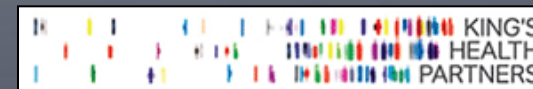


# In search of the 'ideal' model for perioperative care for older adults

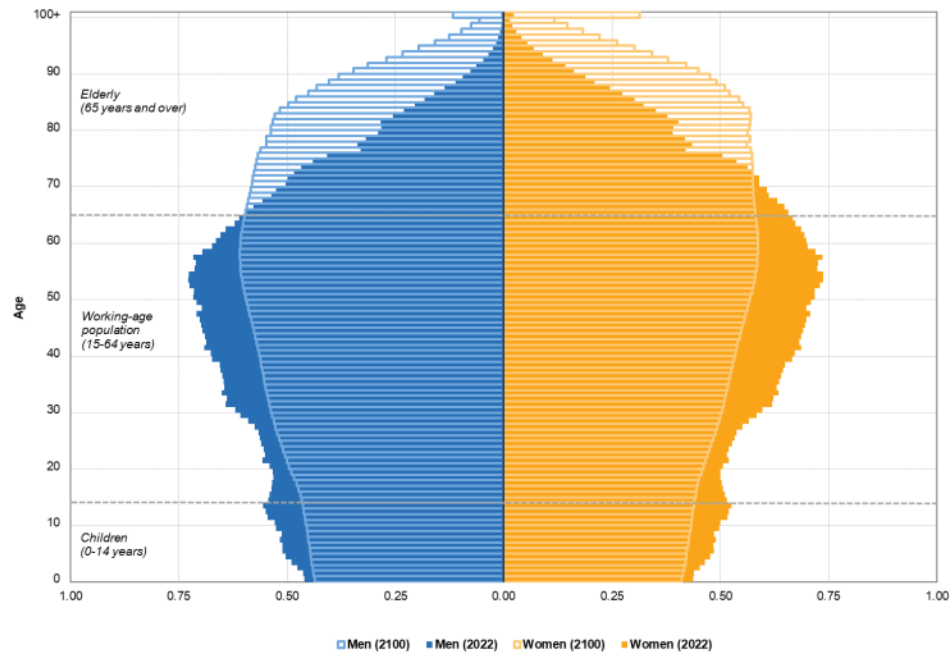
## Perioperative medicine for Older People undergoing Surgery (POPS)

Jugdeep Dhesi, Geriatrician  
Perioperative medicine for Older People undergoing Surgery (POPS)  
Guy's and St Thomas' NHS Foundation Trust  
Deputy Director, Centre for Perioperative Care  
President Elect, British Geriatrics Society  
Professor of Geriatric Medicine, Kings College London



# The success of health and social care means more fun...

Population pyramids, EU, 2022 and 2100  
(% of total population)



Belgium

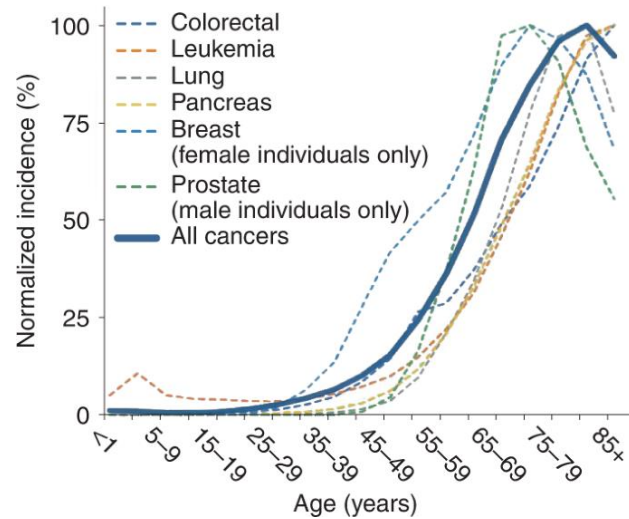
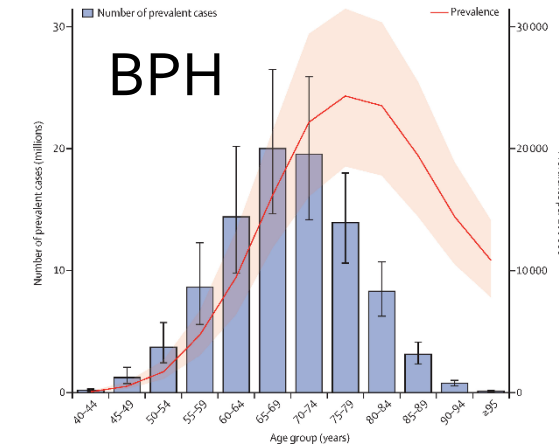
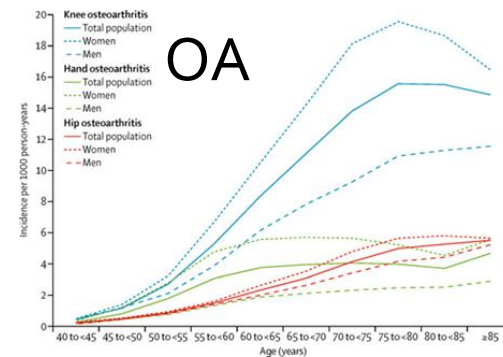
2025 - 1 in 5 >65

2050 - 1 in 4 >65

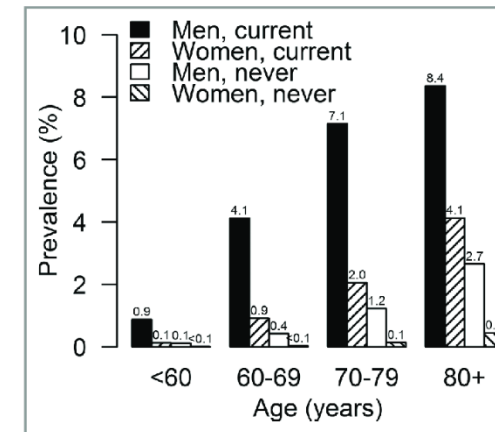
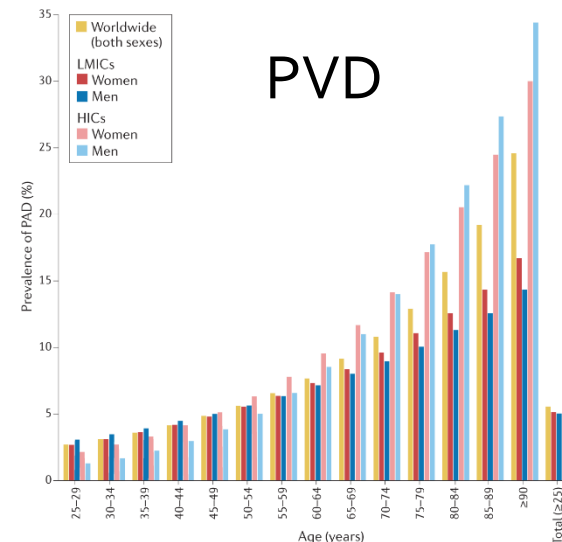


# ...but also more pathology (requiring surgery)...

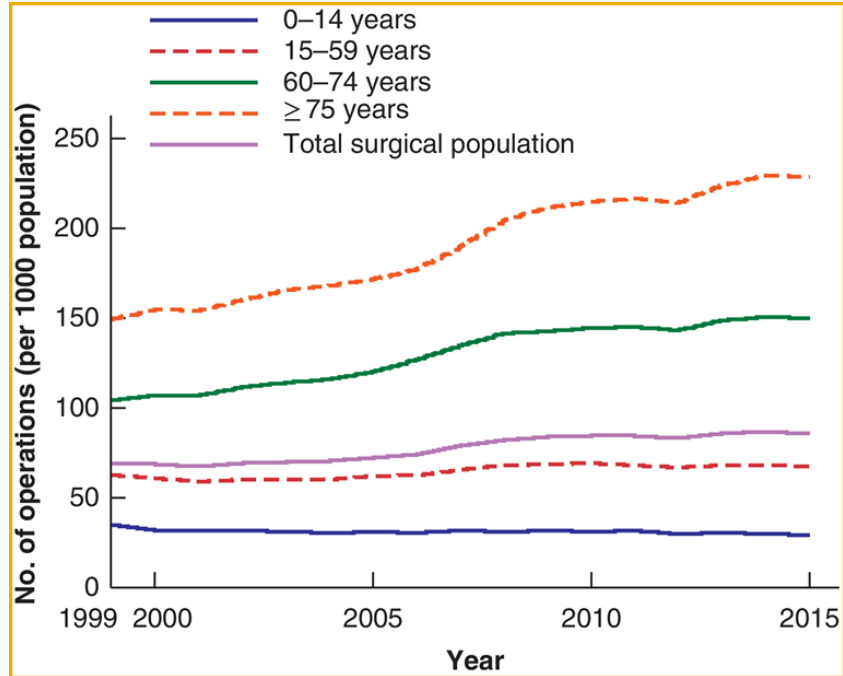
- Degenerative
- Neoplastic
- Vascular



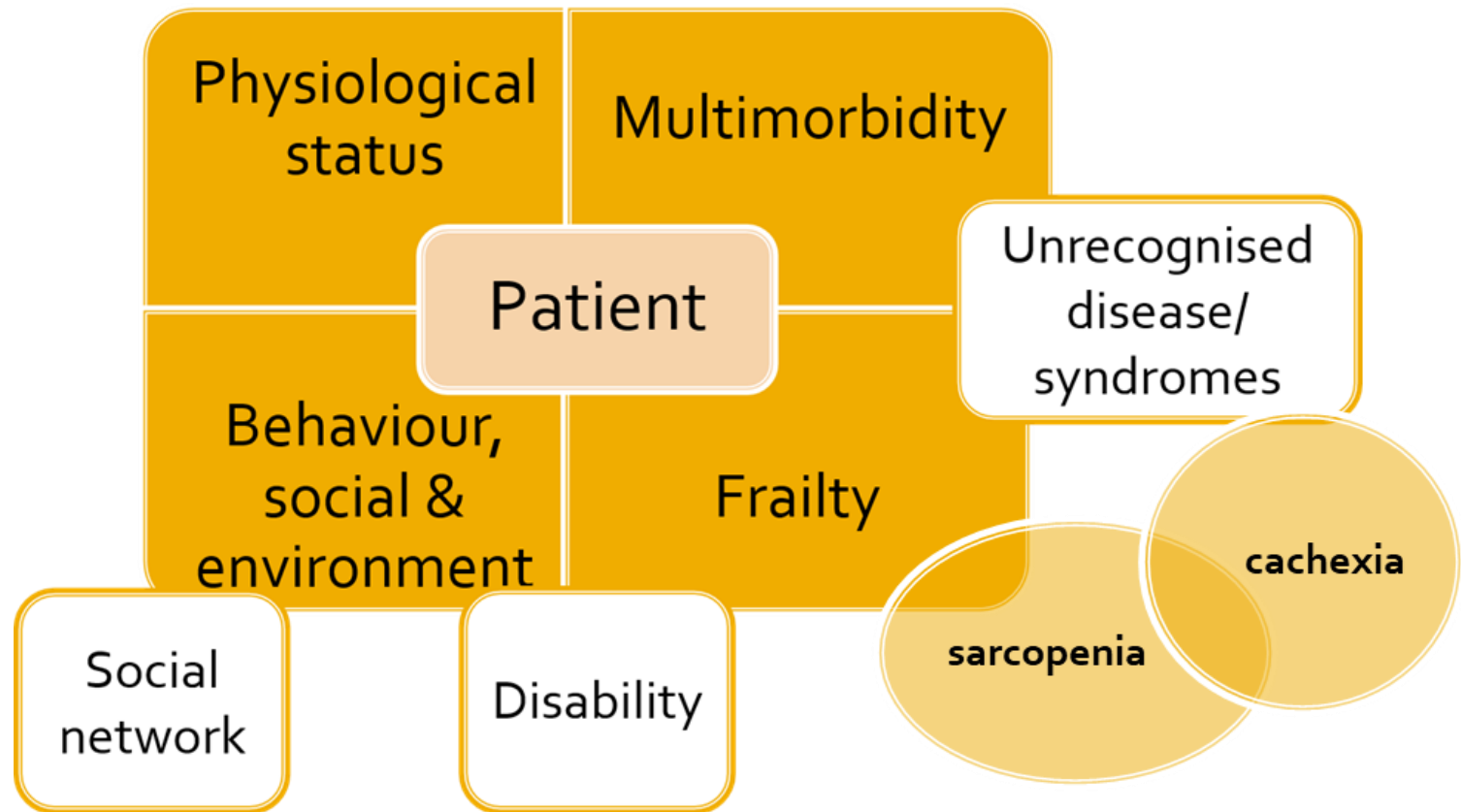
Cancers



# ...and this 'new' surgical population comes with a lifetime of 'accumulated issues'



Fowler et al, BJS 2019 : 1012-1018





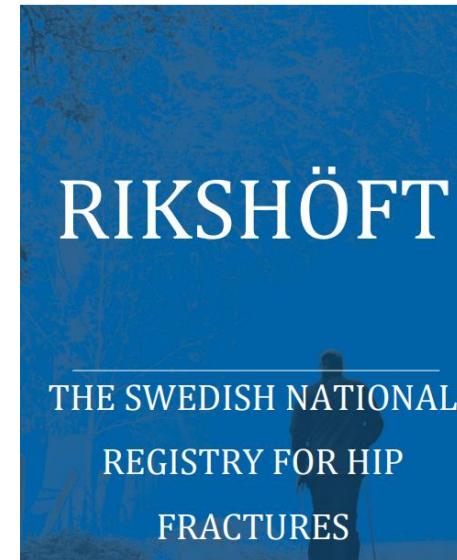
# We realised this in hip fracture a long time ago...



Cosin  
1950s, Oxford  
LoS - 286 to 51  
days!



Devas and Irving  
1970s, Hastings



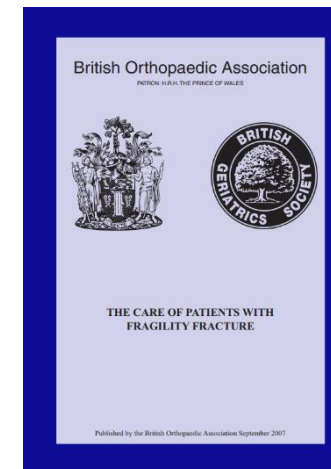
1<sup>st</sup> registry 1988



Standardized Audit  
of Hip Fracture  
in Europe (SAHFE)



FFN



# ...but we have been slower to realise this in other surgical populations

78 yrs old F	Osteoarthritis	No surgery	Slow on feet
Living alone	Diabetes	HbA1c 8.2%	Slow walking
No support	Hypertension	BP 170/88	Poor strength
'Difficult' historian	SOB ?cause	ECG/CXR NAD	Sedentary
	Anaemia	Hb 100g/l	Fatigued

Elective colorectal cancer  
(orthopaedic/vascular/gynae/any) surgery  
Or  
Emergency surgery

# Maria illustrates the impact of social determinants of health in the UK and across Europe;

Social determinants

Lifestyle behaviours

Physiological status



18-25% of >65 yrs live in poverty

8% of >65 yrs smoke

70-75% of >65yrs overweight or obese

50% of >65 yrs inactive

20% >65 live alone

8-30% of >65 yrs live in poverty

5-25% of >65 yrs smoke

40-80% of >65yrs overweight or obese

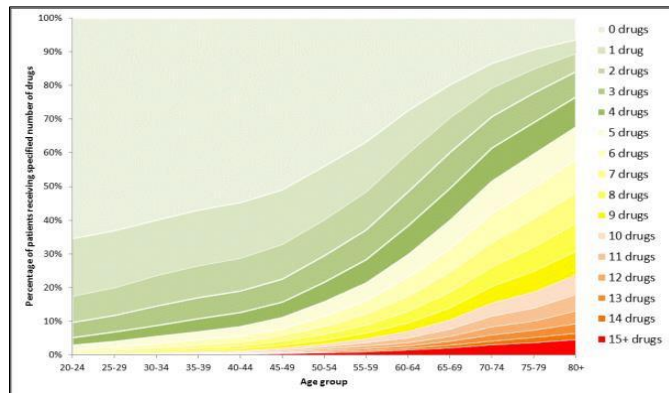
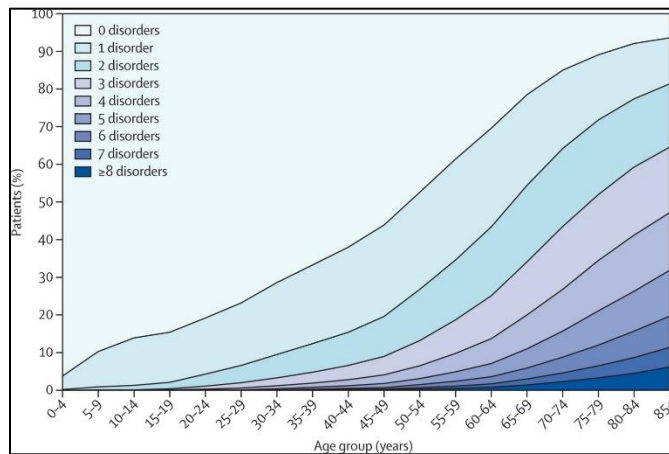
15-60% of >65 yrs inactive

15-40% >65 live alone

eurostat 

Longer waiting times  
Higher complication rates

# ...the impact of MLTC;...



Br J Anaesth. 2022 Feb;128(2):333-342. doi: 10.1016/j.bja.2021.11.011. Epub 2021 Dec 20.

## Death after surgery among patients with chronic disease: prospective study of routinely collected data in the English NHS

Alexander J Fowler<sup>1</sup>, M A Hussein Wahedally<sup>2</sup>, Tom E F Abbott<sup>3</sup>, Melanie Smuk<sup>4</sup>, John R Prowle<sup>3</sup>, Rupert M Pearce<sup>3</sup>, David A Cromwell<sup>5</sup>

One in four surgical patients has a chronic disease with associated 10-fold increase in risk of postop death

Anaesthesia 2024, 79, 945-956

doi:10.1111/anae.16324

### Original Article

## Association between multimorbidity and postoperative mortality in patients undergoing major surgery: a prospective study in 29 countries across Europe

STARSurg Collaborative and EuroSurg Collaborative<sup>†</sup>

Department of Global Health and Surgery, Institute of Applied Health Research, University of Birmingham.

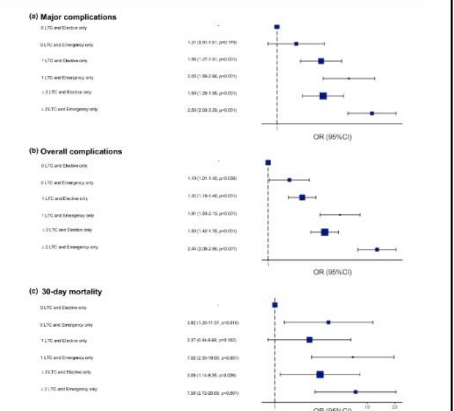


Figure 5 Adjusted analysis of the interaction between number of long-term health conditions (LTC) and the urgency of surgery for: (a) 30-day mortality; (b) major complications; and (c) overall complications.



# ...of frailty...

Frailty is a **distinctive** health state **related** to the ageing process in which **multiple** body systems gradually lose their in-built **reserves**.

Weight loss

'Weak'

Slow on feet

Sitting about

Tired

## Criteria that define frailty

Weight loss

Reduced grip strength

Slow walking speed

Low level of activity

Exhaustion

Age and Ageing 2012; 41: 142–147 © The Author 2012. Published by Oxford University Press on behalf of the British Geriatrics Society.  
doi: 10.1093/ageing/afr182 All rights reserved. For Permissions, please email: journals.permissions@oup.com

### REVIEW

## Frailty in the older surgical patient: a review

JUDITH S. L. PARTRIDGE<sup>1,2</sup>, DANIELLE HARARI<sup>1,2</sup>, JUGDEEP K. DHESI<sup>1</sup>

Lin et al. BMC Geriatrics (2016) 16:157  
DOI 10.1186/s12877-016-0329-8

BMC Geriatrics

### RESEARCH ARTICLE

Open Access

## Frailty and post-operative outcomes in older surgical patients: a systematic review

Hui-Shan Lin<sup>\*</sup>, J. N. Watts, N. M. Peel and R. E. Hubbard



Age and Ageing 2018; 47: 793–800  
doi: 10.1093/ageing/afy110  
Published electronically 2 August 2018

© The Author(s) 2018. Published by Oxford University Press on behalf of the British Geriatrics Society. All rights reserved. For permissions, please email: journals.permissions@oup.com

## The prevalence of frailty and its association with clinical outcomes in general surgery: a systematic review and meta-analysis

JONATHAN HEWITT<sup>1</sup>, SARA LONG<sup>2</sup>, BEN CARTER<sup>3</sup>, SIMON BACH<sup>4</sup>, KATHRYN MCCARTHY<sup>5</sup>, ANDREW CLEGG<sup>6</sup>

### Original Investigation

## Association of Frailty and 1-Year Postoperative Mortality Following Major Elective Noncardiac Surgery A Population-Based Cohort Study

Daniel I. McIsaac, MD, MPH, FRCPC; Gregory L. Bryson, MD, FRCPC, MSc; Carl van Walraven, MD, FRCPC, MSc

# ...and the impact of cognitive impairment

## The prevalence and impact of undiagnosed cognitive impairment in older vascular surgical patients

Judith S. L. Partridge, MSc, MRCP,<sup>a,b</sup> Jugdeep K. Dhesi, PhD, FRCP,<sup>b</sup> Jason D. Cross, RGN, BSc,<sup>b</sup> Jessica W. Lo, MSc,<sup>a,c</sup> Peter R. Taylor, MD, FRCS,<sup>d</sup> Rachel Bell, MS, FRCS,<sup>d</sup> Finbarr C. Martin, MD, MSc, FRCP, FRCSLT (Hon),<sup>b,e</sup> and Danielle Harari, MD, FRCP,<sup>a,b</sup> London, United Kingdom

Published in final edited form as:

*J Am Coll Surg.* 2012 July ; 215(1): 12–17. doi:10.1016/j.jamcollsurg.2012.02.007.

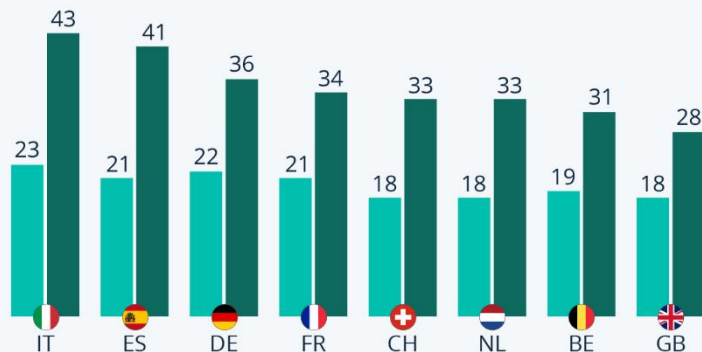
## Preoperative Cognitive Dysfunction Is Related to Adverse Postoperative Outcomes in the Elderly

Thomas N Robinson, MD, FACS<sup>1,3</sup>, Daniel S Wu, MD<sup>1,3</sup>, Lauren F Pointer, MS<sup>4</sup>, Christina L Dunn, BA<sup>1,3</sup>, and Marc Moss, MD<sup>2</sup>

## Europe Is Facing a Dementia Problem

Estimated population with dementia in selected European countries per 1,000 inhabitants

■ 2021 ■ 2050\*

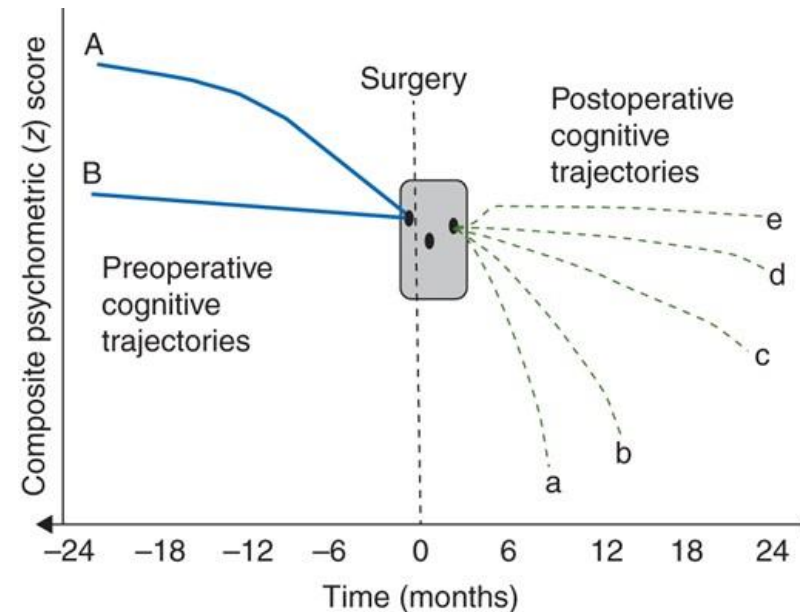


\* Forecast for 2050

Source: OECD



statista



SDM  
Consent

[https://doi.org/10.1016/S2666-7568\(22\)00013-7](https://doi.org/10.1016/S2666-7568(22)00013-7)

<https://doi.org/10.1093/bja/aet420>

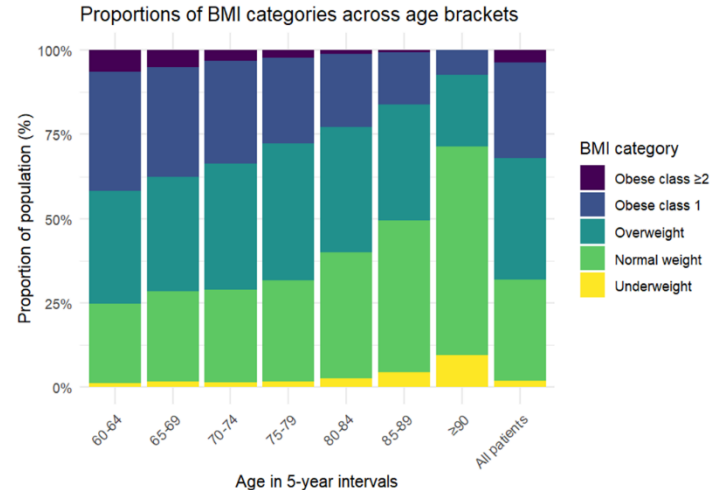
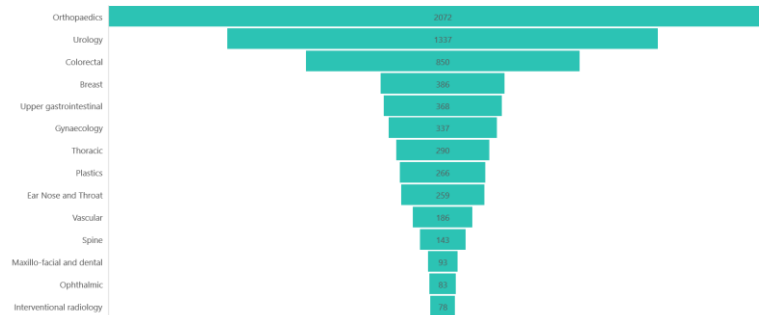
# Surgical patients are living with complexity; SNAP<sub>3</sub> results

## Protocol paper in BMJ Open

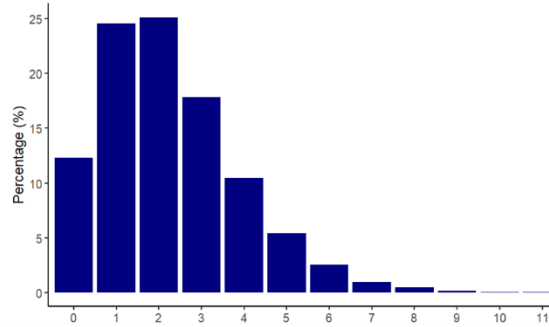
> BMJ Open. 2023 Dec 21;13(12):e076803. doi: 10.1136/bmjopen-2023-076803.

Study protocol for a national observational cohort investigating frailty, delirium and multimorbidity in older surgical patients: the third Sprint National Anaesthesia Project (SNAP 3)

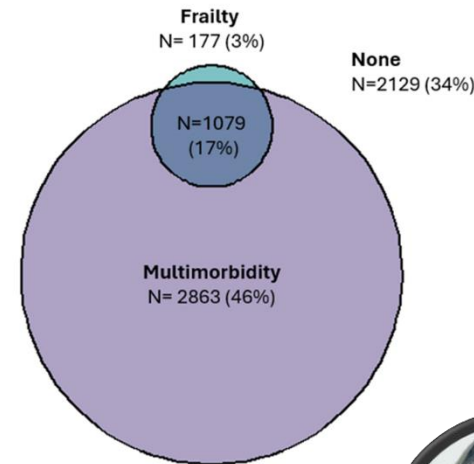
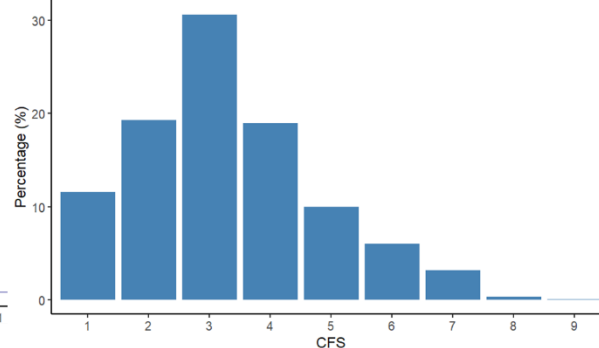
Claire Swarbrick<sup>1,2</sup>, Tom Poulton<sup>3,4</sup>, Peter Martin<sup>5</sup>, Judith Partridge<sup>6,7</sup>, Iain Keith Moppett<sup>8,9</sup>; SNAP 3 Project Team



56% of older surgical population living with **multimorbidity**



19% of older surgical population living with **frailty**



Most frail individuals are also multimorbid (8 of 10)  
Fewer multimorbid adults have frailty (4 of 10)



# What happens to Maria...

Declines surgery

- Understanding - Info poorly communicated
- Understanding –Sensory/cognitive impairm't
- Health literacy – life expectancy, risk/benefit
- Burden of intervention

Referred for medical opinion

- Anaemia
- Diabetes
- Shortness of breath

Cancelled on day of surgery

- Not followed fasting/medicines instructions
- Concern about medical status (anaemia, SOB)

Important issues missed

- Literacy/Health literacy
- Sensory/cognitive impairment
- Ageism

Multiple referrals

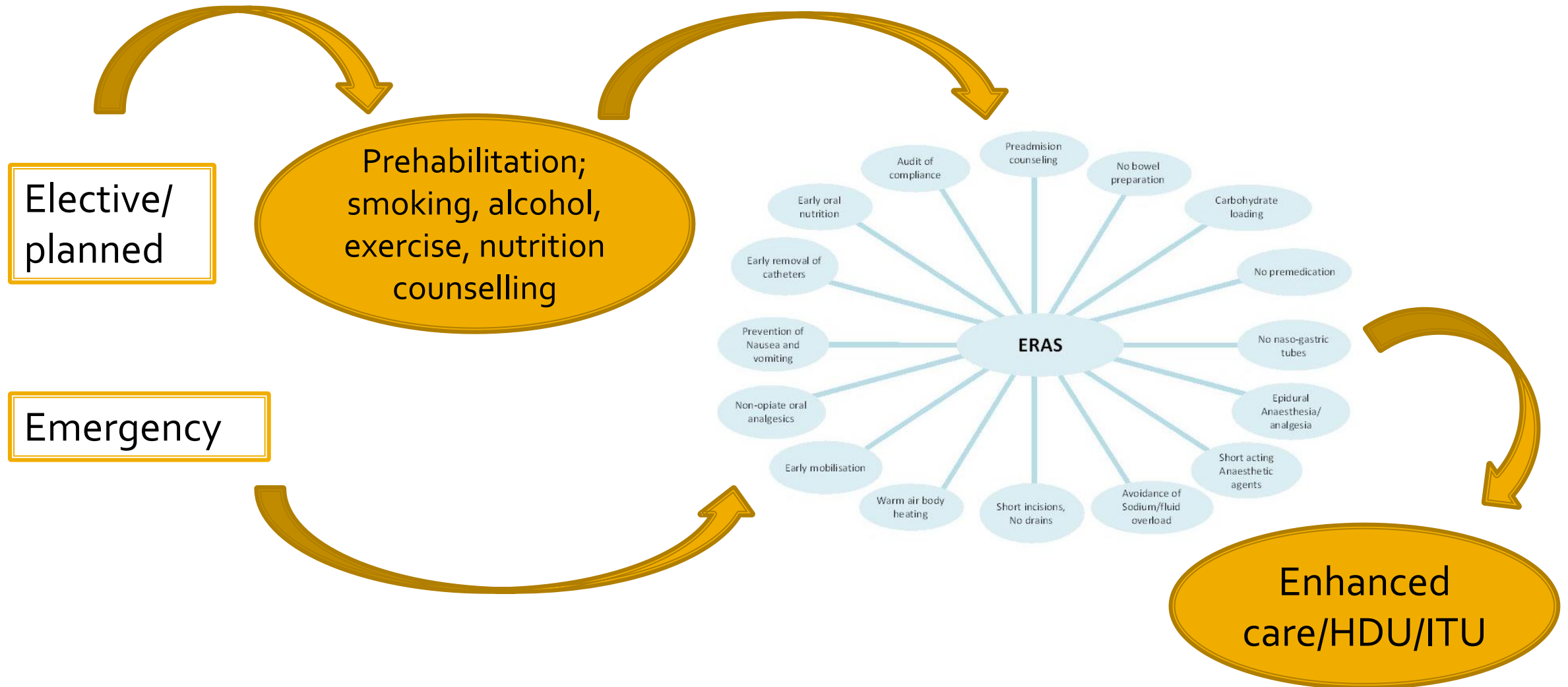
- Investigations (BNP, echo etc)
- Different organ specialists (diabetes, pain, etc)

Delays to surgical/medical/rehab services

- Medical concerns
- Ageism
- Unavailable skillset/kit



...maybe she gets great care (prehab and/or ERAS)...



# ...but this still happens ☹...



Pain	→	Opiates
Post-op nausea	↗	On/off 'sliding scale'
Hypovolaemic (AKI)	↗	Fluids
Anaemia	↗	Blood
Peripheral oedema	↗	Diuretics
Apathy (Hypoactive delirium)	→	Anti-depressants
Functional decline	→	Carers (Rehab)



Delirium

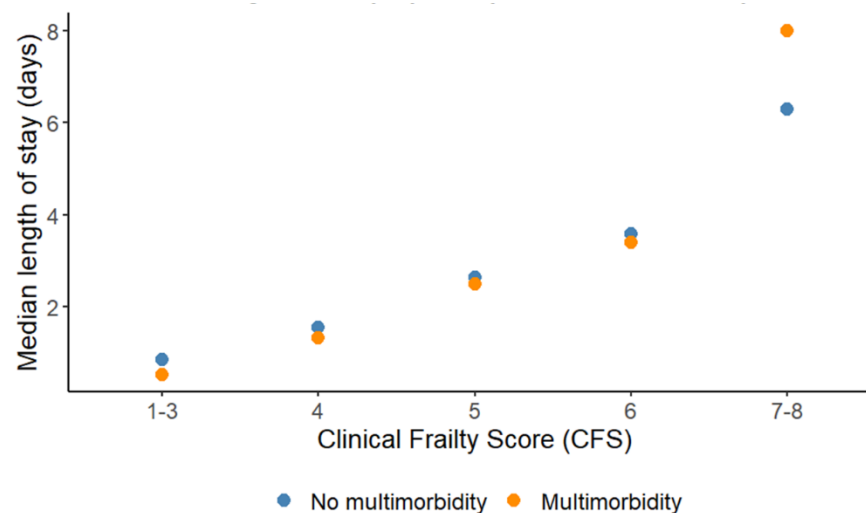
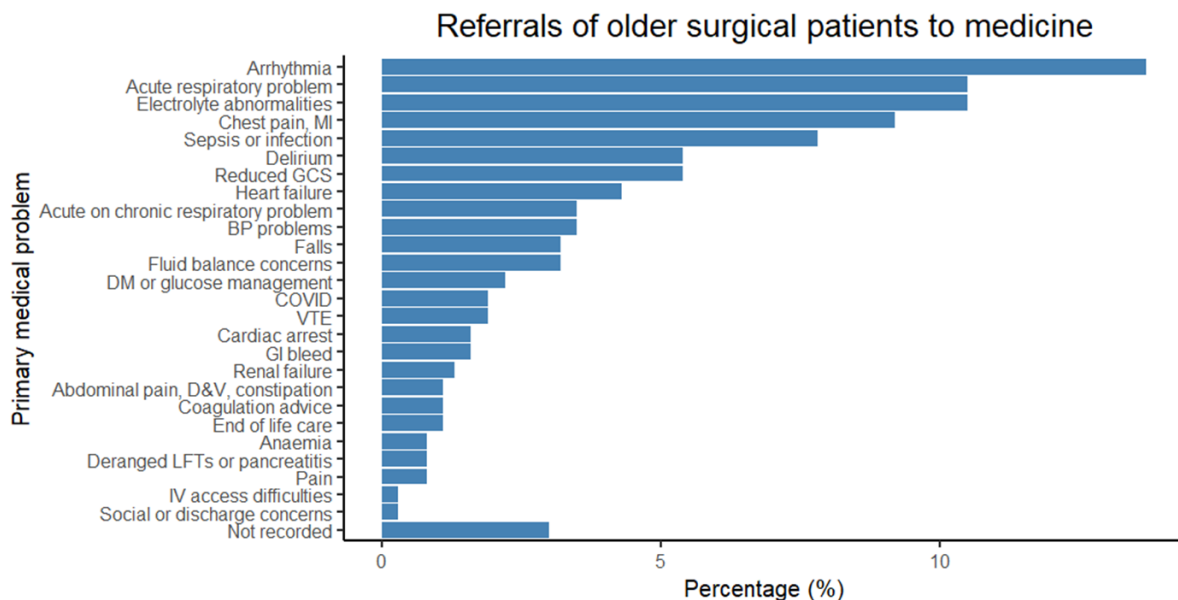
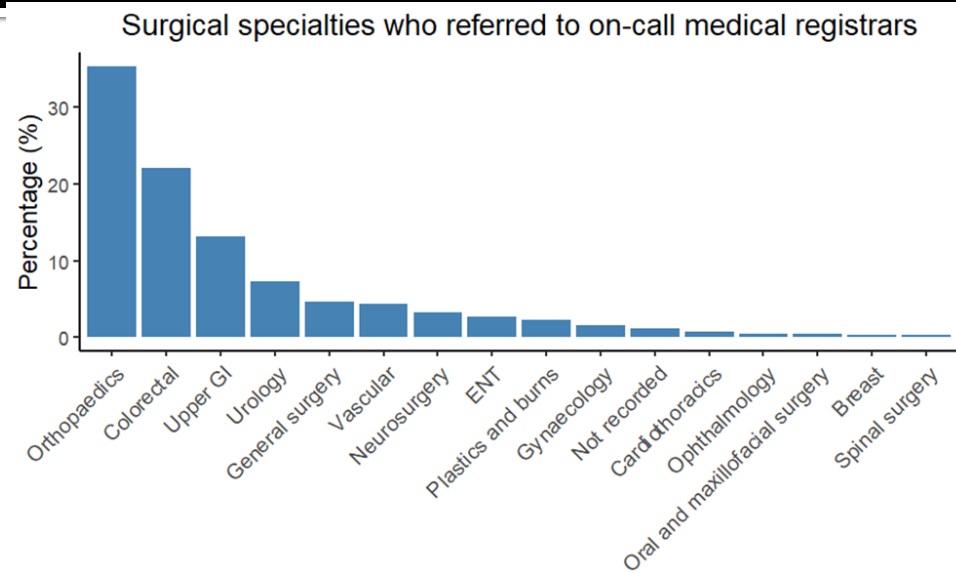
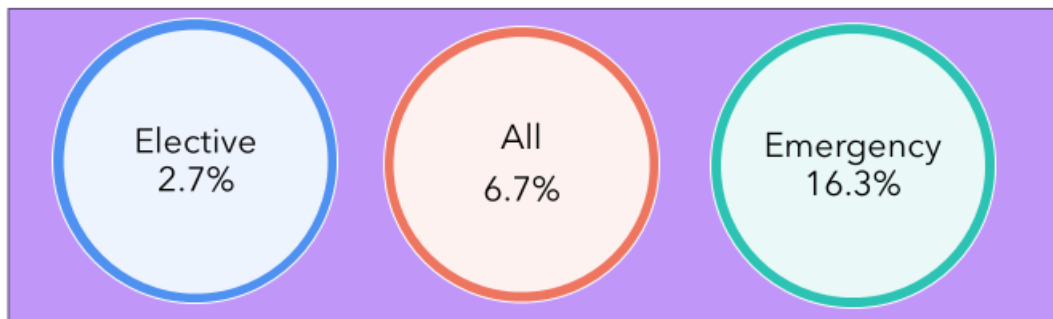


Deconditioning



Acute Kidney Injury

# ...as illustrated in SNAP<sub>3</sub>...



# ...and incurs great cost!

- Personal cost
  - 1 in 7 people
- Organisation
  - Healthcare
  - Social care
  - Informal sector

## Realistic medicine? Value-based care?





# It's clear we know these things are bad for you...

Hundreds of papers telling us these factors are bad for you

- MLTC
- Polypharmacy
- Frailty
- Cognitive impairment

Clinician reported outcomes  
Morbidity



utcomes

sfaction

tcomes

Harm and complaints  
LOS, readmissions  
Cost



British Journal of Hospital Medicine  
Vol. 85, No. 7  
<https://doi.org/10.12968/hmed.2024.0027>

**HOSPITAL  
MEDICINE**

Review

## Addressing inequalities in the perioperative care for older adults

Giothini S Thirunavukarasu, Judith S L Partridge, Jugdeep K Dhesi

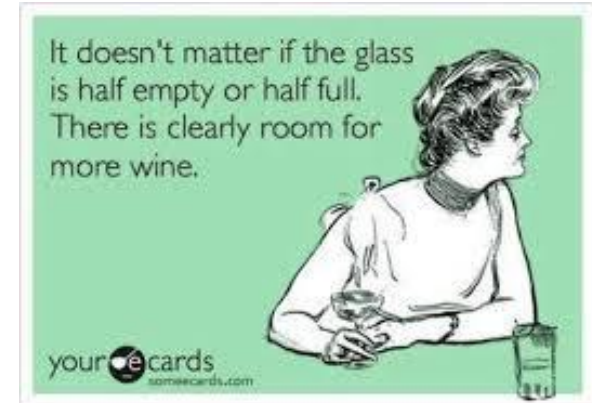
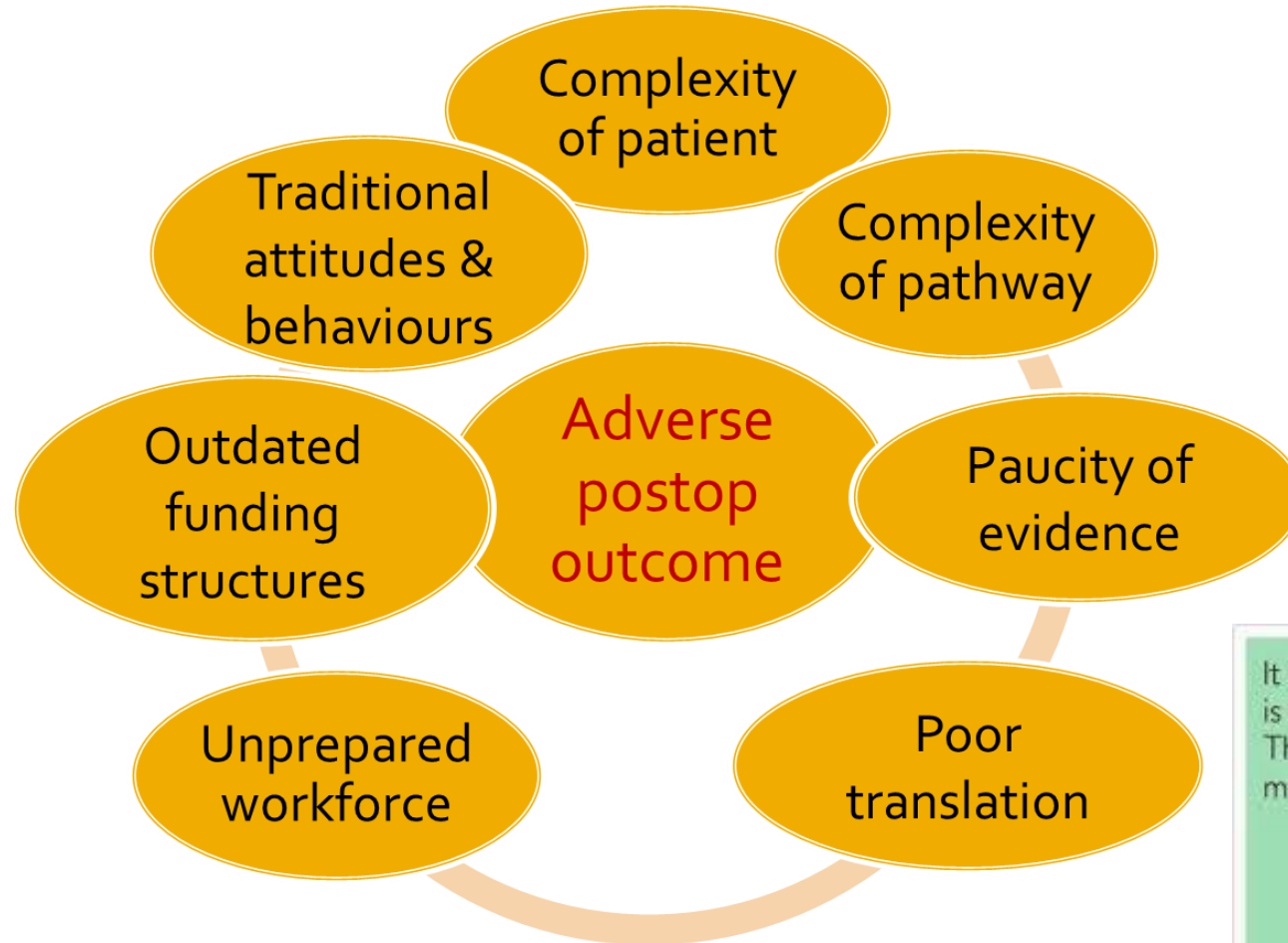
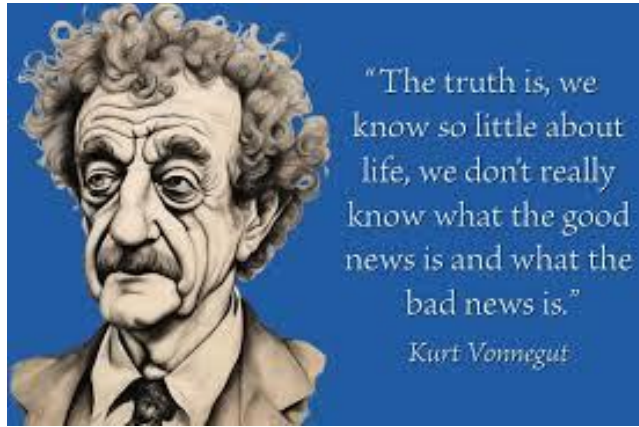
# ...and there are many reasons **why** we need a new approach!

- Increasing no.s of older people having elective/emergency surgery
- Older people more likely to present with complexity
- Complexity results in older people being at risk across all measures
- Our services have not adapted and this has system level impact



# Searching for the right model of care

## The good news is that we have used the bad news...



# ...and a primary school approach to scaling up!



Why?

What?

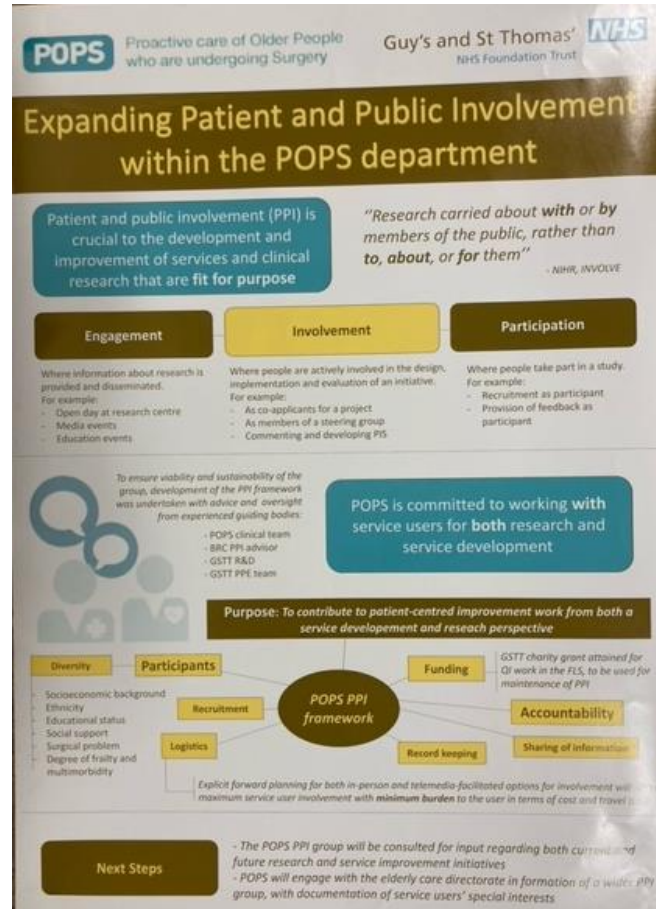
How?

Who?

Where?



# What does the new model needs to deliver? Coproduction with patients and carers...



Future Healthcare Journal 2023 Vol 10, No 2: 1–4

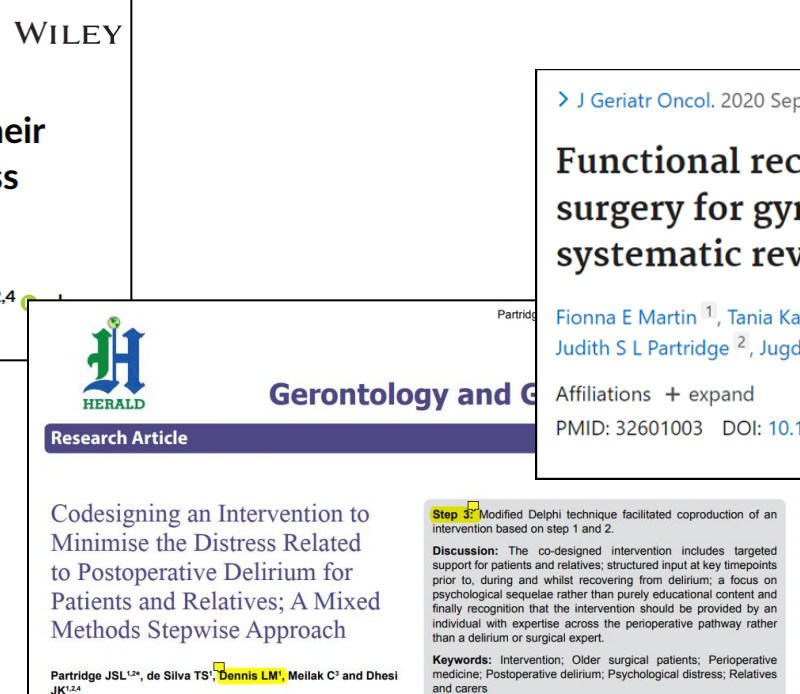
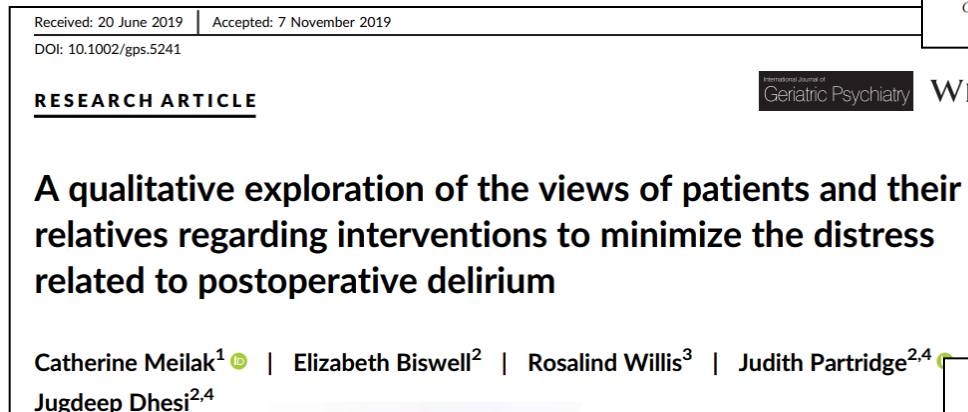
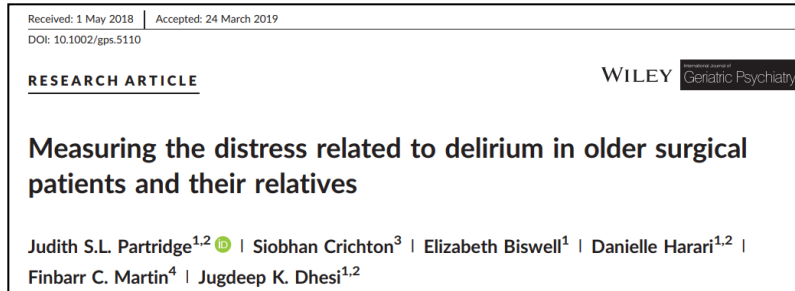
ORIGINAL RESEARCH

**PROCESS AND SYSTEMS** Including the voice of older people in the co-design of perioperative pathways of care

**Authors:** Amelia Mae Paveley,<sup>A</sup> Harriet Hall,<sup>A</sup> Lawrence Mudford,<sup>B</sup> Judith Partridge<sup>C</sup> and Jugdeep Dhesi<sup>D</sup>



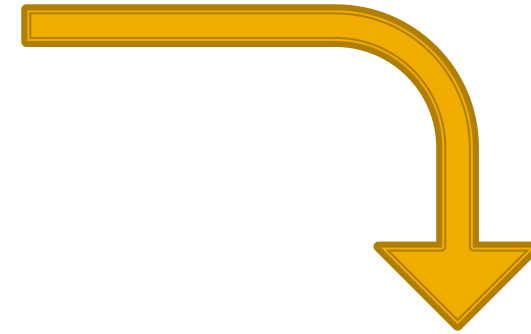
# ...including perspectives on perioperative complications...



# ...and perspectives on shared decision making,...

SDM is the process by which people are supported to:

- understand the care, treatment and support options available & risks, benefits and consequences of options
- make a decision about a preferred course of action, based on evidence based, good quality information and their personal preferences



What is the matter **with** the patient?

What matters **to** the patient?

- Symptoms/qol
- Longevity
- Mode of death



DOI: 10.1111/tog.12771  
The Obstetrician & Gynaecologist  
<http://onlinetog.org>

Review

## Shared decision making in gynaecological oncology; a challenge in an ageing population

Magda Sbai MBBS BSc (Hons) MRCP,<sup>a,\*</sup> Emily Jasper MBBS (Hons),<sup>b</sup> Fionna Martin BA (Hons) MBBS MRCP,<sup>a</sup>  
Savithri Rajkumar MRCOG,<sup>c</sup> Ana Montes LMS PhD,<sup>d</sup> Jeyanjali Jeyarajah MBBS BSc FRCA,<sup>e</sup>  
Danielle Harari MD FRCP,<sup>f,g</sup> Judith Partridge MSc PhD FRCP<sup>a,h</sup>



# ...but co-production also meant understanding healthcare professionals views

## ORIGINAL ARTICLE

### Do Surgical Trainees Believe They Are Adequately Trained to Manage the Ageing Population? A UK Survey of Knowledge and Beliefs in Surgical Trainees

D.J.H. Shipway, MA, BM, BCh, MRCP(UK),\* J.S.L. Partridge, MBChB, MSc, MRCP(UK),\*,†  
C.R. Foxton, MA, BM, BCh, MRCS, DO-HNS,‡ B. Modarai, MBBS, PhD, FRCS,§  
J.A. Gossage, MBBS, BSc, MS, FRCS,|| B.J. Challacombe, MBBS, BSc, MS, FRCS,¶  
C. Marx, CBE, DL, PRCS,\*\*,†† and J.K. Dhesi, MBChB, PhD, FRCP(London)\*

### Towards integrated perioperative medicine: a survey of general practitioners' attitudes, beliefs and behaviours regarding perioperative medicine for older people

Authors: Tessa O'Halloran,<sup>A</sup> Jessie Colquhoun,<sup>B</sup> Gerard Danjoux,<sup>C</sup> Judith SL Partridge<sup>D</sup> and Jugdeep K Dhesi<sup>E</sup>



Partridge et al. *Perioperative Medicine* (2020) 9:3  
<https://doi.org/10.1186/s13741-019-0132-0>

Perioperative Medicine

## RESEARCH

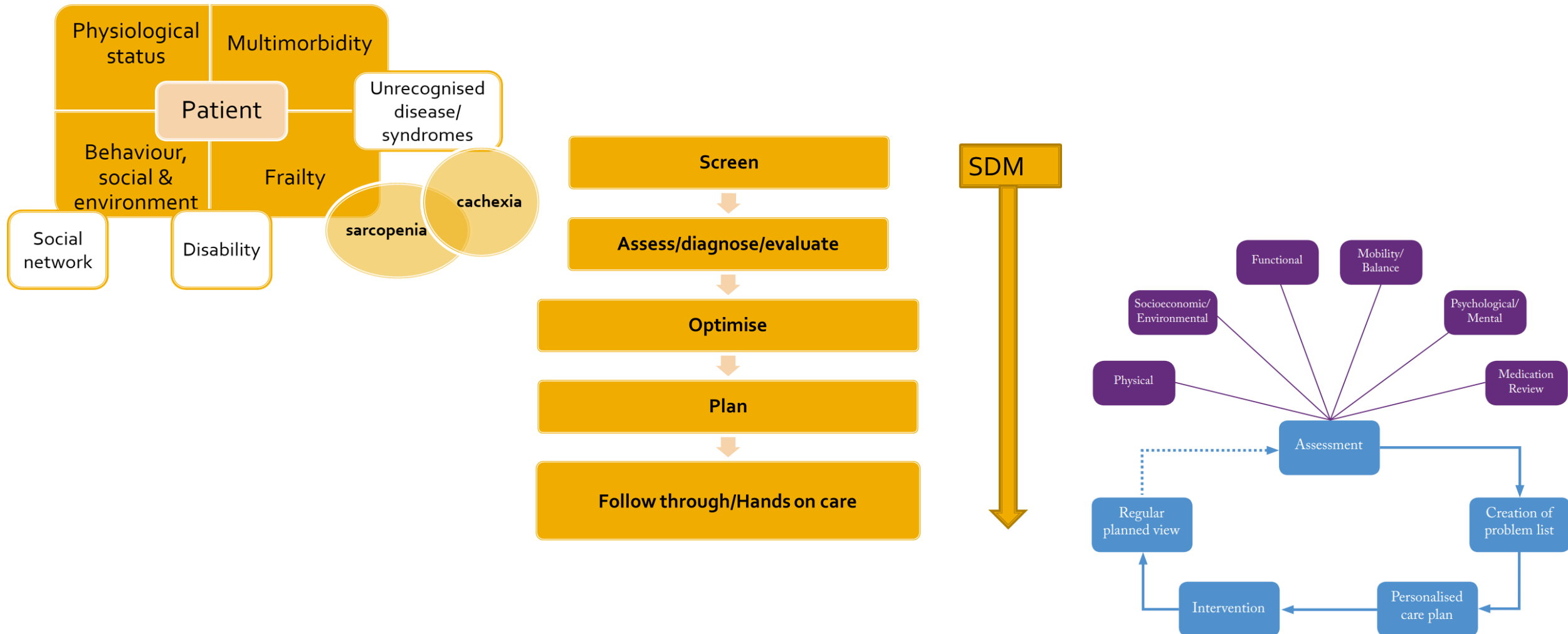
## Open Access

### The emerging specialty of perioperative medicine: a UK survey of the attitudes and behaviours of anaesthetists

J. S. L. Partridge<sup>1,2\*</sup>, A. Rogerson<sup>3</sup>, A. L. Joughin<sup>4</sup>, D. Walker<sup>5</sup>, J. Simon<sup>6</sup>, M. Swart<sup>7,8</sup> and J. K. Dhesi<sup>1,9</sup>



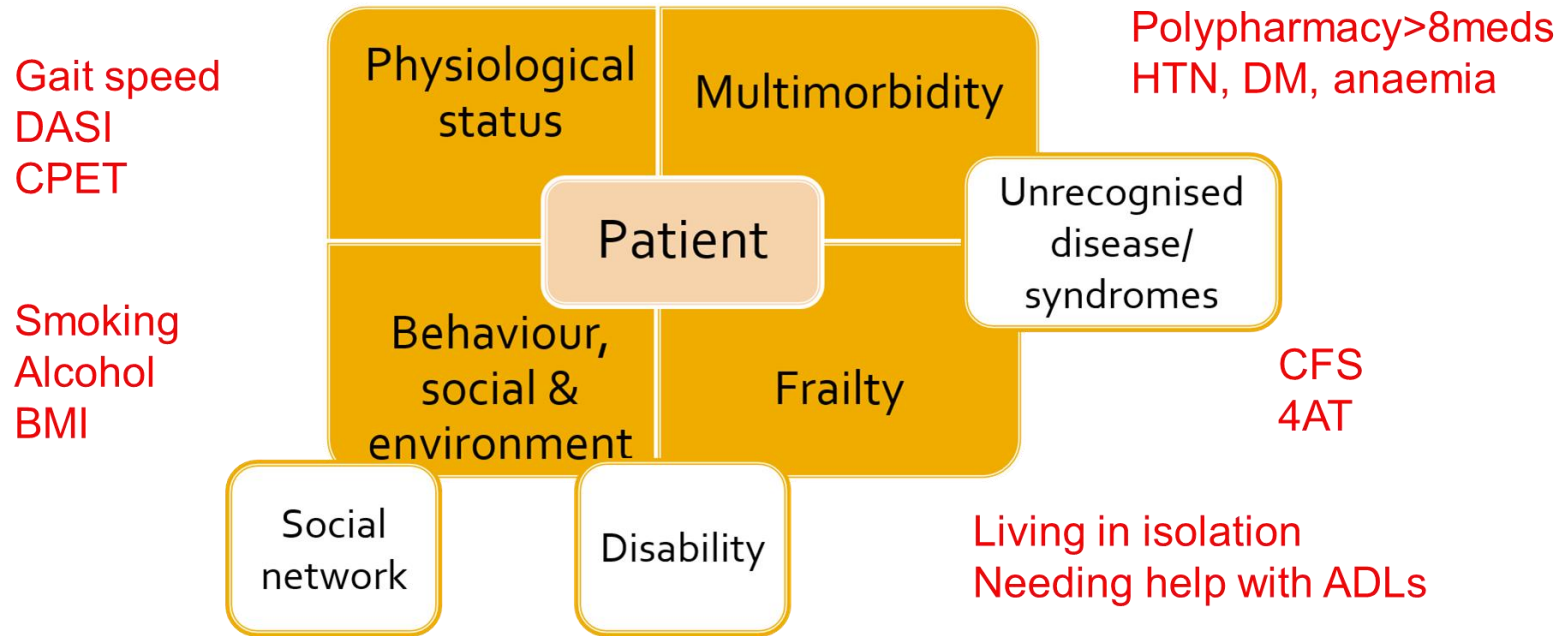
# What does this coproduced model need to deliver?





# Operationalising this new model

## Starts with recognising the issues...



### Step 1

- Effective use of data

### Step 2

- Embed screening at 'front door'
- (Royal decree 2007)

# ...then do 'something'; talk to patients/families...

## Make Every Contact Count

Pre-Course Reading for Health Professionals



[www.e-lfh.org.uk](http://www.e-lfh.org.uk)

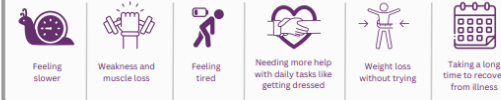
## What is Frailty?

Frailty is a word used in healthcare that is often **misunderstood**.

Frailty means your **recovery** from illness or injury can **take longer or be more difficult**.

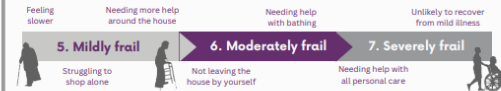
It is more common as we age, but younger people can also live with frailty.

### People living with frailty might notice...



If you have some of the symptoms above, talk to your doctor. You may be screened for frailty using a score called the **Clinical Frailty Scale**[1]. Being given a frailty score may come as a shock. However, knowing about frailty can help you prevent and manage it.

The Clinical Frailty Scale can give you a frailty score. Some examples from the scale are shown below.



### What can I do?

Ask for support to:

- Be active
- Exercise regularly
- Eat a balanced diet
- Stop smoking
- Reduce alcohol intake
- Maintain a healthy weight

These steps all help prevent frailty and improve life if you live with frailty.

Ask your doctor or healthcare team if you're worried about frailty

### What can my doctor do?

If you have frailty, you will usually be supported by a team led by a GP or a specialist doctor for older people (geriatrician).

They will be able to:

- Offer support, advice and treatment
- Answer your questions

[www.bgs.org.uk](http://www.bgs.org.uk)



## Benefits

What are the Benefits?



## Risks

What are the Risks?



## Alternatives

What are the Alternatives?



## Nothing

What if I do Nothing?

Preparing for surgery

## Fitter Better Sooner



[www.cpoc.org.uk](http://www.cpoc.org.uk)

# ...start care on the right foot...

## Clinical Guideline

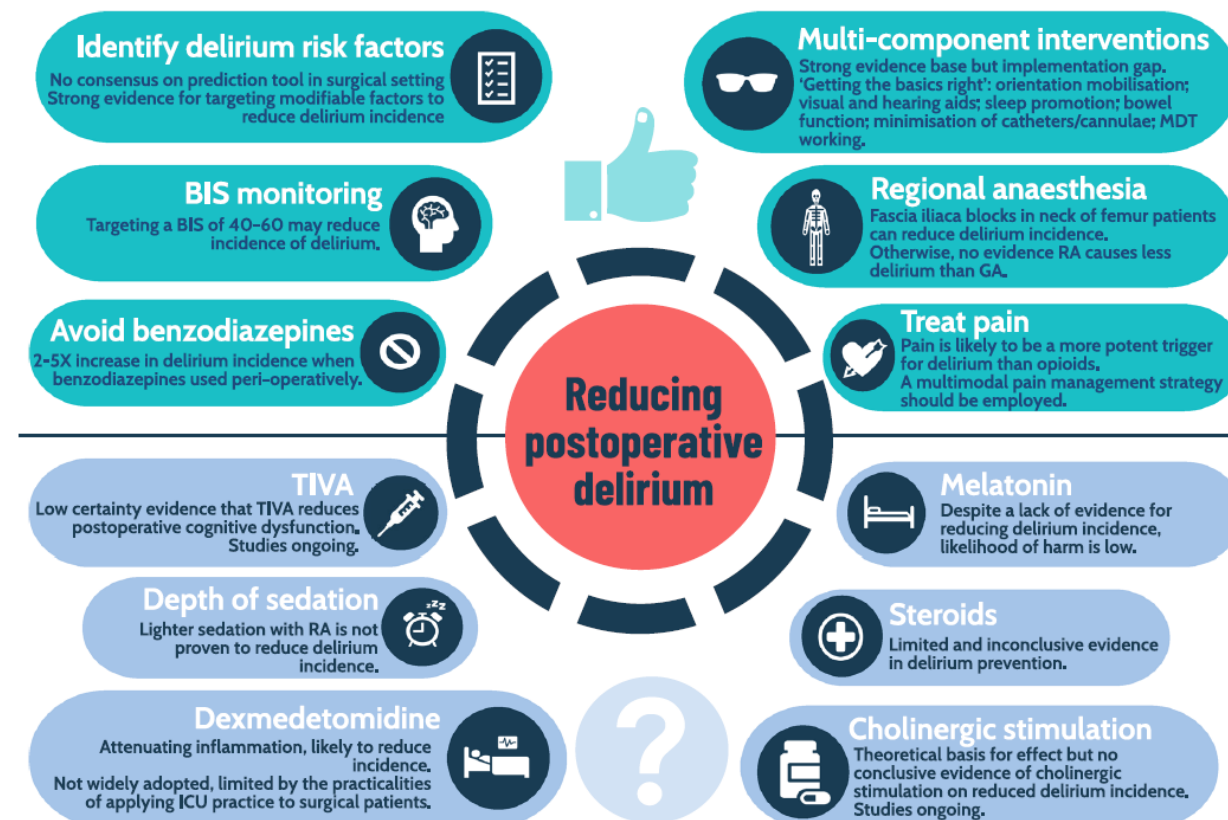
### The Prevention, Recognition, and Management of delirium in adult in-patients (excluding Critical Care)

#### Summary

Delirium is a common neuropsychiatric condition that is also known by various other names including organic brain syndrome, intensive care psychosis and acute confusional state. Delirium is everybody's business. We all need to know how to prevent delirium and make sure that someone with suspected delirium receives rapid assessment and appropriate management. This guideline is therefore aimed at all staff who care for adult in-patients on level 1 beds at GSTT including Guy's, St. Thomas', Harefield, Royal Brompton and Community sites).

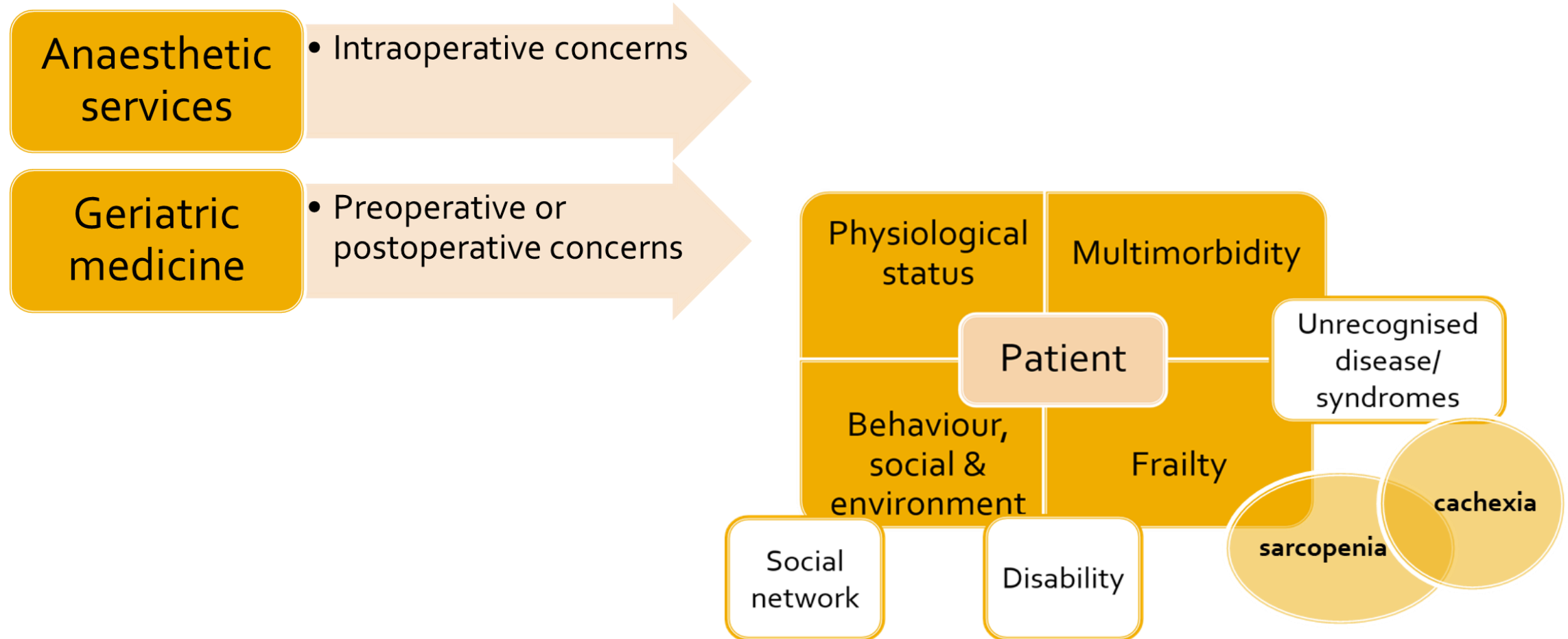
Document Detail	
Document Type	Guideline
Document Access Platform	Clinical Guideline Database GTI (WAFr) and CIRUS
Document applicability/scope	adult in-patients on level 1 beds in GSTT (STH, Guys, HH, RBH & community)
Version	9.0
Effective from	17 May 2023
Review date	17 May 2026
Owner	Acute & General Medicine (AGM)
Author(s)	Mark Kinirons, Consultant Elderly Care James Fleet, Consultant Elderly Care Nike Tella DaD CNS Orhan Yeter, DaD CNS Gemma Tunnell, Lead nurse for mental health RBH&HH
Approved by, date	AGM Clinical Governance Committee, September 2022
Ratified by, date	Medicines Management Board, May 2023 Drug & Therapeutics Committee, May 2023
Superseded documents	8.0
Related documents	Alcohol: 1 Detection of Alcohol Misusers Attending Hospital 2 Management of the Alcohol Withdrawal Syndrome 3 Management of Wernicke's Encephalopathy
Keywords	Delirium, Dementia & Delirium (DAD), acute, confusion, agitation, tranquillisation, ICU, critical, care, sedation
Relevant external law, regulation, standards	

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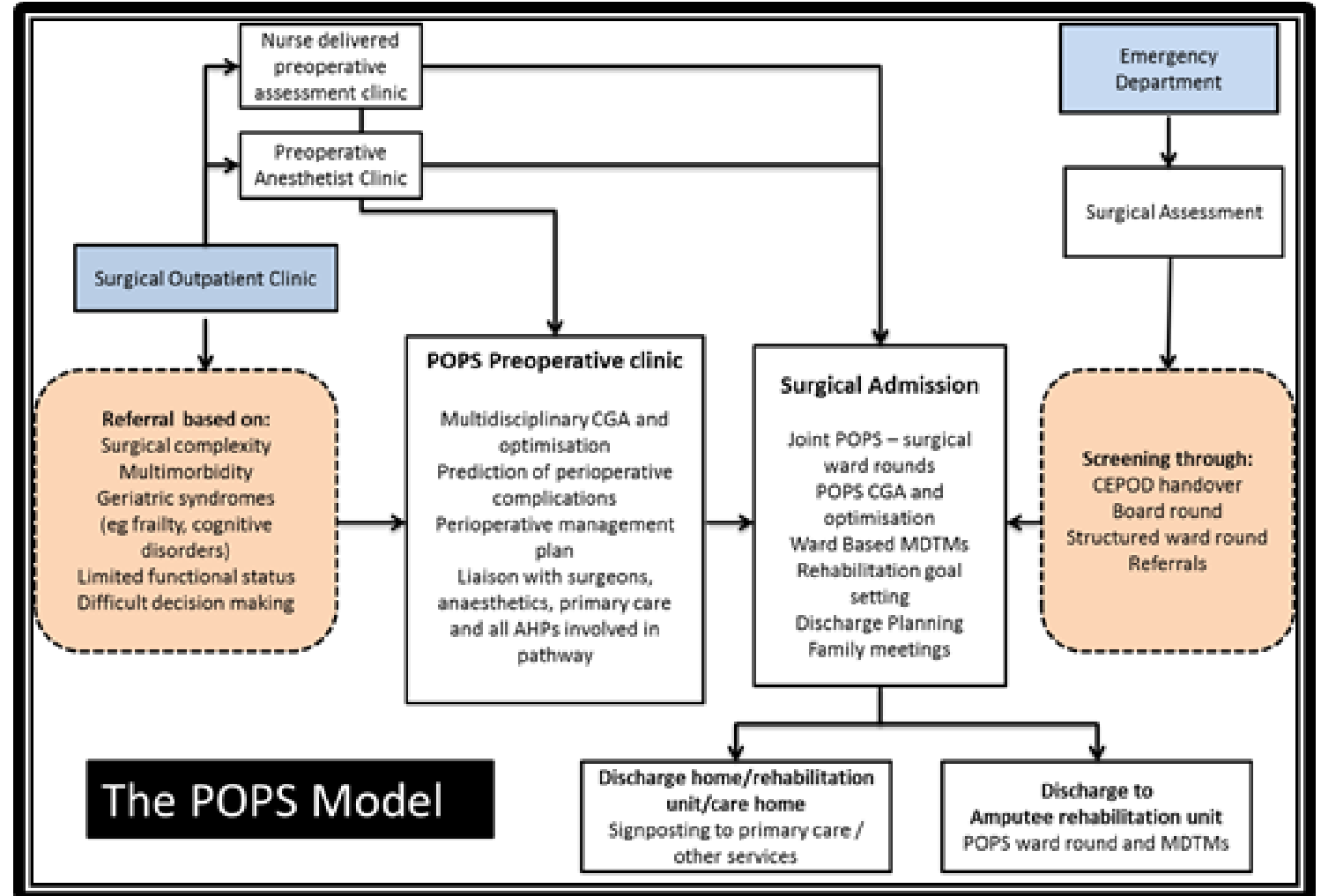
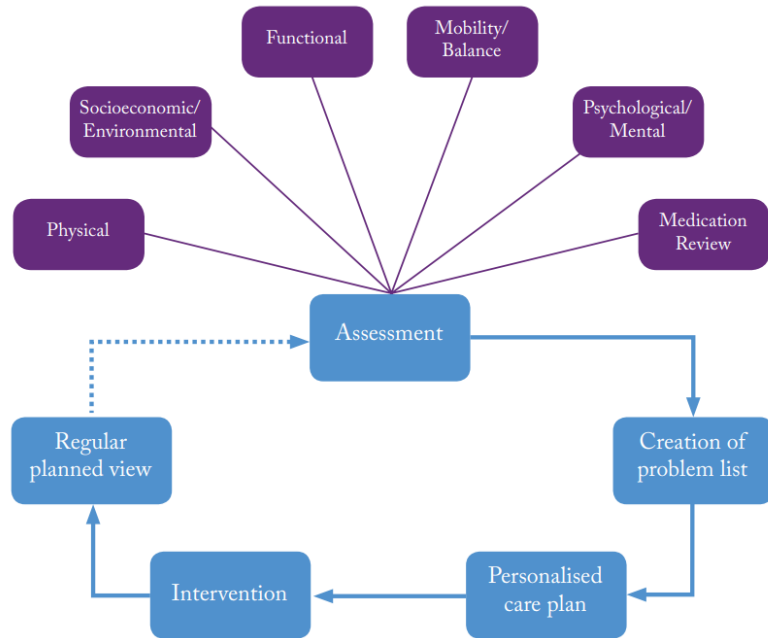


**Figure 1** Strategies for reducing postoperative delirium incidence: evidence-based recommendations and areas of ongoing research. BIS, bispectral index; TIVA, total intravenous anaesthesia; RA, regional anaesthesia; MDT, multidisciplinary team; GA, general anaesthesia.

# ...but also acknowledge when additional expertise is required...



# ...to deliver a CGA based model of perioperative care





# But **what** is in the black box of periop CGA?

Component of care	Proportion of patients (n=500)
Assessment	2/3 new diagnosis
Optimisation	1/2 lifestyle advice 3/4 meds changed 1/4 therapy interventions (diet/exercise)
Communication	1/5 multispecialty discussion 4/5 anticipation of postoperative complications
Referral	1/7 preoperative investigations 1/10 anaesthetic input 1/20 organ specialty advice
Anticipatory care planning	1/10 anticipatory care planning
Long term condition mx	1/3 LTC management referral
SDM	Documented in 98%



JAMDA

journal homepage: [www.jamda.com](http://www.jamda.com)



Original Study

A Description of Interventions Prompted by Preoperative Comprehensive Geriatric Assessment and Optimization in Older Elective Noncardiac Surgical Patients

Rihan Shahab FRACP<sup>a,†</sup>, Nicola Lochrie MRCP<sup>a,†</sup>, Ian K. Moppett PhD<sup>b,c</sup>, Prokar Dasgupta PhD<sup>d,e</sup>, Judith S.L. Partridge PhD<sup>a,f,‡</sup>, Jugdeep K. Dhesi PhD<sup>a,f,g,\*,‡</sup>

<sup>a</sup> Perioperative Medicine for Older People undergoing Surgery (POPS), Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

<sup>b</sup> Department of Anesthesia, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom

<sup>c</sup> Anesthesia and Critical Care Section, Division of Clinical Neuroscience, University of Nottingham, Nottingham, United Kingdom

<sup>d</sup> Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

<sup>e</sup> Faculty of Life Sciences and Medicine, King's College London, London, United Kingdom

<sup>f</sup> School of Life Course and Population Sciences, Faculty of Life Sciences and Medicine, King's College London, London, United Kingdom

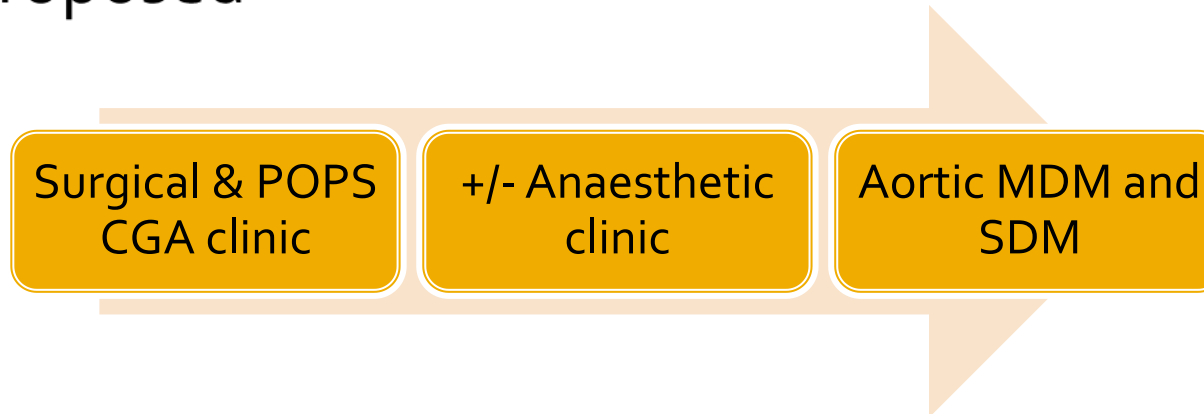
<sup>g</sup> Division of Surgery and Interventional Science, Research Department of Targeted Intervention, University College London, London, United Kingdom



# Including delivery of and documentation of SDM...

15% of patients do not proceed with the surgery initially proposed

1 in 4 in AAA



- Data driven reorganisation of care pathway
- 1 in 4 with aortic aneurysm chose not to have surgery
- Non op group were older, more comorbid, disabled, frail, cognitively impaired
- 12-month mortality rate higher in non op group (41% v 7%)
- Demonstrating benefits to patients and cost savings

# ...that can be delivered in the 'real world'

Received: 21 February 2023 | Accepted: 22 February 2023

DOI: 10.1111/jep.13827

## ORIGINAL PAPER

Journal of Evaluation in Clinical Practice



WILEY

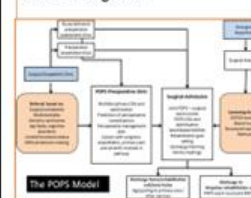
## Implementing shared decision making according to the choosing wisely programme: Perioperative medicine for older people undergoing surgery

Rajni Lal MBBS, MPH, FRACP, AFRACMA<sup>1</sup> | Tessa O'Halloran MBBS(hons), BMedSci<sup>1</sup> |  
Ramai Santhirapala FRCA, FFICM, FHEA<sup>2,3</sup> | Jugdeep Dhesi BSc, MBChB, FRCP, PhD<sup>1,3,4</sup> |  
Judith Partridge BSc, MBChB, FRCP, PhD<sup>1,4</sup>



## Clinical Project: The Impact of CGA on Shared Decision Making in the Surgical Setting following POPS Clinic

### POPS - Background



- Clinically and cost effective in elective and emergency surgical settings
- Holistic assessment also informs Shared Decision Making (SDM)
- 14% of patients self-report decisional regret after operative management.

### Objectives

- 1) To examine documentation of preoperative CGA in clinic
- 2) To describe the association between patient characteristics and SDM decision for non-operative mx
- 3) To examine documentation of SDM

### Methods

- Observational study 7 trusts in England and Wales; 50 patients each
- All sites provide geriatrician led CGA and optimisation preoperative clinics
- Elective cancer and non-cancer surgery
- Data was collected from clinic letters
- Registered locally at each site under audit processes.

### Results

	Overall	Range
Age (mean)	78	62-100
Number of co-morbidities (mean)	6.9	0-21
Number of medications (mean)	8.3	0-21
% of surgeries related to malignancy	33.7%	4-56%
% patients proceeded to operative management	65.4%	42-82%
% patients proceeded to non-operative management	25.1%	10-54%
% requiring further optimisation prior to final SDM	9.4%	0-20%

### Discussion

- Following SDM, 1 in 4 older patients (25%) underwent non-operative management across malignant and benign surgical pathology
- CGA and surgical consultation defines realistic choice for patients and allows a meaningful SDM process
- Shows that geriatrician led CGA preoperative assessment can be delivered and documented across centres in line with national recommendations.

### Impact

- Standardisation across sites
- Support Covid recovery and reviewing waiting lists
- Demonstrates a need for patient centred approach; evolution of policy.

# Remember Maria...

78 yrs old F	Osteoarthritis	No surgery	Slow on feet
Living alone	Diabetes	HbA1c 8.2%	Slow walking
No support	Hypertension	BP 170/88	Poor strength
'Difficult' historian	SOB ?cause	ECG/CXR NAD	Sedentary
	Anaemia	Hb 100g/l	Fatigued

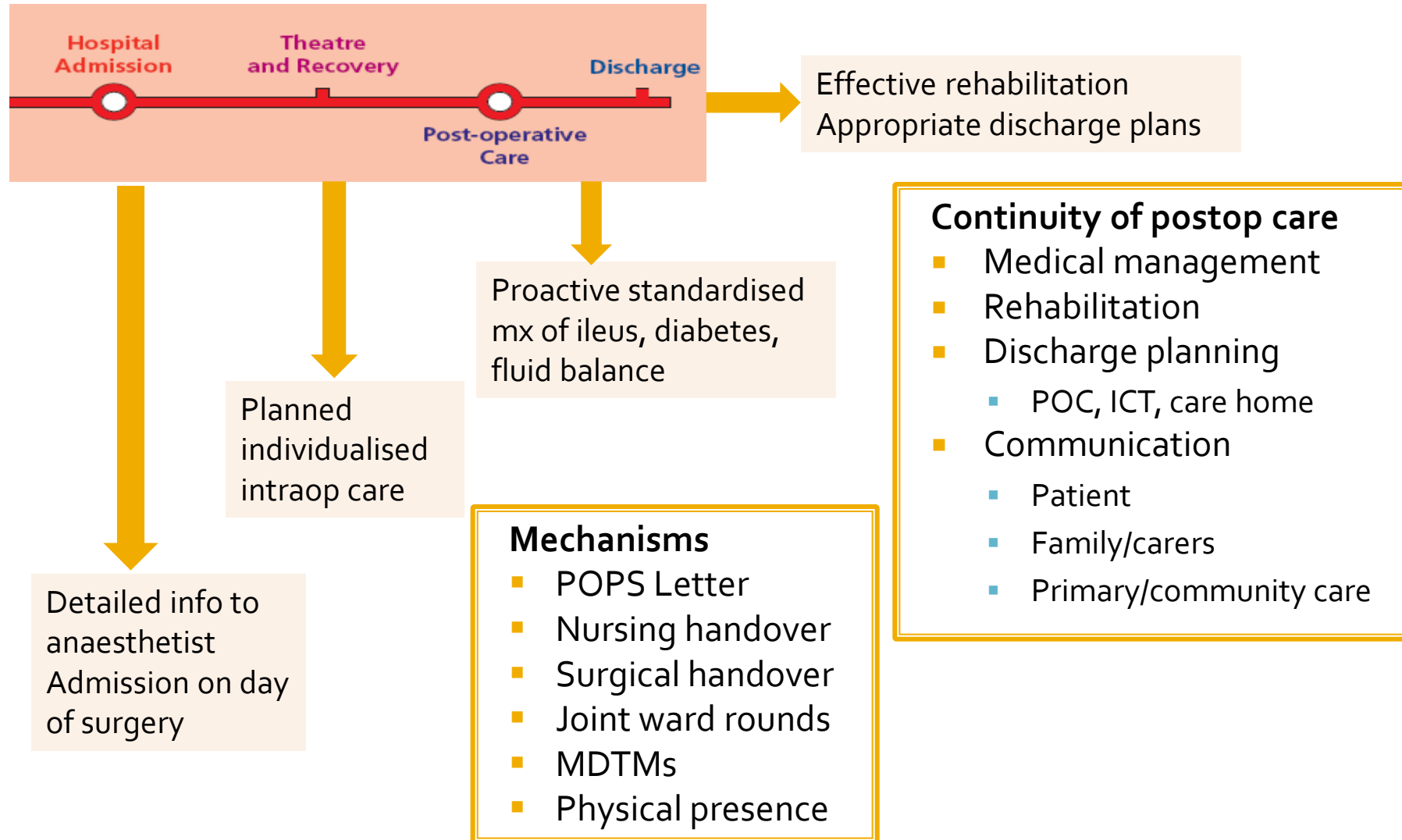
Elective colorectal cancer  
(orthopaedic/vascular/gynae/any) surgery  
Or  
Emergency surgery

...preoperatively we can do better (whatever the time we have available) period...

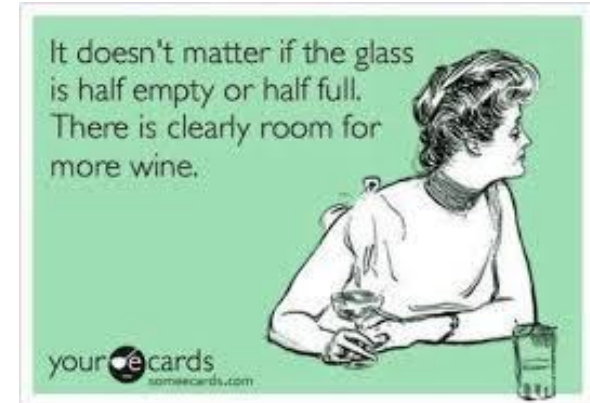
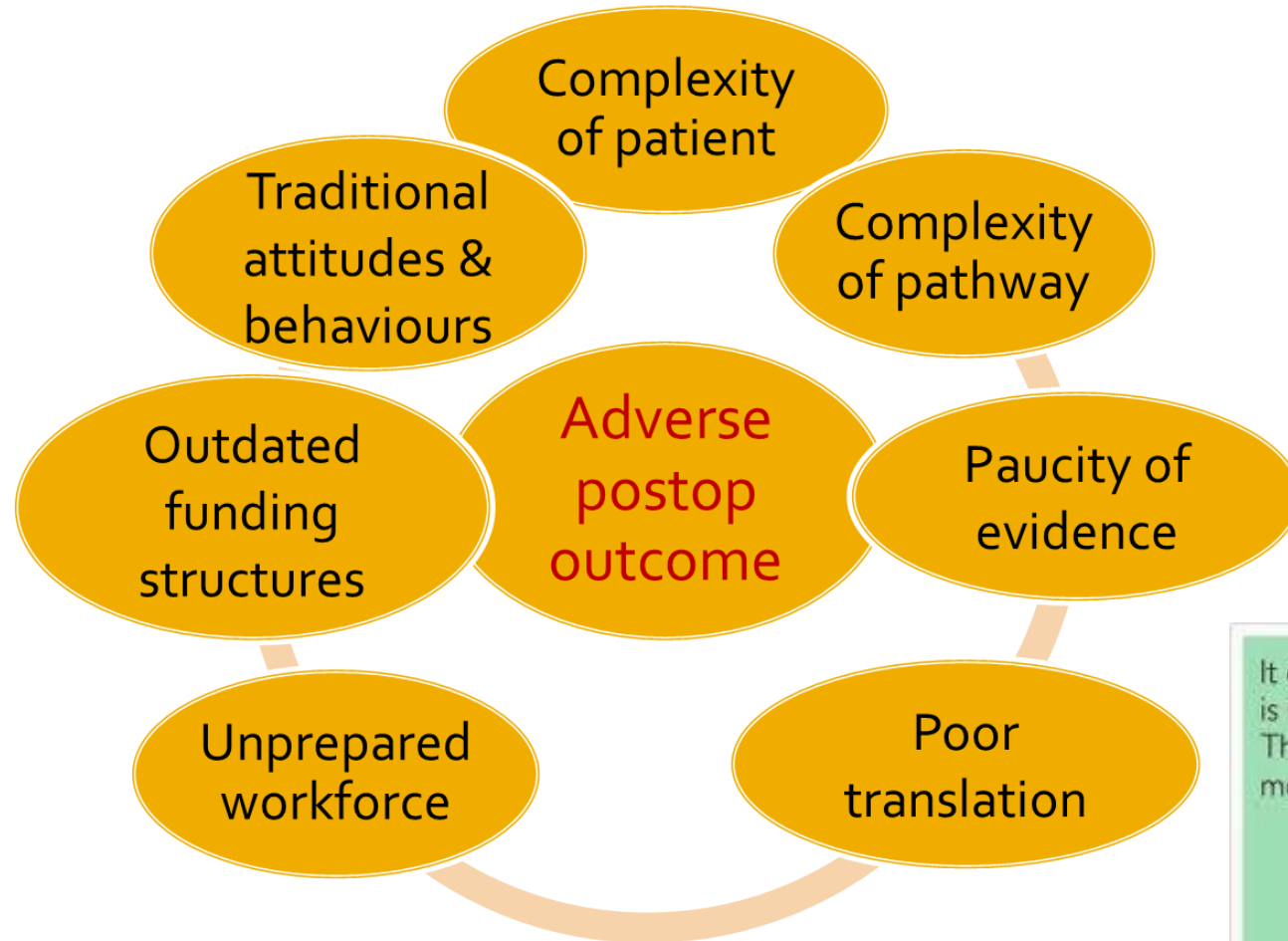
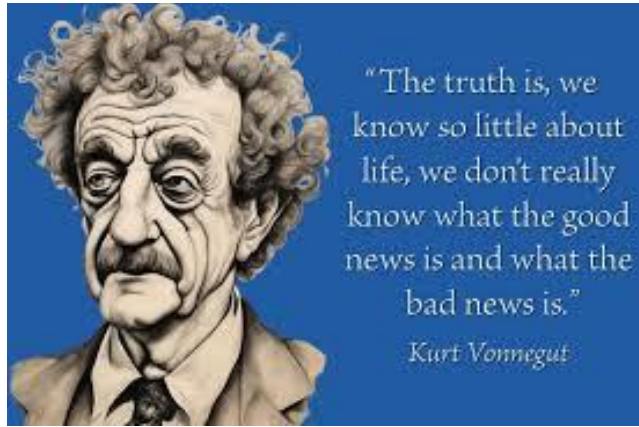
OA	Pain	Assess/Treat (meds/physio)	NICE
Diabetes	HbA1c 8.2%	Assess/Treat/plan/refer	CPOC
HTN	BP 170/88	Assess - ABPM/treat	AAGBI
SOB ?cause	Ischaemic ECG	Assess/optimize/refer	ESC
	Anaemia	Diagnose/lv iron	CPOC
	Deconditioning	Diagnose/Tx/Physio/OT	Nutrition Exercise
'Difficult' historian	Cog impair't	Diag/assess/plan/long term	NICE, SIGN
	Social issues	Equipment/POC Psychological support Discharge planning	BGS, CGA toolkit



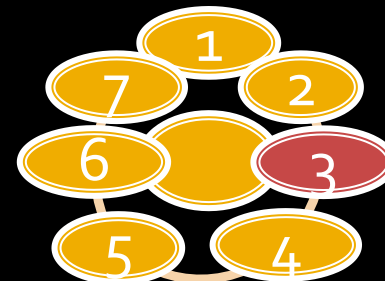
# ...so that postoperative care delivers better outcomes



# But we have only addressed the first two issues...



# ...does it work? The single centre work...



Year What happened?

Age and Ageing 2007; **36**: 190–196 © The Author 2007. Published by Oxford University Press on behalf of the British Geriatrics Society.  
doi:10.1093/ageing/af1163 All rights reserved. For Permissions, please email: journals.permissions@oxfordjournals.org  
Published electronically 27 January 2007

Proa  
surge  
evalu

Eval

BJUI  
BJU International

40% reduction in length of hospital stay

Surge  
DANIELLE  
FINBARR M

Philip  
Ben C  
\*Depart  
Populat  
Research

assessment and optimization in

J. S. L. Partridge<sup>1,3</sup>, D. Harari<sup>1,3</sup>, F. C. Martin<sup>1,3</sup>, J.  
and J. K. Dhesi<sup>1,3</sup>

<sup>1</sup>Proactive Care of Older People undergoing Surgery (POPS), Department  
St Thomas' NHS Foundation Trust, and <sup>3</sup>Division of Health and Social C  
Correspondence to: Dr J. S. L. Partridge, Proactive Care of Older People und  
Great Maze Pond, London SE1 9RT, UK (e-mail: judith.partridge@gstt.n

2014

2015

2016

2018

2019

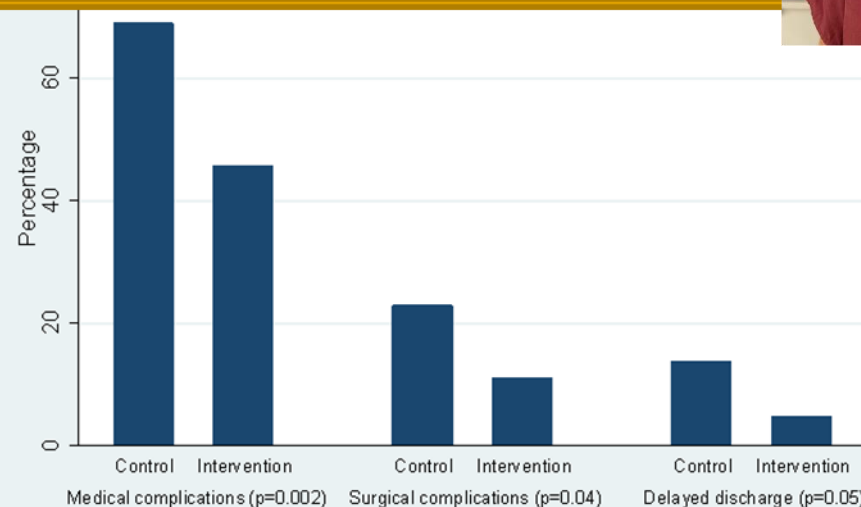
2019

Vangu

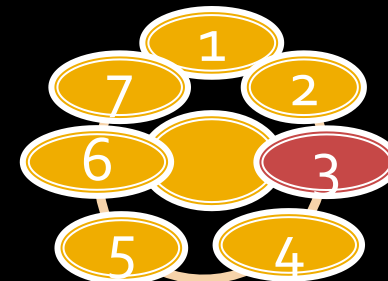
(BP) 3 PAs for orthogeriatrics expansion

(BP) 5 PAs for cardiac surgery

Funding for POPS@EKHUT



# ...replicated across centres...



> *Future Healthc J.* 2018 Jun;5(2):108-116. doi: 10.7861/futurehosp.5-2-108.

## Embedded geriatric surgical liaison is associated with reduced inpatient length of stay in older patients admitted for gastrointestinal surgery

David Shipway<sup>1</sup>, Louis Koizia<sup>2</sup>, Nick Winterkorn<sup>2</sup>, Michael Fertleman<sup>3</sup>, Paul Ziprin<sup>4</sup>, Krishna Moorthy<sup>5</sup>

Affiliations + expand

PMID: 31098544 PMCID: PMC6502563 DOI: 10.7861/futurehosp.5-2-108

[Free PMC article](#)

*Aging Clinical and Experimental Research* (2024) 36:163  
<https://doi.org/10.1007/s40520-024-02752-4>

### RESEARCH



## How to compensate for frailty? The real life impact of geriatric co-management on morbi-mortality after colorectal cancer surgery in patients aged 70 years or older

A. Pille<sup>1</sup> · H. Meillat<sup>2</sup> · C. Braticovic<sup>1</sup> · B. Lelong<sup>2</sup> · F. Rousseau<sup>1</sup> · M. Cecile<sup>1</sup> · L. Tassy<sup>1</sup>



Cochrane Database of Systematic Reviews

## Comprehensive geriatric assessment for older people admitted to a surgical service (Review)

Eamer G, Taheri A, Chen SS, Daviduck Q, Chambers T, Shi X, Khadaroo RG



JAMDA

journal homepage: [www.jamda.com](http://www.jamda.com)



Original Study

## Geriatric Comanagement of Older Vascular Surgery Inpatients Reduces Hospital-Acquired Geriatric Syndromes

Janani Thillainadesan MD, PhD<sup>a,b,c,\*</sup>, Sarah J. Aitken MD, PhD<sup>b,d,e</sup>, Sue R. Monaro MN, PhD<sup>e,f</sup>, John S. Cullen MD<sup>a,b,c</sup>, Richard Kerdic MD<sup>e</sup>, Sarah N. Hilmer MD, PhD<sup>g</sup>, Vasi Naganathan MD, PhD<sup>a,b,c</sup>

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<sup>b</sup> Concord Clinical School, Faculty of Medicine and Health, The University of Sydney, Concord, Sydney, Australia

<sup>c</sup> Center for Education and Research on Aging, and Aging and Alzheimers Institute, Concord, Sydney, Australia

<sup>d</sup> Concord Institute of Academic Surgery, Vascular Surgery Department, Concord Hospital, Concord, Sydney, Australia

<sup>e</sup> Department of Vascular Surgery, Concord Hospital, Concord, Sydney, Australia

<sup>f</sup> Susan Wakil School of Nursing, The University of Sydney, Sydney, Australia

<sup>g</sup> Kolling Institute of Medical Research, Sydney Medical School, University of Sydney and Royal North Shore Hospital, St Leonards, Sydney, Australia

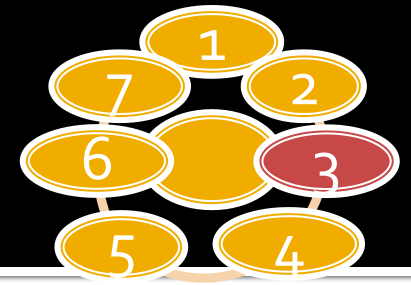
*Anaesthesia* 2014, 69 (Suppl. 1), 8–16

doi:10.1111/anae.12494

## Review Article

The impact of pre-operative comprehensive geriatric assessment on postoperative outcomes in older patients undergoing scheduled surgery: a systematic review

# ...and supported by big data studies



EDITOR'S CHOICE

## Older patients undergoing emergency laparotomy: observations from the National Emergency Laparotomy Audit (NELA) years 1–4 <sup>FREE</sup>

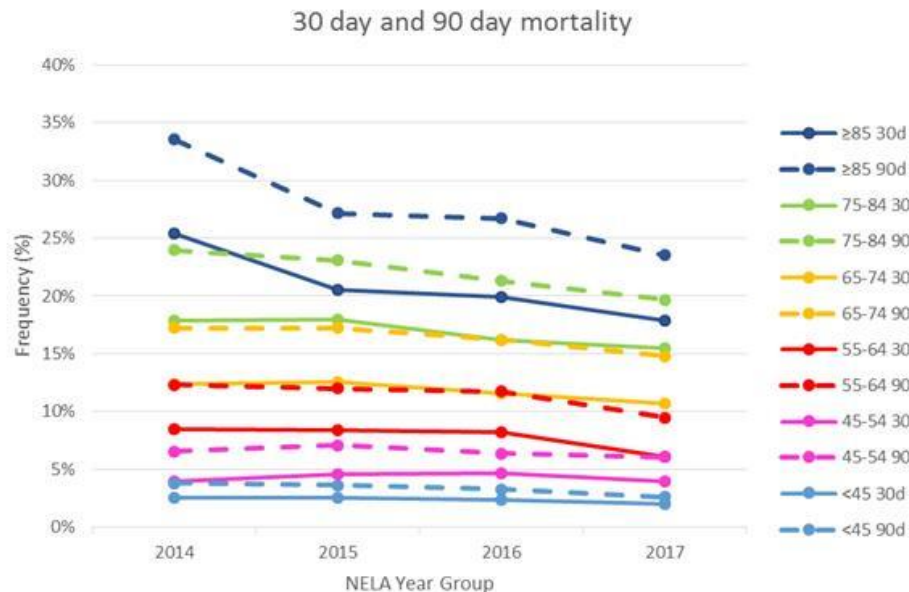
Rachel M Aitken ✉, Judith S L Partridge, Charles Matthew Oliver, Dave Murray, Sarah Hare, Sonia Lockwood, Nick Beckley-Hoelscher, Jugdeep K Dhesi

*Age and Ageing*, Volume 49, Issue 4, July 2020, Pages 656–664

<https://doi.org/10.1093/ageing/afaa075>

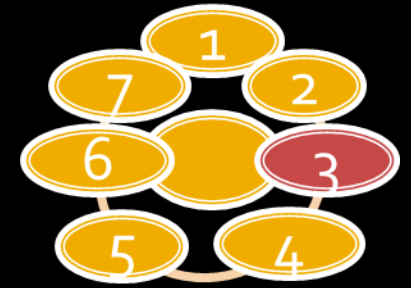
**Published:** 02 June 2020 **Article history** ▼

older patients  
OR 0.35; 95% CI:0.29-0.44





# But it doesn't it work everywhere...



Received: 12 February 2018 | Accepted: 29 March 2018  
DOI: 10.1111/jcp.13096

## ORIGINAL PAPER

WILEY THE INTERNATIONAL JOURNAL OF  
CLINICAL PRACTICE

**Establishing a proactive geriatrician led comprehensive geriatric assessment in older emergency surgery patients: Outcomes of a pilot study**

Matthew C. Mason<sup>1</sup> | Amy L. Crees<sup>2</sup> | Matthew R. Dean<sup>3</sup> | Nahid

## Original article

doi:10.1111/codi.13785

**Preoperative geriatric assessment and tailored interventions in frail older patients with colorectal cancer: a randomized controlled trial**

N. Ommundsen<sup>\*†</sup>, T. B. Wyller<sup>\*†</sup>, A. Nesbakken<sup>\*‡§</sup>, A. O. Bakka<sup>\*§</sup>, M. S. Jordhøy<sup>\*\*\*</sup>, E. Skovlund<sup>††</sup> and S. Rostoft<sup>\*†</sup>

<sup>\*</sup>Institute of Clinical Medicine, Oslo University Hospital, Oslo, Norway; <sup>†</sup>Department of Geriatric Medicine, Oslo University Hospital, Oslo, Norway;

Mixed results  
Concerns about power, methodology  
Often due to a lack of fidelity to CGA  
Lack of focus on implementation

## Can comprehensive geriatric assessment be delivered without the need for geriatrician

Age and Ageing 2019; 48: 643–648  
doi: 10.1093/ageing/afz025  
Published electronically 22 March 2019  
© The Author(s) 2019. Published by Oxford University Press on behalf of the British Society for Geriatrics  
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**Can comprehensive geriatric assessment be delivered without the need for geriatrician? A formative evaluation in two perioperative surgical settings**

DAVID KOCHAN<sup>1</sup>, EMMA REGEN<sup>1</sup>, KAY PHELPS<sup>1</sup>, GRAHAM MARTIN<sup>2</sup>, STUART PARKER<sup>3</sup>, THOMAS GILBERT<sup>4</sup>, SIMON CONROY<sup>1</sup>

## RESEARCH ARTICLE

Open Access

**Effects of comprehensive geriatric care models on postoperative outcomes in geriatric surgical patients: a systematic review and meta-analysis**

Aparna Saripella<sup>1</sup>, Sara Wasef<sup>1</sup>, Mahesh Nagappa<sup>2</sup>, Sheila Riazi<sup>1</sup>, Marina Englesakis<sup>3</sup>, Jean Wong<sup>1,4</sup> and Frances Chung<sup>1\*</sup>



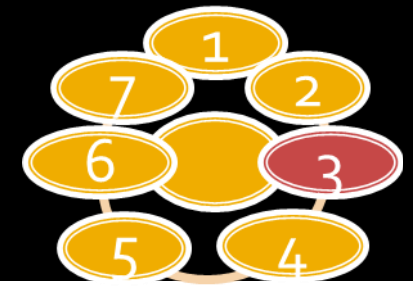
Author Information

*Annals of Surgery* 280(4):p 623–632, October 2024. | DOI: 10.1097/SLA.0000000000006458

**Outcomes in Older Cancer Patients Following Implementation of a Presurgical Geriatric Assessment: Results of a Phase III Cluster Randomized Controlled Trial (NCT0231601CD)**

Barber, Anne K. BA<sup>5</sup>; Lowenstein, Lisa M. PhD<sup>†</sup>; Dohan, David MS<sup>‡</sup>; Tan, Angelina D. BS<sup>‡</sup>; Dueck, Amylou PhD<sup>#</sup>; Emily MD, MS<sup>¶</sup>; on behalf of the OPTI-Surg Investigators

# ...and what about prehabilitation?



Current Anesthesiology Reports  
https://doi.org/10.1007/s40140-021-00496-9

GERIATRIC ANESTHESIA (S AKHTAR, SECTION EDITOR)

## Prehabilitation in the Older People:

Amanda Tsan Yue Siu<sup>1,2</sup> · Tom Poulton<sup>1,3,4,5</sup> · Hilmy Ismail<sup>1,2</sup>

Accepted: 4 October 2021

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BJA

CLINICAL PRACTICE

## Prehabilitation in adult patients undergoing colorectal resection: a review of systematic reviews

Daniel I. McIsaac<sup>1,2,3,\*</sup>, Marlyn Gill<sup>4</sup>, Laura Boland<sup>5</sup>, Julia Shaw<sup>1,2</sup>, Alexa L. Grudzinski<sup>1</sup>, Natasha Barrow<sup>1</sup>, Prehabilitation Knowledge Network<sup>†</sup>

1240 Patients assessed for eligibility

971 Excluded

- 556 Did not meet inclusion criteria
- 221 Surgery <4 wk
- 118 Metastatic disease preoperatively
- 56 Contraindication for exercise
- 50 ASA score ≥4
- 48 Abdominoperineal resection
- 29 Cognitive impairment or illiteracy
- 27 Second primary tumor
- 7 Chronic kidney failure
- 233 Declined
- 182 Other reasons

269 Randomized

136 Randomized to receive prehabilitation program

- 128 Received intervention as randomized
- 8 Did not receive intervention
- 6 Withdrew
- 2 Surgery too soon

- 1 Lost to follow-up
- 26 Discontinued assessments
- 12 Withdrew
- 8 Prevented by COVID-19 restrictions
- 3 No follow-up scheduled
- 3 Unable to visit for health reasons

123 Included in analysis

- 13 Not included in analysis
- 10 Did not have surgery
- 2 No colorectal resection or APR
- 1 Data missing because of COVID-19 restrictions

133 Randomized to receive standard care

- 131 Received control as randomized
- 2 Did not receive control (received prehabilitation)

- 1 Lost to follow-up
- 20 Discontinued assessments
- 11 Withdrew
- 3 Prevented by COVID-19 restrictions
- 3 No follow-up scheduled
- 3 Unable to visit for health reasons

128 Included in analysis

- 5 Not included in analysis
- 3 Did not have surgery
- 2 No colorectal resection or APR

Frailty  
outcomes for  
patients

MD\*,†

Issue 6 - p 1524-1533

CGA

Medical,  
functional,  
social,  
psychological

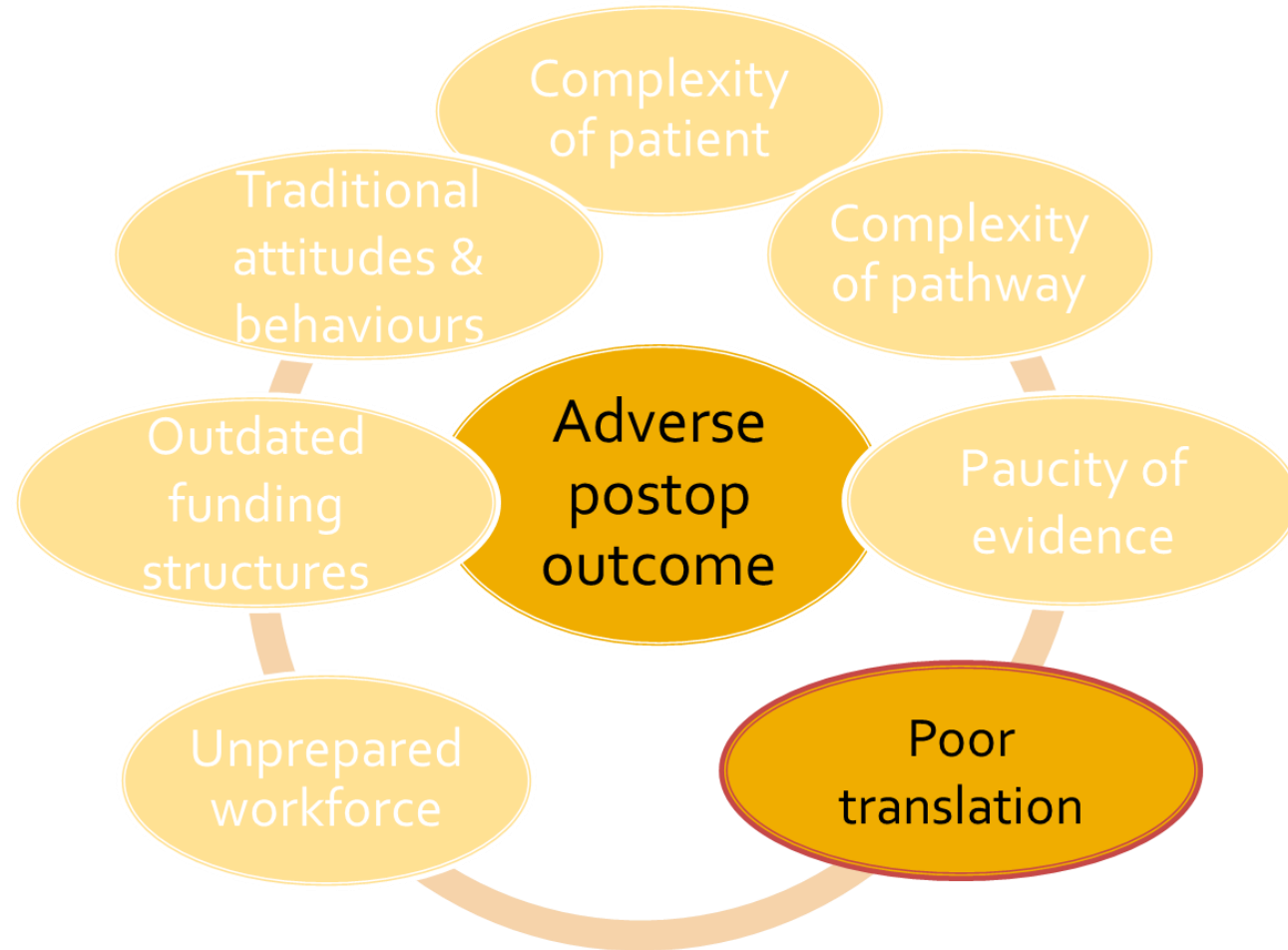
Prehab

Exercise to improve postoperative  
outcomes after colorectal resection: the PREHAB

... Carl van Walraven · Colin J.L. McCartney

022.04.006

# What about rolling out?



# Translation across specialties worked...

Year	What happened?
2003	Start of charity funded project
2005	(BP) Mainstream funding for POPS service
2008	(BP) Funding for additional CNS and consultant (2009)
2010	Used remaining grant funding to secure 1 year research SpR
2011	Research grant for POPS Vascular RCT
2012	FY2 became deanery funded, rebadged money for OOPE
2013	(BP) 3 PAs for the amputee rehab unit
2014	(BP) Funding for 4 PAs = WTE Gynae POPS CNS
2014	(BP) 7 Pas for vascular POPS consultant (2015)
2015	FY programme (with funding for 2 cons but 2 OOPE, 1 cons)
2016	Vanguard funding for translation to DVH
2018	(BP) 3 PAs for orthogeriatrics expansion
2019	(BP) 5PAs for cardiac surgery
2019	Funding for POPS@EKHUT



Elective 1600 PATIENTS p/a		Emergency 2400-3000 PATIENTS p/a
Guys	St Thomas'	Amputee Rehab Unit
Orthopaedic – elective	Orthopaedic – trauma	Out patient work
Urology	Upper GI/Lower GI	In-patient work
Head and Neck	Vascular	Community based
ENT	Plastics	
Thoracics	Cardiac	

# ...but what about translation across geography?



Method of risk assessment	n
CGA	12

Total no. respondents providing perioperative services to older patients = 38/130

We don't have the money  
We don't have the workforce

So it can't be done at a District General Hospital!!

Model of care	n
Active	10
Proactive	11
Combined	5

Figure 1. Features of perioperative services provided by geriatric medicine in the UK.



# The money; no golden goose but we can reallocate money...

## Preoperative

- Reduced out patient referrals
- Improved shared decision making (less surgery?)
- Better use of workforce – reduced need for parallel services
- Reduced late cancellations
- Increased appropriate day surgery

## Inpatient

- Improved quality, reduced medical complications
- Reduced need for level 2/3
- Reduced need for on call review
- Reduced LOS
- Better use of community services

## Post discharge

- Reduced readmissions across the hospital
- Reduced postoperative referrals to surgery and medicine
- Reduced long term complications
- Better recovery/rehabilitation

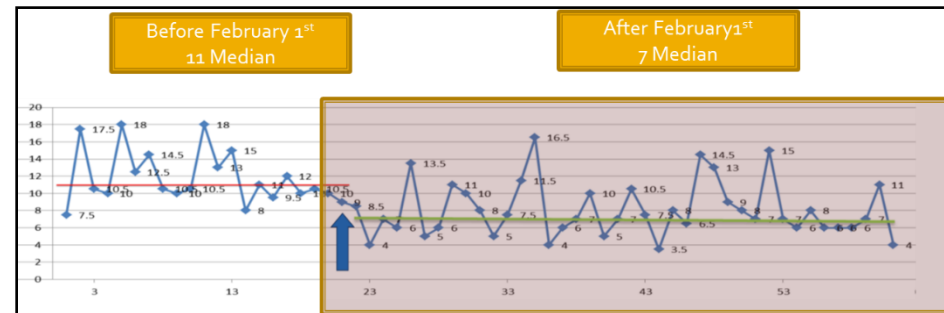
> Age Ageing. 2021 Sep 11;50(5):1770-1777. doi: 10.1093/ageing/afab094.

### Preoperative comprehensive geriatric assessment and optimisation prior to elective arterial vascular surgery: a health economic analysis

Judith S L Partridge<sup>1 2</sup>, Andrew Healey<sup>3</sup>, Bijan Modarai<sup>4 5</sup>, Danielle Harari<sup>1 2</sup>,  
Finbarr C Martin<sup>2</sup>, Jugdeep K Dhesi<sup>1 2 6</sup>

Affiliations + expand

PMID: 34120179 DOI: 10.1093/ageing/afab094



Sharing of sample business plans/cases

# ...and refashion the workforce

## Nurses & Allied health

- Curriculum, Competency framework
- E-learning & face to face
- LSBU MSc

## Junior doctors

- Modular training programme
- From contemplation to recovery

## Specialist trainees

- Curriculum
- OOPE/T
- Darzi fellows

## National/ International

- E-learning modules
- MSc
- POPS conferences



Anaesthesia 2018, 73, 1392-1399

doi:10.1111/anae.14410

### Original Article

### A Foundation Programme educational placement in peri-operative medicine for older people: mixed methods evaluation\*

A. Rogerson,<sup>1</sup> J. S. L. Partridge<sup>2,3</sup> and J. K. Dhesi<sup>2,4</sup>

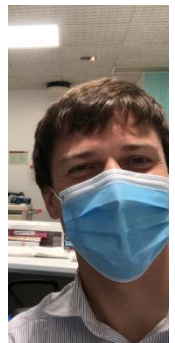
British Journal of Anaesthesia 116 (1): 4-6 (2016)  
doi:10.1093/bja/aeu403

### Geriatricians in perioperative medicine: developing subspecialty training

P. Braude<sup>1,\*</sup>, J. S. L. Partridge<sup>1</sup>, J. Hardwick<sup>1</sup>, D. J. H. Shipway<sup>2</sup> and J. K. Dhesi<sup>1,3</sup>

<sup>1</sup> Proactive Care of Older People Undergoing Surgery (POPS), Department of Ageing & Health, Guy's and St Thomas' Hospital, London, <sup>2</sup> Department of Medicine for the Elderly, St Mary's Hospital, Imperial College Healthcare NHS Trust, London, and <sup>3</sup> Division of Health and Social care Research, King's College London

\*Corresponding author. E-mail: philip.braude@gstt.nhs.uk

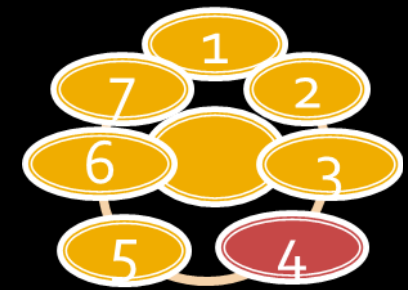


### WORKFORCE Developing the workforce to deliver perioperative medicine for older people undergoing surgery: a transdisciplinary education programme

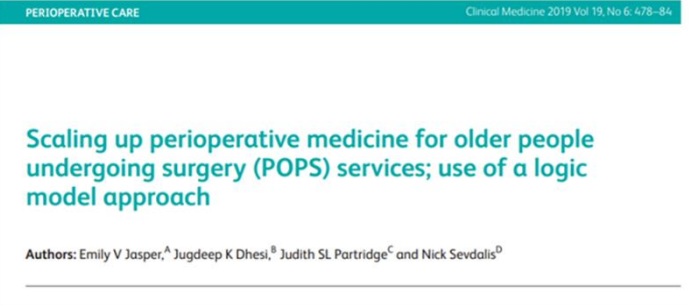
Authors: Kar Yee Law,<sup>A</sup> Jason Cross,<sup>B</sup> Jugdeep Dhesi<sup>C</sup> and Judith Partridge<sup>D</sup>



# It's not just the money or the workforce, it's about implementation science...



- Understanding core components
- Accessible resources
- Adaptation to local context through coproduction and iterative change
- Changing culture thro leadership & teamwork
- Testing and reporting honestly



## **Perioperative medicine for Older People undergoing Surgery (POPS): Comprehensive Geriatric Assessment (CGA) and optimization in the perioperative setting**

Jennifer J. Stewart, MBChB, GSTT, Judith S.L. Partridge, PhD, Jugdeep K. Dhesi

## **Implementing a perioperative care of older people undergoing surgery (POPS) service: findings from a multi-site qualitative implementation study**

Justin Waring\*, Graham P Martin, Peter Hartley, Judith S L Partridge, Jugdeep K Dhesi

\*Corresponding author for this work

Social Policy, Health Services Management Centre



# ...through formalised networks, nationally and internationally...



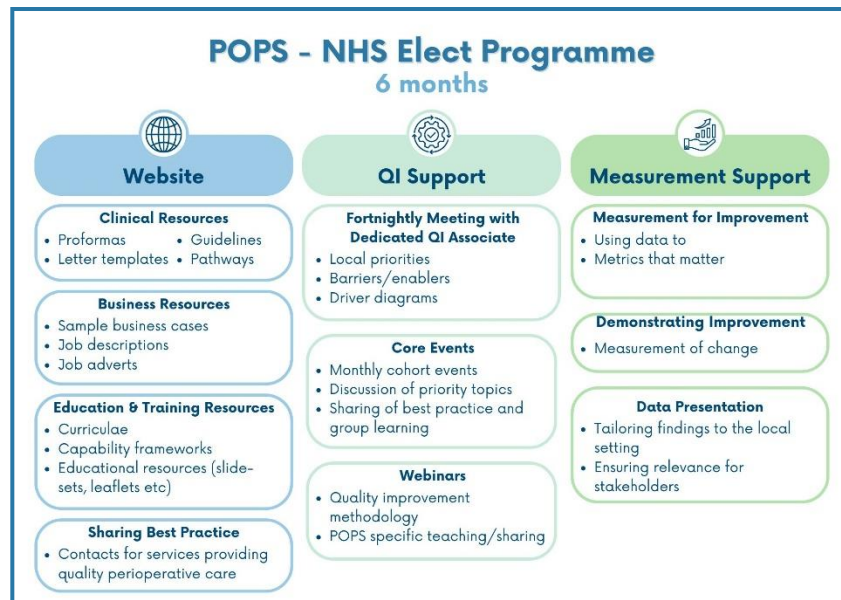
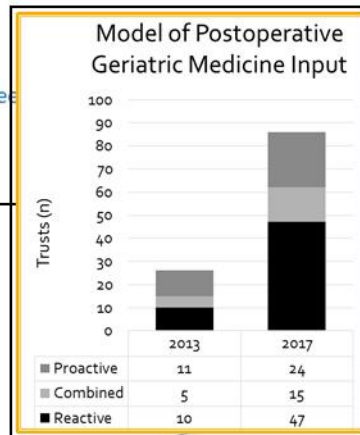
> Age Ageing. 2019 May 1;48(3):458-462. doi: 10.1093/ageing/afy218.

## Where are we now in perioperative medicine? Results from a repeated UK survey of geriatric medicine delivered services for older people

Andrea L Joughin<sup>1</sup>, Judith S L Partridge<sup>1</sup>, Tessa O'Halloran<sup>1</sup>, Jugdes

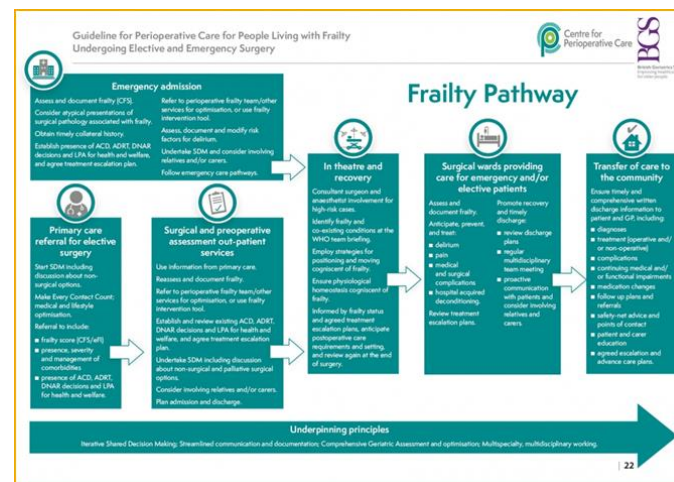
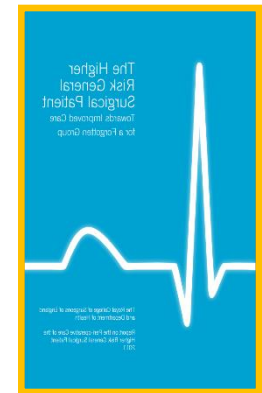
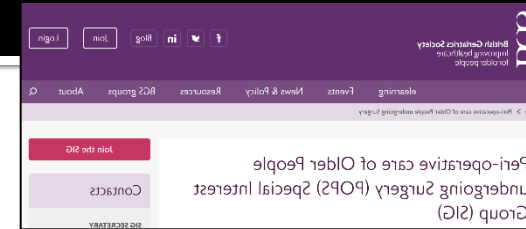
Affiliations + expand

PMID: 30624577 DOI: 10.1093/ageing/afy218



# ...and influencing at national level

- Guidelines and standards
- Healthcare Policy
- National audit
- Wider engagement
  - Lobby groups, think-tanks
  - Voluntary sector
  - Patients and public



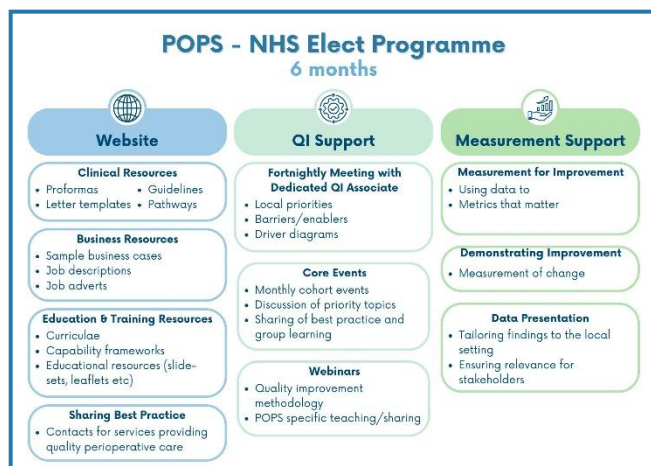


# Where are we now and what's next?

(£500k over 20 years)

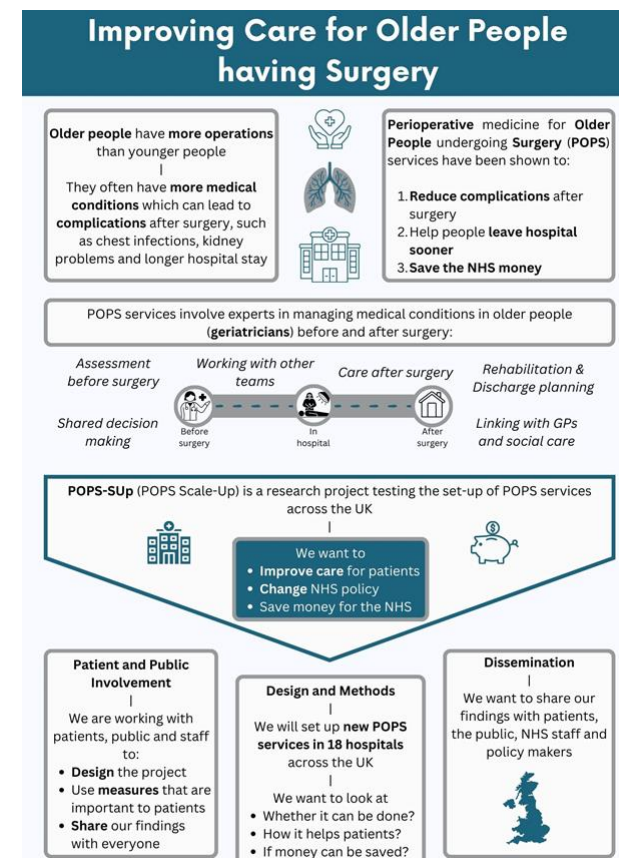
Worked with patients, carers and communities and professionals to

- **understand** the needs of the older surgical population
- **co-produce** a novel model of perioperative care
- **evaluate** the clinical and cost effectiveness at single centres
- **distil** the core components of POPS and core outcomes
- **develop and test** an implementation strategy
- **secure** funding to test the strategy **at scale**



Can CGA-based perioperative medicine services (POPS services) be implemented throughout the NHS, to improve clinical outcomes for older patients undergoing elective and emergency surgery with cost-effectiveness?

POPS-SUp (£1.5million)  
NIHR HSDR 2024



# Improving outcomes for older/high risk surgical patients requires multimodal approach...



# ...but there are lots of resources

- BGS POPS SIG [www.bgs.org.uk](http://www.bgs.org.uk) (hopefully EuGMS too!)
- CPOC (@CPOCnews [www.cpoc.org.uk](http://www.cpoc.org.uk) )
- NHS Elect POPS network
- POPS eLearning module – via BGS or CPOC
- National audits
- ANZGM [www.anzsgm.org](http://www.anzsgm.org) and ANZCA POPS SIG
- POPS, CPOC, EBPOM, RCoA, ANZCA, ANZGM conferences



POPS SIG Meeting  
11 September 2025  
Wellcome Collection



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