

## Environmentally Sustainable Primary Care

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### Quiz 2

1. Which one of the following is the reduction in emissions when switching from a car to a bike for short journeys?
- A 33%
  - B 50%
  - C 65%
  - D 75%

Answer **D** 75%

There are some emissions related to the creation of the bike, and bikes though much, much gentler on the road than heavier vehicles like cars do have some need for infrastructure ... so are not totally carbon free! + some impact on calories of food consumed...

Chapter 1 p3

2. You should do which one of the following?
- A What brings you joy
  - B What needs doing
  - C What you are good at
  - D A combination of two or three of these

Answer **D**

Aiming for the overlap of all three is ideal; but it is important, and it is a good exercise to think about how we can be effective in these terms. BUT at the same time, it may be more important to do something than to do the perfect thing!

Chapter 1 p5

3. The carbon footprint of the NHS as a proportion of the total UK carbon footprint is which one of the following?
- A 0-1%
  - B 2-3%
  - C 4-5%
  - D More than 6%

Answer **C**

4-5% footprint (globally, the figure is about 5%). This is a significant proportion of our national footprint. Chapter 1 p11

4. The UK is one of the world's most nature depleted countries? **True or false?**

Answer **True.**

The UK is one of the world's most nature-depleted countries. There is poor biodiversity even in areas like our national parks which unlike national parks in many countries have little regulation of what agricultural chemicals can be used, or active promotion of biodiversity. Chapter 1 p12

5. **True or false.** When considering wearing gloves when working with patients, which one of the following is true?

- A It discourages handwashing which can increase the transmission of infection
- B it is always a great way to reduce transmission of infection
- C It's a matter of choice and the environmental impact is not an appropriate consideration when deciding when to use them
- D It's appropriate as it gives a clear message to patients that you respect the importance of preventing disease transmission whether body fluids are likely to be touched or not

Answer **A**

Glove wearing reduces hand washing which can increase transmission of infection. (Because people feel safe with gloves on. they are more likely not to change gloves appropriately.) Appropriate use of gloves will help reduce transmission of disease but indiscriminate or thought free use may have the opposite effect. It is appropriate to look at all healthcare through different lenses, these lenses might include patient choice, financial considerations, environmental consideration and community implications. Chapter 2 p15

6. Which of the following are true about dental amalgam?

- A 95% of UK dental amalgam is collected through separator technology
- B The mercury in amalgam is not dangerous and so there is no need to collect this
- C As of 2024 it is not used in UK as Resins have replaced it for fillings
- D It is responsible for one third of dental practice environmental impacts

Answer **A**

It is a legal requirement that amalgam is collected in the UK, though not in all countries. There continue to be times when dental amalgam is the most appropriate material for use in fillings. Though the evidence for safety of amalgam in fillings is good there is a risk of breakdown in other environments.  $\frac{2}{3}$  of the environmental impact of Dentistry comes from travel and use of amalgam (and resins) makes up only a small part of the remaining impact. Chapter 2 p17

7. In the UK which proportion of all prescribing is carried out by Primary Care?
- A 15%
  - B 25%
  - C 50%
  - D 75%
  - E 88%

Answer **D**

Most (75%) prescribing takes place in primary care. Chapter 5 p55

8. Studies suggest that the adverse effects of medicines are linked to what proportion of UK hospital admissions?
- A 33% About 1 in 3 admissions
  - B 18% Nearly 1 in 5 admissions
  - C 14% Approx 1 in 7 admissions
  - D 11% Around 1 in 9 admissions

Answer **B**

18% or about one in five hospital admissions Chapter 5 p 55. A different study quoted in chapter 7 suggests prescribing in primary care accounts for 34% of clinically significant medication errors in the NHS. Overall medication related harm contributes to over 1700 deaths and 180,000 bed days annually

9. **True or false.** Regarding a community pharmacy which of the following is or are true?
- A The acceptance of medication which is expired or unwanted by the patient by a community pharmacy is a contractual obligation
  - B Once a medication has left the pharmacy it cannot be accepted back and supplied to another patient even if unopened
  - C Community pharmacists must accept back Metered Dose inhalers and other medication even if they are from a different or online pharmacy
  - D Community pharmacists are only obliged to accept back Metered dose inhalers

Answer True **A, B, C**

Community pharmacies must accept all unused or unwanted medication and ensure that they are safely disposed of. This includes medication from hospitals or online or other local pharmacies. Pharmacies are expected to check all medications with the patient before dispensing them as once they are opened or taken out of the pharmacy the pharmacy is not allowed to accept them for use. An informal survey showed only 16% of patients knew that returning their inhalers to the pharmacy was the most environmentally friendly way to dispose of their inhalers; however, 96% said they would be happy to do so. Chapter 5 p60

10. What proportion of the carbon footprint of medicines is related to the manufacture of the Active Pharmaceutical ingredient?
- A 20%
  - B 40%
  - C 60%
  - D 80%
  - E 90%

Answer **D**

80% of the carbon footprint is manufacture of the active drug, with 5-10% for transport and a similar amount for plastic and packaging. Chapter 5 p65

11. Match the outline history with the diagnosis for the following cases.

|   | History  | Diagnosis  |
|---|--|--|
| A | 56y woman returning from southern France with fever<br>Malaise & Rash  | Dengue Fever   |
| B | 80y man with transient one-sided weakness and<br>slurred speech in a heat wave   | TIA/ CVA triggered by<br>climate change                    |
| C | 30y woman with poor sleep, poor concentration and<br>angry outbursts   | PTSD in an asylum seeker                                   |
| D | 60y male agricultural labourer with a scalp issue  | SCC due to sun exposure                                    |
| E | 30y non-smoking woman with haemoptysis working in<br>a hostel  | TB   |
| F | 56y man who use to be a front-line construction<br>worker in the Gulf who is now tired persistently and<br>whose skin colour has changed | End stage renal failure<br>due to recurrent<br>dehydration |
| G | 56y man on an SSRI for mild depression who has<br>never been offered CBT. counselling or Green/ Blue<br>prescriptions                    | Erectile dysfunction                                       |

(Answers correct in table above) Chapter 6 (multiple pages!)

12. Which of the following have been shown to reduce the risk of AF?
- A A 10% reduction in weight for those who are obese
  - B Controlling Obstructive Sleep Apnoea
  - C Stopping consumption of alcohol
  - D Smoking cessation
  - E Regular participation in yoga

**All** can reduce the risk of development and recurrence of AF. Chapter 6 p83

13. Medications can be an enormous power for good but can also cause harm, especially as polypharmacy starts. For every extra medication a patient receives the risk of medication error increases by how much?
- A 2%
  - B 4%
  - C 8%
  - D 16%
  - E 32%

Answer **D**

Chapter 7 p92

14. **True or false.** Antibiotic prescribing is a challenge in primary care with pressures to ensure that nobody with sepsis is ever missed and also pressure to reduce prescribing as part of reducing antimicrobial resistance (+ financial costs + environmental harms). Which of the following is/are true?
- A Primary care prescribes over 70% of NHS antibiotics.
  - B Primary care prescribes less than 50% of NHS antibiotics
  - C Delayed prescriptions achieve lower rates of antibiotics use compared to immediate scripts but not by much (85% vs 93%)
  - D Delayed prescriptions achieve significantly lower rates of antibiotics use compared to immediate scripts (30% vs 93%)
  - E in a systematic review of RCTs in non-pregnant women with UTI 62% treated with antibiotics had complete resolution and 26% with no antibiotic had complete resolution

Answers True: **A, D, E**

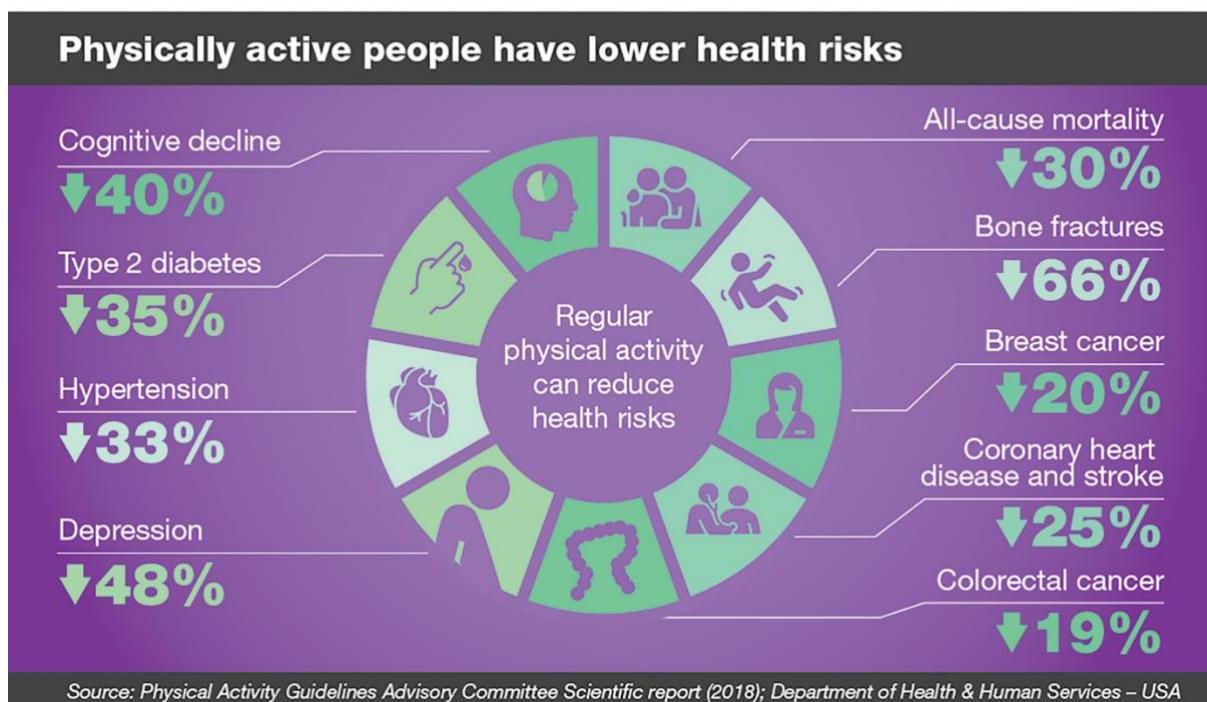
If patients receive antimicrobials and get better, those patients and the clinicians looking after them will think the antimicrobials were responsible for the improvement. However, about a quarter of patients would have gotten better without an antibiotic. In most cases, managing a lower UTI will require antibiotic treatment, but this is not obligatory. Shared decision aids can help women make their own choice about whether to start an antibiotic straight away or to wait 48 hours to see if the symptoms get better on their own.

Chapter 7 p 98-99

15. Physically active people have lower health risks. Match the condition with the % reduction in risk according to Public Health England

|                     |     |
|---------------------|-----|
| Cognitive decline   | 19% |
| Type 2 diabetes     | 25% |
| All-cause mortality | 20% |
| Bone fractures      | 35% |
| Colorectal cancer   | 66% |
| CHD and stroke      | 40% |
| depression          | 48% |
| Hypertension        | 33% |
| Breast cancer       | 30% |

Answers below



p119 chapter 8

16. **True or false.** For each of the following statements, relating to energy use in primary care practices, identify which are true and which are false
- A Energy use is between 10-40% of a practice's non clinical carbon emissions
  - B Gas boilers are (depending on age) normally 60-75% efficient
  - C It is normally better for the environment to keep running two small fridges than one new bigger efficient one.
  - D It is possible to reduce the electricity bill in some GP practices by 30% by behaviour change and without buying new equipment
  - E If items are not being used, it still matters if they are plugged into the mains and the plug is switched on
  - F The efficiency/convenience for patients of each clinician having their own printer means that all consulting rooms should have their own printer

Answer True **A, D, E**

Gas boilers are 80-90% efficient, electric heaters 100% and ASHP about 300% efficient. The number of pieces of equipment used can make an enormous difference to electricity bills. Better fewer fridges through buying a new, more energy efficient one normally. It is possible to reduce by up to 30% the amount of electricity a practice uses by turning off equipment and reducing the number of items of hardware that are used and other behavioural changes. (i.e. without tech changes or solutions). A reduction of 37% in electric use is achievable through switching off at the wall rather than leaving things on standby or fully on. Centralised printing can result in significant energy use gains (and can result in cheaper printing too) Chapter 10 p140- 147

17. Considering all UK Greenhouse emissions how important is travel (including air travel) as a proportion of the total?
- A 5% (same as the health sector)
  - B 10%
  - C 21%
  - D 34%
  - E 43%

Answer **D**

34% which makes it the largest emitting sector and road transport is responsible for the majority of this. Chapter 11 p162

18. What proportion on average of a child's daily intake/exposure to air pollution is on the school run?
- A 30%
  - B 45%
  - C 60%
  - D 90%

Answer **C 60%**

Air pollution is a massive social injustice; those who are least well off and already most at risk of these conditions live in the most polluted areas. Chapter 13 p198

19. **True or false.** The ocean is a powerful regulator of our environment but how big an influence does it have? Which of the following statements are true?
- A Carbon stored in the ocean and marine ecosystems ('blue carbon') is 30 times that stored in soils
  - B 3 billion people depend on the marine ecosystems for their livelihoods
  - C 65% of all living organisms are in the ocean
  - D Marine cyanobacteria have produced 87% of the planet's oxygen
  - E 55 % of the world's climate regulation is from oceans

Answer True **B and D**

Blue carbon storage is 50-100 times that of soil; and a staggering 80% of all living organisms are ocean based. 70% of climate regulation is attributed to oceans. Chapter 14 p 206-9

20. What proportion of NHS plastic waste was from packaging?
- A 5%
  - B 25%
  - C 50%
  - D 65%

Answer **C**

Though it is important to recognise that this figure does not include microplastics which will be generated through travel directly or indirectly for the NHS and along with macroplastics cause harm to water linked environments Chapter 14 p 213

21. **True or false.** Which of the following statements is or are true?
- A Almost half of the world's land is agricultural
  - B Almost half of agricultural land is used to grow crops
  - C Livestock contributes about 18% of human calories
  - D Livestock raising accounts for half of antibiotic use globally
  - E Animal based agriculture is responsible for 28% of global greenhouse gas emissions

Answers True **A and C**

77% of agricultural land is used for livestock, livestock raising is associated with two thirds of global antibiotic use and is responsible for 18% of greenhouse emissions. Chapter 15 p 222

22. Eco-distress or Eco-anxiety is common (a survey suggested 78% of participants were affected). Which of the following are appropriate responses to this?
- A Joining with others to work to develop positive visions of the future
  - B Taking time for regeneration when we are struggling
  - C Practising gratitude for ourselves, the people around us and the natural world
  - D Keeping up to date with solutions focused visions of the future
  - E Allow space to process distress and time to shut off from it

Answer **All True.** Chapter 19 269-70