Welcome to the 17th NHS Patient Flow Conference!

03rd July 2025
15 Hatfields Conference Centre, Chadwick Court, London, SE1 8DJ

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SCAN ME

Chair Opening Address

Chris Morrow-Frost
National Clinical Advisor to Secondary Care
NHS England

Panel Discussion

Andrew Stradling
Chief Medical Officer
NHS LPP; M&S H&CP; HCSA National Council

Sai Khunpha (Keith)
Senior Analytical Lead, Clinical Analytics and Reducing Variation Team, NHS England

Sarah Williams
Associate Director for UEC and Patient Flow, Herefordshire and Worcestershire ICB

Catherine Withers
Assistant Director of UEC Improvement, NHSE

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David Parram
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Refreshments & Networking

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Chair Morning Reflection

Chris Morrow-Frost
National Clinical Advisor to Secondary Care
NHS England

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Case Study

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Case Study

Rob Hurrell
Senior Business Development Manager – Health
Enovation UK Limited

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EMPOWERING PERSONALISED PATIENT JOURNEYS

Patient Journey App


Care Network
Social Network
Remote Care
Early detection
Transfer
Registration
Treatment
enovation

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Patient Journey App

The Challenge

Healthcare Professionals needed patient-reported data to assess outcomes of care and monitor for issues.

Patients needed something to boost self-management and feel more empowered. Lots of information, but not accessible or difficult to recall

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Patient Journey App

Monitor
Educate
Communicate

The right information at the right time for *patients* for self-management: education.

Correct information at the right time for *healthcare providers* for remote care: PROMS, diaries, vital parameters.

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Portal or Patient Journey?

Portal: Primarily acts as a secure, online gateway to a patient's personal health information and direct communication with their healthcare provider

Digital ‘medical filing cabinet’ and messaging system.

Patient Journey App: Guides patients proactively through their entire healthcare experience for a specific condition, treatment, or procedure.

It's designed to provide the right information at the right time, offering support and guidance throughout a defined "journey”, or “journeys”.

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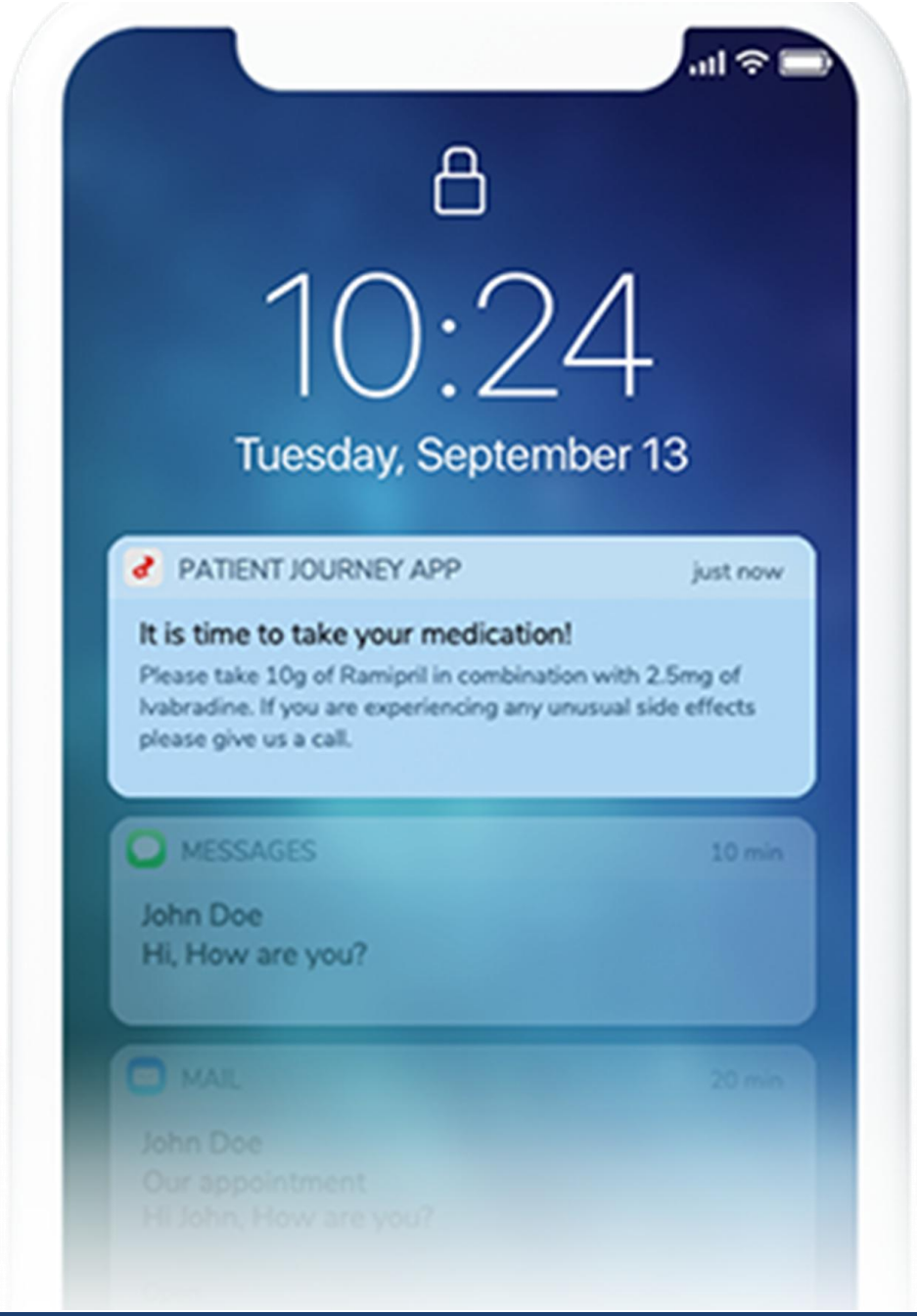
Interactive timeline

The right information at the right time

Guide patients and their loved ones through every step of the treatment with a personalised timeline.

Make sure they are involved in the choice of their treatment and have the right knowledge to take care of themselves.



Patient Journey App

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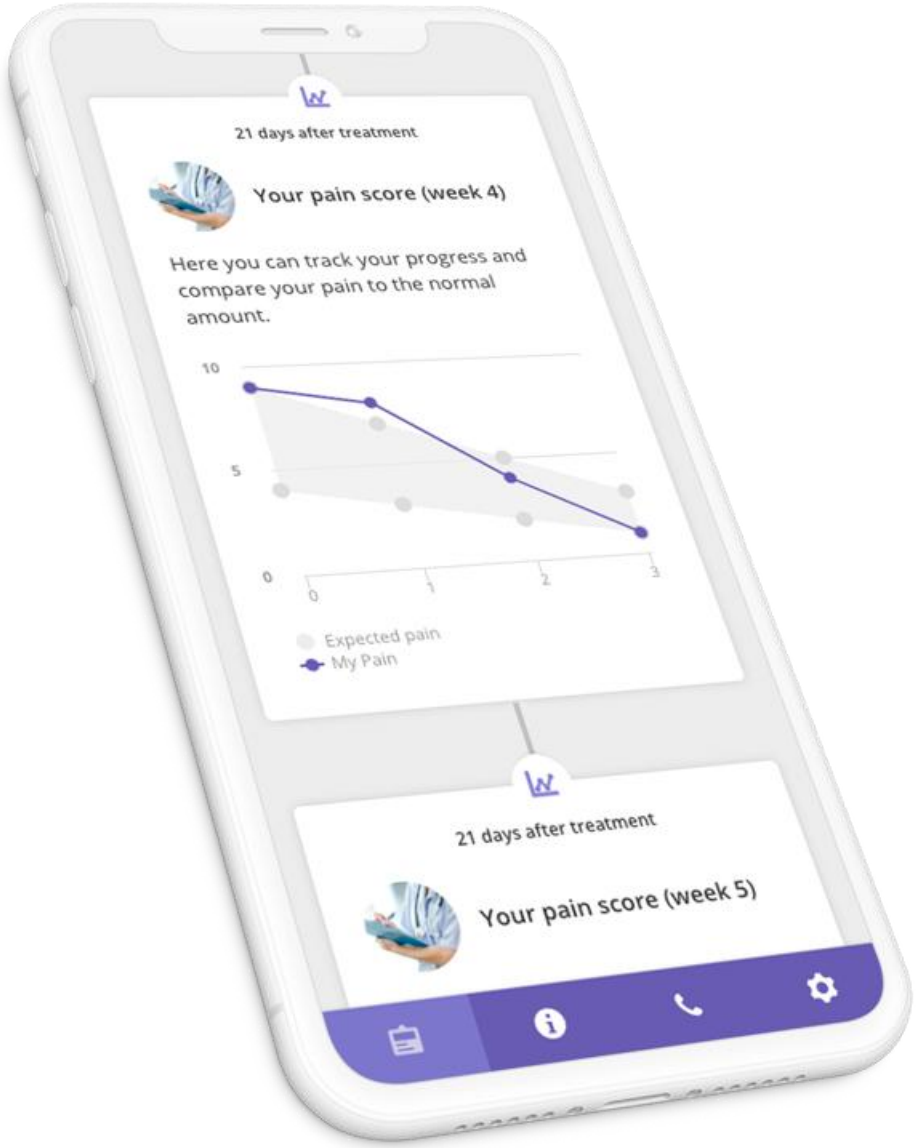
Alerts

Know which patient needs attention and care at that moment

Determine for yourself what the threshold values are for pain, weight, blood pressure, side effects, fever or anxiety, for example.

Receive an immediate notification when a patient exceeds a value, so that any additional care can be provided.



Patient Journey App

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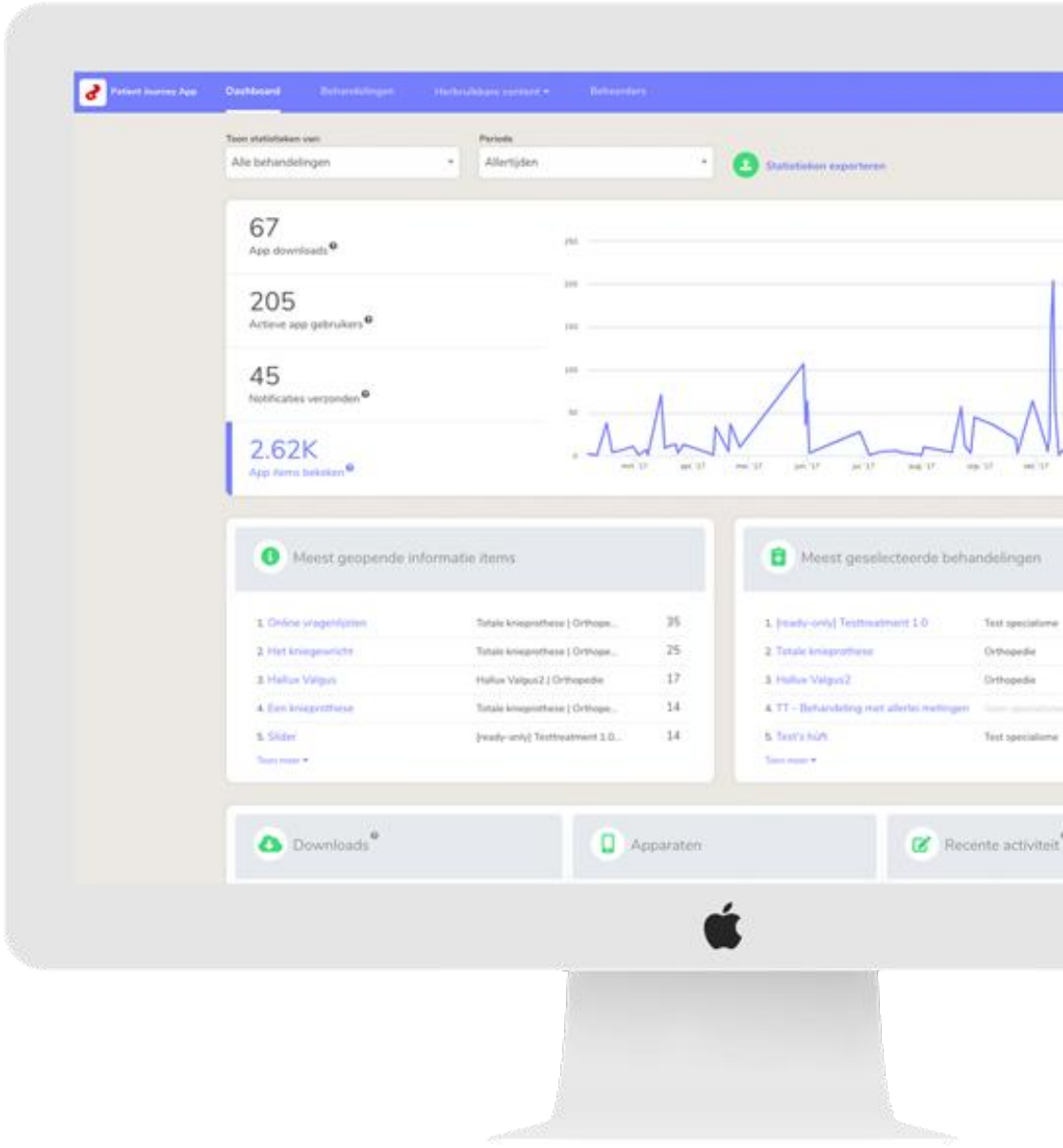
Dashboards

Monitor patients remotely with real-time data in easy-to-read dashboards

Decide not only what data you want to collect, but also how it will be presented.

Use the data to provide remote care and/or to actively involve patients in the conversation.



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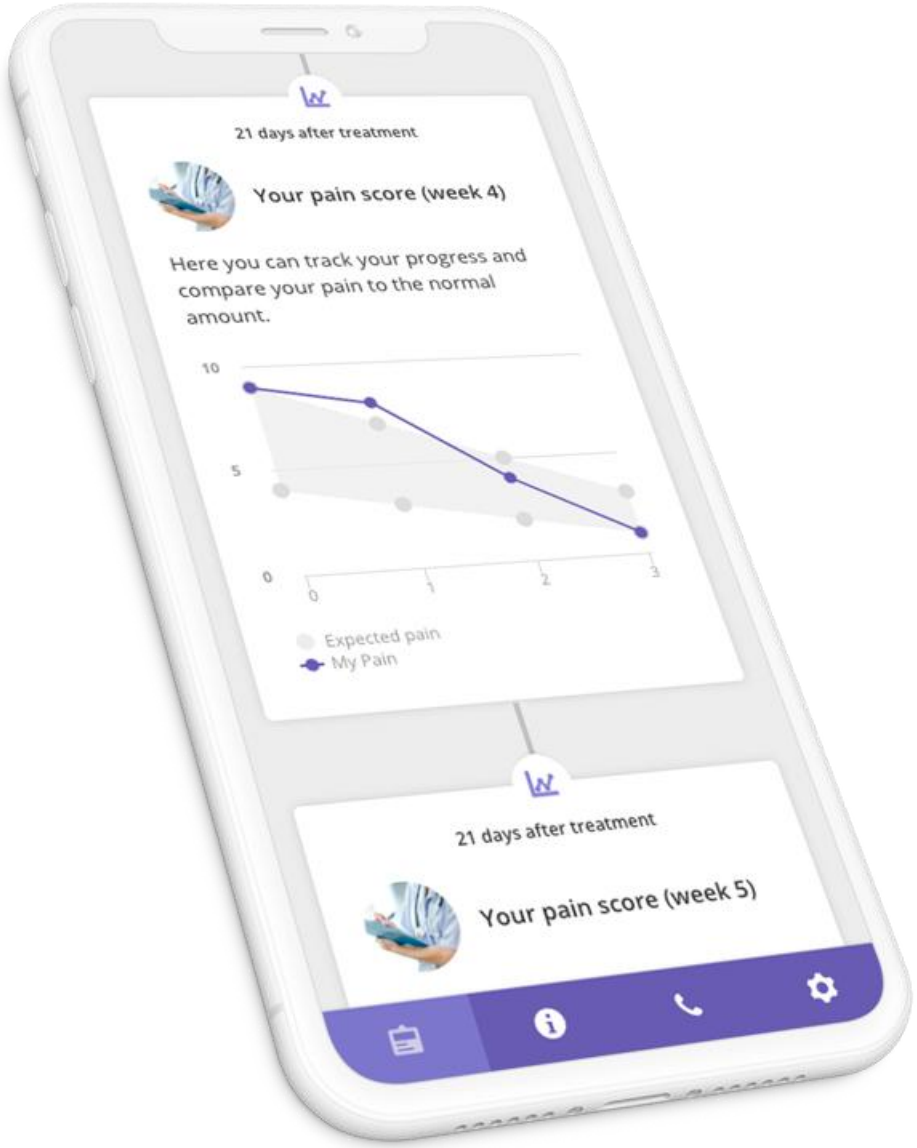
Research

Numerous studies focussed on improved clinical outcomes, staff time, and patient experience

Prehabilitation – improved therapy compliance, limited complications and 50% reduction in cost, versus regular supervised programmes.

Orthopaedics – patients more engaged in shared decision making and have improved recovery trajectories, with 20% less contact



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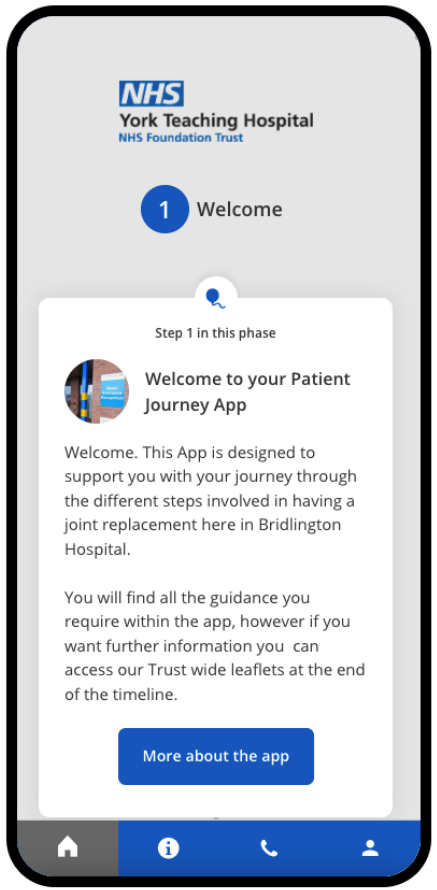
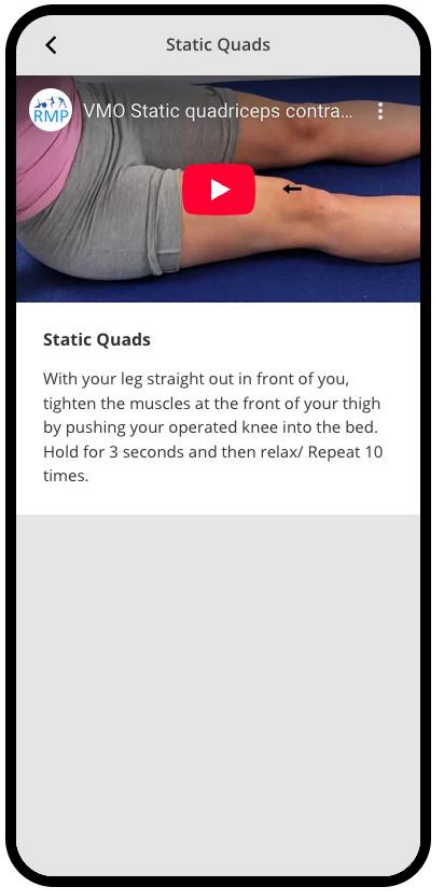
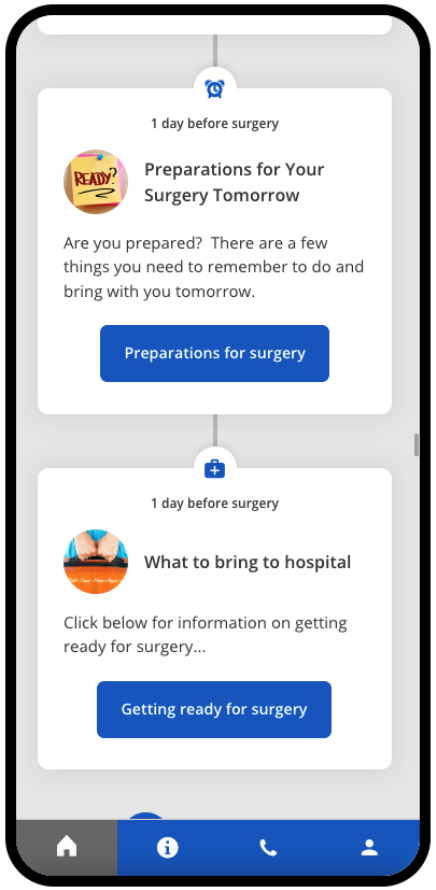
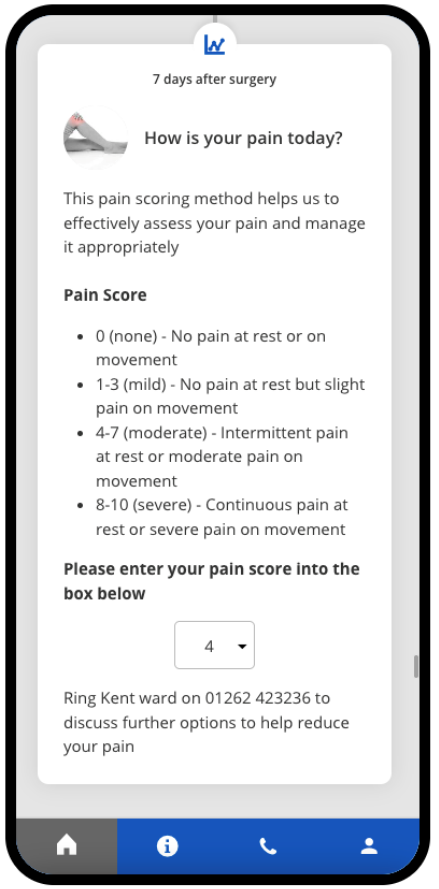
York Teaching Hospital

Orthopedic surgery









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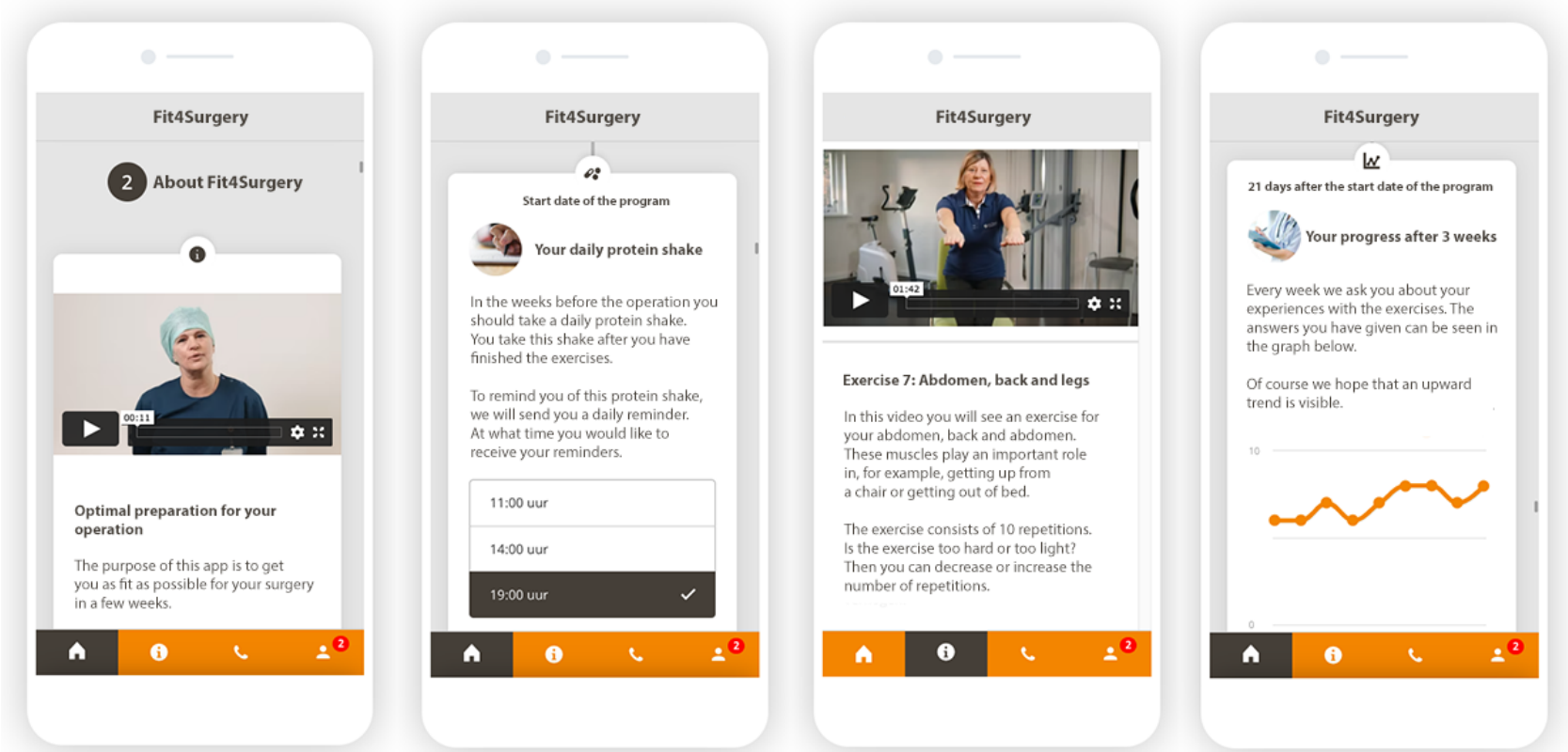
Noordwest Ziekenhuis

Prehabilitation in colon cancer



Patient Journey App

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Noordwest Ziekenhuis

Prehabilitation in colon cancer

> Eur J Surg Oncol. 2025 May;51(5):109691. doi: 10.1016/j.ejso.2025.109691. Epub 2025 Feb 12.

Fit4Surgery app: Home-based prehabilitation app for older patients undergoing elective colorectal cancer surgery

Lennaert Cb Groen [1], Thomas Gc Timmers [2], Freek D Daams [3], Hieronymus J Doodeman [4], Hermien Wh Schreurs [5], Emma Rj Bruns [6]

Affiliations + expand

PMID: 40043662 DOI: 10.1016/j.ejso.2025.109691

Conclusion: This is the first study of multimodal HBP by an app for CRC surgery patients with high compliance. Results show promising results regarding functional capacity and a low occurrence of complications, in line with multimodal supervised prehabilitation. This reduced costs by half.

https://pubmed.ncbi.nlm.nih.gov/40043662/

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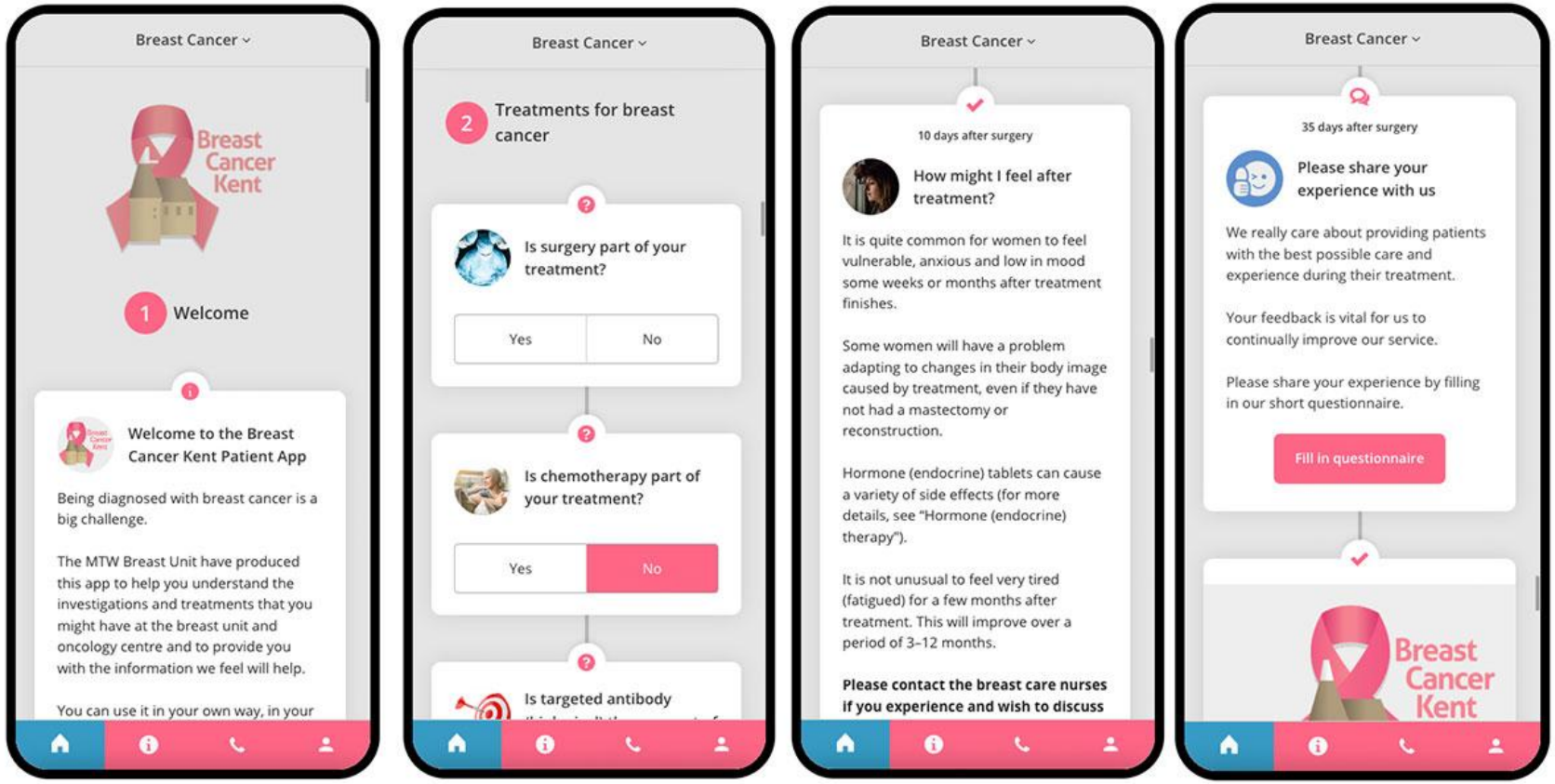
Breast Cancer Kent

Breast Cancer



Patient Journey App

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Breast Cancer Kent

NHS
Maidstone and Tunbridge Wells
NHS Trust

Patient Journey App

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NHS Patient Flow Conference
Improving NHS Pathways
CONVENZIS

Case Study

Case Study

Lorenzo Rimoldi
Head of Strategy
Your Business Partner

Dr Simon Gabe
Consultant in Gastroenterology & Intestinal Rehabilitation, Chair of the Lennard-Jones Intestinal Rehabilitation Unit
St Mark's Hospital

Your Business Partner

Changing the world a prototype at a time

Who
WE ARE

We are a **strategy and innovation consultancy** with offices in **Milan and London**, designing and leading transformation within **healthcare systems** at international level.

MILAN

LONDON

WE VALUE THE HUMAN EXPERIENCE IN HEALTHCARE

Our method is based on **Human-Centered** and **Empathic Design**, combining **First-Hand Qualitative and Quantitative Data**.

THE HUMAN JOURNEY

Value-based Healthcare for Short Bowel

Scope & Objectives

SCO

Understand the care management and quality of life of individuals with Short Bowel, within and outside the hospital setting, with a specific focus on their experience **accessing care outside of the hospital (at home)**

International Collaborations

The Human Journey worked in 2 Centres of excellence for the treatment of Short Bowel: St Mark's Hospital In London, UK and Beaujon Hospital in Paris, France

We collaborate with the Patient Association PINNT to identify unmet patient needs.

The project was realised thanks to the management of Your Business Partner, an innovation consulting firm.

The initiative was unconditionally sponsored by Takeda.

Value-Based Healthcare

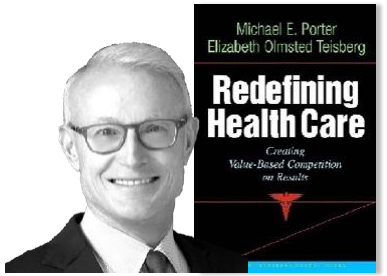
The value is defined as an impact on:

1. Improvement of clinical outcomes
2. Improvement of patient experience
3. As a consequence, an organisational improvement.

$$\text{VALUE} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering the outcomes}}$$

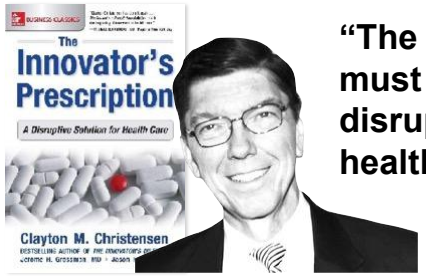
*"**Disruptive Innovation** in Healthcare means collaborating with all key players in the healthcare system to **create new connections never tested before.**"*

How to create value?
Connecting all the key stakeholders and listening to each of their voices to discover their unmet and unarticulated needs.



Prof. Michael E. Porter, PhD
Harvard Business School

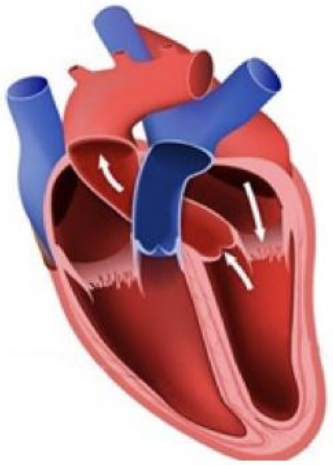
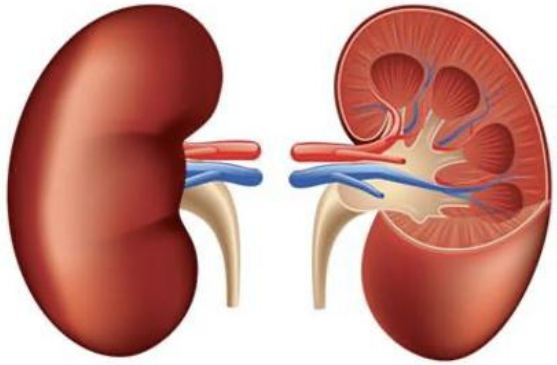
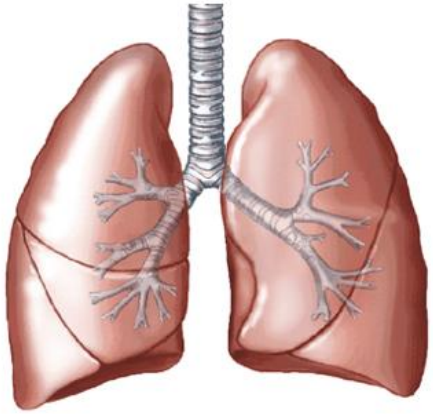
"VBH requires a shift from volume to value, from a focus on the quantity of services to the quality and outcomes delivered."



Prof. Clayton M. Christensen PhD
Harvard Business School

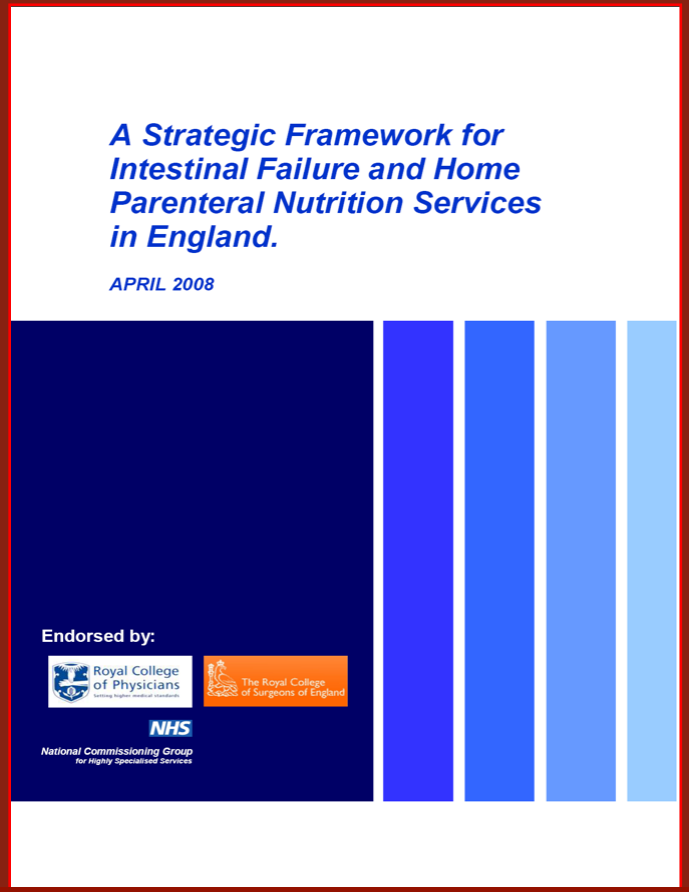
"The pharmaceutical industry must play a pivotal role in the disruptive transformation of health care"

The failures

Cardiac	Renal	Respiratory	Intestinal
			
1628	1900’s	1950’s	1980’s

The service specification started in 2008

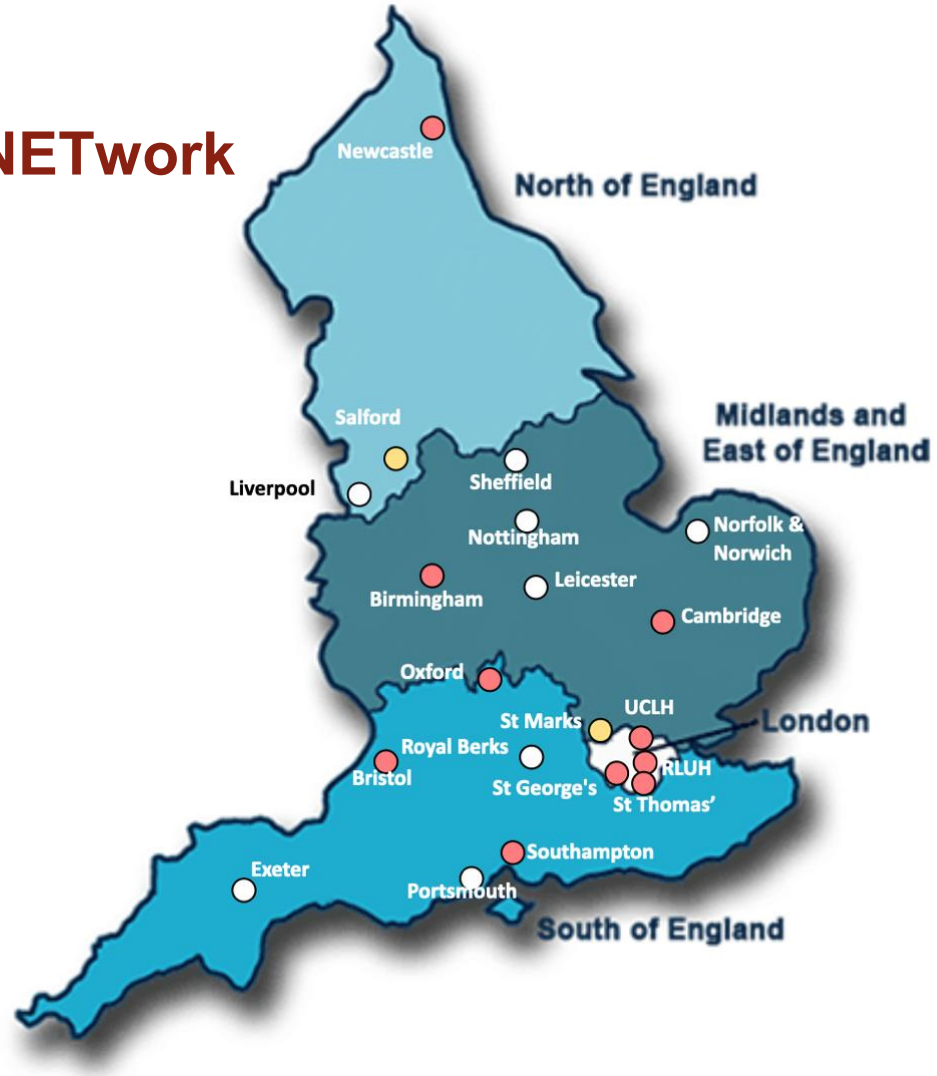
- Described how services needed to be reorganised with the formation of a network
- Included a survey of patients with intestinal failure
- **Patients wanted expert care closer to home**



HIFNET

The **Home parenteral nutrition & Intestinal Failure NETwork** has:

- Common protocols & indicators for treatment
- Same quality indicators
- NHS England monitoring & funding



- 2 national reference centres
- 12 integrated centres (surgical & HPN)
- 8 HPN centres

Short Bowel

The Short Bowel (SB) is a rare condition that occurs when a significant portion of the small

MAIN SYMPTOMS

- chronic diarrhea
- malnutrition
- weight loss
- dehydration
- electrolyte & vitamin deficiencies

COMPLICATIONS

- severe malnutrition
- dehydration
- gallstones & kidney stones
- liver disease

TREATMENT

- Nutritional support:
  - IV nutrition, home IVN
  - enteral nutrition
- Drugs promoting nutrient absorption
- Drugs to address symptoms
- Surgery
- Intestinal transplant

1.4/million prevalence in Europe

Affected population

~13,000 in Europe

500-2000 in France

~1000 in England

Difficulty in managing short bowel

GENERAL PRACTICE

- Most GPs have no experience
- GP surgeries not set up to help patients with short bowel
- GPs feel that they are not funded to manage patients when outside the usual treatment paths

LOCAL HOSPITALS

- Do not mange this condition
- May give wrong advice to patients
- Patients need to be transferred to specialist centres
- Inpatient LOS increased waiting for transfer

HOMECARE COMPANIES

- Contracted to make and deliver the IV nutrition
- Many patients needs additional nursing care

NHS FUNDING

- High-cost treatment
- Hospitals bear the additional costs

SPECIALIST HOSPITALS

- Not local for most patients (long travel time)
- Direct communication with patients difficult as service usually overwhelmed
- Psychological support limited in many hospitals

How We Worked: Process

PHASE 1
CO-DESIGN OF CARE PATHWAYS

10 Clinicians involved

6 Workshops

5 1-1 meetings with HP

9 Clinicians involved

4 Workshops

4 1-1 meetings with HP

PHASE 2
ETHNOGRAPHIC RESEARCH

16 Patients

4 Caregivers

2 Ethnographic home visits

15 Patients

3 Caregivers

4 Ethnographic home visits

PHASE 3
DEFINE SOLUTIONS

PSYCHOLOGICAL SUPPORT

ABILITY FOR PATIENTS AND HP TO MANAGE THE CONDITION

LOCAL MEDICAL NETWORK STRENGTHENING

Phase 1: Patient Pathway Design

ACTION

PATHWAY CO-DESIGN WITH MDT AND IPU

10 Clinicians involved

6 Workshops

5 1-1 meetings with HP

9 Clinicians involved

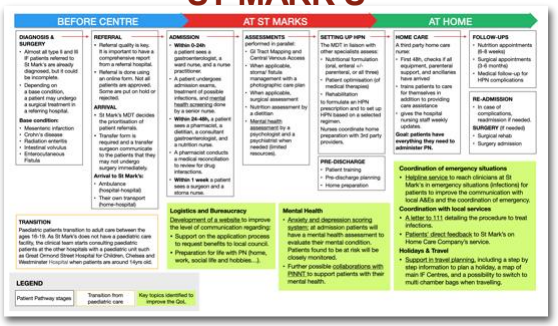
4 Workshops

4 1-1 meetings with HP

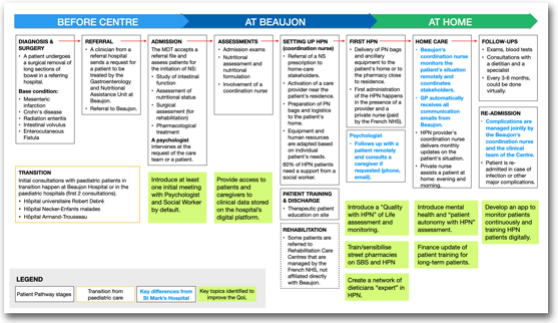
RESULTS

In-depth redesign of the patient pathway to improve standards of care

ST MARK'S



BEAUJON



BEFORE CENTRE

DIAGNOSIS & SURGERY

- Almost all type II and III IF patients referred to St Mark's are already diagnosed, but it could be incomplete.
- Depending on a base condition, a patient may undergo a surgical treatment in a referring hospital.

Base condition:

- Mesenteric infarction
- Crohn's disease
- Radiation enteritis
- Intestinal volvulus
- Enterocutaneous Fistula

REFERRAL

- Referral quality is key. It is important to have a comprehensive report from a referral hospital.
- Referral is done using an online form. Not all patients are approved. Some are put on hold or rejected.

ARRIVAL

- St Mark's MDT decides the prioritisation of patient referrals.
- Transfer form is required and a transfer surgeon communicate to the patients that they may not undergo surgery immediately.

Arrival to St Mark's:

- Ambulance (hospital-hospital)
- Their own transport (home-hospital)

TRANSITION

Paediatric patients transition to adult care between the ages 16-19. As St Mark's does not have a paediatric care facility, the clinical team starts consulting paediatric patients at the other hospitals with a paediatric unit such as Great Ormond Street Hospital for Children, Chelsea and Westminster Hospital when patients are around 14yrs old.

AT ST MARKS

ADMISSION

- **Within 0-24h** a patient sees a gastroenterologist, a ward nurse, and a nurse practitioner.
- A patient undergoes admission exams, treatment of possible infections, and mental health screening done by a senior nurse.
- **Within 24-48h,** a patient sees a pharmacist, a dietitian, a consultant gastroenterologist, and a nutrition nurse.
- A pharmacist conducts a medical reconciliation to review for drug interactions.
- **Within 1 week** a patient sees a surgeon and a stoma nurse.

ASSESSMENTS performed in parallel:

- GI Tract Mapping and Central Venous Access
- When applicable, stoma/ fistula management with a photographic care plan
- When applicable, surgical assessment
- Nutrition assessment by a dietitian
- Mental health assessment by a psychologist and a psychiatrist when needed (limited resources).

SETTING UP HPN

The MDT in liaison with other specialists assess:

- Nutritional formulation (oral, enteral +/- parenteral, or all three)
- Patient optimisation (of medical therapies)
- Rehabilitation

to formulate an HPN prescription and to set up HPN based on a selected regimen.

Nurses coordinate home preparation with 3rd party providers.

PRE-DISCHARGE

- Patient training
- Pre-discharge planning
- Home preparation

AT HOME

HOME CARE

A third party home care nurse:

- First 48h, checks if all equipment, parenteral support, and ancillaries have arrived
- trains patients to care for themselves in addition to providing care assistance
- gives the hospital nursing staff weekly updates.

Goal: patients have everything they need to administer PN.

FOLLOW-UPS

- Nutrition appointments (6-8 weeks)
- Surgical appointments (3-6 months)
- Medical follow-up for HPN complications

RE-ADMISSION

- In case of complications, readmission if needed.

SURGERY (If needed)

- Surgical rehab
- Surgery admission

Logistics and Bureaucracy

Development of a website to improve the level of communication regarding:

- Support on the application process to request benefits to local council.
- Preparation for life with PN (home, work, social life and hobbies…).

Mental Health

- Anxiety and depression scoring system: at admission patients will have a mental health assessment to evaluate their mental condition. Patients found to be at risk will be closely monitored.
- Further possible collaborations with PINNT to support patients with their mental health.

Coordination of emergency situations

- Helpline service to reach clinicians at St Mark's in emergency situations (infections) for patients to improve the communication with local A&Es and the coordination of emergency.

Coordination with local services

- A letter to 111 detailing the procedure to treat infections.
- Patients' direct feedback to St Mark's on Home Care Company's service.

Holidays & Travel

- Support in travel planning, including a step by step information to plan a holiday, a map of main IF Centres, and a possibility to switch to multi chamber bags when travelling.

LEGEND

Patient Pathway stages	Transition from paediatric care	Key topics identified to improve the QoL

BEFORE CENTRE

DIAGNOSIS & SURGERY

- A patient undergoes a surgical removal of long sections of bowel in a referring hospital.

Base condition:

- Mesenteric infarction
- Crohn's disease
- Radiation enteritis
- Intestinal volvulus
- Enterocutaneous Fistula

REFERRAL

- A clinician from a referral hospital sends a request for a patient to be treated by the Gastroenterology and Nutritional Assistance Unit at Beaujon.
- Referral to Beaujon.

TRANSITION

Initial consultations with paediatric patients in transition happen at Beaujon Hospital or in the paediatric hospitals (first 2 consultations).

- Hôpital universitaire Robert Debré
- Hôpital Necker-Enfants malades
- Hôpital Armand-Trousseau

AT BEAUJON

ADMISSION

The MDT accepts a referral file and assess patients for the initiation of NS:

- Study of intestinal function
- Assessment of nutritional status
- Surgical assessment (for rehabilitation)
- Pharmacological treatment

A psychologist intervenes at the request of the care team or a patient.

Introduce at least one initial meeting with Psychologist and Social Worker by default.

ASSESSMENTS

- Admission exams
- Nutritional assessment and nutritional formulation
- Involvement of a coordination nurse

Provide access to patients and caregivers to clinical data stored on the hospital's digital platform.

SETTING UP HPN (coordination nurse)

- Referral of a NS prescription to home-care stakeholders.
- Activation of a care provider near the patient's residence.
- Preparation of PN bags and logistics to the patient's home.
- Equipment and human resources are adapted based on individual patient's needs.

60% of HPN patients need a support from a social worker.

PATIENT TRAINING & DISCHARGE

- Therapeutic patient education on site

REHABILITATION

- Some patients are referred to Rehabilitation Care Centres that are managed by the French NHS, not affiliated directly with Beaujon.

AT HOME

FIRST HPN

- Delivery of PN bags and ancillary equipment to the patient's home or to the pharmacy close to residence.
- First administration of the HPN happens in the presence of a provider and a private nurse (paid by the French NHS).

Psychologist

- **Follows up with a patient remotely and consults a caregiver if requested (phone, email).**

Introduce a "Quality with HPN" of Life assessment and monitoring.

Train/sensibilise street pharmacies on SBS and HPN

Create a network of dieticians "expert" in HPN.

HOME CARE

- **Beaujon's coordination nurse monitors the patient's situation remotely and coordinates stakeholders.**
- **GP automatically receives all communication emails from Beaujon.**
- HPN provider's coordination nurse delivers monthly updates on the patient's situation.
- Private nurse assists a patient at home: evening and morning.

Introduce mental health and "patient autonomy with HPN" assessment.

Finance update of patient training for long-term patients.

FOLLOW-UPS

- Exams, blood tests
- Consultations with a dietitian and a specialist
- Every 3-6 months, could be done virtually.

RE-ADMISSION

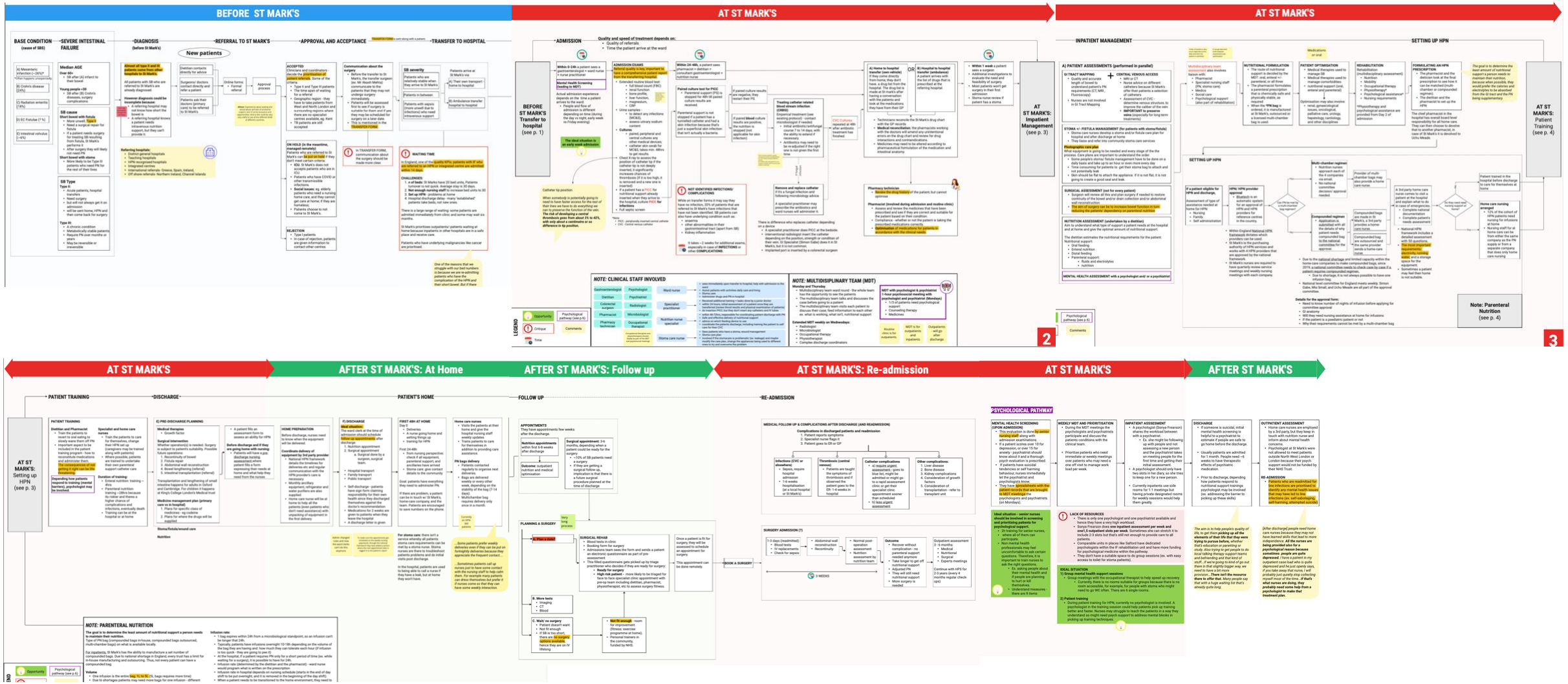
- **Complications are managed jointly by the Beaujon's coordination nurse and the clinical team of the Centre.**
- Patient is re-admitted in case of infection or other major complications.

Develop an app to monitor patients continuously and training HPN patients digitally.

LEGEND

Patient Pathway stages	Transition from paediatric care	**Key differences from St Mark's Hospital**	Key topics identified to improve the QoL

Patient Pathway Design



Phase 2: Ethnographic Research

ACTION

SEMI-STRUCTURED INTERVIEWS

16 Patients

4 Caregivers

2 Ethnographic home visits

15 Patients

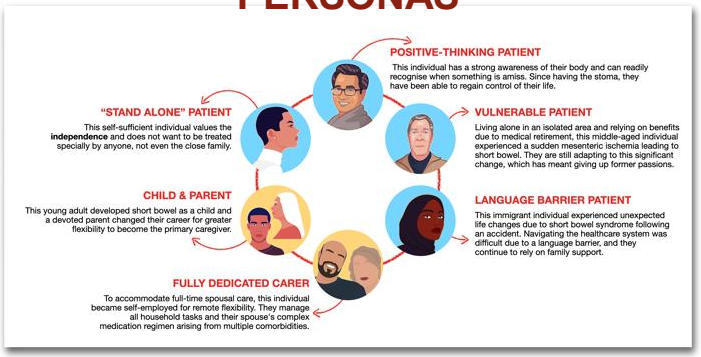
3 Caregivers

4 Ethnographic home visits

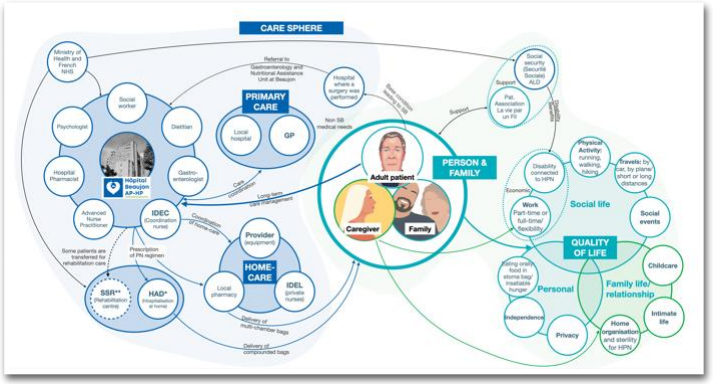
RESULTS

Identified needs of different types of patients to improve personalised pathways

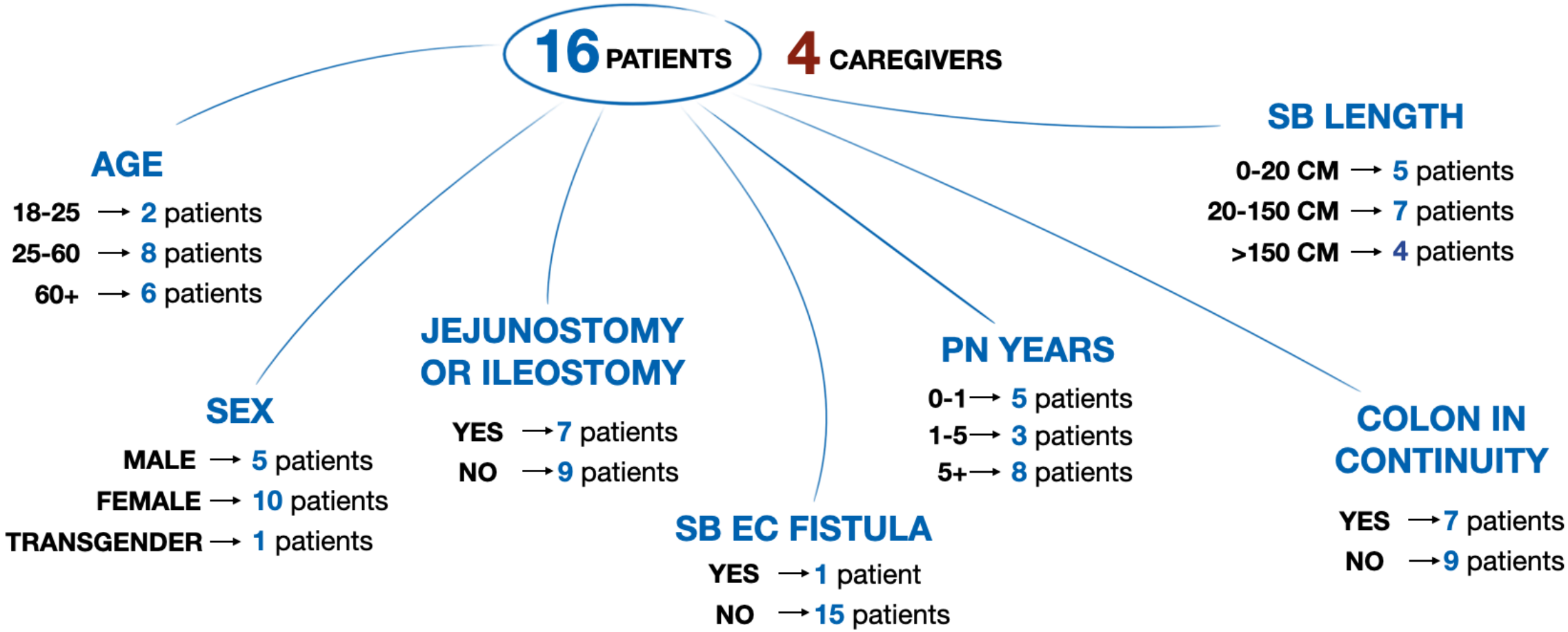
PERSONAS



MAP OF RELATIONS



Inclusion Criteria



Patients Listening

Over **20 hours** of active listening **to patients & caregivers**

Over **360 miles** to visit their homes and how they live

1:1 Meetings with HPN Suppliers

Meeting with PINNT Patient Association

Personas

POSITIVE-THINKING PATIENT

This individual has a strong awareness of their body and can readily recognise when something is amiss. Since having the stoma, they have been able to regain control of their life.

INSECURE/VULNERABLE PATIENT

Living alone in an isolated area and relying on benefits due to medical retirement, this middle-aged individual experienced a sudden mesenteric ischemia leading to short bowel. They are still adapting to this significant change, which has meant giving up former passions.

PATIENT WITH LANGUAGE BARRIERS

This immigrant individual experienced unexpected life changes due to short bowel syndrome following an accident. Navigating the healthcare system was difficult due to a language barrier, and they continue to rely on family support.

FULLY DEDICATED CARER

To accommodate full-time spousal care, this individual became self-employed for remote flexibility. They manage all household tasks and their spouse's complex medication regimen arising from multiple comorbidities.

CHILD & PARENT

This young adult developed short bowel as a child and a devoted parent changed their career for greater flexibility to become the primary caregiver.

“STAND ALONE” PATIENT

This self-sufficient individual values the **independence** and does not want to be treated specially by anyone, not even the close family.

Insecure/Vulnerable patient

65 Y.O.

LINCOLNSHIRE

"This is not living, this is surviving. Also, because of the comorbidities, I spend a lot of time managing all my medical issues".
"Stoma is the pain of my life. It smells, it makes noises. I have no control over it"

BACKGROUND

The vulnerable patient is a 65-year-old man living in Lincolnshire. He has been on medical retirement since his 40s. He lives in an isolated area and spends most of his time alone. His second wife left him due to his various medical complications. A nurse assists him with connecting and disconnecting his TPN daily, and a domestic assistant supports him with cleaning and cooking.

He has several comorbidities, including Crohn's disease, arthritis, and early-stage dementia.

CARE EXPERIENCE

- He was initially expected to stay in the hospital for two weeks, but ended up staying for six months due to complications.
- He has undergone around 20 operations, leading to extended periods of hospitalisation.
- Because of his multiple conditions, he has to manage ongoing complications and take numerous medications.
- His stoma bag continues to cause him problems, particularly at night, increasing his anxiety about potential accidents.

HOME PARENTERAL NUTRITION (HPN)

- He is on TPN 6 days a week.
- Not very satisfied with the TPN Delivery service: he often receives unnecessary ancillaries.

MANAGEMENT OF HPN

- A nurse who goes to his house twice a day to connect and disconnect the TPN, and by one carer, a service partially paid for by the Council.

LIVING WITH SHORT BOWEL

- St Mark's offers him a transport service for the round trip to the hospital for routine visits: a total of 6 hours' drive. On the long journey, it is not easy to make stops and empty the stoma bag.
- From 2004 to 2007 he followed a psychotherapy pathway provided by the hospital. When the service was interrupted, he couldn't afford private consults.
- In emergencies, he has to ask a friend to drive him to the local hospital. He has had five infections so far. Once at the local A&E, the doctor insisted on putting antibiotics through the infected line, and he collapsed.
- He is often bored, has early dementia, does not move much, and only sees his sister for a few hours on weekends.

NEEDS

1. A fast-track line for him at the local GP.
2. Feeling like there is still purpose in his life. Support may vary from psychological consults to "*patient mentor*" programmes.
3. A way to reach St Mark's in emergency situations - the Patients Know Best App is not ideal in these moments.
4. Prompt feedback and actions from TPN delivery company and St Mark's admin team - a more effective way to give St Mark's feedback on delivery company's service.

Personas' needs clustered

MENTAL HEALTH AND WELLBEING

- **Psychological** and emotional **support**
- **Occupational therapy**
- Support to **re-enter employment** / find purpose
- **Socialising** and sharing experiences with other patients
- Support in managing **couple relationships**
- Need to feel listened to
- **Desire to give back** '*patient mentor*' programme
- **Body acceptance**

HOLIDAYS & TRAVEL

- **Support in travel planning**:
  - **Map** of main IF Centres abroad,
  - **Clinicians' contact** details abroad,
  - Possibility to **find ancillaries** abroad
  - Possibility to switch **from compounded to multi chamber** bags when travelling
- **Recommendations** on **Medical insurance** for travel

REACHING ST MARK'S - EMERGENCIES

- **Direct line to reach** clinicians at **St Mark's in emergency** situations for patients and local A&Es

- Possibility to **access St Mark's** (rather than Northwick Park) **in emergency** situations

LOCAL SERVICES

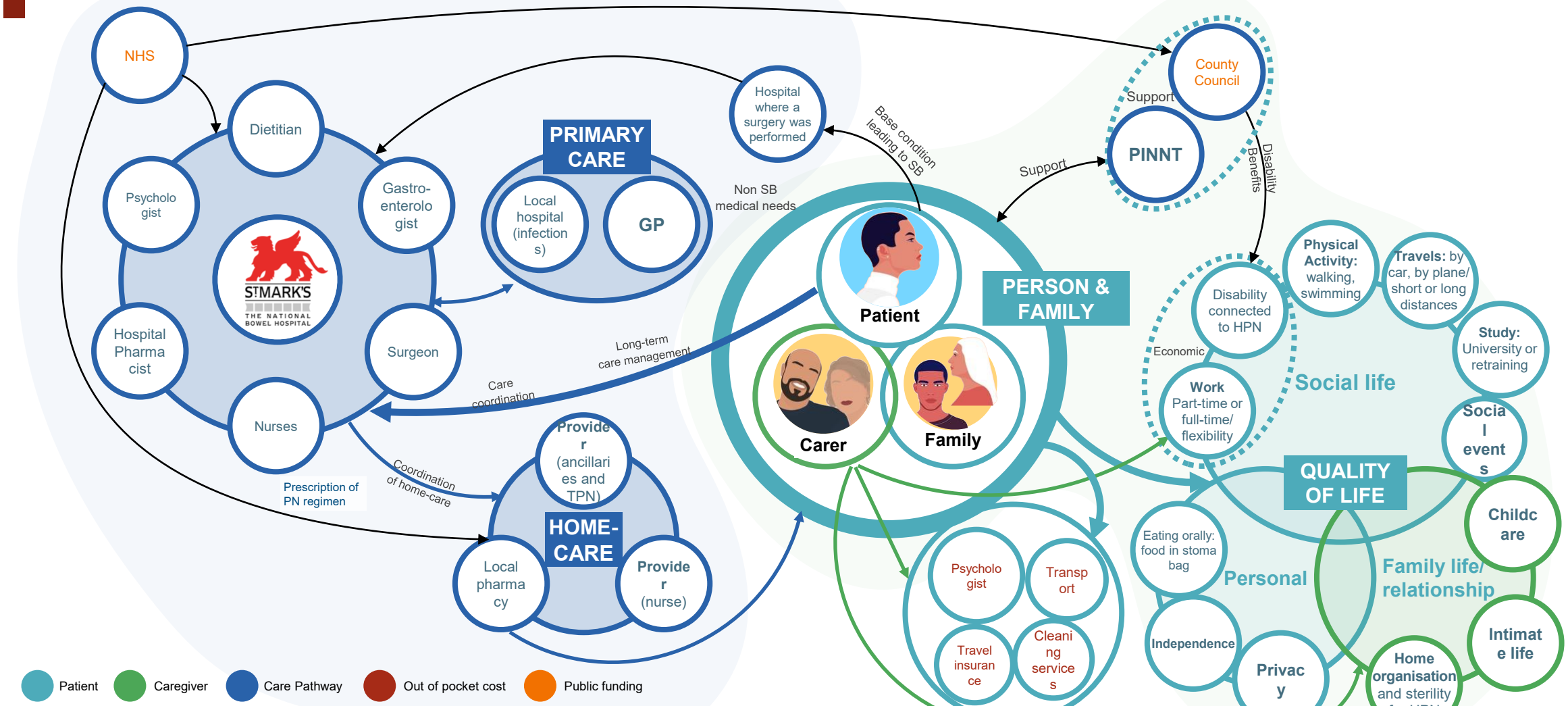
- Easier **connection** with **GP**
- Facilitated and protocol-driven **connection with local A&E**
- **Training** on catheter **infection management** to local A&Es
- Better management of the **relationship with the TPN delivery company** (possibility to give feedback about disservices to St Mark's)

LOGISTICS AND BUREAUCRACY

- Support on the **application process to request benefits** to local council

- More **active support in re-organising** the house / preparing to live with TPN

Map of relations



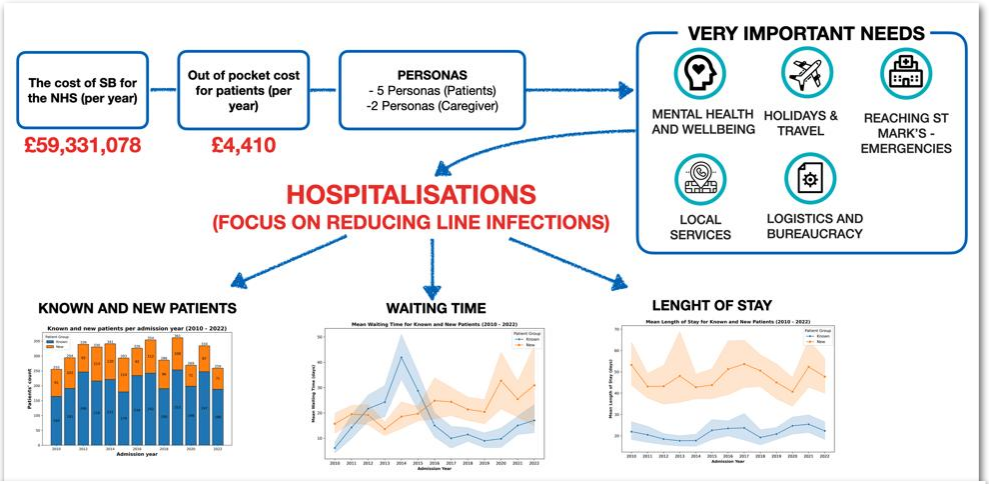
Phase 3: Solutions Design

ACTION

DEFINED INNOVATIVE SOLUTIONS

- Adoption of a digital training platform
- Anxiety and depression assessment
- Helpline service to assist patients and HP in emergency situations

- Development of a Digital Platform
- Meeting with a psychologist and a social worker for new patients
- SB and IV training for local pharmacists



Costs of care for the Centre

Tot. Patients: **550**
Tot. SBS Patients: **385** (70%)

Type of admission	Median days in the hospital	Average cost per patient per day	Average cost of care per patient (2022)	Number of patients per year	Average total cost of care for the SB population
First-time hospital Admissions	3-6 weeks	N/A	7.673 €	50	383.650 €
Surgical Admissions*	3-6 weeks	N/A	5.769 €	2-3	17.307 €
Rehospitalisations of patients due to HPN complications	7 days	N/A		350**	
Total cost of treatment for in-patients* **		N/A			**412.495,00 €**
Total cost of treatment for out-patients** **	N/A				**600.000,00 €**

** Admissions in Unité de Gastro-entérologie, MICI et Assistance Nutritive after post-surgery complication in another unit (5% of total patients)*
*** "Almost all patients get rehospitalised once a year for HPN complications" (pr. Joly)*
**** Includes cost of facilities, professionals and cost of care administered*
***** Corresponds to cost of FTE of coordination nurses being in contact with and remotely caring for patients at home*

RESULTS

The solutions identified improve clinical outcomes, patient experience of care and operational efficiency focusing on:

PSYCHOLOGICAL SUPPORT

ABILITY FOR PATIENTS AND HP TO MANAGE THE CONDITION

LOCAL MEDICAL NETWORK STRENGTHENING

Solutions identified

MENTAL HEALTH AND WELLBEING

- **Anxiety and depression scoring system: at admission patients will have a mental health assessment. Patients at risk will be closely monitored.**
- **Further explore possible collaborations with PINNT to support patients with their mental health.**

HOLIDAYS & TRAVEL

- **Support in travel planning:**
  - **Map** of main IF Centres and Clinicians' contact details **nationally and internationally** (ATLAS).
  - Possibility to switch **from compounded to multi-chamber** bags when travelling.

EMERGENCIES MANAGEMENT

- **Helpline to reach** clinicians at **St Mark's in emergency** situations for patients and local A&Es: further structure this service in the most effective way with the multidisciplinary team.

LOCAL SERVICES

- **Patients' direct Feedback** to St Mark's on Home Care Company's service.
- The **Helpline** service will **improve the communication with local A&Es** and the coordination of emergency situations (infections).
- Send a **letter detailing the procedure** to treat infections to **111.**

LOGISTICS AND BUREAUCRACY

- Development of a **website** to improve the level of communication regarding:
  - Support on the **application process to request benefits** to local council.
  - **Preparation for Life** with TPN (Home, work, social life).

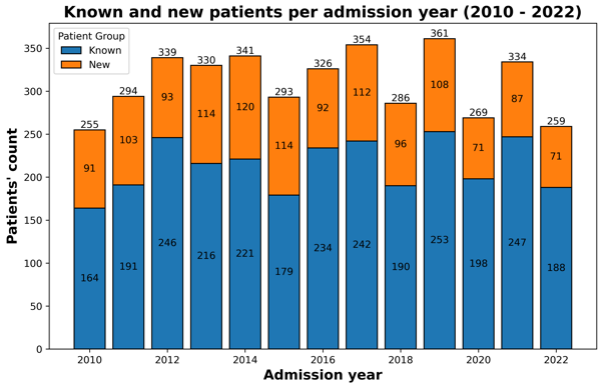
COST OF HPN

- Elaboration of a cost analysis to understand:
  - HPN hospital costs within NHS England contract.
  - Out-of-pocket costs for patients.

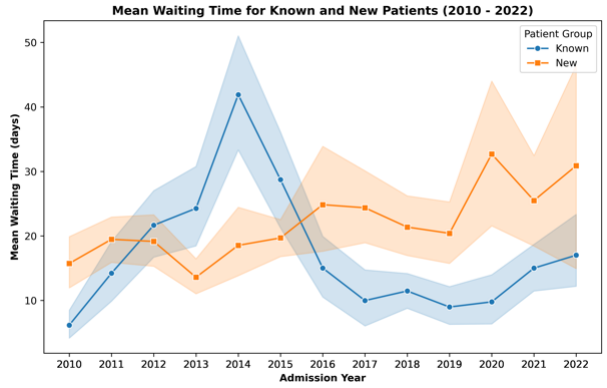
Cost-effectiveness

THE ACTIONS IDENTIFIED DIRECTLY IMPACT

ADMISSIONS
KNOWN AND NEW PATIENTS



WAITING TIME
KNOWN AND NEW PATIENTS



- Reduction in re-hospitalisations / admissions of known patients due to catheter infections
- Decrease in emergency room visits
- Reduction in waiting time for new patients
- Cost saving (resources liberated) for the hospital

THANK YOU!

ST MARK'S THE NATIONAL BOWEL HOSPITAL

Hôpital Beaujon AP-HP

More about us

YBusinessPartner.com

Via Aristide de Togni, 30 | 20123 | Milan (HQ) /15A Great Cumberland Mews | London, W1H 7DZ UK
INFO@YBUSINESSPARTNER.COM | +39 02 49760879

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SCAN ME

Fireside Interview

Dr Mark Simmonds
Deputy Medical Director
Nottingham University Hospitals NHS Trust

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SCAN ME


NHS Patient Flow Conference
Improving NHS Pathways
CONVENZIS

Case Study

Case Study

Mike Cawthorn
Managing Director
Catalyst BI

Noel Watson
Senior Pre-Sales Consults
Catalyst BI

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SCAN ME

Lunch & Networking

Chair Afternoon Reflection

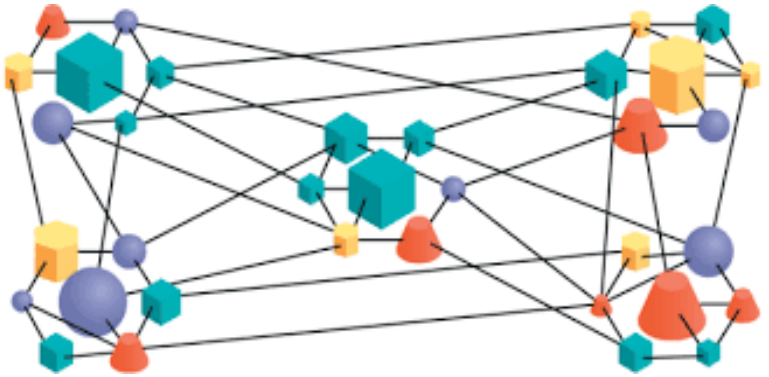
Chris Morrow-Frost
National Clinical Advisor to Secondary Care
NHS England

Workshop

Jason Greasley
Leadership Consultant & Head of Coaching and Leadership Transformation
Buckinghamshire Health & Social Care Academy

Optimizing Patient Flow Though Integrated Systems

Systems Senior Leadership Programme.



Jason Greasley

Head of Coaching and Leadership Transformation, *Buckinghamshire Health and Social Care Academy*

Buckinghamshire Health & Social Care Academy

The Coaching and Mentoring Pool

part of the Buckinghamshire Health & Social Care Academy

Flow

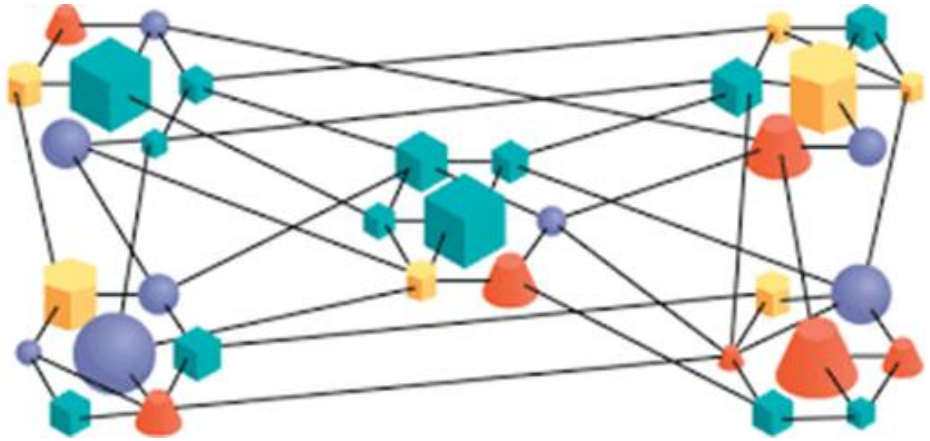
- How do supermarkets keep the shelfs full, how does the military keep spare parts, food and water to the front-line, goods that flow effortlessly from the warehouse to those that need it.
- This is achieved through excellent market research, responding to their customer needs and thinking about flow.
- Imagine a situation in your service where satisfied users flow with ease from one department to the next with no waiting or delays.
- Ideally, patients should transition from one step in their care to the next without delay, known as continuous flow.

Integrated Neighbourhood Teams (INT's)

- Integrated Neighbourhood Teams (INT's) are one of the many shifts in health and social care to support improving outcomes, prevention and shifting resources into the community, whilst improving health inequalities.
- For INTs to work, all stakeholders will need to let go of old models of working and build strong relationships and trust across their systems.
- Those we are serving need to be at the heart of every decision and be involved in the decision making; it's their life and their community.
- We will need a multidisciplinary approach from all services, in all sectors and move towards a 'team of teams' approach.

The concept of a "team of teams" in INTs refers to a collaborative approach where multiple smaller teams work together as a cohesive unit. This structure aims to:

- **Enhance Collaboration:** By bringing together various professionals from different disciplines, INTs foster better communication and teamwork.
- **Streamline Processes:** Simplifying referral and administrative systems reduces barriers to care and improves efficiency.
- **Improve Patient Outcomes:** Coordinated care ensures that service users receive comprehensive and timely support, addressing both medical and social needs.
- **Leverage Expertise:** Teams can draw on specialist knowledge from various fields, providing more holistic and specialised care.



This approach helps create a more integrated and effective healthcare system, benefiting both service users and providers, whilst putting those we serve first.

The Coaching and Mentoring Pool
part of the Buckinghamshire Health & Social Care Academy

Buckinghamshire Health & Social Care Academy

Health Coaching cohort, 2024

Jason.Greasley1@nhs.net

https://www.bhsca.co.uk/

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SCAN ME

CONVENZIS

Case Study

NAPP

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Case Study

David Enoch
Consultant Medical Microbiologist
Cambridge University Hospitals NHSFT

REZZAYO®
rezafungin acetate

Promotional Meeting For UK healthcare professionals only

Managing invasive candidiasis in adults - a case study and experience in supporting patient flow

David Enoch

Consultant Medical Microbiologist, Cambridge University Hospitals NHSFT

***REZZAYO*® (rezafungin) is indicated for the treatment of invasive candidiasis in adults. Consideration should be given to official guidance on the appropriate use of antifungal agents[1]**

1. *REZZAYO*® (rezafungin) summary of product characteristics. Napp 2025

UK-RZF-2500213
June 2025

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Disclosures:
Speaker fees from Mundipharma

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- ***REZZAYO®*** (rezafungin) is indicated for the treatment of invasive candidiasis in adults. Consideration should be given to official guidance on the appropriate use of antifungal agents[1]
- This meeting is organised and funded by Napp for UK healthcare professionals only; this is a promotional meeting. Healthcare professional presenters and facilitators have received fair market compensation
- Prescribing information for *REZZAYO®* rezafungin is available:
  - from a Napp representative
  - by scanning the QR code opposite
  - or, if viewing an online pdf version of this presentation by clicking here

UK prescribing information

- Delegates are advised to consult their SmPC of any product before use
- Any previously unreported adverse event disclosed or discussed during the event must be reported to your local Regulatory Authority or directly to Mundipharma via the following link: drugsafetyUKandROI@mundipharma.com
- The Mundipharma Integrity Line allows third parties to ask questions, or report concerns they may have regarding their interactions with Mundipharma, in a confidential way via the following link: https://www.mundipharma.com/integrity-line

Adverse events should be reported. Reporting forms and information can be found at https://yellowcard.mhra.gov.uk
Adverse events should also be reported to
Napp Pharmaceuticals Limited on 01223 424444 or drugsafetyUKandROI@mundipharma.com

1. *REZZAYO®* (rezafungin) summary of product characteristics. Napp 2025

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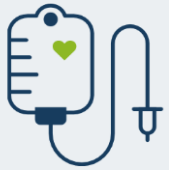
The status quo re invasive *Candida* infections…

Candida spp are commensals of the human gut[1]

Invasive candidiasis is the **most common** invasive fungal infection in the hospital setting, particularly in the ICU[2]

Risk factors: antibiotics, abdominal surgery, IVDUs, immunosuppression, interventions leading to mucosal barrier breach (e.g. CVCs)[2]



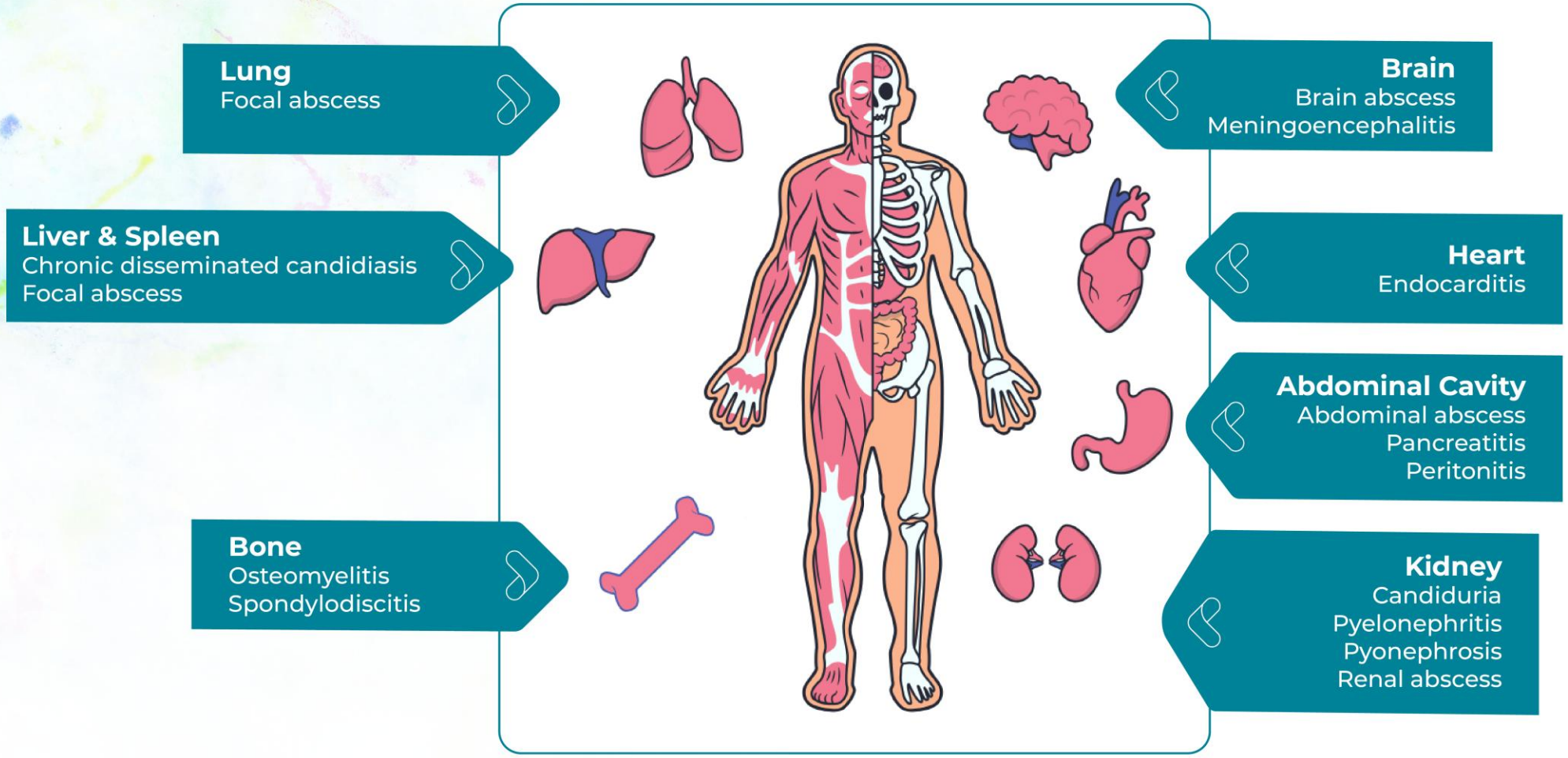
Echinocandins are first line treatment for most adult patients[3] due to their broad spectrum of activity against *Candida* spp, (incl. *C. auris*)[4] and activity against fungal biofilms5

Typically require a minimum of two weeks of therapy, but can be several months in some cases

Mortality rates remain high **20%–50% globally**[6]

1. Kumamoto CA *et al. Curr Opin Microbiol* 2020; 56:7–15.
2. Logan C, *et al. Intensive Care Med* 2020;46(11):2001–2014.
3. Centres for Disease Control and Prevention, 2020. Accessed June 2025 https://www.cdc.gov/fungal/diseases/candidiasis/invasive/treatment.html
4. UK Health Security Agency, 2023 Accessed June 2025 https://www.gov.uk/government/consultations/candida-auris-update-to-management-guidance/candida-auris-laboratory-investigation-management-and-infection-prevention-and-control-draft
5. Cândido, E.d.S.; Affonseca, F.; Cardoso, M.H.; Franco, O.L. Echinocandins as Biotechnological Tools for Treating Candida auris Infections. *J. Fungi 2020, 6, 185.* https://doi.org/10.3390/jof6030185
6. World Health Organization. WHO fungal priority pathogens list to guide research, development and public health action, 2022. Accessed June 2025. https://www.who.int/publications/i/item/9789240060241.

What is invasive candidiasis?



Adapted from: Pappas PG, *et al. Nat Rev* Dis Primers. 2018;4:18026.

1. *REZZAYO*® (rezafungin) summary of product characteristics. Napp 2025

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Rezafungin

- The combination of its front-loaded dosing and distinct structural feature which confer **stability** lead to a **prolonged half-life** (5–6 days) allowing for once-weekly [IV] dosing1,2
- The existing echinocandins are given once daily as infusions

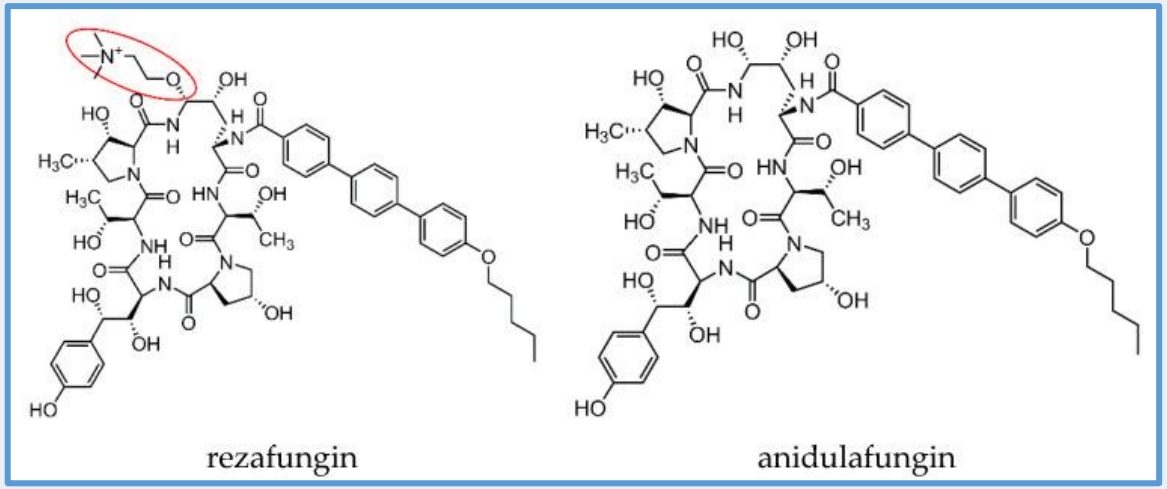
400 mg
loading dose

200 mg
once weekly
thereafter

1H

Infusion takes approximately 1 hour[2]

An infusion may be slowed, or paused and restarted at a lower rate if infusion-related reactions occur[2]



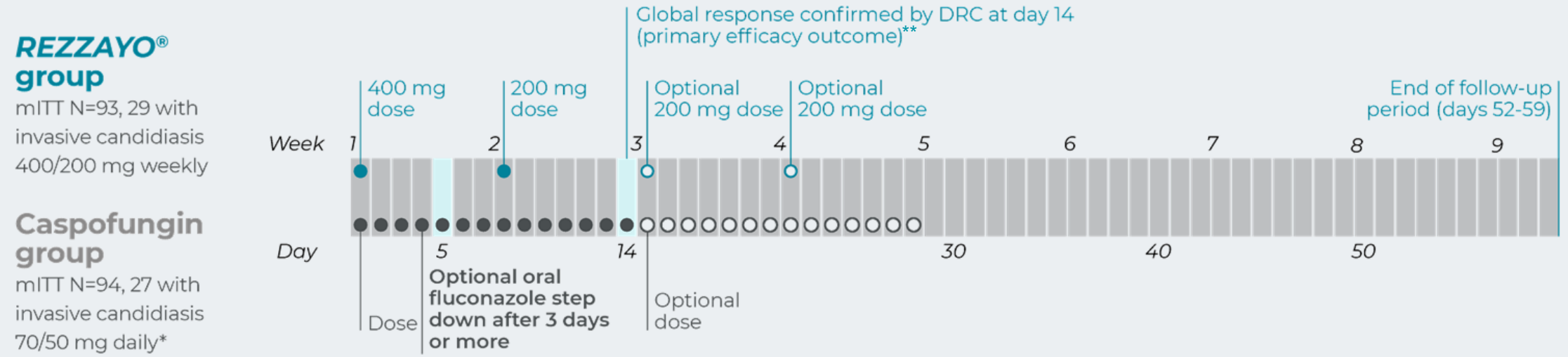
Adapted from Zhao & Perlin[3]

1. Krishnan BR, *et al. The Journal of Antibiotics*. 2017;70(2):130-5. 2. *REZZAYO®* (rezafungin). Summary of Product Characteristics. Napp 2025. **3.** Zhao J & Perlin DS, *J* Fungi 2020; 6, 192; doi:10.3390/jof6040192

REZZAYO®
rezafungin acetate

ReSTORE: phase III study design

Double-blind RCT n=199. Inclusion age ≥18 years, systemic signs + mycological confirmation of invasive candidiasis or candidaemia[1] (mITT N=187)



*Dose may be adjusted for hepatic impaired and obese patients.

**Global response (cure) consisted of clinical cure as assessed by the investigator, radiological cure (for patients with invasive candidiasis documented by radiological or imaging evidence at baseline), and mycological eradication, as confirmed by an independent data review committee (DRC).
ITT population: All randomised patients
mITT population: Modified intent-to-treat (mITT) population includes all subjects who had documented *Candida* infection based on Central Laboratory evaluation of a culture from blood or another normally sterile site obtained ≤4 days (96 hours) before randomisation and received ≥1 dose of study drug.

1. Thompson GR III, *et al. Lancet*. 2023;401(10370):49–59.

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ReSTORE: phase III study design

Double-blind RCT n=199. Inclusion age ≥18 years, systemic signs + mycological confirmation of invasive candidiasis or candidaemia[1]

Primary efficacy outcome[1]	Secondary efficacy outcomes[1,2]	Exploratory outcomes[1]
Global response at day 14*	All-cause mortality at day 30 Global response* at day 5, day 30, end-of-treatment, and follow-up visits Mycological eradication**, clinical cure as assessed by an investigator, and radiological cure for invasive candidiasis at day 5, day 30, end-of-treatment, and follow-up visits *Secondary efficacy outcomes not controlled for multiplicity*	Time to the first negative blood culture[1†] Hospital and ICU length of stay

*Global response (cure) consisted of clinical cure as assessed by the investigator, radiological cure (for patients with invasive candidiasis documented by radiological or imaging evidence at baseline), and mycological eradication, as confirmed by an independent data review committee

**Mycological eradication: For patients with positive blood cultures at screening, mycological eradication was determined by a negative blood culture after the first dose of study drug with no subsequent positive culture. For patients with a positive culture from a normally sterile site other than blood, mycological eradication was either documented (as determined by a negative culture on the day of assessment [e.g., day 5 or day 14]) or presumed (as determined by clinical and radiological cure [for those with evidence of disease on imaging at baseline] if a specimen from the infected site was not available).

†Time to negative blood culture: Blood cultures for efficacy following the first dose of study drug were performed until the first negative blood culture result for Candida spp. with no subsequent positive culture. Blood samples for cultures were drawn daily when possible although may have been drawn every other day

1. Thompson GR III, *et al. Lancet*. 2023;401(10370):49–59. 2. *REZZAYO®* (rezafungin). Summary of Product Characteristics. Napp 2025

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ReSTORE: Baseline characteristics[1]

Characteristic	Rezafungin Group (N=100)	Caspofungin Group (N=99)
Age, years, mean ± SD	59.5 ± 15.8	62.0 ± 14.6
Age ≥65 years, n (%)	40 (40)	41 (41)
Female, n (%)	33 (33)	43 (43)
BMI, kg/m^2, mean ± SD	25.4 ± 7.0	24.5 ± 6.5
Race, n (%) Asian Black or African American White Other*	 27 (27) 5 (5) 61 (61) 7 (7)	 31 (31) 4 (4) 60 (61) 4 (4)
Final diagnosis: Candidaemia only, n (%)	70 (70)	68 (69)
Final diagnosis: Invasive candidiasis, n (%)†	30 (30)	31 (31)
Modified APACHE II SCORE		
Mean ± SD	12.5 ± 8.0	13.1 ± 7.1
≥20, n (%)	15 (15)	18 (18)
<20, n (%)	84 (84)	81 (83)

Data are n (%) of mean (SD). APACHE=Acute Physiological and Chronic Health Evaluation. † Includes patients who progressed from candidaemia to invasive candidiasis based on radiological or tissue or fluid culture assessment up to day 14. *Also includes American Indian or Alaska native[2] and not reported. ANC, absolute neutrophil count; APACHE, Acute Physiology and Chronic Health Evaluation II; BMI, body mass index; ITT, intent-to-treat; SD, standard deviation. 1. Thompson GR III, *et al. Lancet.* 2023;401(10370):49–59. 2. DoF, Mundipharma - Ref-17860

REZZAYO® rezafungin acetate

ReSTORE: primary efficacy outcome

- Rezafungin **demonstrated non-inferiority** in global response† at day 14 compared with once-daily caspofungin* (mITT population)

	REZZAYO® group (n=93)	Caspofungin group (n=94)	Treatment difference (95% CI)
Global response at day 14 as assessed by DRC (primary efficacy outcome)[1]			
Cure[2]	55 (59.1%)	57 (60.6%)	-1.1 (-14.9 to 12.7)
Failure[1]	28 (30%)	29 (31%)	...
Indeterminate[1]	10 (11%)	8 (9%)	...

Adapted from Thompson *et al.* 2023[1]

Including data from the ReSTORE China extension study global response rates at day 14 in the mITT population: *REZZAYO*® group, 65/115 adult patients (56.5%); caspofungin group, 67/117 adult patients (57.3%). Weighted treatment difference -1.0%; 95% CI -13.5 to 11.6 [2*]

Rezafungin was considered non-inferior to caspofungin for global response if the lower bound of the CI was above -20%
*Stable patients in the caspofungin group who met relevant criteria could step down to fluconazole after 3 days or more.
†Global response (cure) consisted of clinical cure as assessed by the investigator, radiological cure (for patients with invasive candidiasis documented by radiological or imaging evidence at baseline), and mycological eradication, as confirmed by an independent data review committee.
1. Thompson GR III, *et al. Lancet.* 2023;401(10370):49–59. 2. *REZZAYO*® (rezafungin). Summary of Product Characteristics. Napp 2025

REZZAYO® rezafungin acetate

ReSTORE: Safety profile

- Rezafungin was **generally well tolerated in the clinical trial programme**[1]
- The most common (≥10%) TEAEs in the rezafungin group during ReSTORE were pyrexia, hypokalaemia, pneumonia and septic shock.[1] Wheezing was also a common side effect seen across the development programme.[2]

Across the clinical trial programme, the most common (≥10%) TEAEs in the rezafungin groups were hypokalaemia, pyrexia, anaemia and diarrhoea[2]
For additional safety information and full list of adverse events, please see the SmPC

During clinical trials patients were treated with rezafungin for up to 28 days[2]
The safety information on rezafungin treatment durations longer than 4 week is limited[2]

TEAE, n (%)	Rezafungin group (n=98)	Caspofungin group* (n=98)
Participants with ≥1 TEAE	89 (91%)	83 (85%)
TEAE with incidence ≥5% in either treatment group		
Abdominal pain	5 (5%)	4 (4%)
Acute kidney injury	3 (3%)	8 (8%)
Anaemia	9 (9%)	9 (9%)
Bacteraemia	5 (5%)	3 (3%)
Constipation	5 (5%)	3 (3%)
Diarrhoea	6 (6%)	7 (7%)
Hyperkalaemia	2 (2%)	6 (6%)
Hypokalaemia	13 (13%)	9 (9%)
Hypomagnesaemia	7 (7%)	3 (3%)
Hypophosphataemia	5 (5%)	4 (4%)
Hypotension	5 (5%)	6 (6%)
Multiple organ dysfunction syndrome	5 (5%)	2 (2%)
Nausea	5 (5%)	2 (2%)
Pneumonia	10 (10%)	3 (3%)
Pyrexia	14 (14%)	5 (5%)
Sepsis	6 (6%)	4 (4%)
Septic shock	10 (10%)	9 (9%)
Urinary tract infection	4 (4%)	6 (6%)
Vomiting	6 (6%)	2 (2%)

Adapted from Thompson *et al.* 2023.[1]

*Stable patients in the caspofungin group who met relevant criteria could step down to fluconazole after 3 days or more.

1. Thompson GR III, *et al. Lancet*. 2023;401(10370):49–59. **2.** *REZZAYO®* (rezafungin). Summary of Product Characteristics.Napp 2025

REZZAYO®
rezafungin acetate

Additional safety considerations[1]

General

The efficacy of rezafungin has only been evaluated in a limited number of neutropenic patients.
During clinical trials patients were treated with rezafungin for up to 28 days.

The safety information on rezafungin treatment durations longer than 4 weeks is limited.

Infusion-related reactions

Transient infusion-related reactions have occurred with rezafungin, characterised by flushing, sensation of warmth, nausea, and chest tightness. In clinical trials, infusion reactions resolved within minutes, some without interruption or discontinuation of the infusion. Patients should be monitored during the infusion. If the infusion is stopped due to a reaction, consideration may be given to restarting the infusion at a slower rate after the symptoms have resolved.

Hepatic effects

In clinical trials, elevations in liver enzymes have been seen in some patients treated with rezafungin. In some patients with serious underlying medical conditions who were receiving multiple concomitant medications along with rezafungin, clinically significant hepatic dysfunction has occurred; a causal relationship to rezafungin has not been established. Patients who develop elevations in liver enzymes during rezafungin therapy should be monitored and the risk/benefit of continuing rezafungin therapy should be re-evaluated.

Phototoxicity

Rezafungin may cause increased risk of phototoxicity. Patients should be advised to avoid sun exposure and other sources of UV radiation without adequate protection during treatment and for 7 days after the last administration of rezafungin.

Contraindications

Rezafungin is contraindicated in patients with hypersensitivity to the active substance, any of the excipients or other medicinal products of the echinocandin class.

1. *REZZAYO*® (rezafungin). Summary of Product Characteristics. Napp 2025

REZZAYO® rezafungin acetate

Case

- 72M with a background of bladder cancer
- Referred from local hospital to urology in CUH

May 2024:	TURBT	G3pT1 with muscle
July 2024:	MRI	?T3 disease
August 2024:	Rigid cystoscopy and biopsies	
	“High-risk non muscle invasive urothelial bladder cancer”	

October 2024:	Radical robot assisted cystoprostatectomy	
with	bilateral pelvic lymphadenectomy	
with	formation of an ileal conduit	
	Gentamicin and co-amoxiclav prophylaxis	

TURBT: trans urethral resection of bladder tumour

MRI: magnetic resonance imaging

Post op

Day 4:

- Develops ileus, abdomen very distended, no flatus
- Bruised ileal conduit
- Commenced on TPN via PICC line

Day 5:

- CTAP – ileus, no mechanical obstruction, possibly ischaemic conduit

- PICC: peripherally inserted central catheter
- TPN: total parenteral nutrition
- CTAP: computed tomography abdomen pelvis

Post op

Day 6:

- T 39.4°C
- “Septic screen” (blood cultures and urine)
- Stop TPN
- Start co-amoxiclav
- Bowels opened

Day 8:

- Blood cultures signal positive; yeasts seen

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Action

- Commence anidulafungin
- Repeat blood cultures now and in 48 hours
- Review for GI and urinary tract infection and send appropriate samples to microbiology
- Review the PICC line and send the tip(s) for culture
- Consider echocardiography and ophthalmology review

Clinical course

Day 11:

- Blood culture: *Candida albicans*
  - Susceptible to all agents tested
  - Advised to switch to fluconazole after ECG

- Clinically slowly improves
  - PICC line removed
  - Line tip negative
  - Urine negative
  - Echo negative
  - Fundoscopy unremarkable
  - Subsequent blood cultures negative: for 2 weeks of antifungal therapy

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Clinical course

Day 11:

- Abdomen tense but not particularly tender; no peritonism
- Inflammatory markers not settling

- CT abdomen pelvis
  - Stents in situ, mucous covering stoma
  - Perforated ileal conduit secondary to ischaemia with worsening features of small bowel ileus
  - Malpositioned left ureteric stent with small segment still within the interpolar parenchyma

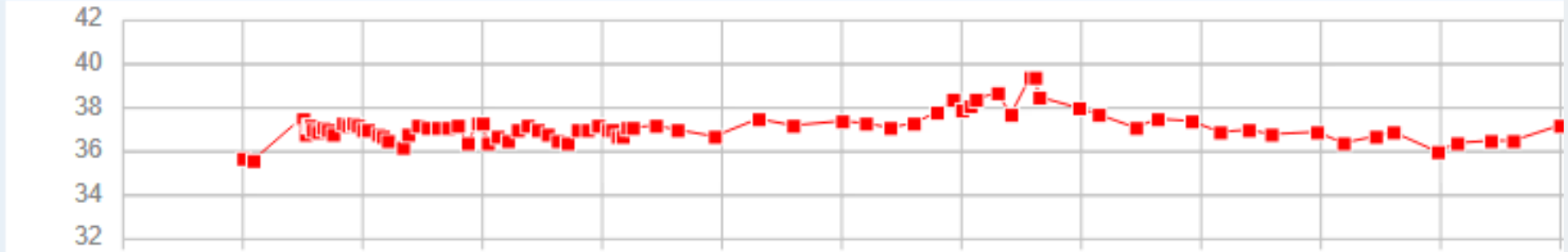
- Pre-operative ECG
  - QTC prolonged at 508ms
  - Repeat ECG today showed QTC of 495 and 515ms
  - Fluconazole not commenced

- Continue anidulafungin

	No dep...	A...	Main Theatre Recovery (Le...	M5 Ward (Level 5)							
24 Hrs:	13/10 07:00	14/10 07:00	15/10 07:00	16/10 07:00	17/10 07:00	18/10 07:00	19/10 07:00	20/10 07:00	21/10 07:00	22/10 07:00	23/10 07:00	24/10 07:00

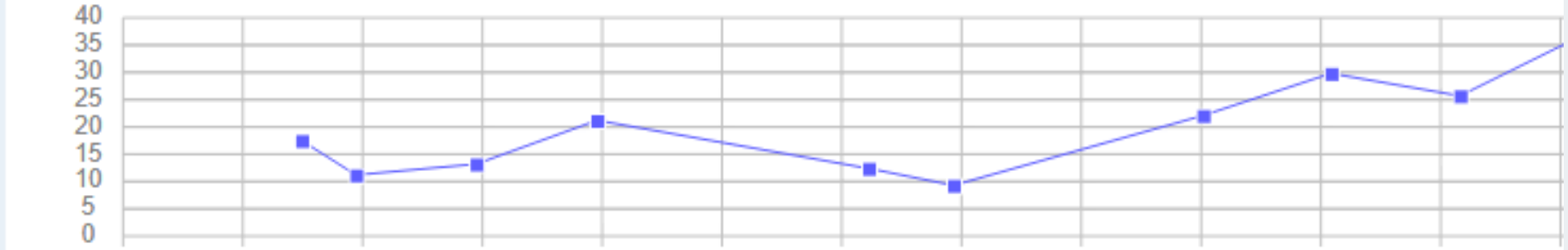
Temperature

Temperature (°C)



WBC Count

WBC count (k)



CRP

CRP

Anti-infectives

Anidulafungin INTRAVENOUS (mg)										200	100	100
Co-amoxiclav 1000mg+200mg INTRAV...		2.4						4.8	3.6	3.6	3.6	2.4
Fosfomycin ORAL (g)												
Gentamicin INTRAVENOUS (mg)		120										

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Post op

Day 15:

“Looking and feeling well

Having lunch, therefore stoma not assessed

Independent with stoma care and has all discharge supplies

Keen to go home but [*patient*] and [*wife*] understand that plans need to be in place for IV antifungal to be administered

Preference would be:

- daily OPAT attendance at [*local*] hospital
- or in-patient at [*local hospital*],
- with returning to Addenbrookes daily least preferable”

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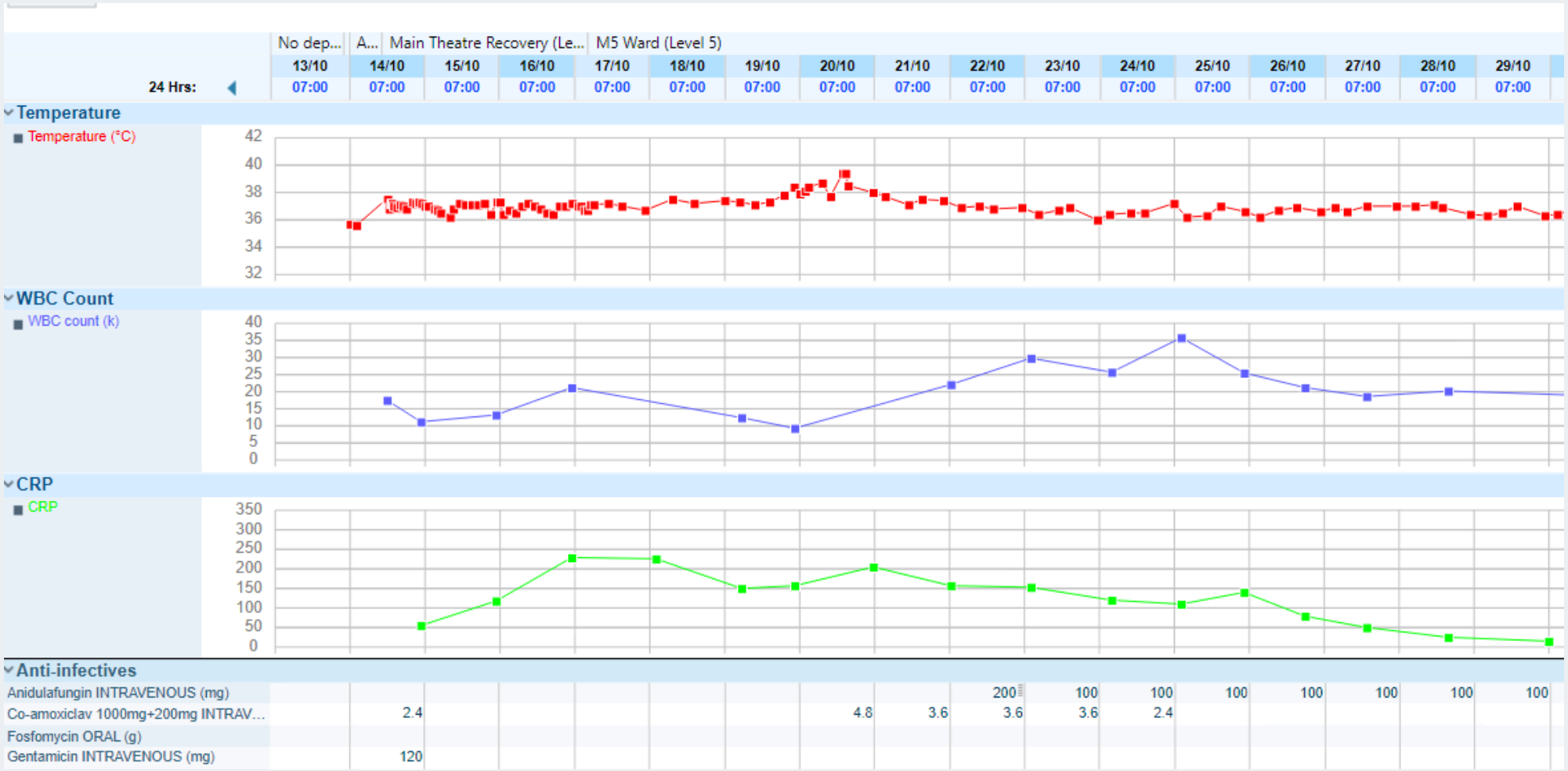
Fever chart



Post op

Day 16:

- Given rezafungin 400 mg as a stat dose
- No need for further doses

Day 17:

- Removal of ureteric stents from ileal conduit
- Given co-amoxiclav as prophylaxis
- pT0 pN0 M0
- Discharged home

How did he do?

- Day 30:
- Readmitted feeling “unwell with shivers, sweaty and low grade fevers”
- Repeat urine cultures
- Repeat blood cultures
- No evidence fungal infection

- Commenced on co-amoxiclav

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Summary of the case

- Candidaemia
- Potential sources included PICC, urinary tract and GI tract
- Fluconazole would have been used if no issues re: QTC
- Allowed discharge 7 days earlier than with an alternative IV echinocandin
- Only required loading dose (400mg) as he'd already received one week of anidulafungin
- No need for OPAT

- Several benefits
  - Equivalent efficacy
  - Acceptable safety / tolerability
  - Quicker discharge
  - Patient preference
- More expensive than generic echinocandins

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Panel Discussion

David Sgorbati
Chief Analyst
Health Economics Unit

Alison Johnson
SVP UK Health
ORCHA Health

William Lumb
Chief Clinical Information Officer, Lancashire & South Cumbria ICB

Altaf Sadique
Non Executive Director (Digital), Bradford Teaching Hospitals NHS Foundation Trust

Mark A.M. Ragoo
Emergency Medicine Consultant & Medical Informatics Officer
University Hospitals of Derby and Burton NHS Foundation Trust

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Drinks & Networking