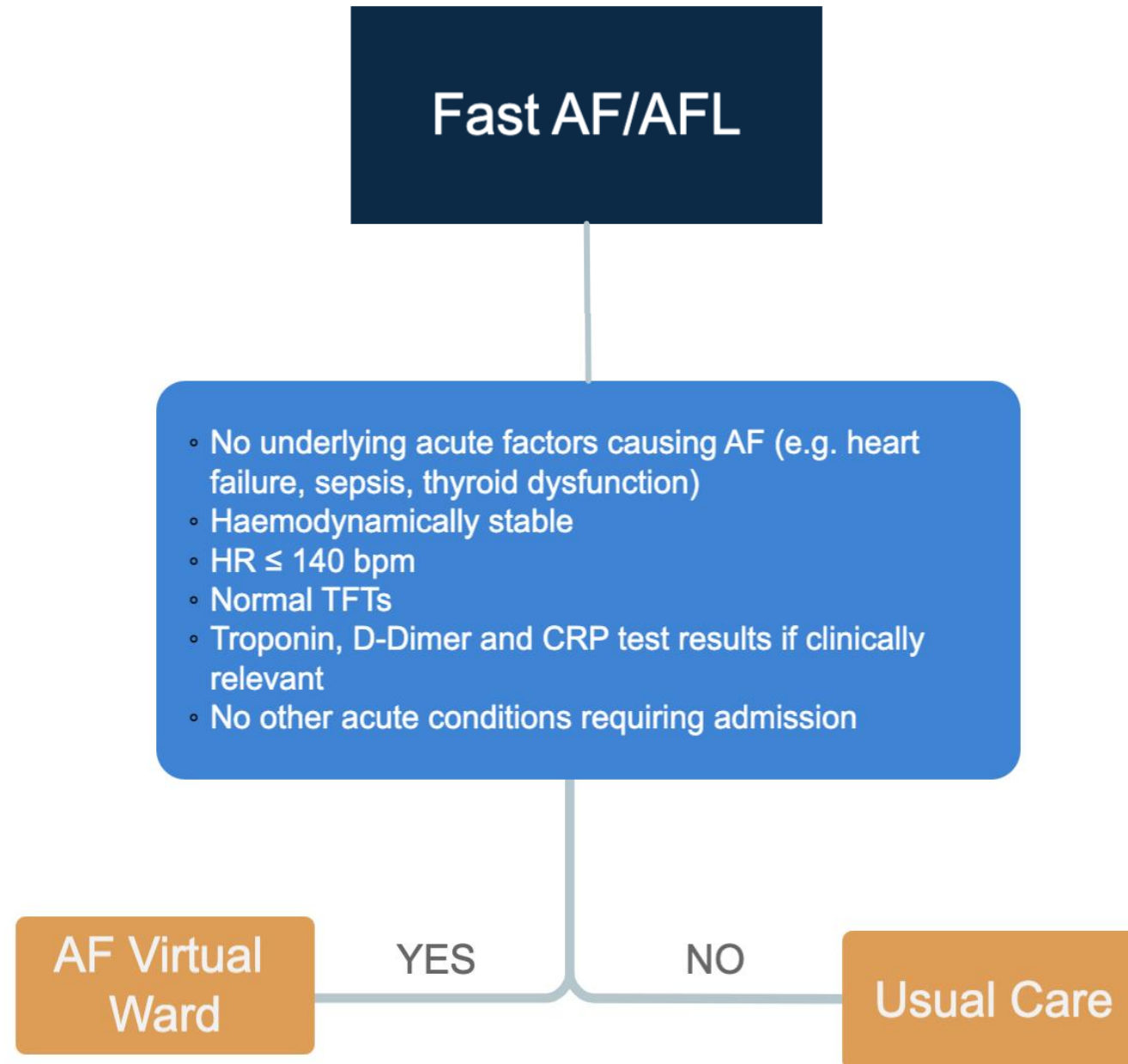
East Midlands
Academic Health Science Network
Igniting **Innovation**

Evaluation Fund

Digital Health Partnership Award

Supporting people at home

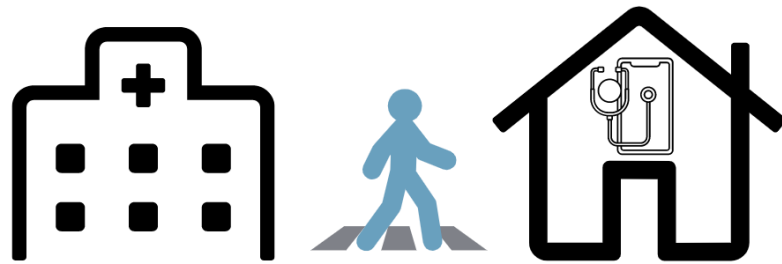
New Model of care



Virtual Ward Admissions

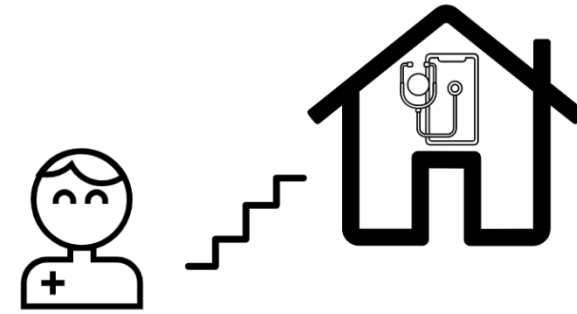
Step-across

VW admission leading to early discharge

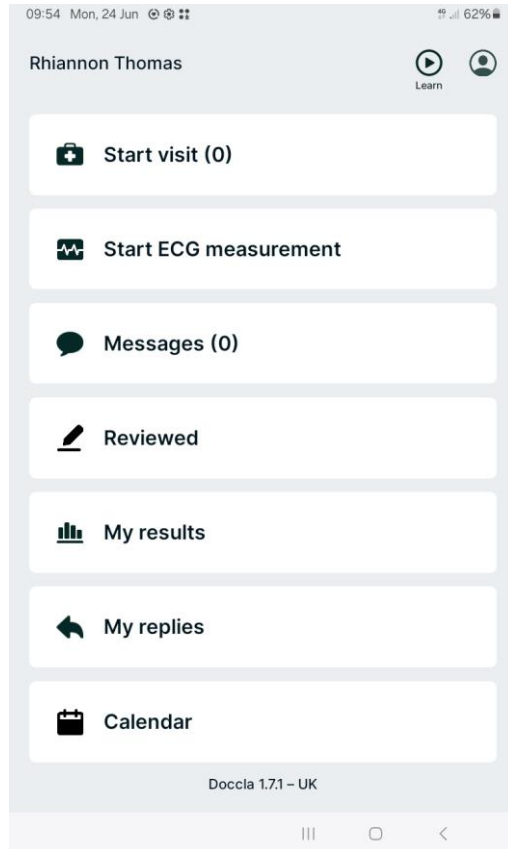


Step-up

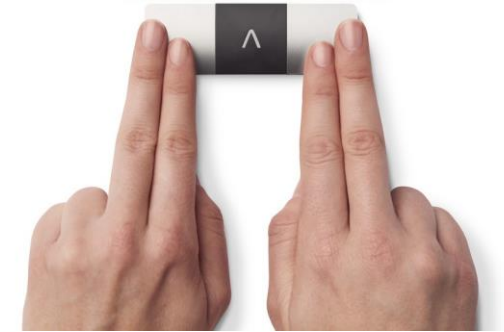
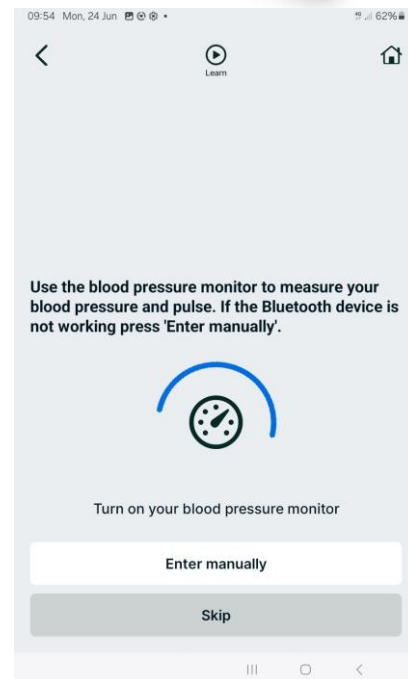
VW admission instead of hospitalisation



doccla



The Technology



FC SFCID: 2ASFFAC019 CE MD

Software & Services powered by AliveCor

US Patent Nos: 8301232, 8509882, and Patents Pending

Model#: 002011 App version 1.1.3 06JAN2022

KAlvt: 1.3.0 UniversalMonitor: 1.3.1 B210AC0020110

EC REP Obelis s.a. Bd. Général Wahis, 53 1030, Brussels, Belgium.

AliveCor Inc., 189 N Bernardo Ave, Suite 100, Mountain View, California 94043 USA

Start

AliveCor®



Platform functionality

- All questionnaires -	20/02 15:42	20/02 15:40	20/02 08:59	20/02 08:58	19/02 19:10	19/0
ECG	ECG		ECG		ECG	
Pulse (BPM)	62		162		157	
AFib Detection	NORMAL		AFIB		AFIB	
Kardia Alarm	1		3		3	
Blood Pressure / Pulse (mmHG, BPM)		95/56, 61		128/85, 111		121/
Saturation (%)		96		100		9
Respiratory Rate (RR)		65		80		
Do you have new onset chest pain/tightness OR feel so out of breath you are unable to complete sentences now ?		No		No		N
How breathless are you compared to the last time you submitted?		Not breathless		The same		Not bre
Have you experienced any new or worsening chest pain since the last time you submitted?		No		No		N
Have you been aware of your heart racing or fluttering since the last time you submitted?		Yes		Yes		

0 NOTIFICATIONS

0 TASKS

SEARCH

?

University Hospitals of Leicester NHS

District Admin



✓ INFO

ADD NC

Questionnaires

AF Symptom Checker

EHRA AF Questionnaire

Blood Pressure

114/71 mmHg

[View details](#)

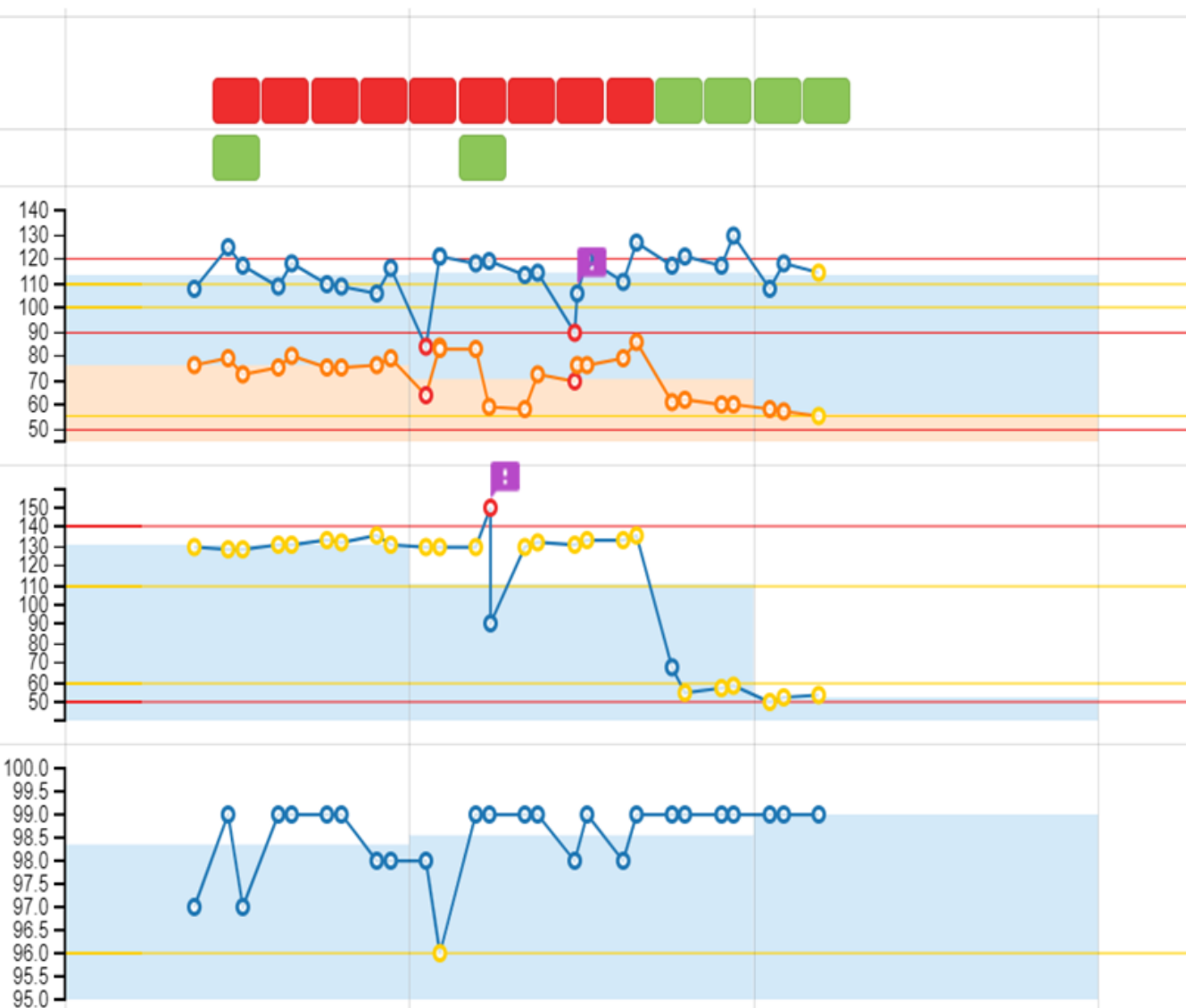
Pulse

111 BPM

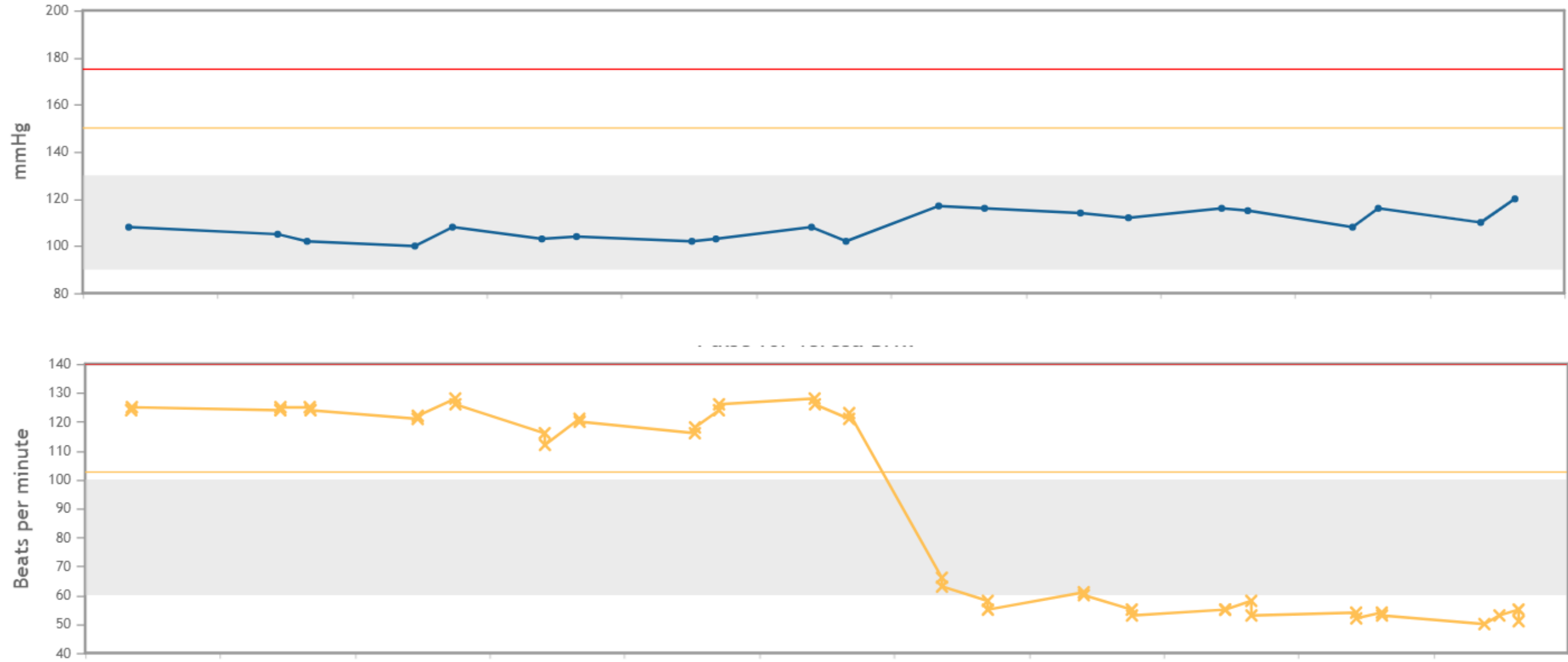
[View details](#)

Oxygen saturation

99 %

[View details](#)

Changes in observations



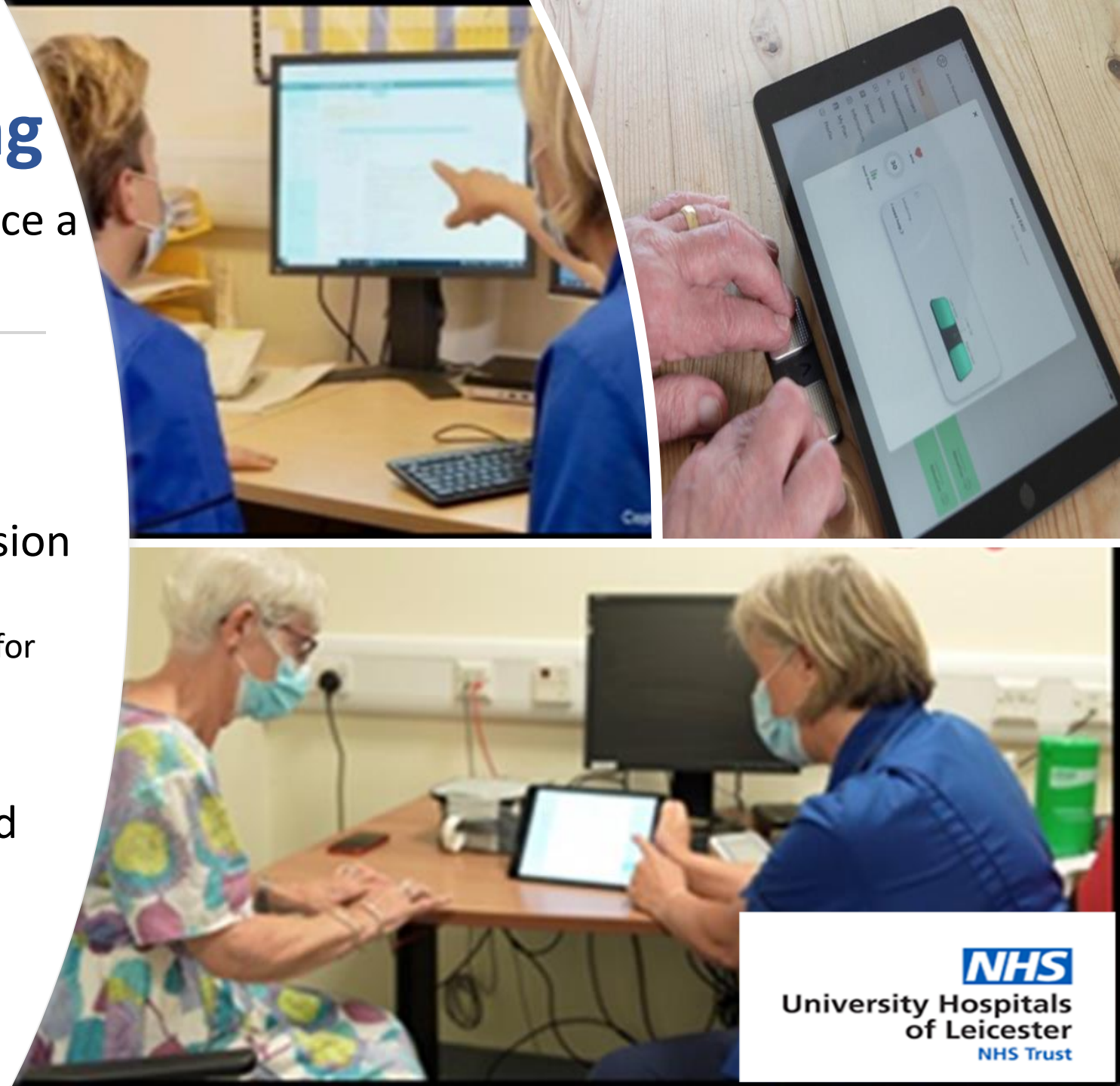
What does the service look like ?

- All patients are under care of an Electrophysiologist Consultant Cardiologist
- Advanced Clinical Practitioner Led
- Support from Cardiology Registrars
- Mon – Sun 9-5pm
- Out of hours support from Cardiology Registrar on call



Virtual Ward Monitoring

- Cardiovascular monitoring at least twice a day
- Messaging platform
 - **998** ± 240 messages exchanged per month
 - 21 / 414 patients required re-admission
 - 5% readmission rate
 - When compared to similar pts readmitted for longer
 - AV 13 days length of stay on VW
 - Long term treatment plan developed



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Medication Changes

- Hospital Pharmacy & Home delivery
- ePrescribing through systmone
- Prescription collected from local chemist

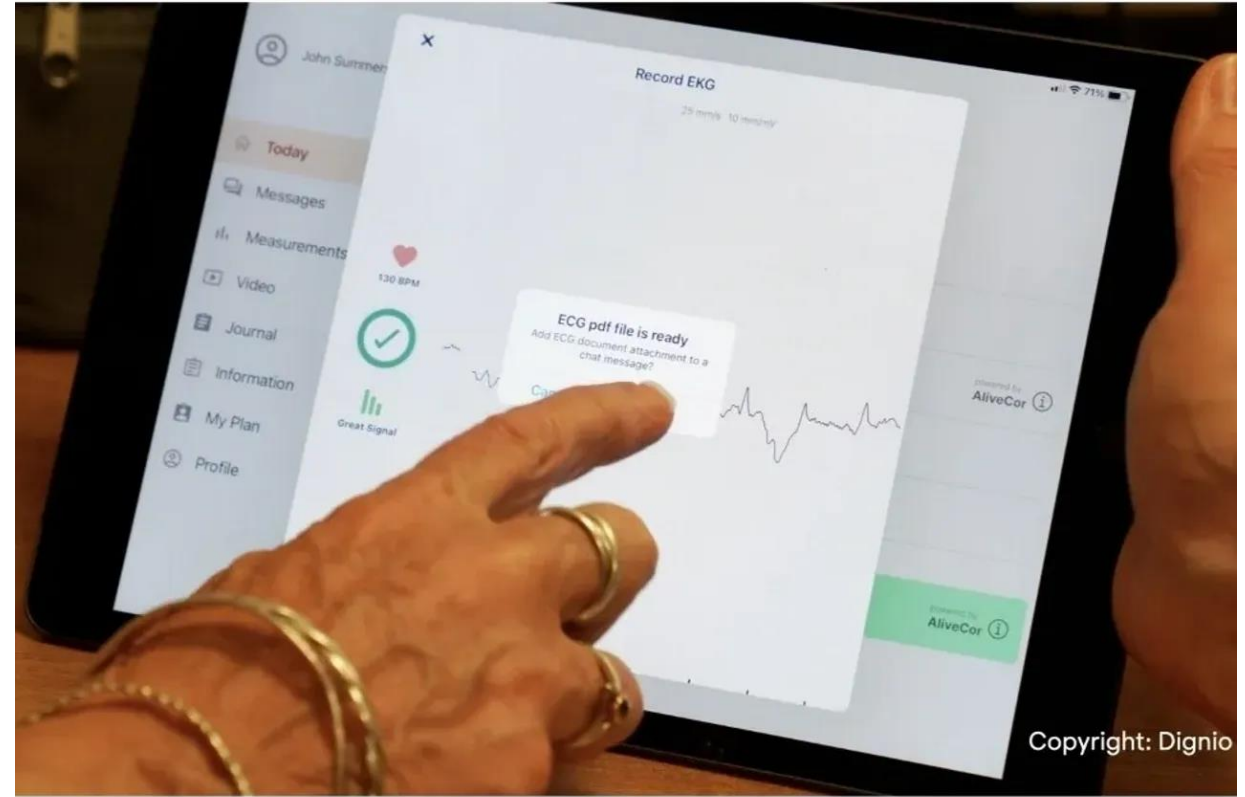


- Prescribing for multiple systems – AF, blood pressure, heart failure, etc



Digital Inclusivity (our experience)

- The oldest patient is 96 years of age.
- Equipment is loaned
- 3 Patients with visual impairments have successfully been cared for on virtual ward
- All patients completed monitoring until clinical discharge



To Becky, Charlotte and all the
Virtual Team,

a big thank you for caring for
me both in the Hospital and
at home.

You were all so kind and supportive
and it was comforting to know
I could speak to one of you
should the need arise.

My ablation was successful and
I am fast getting back to normal.

With kind regards
and best wishes,

Dear "Super virtual Team"

I just wanted to thank
you for all your support,
help and prompt response
to any of my queries,
no matter how trivial!

You are a credit to your
profession and an
excellent team!

Please enjoy the chocolates
as a little "Thank you"
Best wishes

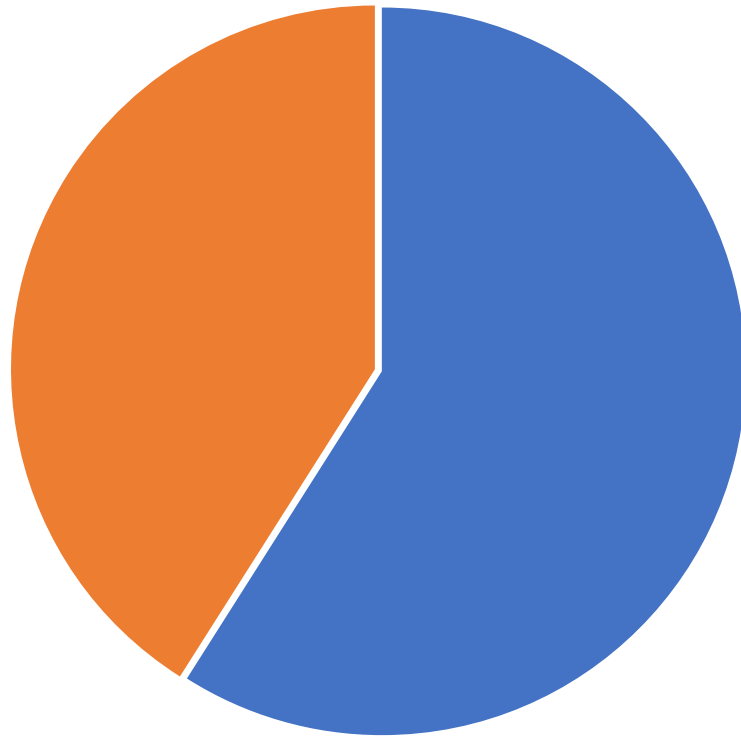


Patient and
Public
Involvement

Feedback
Lessons Learnt
Patient Representatives



Outcomes – 414 Admissions (31st Jan 22 – 21st June 24)

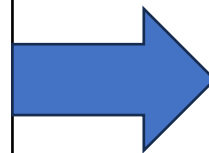


- Step up - admissions avoided 59%
- Step across - Early discharges 41%



100% Positive Responses

Total no. of
Hospitalisations prevented
243

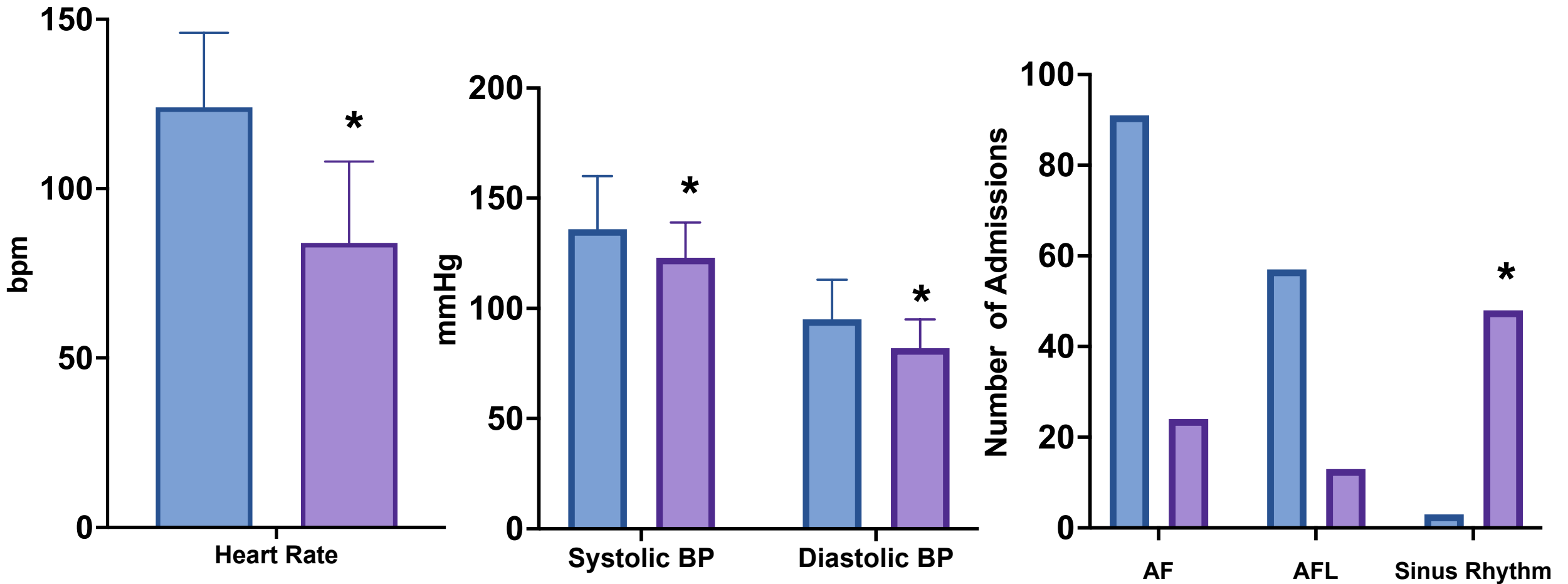


Median no. of
Bed days saved
802

Cost comparison
Traditional Vs Virtual care
£635 Saved per admission

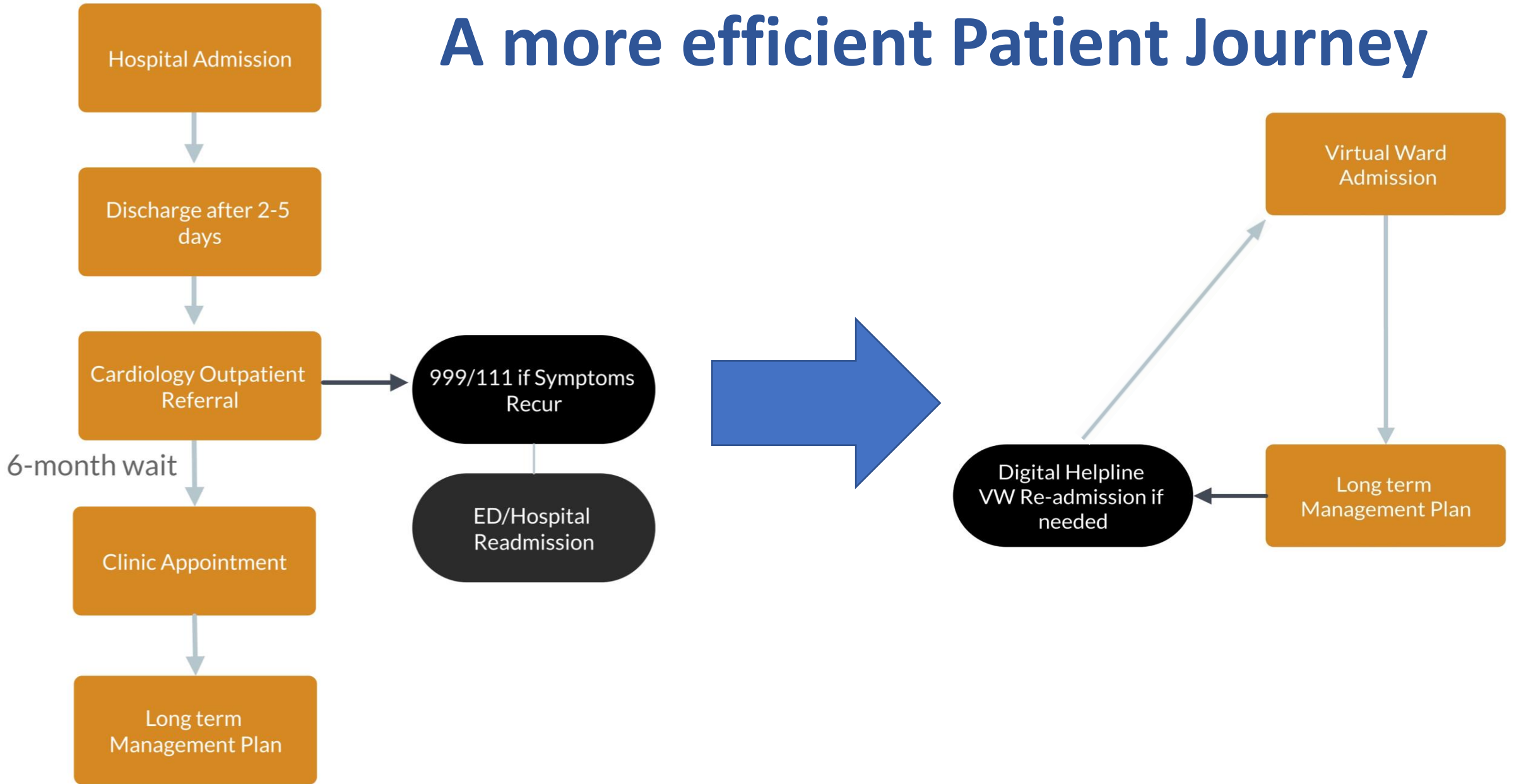
HR, BP and Rhythm on admission and discharge from the Virtual ward

On Admission
On Discharge



A rhythm control strategy in 75% (n=88)

A more efficient Patient Journey



openheart Digitally enabled acute care for atrial fibrillation: conception, feasibility and early outcomes of an AF virtual ward

Ahmed Kotb,^{1,2} Susanne Armstrong,² Ivelin Koev,² Ibrahim Antoun,¹ Zakariyya Vali,^{1,2} Gaurav Panchal,² Joseph Barker,^{1,2} Akash Mavilakandy,^{1,2} Shui Hao Chin,² Merzaka Lazdam,² Mokhtar Ibrahim,^{1,2} Alastair Sandilands,² Riyaz Somani,² G Andre Ng ^{1,2}

www.afvirtualward.co.uk



@af_virtual_ward



Next steps



**British Heart
Foundation**

Innovation Fund



Build a Reproducible Telemedicine-based model

Integration with Electronic Patient Records

District Hospitals

Hospital Admission

Specialised
Cardiac Centres

systemone
ONEPATIENTONERECORD



Winners of HSJ 2023 Acute Innovation Award



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Leicester AF Virtual Ward

- **An Innovative solution – acute virtual ward**
 - *First of its kind* – delivering urgent care for acute AF patient
 - *Safe and effective* using digital technology / remote monitoring
 - *Collaboration* between partners to provide single patient interface
- **Patient-centred care with excellent feedback**
 - *Reassurance* of specialist hospital-level care at home
 - *Ownership and Confidence* of managing own condition acutely
- **Demonstrated significant clinical impact**
 - *Reduced LOS and cost* compared to acute hospital stay
 - *Hospital admission avoidance*
 - *Disrupt* the conventional pathway with early destination therapy

Thank you from the AF VW team



Prof. G. André Ng



Dr Ahmed Kotb



Sue Armstrong ACP



Dr Ivelin Koev



Becky Bausor ACP



Charlotte Neve ACP



@af_virtual_ward

www.afvirtualward.co.uk



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Evaluation of virtual ward for patients with atrial fibrillation – a case study

November 2023



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niche
HEALTH & SOCIAL CARE CONSULTING

Evaluation questions

1. What changes (e.g. staffing, procedures, relational systems, technologies and environmental systems) have been made to enable the virtual ward to work effectively? And what further changes are planned?
2. Has the virtual ward been implemented as intended? Why/why not? What has facilitated implementation? What has hindered it?
3. What is the impact of the virtual ward on patient outcomes (clinical, safety) and experience?
4. What is the impact of the virtual ward on staff?
5. What is the impact of the virtual ward on care pathways and patient flow across inpatient and community or other discharge destinations?
6. What are the wider impacts of the introduction of the virtual ward across the Trust? (inc. cost)
7. Are all patients able to benefit from the virtual ward equally? What are the reasons for any differences?
8. Have there been any unintended consequences of implementing the virtual ward?
9. In what ways could the virtual ward be improved?
10. How can the benefits of the virtual ward be sustained in the future?

Findings – What helped implementation?

- **Experienced clinical staff, with dedicated time**, setting up and running the virtual ward
- **Collaborative approach** between the clinical service, the supplier and the project management was felt to be key in ensuring effective and efficient implementation
- Responsibilities within and outside the team were clear from the start
- **Adequate and dedicated funding** to enable required staffing and digital app etc
- Flexible and responsive digital platform supplier, prepared to work closely and proactively with the clinical team to individualise the technology as required
- An app which is reliable and standalone – so changes could be made quickly
- **Project management capacity** – setting up the project and on an ongoing basis
- Collecting patient experience data from the start
- **A focus on ongoing learning, modification and improvement**

Findings – What helped implementation?

- An increasing **culture of acceptance** of the use of virtual tele-healthcare among patients, clinicians and other stakeholders
- Good buy-in from clinical colleagues
- Although some clinical colleagues were doubtful about the pilot to start with, the overwhelming majority supported both it and their colleagues in delivering it. The team **undertook a great deal of work to communicate** and explain the project to clinical colleagues who were likely to refer.
- Ensuring a clear, quick and simple referral process (including referral criteria)
- A focus on methodology first and technology second
- **Pace of implementation – slow and steady with a pilot period**
- Support from very senior managers
- The ability and willingness of patients of all ages to embrace and use the technology, and families to support them

It was impressive to see how this was set up. The commitment from the leads should not be underestimated. It takes a lot of work to set this up

Findings – What hindered implementation

- Fewer eligible ward-based patients than expected (compared to initial audit - balanced by taking patients from wider non-ward base)
- Significant number of **inappropriate referrals** at first
- Referrers lost confidence. More comms put in place
- **Poor internet access** in parts of the Trust during onboarding. Got pre-loaded i-pads
- **Job plan-related issues** (initially the medical staff involved in setting up and overseeing the AF virtual ward were doing this work on top of their other job. This meant that they could not be financially reimbursed for the work because they were officially already working full-time, even though the money was available in the budget)
- **Challenges of introducing a significant change** – resistance amongst some staff. Suspicion of change etc. Need for more reassurance. Reduced over time. Number of suggestions in the report as to how other sites could avoid/reduce this

Findings – What is the impact of the virtual ward on patient experience?

Extremely positive: 98% gave highest score – very good



Findings – What is the impact of the virtual ward on patient experience?

- Valued staff taking the time to explain everything to them, both about AF itself, its clinical management and how to use the technology needed for the virtual ward
- Explanations received, the ongoing monitoring and easy access to the virtual ward team were all reassuring and reduced their anxiety and worry

- Reported that the service gave them confidence in managing their condition:

“It was good knowing my pulse rate and when I was in AF and needed to call an ambulance very well explained”. “Gave me confidence knowing someone was looking at results, my medication could be changed straightaway”. “At first I was sceptical but found it worked very well. It gave me confidence”.

- Found it easy to contact the team when needed – text, phone, email
- **Described the staff on the virtual ward team very positively, using words such as helpful, caring, friendly and professional**
- **Appreciated that they could go home sooner**
- **Vast majority found the technology easy to use**, sometimes despite initial concerns about it. Some had asked relatives to help them, which they appreciated
- Positive about the discharge process from the virtual ward
- One staff member told us *“Rapport with patients has been really valuable. Patients really like this personal approach...lots of thanks from patients who said they feel genuinely cared for as a partnership, and actively involved in their care”.*

Findings – What is the impact of the virtual ward on staff?

- Freed up time for some clinical staff, e.g. referring staff to CDU and ECG
- Provided **more clinical options for treatment**, e.g. borderline patient in OPD prev sent home and returned in couple of days with no monitoring
- Provided reassurance for referring clinicians

“You have reassurance that someone is following them up and continuing the care plan”.

“It’s a real positive the virtual ward can follow up and own them”

- Provided professional dev’t for staff working on and with the virtual ward and **increased job satisfaction**
- Impacted positively on the **therapeutic relationship** between clinical staff and patients, helped them to understand them better as individuals and understand the impact of AF on their lifestyle (and vice versa)
 - there were initial concerns that working in this way might impact negatively on the therapeutic relationship (therapeutic presence and sense of purpose) between clinical staff and their patients because, in the past, this was based primarily on regular face-to-face contact
 - one doctor explained that this relationship is important not only to ensure that staff fully understand each individual patient but also so that the patient trusts the clinician sufficiently to comply with their prescribed treatment
- This mainly appeared to be based **on the continuity of the relationships** between the AF virtual ward team staff and patients. They could get to know each other as individuals and the continuity was welcomed by both staff and patients. One staff member described how it helped to reduce patient anxiety/engender trust

Findings – Unintended consequences?

It's delivered everything we hoped it would and more. It's been a massive journey

- Avoided some inpatient admissions completely, e.g. via A&E, OPD, ECG
- Highlighted a number of issues to be addressed by the Trust in developing virtual wards in the future:

“it made me and my colleagues think about what virtual wards should look like in the future and drove useful conversation with our EPR supplier”.

- **Challenged perceptions of what patients can do or cope with, especially older people with technology and others to manage their own health condition**
- **Made staff re-look at other pathways for AF patients** and conclude that more information and education for these patients would also be helpful
- Negative unintended consequence was pressure on implementing the clinical team at first. **Implementing a large change** on top of a very demanding job and managing patients in this new way was stressful at first. Some patients harder to manage than anticipated. Some staff worried about patients who were not concordant with their treatment regimes, and wondered where this left staff from a governance point of view

Findings – Are all patients able to benefit from the virtual ward equally? What are the reasons for any differences?

- Key issue: **people with underlying co-existing/underlying medical condition**
- Worries about the following were largely overcome:
 - people who did not speak/read English, or for whom it was a second language
 - elderly people who might be averse to using technology in this way
 - people who did not have access to a smart phone or laptop
 - people with physical disabilities, e.g. problems with manual dexterity or sight
 - people who might struggle to change their own medication unaided

Quantitative analysis – aims and approach

- Principal aims of the quantitative analysis were to assess the impact of the virtual ward on:
 - **Subsequent use of services (readmissions/reattendance at A&E/outpatient use)**
 - **Patient outcomes (mortality at 30 days/90 days)**
 - **Costs, i.e. does the new service cost less to run than the old pathway?**
- In most evaluations, impact is typically gauged by comparing the outcomes of patients using the service with those of a control group and using statistical tests to highlight any differences
- In the absence of an RTT a common approach to obtaining control groups is to use routine hospital data and, using statistical methods, identify a group of patients similar to those receiving the intervention
- Evaluation used pseudonymised patient-level data from UHL's BI and costing teams

Intervention group	Control group
• Any patients using the AF virtual ward between 1st January and 31st December 2022 (n = 91)	• Any patients discharged from UHL with AF primary diagnosis between 1st January and 31st December 2022 identified by clinical review team (n = 315) • Additional matching performed to identify subset of the above to act as second control group

Quantitative analysis – baseline characteristics of intervention and control groups

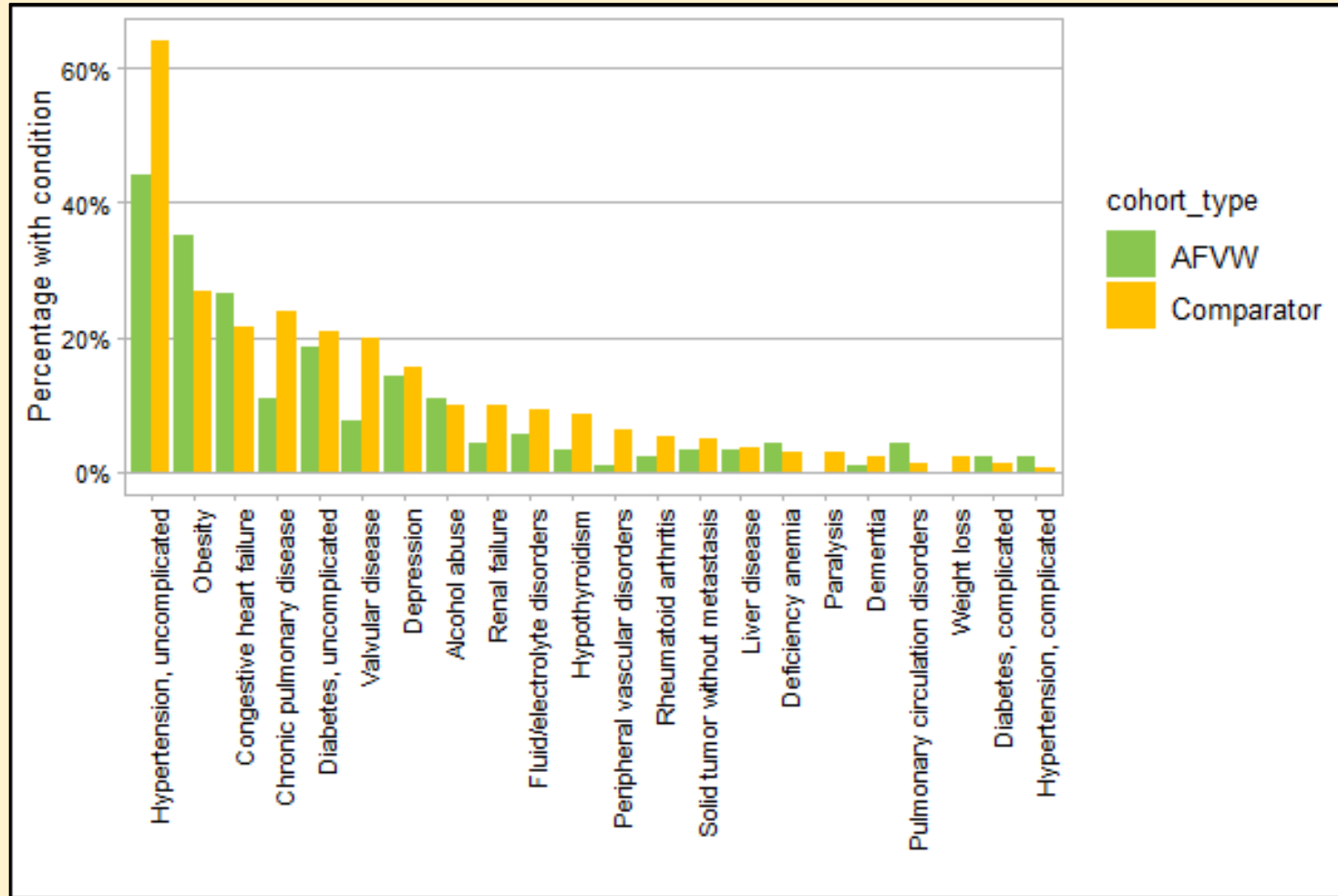
- Whilst the two cohorts were similar across many of the variables, there were some important differences, particularly around age, gender and patient comorbidity

Characteristic	Measure	AFVW		Control group	
		Patients	Cohort value	Patients	Cohort value
Age	Under 50	7	7.7%	17	5.4%
	50 to 59	14	15.4%	35	11.1%
	60 to 69	36	39.6%*	78	24.8%*
	70 to 79	30	33.0%	111	35.2%
	80 and above	4	4.4%**	74	23.5%**
	Mean age (standard deviation)	91	65.1 (10.4)**	315	70.6 (12.1)**
Gender	Female	27	29.7%*	135	42.9%*
	Male	64	70.3%*	180	57.1%*
Deprivation ⁵	1 (most deprived)	11	12.2%	42	13.5%
	2	11	12.2%	44	14.1%
	3	9	10.0%	50	16.0%
	4	27	30.0%	91	29.2%
	5 (least deprived)	32	35.6%	85	27.2%
Ethnicity	White British or other white	79	86.8%	273	86.7%
	Asian or Asian British Indian	5	5.5%	22	7.0%
	Other (including unknown or not stated)	7	7.7%	20	6.3%
Elixhauser comorbidities	Average comorbidities (standard deviation)	91	2.1 (2.0)**	315	2.7 (2.1)**

* Statistically significant, P-value < 0.05; **Statistically significant, P-value < 0.001

Quantitative analysis – baseline characteristics of intervention and control groups

- Significant differences were also found between the disease profiles of the two cohorts



Quantitative analysis – baseline characteristics of intervention and control groups

- There were also significant differences in the prior use of hospital services between the intervention and control groups – a key predictor of future hospital use

Measure	AFVW cohort			Control group		
	Activity	Patients	Rate	Activity	Patients	Rate
Number of A&E attendances within the last three years	87	91	0.96*	388	315	1.23*
Number of GPAU attendances within the last three years	7	91	0.08	40	315	0.13
Number of elective admissions within the last three years	63	91	0.69**	345	315	1.10**
Number of elective admissions within the last three years (with a primary diagnosis of AF)	20	91	0.22*	26	315	0.08*
Number of emergency admissions within the last three years	62	91	0.68**	361	315	1.15**
Number of emergency admissions within the last three years (with a primary diagnosis of AF)	34	91	0.37	117	315	0.37
Number of other <u>type</u> of admission within the last three years	1	91	0.01	13	315	0.04
Number of emergency bed days within the last three years	172	91	1.89**	1,309	315	4.16**
Number of outpatient first appointments within the last three years	126	91	1.38*	576	315	1.83*

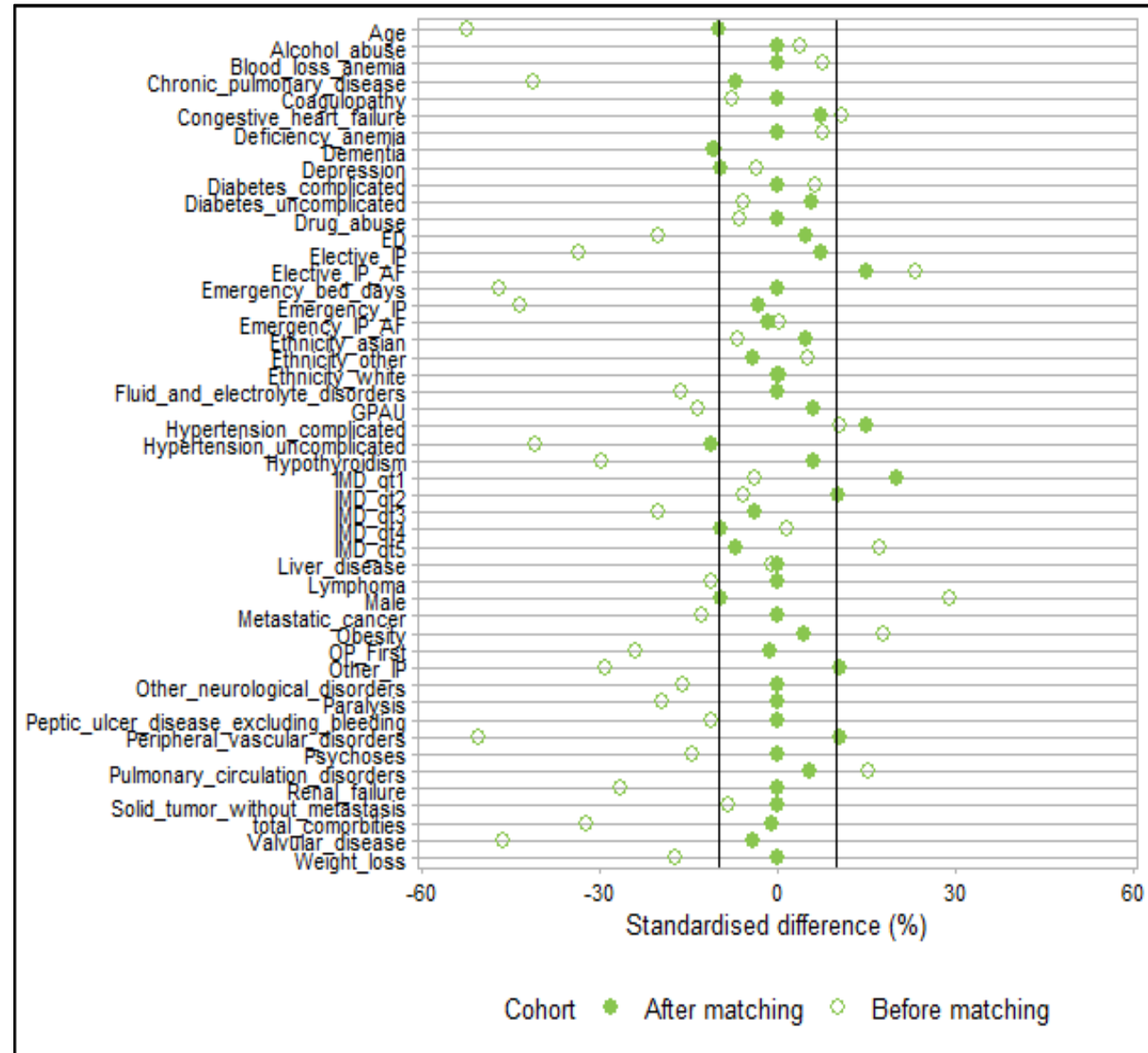
* Statistically significant, P-value < 0.05; **Statistically significant, P-value < 0.001

Quantitative analysis – selection of matched control groups

- **Due to the significant differences in demographics, morbidity and prior use of hospital services found between the two cohorts, a subset of patients were selected from the initial control group to produce a group with more similar characteristics to those admitted to the virtual ward**
- The matching was performed using a statistical technique called nearest neighbour propensity score matching (although many other methods are available, e.g. genetic matching), with one control selected per virtual ward patient
- The aim of **matching was to produce a group of patients as similar as possible** to the virtual ward patients in terms of variables likely to affect hospital use and mortality. Specifically, we matched on:
 - demographics (age, gender and ethnicity)
 - socioeconomic deprivation status
 - prior hospital use (emergency admissions, elective admissions, emergency bed days, outpatient appointments, and A&E attendances in the three years prior to the index admission)
 - comorbid health conditions (drawing on three years of admissions data to construct diagnosis histories for each patient based on electronic hospital records)

Quantitative analysis – selection of matched control groups

- The success of matching is judged by the standardised difference between variables
- Differences of less than 10% are generally considered to imply adequate balance (between the two vertical lines on the chart)
- It is not always possible to obtain perfect balance on all variables, but those considered important in predicting outcomes and hospital use were prioritised
- Out of the 49 variables used in the matching process, eight had an absolute standardised difference greater than 10%



Quantitative analysis – selection of matched control groups

- The virtual ward patients and the matched control group were more similar in terms of demographic, morbidity and prior hospital use variables, compared to the original control group selected by the clinicians. No significant differences were found for prior hospital use variables and only one significant difference for demographics.

Characteristic	Measure	AFVW		Matched control group	
		Patients	Cohort value	Patients	Cohort value
Age	Under 50	7	7.7%	10	11.0%
	50 to 59	14	15.4%	13	14.3%
	60 to 69	36	39.6%	28	30.8%
	70 to 79	30	33.0%	26	28.6%
	80 and above	4	4.4%*	14	15.4%*
	Mean age (standard deviation)	91	65.1 (10.4)	91	66.1 (13.1)
Gender	Female	27	29.7%	23	25.3%
	Male	64	70.3%	68	74.7%
Deprivation	1 (most deprived)	11	12.2%	5	5.6%
	2	11	12.2%	8	9.0%
	3	9	10.0%	10	11.2%
	4	27	30.0%	31	34.8%
	5 (least deprived)	32	35.6%	35	39.3%
Ethnicity	White British or other white	79	86.8%	79	86.8%
	Asian or Asian British Indian	5	5.5%	4	4.4%
	Other (including unknown or not stated)	7	7.7%	8	8.8%
Elixhauser comorbidities	Average comorbidities (standard deviation)	91	2.1 (2.0)	91	2.1 (1.7)

* Statistically significant, P-value < 0.05; **Statistically significant, P-value < 0.001

Quantitative analysis – comparison of outcomes and subsequent hospital use

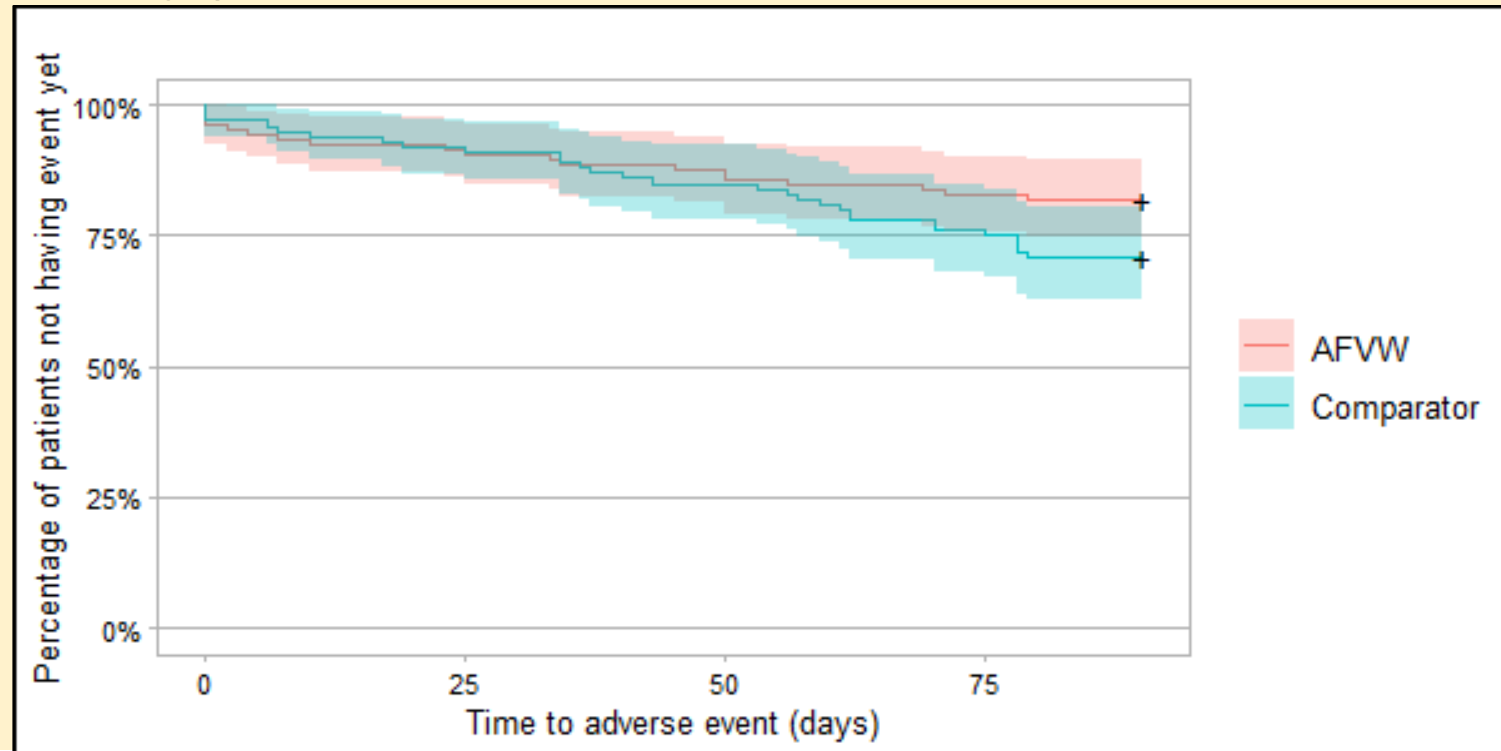
- With the exception of the rate of emergency bed days used following readmission, where there was a large difference, no significant differences were found between the groups for outcomes or subsequent utilisation.
- A large proportion of the readmissions in the virtual ward cohort required procedures, indicating the two groups may have differed in some unobserved way (e.g. type of AF, severity, or ability of patient to self-manage).

Measure	AFVW			Matched control group		
	Activity	Denominator	Rate	Activity	Denominator	Rate
A&E attendances within 30 days of discharge	6	104	5.8%	5	100	5.0%
GPAU attendances within 30 days of discharge	0	104	0.0%	2	100	2.0%
Emergency readmissions within 30 days of discharge	8	104	7.7%	7	100	7.0%
Emergency readmissions within 30 days of discharge – circulatory conditions only	8	104	7.7%	6	100	6.0%
Emergency bed days following emergency admission within 30 days	44	104	0.42**	7	100	0.07**
Mortality within 30 days of discharge	1	91	1.1%	0	91	0.0%
Mortality within 90 days of discharge	1	91	1.1%	1	91	1.1%
All recorded mortality following discharge	3	91	3.3%	5	91	5.5%
Outpatient first attendances within 3 months	36	91	0.40	42	91	0.46
Outpatient first attendances within 3 months – cardiology only	26	91	0.29	26	91	0.29

* Statistically significant, P-value < 0.05; **Statistically significant, P-value < 0.001

Quantitative analysis – comparison of outcomes and subsequent hospital use

- Survival analysis was used to test for any differences between the groups in the time until an adverse event (emergency admission to hospital, attendance at A&E, attendance at GPAU or death) following discharge.
- In the first 35 days after initial discharge the two lines are very similar, with divergence after this. At the end of the full 90-day follow-up period the control group had a greater proportion of individuals with at least one adverse event. However, the chart shows that the 95% confidence intervals consistently overlap and none of the differences were found to be statistically significant at any point in the 90-day post-index discharge period.



Quantitative analysis – differences in costs and bed days

- Overall, the cost per admission was £635 lower in the virtual ward cohort compared to the control group.

Group	Number of admissions	Average direct costs per admission	Average overhead costs per admission	Average total costs per admission	Total bed days	Average cost per bed day
Virtual ward admissions	67	£819	£108	£927	1,150	£54
Control group admissions	329	£1,454	£108	£1,562	570	£901

Quantitative analysis – summary of findings

- The virtual ward is **at least as safe** as inpatient care for the patient currently using it
- The virtual ward is **cheaper per episode** than current inpatient care. These savings are **not cash releasing**, however, as fixed resources are directed to other patients
- An additional referral route direct from the A&E department at LRI is planned; using the original data supplied to us we estimated ~ 146 patients would have been suitable in 2022, producing £174,324 (non-cash releasing) savings and 321 bed days saved for the year
- **The economic case for its implementation will rest on the extent to which the virtual ward service remains limited to patients who would otherwise have been admitted to hospital.** If its remit extends to offering additional monitoring to patients who were at little or no risk of hospital admission, while this could provide clinical benefits, it could make the service more expensive than the approaches it is replacing

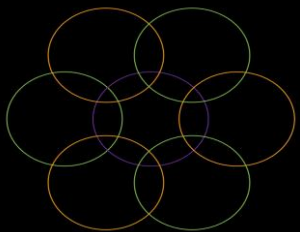
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Summary



To summarise....

- Evaluation is a highly worthwhile activity and the only true way to measure whether the reality matches up to the intended benefits
- It is important to 'best fit' the methodology and outputs to the type of work you are doing and what you need to measure
- It is best to factor flexibility into the contracting and into the evaluation plan
- You can never consider data and data collection too early!
- Involve information/data colleagues early on to discuss what is possible, and IG to enable safe data access
- You do not have to be an expert in evaluation or have conducted evaluations in the past, lots of support is available



We can help you with

- Advice and guidance
- Benefits workshops
- Writing evaluation plans and outlines
- Conducting the tendering process – and knowing who to ask for bids
- Selecting an evaluator

Contact the team for more information: healthinnovation-em@nottingham.ac.uk



Thank you for listening

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