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 Drtimanstiss

Reactance

Ambivalence

- Unsure
- In 'two minds'
- Undecided
- Wanting and not wanting something at the same time

e.g:

Having Surgery

Stopping Smoking

Changing Job

Becoming more acticce

Leaving a relationship

- A very <u>natural</u> state
- A very <u>common</u> state
- Not pathological
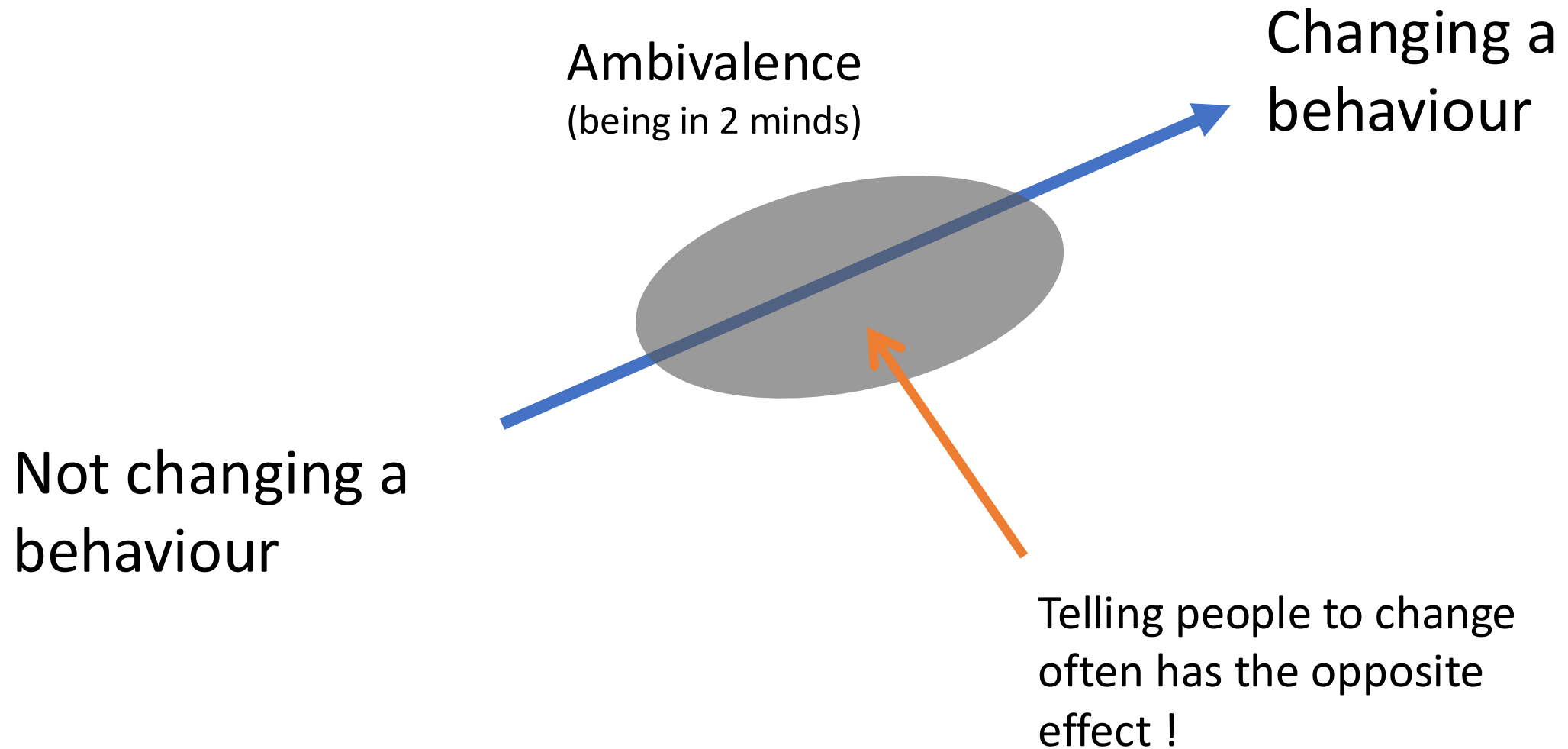- People get stuck
- Can stay stuck for years !

Behaviour Change

Ambivalence
(being in 2 minds)

Changing a
behaviour

Not changing a
behaviour

Telling people to change
often has the opposite
effect !

Meta-analyses of interventions

Odds ratio

Determinant	Mean
Knowledge	1.11
General skills	1.23
General attitudes	1.35
Beliefs	1.43
Emotions	1.60
Behavioural skills	1.99
Behavioural attitudes	2.09
Habits	2.65

Legend: ● Minimum | Mean ● Maximum

Review article

Check for updates

Determinants of behaviour and their efficacy as targets of behavioural change interventions

Dolores Albarracin [1,2,3,4,5], Bita Fayaz-Farkhad[2] & Javier A. Granados Samayoa[1,3]

Abstract

Unprecedented social, environmental, political and economic challenges – such as pandemics and epidemics, environmental degradation and community violence – require taking stock of how to promote behaviours that benefit individuals and society at large. In this Review, we synthesize multidisciplinary meta-analyses of the individual and social-structural determinants of behaviour (for example, beliefs and norms, respectively) and the efficacy of behavioural change interventions that target them. We find that, across domains, interventions designed to change individual determinants can be ordered by increasing impact as those targeting knowledge, general skills, general attitudes, beliefs, emotions, behavioural skills, behavioural attitudes and habits. Interventions designed to change social-structural determinants can be ordered by increasing impact as legal and administrative sanctions; programmes that increase institutional trustworthiness; interventions to change injunctive norms; monitors and reminders; descriptive norm interventions; material incentives; social support provision; and policies that increase

Sections

Introduction

Behavioural determinants

Individual determinants and interventions

Social-structural determinants and interventions

Summary and future directions
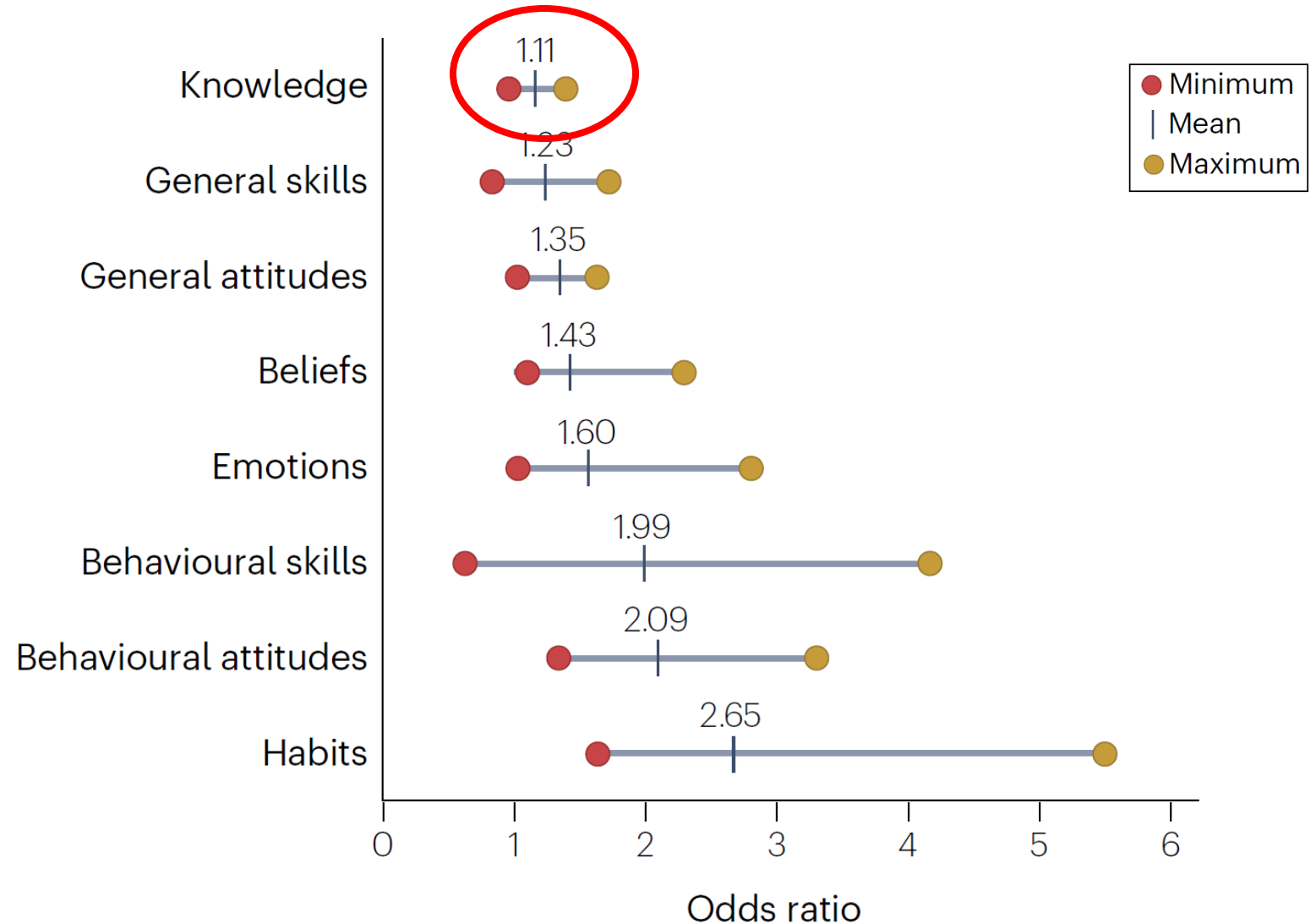
Dr Tim

- Medical Doctor

- Specialising in behavioural science and behaviour change

- Several national and international projects
    - National Cancer Surivorship Initiative
    - Moving Medicine

- Trained thousands of health professionals in motivational interviewing

- Lecture on Coaching at Henley, UCL and Cambridge University

- Pole Vaulted for GB

- Contender on ITV's Gladiators

The Product

- White Label Smart Health Coach (some AI)

- Rapidly Tailored for Different:
  - *Conditions*
  - *Behaviours*
  - *Places*
  - *Populations*
  - *Pathways*

Personalised & Preventive

Precision Health Coaching

Plug In

Population Health Intervention

CoachBot®

VIRTUAL HEALTH LABS

Proof of concepts

**Developed algorithms for:**

- CV Risk
- Cancer
- Diabetes
- Mental Health
- Hazardous Drinking
- Physical Activity
- Service Uptake
- Waiting Lists
- Healthy Weight
- Smoking Cessation

Developed for:

- NHS Trust
- Local Government
- Primary Care Networks
- Big Pharma
- Leisure Operator
- Talking Therapies
- Health Charities
- Central Government
- Public Health
- International (Slovenia)

Developed In:

- English
- German
- Slovenian
- Arabic
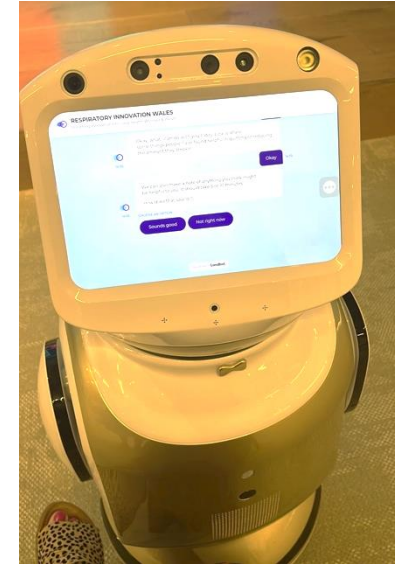
>10,000 conversations

Proof of Concepts

Cancer Survivors

Increased risk for CVD

A very useful app to help manage my health and wellbeing

It would definitely be useful to me personally

It's very friendly

I would recommend it to others

It was very clear what you had to do

seemed friendly although I knew it was a robot lol

Instant help

clear, concise, easy to use.

Very fast and responsive

I like that it gives you suggestions

Not feeling pressure

Proof of Concepts

Trent PTS
Improving access to psychological therapies (IAPT)

South Southwark primary care network

Q QUAY HEALTH SOLUTIONS

Depression and Anxiety

Waiting for Link Worker

Very helpful and supportive

Being given the space to think and not being judged

Admitting issues to myself

This is a lot easier as it can be hard to say these things in front of a person

Identifying things I can work on while waiting for CBT

Helped to talk through and unravel part of the problems I'm dealing with

NTU Nottingham Trent University

58% would use again

56% found information helpful

54% satisfied/very satisfied

52% trusted the agent

46% felt reassured

38% more likely to attend

The Coachbot® was effective at reducing cancellations and DNAs compared to controls

For being at ease in communication, this interface could be a godsend

It helped me off load some of my concerns

this feels like a friendly conversation now.

- Much better prepared
- Better prepared   **80%**
- No change
- Less prepared
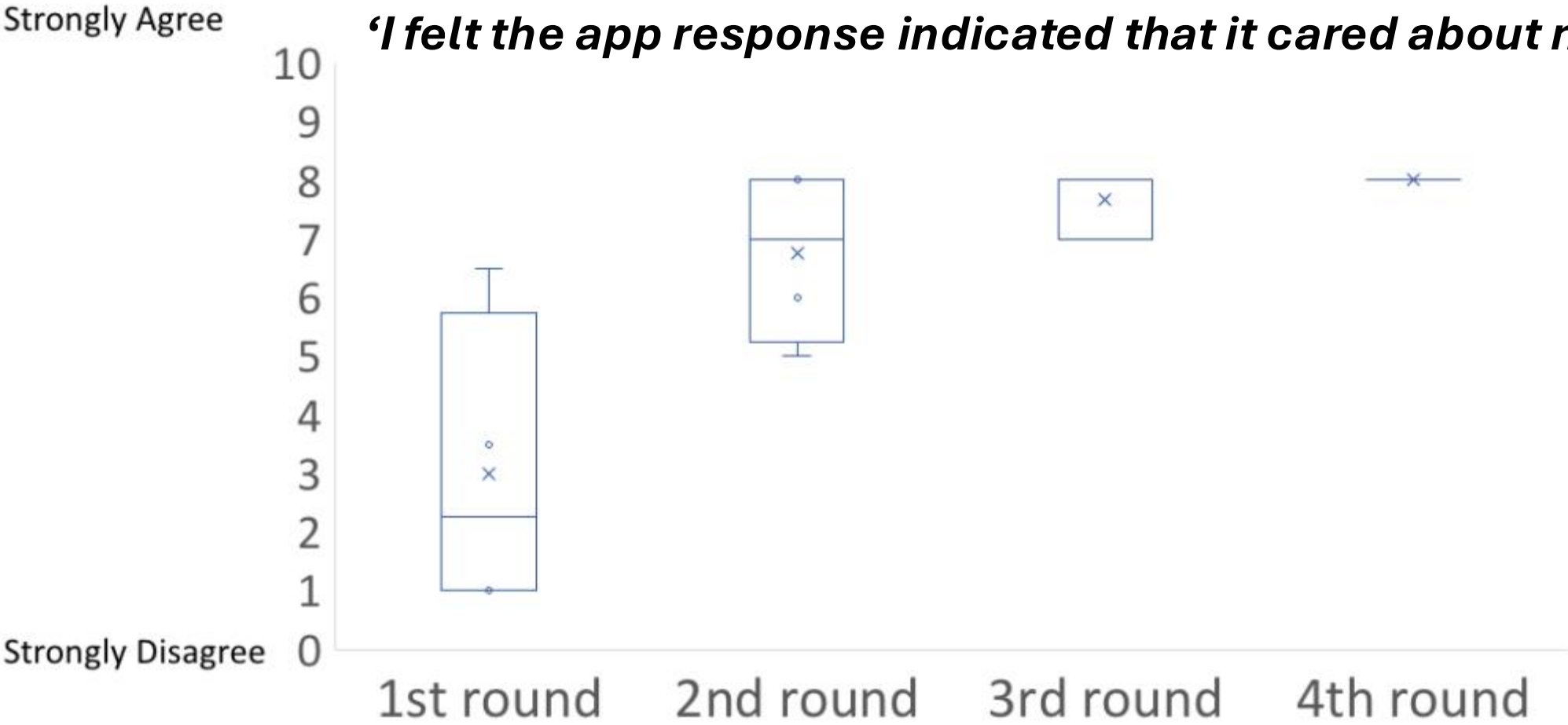
Differentiation

Help the less ready become more motivated

Where most health apps focus

CoachBot® → Decided to change

Maintaining change

CoachBot® → Deciding to change

CoachBot® → Thinking about change

Not thinking about change

For multiple different behaviours

Differentiation

Better outcomes and lower cost

Help the less activated become more activated
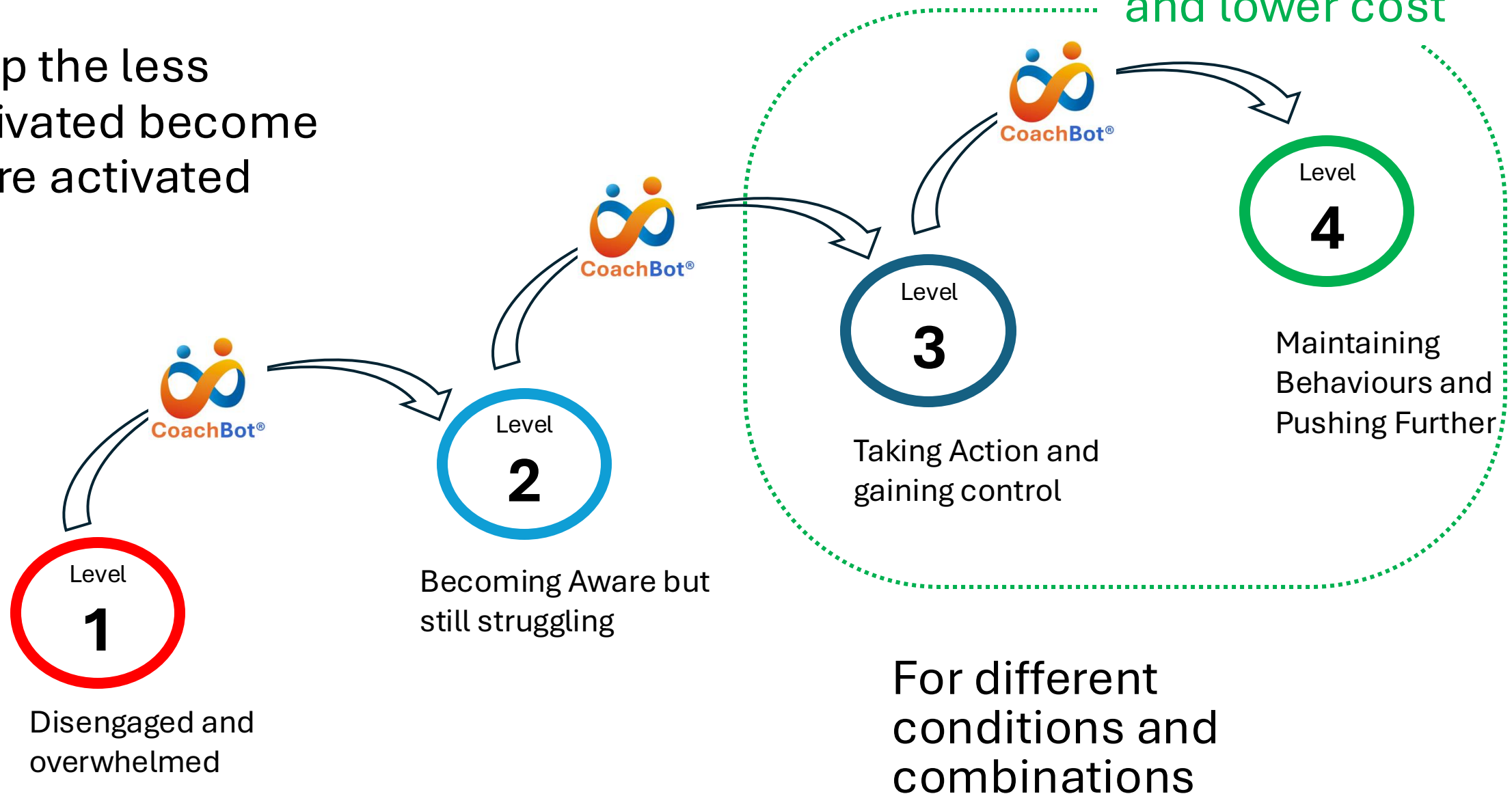
CoachBot®

Level 1
Disengaged and overwhelmed

CoachBot®

Level 2
Becoming Aware but still struggling

CoachBot®

Level 3
Taking Action and gaining control

CoachBot®

Level 4
Maintaining Behaviours and Pushing Further

For different conditions and combinations

Figure 1: Example of the perioperative care pathway[5]

Centre for Perioperative Care
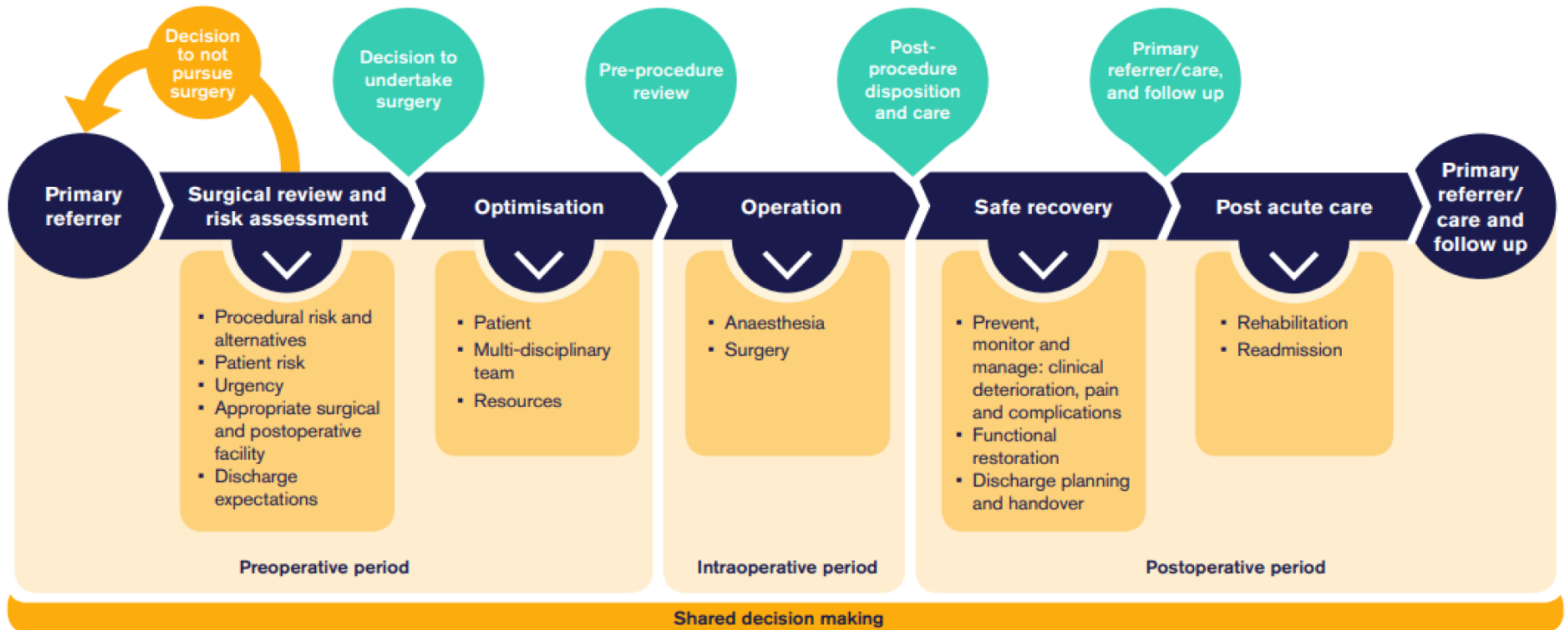
Impact of perioperative care on healthcare resource use

Rapid research review

	Effect on cancellations	Effect on complications	Effect on length of stay	Effect on healthcare costs	Effect on readmissions	Effect on survival	Effect on patient satisfaction
Integrated care pathways	Amber	Amber	Green	Green	Amber	Amber	Grey
Shared decision-making	Grey	Grey	Grey	Grey	Grey	Grey	Amber
Structured risk assessment	Amber	Grey	Grey	Grey	Grey	Grey	Grey
Prehabilitation	Grey	Amber	Amber	Amber	Amber	Grey	Grey
Manging long term conditions	Grey	Grey	Amber	Grey	Grey	Grey	Grey
Discharge planning	-	-	Amber	Amber	Grey	Grey	Grey
Follow-up after discharge	-	-	-	Grey	Amber	Grey	Grey

Green = Large amount of good quality evidence available to suggest a positive impact, Amber = Some evidence of positive impact but more quality or quantity needed to be definitive, Red = Available evidence suggests little or no positive impact or very mixed findings, Grey = Not enough evidence to draw conclusions

Centre for Perioperative Care

Impact of perioperative care on healthcare resource use

Rapid research review

Multicomponent initiatives

Effect on functioning and complications

A number of systematic reviews and individual studies have found that prehabilitation is feasible for a people undergoing surgery for various conditions, is associated with improved patient satisfaction and may have positive impacts on functional status, postoperative complications and length of stay, with no adverse effects.[212,213,214,215]

A review of 18 studies of prehabilitation for people with **cancer** included psychological support, education and/or exercise. Preoperative exercise programmes significantly reduced the length of hospital stay (mean reduction 4.2 days, 95% CI 2.9 to 5.4 reduction, p<0.05) and post-surgery complications (odds ratio 0.2, 95% CI 0.1 to 0.7, p<0.05) in people with lung cancer.

Bots help some people change

Effectiveness

- Lifestyle change
- Smoking cessation
- Physical activity
- Diet
- Sleep quality
- Treatment adherence

And

- Scalable
- Non-judgemental

and Confidential

GM Prehab4Cancer Independent Evaluation

Catherine Neck / Zoe Bristow / January 2022

Joining the dots across health and care

Figure 8: WHODAS Scores for Patients who "Completed Prehab"

Change in WHODAS Score
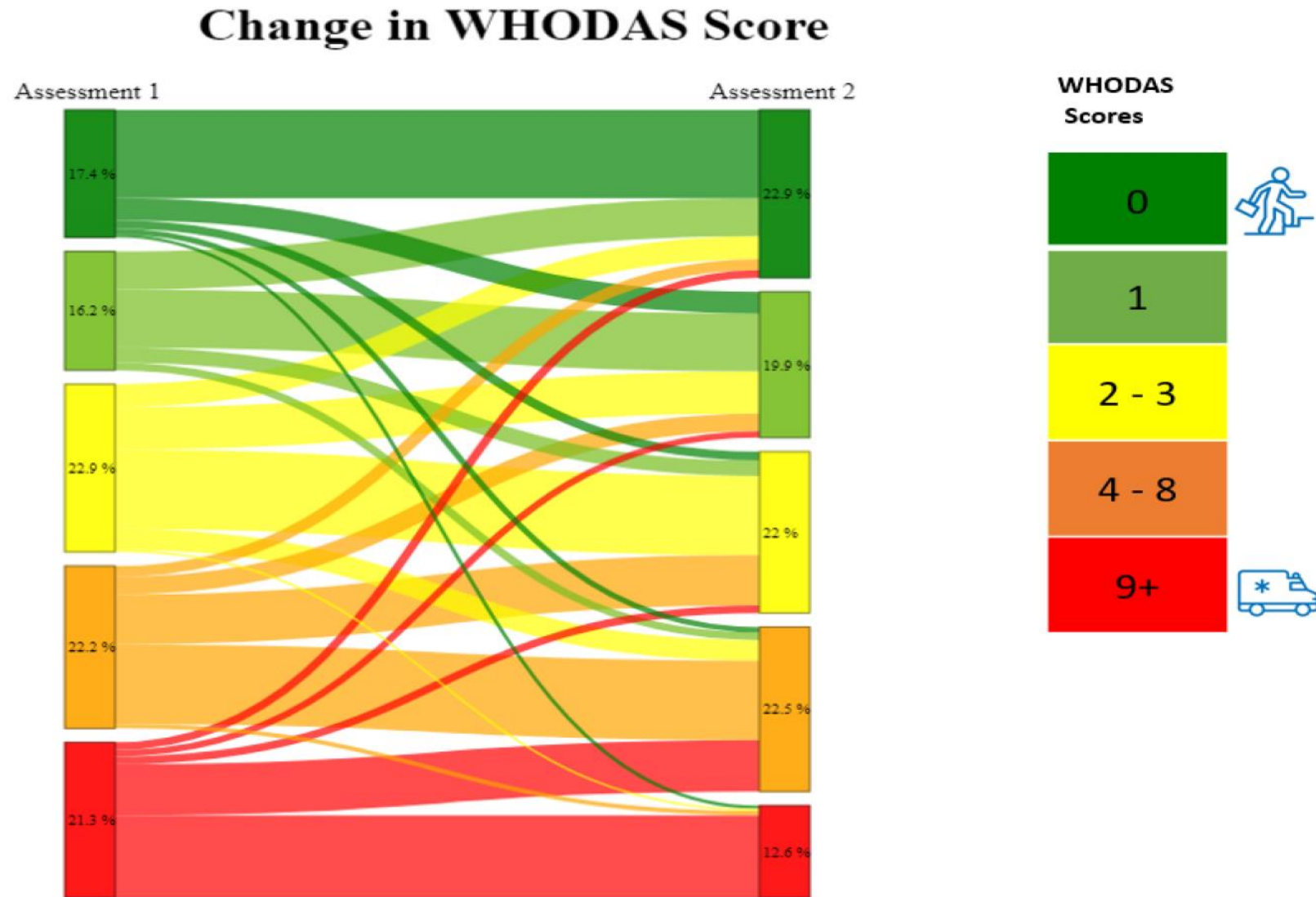
Effect of Prehab on the Older Patient (70 years +)

Number of Patients in Cohort		Mean Total Length of Stay (days)			Mean Critical care Length of Stay (days)		Bed-days released	CC Bed-days released	Bed-days released per Prehab Patient	CC Bed-days released per Prehab Patient
In Prehab	Not in Prehab	In Prehab	Not in Prehab	Significance (95% confidence)	In Prehab	Not in Prehab				
196	267	10.5	12.5	Prehab significant	2.5	2.8	380.8	56.8	1.9	0.3

- Two days shorter length of stay, 'releasing' 381 bed days

- Less critical care bed days used, 57 bed days 'released'

- Lower ED attendances within 30 and 90-days

- Lower 30 and 90-day emergency readmissions

Joining the dots across health and care

SCW

The colorectal patients who completed prehab were the largest cohort. Headline results include:

- 1.5-day reduction in hospital length of stay per prehab patient
- 0.4-day reduction in critical care length of stay per prehab patient
- 550 ward bed days 'released'
- 146 critical care bed days 'released'
- Bed days 'released' from 1000 colorectal prehab patients enable 179 additional patients to access timely surgical pathways.

Bed days 'released' per prehab patient cover the costs involved in setting up and delivering P4C for a year and this is sustainable on a recurrent basis.

Other significant findings include a two-day reduction in length of stay for colorectal cancer patients over 70 years of age. This cohort also have fewer emergency readmissions and emergency department attendances.

On demand personalised, precision health coaching along the care pathway
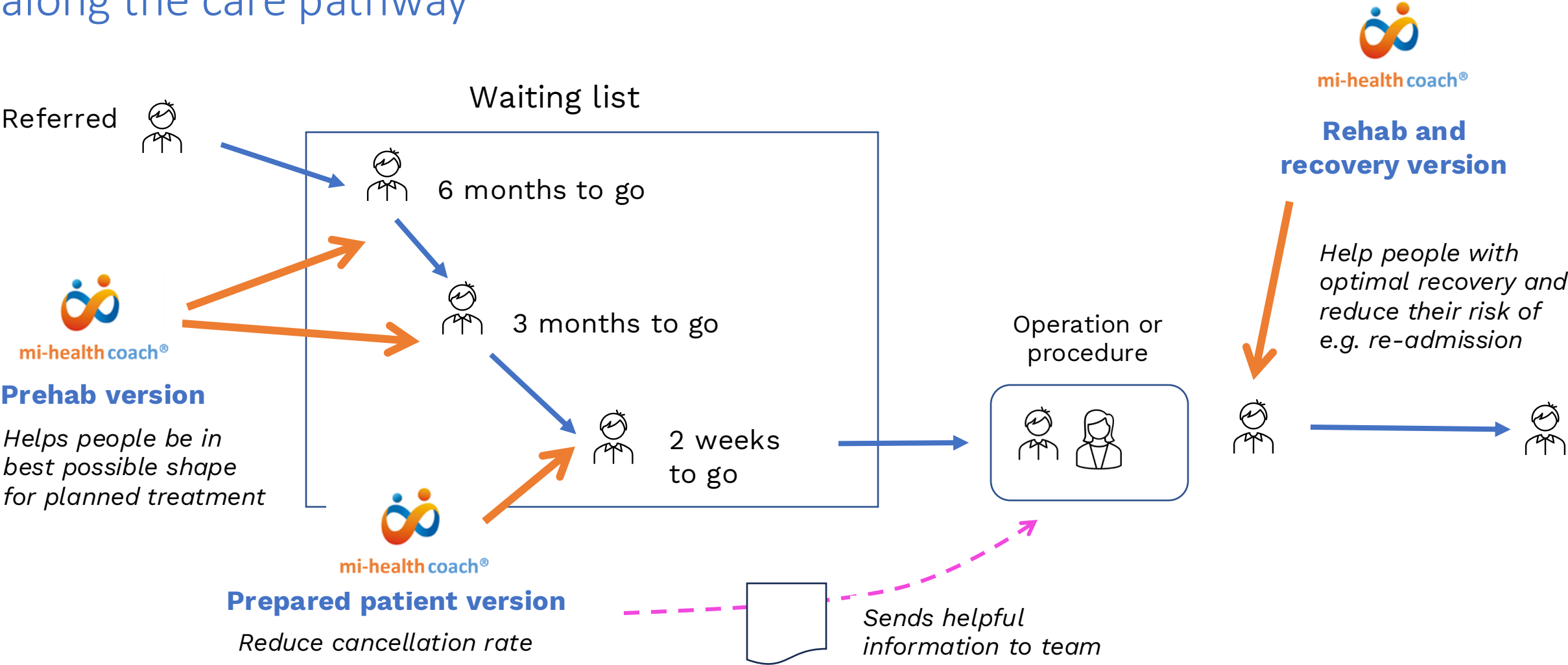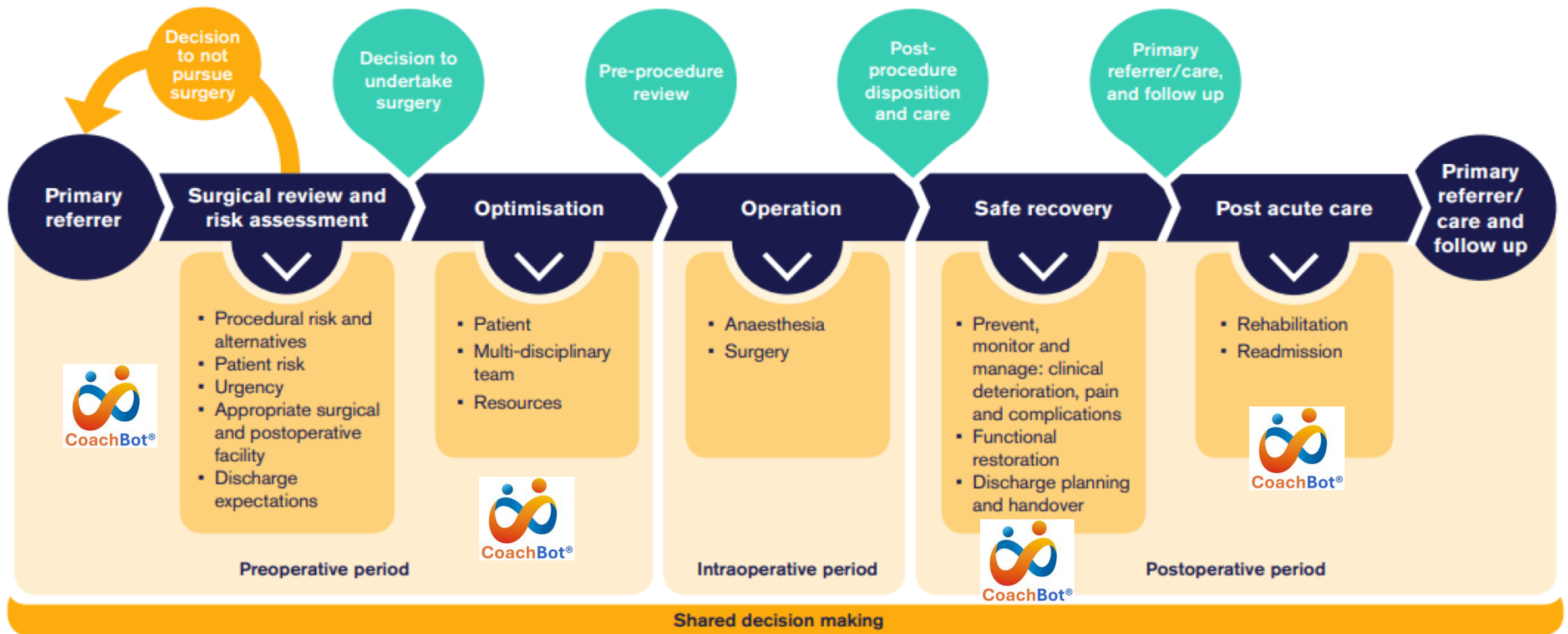
Referred

Waiting list

6 months to go

3 months to go

2 weeks to go

Operation or procedure

Rehab and recovery version

Help people with optimal recovery and reduce their risk of e.g. re-admission

Prehab version

Helps people be in best possible shape for planned treatment

Prepared patient version

Reduce cancellation rate

Sends helpful information to team

mi-health coach®

User Involvement in Design

Clinician Involvement in Design

Q3: MoSCoW Analysis

3 What are the key elements of the proposed solution?

- equality-accessible for all
- being able to book their own appointment online
- Available in large text-participant can be sight impaired
- video of process online, maybe "welcome to the team"
- Layout- easy to follow
- Multiple language choices for clear understanding
- later evenings and weekends which we've recently started

Must have

- a link to common Q&A pt could read before hand to reassure them on their upcoming appointment
- link with DESW's pt management system
- Maps and clear info to the appointment venues
- Contact us information, so the pt can ask questions or cancel if something goes wrong
- Ability to accept multiple venue locations and regular updates to locations due to service needs

Should have

- link for further information, such as website, DESW leaflet or video
- engaging- videos, pictures, maps of locations
- Having awareness not being able to drive following drops , history of eye conditions and medication
- Explanation of screening examination
- Multi-use (for pts, health professionals and third sector)
- integration with other systems, such as GP links, demographics and referral locations/results

Could have

- Links with support networks (eg diabetes uk, local groups, links with other diabetes/eye services
- ability to change appointment online

Won't have

- a high cost which affects the whole process
- Technical wording and terminology.
- Single click option to not take part in screening (opt out). Ideally pt's should complete a form and agree that they accept opt out clauses, then sign it. This should not be directly available on the solution

Looking for…

- Research collaborations

- Economic impact / ROI studies

- Seed Funding (currently raising)

Thank You

Helping busy health teams offer patients on demand heath and wellbeing coaching, 24/7

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