



Centre for
Perioperative Care

Slovak Society of Anaesthesiology and Intensive Medicine

Tuesday 24th November 2020

Perioperative Care:

A good pathway needs a good team



@mike_grocott

Director designate, Southampton NIHR Biomedical Research Centre

Vice-chair, UK Centre for Perioperative Care (CPOC)



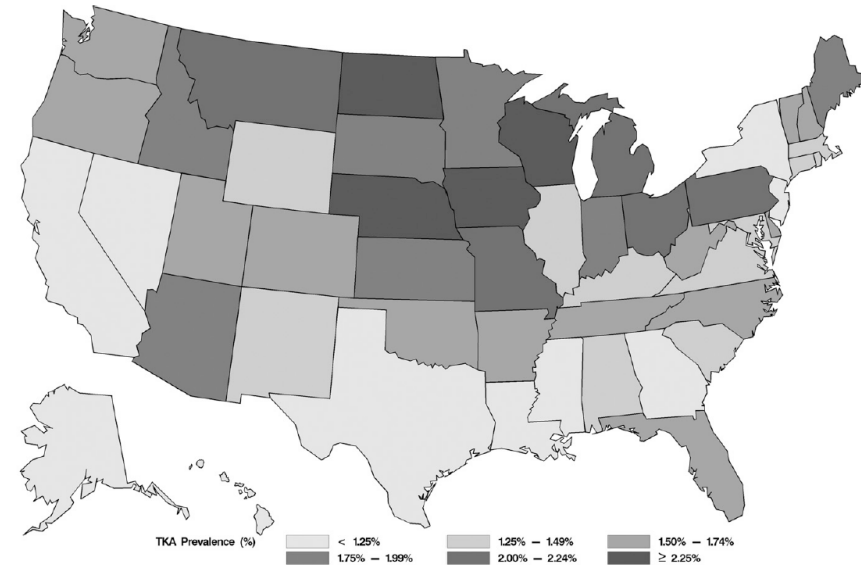
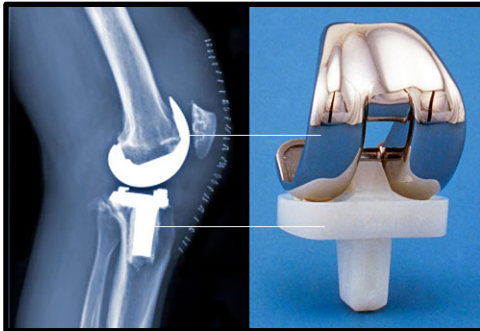


~~Threat~~

Opportunity

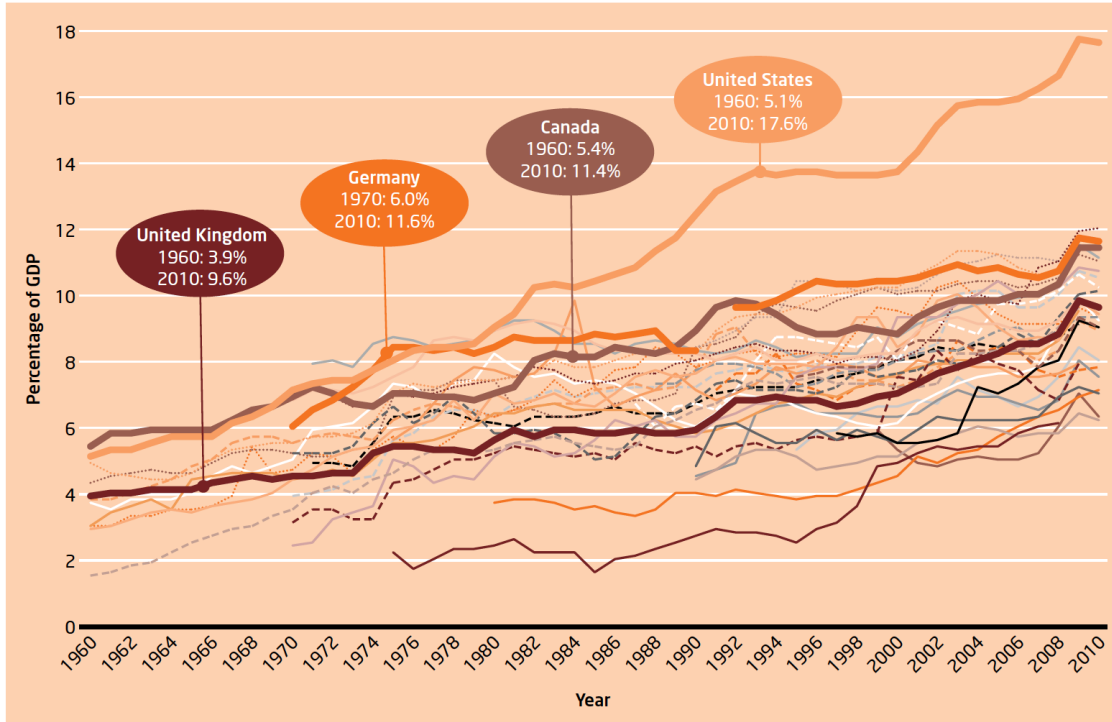
Demand growth

- Demography (ageing)
- Multimorbidity
- **Innovation**



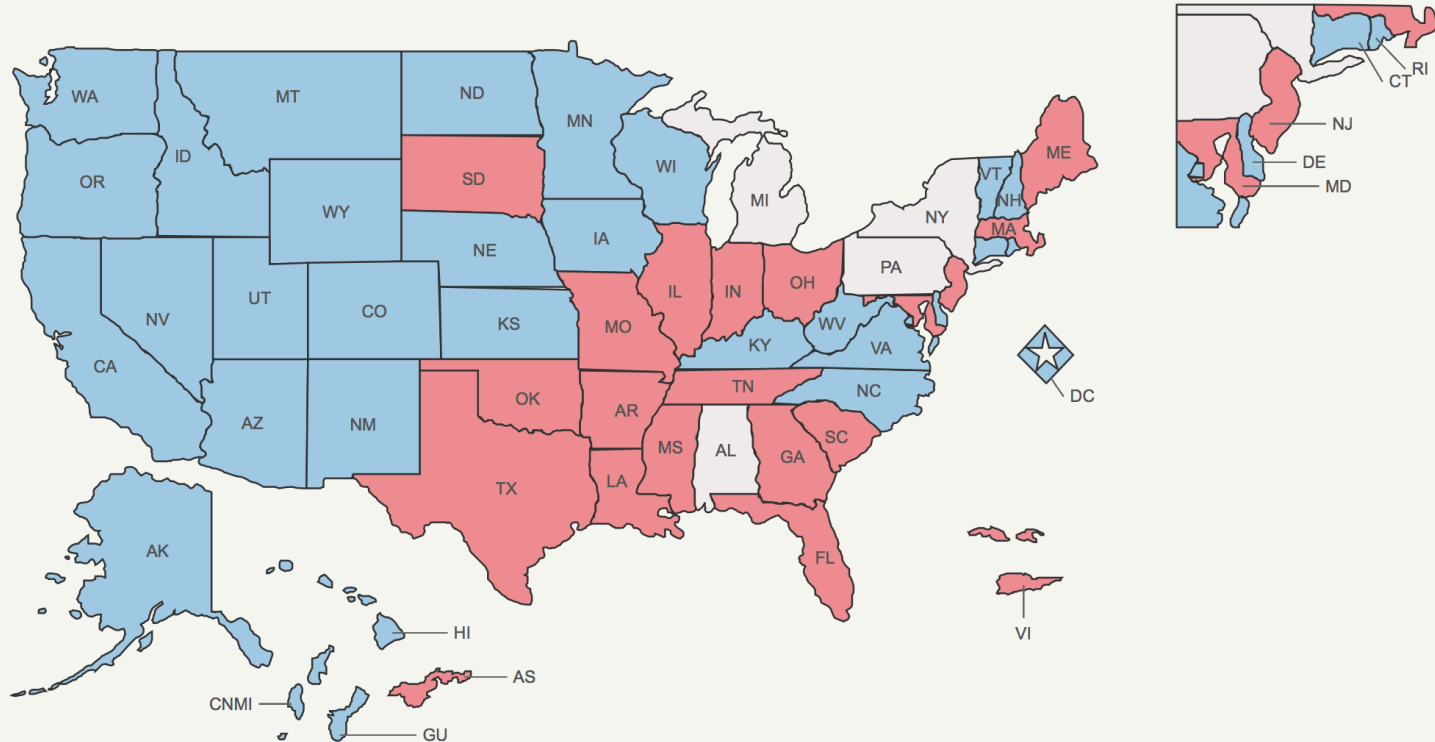
Supply constraint

Figure 4 Total (public + private) health spending as a percentage of GDP, 1960–2010, all OECD countries



Independent Practice - CRNA = Certified Registered Nurse Anesthetist

Can CRNAs practice independently?

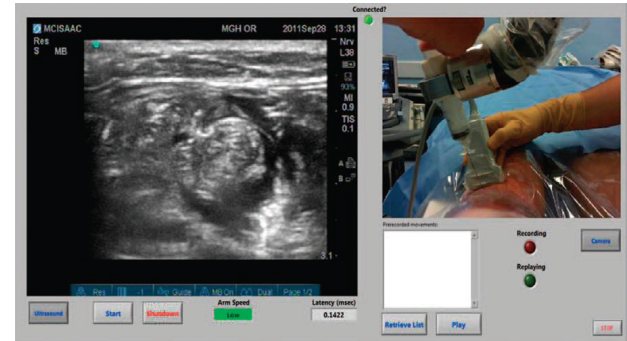
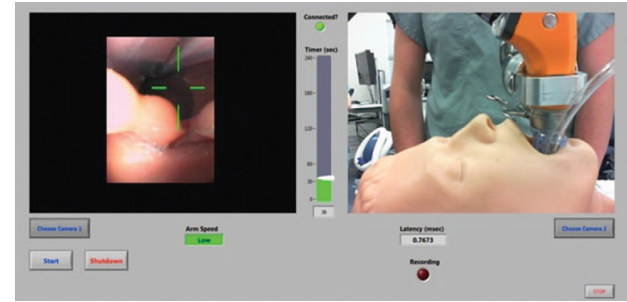
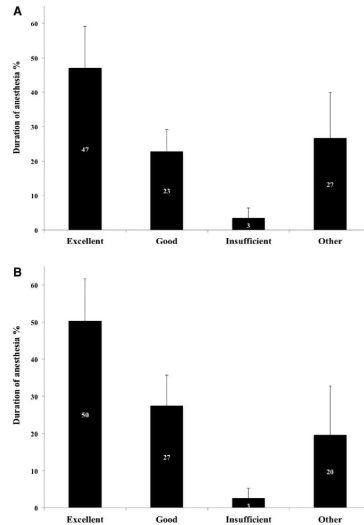


Society for Technology in Anesthesia

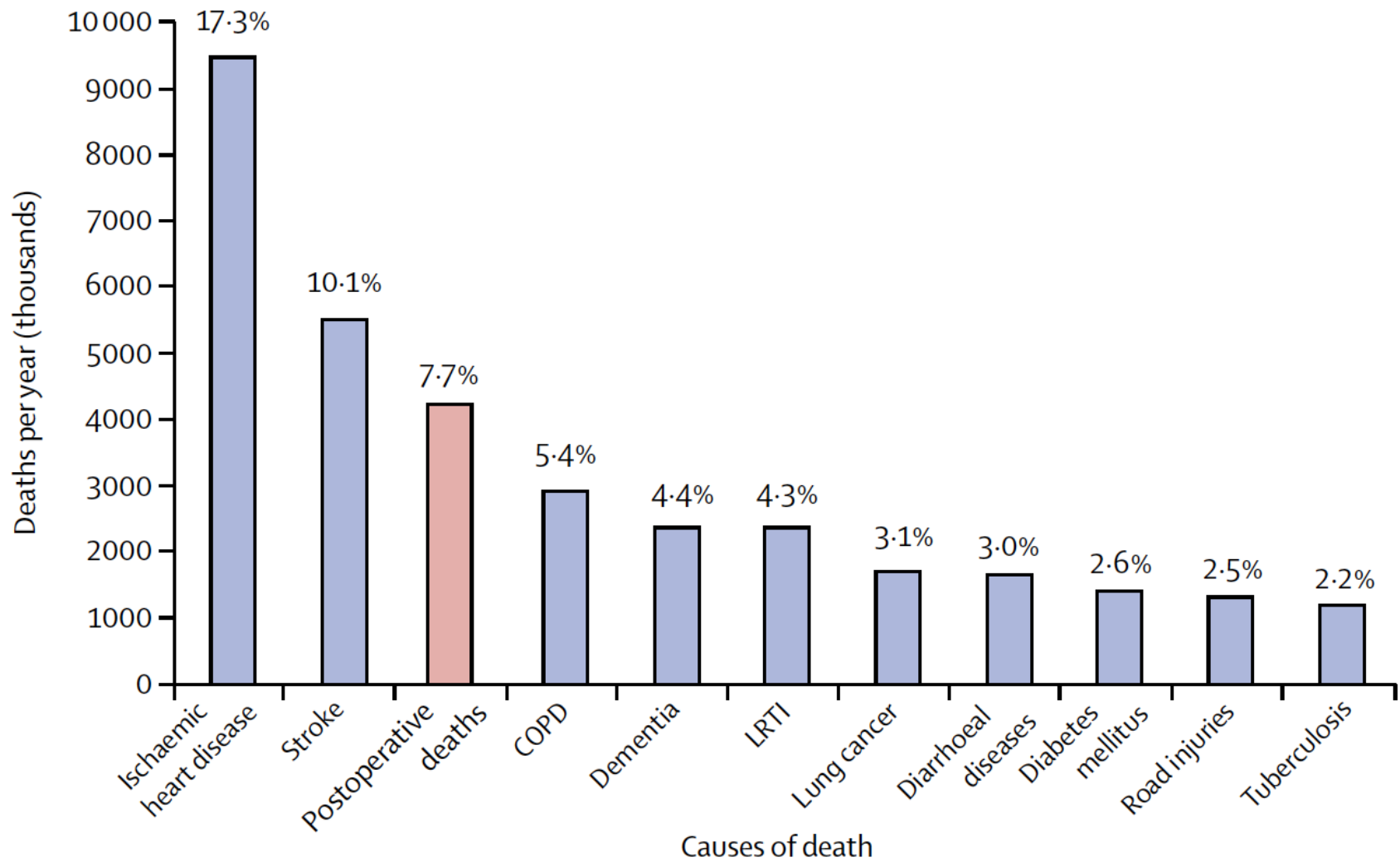
Section Editor: Maxime Cannesson

The Feasibility of a Completely Automated Total IV Anesthesia Drug Delivery System for Cardiac Surgery

Cedrick Zaouter, MD, MSc,* Thomas M. Hemmerling, MD,† Romain Lanchon, MD,* Emanuela Valoti, MD,‡ Alain Remy, MD,* Sébastien Leuillet, MSc,§ and Alexandre Ouattara, MD, PhD*



Surgery as a public health issue



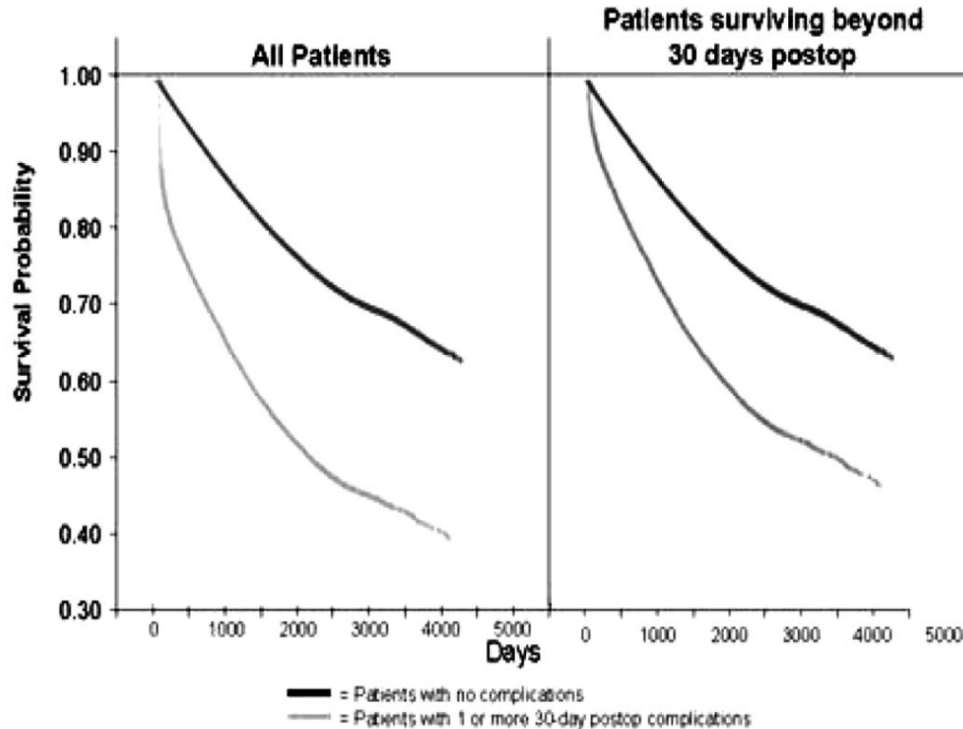
Mortality:morbidity relationship

Morbidity Criterion	Mortality (%)	Morbidity (%)	Ratio
POMS	1.6	26.9	16.8
Clavien-Dindo	1.2	16.4	13.7
NSQIP	3.1	18.1	5.8
NSQIP	4.8	25.4	5.2

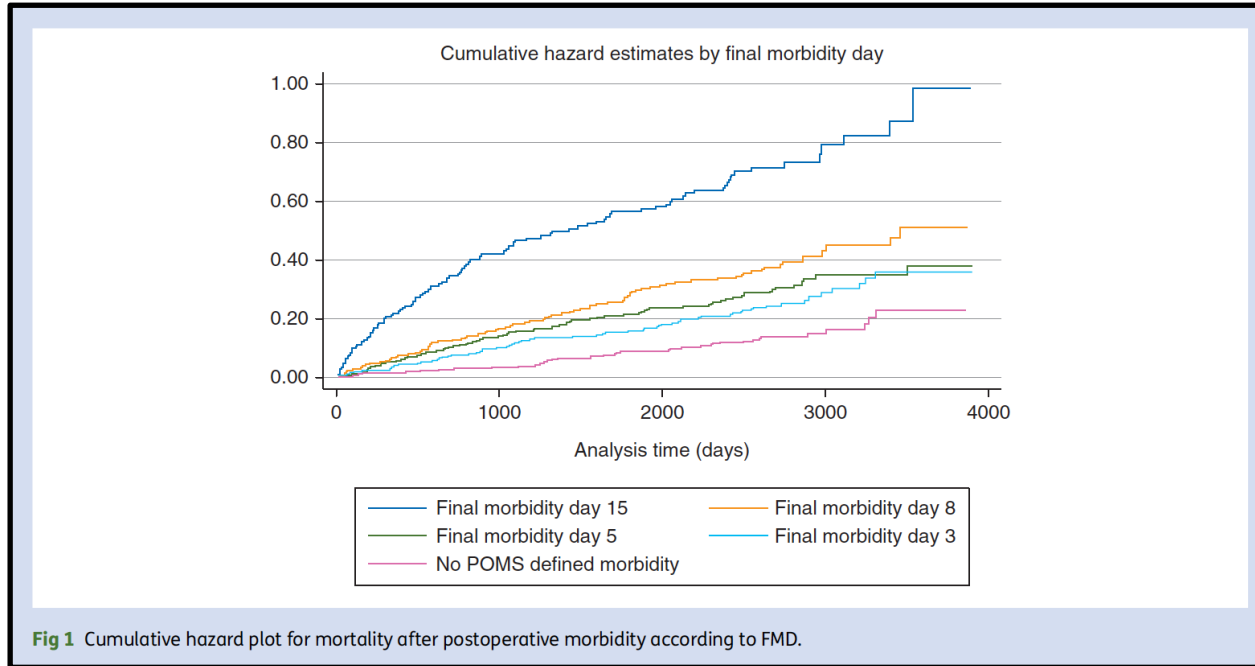
Morbidity = “suffering” (+ increased LOS)

Bennett-Guerrero *Anaesth Analg* 1999 | Dindo *Ann Surg* 2004
Khuri *Ann Surg* 2005 | Ghaferi *NEJM* 2009

Morbidity and long-term survival



Morbidity and long-term survival

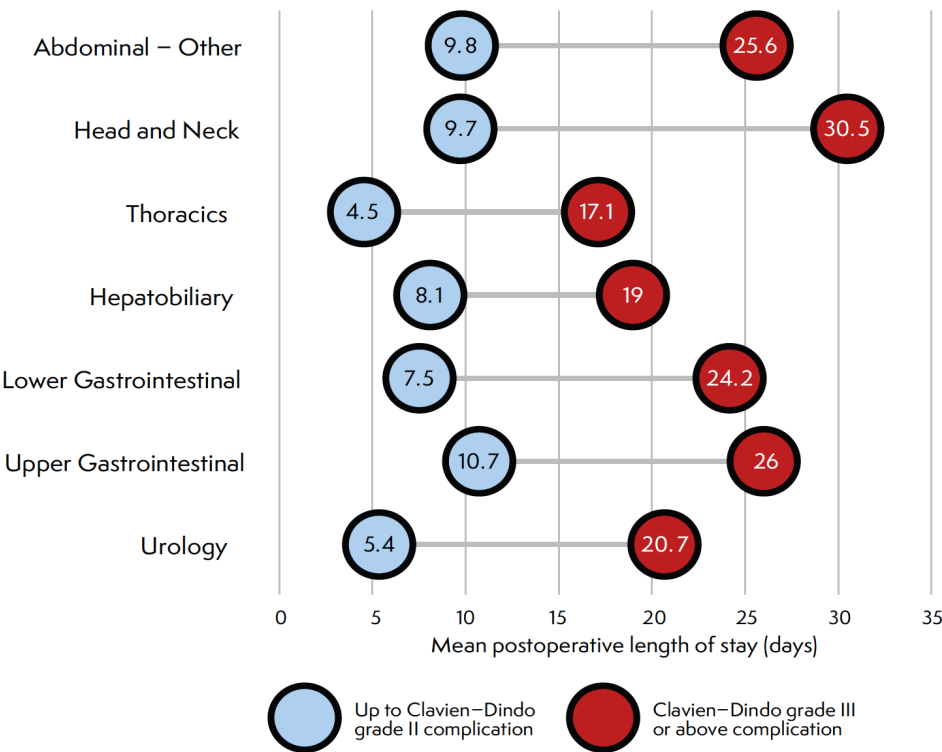


Morbidity and cost

Table 2. Patient Age, Average Length of Stay, Revenue, and Variable Costs, With and Without Complications

Variable	Unadjusted (95% CI)		Difference ^a
	Without Complications (n = 32 436)	With ≥1 Complication (n = 1820)	
Age, mean, y ^b	57.4 (55.7 to 58.3)	64.8 (63.8 to 67.0)	7.4 (5.8 to 10.7)
Length of stay, median, d	3.0 (2.9 to 4.0)	14.0 (11.5 to 15.0)	11.0 (9 to 12)
Mean, \$, in thousands			
Net revenue per patient	18.9 (15.8 to 20.5)	49.4 (40.7 to 54.0)	30.5 (23.9 to 34.5)
Variable costs per patient	11.3 (9.4 to 12.1)	33.7 (27.7 to 36.8)	22.4 (18.1 to 25.7)
Contribution margin per patient	7.6 (6.1 to 8.9)	15.7 (11.0 to 18.4)	8.1 (4.9 to 9.7)
Fixed costs per patient	6.6 (5.7 to 7.0)	22.1 (18.7 to 24.7)	15.5 (12.8 to 18.2)
Total costs per patient	17.9 (15.1 to 19.1)	55.8 (46.7 to 61.1)	37.9 (31.1 to 43.8)
Total margin per patient	1.0 (0.01 to 2.2)	-6.4 (-10.3 to -4.4)	-7.4 (-10.5 to -5.1)

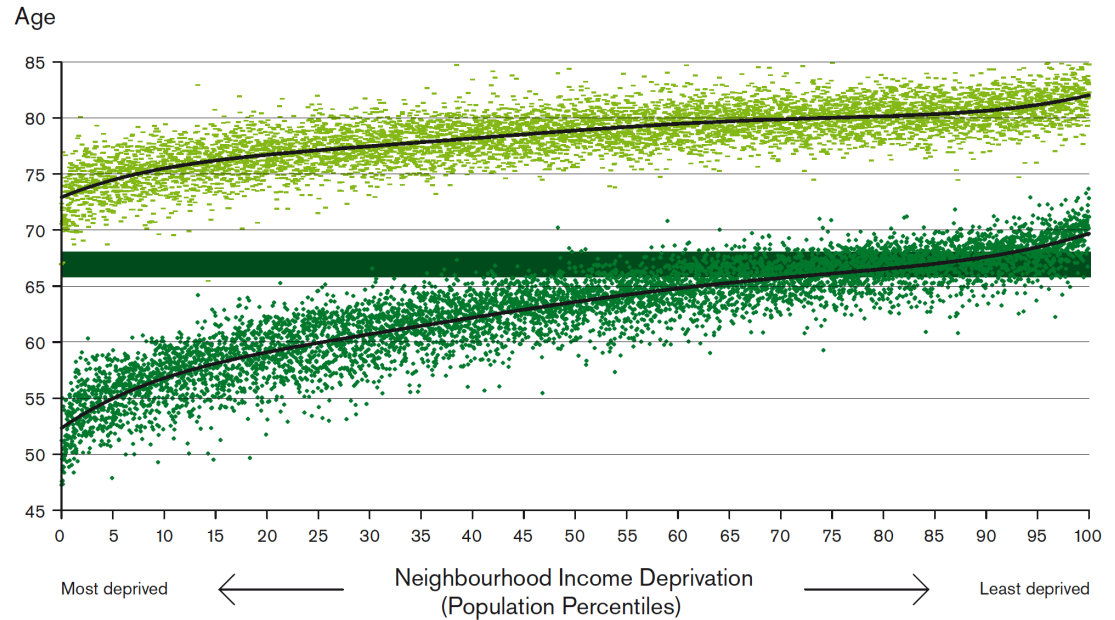
Morbidity and length of stay



Day 7 morbidity domain	Year 1 % (n= 6,378)	Year 2 % (n= 12,152)
Major pulmonary*	6.2	5.3
Major infection*	12.8	11.5
Major renal*	1.5	1.1
Major cardiac*	2.7	2.2
Major neurological*	2.4	1.8
Major wound*	4.5	3.2
Major haematological	0.8	0.8
Major pain	0.9	0.8
All gastrointestinal *	14.9	11.8
Any morbidity*	28.4	23.8
Any major morbidity*	18.7	16.4

Determinants of health

Determinants of health



Determinants of health

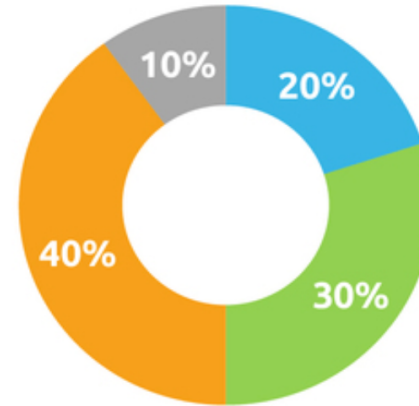


Physical Environment

Environmental quality
Built environment
...

Socio-Economic Factors

Education
Employment
Income
Family/Social Support
Community Safety
...



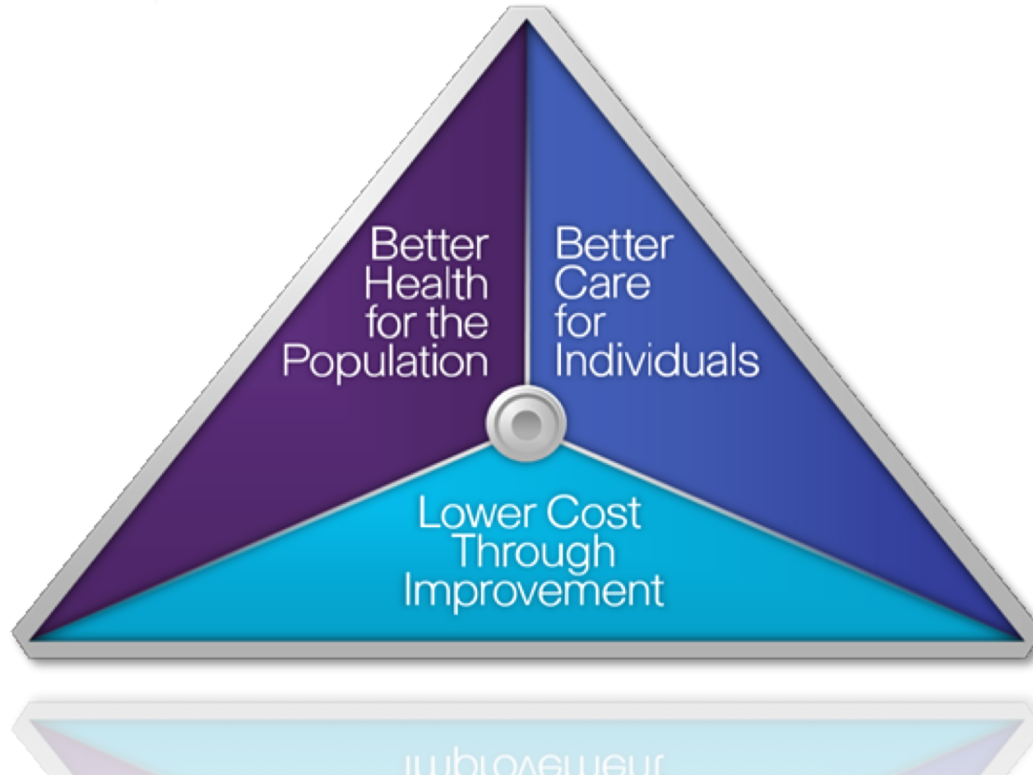
Health Care

Access to Care
Quality of Care
...

Health Behaviors

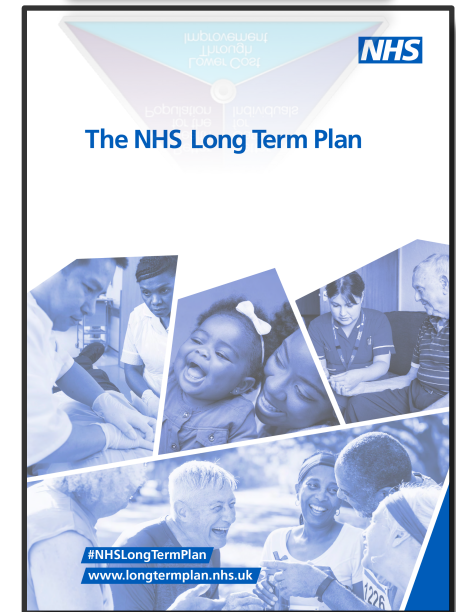
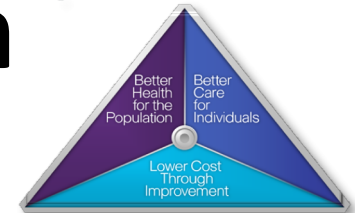
Tobacco use
Diet & Exercise
Alcohol use
Unsafe sex
...

Triple Aim



NHS Long Term Plan

1. **Doing things differently:** we will give people more control over their own health and the care they receive, encourage more collaboration between GPs, their teams and community services, as 'primary care networks', to increase the services they can provide jointly, and increase the focus on NHS organisations working with their local partners, as 'Integrated Care Systems', to plan and deliver services which meet the needs of their communities.
2. **Preventing illness and tackling health inequalities:** the NHS will increase its contribution to tackling some of the most significant causes of ill health, including new action to help people stop smoking, overcome drinking problems and avoid Type 2 diabetes, with a particular focus on the communities and groups of people most affected by these problems.
3. **Backing our workforce:** we will continue to increase the NHS workforce, training and recruiting more professionals – including thousands more clinical placements for undergraduate nurses, hundreds more medical school places, and more routes into the NHS such as apprenticeships. We will also make the NHS a better place to work, so more staff stay in the NHS and feel able to make better use of their skills and experience for patients.
4. **Making better use of data and digital technology:** we will provide more convenient access to services and health information for patients, with the new NHS App as a digital 'front door', better access to digital tools and patient records for staff, and improvements to the planning and delivery of services based on the analysis of patient and population data.
5. **Getting the most out of taxpayers' investment in the NHS:** we will continue working with doctors and other health professionals to identify ways to reduce duplication in how clinical services are delivered, make better use of the NHS' combined buying power to get commonly-used products for cheaper, and reduce spend on administration.



NHS Long Term Plan

1. Integrated Care

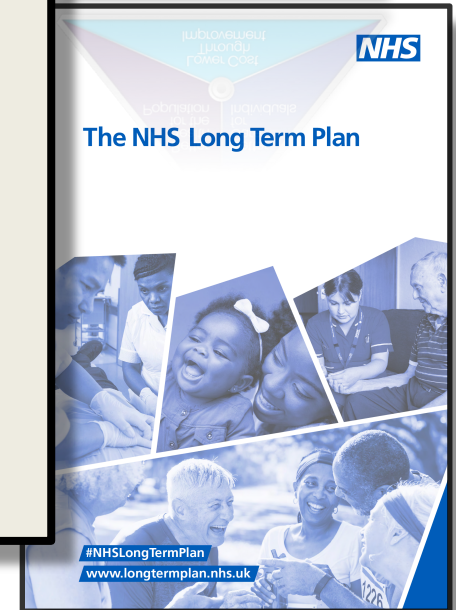
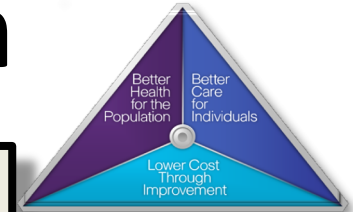
2. Prevention & tackling health inequalities

3. Workforce

4. Data & digital

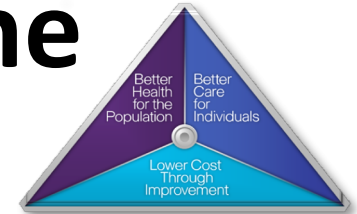
5. Value

5. **Getting the most out of taxpayers' investment in the NHS:** we will continue working with doctors and other health professionals to identify ways to reduce duplication in how clinical services are delivered, make better use of the NHS' combined buying power to get commonly-used products for cheaper, and reduce spend on administration.



Perioperative Medicine

- improve **patient experience** of care including quality of care & satisfaction
- Improve **health of populations**, including returning to home/work & quality of life
- reduce the **per capita cost** of health care through improving value





THE ROYAL
COLLEGE OF
ANAESTHETISTS

PERIOPERATIVE MEDICINE

THE PATHWAY TO BETTER SURGICAL CARE



“Perioperative Medicine is the integrated multidisciplinary medical care of patients from the moment of contemplation of surgery until full recovery.”





PERIOPERATIVE MEDICINE
THE PATHWAY TO BETTER SURGICAL CARE



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Patient Centered



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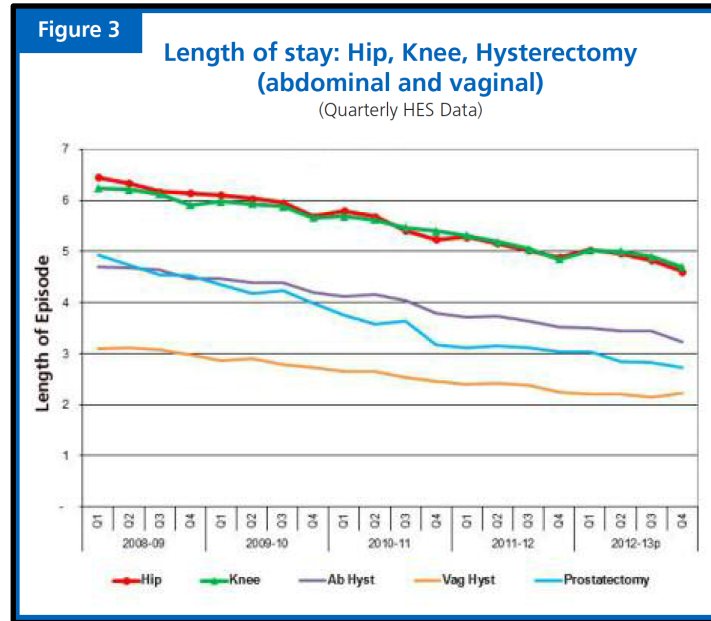
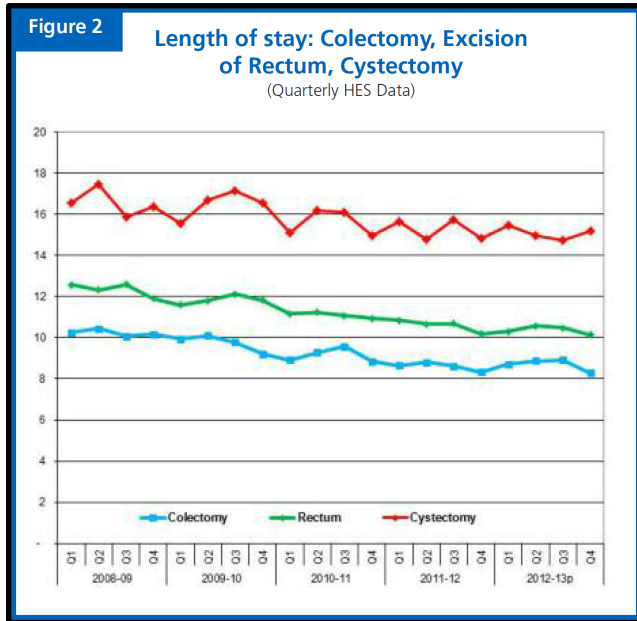
Patient Centered
Pathway focused
Multidisciplinary
Integrated

Enhanced Recovery



Henrik Kehlet MD PhD

Enhanced Recovery



NHS
Improving Quality

NHS Improving Quality in collaboration with NHS England
Enhanced recovery care pathway
A better journey for patients seven days
a week and better deal for the NHS
Progress review (2012/13) and
level of ambition (2014/15)

Five simple assumptions...

Five simple assumptions...

- 1. “I am a partner in my own care”

Five simple assumptions...

- 1. **“I am a partner in my own care”**
therefore....
- 2. **Right decision...**
- 3. **Well prepared “best possible state”**
- 4. **Properly cared for “least possible harm”**
- 5. **Fully recover “back to how I was before”**

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PREOPERATIVE RISK

FIXED

MODIFIABLE

INATE

Age
Gender
Genetics

ACQUIRED

Anaemia
COPD
Diabetes

LIFESTYLE

Activity
Alcohol
Smoking

**Collaborative
Decision
Making**

Comorbidity

**Collaborative
Behavioral
Change**

Management

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Shared Decision Making

“Clinicians and patients **working together** to select treatments based on clinical evidence and **patients’ informed preferences**”

Shared Decision Making

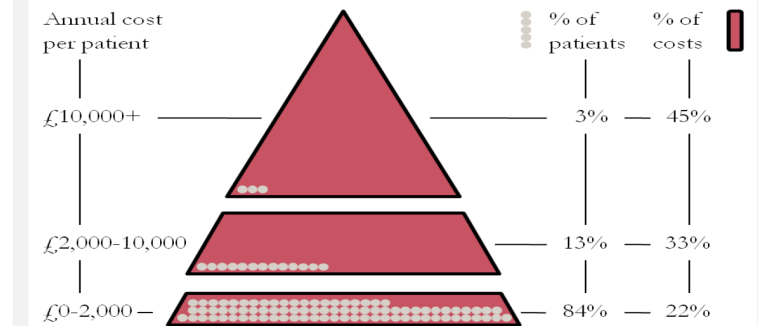
“Clinicians and patients **working together** to select treatments based on clinical evidence and **patients’ informed preferences**”

“no decision about me without me”

Shared Decision Making

- Avoidance of “wrong patient surgery”
- Fewer high-risk patients, therefore...
 - Less harm (fewer complications)
 - Reduced cost

Figure 5.1. Proportion of total costs spent on patients by annual costs



Note: Proportion of total costs spent on patients with annual costs of £0–£2,000, £2,000–£10,000 and £10,000+ (area of shape), with the proportion of all patients in annual cost band (dots).

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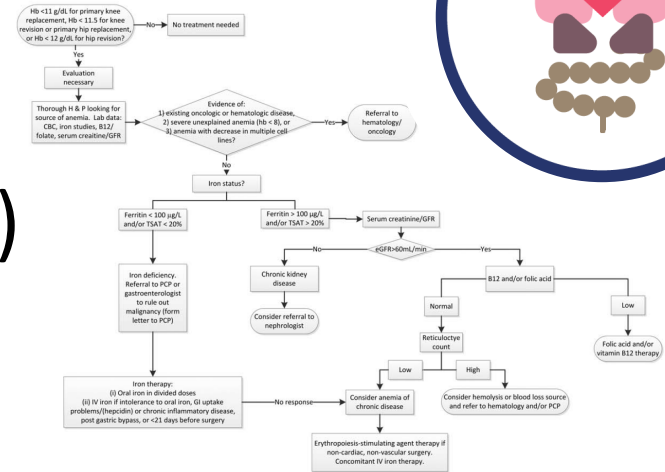
**Collaborative
Behavioral
Change**

Management

Comorbidity Management

Comorbidity Management⁺

- Anaemia
- Diabetes
- Respiratory (COPD/Asthma)
- Cardiac failure/CAD
- Implanted devices



PREOPERATIVE RISK

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LIFESTYLE

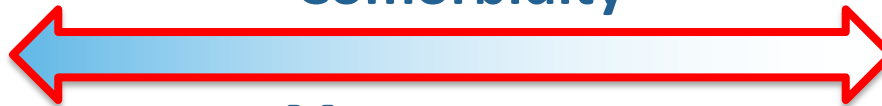
Activity
Alcohol
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Management



Prehabilitation

Prehabilitation

“enhancing the functional capacity of a person to enable her/him to withstand a stressful event”



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“enhancing the functional capacity of a person to enable her/him to withstand a stressful event”



RESILIENCE

UNIQUE OPPORTUNITY

The interval between diagnosis and surgery presents a unique opportunity to intervene that may impact long-term survival

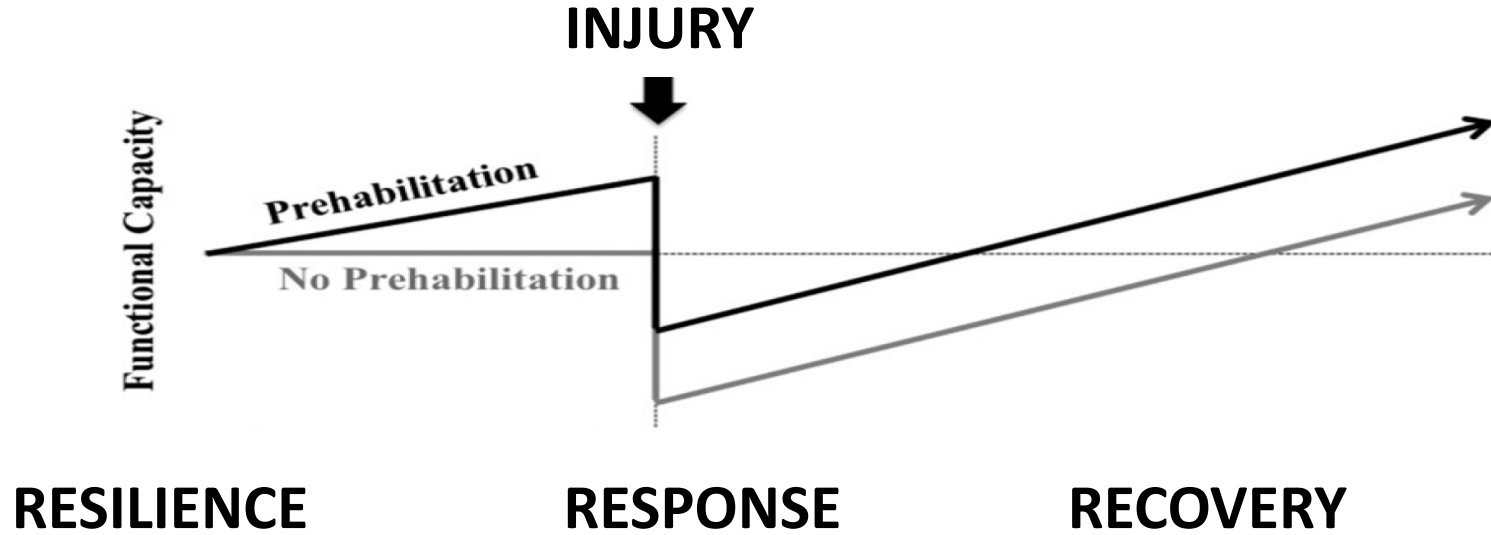
Prehabilitation

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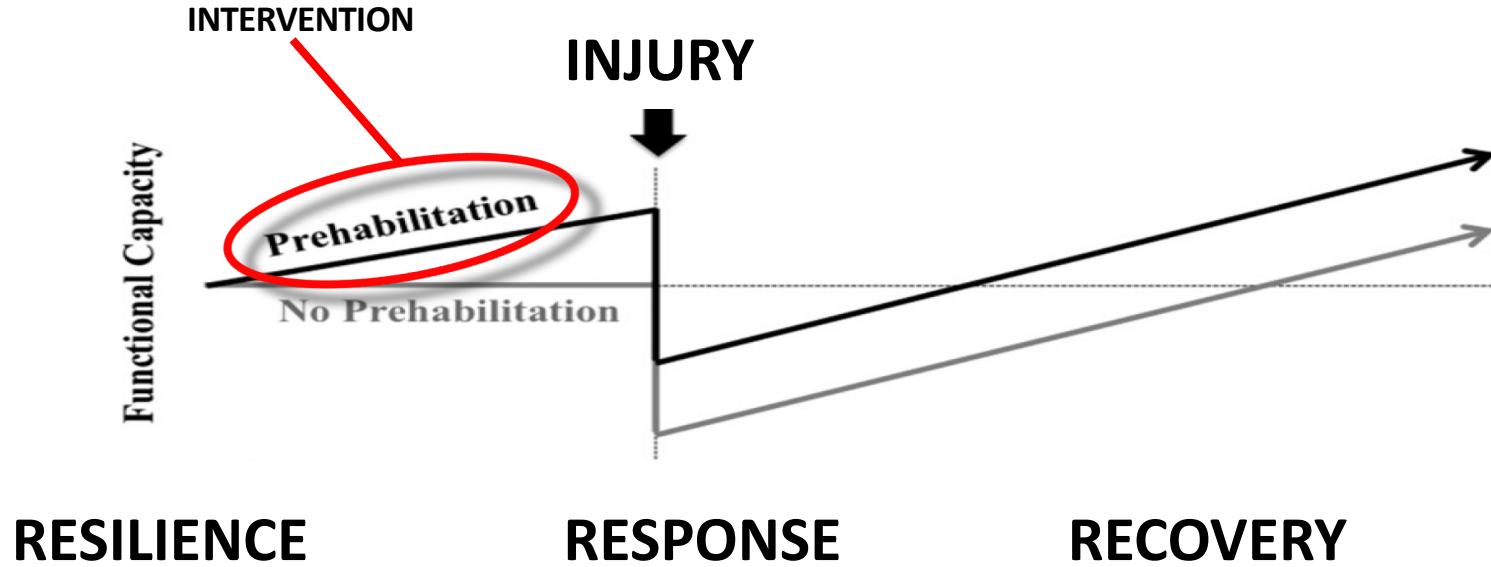
TEACHABLE MOMENT

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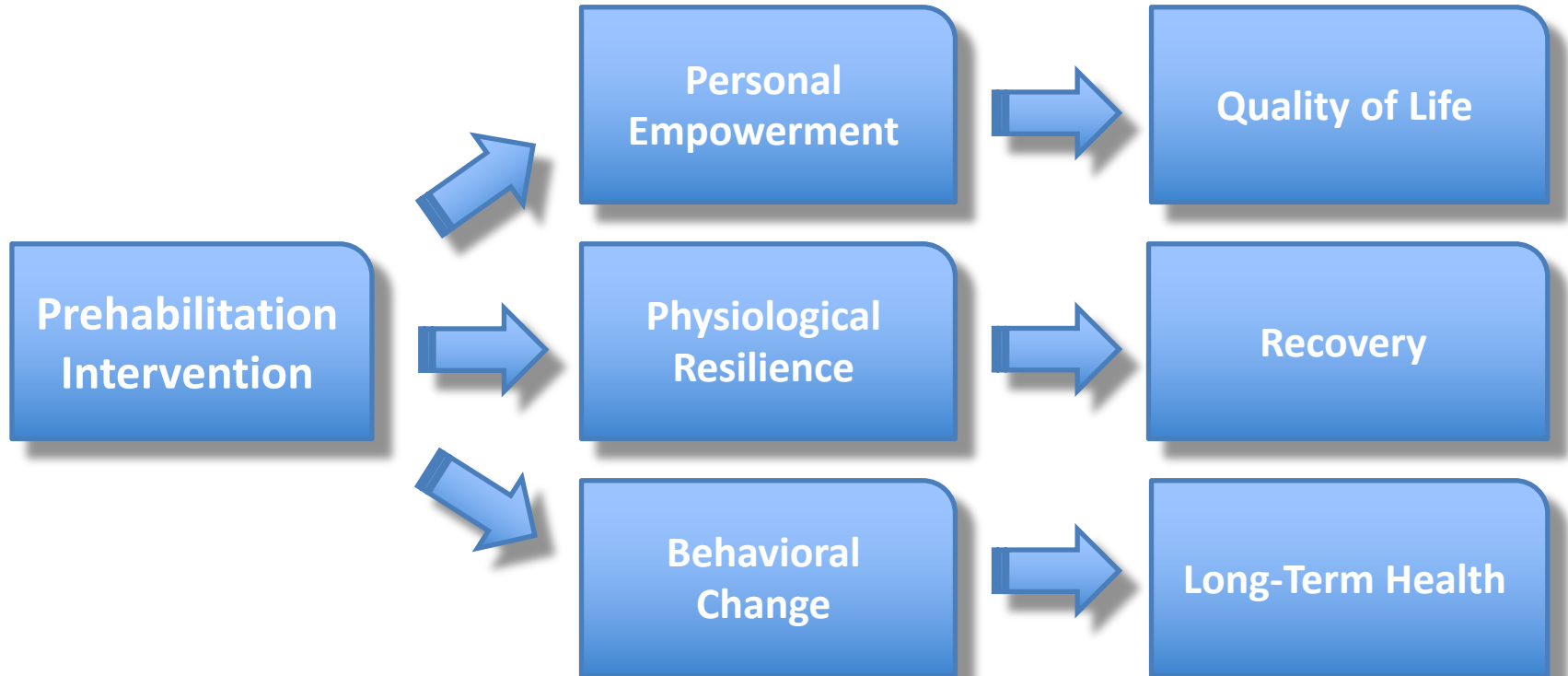


“3 Rs”

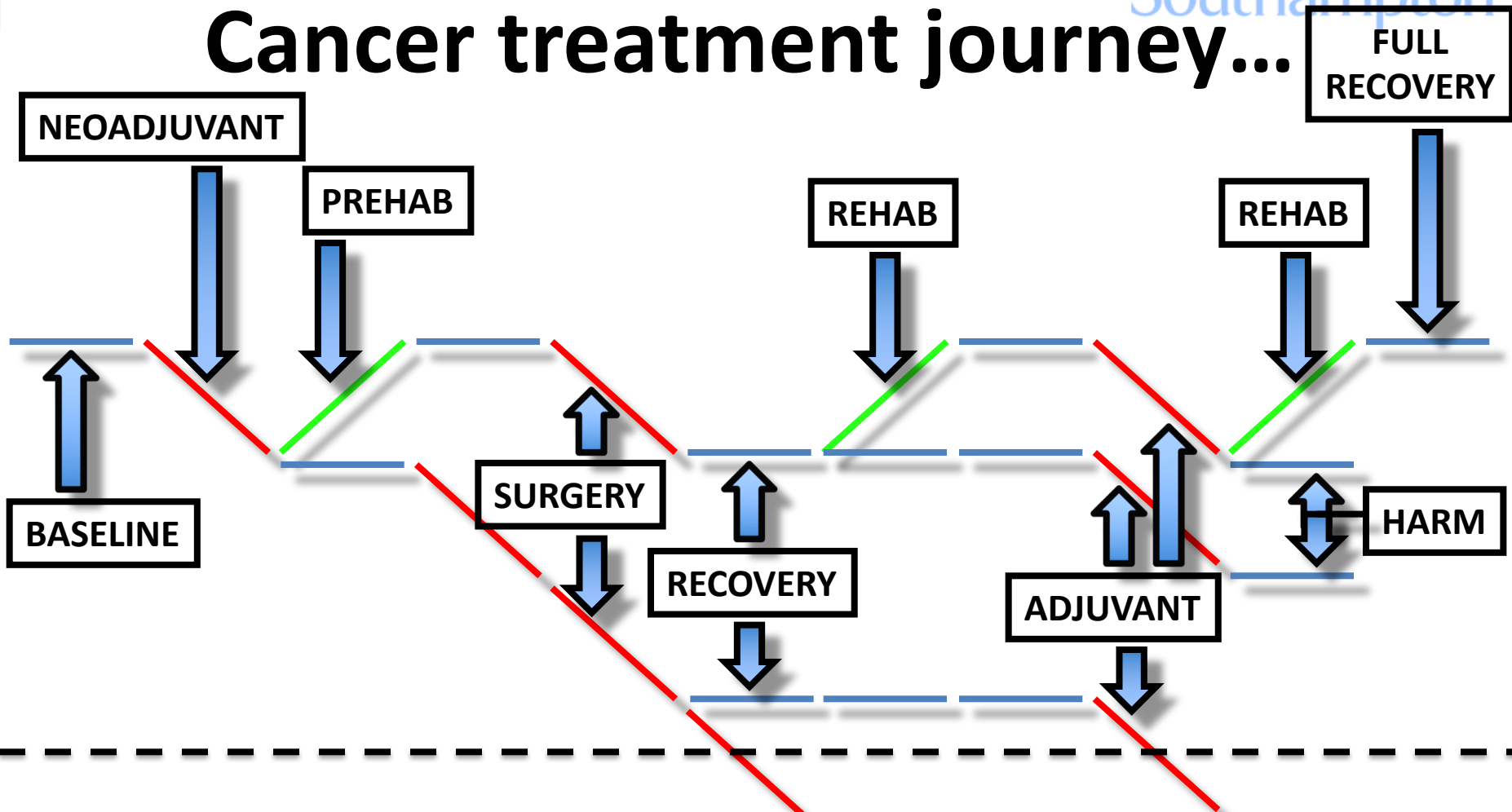


“3 Rs”

Prehabilitation

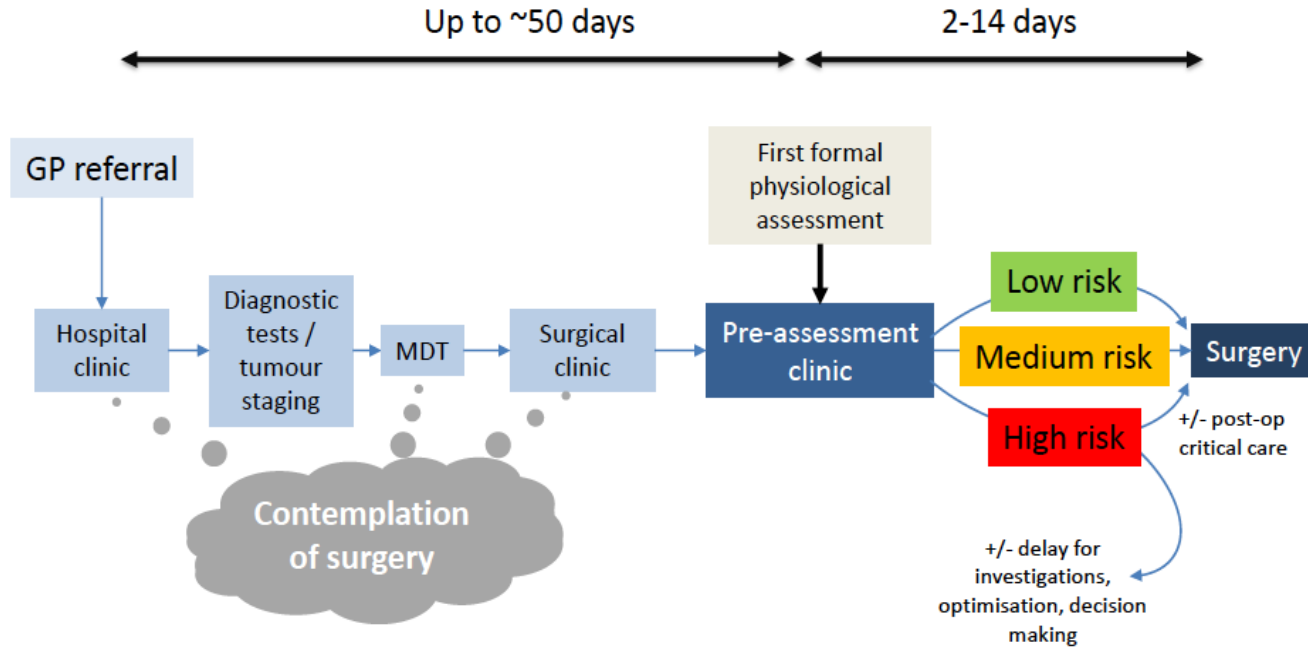


Cancer treatment journey...



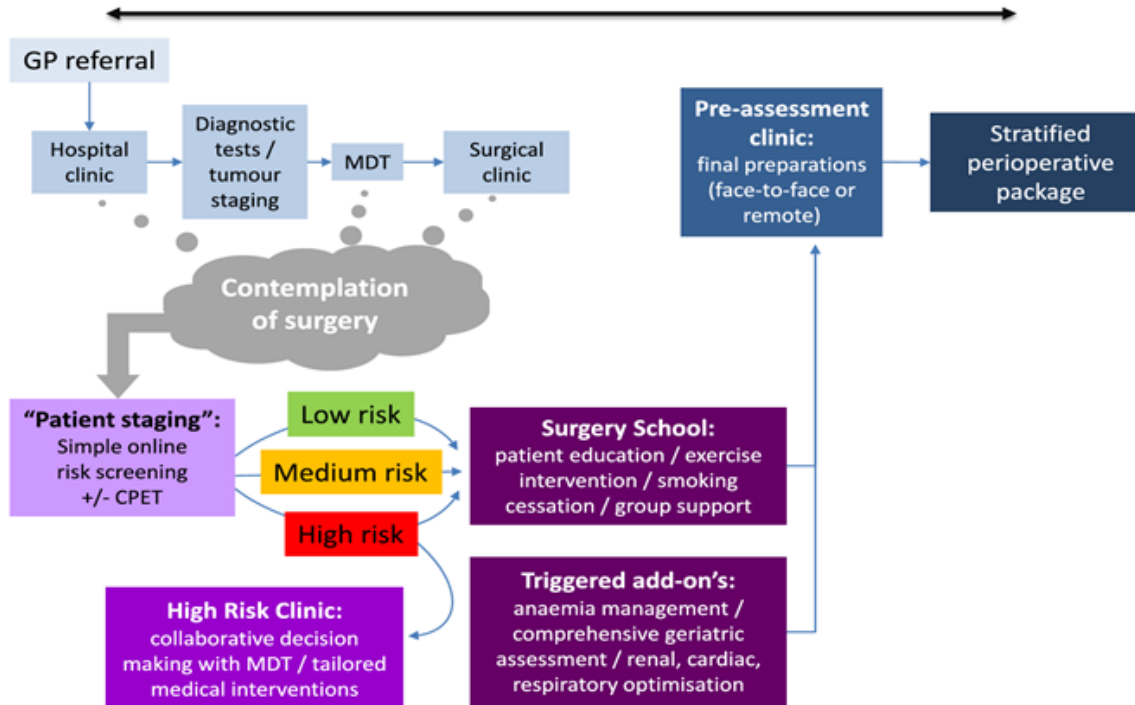
Pathway re-engineering

Pathway re-engineering



Pathway re-engineering

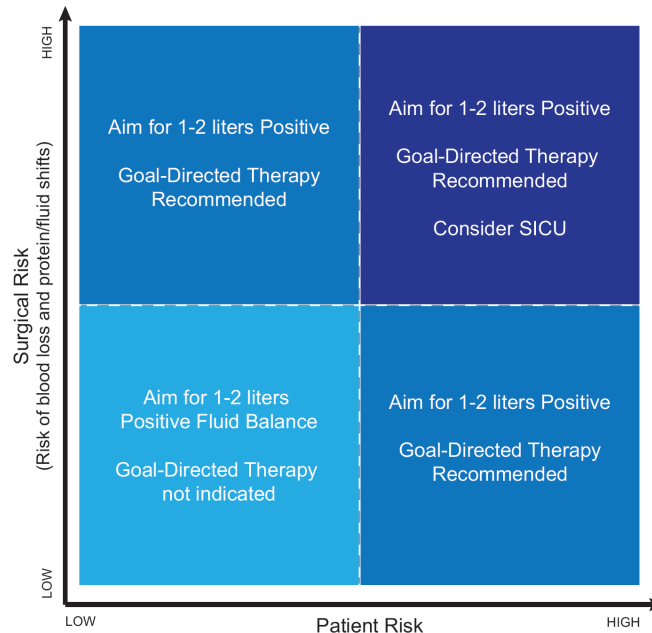
Up to 62 days



Risk-adapted fluid therapy

Perioperative Fluid Therapy for Major Surgery

Timothy E. Miller, M.B.,Ch.B., F.R.C.A., Paul S. Myles, M.B., B.S., M.P.H., D.Sc., F.A.N.Z.C.A.



Risk-adapted postoperative care

Risk-adapted postoperative care

Acuity

Monitoring
Fluids
Analgesia

DrEaM

Drinking
Eating
Mobilising



Risk-adapted postoperative care

- Care environment by risk (not procedure)
- “Level 1.5”
- Perioperative Medicine Team

Risk-adapted postoperative care

- Care environment by risk (not procedure)
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Is the pursuit of DREAMing (drinking, eating and mobilising) the ultimate goal of anaesthesia?

What else needs fixing?

- Transitions of care
- Medication
- Palliation and end-of-life care

Centre for Perioperative Care (CPOC)

The aim of CPOC is to facilitate closer and more effective cross-College and cross-organisation working on Perioperative Care for patient benefit.



Centre?

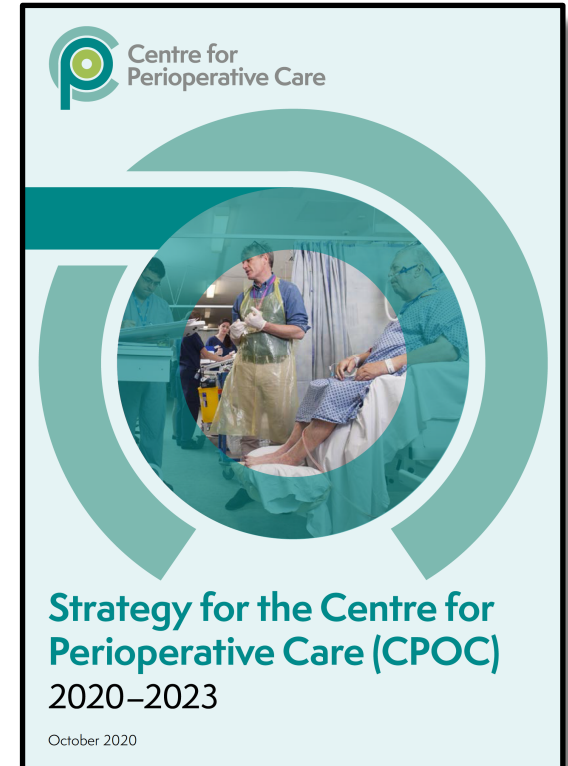
- Not a faculty.....

Care?

- Not just medicine....
-truly multidisciplinary

Multidisciplinary by nature....

- Chair + Vice Chair of the CPOC Board
- Director & deputy-director (appointed)
- Six theme Leaders
- Eight non-executive directors:
 - Royal College of Surgeons of England
 - Royal College of Physicians of London
 - Royal College of General Practitioners
 - Royal College of Nursing
 - RCoA
 - Association of Anaesthetists
 - 2 patient representatives



CPOC Themes

- 1. Improving quality of care
- 2. Empowering patients
- 3. Supporting the workforce
- 4. Influencing policy
- 5. Technology and digital
- 6. Research and innovation



Perioperative Care

- All the about the patient
- Multidisciplinary, multispecialty & collaborative
- Achieve the triple aim of improving:
 - Health of the patient
 - Health of the population
 - Value



Centre for
Perioperative Care



@mike_grocott

Any questions?

mike.grocott@soton.ac.uk



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