

Women, Health, Exercise and the Economy - is Exercise the miracle cure?

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President, Medical Women's Federation

www.scarlettmcnally.co.uk Twitter [@scarlettmcnally](https://twitter.com/scarlettmcnally)

Hello! I have added lots of hyperlinks to the slides.
If slides aren't your thing, maybe:

- Podcast (with me):
<https://www.bbc.co.uk/programmes/m001w171>
- BBC world service (also with me):
<https://www.bbc.co.uk/sounds/play/p08250zd>
- A video on YouTube
<https://www.youtube.com/channel/UCJzpkqBkXDGuGhFygSg2PCg>
- Nice website: <https://movingmedicine.ac.uk/>
- My website: www.scarlettmcnally.co.uk
- Twitter: @scarlettmcnally
- Articles on how to fix the NHS:
<https://www.bmj.com/search/advanced/mcnally>

Thanks, Scarlett!



BBC
A THOROUGH EXAMINATION
WITH DRs CHRIS AND XAND
EXERCISE
4

Listen now

S3. Ep 1 - The Miracle Cure

Series 3: Exercise

Drs Chris and Xand Van Tulleken investigate the science of exercise and the dangers of inactivity. Available now
29 minutes

Is modern exercise a wellness cult? Or is it a vital cure for a world that's struggling with ill health and stuck on the sofa? Most of us might like to get a bit fitter, but how easy is it to actually start exercising and give up sedentary habits?

In this series Drs Chris and Xand Van Tulleken examine exercise and how best to do it. How much should we be doing? How does it help our bodies? And how does our surrounding environment stand in the way of us getting fitter? Chris is challenged to examine his scepticism towards exercise. Similarly, Xand is asked to look at his new-found exercise evangelism and see what he is really running from.

Recently Xand has discovered the joys of physical activity. He's running, cycling, heading to the gym and playing ping pong like never before. It's been a real transformation and a way to keep on top of things after years of unhealthy living.

His twin brother Chris, on the other hand, is really feeling the aches and pains of middle age. With a busy job and a young family, he has precious little spare time for exercise. After a very active period in his 20s and 30s, Chris is now embracing his 'Dad bod' and sliding into a creaky middle age. Xand wants to help him turn things around. Can he do it?

In Episode 1 - The Miracle Cure - the twins meet Dr Scarlett McNally, a consultant orthopedic surgeon with a special interest in the benefits of exercise. She explains just how beneficial even moderate exercise can be for our bodies and for the NHS as a whole. Meanwhile, Chris is getting nervous. He has signed up to run a half marathon, but is struggling to do even the most basic training.

I have no conflicts of interest

- Part-time NHS surgeon
- ½ day Deputy Director
- I donate £ from my



column to charity:



Old £0



Royal College of Surgeons of England



Office for Health Improvement & Disparities



current £0



Me!



The Royal College of Surgeons - Council April 2012



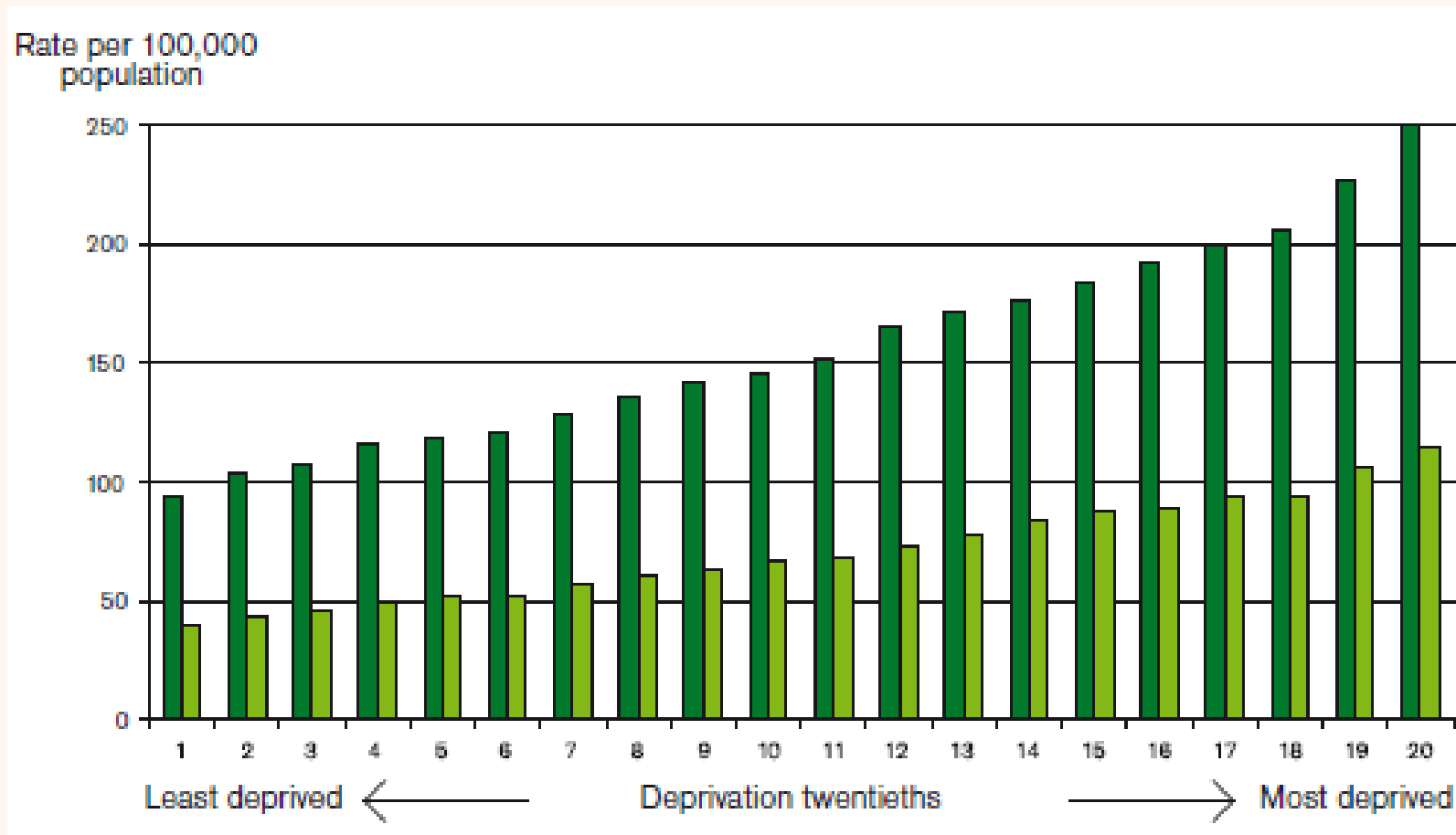
What's the most dangerous activity you can do?



Sitting down!

- Most ill-health is caused by
 - Social deprivation
 - Sedentary lifestyle (car, computer, sofas)
 - Smoking
- **Genetics** is only responsible for:
 - 20% of ill-health Rappaport (2016) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4841510/>
 - 10% of cancers WCRF (2018) <https://www.wcrf-uk.org/uk/latest/press-releases/more-public-awareness-around-preventing-cancer>
- **Bad luck** varies!

Biggest predictor of ill-health is social deprivation

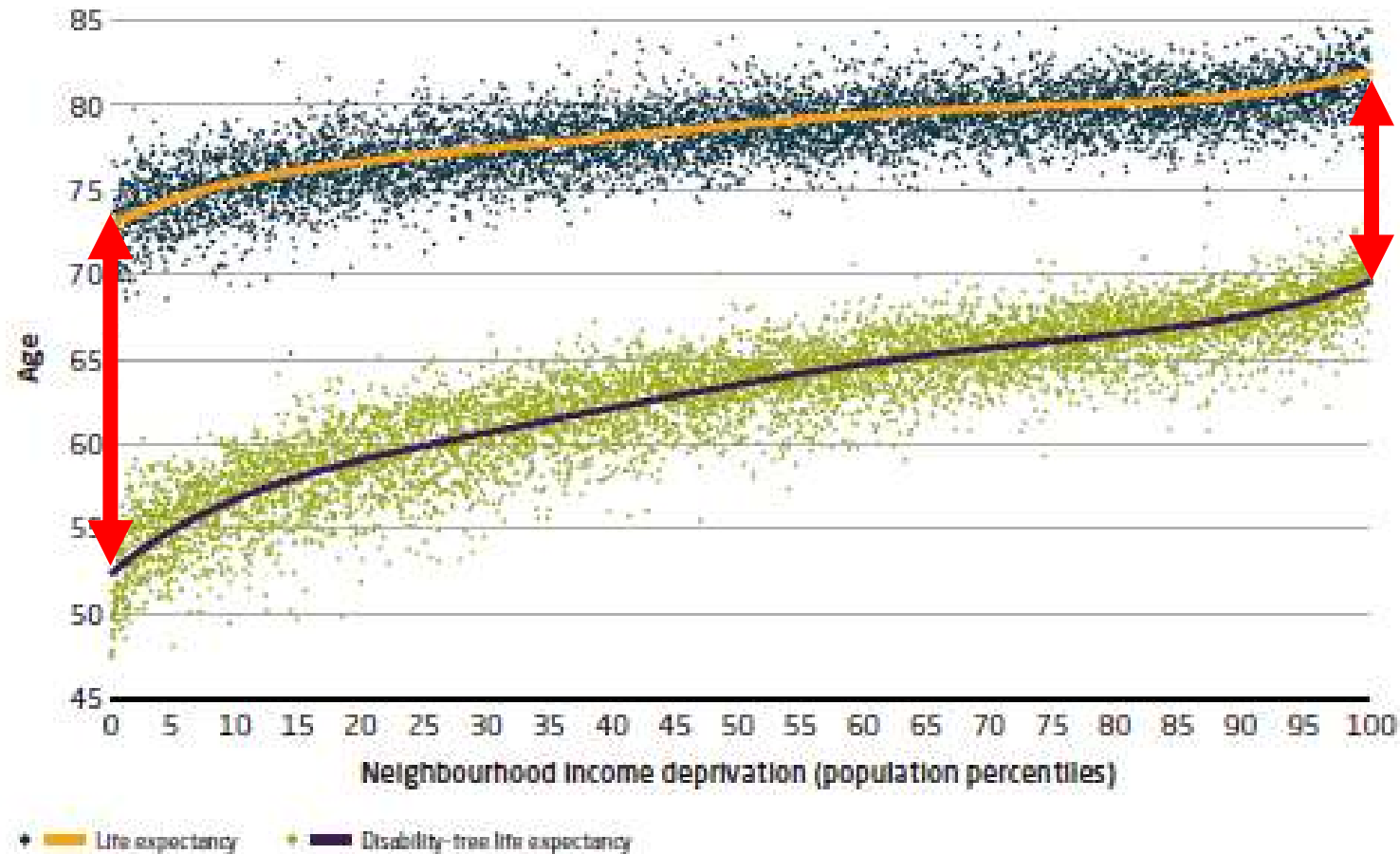


If in most deprived area
2½ times more likely to get:

- heart disease
- cancer

Dose-dependent curve,
i.e. real effect

Figure 2 The 'Marmot curve'



Source: [Bernstein et al 2010](#)

Note: The original figure was first published in an Independent review for government in early 2010, supported by the *Fair society, healthy lives* team.

The Kings Fund ideas that change healthcare

Inequalities in life expectancy

Changes over time and implications for policy

ARROWS =
Years living
with ill-health

What causes ill-health?

Social cause

- Social deprivation / poverty
- Education
- Pollution
- “Accidents”, etc

Physical cause

1. Nutrition
2. Smoking
3. Physical inactivity
4. Pollution

Exercise: The miracle cure and the role of the doctor in promoting it

February 2015

- I was lead author for this
- Academy of Medical Royal Colleges = ALL specialties & GP & Public Health
- at www.scarlettmcnally.co.uk
- Or [https://www.aomrc.org.uk/wp-content/uploads/2016/03/Exercise the Miracle Cure 0215.pdf](https://www.aomrc.org.uk/wp-content/uploads/2016/03/Exercise%20the%20Miracle%20Cure%200215.pdf)

Reduction in risk with
DOSE = 150 minutes/week

Treats?

Dementia

30%

✓

Stroke

30%

✓

Bowel cancer

40%

✓

Breast cancer

25%

✓

Type 2 Diabetes

30-80%

✓

Heart disease

30-80%

✓

High Blood Pressure

up to 50%

✓

Lung diseases

30%

✓

Depression

30%

✓

Osteoporosis

up to 50%

✓

Falls

30-50%

✓

ACADEMY OF
MEDICAL ROYAL
COLLEGES

Exercise:
The miracle cure and
the role of the doctor
in promoting it

February 2015

Exercise:
The miracle cure and
the role of the doctor
in promoting it

February 2015

[https://www.aomrc.org.uk/wp-content/uploads/2016/03/Exercise the Miracle Cure 0215.pdf](https://www.aomrc.org.uk/wp-content/uploads/2016/03/Exercise%20the%20Miracle%20Cure%200215.pdf)

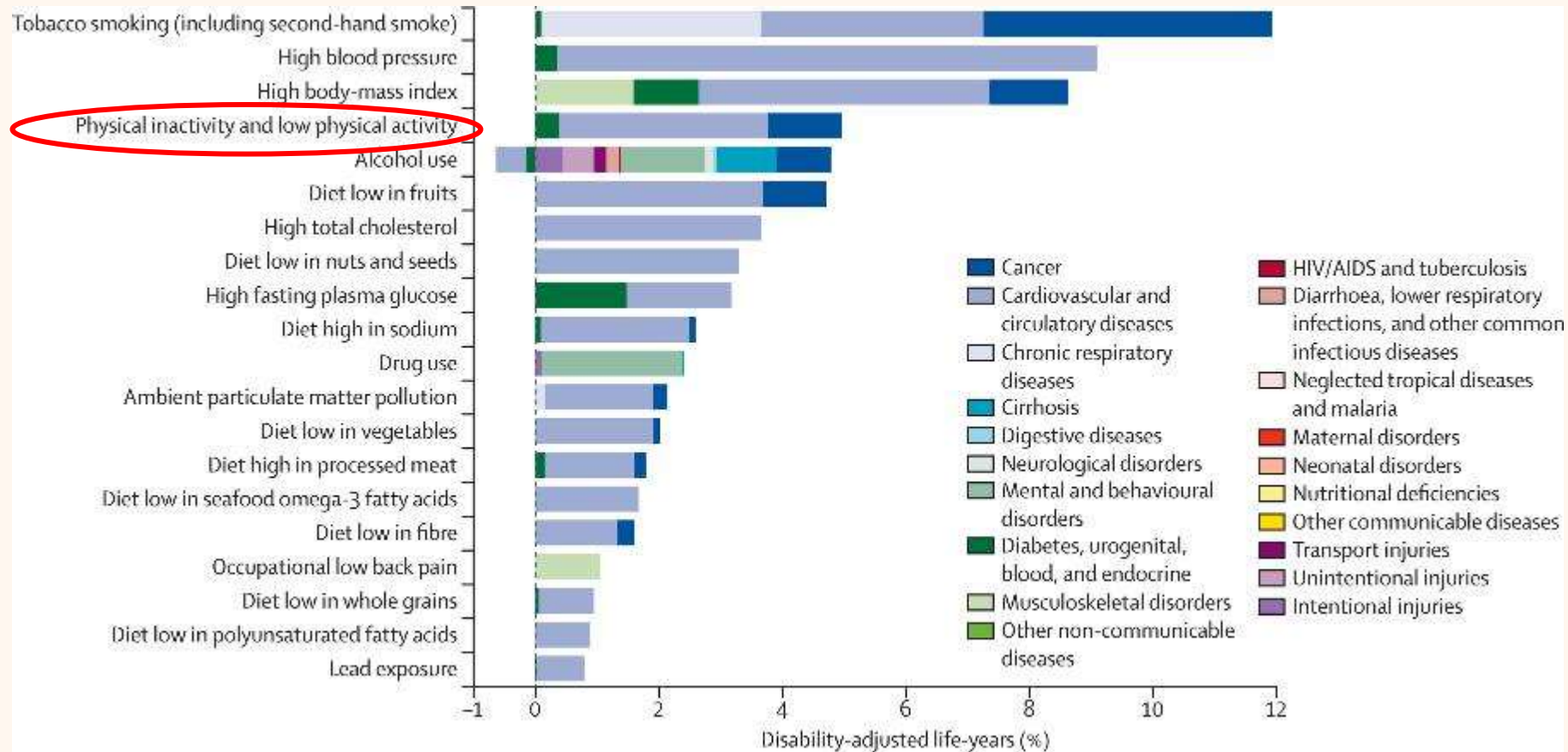
LIFETIME Risks from:
[http://www.exeter.ac.uk/media/universityofexeter/medicalschoo/pdfs/Health Care Quality for an Active Later Life 2012.pdf](http://www.exeter.ac.uk/media/universityofexeter/medicalschoo/pdfs/Health%20Care%20Quality%20for%20an%20Active%20Later%20Life%202012.pdf)

	Reduction in risk with DOSE = 150 minutes/week	Treats?	UK lifetime risk
Dementia	30%	✓	15%
Stroke	30%	✓	20%
Bowel cancer	40%	✓	6%
Breast cancer	25%	✓	12% women
Type 2 Diabetes	30-80%	✓	6%
Heart disease	30-80%	✓	40%
High Blood Pressure	up to 50%	✓	50%
Lung diseases	30%	✓	20%
Depression	30%	✓	15%
Osteoporosis	up to 50%	✓	50%
Falls	30-50%	✓	30%

For UK (in the Lancet 2013):

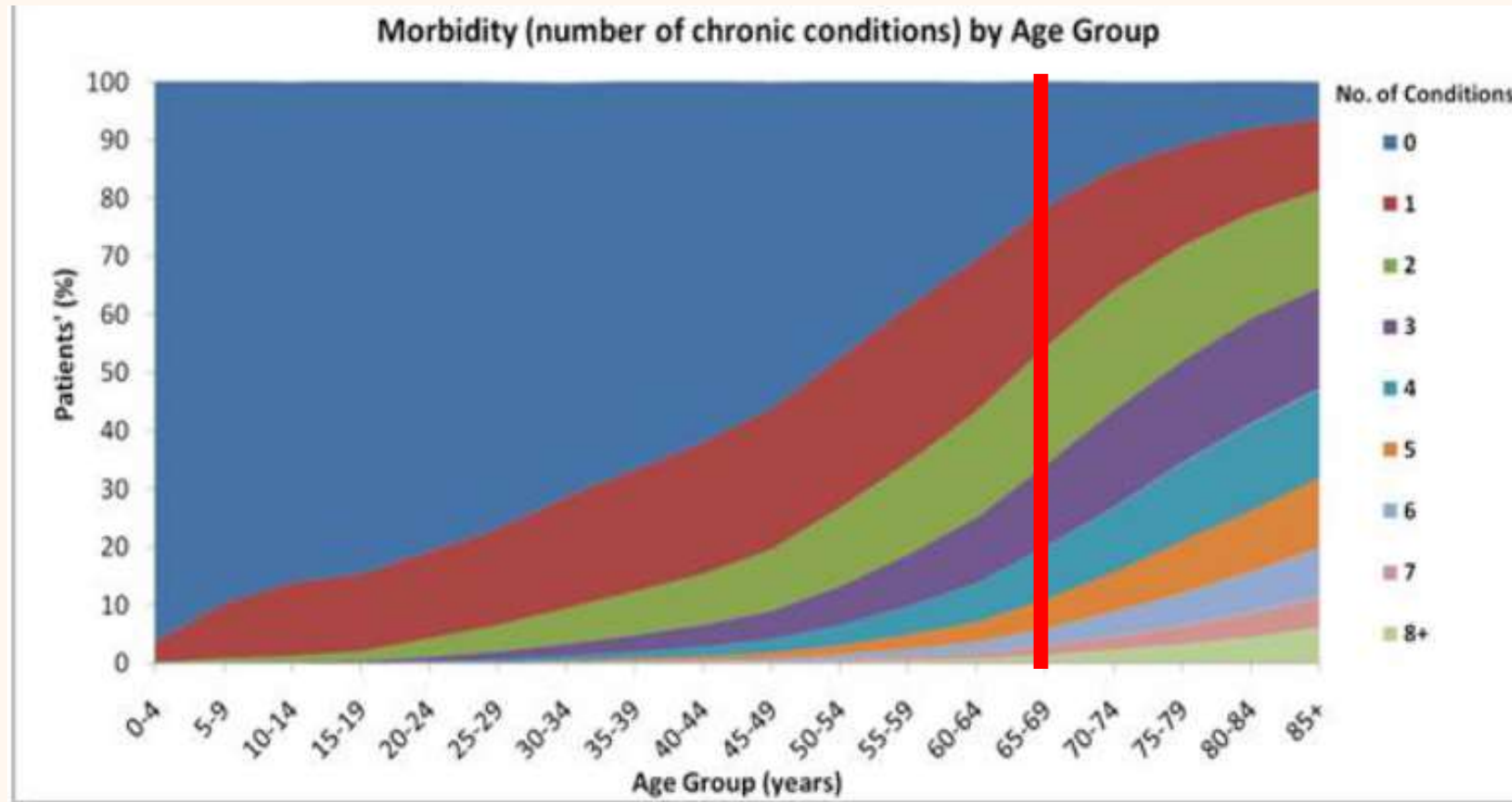
GBD = Global Burden of Disease

DALY = “Disability Adjusted Life Years”



UK health performance: findings of Global Burden of Disease Study 2010 [https://doi.org/10.1016/S0140-6736\(13\)60355-4](https://doi.org/10.1016/S0140-6736(13)60355-4)

Multiple conditions (line = age 65)



Barnett et al Lancet May 2012

Exercise types

- Fitness
- Strength
- Balance

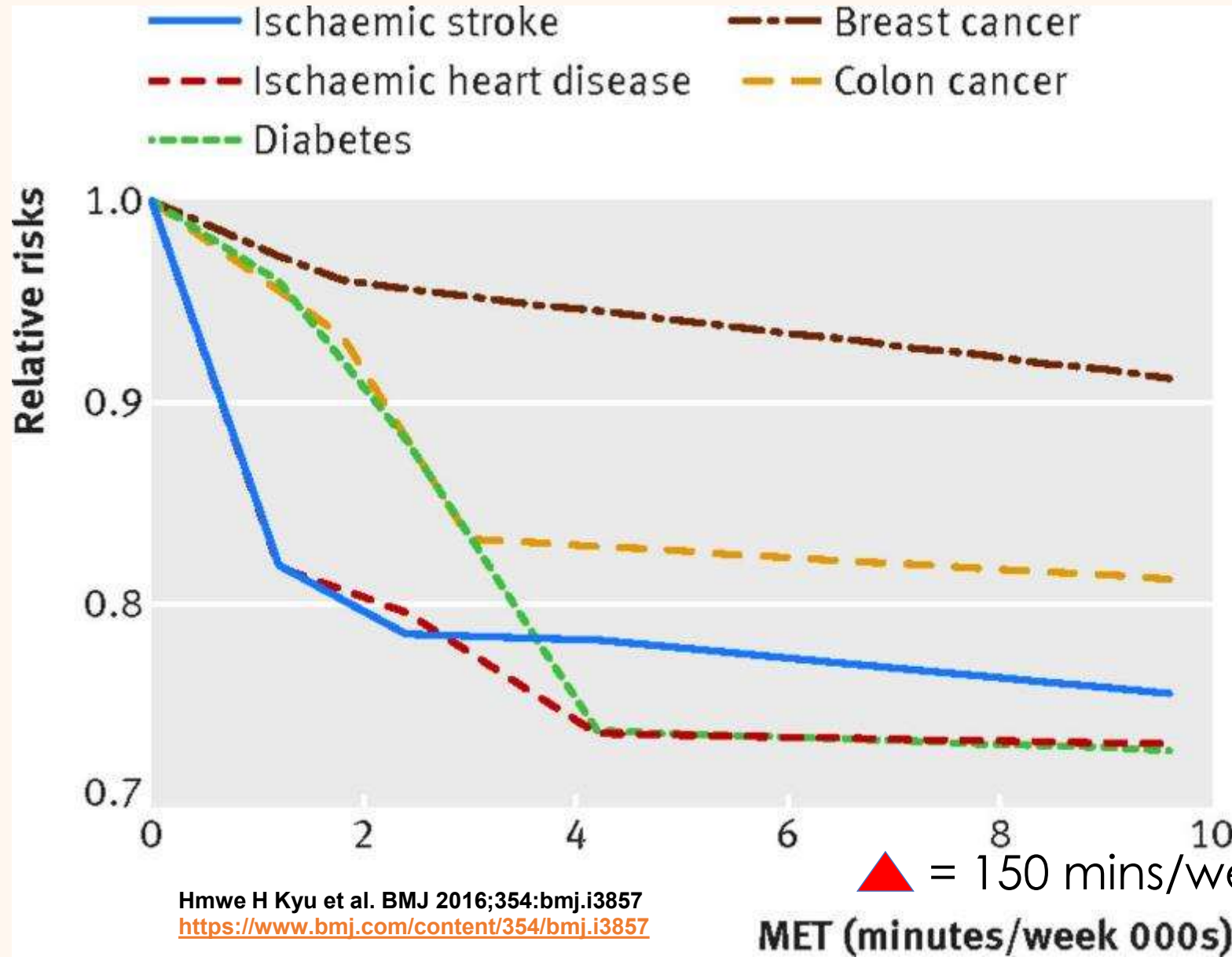
- Lung exercises
- Specific for your operation

Get strong (and get veins)



Just do something

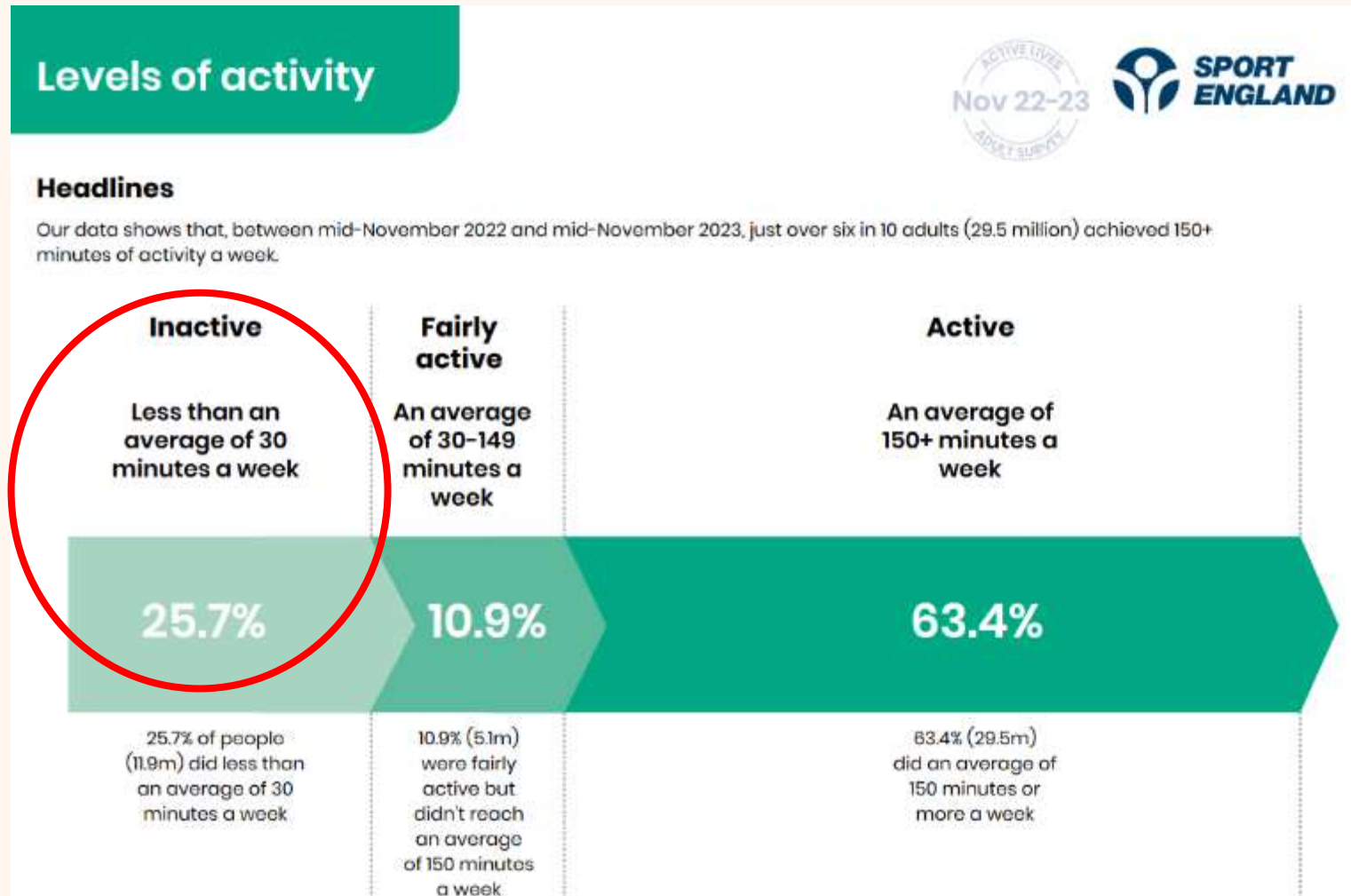
- Sit-To-Stand exercise (how many can you do in one minute?)
- The best benefits are for people changing from doing nothing to doing something
 - #ThisGirlCan
 - #CouchTo5k
 - #WeAreUndefeatable
- 150 minutes per week of moderate exercise should be the minimum (21 minutes per day)
- The benefit tails off at one hour per day



Hmwe H Kyu et al. BMJ 2016;354:bmj.i3857
<https://www.bmj.com/content/354/bmj.i3857>

▲ = 150 mins/week moderate cycling

¼ adults do NO exercise
33% of over 65s do NO exercise



<https://www.sportengland.org/research-and-data/data/active-lives>

Sedentary is bad + Exercise is good

- Metabolism (sugar)
- Inflammation (cancer)
- Mental health
- Strength:
 - Get to toilet
 - Be a day case
- Heart function
- Reserve of protein:
 - Wound healing
 - Antibodies
- Pain management

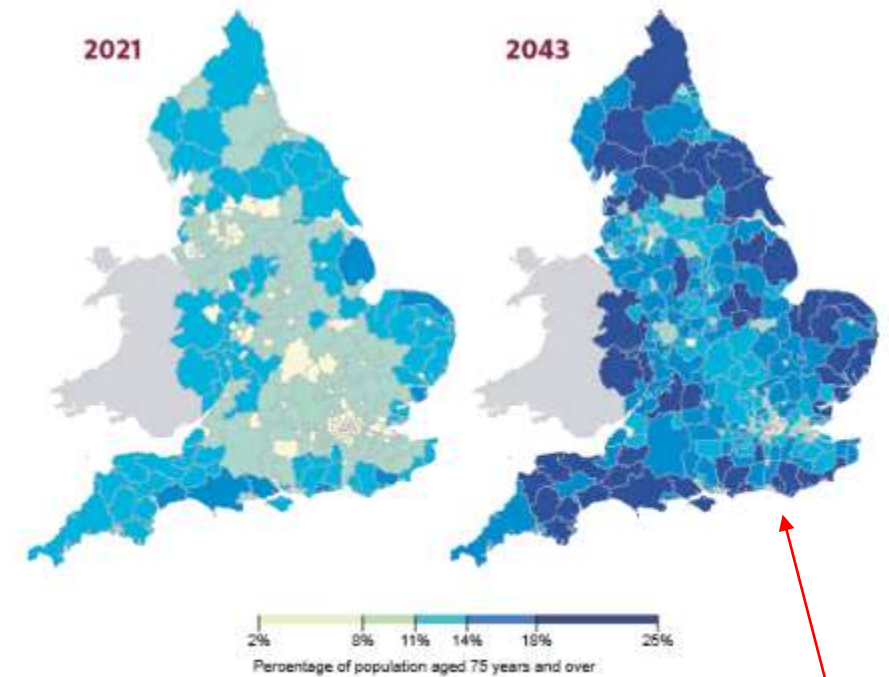


Chris Whitty. Nov 2023

- Active travel enables older adults
- Consider accessibility for older adults
 - terrain of walking paths
 - active travel routes connected to amenities.
- Being physically active throughout life:
 - maintaining good health
 - improve muscle strength - for independence
 - delay onset of ill health.

<https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2023-health-in-an-ageing-society>

Chief Medical Officer's Annual Report 2023 Health in an Ageing Society



Eastbourne

Outside + water + greenery + exercise = health



<https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667%2823%2900156-1/fulltext>

Go for a walk with Granny!

- It's also cheaper than going out for a meal
- We also need older people to volunteer and just be there for some of our young people who need to feel connected and feel there is a longer-term perspective.

How does change happen?

	Individual	Society/ governments
Why		
How		

**PLEASE CLEAN UP
AFTER YOUR DOG**



Maximum Penalty £200



How does change happen?

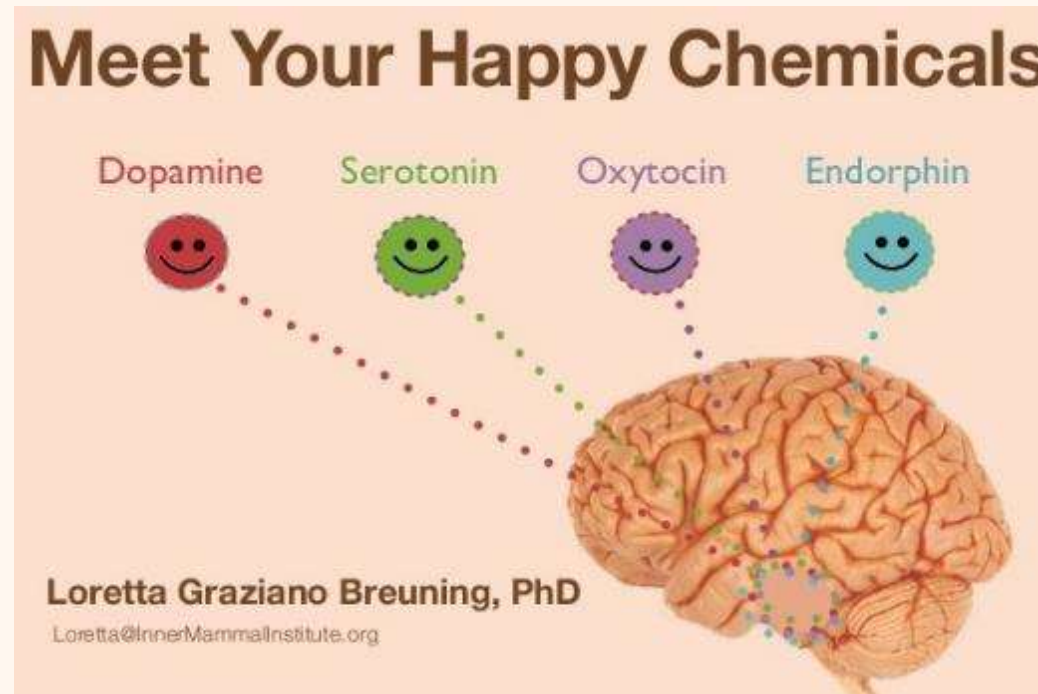
“The teachable moment”

	Individual	Society/ governments
Why	Data Stories	£
How	Practicalities (waterproof trousers) “normal” Schedule NHS sites and staff Habit Plan for failure	



Why do we ever do anything?

1. **Dopamine**: set goals, mini-rewards (vs. procrastinate)
2. **Serotonin**: be included + sun/UV **Sign up for charity walk/run/cycle!**
3. **Oxytocin**: gifts, hugs, sex, memories, doing a good deed
4. **Endorphins**: exercise, comedy, laughter **TAKES 20 minutes to work!**



Use the serotonin from being together

- Value each human. Do stuff. Team together
- @parkrun



<https://elearning.rcgp.org.uk/course/view.php?id=723>

62% UK adults say it is too dangerous to cycle on the roads.

Department for Transport (2018) Statistical data set. Walking and cycling statistics (CW)
<https://www.gov.uk/government/statistical-data-sets/walking-and-cycling-statistics-cw>

Only 3.5% of walking journeys are over 2 miles.

Department for Transport, Walking & cycling statistics (2018).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674503/walking-and-cycling-statistics-england-2016.pdf AND NTS0308: Average number of trips by trip length and main mode: England (2018)
<https://www.gov.uk/government/statistical-data-sets/nts03-modal-comparisons#trips-stages-distance-and-time-spent-travelling>

56% of car journeys are under 5 miles.

Department for Transport, Walking & cycling statistics (2018).
<https://www.gov.uk/government/statistics/national-travel-survey-2020/national-travel-survey-2020#journey-lengths>
new one

34% to school by car. 2% by bike.

England, National Travel Survey 2016
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/476635/travel-to-school.pdf

40% reduction in cancer incidence/death in cycle commuters.

<https://www.bmj.com/content/357/bmj.i1456>

45% reduction in heart disease/death in cycle commuters

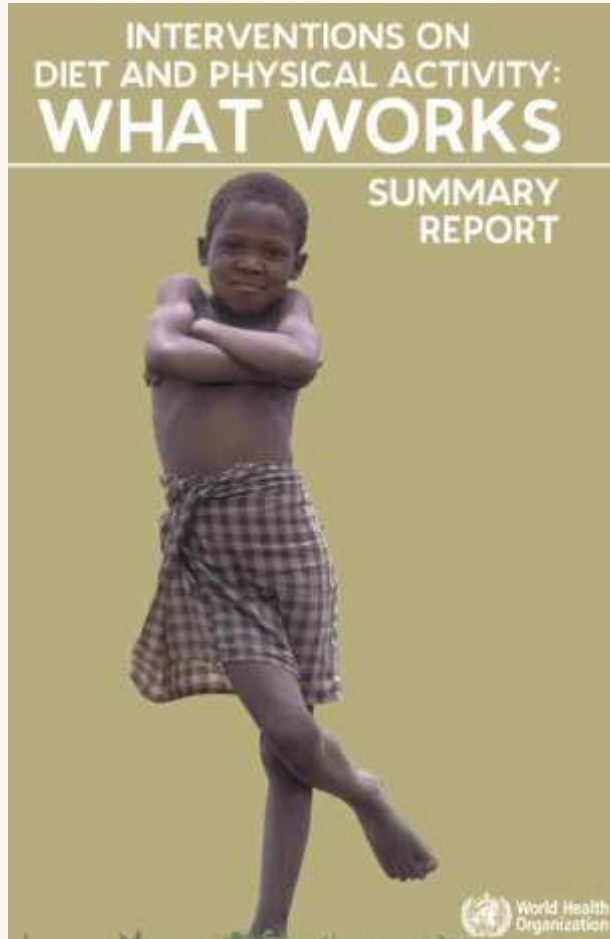
31% of older people limit their walking because they are worried about injury (falls with uneven pavements)

<https://www.livingstreets.org.uk/media/33ajm1zm/pedestrian-slips-trips-and-falls.pdf>

“Free and generous parking availability quadruples the odds of driving a car to work”

<https://t.co/NIUJ7cYCSV>

World Health Organization



1. Government food regulations
2. Built environment
 - Active travel
 - Space for recreation
3. Using stairs (prompts)
4. Food price at point-of-sale
5. Multi-targeted:
 - walking & cycling to school
 - healthier commuting
 - & leisure activities

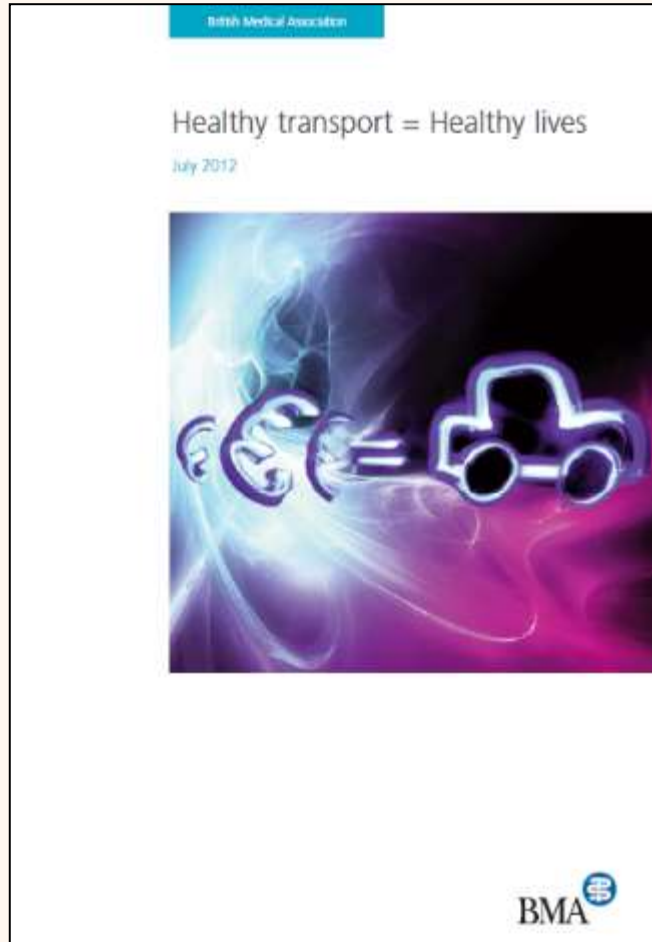
<https://iris.who.int/handle/10665/44140>

Chief Medical Officers' guidance for ALL



- 150 mins /week
2x strength
2x balance
- For frail older adults - focus activities
 - reduce sedentary behaviour
 - regular sit-to-stand exercise
 - short walks
 - stair climbing
 - Embed strength & balance into life
 - increase the duration of walking

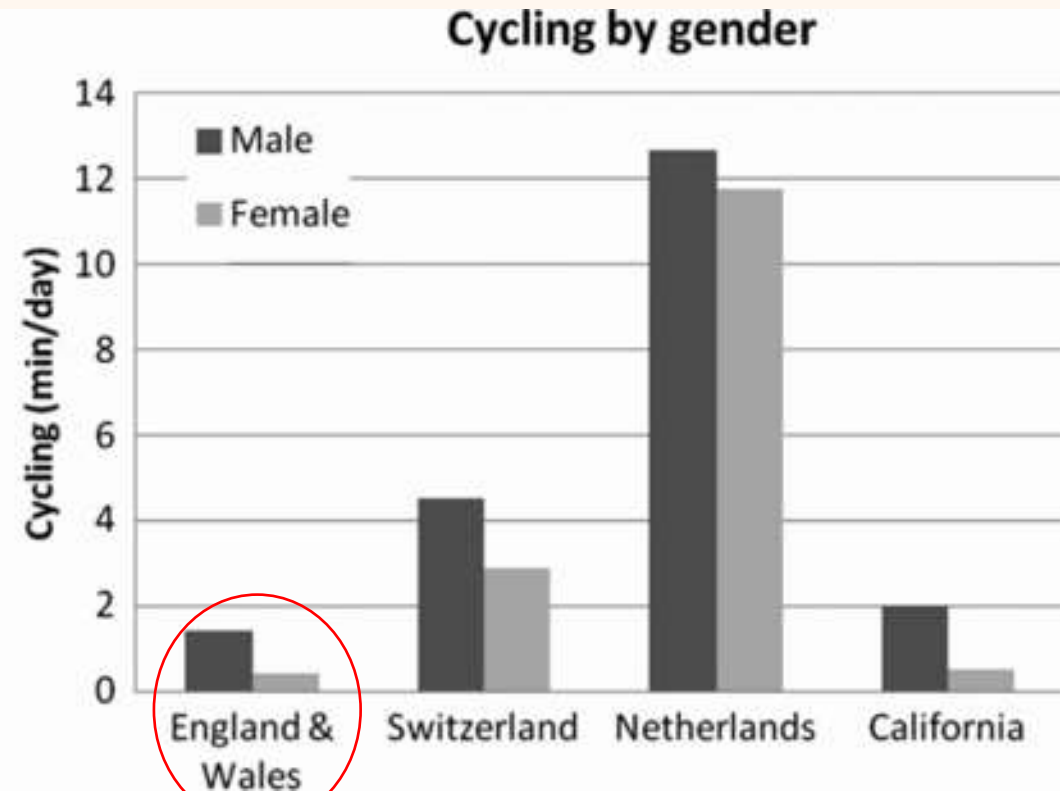
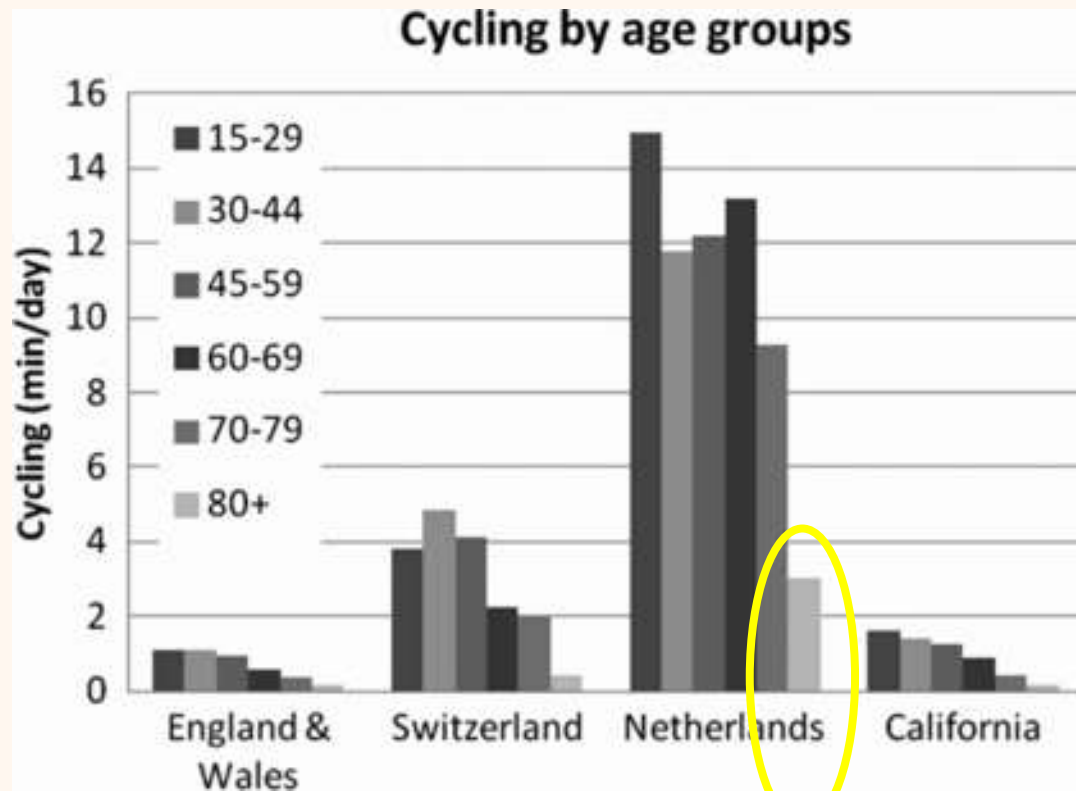
<https://www.gov.uk/government/collections/physical-activity-guidelines>



“The best forms of exercise are those that fit into everyday life”

British Medical Association (BMA) 2012

In England men cycle x3 as much as women
80yr+ Dutch people cycle more than English 30yr olds



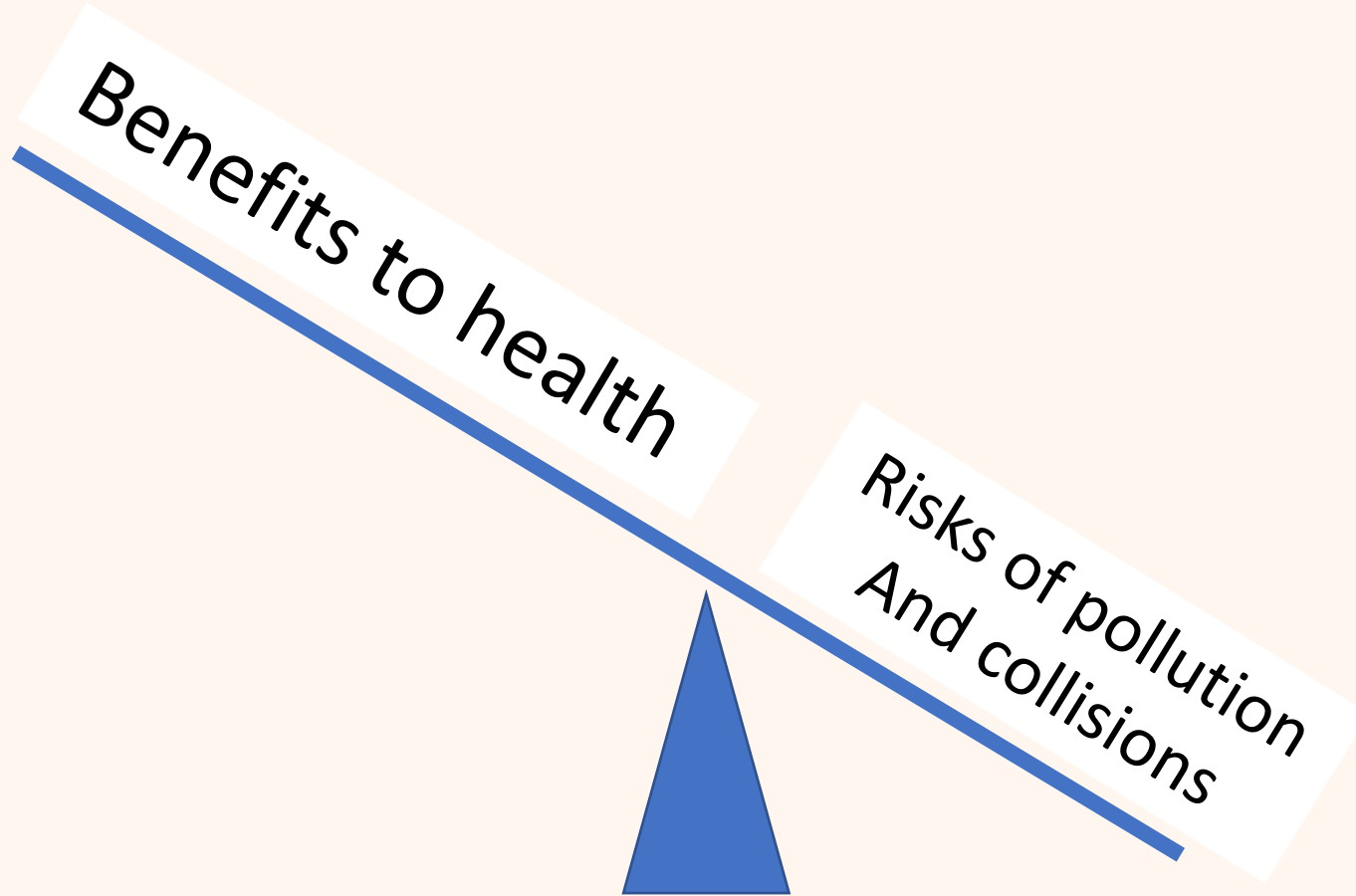
Electric-cycles are not “che*ting” <https://www.bmj.com/content/384/bmj.q522>

- Great for older people, women or people with disabilities
- Physical activity levels are similar e-cyclists/cyclists <https://www.sciencedirect.com/science/article/pii/S259019821930017X>
- E-cyclists switch from car for journeys [Study of over 10,000 participants in seven European cities, Castro for PASTA(2019)]
- E-cycle loan schemes – massive conversion to people buying them
- Loaning 80 employees an e-cycle for 6 – 8 weeks car mileage reduced 20% 59% increased Physical Activity Bjørnara (2019)
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6619759/> Also Salisbury hospital: Quoted in BMJ <https://www.bmj.com/content/384/bmj.q522>



Batteries can be charged up, like a phone, once a week.

Health benefits of active travel outweigh risks 10:1



- Review papers: Mueller et al, 2015, Götschi et al, 2015, Tainio et al, 2016

Pollution

Fine particulate pollution from tyre, brake and road wear...even electric cars (by weight).

An infographic featuring a silhouette of a person with a cane on the left. To the right is a vertical list of health conditions under the heading "Harms from high pollution". Each condition is accompanied by a small icon: a warning sign, lungs with an 'X', an inhaler, a blood sugar meter, a brain, a heart with a pulse line, and lungs with an 'X'.

Harms from high pollution	
	Accelerated decline in lung function
	Asthma
	Type 2 diabetes
	Poor cognition
	Heart attacks, heart failure and strokes
	Lung cancer

The cover of a report titled "Every breath we take: The lifelong impact of air pollution". It features the logos of the Royal College of Physicians and the Royal College of Paediatrics and Child Health (RCPCH). The text "Report of a working party February 2016" is at the bottom. The background is dark blue with a faint mountain range.

Royal College of Physicians | RCPCH
Royal College of Paediatrics and Child Health
Leading the way in Children's Health

Every breath we take

The lifelong impact of air pollution

Report of a working party
February 2016

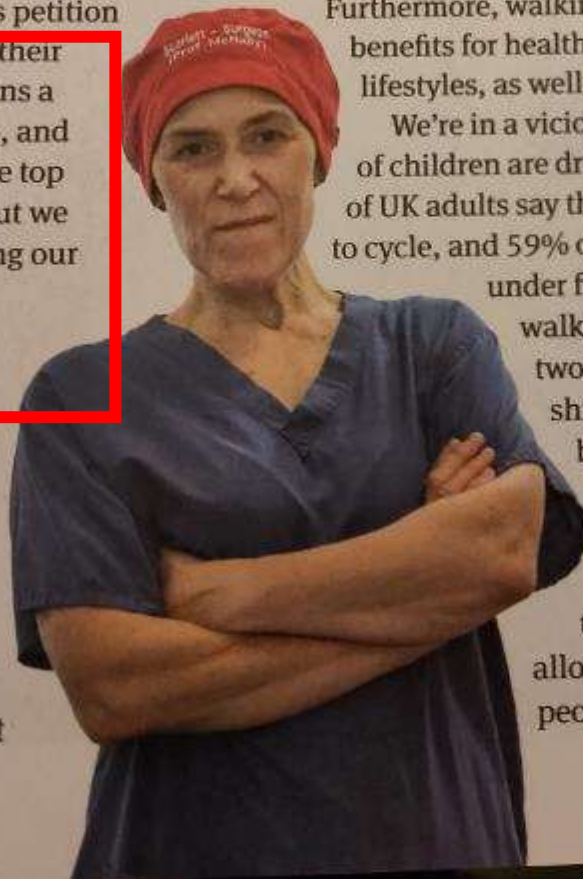
<https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>

Prioritising the health of our children by reducing road traffic deaths

without acknowledging the increased road travel and resulting incidents created by expensive, new, widened roads.

When local residents petition for a zebra crossing by their school, their project joins a list of at least 79 others, and funding goes only to the top three lucky projects—but we need to prioritise making our roads safer.

Children make up 21% of the UK population. Only 76% of mothers with dependent children are in employment, compared with 92% of fathers. In a cost of living crisis, running a car is one of the biggest



household expenses. But if children can cycle, walk, or scoot to school safely, the household may need only one car. Furthermore, walking or cycling has clear benefits for health by reducing sedentary lifestyles, as well as for the environment.

We're in a vicious cycle where 34% of children are driven to school, 62% of UK adults say that it's too dangerous to cycle, and 59% of car journeys are under five miles. Only 5% of walking journeys are over two miles, so a modal shift from cars requires better infrastructure for cyclists and pedestrians, with better public transport. Electric cycles allow older people and people with disabilities to

In Edinburgh a change to 20 mph limits has reduced road traffic casualties by 40%

cycle more easily, especially on hills and for longer distances.

We should harness the health benefits of reduced car travel. Pollution from road traffic contributes to many health conditions: 34% of men and 42% of women are not active enough for good health, and active travel can be one of the best ways of fitting exercise into a busy day.

Let's prioritise our health by making roads safer. We can't afford not to if we want to look after our planet and the coming generations.

Scarlett McNally, professor, Eastbourne
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Twitter @scarlettmcnally
Cite this as: *BMJ* 2022;379:o2862

UK population

- 20% children
- 18% over 65
- 25% adults have at least 1 long-term health condition
- 62% working-age population are parents
- 52% women

Actions

- Think – who is transport for?
- Fix pavements
- 20mph where people are
- Cycle boxes at junctions
- Lockers at work
- Maps / info prioritising active travel
- Secure cycle parking
- Segregated infrastructure for cycling/wheeling
- Bus priority lanes
- Bus real time information
- Linking transport (cycles on trains + storage)
- Planning to include active travel
- Make car parking difficult



- 20mph limits = cheap
- 20mph zones



Must do something.

Maybe try swimming (especially with a health condition)?

- <https://www.swimming.org/swimengland/swim-england-launch-perioperative-care-fact-sheet/>
- Or find your exercise: <https://movingmedicine.ac.uk/>
- Especially if on a waiting list (NB 10% of UK adults are on some kind of waiting list): <https://movingmedicine.ac.uk/consultation-guides/condition/adult/periop-in-development/>

Fix the NHS. Reduce complications of surgery by 50%

A teachable moment www.cpoc.org.uk/patients

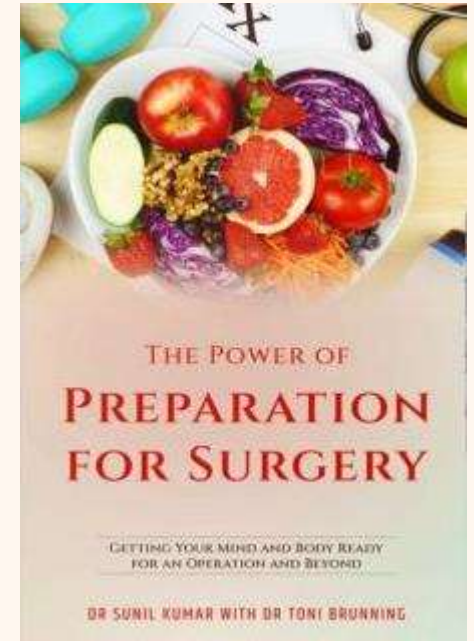
10-15%	of operations have a complication	
x5	if frail	https://doi.org/10.1093/ageing/afy110
x4	if physically inactive	https://pubmed.ncbi.nlm.nih.gov/23534776/
30%-80%	decrease with daily exercise	www.cpoc.org.uk/cpoc-publishes-major-evidence-review-impact-perioperative-care



7 things proven to reduce complications, some by 50%

1. **Smoking cessation**
2. **Exercise**
3. **Nutrition**
4. **Medication review + Senior review**
5. Alcohol moderation
6. Mental health & psychological preparedness
7. Practical preparedness

AND may make day case-able



<https://www.cpoc.org.uk/guidelines-and-resources/guidelines-resources/resources>

<https://www.amazon.co.uk/Power-Preparation-Surgery-Getting-Operation/dp/B0CTTKY6LF>

Nutrition

Fruit vegetables and protein

<https://www.cpoc.org.uk/guidelines-and-resources/resources/nutrition>

Patient-centredness

A teachable moment

www.cpoc.org.uk/patients



Shared Decision Making

We need patients + doctors to talk “BRAN”

Benefits

Risks

Alternatives

Non-operative

Some operations are unwarranted.

14% of patients express regret

14% of operations have a complication

Preparing for surgery halves complications

Sustainability

= REDUCE, reuse, recycle

- Fewer operations
- Fewer complications
- Shorter stays
- Less ill-health



<https://publishing.rcseng.ac.uk/doi/10.1308/rcsbull.2020.146>

My new hip



- Home next day



Why do something to support other people to be physically active?

It is nice

- Improves mental health
- Improves physical health
- Wellbeing

We can't afford not to

- Saves NHS costs
- Saves social care costs
- Social care predicted to be needed for 10 years
- Families reduce paid work to be carers
- 6 million carers in UK
- ½ ESCC revenue budget on Adult Social care
- NHS costs (staff/money) for diseases that might not have happened
- reduces pollution + reduces CO2 emissions + particulates from cars
- Happier
- Fewer sick days
- More disposable income (?1 car per household)



Centre for
Perioperative Care

Social care

My BMJ paper about preventing the need for social care
at www.scarlettmcnally.co.uk



The screenshot shows the top portion of a BMJ article. In the top left corner is the 'thebmj' logo. Below it, the text reads 'BMJ 2017;359:j4609 doi: 10.1136/bmj.j4609 (Published 2017 October 17)'. In the top right corner, it says 'Page 1 of 4'. A thick red horizontal bar spans the width of the page. Below this bar, on the left, is a 'Check for updates' button with a circular icon. To the right of the button, the word 'ANALYSIS' is written in large, bold, red capital letters. Below a thin horizontal line, the article title 'Focus on physical activity can help avoid unnecessary social care' is displayed in bold black text. Underneath the title is a short summary: 'A concerted effort to provide support and opportunities for physical activity can help older adults maintain independence and lessen the costly burden of social care, argue Scarlett McNally and colleagues'. At the bottom of the screenshot, the authors are listed: 'Scarlett McNally consultant orthopaedic surgeon¹, David Nunan senior researcher², Anna Dixon chief executive³, Mahiben Maruthappu health executive⁴, Kenny Butler health and wellbeing lead⁵, Muir Gray public health doctor⁶'.

My BMJ paper about preventing the need for social care at www.scarlettmcnally.co.uk



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- Ageing is different from lack of fitness
- Start exercise:
 - Can “drop a decade”
 - Reduce need for social care
- £100bn spent on social care for 65+
- Only 20% of ill-health is genetic
- Environments and expectations must:
 - make exercise possible
 - open spaces and
 - facilities for active travel

We can't afford not to

- Adult Social care is 1/2 ESCC revenue budget

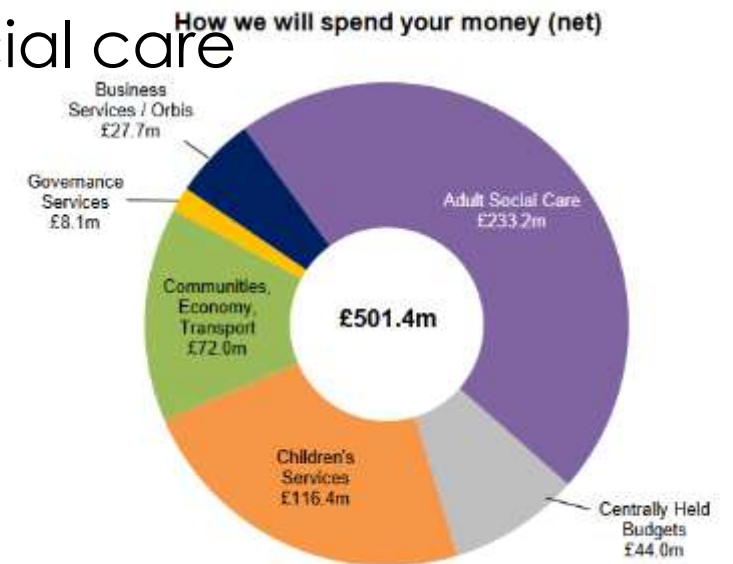
- <https://www.eastsussex.gov.uk/your-council/finance/future-spend/summary>

Revenue Budget Summary 2023/24 - net revenue budget

- 27.7% of people in employment in East Sussex:

- Public administration, education, health or social care

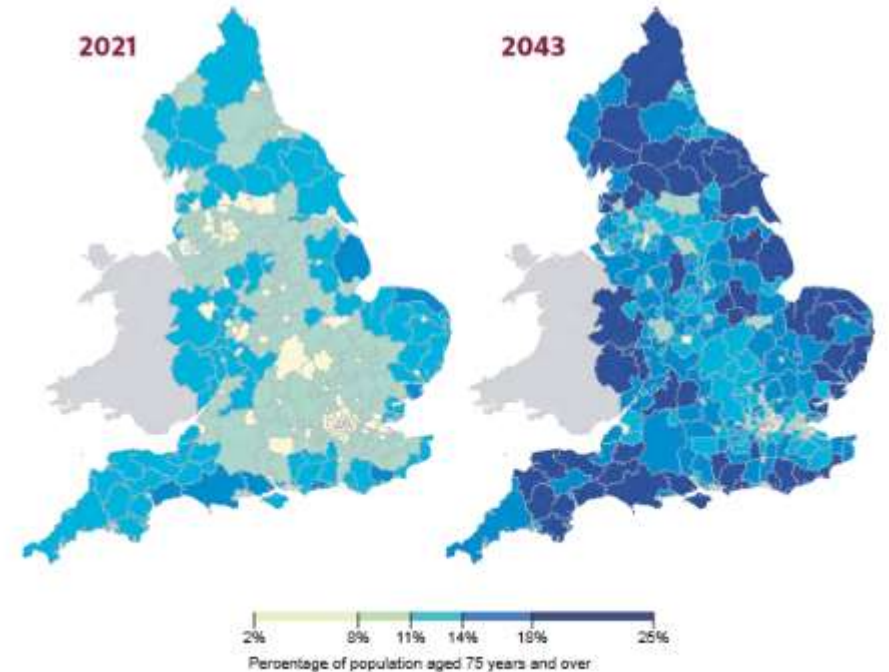
- <https://www.eastsussexinfigures.org.uk>

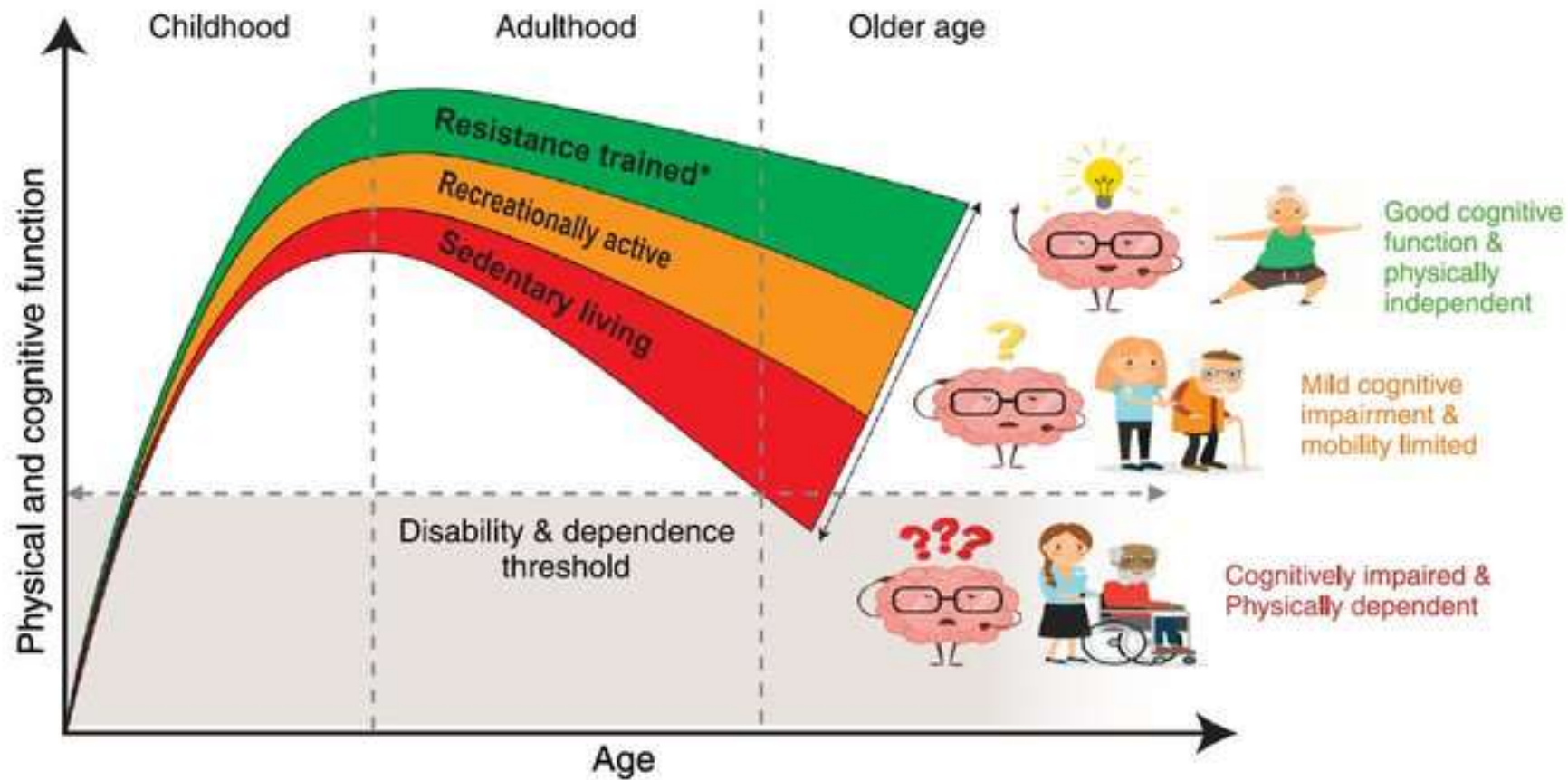


Chris Whitty. Nov 2023

- Active travel enables older adults etc to embed physical activity into everyday routine and gain health benefits.
- Consider accessibility for older adults
 - terrain of walking paths
 - active travel routes connected to amenities.
- Being physically active throughout the life course:
 - maintaining good health
 - improve muscle strength - for functional independence
 - delay onset of ill health.

Chief Medical Officer's Annual Report 2023 Health in an Ageing Society





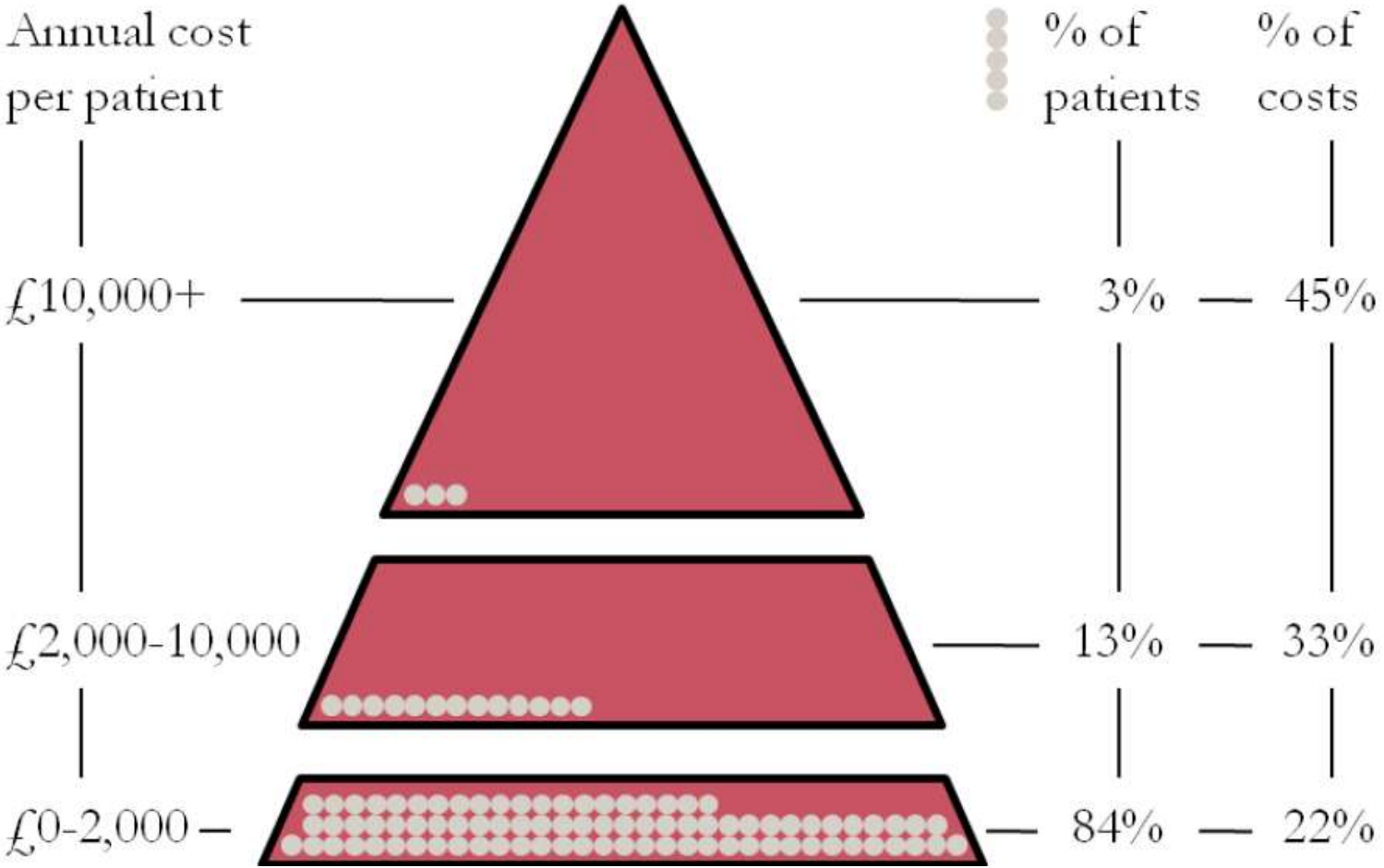
Sawan et al 2023 https://journals.lww.com/acsm-esm/fulltext/2023/01000/the_health_benefits_of_resistance_exercise_beyond.2.aspx
[@jacksonfyfe](#)



Centre for
Perioperative Care

The UK economy

Money – Poor health is Unaffordable for NHS 3% of patients cost 45% costs



Nuffield Trust
<https://www.nuffieldtrust.org.uk/files/2017-01/patient-level-costing-full-web-final.pdf>

- 20% of the population are children
- 18% over 65
- 25% over 65 in 2043 (projection)
- 400,000 people unable to work due to ill-health since Pandemic
- working age people per person aged 65:
 - Japan = 2
 - UK = 3 (reducing)
- We shouldn't spend money on what isn't needed

Chief Medical Officer's Annual Report 2023 Health in an Ageing Society

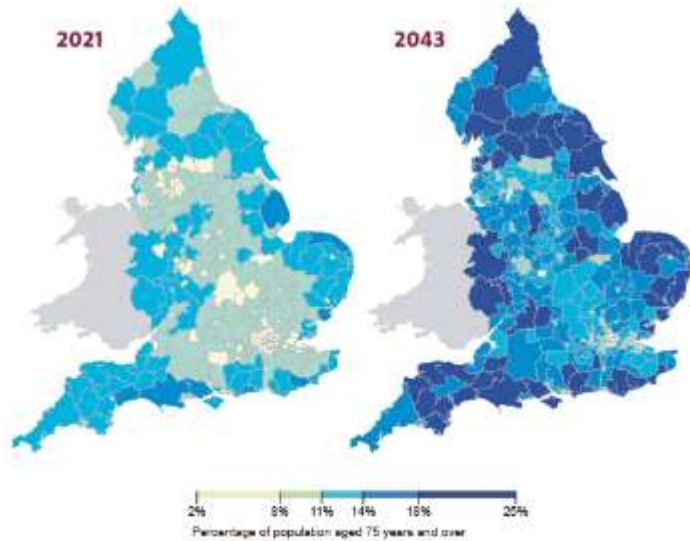
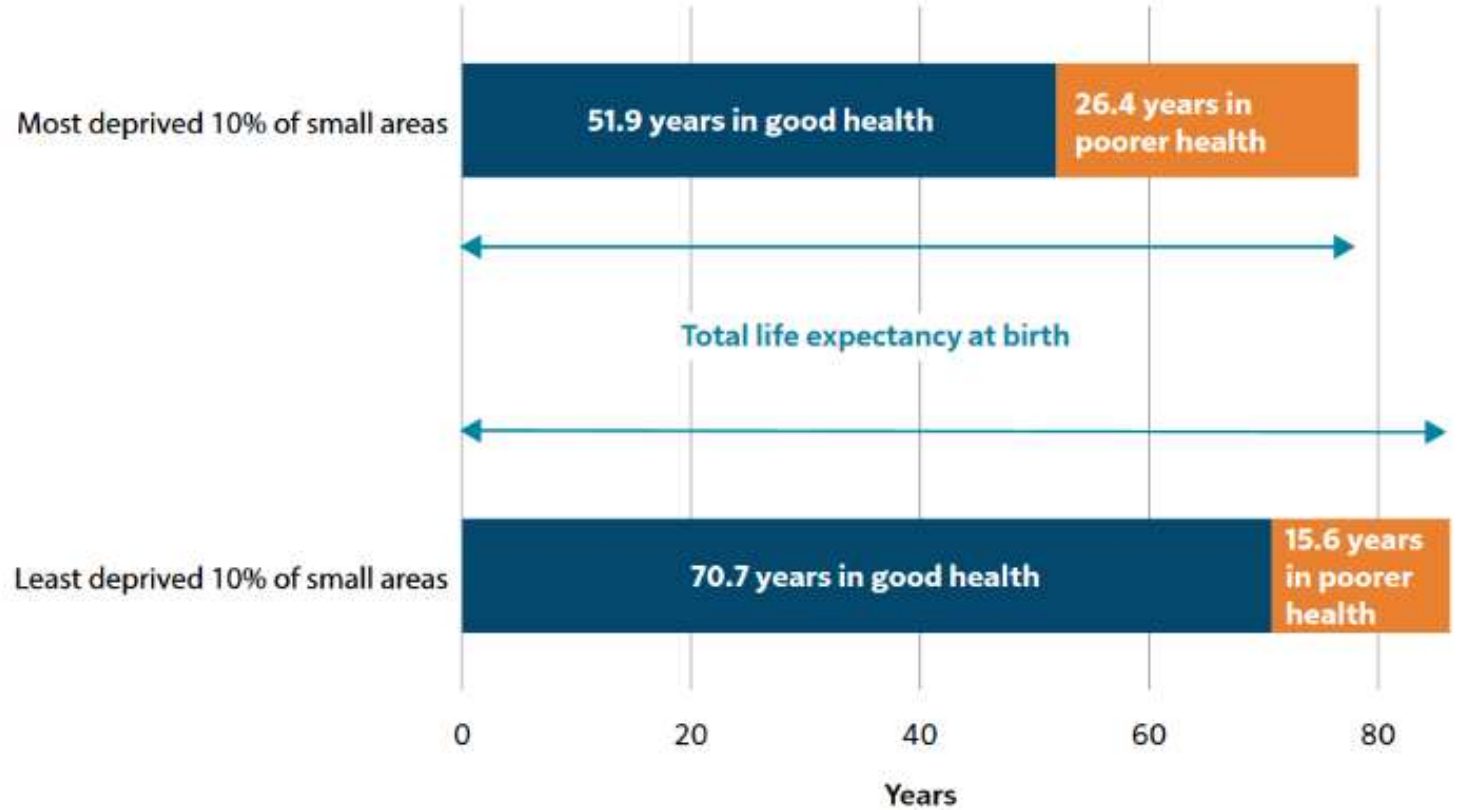
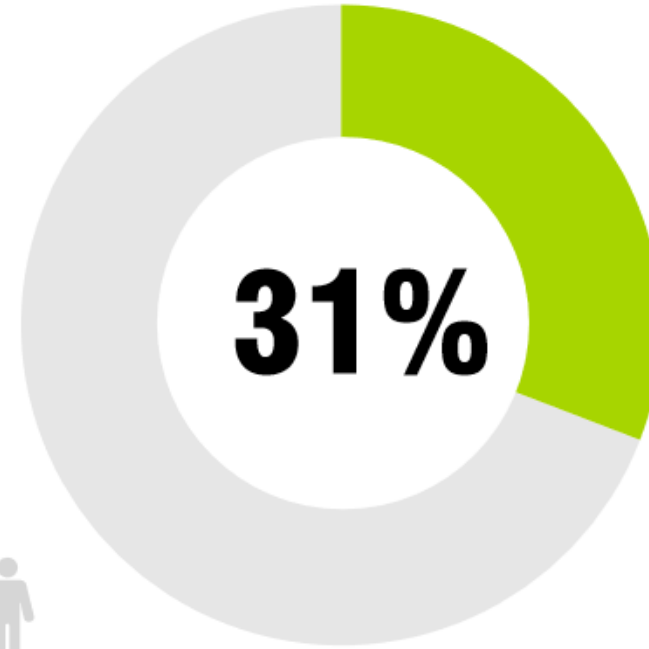


Figure 3: Inequality in life expectancy and healthy life expectancy at birth for females in the most and least deprived areas in England, 2018 to 2020



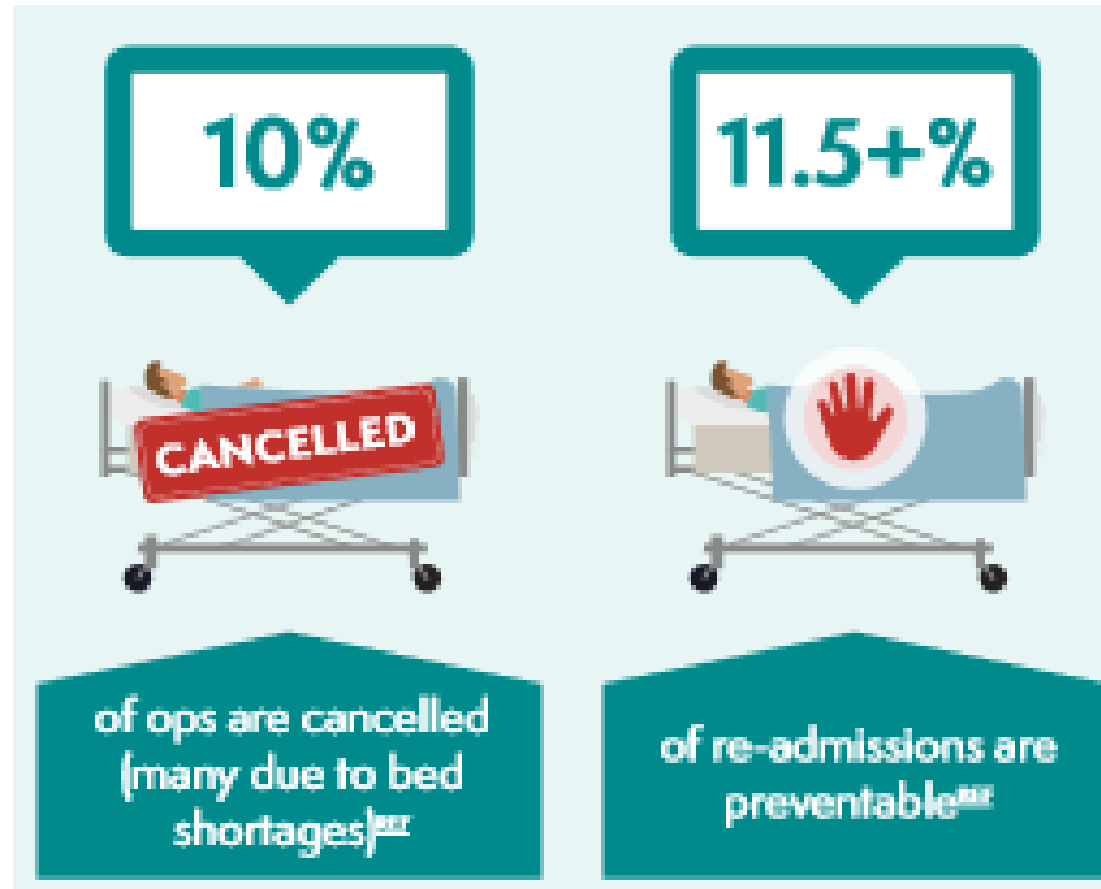
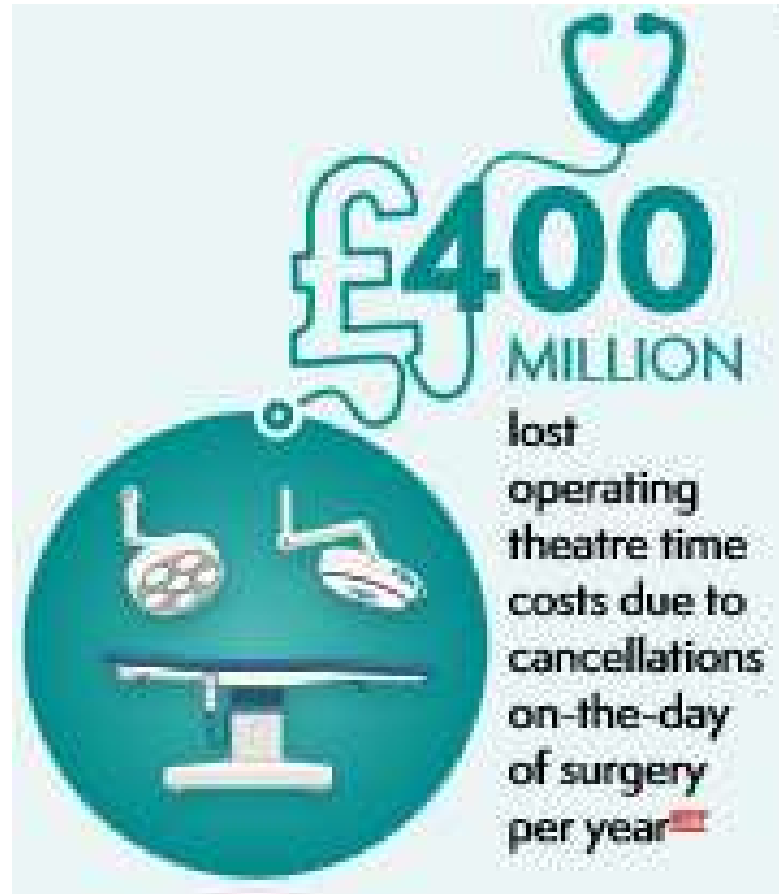
Fix pavements



31% OF ADULTS AGED 65+ SAID THEY ARE PREVENTED FROM WALKING MORE OR AT ALL ON THEIR LOCAL STREETS BECAUSE OF CRACKED AND UNEVEN PAVEMENTS

<https://www.livingstreets.org.uk/media/>

Why? £ www.cpoc.org.uk





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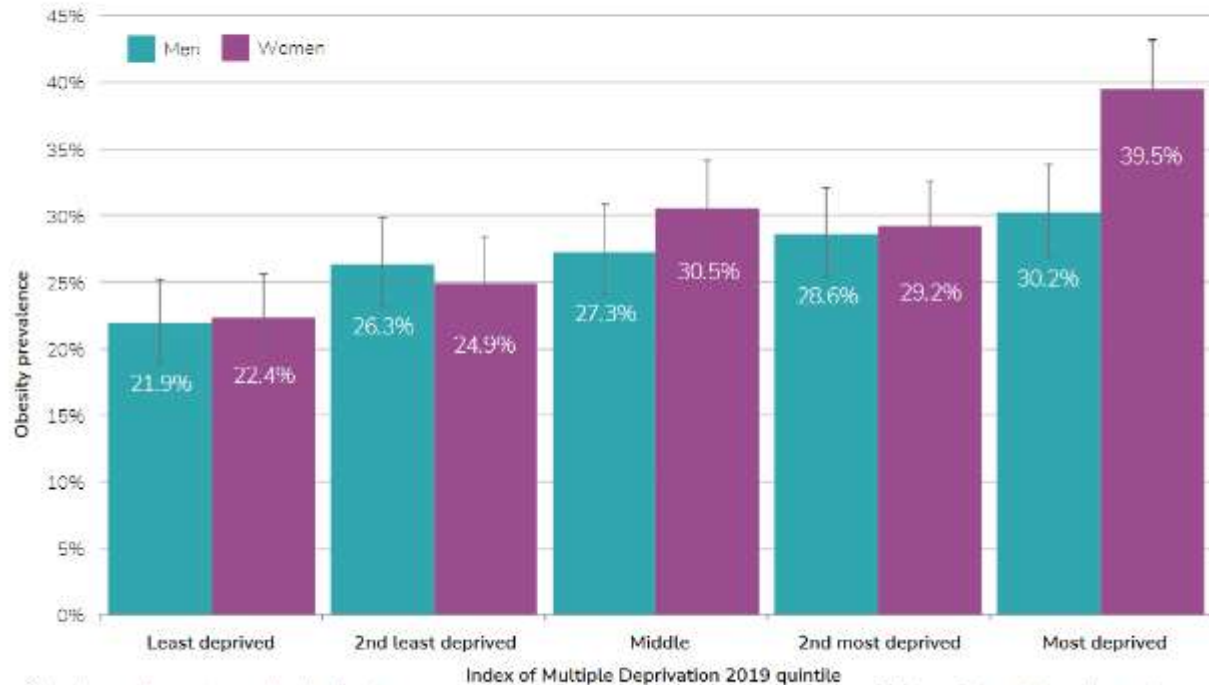
Fixing the NHS

Prevention (especially at “the teachable moment”)

	is	or
Primary prevention	Never getting it	Reducing risk
Secondary prevention	Catching it early & easier treatment (e.g. screening)	
Tertiary prevention	Reducing complications (when you have the condition)	Part of treatment

Obesity

Adult obesity prevalence by deprivation
Health Survey for England 2019



Obesity prevalence is age standardised

Adapted from PHE: Patterns and trends in adult excess weight: national data

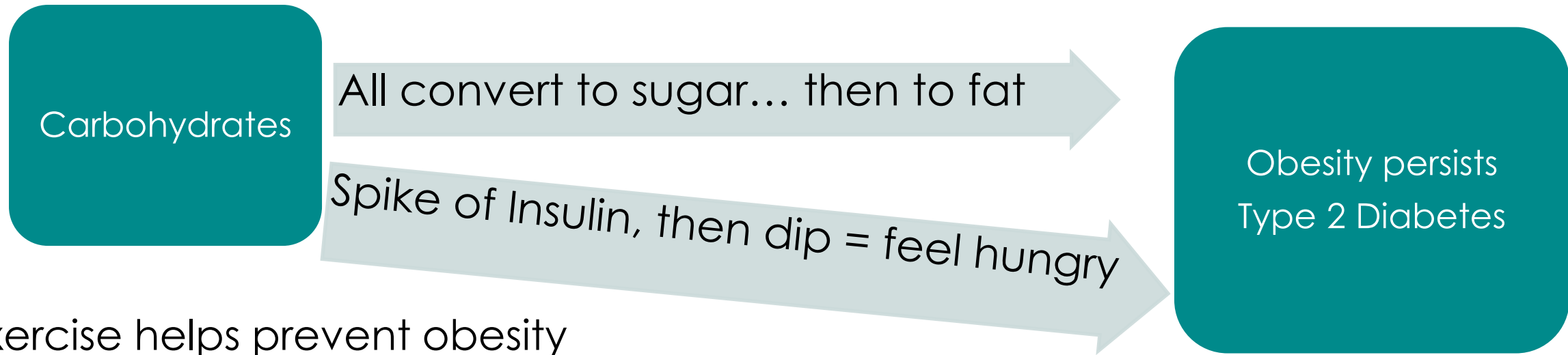
95% confidence intervals are shown.
Adult (aged 16+) obesity: BMI >30kg/m²

Turning the Tide

A 10-year Healthy Weight Strategy



Exercise does not fix obesity



- Exercise helps prevent obesity
- Fitness and fatness are different
- Exercise helps with new habits

- Nutrition – marketing, norms, costs, etc
 - Protein
 - Fruit & vegetables
 - Fibre
 - Avoid “Ultra Processed Foods”

Search “Scarlett McNally BMJ Obesity”

<https://www.gov.uk/government/publications/sacn-report-lower-carbohydrate-diets-for-type-2-diabetes>

Official guidance and Ultraprocessed foods

- “The EatWell plate”
 - Low calorie
 - High carbohydrate
 - Low fat
- This probably CAUSES
 - Type 2 Diabetes
 - obesity



Perioperative care is:

from the moment surgery is contemplated
- until full recovery

The Perioperative Care Pathway



Centre for Perioperative Care www.cpoc.org.uk



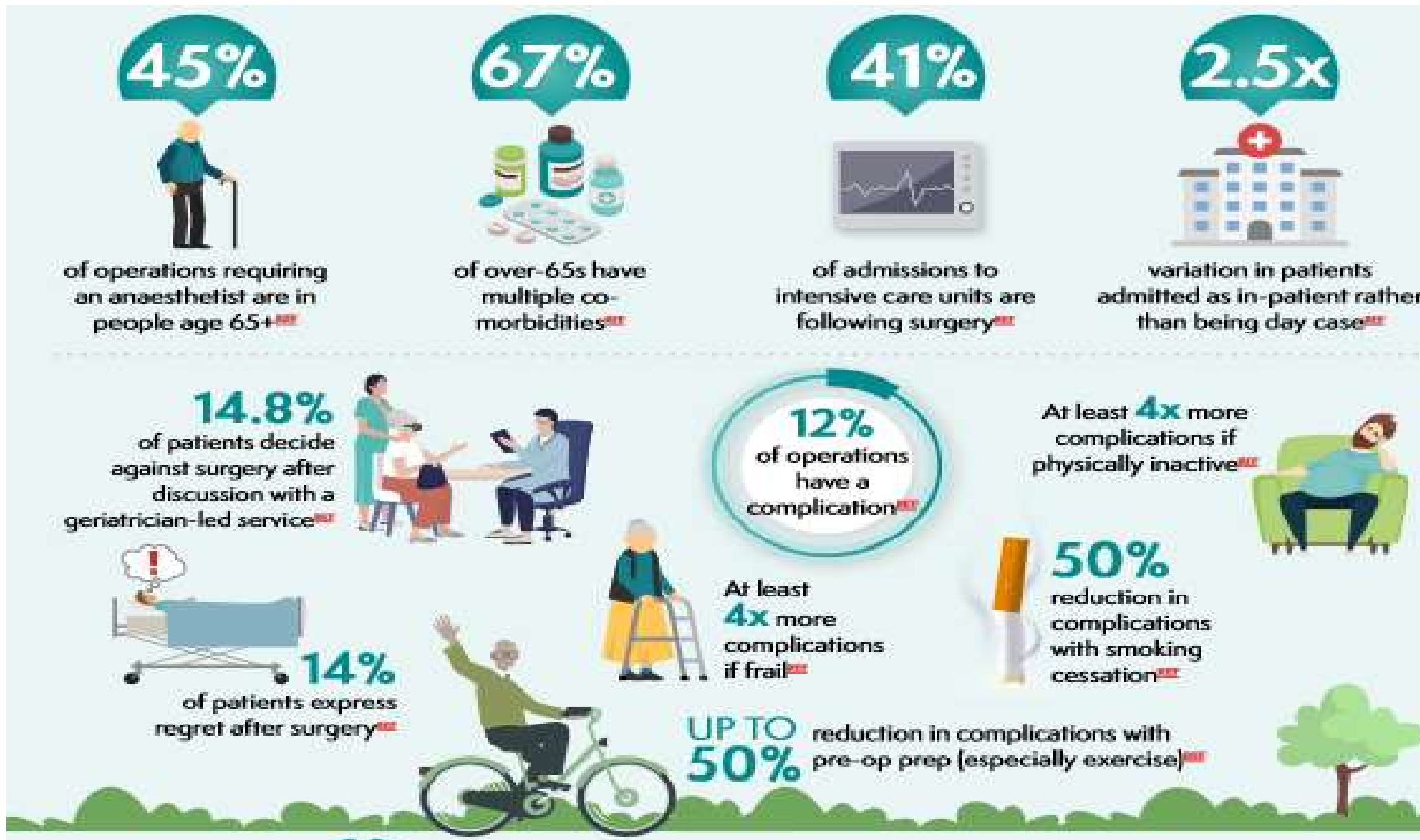
- + Patients
- + Charities
- + Other surgical/anaesthetic/patient organisations



Complications

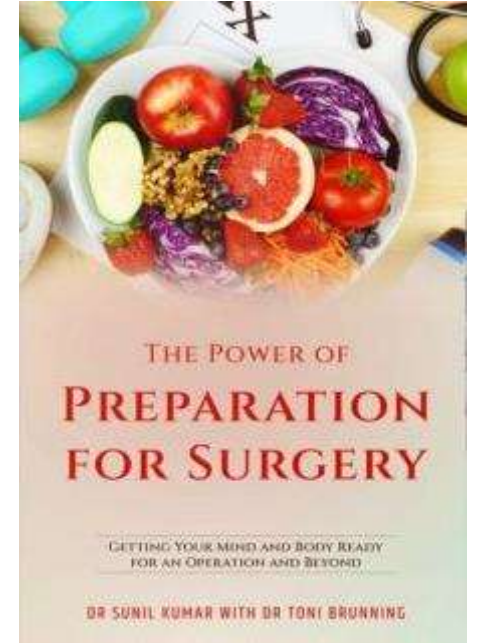
10-15%	of operations have a complication	https://link.springer.com/article/10.1007/s10353-018-0551-z#Tab1
x5	if frail	https://doi.org/10.1093/ageing/afy110
x4	if physically inactive	https://pubmed.ncbi.nlm.nih.gov/23534776/
30%-80%	Decrease with daily exercise	www.cpoc.org.uk/cpoc-publishes-major-evidence-review-impact-perioperative-care
14%	patients express regret	https://publishing.rcseng.ac.uk/doi/full/10.1308/rcsbull.2020.146
10%	Ops cancelled (most due to lack of beds)	Wong et al, 2017
47%	Ops (requiring an anaesthetist) are in over 65s	https://www.gettingitrightfirsttime.co.uk/medical-specialties/anaesthesia-perioperative-medicine/
50%	UK population have multi-morbidity at 65	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60240-2/fulltext
26%	UK adults do no exercise at all	Sport England https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2023-04/Active%20Lives%20Adult%20Survey%20November%202021-22%20Report.pdf

Reduce complications by 50%. Be a "day case" www.cpoc.org.uk



7 things proven to reduce complications by 50%

1. **Smoking**
2. **Exercise**
3. **Nutrition**
4. **Medication review + Senior review**
5. Alcohol/drugs
6. Mental health & psychological preparedness
7. Practical preparedness



AND may make day case-able

1. Stopping Smoking

<https://www.cpoc.org.uk/guidelines-resources-resources/stopping-smoking>

QUIT SMOKING
THE PERIOPERATIVE CARE BENEFITS

Smokers are more likely to be admitted to an intensive care unit postoperatively.

For smokers, the risk of major complications following surgery increases by **up to 40%**.

Children exposed to passive smoking have higher risks of adverse outcomes in the perioperative period.

Smoking increases the risk of cardiovascular, respiratory, and wound healing complications after surgery.

Quitting
Quitting smoking as early as possible, ideally more than eight weeks before surgery, improves outcomes.
Cessation at least four weeks before surgery reduces wound healing complications.

Amongst current smokers, **45% intend to quit**.

Stopping for even 24–48 hours reduces levels of nicotine and carbon monoxide and improves oxygen carrying capacity.

Smoking is the biggest driver of health inequality in England.¹⁶ In the UK almost **13%** of adults smoke cigarettes.²

Each craving lasts on average **90 seconds**. Withdrawal symptoms (such as irritability) reduces after two weeks. Exercise helps with managing cravings and withdrawal symptoms.¹¹

Surgery with complications costs the NHS more and increases length of stay.⁴

Smoking cessation support and interventions increase the likelihood of abstinence at the time of surgery and one year later.⁹

Centre for Perioperative Care



Smoking cessation in the perioperative period

Stopping smoking really is the best thing anyone can do for their health and to reduce the risk of a bad result after surgery.

The World Health Organization showed that stopping smoking reduces the risk of complications following surgery by 50%.

Stopping smoking improves the blood supply to tissues, so wounds heal better, with fewer infections and lungs work better, with far less need for intensive care. Within hours, the blood is better at carrying oxygen.

Each craving only lasts 90 seconds. The main withdrawal symptoms, such as irritability, are reducing by two weeks. There are many options for help, with psychological support, apps, alternative activities, exercise, nicotine replacement options and websites with personalised coaching.

You can do it!



Physical activity in the perioperative period

Staying active is one of the best things that patients can do whilst waiting for surgery ("almost", [stopping smoking](#) is the best). Those who get fitter before surgery lower their risk of complications, leading to less time in intensive care, shorter bed stays and better outcomes.

Top tips for everyone include:

- ▶ Remember how important this is, for your future self
- ▶ Remember that it is more dangerous to be inactive than to do some activity
- ▶ Put it in your diary, make it a habit
- ▶ Pick an activity that works for you (swimming, cycling, brisk walking, etc.)
- ▶ Get family, friends, partner involved
- ▶ Set goals and mini-goals
- ▶ Sign up for something, so you do the training and don't want to let the team down
- ▶ Start slowly and build up intensity, frequency and duration
- ▶ It is almost always safer to be active than to remain physically inactive. Stop if you: Get heart pain, irregular heartbeat, dizziness or a sudden change in vision; have an infection making you feel unwell

Supporting patients to stay active

Below you will find tools and links to resources to help your patients stay active and prepare them for surgery.



Moving Medicine

[Moving Medicine](#) information and advice on how to have include exercise as a motivational interviewing consultation in one minute



We are undefeatable

The Richmond Group of Charities and partners

[We are undefeatable](#) is a physical activity offer for inspiration, ideas and resources. Read stories of people living with long term health conditions, and how they have found their way to move more. The [Five in Five](#) initiative allows for building small amounts of activity into your day, and is a five-minute mini customisable workout.



Let's Move for Surgery

A toolkit consisting of short videos of various exercise routines. There is also a collection of personal stories and advice from those living with arthritis and tips from physiotherapists on keeping active

[Let's Move for Surgery](#)



Fitter For Surgery, Fitter For Life - From Concept to Reality

Read Dr Rebecca Barker's blog, who talks about the impact that prehabilitation can have on surgical outcomes.

[Fitter For Surgery, Fitter For Life - From Concept to Reality](#)



British Society of Lifestyle Medicine

The British Society of Lifestyle Medicine offers resources on [lifestyle medicine and physical activity](#), as well as a podcast series called "[Movement Prescription Podcast](#)"



Professor Scarlett McNally CPOC Deputy Director

[Read Scarlett's blog on exercise in preparation for surgery](#)



Prehabilitation =

- Coached exercise
- With some of:
 - Alcohol
 - Smoking
 - Nutrition
 - Psychological prep

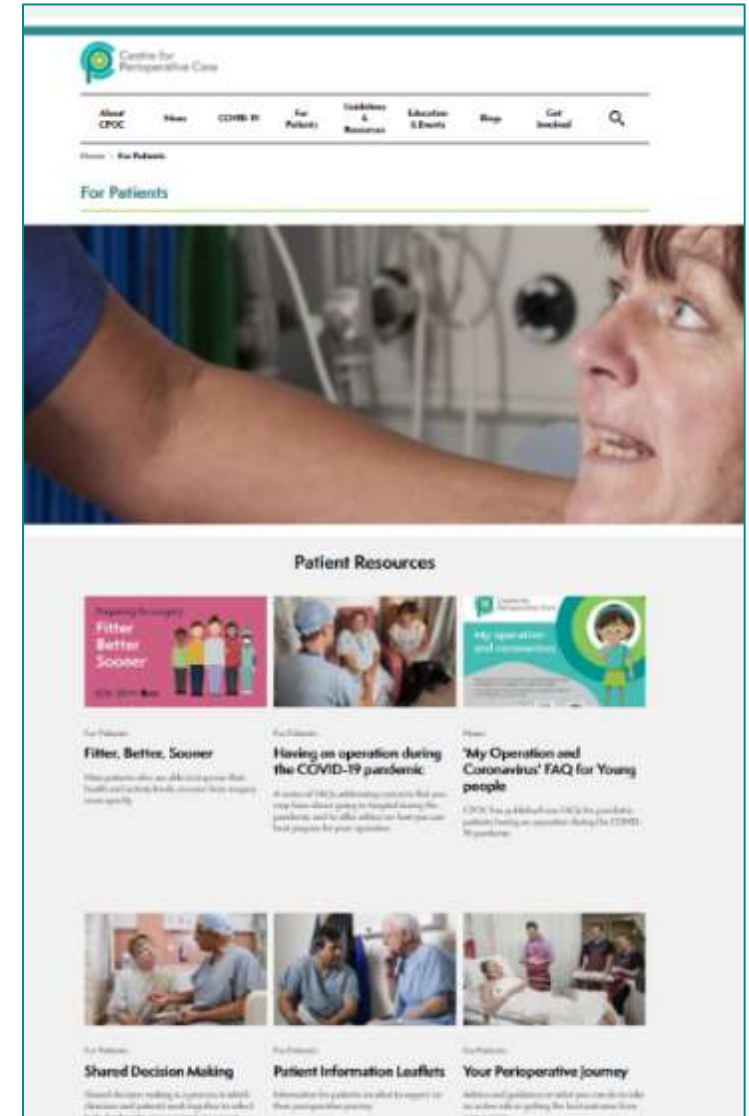


<https://www.macmillan.org.uk/assets/prehabilitation-guidance-for-people-with-cancer.pdf>

Patient-centredness

www.cpoc.org.uk/patients

A teachable moment



Shared Decision Making

- The patient could ask: BRAN
 - What are the Benefits
 - What are the Risks
 - What are the Alternatives
 - What if I do Nothing
- Is the patient ready to prepare well?
- Patient expectations
- <https://www.cpoc.org.uk/shared-decision-making>

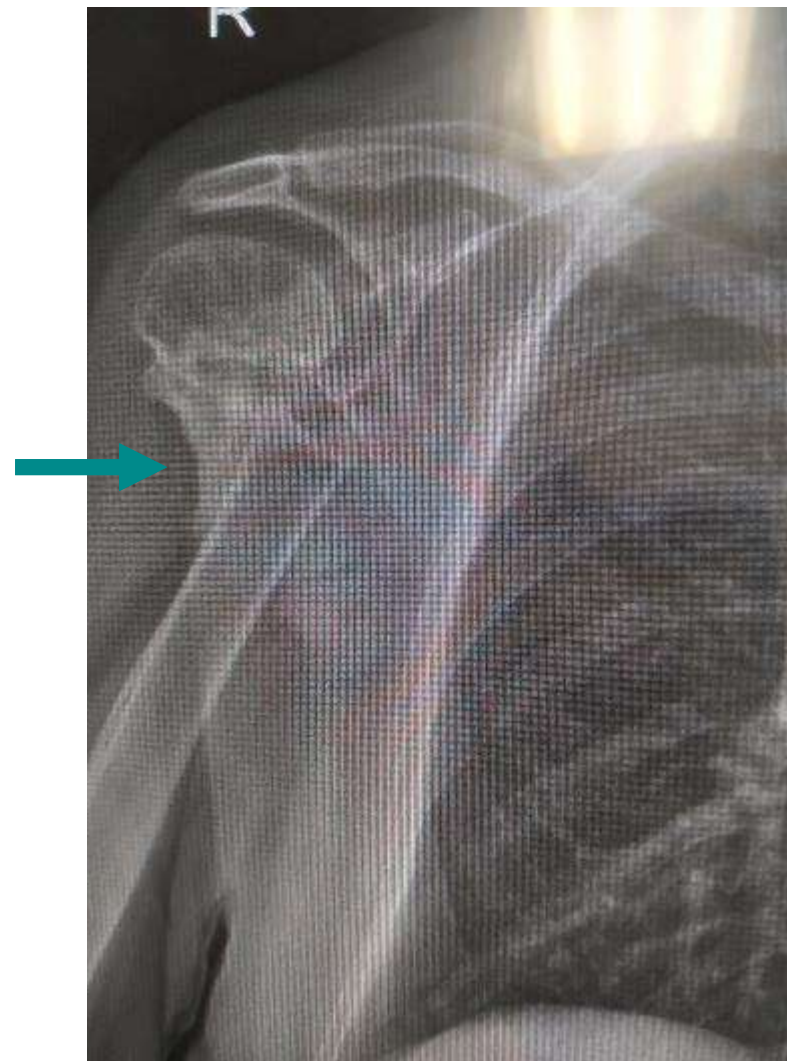


MAGIC (Making good decisions in collaboration) Joseph-Williams N et al. Implementing shared decision making in the NHS: lessons from the MAGIC programme BMJ 2017 357:j1744 doi <https://doi.org/10.1136/bmj.j1744>

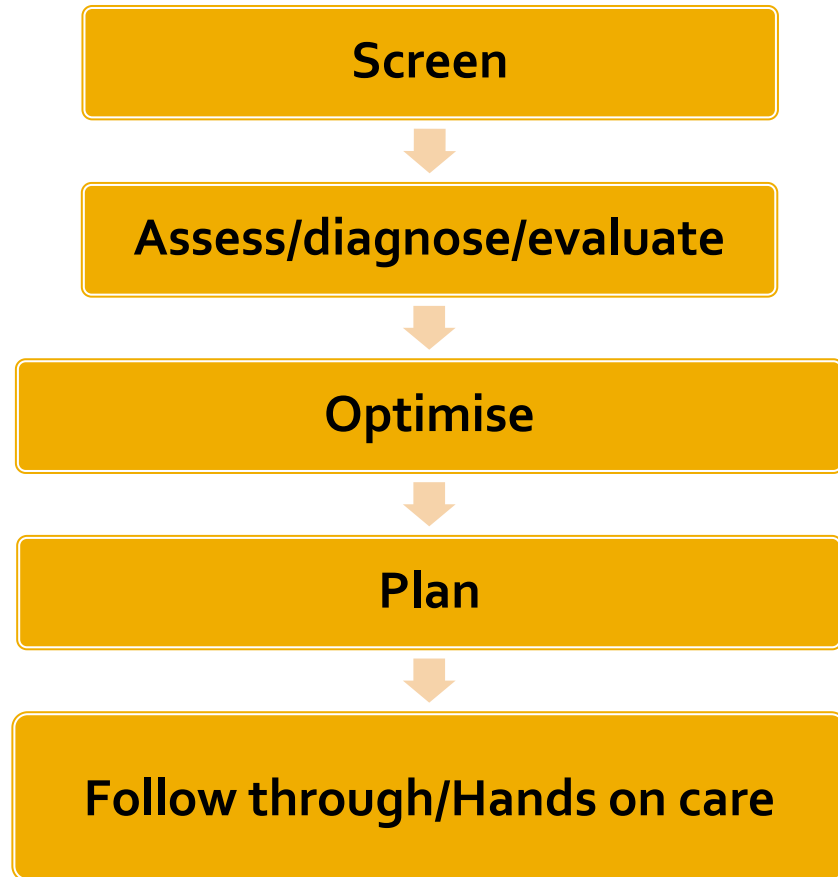
Risks and benefits of an operation...

May

Nov



Preoperative interventions...



- **14% decided against surgery**
- 66% new diagnosis
- 75% meds changed
- 50% lifestyle advice
- 25% therapy interventions
- 20% multispecialty discussion
- 10% anaesthetic input

Stewart, 2023

Perioperative care is better: www.cpoc.org.uk

- Better for patients
- Better for costs
- Better for staff



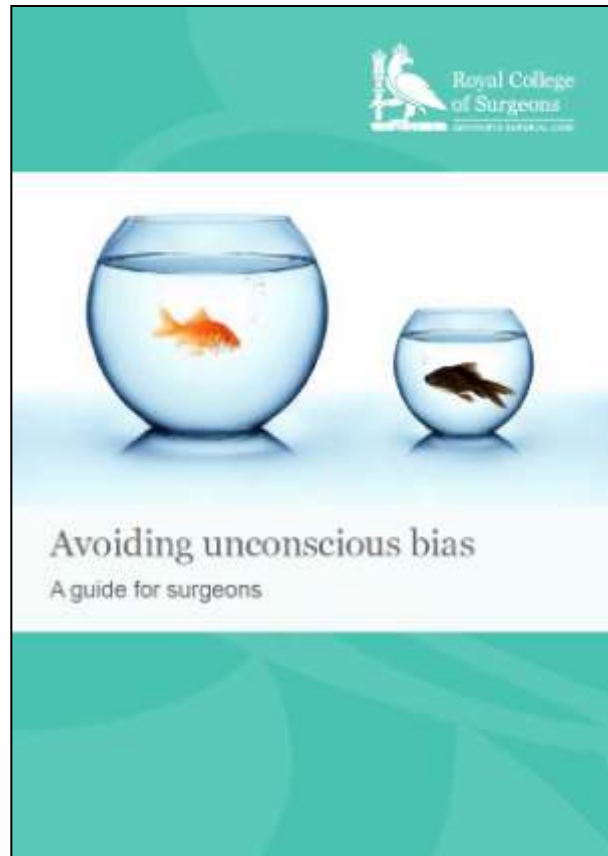


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The NHS workforce = 1.5 million

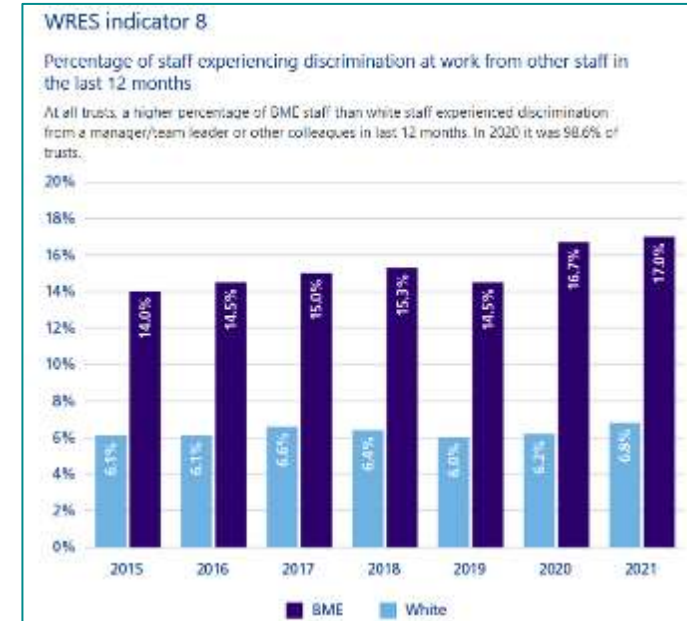
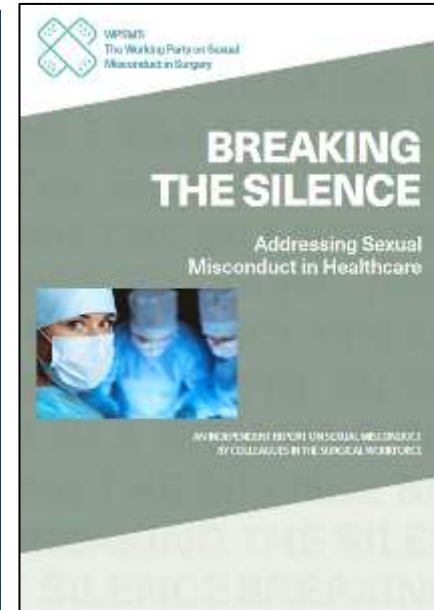
- Improve poor behaviours
- Get better team-working

Our brains are wired to notice difference

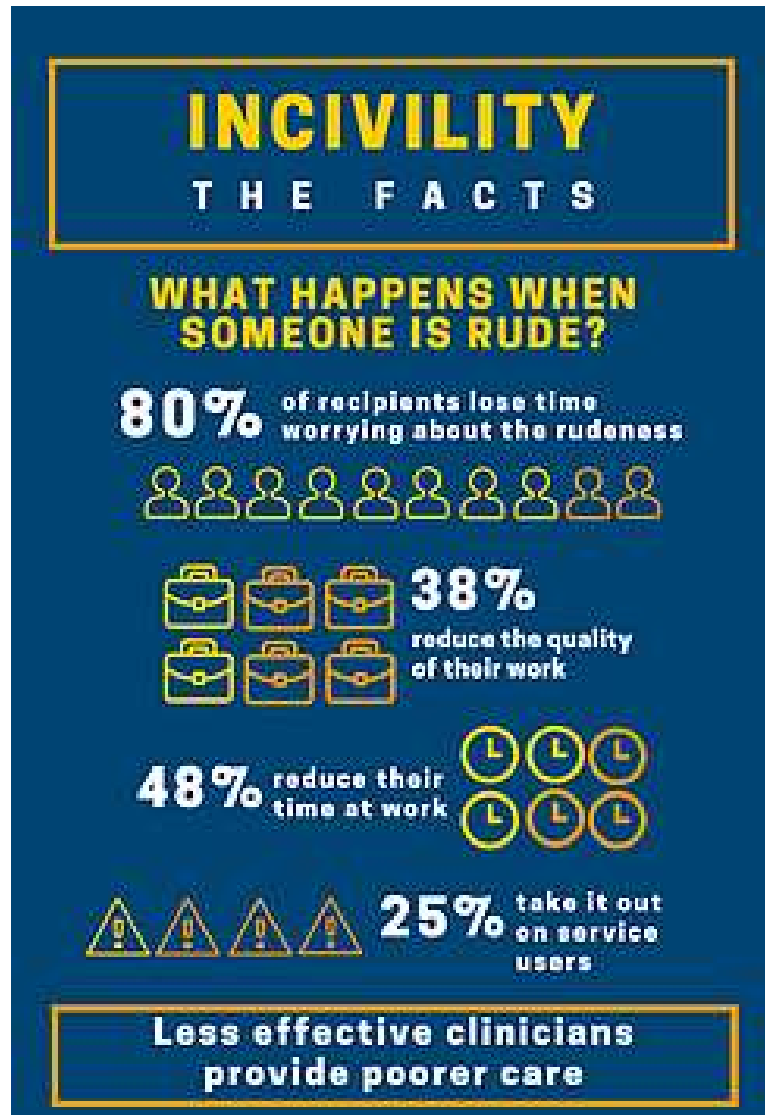


- We must consciously adjust our
 - ~~Thoughts~~
 - Words
 - Actions
 - Expectations
- Be clear
- Set a minimum standard
- Listen
- Avoid assumptions
- Be aware of specific blocks

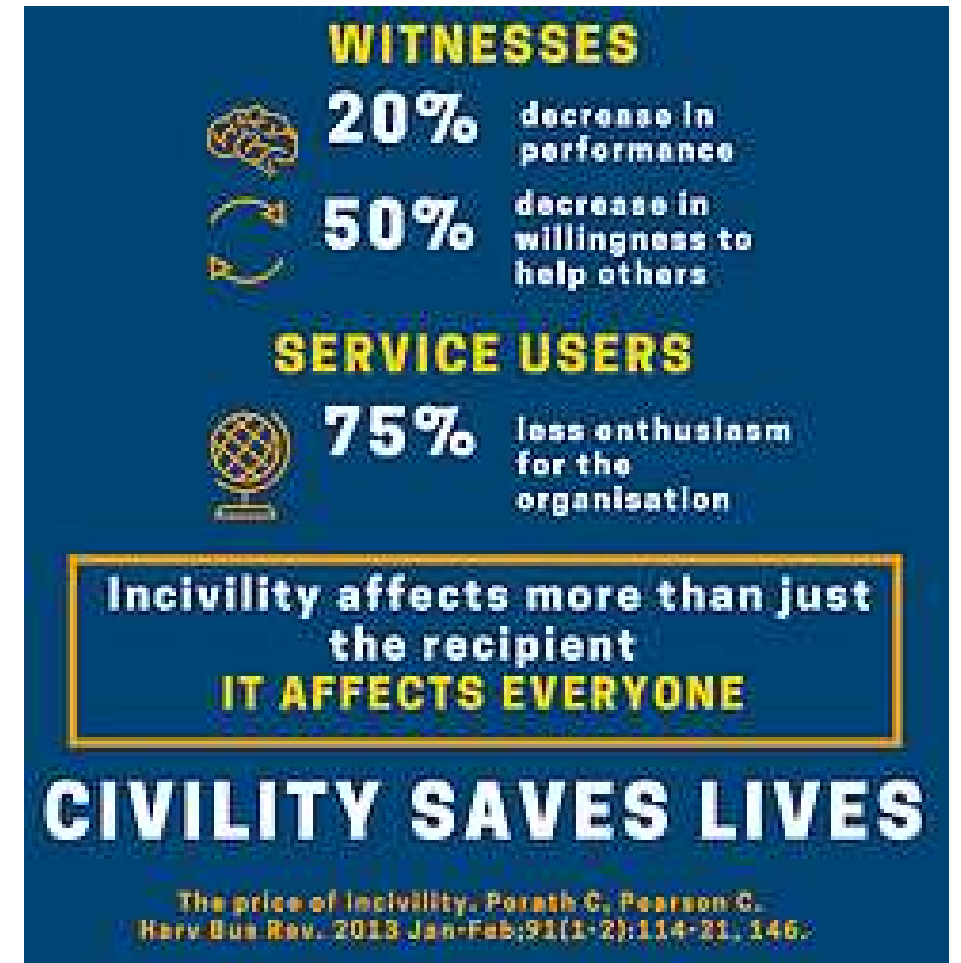
Behaviours in surgery + Teamwork



- www.rcseng.ac.uk/study
- <https://www.rcseng.ac.uk/standards-and-research/support-for-surgeons-and-services/irm/improving-professionalism/>
- <https://www.rcseng.ac.uk/standards-and-research/standards-and-guidance/good-practice-guides/managing-disruptive-behaviours/>
- www.wpsms.org.uk
- <https://www.england.nhs.uk/publication/nhs-workforce-race-equality-standard-2022/>



Dr Chris Turner



“I notice you’re stressed, is there anything the team can do to help?”



Association of Anaesthetists

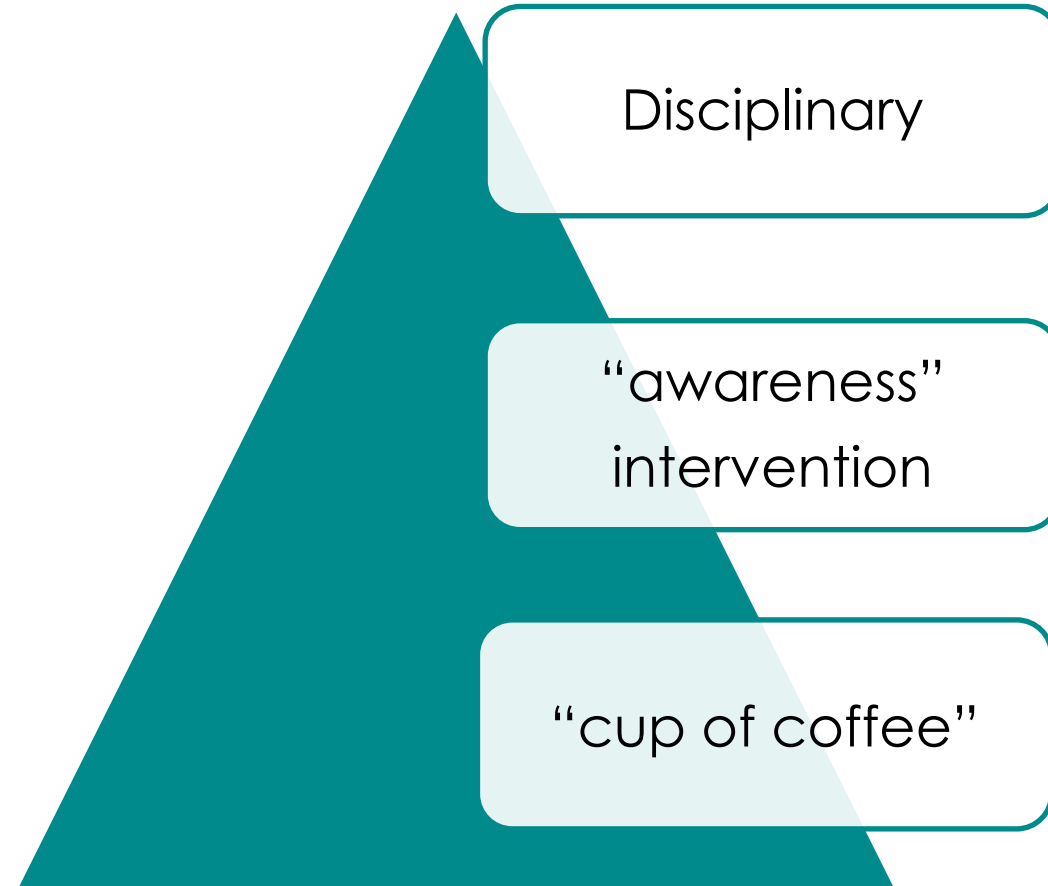


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We are not all perfect every day. Help us value good enough

- 50% senior surgeons have burnout
- 42% of marriages end in divorce within 20 years (www.ons.gov.uk)
- 7.5% of over-65s are living with dementia – ?parent
- 18% of 6- to 16-year-olds have a mental health disorder ([NHS digital](https://www.nhs.uk/digital))
- 20% of known pregnancies end in miscarriage (www.tommys.org)
- IVF has only 14% success rate aged 40 (www.hefa.gov.uk)

Bad behaviours and “van der Bilt cup of coffee”



Vanderbilt cup of coffee skills:

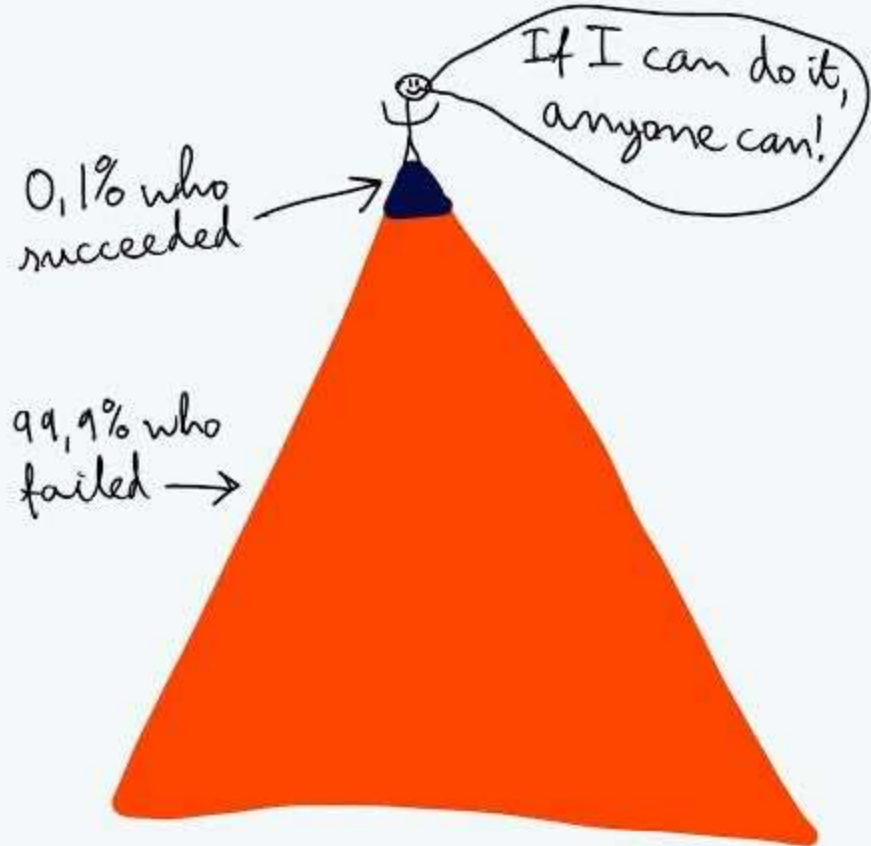
- Your role: To report an event / let them know behavior/action was noticed
- It's not a control contest. ("I am coming to you as a colleague...")
- Don't expect thanks (acknowledgement)
- Know message and "stay on message"
- Know your natural default (your communication style; your "buttons")
- Offer appreciation (if you can): "You're important, if you weren't, I wouldn't be here"
- Use "I" statements: "I heard..." "I saw..." "I received..."
- Ask: "Are you OK?"
- Review incident, provide appropriate specifics
- Ask for colleague's view...pause...
- Respond briefly to questions, concerns...



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Women doctors

SURVIVORSHIP BIAS



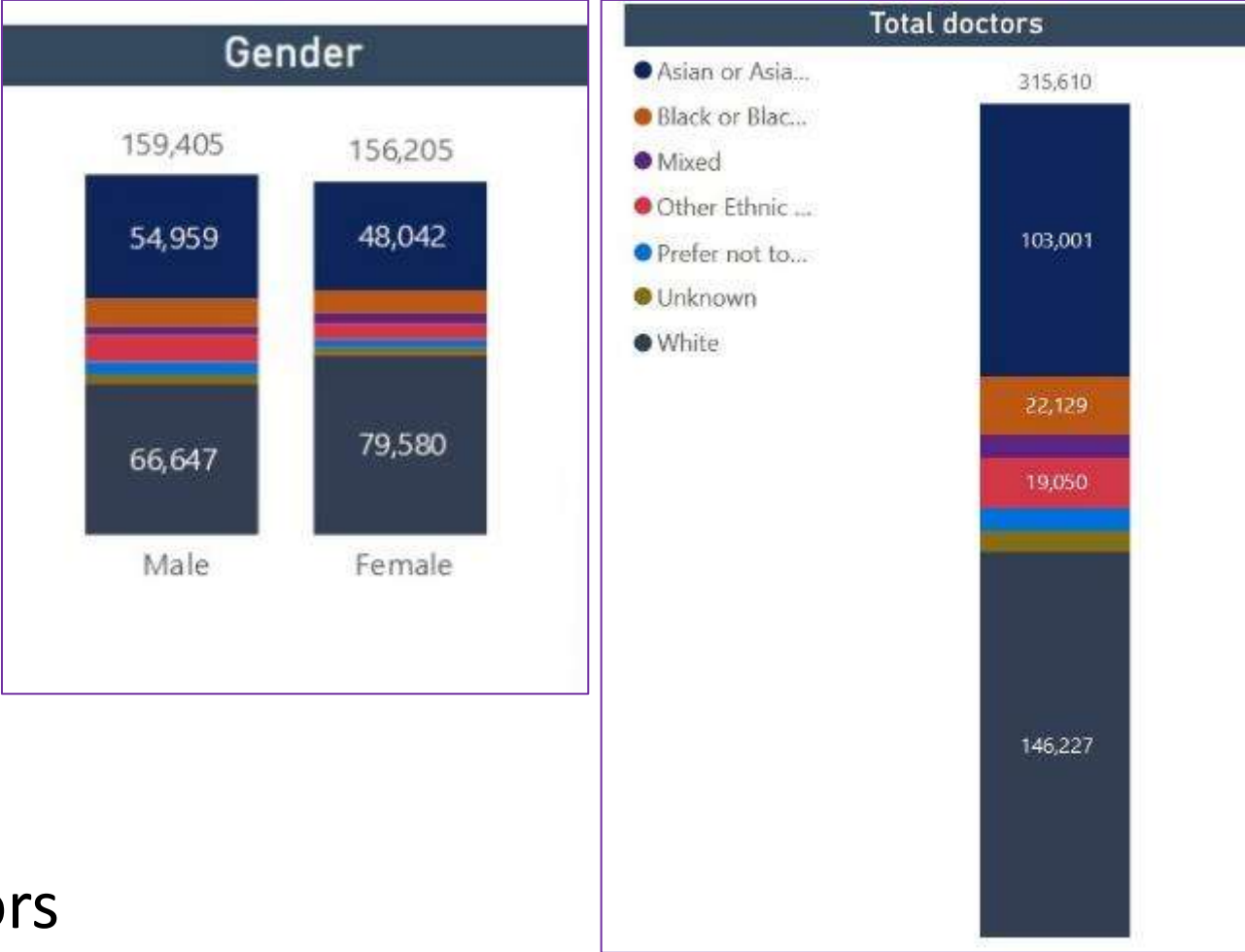
© thedecisionlab.com

Some women have always made it



Only 21.1% of licensed doctors are white men

- 49.9% women doctors
- 53.7% not White ethnicity



GMC, UK 2024 licenced doctors

<https://gde.gmc-uk.org/the-register/register-summary/protected-characteristics>



Barriers to women

- Motherhood
- Meritocracy
- Minimisation
- Macho ideals
- Mentoring

- Money



www.rcseng.ac.uk/career
www.rcseng.ac.uk/study



Babies will mix and match – breast or bottle.
You can express milk to keep up your supply. Takes 20 minutes.
You can still do night and morning feeds. You can take less than 12 months off work. Work out what works for you.

Two “opposite” things are true

- In GENERAL: Women and men ARE different
 - Practicalities/time/caring
 - Expectations
 - Sexy? Fragile? Interests? Getting ignored
- Any INDIVIDUAL woman should be allowed to excel
 - Ask open questions
 - Think of what you'd say to a man
 - Remove archaic barriers
 - Be clear
 - Have a minimum standard and an aspirational standard
 - Universal positive regard



BMA Sexism in medicine, 2021

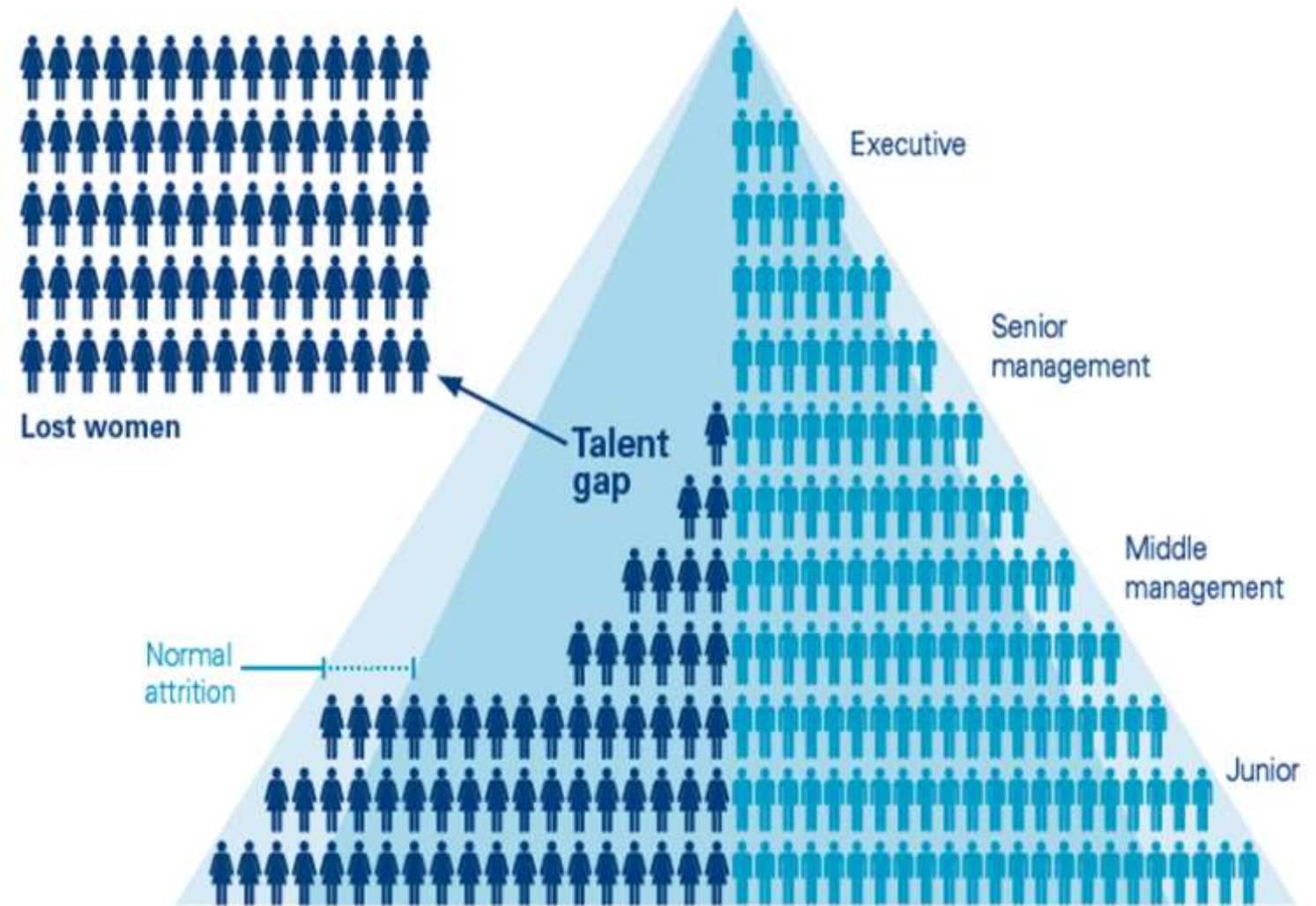
I have seen opportunities for progression (eg acting up consultant roles during the pandemic) offered to men over women who were perfectly suitable for the extra responsibility, with no transparency of why those choices were made. Man, consultant, Asian, full-time

- **91%** of women respondents had experienced sexism at work within past 2 years
- **84%** of all respondents said there was an issue of sexism in the medical profession
- **28%** of men respondents said they have/had more opportunities during training because of their gender, in comparison to 1% of women respondents
- **74%** of all respondents think that sexism acts as a barrier to career progression
- **42%** of all respondents who witnessed or experienced an issue relating to sexism in the past two years chose not to raise it with anyone
- **61%** of women felt discouraged to work in a particular specialty because of their gender, with 39% going on to not work in that specialty
- **70%** of women respondents felt that their clinical ability had been doubted or undervalued because of their gender, in comparison to 12% of men
- **31%** of women-unwanted physical conduct in work as did 23% of men
- **56%** of women-unwanted verbal conduct relating to their gender as did 28% of men

<https://www.bma.org.uk/media/4487/sexism-in-medicine-bma-report.pdf>



We need to succession plan and develop.



Source:
*Your Loss: How to
Win Back your Female
Talent, 2010*

Equality	<p>Equal standard at the point of selection / exam</p> <p>Every individual to have opportunity</p>
Diversity	<p>Embracing difference.</p> <p>Ask what else is needed.</p> <p>Listen.</p> <p>How to get the individual to be the best that they can be.</p> <p>Eg if you are their supervisor.</p> <p><i>But also promote – they may have imposter syndrome.</i></p>
Inclusion	= being welcomed/valued
Belonging	





LET'S OPERATE WITH RESPECT

Find out more: www.surgeons.org/respect

- Australian surgery has/had bullying problem
- 48% surgeons in training had witnessed it
- They recommend: “Call it out”
- Most alleged perpetrators (Australian surgeons) didn't realise how they were perceived.



Kennedy report - RCSEng

What do we mean by micro-aggressions?

A micro-aggression is a behaviour or action – whether accidentally or purposefully – that subtly undermines someone’s identity by playing into the stereotypes or historic biases about social groups. While not born out of malicious intent, it can have a serious consequence or impact on the people it is directed towards.

Examples that were highlighted to us in this review included:

- The far greater propensity to call women surgeons by their first names in situations where their male counterparts would be given their title.
- Failure to make it clear to a patient that a woman surgeon or a person from an ethnic minority in scrubs is indeed a surgeon.
- Locker room talk of a sexually explicit nature in theatre.
- “I don’t know how many times I have heard the expression ‘that’s a bit gay’ at work”.
- Addressing correspondence ‘Dear Sirs’ – as though all surgeons are men.
- Asking a Black surgeon when they would be returning to their country.
- Calling a female surgeon a ‘pretty girl with an empty head’ in theatre.

<https://www.rcseng.ac.uk/about-the-rcs/about-our-mission/diversity-review-2021/>

@scarlettmcnally www.scarlettmcnally.co.uk



2020 Gender pay gap

2. The gender pay gap in medicine

Gender pay gaps in UK medicine are a long-standing issue. Data on median gross annual pay from the Office for National Statistics (ONS) show that, in 2016, female doctors working full-time earned 34% less a year than their male counterparts². Overall, the pay gap in medicine has grown over the past decade. Back in 2006, female doctors earned 24% less than their male colleagues (Figure 1). The gap rose to 39% in 2010 and fell again to 34% in 2016. Since 2008, published data shows that female doctors working full-time have consistently earned a third less than male doctors.

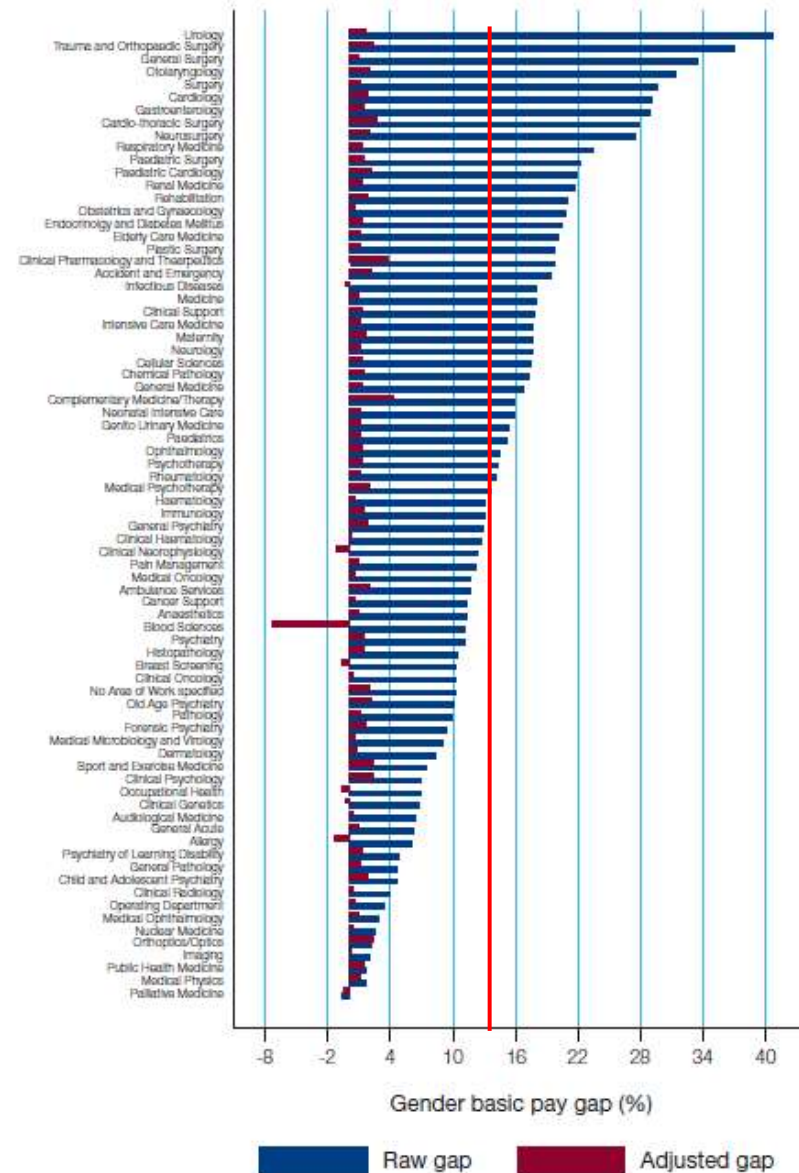
Mend the Gap: The Independent Review into Gender Pay Gaps in Medicine in England

December 2020

Chair - Professor Dame Jane Dacre
Lead Researcher - Professor Carol Woodhams



Figure 13. The gender pay gap in basic pay by secondary area of work.



Basic pay 14%

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/944246/Gender_pay_gap_in_medicine_review.pdf

ANDREW G. MARSHALL

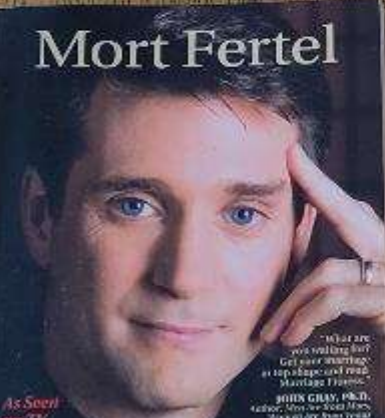


**I LOVE YOU
BUT I'M NOT
IN LOVE WITH YOU**

*Seven Steps to Saving
Your Relationship*

with bonus CD-ROM
and audiobook

Mort Fertel



**MARRIAGE
FITNESS**

As Seen
on TV

What are
you really
getting out
of your marriage?
Get your marriage
in top shape and read
Marriage Fitness.

BOB GRAY, PhD,
author of The 5 Love Languages
Married Men Want

An Alternative to Counselling

**4 STEPS TO BUILDING & MAINTAINING
PHENOMENAL LOVE**

43 Ways
TO MAKE A GOOD MARRIAGE
Great

Mort Fertel

Matthew
Fray

**This
is
How
Your
Marriage**

The man who
coaches husbands
on how to
avoid divorce
The New York Times

Ends

A Hopeful
Approach
to Saving
Relationships

How to Stop Your Worst Marriage Traps: Experts Matthew Fray



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Improving team-working

Work across the whole team – develop, nurture



- Transdisciplinary working
- Sharing skills
- Clear goals
- Less duplication
- Clear 'red flags'
- Standardised pathways
- Less 'moral injury' = going against your values

Patient information - can upskill other staff

Patient information

East Sussex Healthcare 
NHS Trust

Hip Fracture – information for patients and carers

This information is also available at:

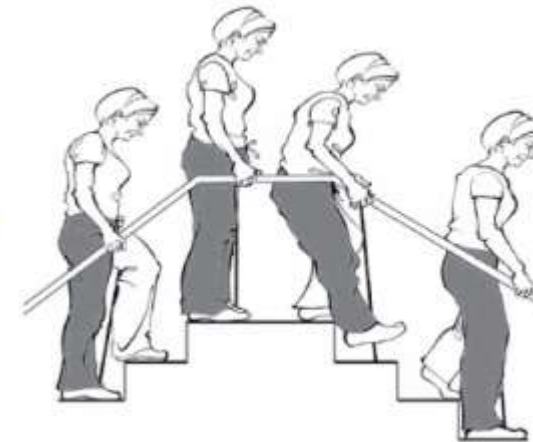
www.esht.nhs.uk/leaflet/hip-fractures-information-for-patients-and-carers/

Putting a plastic sheet or carrier bag on the seat often helps as it enables you to slide more easily.

Going downstairs – Take one step at a time. Lead with the leg that **has** been operated on.

“Good leg leads up”

“Bad leg leads going down”



Sequential standards = The NatSSIPs Eight steps

1	Consent, Procedural verification, and Site marking
2	Team Brief
3	Sign In
4	Time Out
5	Safe and efficient use of implants (Where relevant)
6	Reconciliation of items in the prevention of retained foreign objects
7	Sign Out
8	Handover/Debrief



What should we call
'Junior Doctors'?



Report by Mrs Scarlett McNally
August 2020

= “Doctors”

Doctors are the diagnosticians and
handlers of uncertainty

- Not binary senior/junior
- Not their academic aspiration
- As many SAS or Locally Employed posts
as doctors in Postgrad training

We need to free up doctors to do doctoring

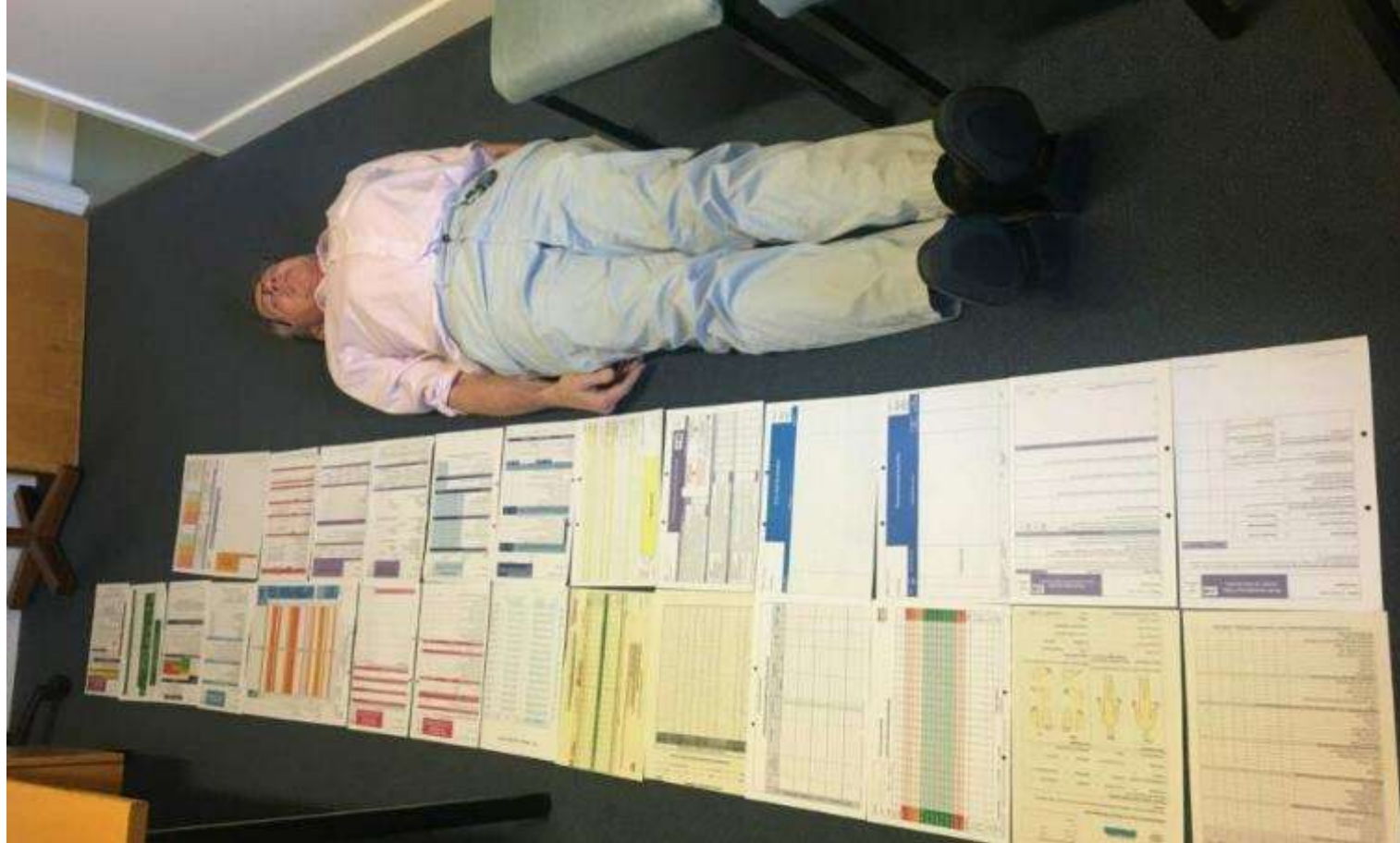
There is currently no-one to delegate to



- Doctors are the diagnosticians and handlers of uncertainty
- We need GPs
- We need geriatricians

- 75% of doctors applying to GP or Emergency training are rejected

The admission paperwork for one admission with Dr Gordon Caldwell (I.T. can make admin worse)



Standardise + individualise

Standard pathway

- Nurse-led
- Optimise
- Protocolise
- Bring steps earlier
- Anticipate
- Risk stratification

Complex

- Senior clinician
- Complex optimisation / medication / treatment
- Shared Decision Making

Teams: Bands 2-4 = Support

Bands 5+ autonomous, decision-making, leadership

	Entry step point	Maximum (after 3-5 yrs progression)	Clinical (examples)	Managerial and administrative (examples)
Band 2	£22,383	£22,383	HealthCare Assistant	Orderly, Porter, Receptionist
Band 3	£22,816	£24,336	(very few roles) Doctors' Assistant Senior HealthCare Support Worker	Administrator
Band 4	£25,147	£27,596	(new roles) eg physio assistant Care coordinator	Secretary, Lead housekeeper
Band 5	£28,407	£34,581	Nurse/Physio/Pharmacist/OT/ Radiographer	Manager
Band 6	£35,392	£42,618	Senior nurse, etc / Physician Associate	Senior manager
Band 7	£43,742	£50,056	Specialist nurse etc	Senior manager
Band 8a	£50,952	£57,349	Consultant nurse / physio	Divisional manager
Band 8b	£58,972	£68,525		
Band 8c	£70,417	£81,138		
Band 8d	£83,571	£96,376		
Band 9	£99,891	£114,949		

<https://www.nhsemployers.org/articles/pay-scales-202324>

If recruiting new staff, add 23% "on-costs" = national insurance, pension etc

Doctors' Assistants

National award Skills for health
Runner-up BMJ Award 2017
Finalist HSJ Award



Doctors' Assistants:

- 44% doctors' time on admin
- 61% exception reports on tasks
- 84% tasks speed patient flow
- 2 transport refusals without them (no paperwork)
- Two-week induction

Job Description on www.scarlettmcnally.co.uk

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Clinical leadership team
of the year finalists 2017

PILOT OF DOCTORS'
ASSISTANTS



Like a Formula One team (Eastbourne)



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Also me...

- 2018: Cardiac amyloidosis + Myeloma
- 2019: Electric-cycle!
- 2020: Stem Cell Transplant
- 2021: Hip replacement



What can you do today?



<https://www.gov.uk/government/news/the-highway-code-8-changes-you-need-to-know-from-29-january-2022>

DRIVERS:

- If you cannot give 1.5 metres (5 feet) DO NOT OVERTAKE

CYCLING:

- ride in the centre of the lane in slower-moving traffic and approaching to junctions or road narrowings

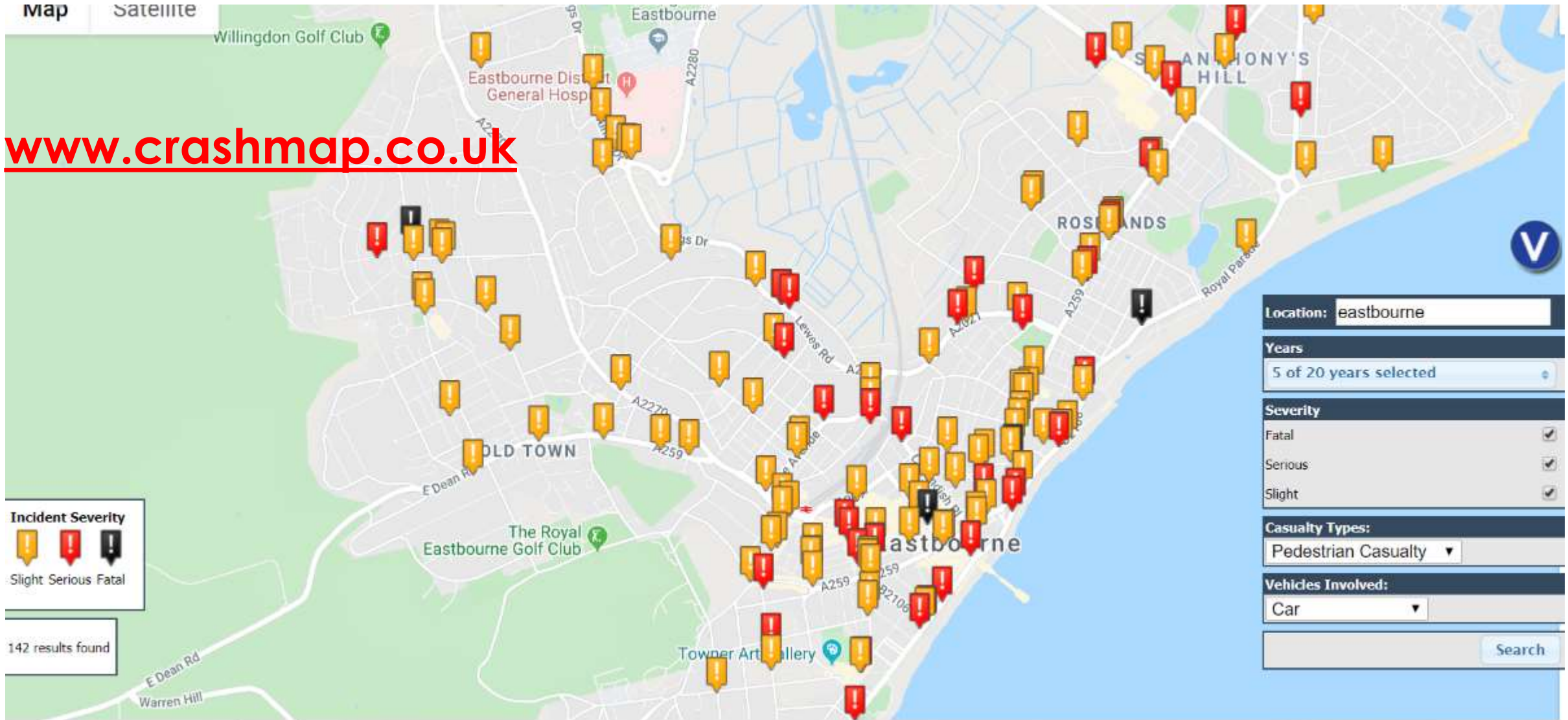


1.5metres = height of one short surgeon

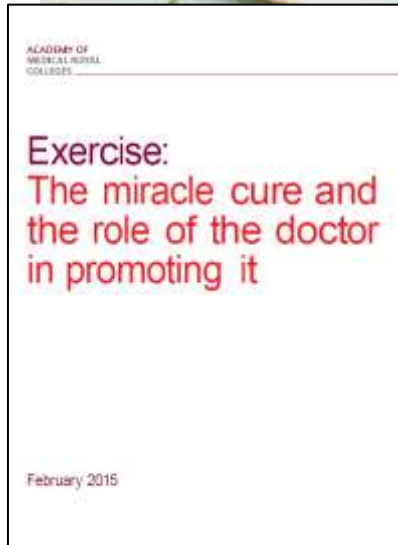
“Why are you driving so slowly mummy?” “Well there isn’t enough space to overtake because there’s traffic coming the other way and that person on a bike might get scared. Anyway, we’ll catch up at the next traffic jam”

142 Pedestrian casualties hit by car in 5 years

More active travel & fewer motor vehicles would reduce collisions / injuries



Lots of wins, eg Sustainability = REDUCE, reuse, recycle



- Fewer operations
- Fewer complications
- Shorter stays
- Less ill-health

- Sustainability
- Patient empowerment
- Less Pollution
- Better team-working
- Poverty (car costs)
- Collisions

Summary

- Exercise at 150 minutes per week reduces the risk of dementia, diabetes and depression by 30%
- Exercise helps common conditions
- It needs to be in a schedule ACTIVE TRAVEL is best
- We can't afford not to

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www.movingmedicine.ac.uk





www.scarlettmcnally.co.uk



www.medicalwomensfederation.org.uk



My articles



Centre for
Perioperative Care www.cpoc.org.uk



WHY?

WHO? value every person

HOW?

<https://www.bmj.com/search/advanced/mcnally>