INTEGRATING CLIMATE CHANGE THROUGH SERVICE LEARNING IN DENTAL EDUCATION PROGRAMMES

The dental education programme at the University of Manchester integrated community-engaged learning and supports initiatives that help mitigate climate change.

The University of Manchester utilised service-learning (SL) to embed climate education into its dental education programme through undergraduates working with local communities in outreach clinics and providing dental treatments as well as initiatives focusing on sustainability and climate interventions. This not only allowed undergraduate dental students to gain valuable patient care experience and to further their competencies under real-world conditions, but also bolstered climate education.

Drivers for this initiative included the visionary agenda for the future presented in the University of Manchester Strategic Plan 2020 (2015) which detailed five strategic priorities for social responsibility: research with impact, responsible graduates, engaging our communities, responsible processes and environmental sustainability. A key component of the plan is to mitigate the effects of climate change across these priorities.

The NHS Sustainable Development Strategy (2014) was another driver for going beyond the immediate demands of the dental curriculum to provide opportunities to our students and staff to explore oral health concerns and the link to sustainability and climate change. For instance, workshops were organised focusing on increased air pollution and the prevalence of asthma (patients with asthma have an increased risk of tooth decay and gingivitis) and the importance of recognising lip cancer as patients exposure to ultraviolet radiation increases with an increased frequency of hot summers in the UK.

The third driver was the policy statement 'Dentistry and Sustainability' adopted in 2017 by the General Assembly of the World Dental Federation, emphasising that dental professionals should, whenever possible, lessen their environmental footprint by reducing "the consumption of energy, water, paper and any materials which could be harmful to the environment, as well as emissions to air and releases to water." For instance, by installing energy-efficient appliances (e.g. sterilizers) to reduce energy-related carbon emissions from dental clinics.

"The NHS needs a workforce with a range of skills to support its objective of reaching net-zero emissions, which includes students understanding green procurement, energy management, waste management and social inclusion."

KEY HIGHLIGHTS

- **Enriching the dental curriculum** at the University of Manchester with service-learning and additional sustainability and climate-related initiatives is beneficial to both students and local communities. This should lead to better patient care in the future and lower the carbon and environmental footprint of dental practices.
- **Student feedback shows** that the service-learning programme helped to build student confidence in skills and understanding of their role in total patient care and the increased understanding of how climate change links to oral health concerns.
- **Co-curriculum initiatives created opportunities** for students to explore environmental sustainability and climate education, building a greater commitment to making dental clinics low-carbon and more environmentally friendly later-on in their professional career.

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Thus, all year 4 and year 5 dental students at the University of Manchester Division of Dentistry were given opportunities to work at dental outreach clinics – community partners - often located in deprived and low-income areas. This service learning created a mutually beneficial relationship between the students and local communities. It allowed the students to apply their disciplinary knowledge to address real-world challenges and to explore a greater number of dental care interventions, such as tobacco cessation advice, thus having a positive impact on people's lives and a positive reduction in the amount of cigarette butts/nonbiodegradable filters discarded each day. Another initiative focussed on a promotion of the Environmental Toothbrush with bamboo handles during the tooth brushing advice sessions with members of the local community.

Keen students facilitated additional projects and initiatives that encouraged their peers to explore how to develop into sustainability conscious professionals embedding climate change mitigation actions into their work.

KEY FACTS ABOUT THE INSTITUTION

Institution name	University of Manchester
Location	Manchester, UK
Number of students (total for institution)	40,000
Number of staff (total for institution)	10,000
Campus type	City Centre

KEY FACTS ABOUT THE CASE STUDY

University or department led:	Department led
Number of staff engaged:	5
Number of students engaged:	850+
Credit-bearing:	It can be used as a credit bearing assessment, the cases and projects have also been used as a source of inspiration for final-year portfolios/projects.
Mandatory or optional:	Both
External partners:	– Manchester Community Dental Service in Moss Side, Harpurhey, Wythenshawe and Ordsall – Newton Health Dental Service – Cornerstone Dental Service – Pendleton Gateway Community Dental Service
Engagement approach used:	– Individual engagement – Fieldwork examples are drawn from community-based dental experiences

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More info: www.bmh.manchester.ac.uk/study/dentistry

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