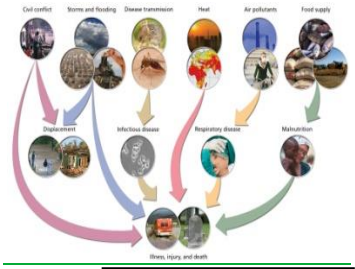
Sustainability...keeping Green, Lean & Keen.

A presentation by Harriet Dean-Orange

The aim of this presentation is to introduce why sustainability is so important in our hospitals and to explain that together, simple and easy changes to the way we do things can save considerable money and help towards a greener Earth. For ourselves, other nations and future generations, we must start or continue making changes.

Being sustainable means being > able to be used without being completely used up or destroyed.
> involving methods that do not completely use up or destroy natural resources.
> able to last or continue for a long time. (Merriam-Webster 2016).



Borowski. Climate Communication 2016

WHY MUST WE SUSTAIN?

The Climate Change Act (2008) states a target by 2050, carbon emissions must decrease by 80% of that in 1990. This is law and the Secretary of State has a duty to do with in their power, what they can to achieve this. However, it is not the job of one person alone of course and I believe the duty of humanity.

Climate change is a health issue, as well as an environmental one. Dr Margaret Chan, Directing General of WHO (World Health Organisation) expresses her opinion that 'For public health, climate change is the defining issue for the 21st century. The health effects of climate change are right before our eyes, well-known, measurable, scientifically documented, and daunting.'. The diagram opposite shows direct effects of environmental issues and how they directly affect certain areas of human health. It is known, that extreme weather events caused by global warming have an extreme effect on people's health. The UK Heath Alliance on Climate Change says that extreme weather events like flooding and heat waves pose direct risks to people's heath and systemic threats to hospitals. They call upon the Government to bring forward action plans to ensure the public and healthcare systems are able to respond to this crisis.

First we must understand, in relation to our hospitals, how we contribute towards the planet's carbon footprint. The Sustainable Development Unit describes hospital carbon footprint as emissions from building energy use, travelling to and from sites, goods used, services provided and purchasing/procurement. In relation to operating theatres, sustainability and environmental awareness should play a big part of day to day working. The Carbon Footprint Update for NHS 2012 tells us that 'anaesthetic gases are potent greenhouse gases with between 130-2000 times more the impact on global warming cared with the same weight of CO dioxide gas'. It also tells us that these anaesthetic gases alone equate for a whole 2% of the NHS' carbon footprint annually.

Gundersen Health Care in America tell us that operating theatres are notorious for being wasteful. So with this in mind, why is being wasteful an accepted practice? Judge (2013) states 'Identifying cost savings is critical to the public sector, be that through reducing costs from energy efficiency, reducing waste through better education or by treating waste in a more cost-efficient manner.'

The information and supporting evidence is there. Now it's time for a change.

HOW CAN WE SUSTAIN?

The WHO (2009) suggests a consideration into the '7 Elements of a Climate-Friendly Hospital'. These are some guidelines relating to how we can improve the sustainability level of our hospitals. Consideration can be taken into the following 7 areas...

- ✓ **Energy efficiency** Reduce hospital energy consumption and costs through efficiency and conservation measures.
- ✓ **Green building design** Build hospitals that are responsive to local climate conditions and optimized for reduced energy and resource demands.
- ✓ **Alternative energy generation** Produce and/or consume clean, renewable energy onsite to ensure reliable and resilient operation.
- ✓ **Transportation** Use alternative fuels for hospital vehicle fleets; encourage walking and cycling to the facility; promote staff, patient and community use of public transport; site health-care buildings to minimize the need for staff and patient transportation.
- ✓ **Food** Provide sustainably grown local food for staff and patients.
- ✓ **Waste** Reduce, re-use, recycle, compost; employ alternatives to waste incineration.
- ✓ **Water** Conserve water. Only use bottled water when no other safe option.

Barts NHS Trust has adopted Operation TLC. The idea is to turn equipment off when not in use, lights off where possible and close windows and doors. They have reported 33% fewer patient sleep disruptions. 25% fewer privacy intrusions. 1,900 tonnes CO2 saved annually and £428,000 saved in energy bills annually. By introducing their '20:20' initiative, they aim to be more sustainable still by 2020, involving the Trust, Community and NHS.(Barts 2013).

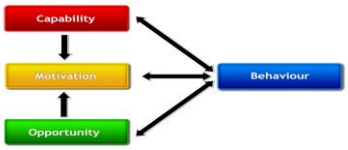
Nottingham University Hospital specified new ethical and sustainable standards for their food supplies in 2003. Since then they are continuing to do so stating 'If we can do it, everyone can'.

The Dialysis Unit of Queen Margaret Hospital, Fife reduced their clinical waste by 21.5 tonnes annually, saving them £14,907 and cutting their CO2 contributions by 26.847 tonnes annually. All this was possible due to recognising their haemodiafiltration machines required less saline than already being used and a big unit drive to in waste management. (NHS Fife).

The Theatre Department at The Royal Sussex County Hospital has adopted some simple steps to cutting costs and becoming 'greener' for 2016. For example, by replacing under filled large waste bags with smaller ones, means cutting down on plastic and waste removal costs. Also, by banning polystyrene cups and plastic cutlery for staff means a saving in approximately £9,000. (Not including waste removal costs). Also, by encouraging surgical hand preparation to be carried out with alcohol preparations, water usage, water waste charges and electricity costs for heating the water is all cut down. They hope to see further successful ideas and money saving improvements made.

What problems are faced?

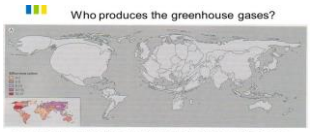
Changing behaviours in heath care has historically been difficult. One of the biggest challenges in nursing is how to achieve change and tap into the creativity of nursing staff. Nursing has a long tradition of acceptable behaviours, often called rituals (Kalisch, 2007). These 'nursing rituals' might be perceived as to what is standing in the way of departments being more sustainable. Perhaps a lack of belief in the evidence of climate change, or the attitude of not having time to contribute.



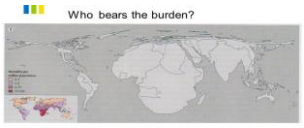
This behaviour change model suggested by Michie et al (2011) shows that if just one aspect of the model is not present, then behaviour change will not be possible. If the opportunity, motivation and/or capability are not possible, workers will not engage.

Ethical Implications.

Heath care workers can make changes and show consideration into becoming more sustainable, but is the job finished there? Educating ourselves into the more ethical aspects of procurement is often over looked but shows to have some shocking findings. 'In Good Hands' (2016), a report looking into tackling labour rights in the manufacture of our medical gloves, highlights some extremely serious conditions people in other countries are working in to provide our country's medical equipment needs. In this modern day, can we hold our hands up and allow this to continue? Looking into an ethical way of making and supplying gloves and all equipment must take precedence in regards to ethical practice. The Lancet shows us in the two maps below who creates the World's greenhouse gases but geographically 'who bears the burden'. This startling visualisation shows other's suffering as a consequence of life style from other parts of the world. I propose that because people don't feel directly affected by environmental issues, they don't realise this reality.



The world map reflecting production related to climate change.
'Climate Change presents the biggest threat to health in the 21st Century' The Lancet (373:9697 pp 1659-1734, May 16-22 2009).



The world map reflecting mortality related to climate change.
'Climate Change presents the biggest threat to health in the 21st Century' The Lancet (373:9697 pp 1659-1734, May 16-22 2009).

Barts Health NHS Trust. 2013. Operation TLC–Research Summary. Sustainable Development Department. www.sdu/health.org.uk/ ../Barts%20TLC%20Jun%202013/Barts_report_summary_TLC [13 April 2016]

Borowski. 2016. Climate Communication. Science and Outreach. www.climatecommunication.org/affects/human-health/. [18 April 2016]

Bhuta, M and Santhakumar,A. 2016. In Good Hands. BMA. www.bma.org.uk/ingoodhands [1 May 2016]Chan, M. 2016. Climate Change is the Defining Issue for Public Health in the 21st Century. Climate and Clean Air Coalition. www.ccac.coalition.org/en/news/who-director-general-climate-change-defining-issue-public-health-21st-century. [13 April 2016]

Climate Change Act. 2008. 2008c.27-Part 1-The Target for 2050-Section 1. The National Archives. www.legislation.gov.uk/ukpga/2008/27/section/1. [8 April 2016]

Gundersen Health System. 2016. Envision Gundersen Health System. http://www.gundersenenvision.org/waste-management/creating-a-more-sustainable-environment-in-the-operating-room. [1 May 2016]

Judge, A 2013. The NHS is losing it's battle with the costs of waste disposal. QCR Recycling Equipment. www.qcr.co.uk/news/nhs-waste-disposal. [1 May 2016]

Kalish, B. 2007. Don't like change? Blame it on your strategic style. RNL Reflections on Nursing Leadership. Vol.33(3) www.reflectionsonnursingleadership.org/-Pages/vol33-3Kalish.aspx [16 April 2016]

Merriam-Webster. 2016. Merriam-Webster's Dictionary. Merriam-Webster Since 1828. http://www.merriam-webster.com/dictionary/sustainability [13 April 2016]

Michie et al. 2011. The COM-B system - a framework for understanding behaviour. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Biomed Central, The Open Access Publisher. 10.1186/1748-5908-6(42) http://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-6-42

NHS Fife. 2012. Reducing Waste in the Dialysis Unit, Queen Margaret Hospital, Dunfermline. Centre of Sustainable Health Care. www.sustainablehealthcare.org.uk/nhs-fife/reducing-waste-dialysis-unit-queen-margaret-hospital-dunfermline. [1 May 2016]

NMC. 2015. NMC Code of Conduct. 4 Act in the best interests of people at all times.www.nmc.org.uk/standards/code/read-the-code-online/ [1 May 2016]

Nottingham University Hospital. 2002. BMA. Good Ethical Procurement, Case Studies. http://www.bma.org.uk/working-for-change/international-affairs/fair-medical-trade/tools-and-resources/case-studies [1 May 2016]

Rozzouk, A. and Phillips, G. 2013. The carbon markets are dead, long live the carbon markets. Ecologist. http://www.theecologist.org/News/news_analysis/1847173/the_carbon_markets_are_dead_long_live_the_carbon_markets.html. [13 April 2016]

Sustainable Development Unit. 2013. Working accross the NHS, Public Health and Social Care System. Carbon Footprint update for The NHS in England 2012. www.sdu.nhs.uk/corporate-requirements/measuring-carbon-footprint/nhs-carbon-footprint.aspx [13 April 2016]

The Lancet. 2009. Managing the health effects of climate change. **Lancet** and University College London Institute for Global Health Commission. Volume 373 (9676), p1693–1733. http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60925-1/fulltext?_wventdl=login. [16 April 2016]

The UK Health Alliance. 2016. NHS is unprepared for risks posed by climate change, warn leading UK health bodies. The BMJ. 2016;352:i1781. http://www.bmj.com/content/352/bmj.i1781 [1 May 2016]

World Health Organisation. 2009. Healthy hospitals, healthy planet, healthy people: Addressing climate change in healthcare settings. www.who.int/globalchange/publications/healthcare_settings/en/. [10 April 2016]

Personal learning and reflection.

As a recycling enthusiast and someone who is highly aware of climate change, I have found this project extremely interesting. As a nurse, I feel I certainly have a duty within my role to encourage and support any sustainable practice within my work place, as I would do at home. The NMC Code of Conduct states that 'Nurses must act in the best interests of people at all times' (Clause 4, NMC Code of Conduct 2015). I read this and truly believe that this can be applied to a bigger picture, including considerations into climate change and being resourceful. With a certainty of fossil fuels and resources becoming used up in our near future, we, as a work force, have a duty to preserve our ability to provide care for the ill. With this, the time is NOW to awaken other nurses and healthcare workers to becoming more sustainable.