

Elements of the public health curriculum have been taken and linked to learning objectives related to priority learning outcomes suggested by the sustainable healthcare education network. Below each learning objective are examples of short discussion points or activities that could potentially be integrated within an existing teaching session addressing the linked public health area.

Health Promotion and Disease Prevention

1.

Public Health Curriculum Point	Sustainable Healthcare Learning Objective
Define health, and describe the key influences on health	Demonstrate an understanding of the natural systems underpinning human health

- Introduction to wider determinants of health – compare responses if primer is ‘in the UK’ compared to ‘in the developing world’ to demonstrate that we take a lot of underlying natural resources for granted.
- What are ‘ecosystem services’? land, water, air, stability in environment – allow production and consumption of oxygen, nutrients, other materials.

2.

Explain the relevance of work and the wider environment to health and disease	Recognise the direct and indirect effect of ecosystem stress on human health
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- Introduce by facilitating a discussion of whether climate change is perceived as a health, environmental, or even a political issue.
- In small groups list as many likely health effects of climate change as they can (feedback split into direct and indirect effects, and those most likely to affect the developed versus developing world).

3.

Define the different levels of prevention, and where they are encountered in clinical and public health practice	Define the terms adaptation and mitigation and their relevance to different levels of prevention To understand the concept of co-benefits in relation to encouraging health promoting behaviours
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- Ask the students to come up with a list of what they think are current crises in healthcare – eg chronic diseases (diabetes, obesity, CV disease), aging population, public expectations, financial crisis, antibiotic resistance, climate change.
 - Are there any links that can be made between issues listed?
- Adaptation – introduce concept by asking what can / should be done by NHS to adapt to these problems
 - Could give small groups a more specific problem to ‘adapt’ to – eg in charge of developing a hospital’s emergency response plan (eg to severe heatwave / drought / flooding / snowstorms)
- Mitigation and health co-benefits: relate to ‘primary prevention’
 - Groups can split between:
 - Listing carbon reduction strategies they have heard of – which of these might have a positive impact on patient or population health?

- Listing public health measures they know of – which of these might have a positive impact on carbon reduction?

4.

Describe the specialist areas in which practitioners carry out health promotion, and appreciate the doctor's role in health promotion.	To articulate his or her own values and principles in relation to sustainability. To understand the doctor's responsibilities in relation to delivering sustainable healthcare: -as a decision maker committing resources at the point of care - as a team manager and a leader of public opinion
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- Do doctors have responsibilities to communities and populations or only to individual patients? – could split into 2 groups and ask to come up with arguments for one side or the other
 - Are these arguments affected if you extend the population past the borders of our own country?
- Recognition that health promotion may cause tension with concepts of free will
 - Could split into pairs and role play a consultation – doctor trying to convince unwilling patient to change lifestyle.
 - Show newspaper reports / comments on health related articles? – media and public opinion as a barrier to change. Should doctors be involved in trying to change this?
- Ask what the students think is the biggest carbon producing activity in the NHS.
 - Eg energy, procurement or travel? A: procurement
 - Pharmaceuticals is the biggest chunk of and clinical activity drives the vast majority of the carbon footprint.
 - Can the students think of any examples or preferably ideas about how changes in clinical practice (perhaps in an area of medicine of their own interest) have or might improve clinical outcomes, reduce cost, and reduce environmental impact?
 - Eg advanced care planning at the end of life, telemedicine, avoiding unnecessary clinic visits, antibiotic stewardship, specialist nurses, patient support groups.

Health Services

5.

Define and discuss the concepts of need, demand, and supply in relation to population health services	To recognise how rising demand for healthcare is putting strain on both point of care services and the global ecosystem Define the concept of sustainability
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- Compare graph showing rise in healthcare spending with similar graph showing increasing carbon dioxide release – is this due to an increase in need or demand? Can demand ever be met?
- Definition of sustainability as development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs.' Brundtland Commission.

6.

Define and discuss the concepts of equity, equality, opportunity cost, QALY, DALY	To discuss concepts of equity and equality in a global context To understand how climate change will exacerbate global inequality
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- Show figures demonstrating global health inequality eg malaria distribution, child mortality
 - Should tackling global inequality be part of the medical profession's remit?
- Show figures comparing the responsibilities of rich countries in causing climate change with one showing the burden of climate change
 - Does the fact that rich countries are actively causing harm (as opposed to just not helping) make any difference to our responsibilities?
- If you were drawing up a list of the minimum resources that every person should realistically be entitled to – what would be on it?

7.

Compare the main characteristics and measures of key types of economic evaluation.	To understand environmental indicators and how they may be applied in healthcare management
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- Discussion of 'carbon footprint'
 - What are the benefits and limitations
 - Problems with capturing 'sustainability' within a cost benefit analysis type assessment
- Do the students think measures of sustainability should be included in evaluations of services?

8.

Outline the funding of the NHS, justify how decisions on health policy and resource allocation are made at national and local levels, and describe the public health role in this	To discuss how carbon as well as capital could be seen as a scarce resource to be allocated To understand that doctors working in the NHS share their institution's legal duty to reduce greenhouse gas emissions 80% by 2050 (Climate Change Act 2008)
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- Show figure containing forecast and target CO2 emissions up to 2050
- How might climate change mitigation both reduce and exacerbate health inequalities? – get students to list.
 - Emphasise how the most vulnerable in our society are most at risk from both the changing world and unwanted side effects of efforts at mitigation.
- Include 'carbon footprint' in the information alongside monetary cost in an exercise allocating a healthcare budget – did these footprints affect the students' decisions? How did they include it in their decision making?
- How might these goals be achieved? Show the slide demonstrating the 4 key aspects of sustainable healthcare, then ask the students to come up with some ideas of their own as to how these aspects might be improved a) on a general medical ward b) in an operating theatre.