



Planetary Health Report Card (Dentistry)

King's College London



2023-2024 Contributing Team:

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Summary of Findings

Overall	B-
<u>Curriculum</u>	C+
<ul style="list-style-type: none"> The SDG's, sustainability, planetary health topics and volunteering are introduced and integrated longitudinally into the dental curriculum from an early stage. The curriculum moderately addresses sustainability and climate change, with expert internal and external speakers being brought in for the Clinical Humanities module. There are pre-reading materials and reading lists available. King's College London also provides a Sustainability module for all students. Recommendations: The King's College London BDS new curriculum was launched in 2020, so no students have yet sat the BDS5 course in which planetary health, sustainability and climate change are one of the main focuses of the Clinical Humanities module. There is however room for more sustainability focus throughout the dental programme. This score should be revisited following next year's course to see if the new curriculum is meeting and improving the curriculum score. 	
<u>Interdisciplinary Research</u>	B+
<ul style="list-style-type: none"> King's collaborates in many interdisciplinary and interuniversity planetary health projects including the Medical Research Council (MRC) Centre for Environmental Health. The Faculty of Dentistry, Oral and Craniofacial Sciences (FoDOCS) has participated in international research conferences. Recommendations: With a variety of leading research taking place within King's, we suggest incorporating projects from these research groups within our student selected components and research projects. 	
<u>Community Outreach and Advocacy</u>	D+
<ul style="list-style-type: none"> FoDOCS has minimal engagement with the public regarding planetary health and sustainable healthcare. There is a student-led society which has public facing social media information regarding sustainable healthcare, but this is promoted to students and clinicians. Recommendations: The faculty could include information regarding sustainable oral healthcare on the information leaflets which are given to patients. There could also be more information on the King's College London website regarding sustainable practices in oral healthcare and encouragement of the associated hospital trusts to include more planetary health information for patients to improve community awareness and student empowerment for advocacy. 	
<u>Support for Student-Led Initiatives</u>	C-
<ul style="list-style-type: none"> FoDOCS has endorsed the student-led society and provides students with the opportunity to undertake supervised research. The Clinical Humanities module provides opportunities for student-led volunteering. However, this module may provide further opportunities, and so this score may be revised next year. Recommendations: The Dental Student Council could include a new position dedicated to overseeing FoDOCS sustainability and planetary health teaching and faculty could provide further information to students regarding research, publications, and student conference opportunities. 	
<u>Campus Sustainability</u>	A+
<ul style="list-style-type: none"> FoDOCS have made active efforts and worked with King's to improve the sustainability of the campus. Recommendations: If possible, a designated dental staff member and student sustainability champion could be introduced to implement these aims and increase awareness further. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Report Card is a metric-based institutional advocacy tool created by The Planetary Health Alliance (<https://phreportcard.org/about/>) for evaluating and improving planetary health content in health professional schools. Further detailed information can be obtained directly from The Planetary Health Report Card Initiative, that includes the annual summary reports from participating institutions across the world (<https://phreportcard.org/>).

The Planetary Health Alliance describes planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment and our environment is changing rapidly and in disastrous ways. There is a growing concern among health officials and policymakers about the impact of declining planetary health on oral health. Climate change is not only detrimental to the physiology of patients, but the effects are also likely to impact the operations and effectiveness of oral health services. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many dental schools’ institutional priorities do not reflect the urgency of this danger to human health, including oral health.

As future oral health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients’ general and oral health. This preparation is in the hands of the institutions providing our dental training. It is imperative that we hold our institutions accountable for educating dental students about the general and oral health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable dental practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations these issues are inherently ones of equity and justice.

The Planetary Health Report Card (PHRC) seeks to increase planetary health awareness and accountability among health professional schools. The PHRC is tailored to different healthcare professionals: Medicine, Dentistry, Nursing, Pharmacy and Physiotherapy. This dental-student-driven PHRC initiative aims to audit the current status of planetary health awareness and compare dental schools nationally and internationally on the basis of discrete metrics in five main category areas:

- 1) Planetary health curriculum
- 2) Interdisciplinary research
- 3) Community outreach and advocacy
- 4) Support for student-led planetary health initiatives
- 5) Campus sustainability

At each participating institution, student-led, faculty-mentored teams fill out the report card, identifying opportunities for improvement and reaching out to relevant staff and faculty along the way. Results are published in an annual Earth Day report, which helps track institutional change over

time.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilization and the state of the natural systems on which it depends”. For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of dental school oral healthcare education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. Consensus-agreed learning outcomes and methods of teaching and assessment have been published at a European level (Field et al. 2023). These have been incorporated into the [Graduating European Dentist curriculum framework](#). Learning outcomes for Environmental Sustainability in Dentistry (ESD) have also been proposed by Joury et al. (2021) based on a review of the literature and adaptation of current learning outcomes in medical education:
 1. Describe concepts and definitions of climate change, carbon footprint and sustainability
 2. Discuss the importance of environmental sustainability for the health of patients
 3. Discuss the carbon hotspots of dentistry and how these can be modified
 4. Evaluate the overall environmental impact of clinical dentistry and how this can be improved through innovation.
 5. Appraise how future healthcare professionals can help shape a sustainable healthcare system, and the knowledge and skills (such as leadership), change management and co-production that they will require.
 6. Evaluate current literature and participate in research on sustainability in dentistry.
- **Dental School/College vs. University:** The term ‘dental school/college’ in the PHRC refers to the unit within an institution (University) that is responsible for the delivery of dental and allied oral healthcare curricula and programmes. In contrast, the term ‘institution’ in the PHRC refers to the University as the central organisation to which the Dental School/College

belongs. Any resource reasonably accessible by dental students, no matter where in the university the resource comes from or if it is specifically targeted for dental students, can meet this metric.

- **Elective:** The term ‘elective’ refers to an optional course, lecture series, intercalated work experience or similar that a dental student may elect to participate in. This can be either a part of the core curriculum or an intercalated period of ‘work/academic experience’. The significance of the term ‘elective’ may refer to either the choice of taking this additional course/study period or to the choice of the content, or both.
- **Outreach:** Also known under the terms of Clerkship (USA), internships or vocational education. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme. Students are placed in selected clinical practice settings that are geographically distant from the university’s main dental school/college or dental hospital (Davies *et al.* 2023). The purpose of an outreach programme is to provide the undergraduate dental students with a broader practice-based experience of oral healthcare provision. On occasion, outreach practices may focus on serving the needs of specific groups of patients.

Other considerations:

- If there are more than one “tracks” at your dental school with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples).

Instructions for Completion of the PHRC

This tool is composed of five categories, all with a similar question-and-answer style. Responders should answer each question as accurately as possible and provide justification for each score. In order to answer the questions accurately, it is anticipated that responders will need to seek input from students of different cohorts.

Each question should be answered by selecting one option from the list of four presented. These options are phrased in the appropriate context with the inclusion of the terms 'In-depth, Moderately, Briefly and Not covered'. These terms are defined as follows:

In-depth: A thorough understanding of the subject is achieved. Most of the suggested syllabus points and/or related topics are covered. The subject topics are covered in detail and in a meaningful and objective manner providing a comprehensive subject understanding. This may include a subject-specific module with substantial credits or incorporation of the subject in the existing curriculum at all levels and years of programmes. The subject topics are made relevant by being subject-specific (Example: The impact of service provision and patient carbon footprint is made relevant to the student by discussion as part of the 'Dental Public Health' core syllabus)

Moderately: A limited understanding of the subject is achieved. Some of the suggested syllabus points and/or related topics are covered. The subject topics are not covered in detail and a superficial subject understanding is achieved. The subject topics are covered only once at a particular point in time in the undergraduate course. There is little evidence of subject integration into the actual dental curricula.

Briefly: A very superficial understanding of the subject is achieved. Most of the suggested syllabus points and/or related topics are not covered. The topics are not covered in detail and a poor subject understanding is achieved. The subject topics are covered only once at a particular point in time in the undergraduate course. There is no subject integration into the existing dental curricula.

Not Covered: The subject is not part of the curriculum and is not covered anywhere nor in any form.

Each question/answer is followed by a short content outline of the topic areas that could be covered in the subject explored. These 'content outlines' aim to aid the responder in reaching an accurate answer and are not restrictive.

In all categories, the questions seek to obtain understanding of the content and depth of the learning and teaching provided for each of the topics explored. The curriculum content may be delivered in any form of learning and teaching format. The learning and teaching formats may be in formal lectures, course handbooks, tutorials, group discussions, invited speakers, on-line resources...etc. The actual format chosen by the dental school/college for the delivery of the content is not considered to be important, so long as it achieves the desired learning objectives/outcomes. All learning approaches are considered valid and desirable as they work in a complementary and synergistic manner.

How to answer the questions?

1. The responder should firstly carefully read the principal stem question
2. Now read the brief 'content outline' that is contained within the question and consider how your dental school/college maps against these criteria
3. Consult with other students or academic staff as required*
4. Select an answer that best captures the experience in your dental school/college
5. Add a brief justification for the selected answer

*It is anticipated that the respondent students may not have the required local insight to answer some of the questions that have a management/administrative component. Prior to responding, it is important that help is sought from the appropriate academic staff to gain the required information. This may be particularly especially the case for the sections: Community outreach and advocacy, Support for student-led planetary health initiatives and Campus sustainability

Planetary Health Curriculum

Section Overview: This section evaluates the integration of relevant planetary health topics into the dental school curriculum. Today's dental students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that dental students are trained to understand the general and oral health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles as applicable to oral health must be part of every dental school's core curriculum.

Focusing on the curriculum that is delivered by the Dental School/College of your university, rate how the following topics have been addressed? You should consider depth of content and opportunities for further self-directed learning.

Curriculum: Environmental threats to Planet Earth

1.1. Climate change and its impacts on humankind and biodiversity	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> Climate change was introduced to the BDS4 students this year during the Clinical Humanities module. A King's College London researcher was invited to speak on the effects of pollution and its impacts on climate change within London on physical and mental health of the population. This is an introduction to the topic of climate change but will be developed in BDS5 where a focus of the Clinical Humanities module is climate and environmental health. The talk did not include basic background information or evidence for climate change as this was assumed as prior knowledge for the students. This topic is covered in more detail in the King's Sustainability & Climate Module which is a free to access course for King's College London students on any course. It also gives the students an opportunity to earn a King's Experience Award on completion of the relevant tasks. 	

1.2. Pollution and its impacts on humankind and biodiversity	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.

1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Pollution was introduced to the BDS4 students this year during the Clinical Humanities module. A King's College London researcher was invited to speak on the effects of pollution within London on physical and mental health of the population. This is an introduction to the topic of pollution but will be developed in BDS5 where a focus of the Clinical Humanities module is climate and environmental health. This talk did not include basic background information as assumed as prior knowledge for students. • This topic is covered in more detail in the King's Sustainability & Climate Module which is a free to access course for King's College London students on any course. It also gives the students an opportunity to earn a King's Experience Award on completion of the relevant tasks. 	

1.3. The impact of climate change and pollution on human health	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • The BDS4 Clinical Humanities module covered pollution and its effects on physical and mental health in detail, having a lecture from one of King's College London's researchers on the topic. During this lecture, students were presented with recent research conducted within King's College London at a London population level and were introduced to the effects that it may have on their profession in the future. • The Clinical Humanities module also provided reading material and direction to reputable references as pre-reading for these sessions. These resources included significant detail on the relationship of climate change and extreme events with health risks and oral implications. Students were directed towards and encouraged to have a look at the 2023 Lancet Countdown, which discusses the impacts of climate change and pollution on marginalised populations. 	

1.4. Environmental citizenship, the impact of human choices and current and emerging environmental actions	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).

0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • This topic is not addressed within the core curriculum but is covered in the King's Sustainability & Climate Module which is a free to access course for King's College London students on any course. It also gives the students an opportunity to earn a King's Experience Award on completion of the relevant tasks. • This King's Sustainability and Climate Module has established an exhibition titled 'Ripple Effects: Voices on the Climate Crisis'. This exhibition showcases a selection of student assessment pieces which are the voices of the climate crisis. These assessment pieces represent the impact of climate change and the social, environmental, and economic aspects of sustainability. This showcase also highlights ways to manage our contribution to climate change and pollution. We have identified a key focus to be social sustainability and sustainable change. • As mentioned previously, students have been directed to reading material which discusses the above topics and of mitigating our actions and, but these are not established by the faculty themselves. 	

Curriculum: Environmental Impact of Healthcare

1.5. The environmental impact of the health sector	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • This topic is not addressed within the core curriculum but is covered in the King's Sustainability and Climate Module which is a free to access course for King's College London students on any course. It also gives the students an opportunity to earn a King's Experience Award on completion of the relevant tasks. The topic will also be addressed in more depth in the BDS5 Clinical Humanities curriculum to be delivered for the first time in September 2024. • Students are directed to read the 2023 Lancet Countdown report and other material to consider the environmental impact of the health sector, and the burdens it does impose on the health systems. However, FoDOCS themselves have not produced resources. 	

1.6. The environmental impact of <u>oral</u> healthcare provision	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).

0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • This topic was not covered in the core curriculum or any further training that students could undertake at King’s College London. • However, the Clinical Humanities module provided a reading list and pre-reading material which discussed the relationship between oral health delivery and climate change, pollution and ecological crisis. The topic will also be addressed in more depth in the BDS5 Clinical Humanities curriculum to be delivered for the first time in September 2024. 	

1.7. The environmental impact of different oral healthcare interventions	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • This topic is not addressed within the core curriculum but is covered in the King’s Sustainability & Climate Module in relation to healthcare, it is not specifically aimed at oral health within this course. It is a free to access course for King’s College London students on any course. It also gives the students an opportunity to earn a King’s Experience Award on completion of the relevant tasks. • Reading material and lists have been provided to students through the Clinical Humanities module for self-directed learning. 	

1.8. Measuring the impact that oral healthcare has on the environment	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Although this was only touched on briefly in the BDS4 Clinical Humanities curriculum it is covered in more depth in the BDS5 curriculum to be delivered for the first time in September 2024. • Students are also able to undertake an elective on this topic via the Centre for Sustainable Healthcare UK. The Centre for Sustainable Healthcare also offers training in sustainable healthcare and planetary health for health professionals with short courses, quality improvement education, elective placements and student selected components and E-learning materials. Students are directed to these resources by the Clinical Humanities module team. 	

Curriculum: Sustainability in Oral Healthcare

1.9 The concept of environmental sustainability	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<i>Score explanation:</i> <ul style="list-style-type: none">• During the BDS curriculum students are required to undertake a clinical audit in BDS3. The audit project titles and supervisors are predetermined by the module lead and include sustainability topics such as reusable and non-reusable clinical equipment and how many gloves students are using when completing clinical tasks.• This topic is also covered in the King's Sustainability & Climate Module which is a free to access course for King's College London students on any course. It also gives the students an opportunity to earn a King's Experience Award on completion of the relevant tasks.• Reading material and lists have been provided for students to consider concepts of Planetary Health and environmental sustainability in oral healthcare- this is for self-directed study.• Environmental Sustainability also is part of the BDS4 and BDS5 Clinical Humanities modules. Many students had reflected on this topic in their final BDS4 exam for the Clinical Humanities and Wellbeing module, with in-depth presentations being provided on this topic.	

1.10. The concept of sustainable healthcare	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<i>Score explanation:</i> <ul style="list-style-type: none">• During the BDS curriculum students are required to undertake a clinical audit in BDS3. The audit project titles and supervisors are predetermined by the module lead and include sustainability topics such as reusable and non-reusable clinical equipment and how many gloves students are using when completing clinical tasks.• This topic is not otherwise covered within the core curriculum.	

1.11. The concept of sustainable oral healthcare	
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3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • During the BDS curriculum students are required to undertake a clinical audit in BDS3. The audit project titles and supervisors are predetermined by the module lead and include sustainability topics such as reusable and non-reusable clinical equipment and how many gloves students are using when completing clinical tasks. • This topic is also discussed within the core curriculum. The BDS4 Clinical Humanities Module has introduced this topic, with notice of an in-depth delve in the BDS5 module. The BDS5 Clinical Humanities module is due to be delivered for the first time in September 2024. 	

Curriculum: Sustainability through Good Oral Healthcare

1.12. The importance of good oral health for delivering sustainable oral healthcare	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • King’s College London’s approach to the dental curriculum focuses heavily on the importance of systemic health and its links to oral health. Students undertake the Dentistry in Society module every year of the course which includes dental public health and epidemiology teaching. Within this module students also have exposure to socioeconomic factors and experience sociology teaching from the health sociology team. The purpose of these teachings are to establish a holistic and preventative approach to oral health care delivery, and to consider management of the aetiological factors of disease to prevent occurrence in the first place. This links to the concept of minimal intervention dentistry and consideration of the cost-burden of disease. Whilst the sustainable aspect of this approach can be evident in critical analysis, it is not something that is explicitly taught to students. Going forward, it can be beneficial to include this. • As a part of the Student Selected Component in BDS3 and BDS4, students have the opportunity to take a NHS Leadership and Management course which looks at the NHS dental structure within hospitals and nationally. This gives students an opportunity to link their clinical work to the profession and society, and consider the benefit of promoting and advocating good oral health and prevention to both patients and the NHS structure. There could be more links to the delivery of sustainable healthcare and its impacts on the profession and the impacts that would be had on the NHS. The module can also provide an opportunity for students to consider the cost benefit to the patient and the NHS structure if a sustainable approach (by promotion of good oral health and prevention) were employed. 	

- The concept of the relevance of good oral health in sustainability was emphasised in the BDS4 Clinical Humanities and Wellbeing Module workshop series. The workshop series was accompanied by reading material, and some of the articles provided in the references also included notable mentions of the direct impact of oral health and prevention being a way to combat some of the impacts of climate change.
- Furthermore, clinical teaching has always prioritised a minimal intervention approach, however it is important to note that the impact on the environment was not mentioned- these links were then established through the humanities module. Clinical tutors supervising care have also emphasised the need to reduce the number of appointments possible to reduce commutes and interventions.

1.13. The role of oral disease prevention for the delivery of sustainable oral healthcare

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.

Score explanation:

- Throughout the curriculum at King's College London, preventative care is a foundation for all treatment planning. Students have repeated exposure to the preventative evidence and strategies suggested within [Delivering Better Oral Health](#).
- Human disease and clinical modules have a focus on systemic health and its impacts on clinical care throughout the 5-year course but there is limited explanation that improved oral health ultimately impacts the environment by limiting visits and materials which in turn results in lower CO2 emissions. The concepts of packaging, clinical waste and pollution are not formally taught to students but are considered important by nurses running undergraduate clinical centres, resulting in students having some informal learning on this subject.
- The Clinical Humanities module has provided various reading material and has directed students to an online lecture series provided by the Harvard School of Dental Medicine on Global Oral Health (Available at: [Global Health Starter Kit | Harvard School of Dental Medicine](#)). This lecture series mentions in detail the relevance of prevention, and how it is ideal to manage disease at early stages before it becomes more demanding for further interventions. However, the King's College London FoDOCS faculty themselves have not provided in-depth resources on this topic. As mentioned previously, although prevention and minimal intervention Dentistry has been heavily promoted, the environmental benefits of this approach were not emphasised in clinical training, but highlighted in the humanities module.

1.14. Does your dental school curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.

1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Many of the Health and Human Disease Module lectures discuss in detail potential oral and systemic manifestations that may present due to environmental pollutants or contaminants. • Furthermore, the Clinical Humanities module brought on a speaker that discussed in depth the impact of toxins and pollutants, and the consequences this may have on climate change. There was an emphasis with regards to the various vulnerable populations and the impacts that they face, with references to evidence-based data. When considering the vast detail that can be potentially covered, the dental curriculum touches the surface level of content. 	

1.15. The role of integrated oral care in delivering sustainable oral healthcare	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Patient Centred Care is a key concept delivered in the Dentistry in Society module which students sit every year of the BDS course. Students learn that both clinician and patient should work simultaneously in the patients' best interest when delivering any care. However, this is not linked to sustainability during the students' course. • Integrated Oral Care is the primary mode of care delivery at FoDOCS. Collaborative care with multiple members of the dental team and the patient is emphasised predominantly. Many of the treatments provided (restorations, periodontal treatment) rely on significant cooperation and collaboration with the patient, and this is made very clear to patients. Furthermore, a digital workflow has been promoted in our care delivery. For example, the use of intraoral scanners to take intra-oral records as a substitute for analogue impressions has been discussed, and the benefits of this such as reduced waste from gypsum models emphasised. Additionally, structured and systemic care plans have been regularly promoted and used to minimise the number of treatments needed to address disease and prevent further occurrence. The benefit of this modality has been explained thoroughly to students, including the benefit of minimising the quantity of dental materials consumed. 	

1.16. The role of ownership of care in delivering sustainable oral healthcare	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).

0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Students are introduced to Continued Professional Development (CPD) and encouraged to become involved in further training and extracurricular activities to better their learning, this includes dedicated time and assessment to volunteering within the Clinical Humanities module. The Clinical Humanities module provides reading lists and refers students to access e-modules with regards to sustainable oral healthcare, enabling students to see the role of this in CPD. • The Clinical Humanities module does encourage students to undertake pre-reading and complete modules provided by the King's College London Climate and Sustainability department, but this is not compulsory. • Students all undertake a clinical audit in BDS3 and the role of clinical governance is taught thoroughly during the Dentistry in Society module. Topics of sustainable dentistry such as consumption of sundries and personal protective equipment can be investigated in these audit modules, with reflections on the impact of consumption and goals and recommendations for improvements expected. These audits are conducted by students themselves, with one of the aims of the project to enable the student to understand the need for reflection and ownership in their working careers. • Students are also encouraged to participate in research projects such as the King's Undergraduate Research Fellow. Furthermore, collaborative teamwork is heavily promoted, encouraging students to collaborate. • In BDS2, the Student Selected Component II module provides students with the opportunity to conduct a 5000-word literature review on a title that they select from a list of 200+ predetermined titles. One of the titles in this list is titled 'Sustainability in Dentistry'- this title has been selected and has given a student the opportunity to investigate any primary studies and systematic reviews on this topic. This title also gives the student an insight to investigate how sustainable oral healthcare can be delivered, enabling the student to take ownership in the field of research and how it can be implemented. 	

Curriculum: Making Sustainability Work

1.17. The role of the dental team in the provision of sustainable oral healthcare	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • The BDS curriculum has predominantly discussed the usage of antibiotics and the harmful consequences it can have to our bank of patients and the environment. Many lectures in the Biomedicine in Relation to Dentistry and Human Health and Disease modules have discussed in detail what factors can contribute to antibiotic resistance (including environmental factors such as agriculture) and how clinicians may contribute to this prevalent burden. • The curriculum emphasises to students the need to keep up to date with regulations and guidelines with regards to antibiotic prescription and ensures that we understand clearly when these medications are indicated. Students have been informed of their duty to be diligent and 	

consider alternative treatments, and only use antibiotics if absolutely necessary. Students have also been directed to use the NICE (National Institute for Health and Care Excellence) guidelines and the BNF (British National Formulary) for prescription. The faculty has encouraged referencing these resources and considering overall presentation prior to prescription to minimise unnecessary wastage and contributing to the rising problem of antibiotic resistance and unsafe disposal of unused medications, all of which can result in adverse impacts to the environment.

- Use of digital workflows such as intra-oral scanners to reduce waste has been heavily promoted and described, with encouragement from the faculty to use this equipment readily. However, the faculty has not discussed in detail the potential for digital consultations.
- Many of the interventions for managing dental disease have been taught to include a patient-centred approach, with a heavy emphasis on patients being the leaders of their health. Students are also taught about prevention and stabilisation phases of treatment, and how this phase may halt disease processes and prevent the need for further treatment. Advocating the principle of employing different members of the dental team (dentists, nurses, hygienists, and therapists) to facilitate effective care is also promoted. Students have also been encouraged to understand the benefit of employing various members of the dental team and encouraging prevention as a method to further reduce usage of materials and the dental chair. Prevention has been identified to be a sustainable approach, and utilising expertise of the different members of the team can support this.
- Clinical teaching has discussed different software (such as Cariogram) to ensure information can be delivered to patients in a more effective manner. It can be beneficial for students to be taught to consider the environmental and sustainable benefit of this practice, rather than just focus on the clinical relevance of this. Nevertheless, the curriculum has highlighted the key principle well. Furthermore, although many innovative software has been taught to students, it may be useful to enable students to employ them in practice at the University Trusts.
- The Clinical Humanities module delivered a lecture in BDS3 introducing the concept of social prescribing, including green social prescribing. The lecture highlighted to students the importance of a multidisciplinary management to patient care, with integration and role of the environment in care delivery.

1.18. Embedding environmental sustainability into patient care in clinical teaching spaces

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed in the core curriculum.
1	This subject was briefly addressed in core curriculum or other learning experiences (e.g. elective coursework).
0	This subject was not covered.

Score explanation:

- Principles of prevention, integrated care plans and quality interventions are embedded within the core curriculum, and the Clinical Humanities Modules from BDS1-4 and Dentistry in Society audits have enabled students to start establishing the links between clinical care and sustainability. However, there is still room for further curricular content.
- The BDS5 Clinical Humanities Module to be delivered for the first time in September 2024 will include SusQI projects and further environmental sustainability content however, as this

module has not been delivered yet, we cannot comment on whether the aims above will be fully established.

- The following paper by Zahra et al (2023) discusses the primary aims of the Clinical Humanities module, and the great benefit of employing this mode of teaching in sustainable healthcare education. See [The 'Clinical Humanities & Wellbeing programme'- sustainable healthcare education for an era of uncertainty.](#)

Section Total (30 out of 54)


C+

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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the dental school and broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, dental schools should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasised.

Consider how your dental school/college performs with regards to the research statements below.

This symbol at the beginning of a question -  - means that the question is unique to dentistry. The other questions in this section and those below are aligned to the medicine PHRC so please do collaborate if there is a medicine team at your institution completing the PHRC too!

2.1. Are there researchers engaged in Environmental Sustainability in Oral Healthcare research at your dental school?	
3	Yes, there are faculty members at the School of Dentistry who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Dentistry who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the university, but none associated with the dental school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or dental school at this time.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> As far as we are aware, there are no researchers whose projects focus on environmental sustainability in oral healthcare. However there are identified researchers within the faculty who are working on global oral health and education for sustainable oral healthcare. There are also researchers contributing to such projects across King's and King's Health Partners. 	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.


0	There is no dedicated department or institute.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • King's set up the SHADE (Sustainability, Health, AI, Digital Technologies and the Environment) group in September 2023. This group is led by leading readers and researchers in the fields and boasts a global membership . • The SHADE group is not directly linked with FoDOCS but is instead a part of the Department of Global Health and Social Medicine at King's College London. • King's College London also works closely with other London based universities including Imperial College London under the MRC Centre for Environmental Health. These projects combine large data sets to research local environmental health . • There are many other interdisciplinary research groups also working in this space at King's and with our hospitals through King's Health Partners. 	

🦷 2.3. Environmental Sustainability of the Research Laboratories of the Dental School/College	
3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Within King's policies and governance there are processes to ensure low energy consumption guidelines, protocols for mitigating the environmental impact of research laboratories, recycling where possible, careful procurement and disposal, safe working practice and community members who can advise and advocate for the climate and environmental research agenda. • The Environmental Sustainability Policy established by King's applies to all faculties of the institution, and highlights good practice that should be employed. See this link for the policy: • As far as we are aware, in FoDOCS, there are no specific current processes whereby community members impacted by environmental injustice can have decision making power in environmental research agenda, nor are there published plans to create such a system. However, such processes are available across all King's faculties. 	

2.4. Does your <u>institution</u> have a planetary health website that centralises ongoing and past research related to health and the environment?	
3	There is an easy-to-use, adequately comprehensive website that centralises various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralise various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.

1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • There are Departmental website pages on the King's website dedicated to the department's work in relation to health and the environment.. • King's College London has a dedicated page to Climate and Sustainability related to the UN Sustainable Development Goals which has links to health and planetary sustainability. This page centralises related research work and offers information regarding current projects and funding opportunities which students can become involved in. 	

2.5. Has your <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the dental school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • FoDOCS has not provided a conference or symposium on subjects related to sustainability and planetary health within the last three years, the institution of King's College London has though provided many such events. • King's College London provides regular seminars which students, staff and alumni can attend in relation to sustainability and planetary health. Only some of these are directly related to human health. • The SHADE group recently held a Global Digital Health Forum/Working Group in late 2023 discussing the impacts of climate on health). • King's College London also held a COP28 Outcomes Summit in December 2023 to discuss the outcomes of COP28 which would have direct effects on planetary health and sustainability. 	

 2.6. Is your <u>dental school</u> active in national or international planetary health/environmental sustainability organisations or working groups within wider organisations?	
1	Yes, the dental school is active in national or international planetary health/ESH/ESD organisations or planetary health/ESH/ESD working groups within wider organisations
0	No, the dental school is not active in such organisations

Score explanation:

- Staff from FoDOCS hosted a [2022 International Circle U workshop on Education for Sustainable Healthcare](#). The workshop discussed the role of universities in addressing the sustainable development goals, education and sustainability, and the position of global health in the curriculum.
- Staff members at FoDOCS also contribute to the [Centre for Sustainable Healthcare UK](#).

Section Total (13 out of 17)


B +


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Community Outreach and Advocacy

Section Overview: *This section evaluates dental school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of colour. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.*


Consider how your dental school/college performs with regards to the community outreach and advocacy statements below.

 3.1. Public engagement and participation with the dental school/college through community outreach and advocacy programmes	
3	There is a strong, active and impactful public engagement with the Dental School/College in environmental oral healthcare
2	There is moderate public engagement with the Dental School/College in environmental oral healthcare
1	There is minimal public engagement with the Dental School/College in environmental oral healthcare
0	There is no public engagement with the Dental School/College in environmental oral healthcare
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> ● FoDOCS is closely linked to a student-led society: King’s Innovative and Sustainable Dentistry. This student society held lectures to dental students from leading researchers, they also have public social media accounts. ● Many senior staff members and students of FoDOCS were recently involved in the King’s Sustainability in Dentistry Circle-U project, which ran in collaboration with many European universities (with funding from King’s Circle-U), see this article for further reference: King's Faculty of Dentistry, Oral & Craniofacial Sciences recognised with Practice Green Award for Dental Schools and Societies. This indicates the faculty’s engagement with the international Circle U University alliance to acknowledge, reflect and act on the consequences of climate change. FoDOCS were recognised with the Practice Green Award for their efforts in international collaboration towards sustainability. ● Many students are involved with curricular volunteering in the community that is related to environmental sustainability. 	

 3.2. Dental school/college engagement and participation in the promotion of postgraduate

professional development in environmentally sustainable oral healthcare	
2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • FoDOCS does not provide any public-facing online courses or lectures in relation to sustainable oral health. 	

3.3. Does your <u>dental school</u> have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not receive communications about planetary health or sustainable healthcare.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • The Dean for Education provides monthly updates to the Faculty which occasionally have some sustainability updates including reminders that students may access the King's sustainability resources. • However all students may sign up to King's sustainability newsletter, join the climate action network and sign up to the regular sustainability seminar series. 	

 3.4. Dental school/college provision of educational resources for patients for the promotion of environmentally sustainable oral healthcare	
1	The dental school or dental hospital provide resources for patients on Environmentally Sustainable Oral Healthcare
0	There are no resources for patients on Environmentally Sustainable Oral Healthcare
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • FoDOCS does not provide resources on Environmentally Sustainable Oral Healthcare which patients are directed to. • Some student societies produce social media based content which could be accessed by patients but these are not designed for patients but instead for students and clinicians. 	

Section Total (3 out of 8)	D+
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Support for Student-Led Planetary Health Initiatives

Section Overview: This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups. Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.

4.1. Does your <u>dental school</u> or your <u>institution</u> offer support for dental students interested in enacting a sustainability initiative/QI project?	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The dental school encourages sustainability QI projects (to fulfil placement or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the dental school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • FoDOCS has provided students with many opportunities to engage in sustainability initiatives, including directing students to the King’s Climate and Sustainability programmes and modules (N.B. this is run by the institution themselves, not the dental school) and have included essay titles focused on sustainable dentistry in elective modules (which are supervised). • Furthermore, the dental school has promoted the King’s Innovative and Sustainable Dentistry Society- a student-led society with aims of encouraging and motivating students to critically evaluate and consider the development of the profession. The society has held extra-curricular talks on topics such as Digital Technology in Dentistry. Although the Faculty has provided grants to societies and student initiatives, the writers are unsure as to whether this society has received such input from the University. • Sus QI projects do form part of the core BDS5 Clinical Humanities curriculum, which is due to be delivered in September 2024. 	

4.2. Does your <u>institution</u> offer opportunities for dental students to do research related to planetary health and/or environmental sustainability?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i></p>	

- There are research opportunities and seed funding for student projects across King's (see [Sustainability research and innovation - King's College London](#)) and via the Centre for Sustainable Healthcare UK (see: <https://sustainablehealthcare.org.uk/>)
- There is the possibility of paid undergraduate summer research (see [How to become a King's Undergraduate Research Fellow \(KURF\) - King's College London](#)) and with European Circle U partners (see: [Circle U](#).)
- A student-selected research component in Sustainability in Dentistry has been offered to students in BDS2 (offered to all students but only 1 student can undertake this per cohort in BDS2).

4.3. Does the dental school have a webpage where dental students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the dental school? For example, projects achieved, current initiatives underway at the dental school and/or contact of information of potential mentors.

2	The dental school has a web page with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a dental school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the dental school, but it lacks key information.
0	There is no dental-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

Score explanation:

- Although occasional news posts have been created on the FoDOCS page discussing some sustainability related events (promotion of awards and societies), and there are many King's resources, there is no dedicated FoDOCS webpage for planetary health and sustainability.
- Any online learning student resources for the Clinical Humanities modules are not public facing.

4.4. Does your dental school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2	Yes, there is a student organisation with faculty support at my dental school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organisation at my dental school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organisation at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation:

- The King's Innovative and Sustainable Dentistry Society is a student-led organisation at FoDOCS which has promoted these ideals through talks and discussions.
- The Clinical Humanities modules also provide support and teaching for students on these topics. It is important to note that students at the faculty have been provided dedicated time in

the timetable within the Clinical Humanities modules to engage in volunteering activities. Many students choose environmental sustainability related projects. However, there is very minimal promotion of these activities.

- Across the wider King's community however, there are many co-curricular, volunteering and civic service opportunities, such as the student sustainability conference, the Guy's community garden and the climate action network. See [Get involved with sustainability at King's - King's College London](#).

4.5. Is there a student liaison representing sustainability interests who serves on a dental school or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?

1	Yes, there is a student representative that serves on a dental school or institutional decision-making council/committee.
0	No, there is no such student representative.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Although the King's Innovative and Sustainable Dentistry student-led society has been promoted by the faculty, the society committee members do not hold any position on the Student Dental Council Panel. • The Dental Student Council also does not have a position related to global and planetary health. 	

Section Total (4 out of 9)

C-

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Campus Sustainability

Section Overview: *This section evaluates the support and engagement in sustainability initiatives by the dental school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our dental schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.*

5.1. Does your <u>dental school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or dental school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of dental school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • The institution does have an Office of Sustainability, 'King's Climate and Sustainability'. This central office aims to accelerate climate research, education and action at the university. • Furthermore, many senior staff members and students of FoDOCS were recently involved in the King's Sustainability in Dentistry Circle-U project, which ran in collaboration with many European universities (with funding from King's Circle-U). See King's Faculty of Dentistry, Oral & Craniofacial Sciences recognised with Practice Green Award for Dental Schools and Societies - King's College London. Guy's Hospital Trust is also committed to sustainability (Sustainability Guy's and St Thomas' NHS Foundation Trust) • Although there are opportunities at King's for staff sustainability champions, students have not been informed of a specific sustainability champion for the faculty. 	

5.2. How ambitious is your <u>institution/dental school</u> plan to reduce its own carbon footprint?	
5	The institution has a written and approved plan to achieve carbon neutrality by 2030 and the dental school has a well-defined and adequate plan in place to achieve this goal
3	Yes, there is a written and approved plan to achieve carbon neutrality by at least 2040 and the dental school has a well-defined and adequate plan in place to achieve this goal.
1	The institution/dental school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate

0	The institution/dental school does not meet any of the requirements listed above
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> King’s College London is not only a signatory to Race to Zero (Race to Zero for Universities and Colleges) but as a result of its Strategy 2026 and Vision 2029, the institution has outlined a very detailed ‘Climate Sustainability Action Plan’ with ‘14 key impacts’ to guide the university’s approach with regards to sustainability and climate change. The institution aims to achieve these goals by 2030. The information is displayed in a clear and comprehensive manner, and can be found here. One of the key goals outlined in this plan is that by 2026, King’s will provide environment, climate and sustainability taught and extra-curricular education for all King’s undergraduates, expanding our research-enhanced postgraduate programmes alongside Continuing Professional Development and Executive Education.’ Whilst the Dental faculty’s Clinical Humanities & Wellbeing modules has been praised as an area of good practice in Education for Sustainable Healthcare across King’s (see Festival of Learning and Teaching: Sustainable Development Goal Curriculum Mapping) and the Faculty covers the new dental regulatory requirements around sustainability (see The Safe Practitioner: A framework of behaviours and outcomes for dental professional education - Dentist), there is undoubtedly more that can be done to increase Education for Sustainability content within the undergraduate and postgraduate curriculum. 	

5.3. 🦷 Institutional (University/Dental School) implementation of Environmental Sustainability strategies	
3	There is strong, active and ambitious strategy for the promotion and implementation of Environmental Sustainability across all domains
2	There is moderate strategy for the promotion and implementation of Environmental Sustainability across all domains
1	There is minimal strategy for the promotion and implementation of Environmental Sustainability across all domains
0	There is no strategy for the promotion and implementation of Environmental Sustainability across all domains
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> King’s as an institution set out its ambitious plan to reduce its own carbon footprint in its climate action plan, its Strategy 2026 and King’s Vision 2029. It is a signatory to the global race to net zero for universities and colleges. The University and therefore, the Dental School facilities and the central campus have promoted environmental sustainability. This has been done through the significant reduction in single-use plastics, designated recycling bins, various sustainability programmes/modules/campaigns, and societies. Within the dental faculty, students are encouraged to minimise waste by being asked to only take equipment that they will need and use, and in the correct quantity. Single-use equipment is avoided as much as possible. The central institute has established a Sustainability and Climate Change action plan with clear goals and structure. There are many green spaces available on campus. King’s has also divested from fossil fuels and has committed to a step-change in its approach to sustainability. 	

- The King’s Climate and Education for Sustainability Working Group aims to provide all King’s students with education for sustainability in its core curriculum (all faculties have until 2026 to achieve this). FoDOCS has already implemented this via the Clinical Humanities modules. (discussion of Education for Sustainability has been discussed across the entirety of the module, from discussions on SDGs and climate change.)
- A key point to note is that although King’s strives to support low-carbon transport options and active travel (King’s is situated in London, with Transport for London providing some low carbon transport options), many students have to commute to different campuses in one day to attend different teaching sessions, and this can further increase the carbon footprint (students may be able to walk between sites, but some sessions run over time and there may not be enough time to walk).
- The Associateship of King’s College programme has delivered a module on Climate Change, (in 2022-2023) with a range of speakers being brought on to discuss various topics from ‘Public Education in an era of Planetary Emergency’ to ‘Is Climate Change a Security Threat?’ These lectures are delivered alongside quizzes for reflective thinking. These lectures, although aimed for students and staff, are available on iTunes/Apple Podcast. See [Explore | Associate of King's College London](#) for further details.

5.4. Has the dental school or institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

2	Yes, the dental school or institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The dental school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The dental school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation:

- The university has a comprehensive sustainable travel policy for both international staff and student travel and local commuting. The institution has implemented many bike sheds to store bikes safely- this is available to both staff and students.
- In its Climate Sustainability Action Plan, King’s has identified that its location does mean a lot of commuting will be done via public transport and/or active travel and identifies the carbon impact of these current options. However, the institute has developed various initiatives to encourage active travel. The campus strives to encourage low-carbon transport and active travel by facilitating cycling and active travel. King’s will also ensure the use of electric vehicles and facilities for these vehicles on site (see [here](#) for further details).
- FoDOCS are not in a position to implement things on their own as they are a part of King’s College London.

5.5. Does your dental school have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?

2	Yes, the dental school has both compost and recycling programs accessible to students and faculty.
1	The dental school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the dental school.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • The dental school has readily available recycling facilities for aluminium, paper, plastic and glass. • These bins are present in all sites of the faculty and on clinic sites, and are well demarcated to ensure the correct waste is disposed of in the correct bins. • Food waste bins are available to students and faculty across campus and small-scale composting is being tracked annually and growing in use (see: Climate & Sustainability Action Plan King's College London) 	

5.6. Does the <u>dental school</u> or <u>institution</u> apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the dental school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The dental school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The dental school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • In support of King’s Service Strategy, Strategy 2026 and King’s Vision 2029 ‘there is a socially responsible procurement which operates to ensure that any purchases of goods and services are beneficial to the university, the environment, society and King’s local boroughs and which use purchasing power to improve conditions and raise expectations of social responsibilities in the external organisations we work with.’ (see: Socially Responsible Procurement Policy - King's College London) 	

5.7. Are there sustainability requirements or guidelines for events hosted at the <u>dental school</u>?	
2	Every event hosted at the dental school must abide by sustainability criteria.
1	The dental school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for dental school events.
<p><i>Score explanation:</i></p>	

- In keeping with the university’s Environmental Sustainability Policy, the Faculty ‘recognises its responsibility to address impacts arising from catering and hospitality operations across its campuses’ (Available at: [Operations and policies - King's College London](#))
- As per King’s policies, the dental school must aim to fulfil sustainable food and fairtrade policies, waste and resource management and travel, energy and carbon management.
- Events hosted by the dental school supply food sourced sustainably, with vegan options always being available.

5.8. Does your dental school have programs and initiatives to assist with making lab spaces more environmentally sustainable?

2	Yes, the dental school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the dental school to make lab spaces more sustainable.

Score explanation:

- There are motion-detected light facilities that switch off automatically when a room is vacant. Furthermore, students are encouraged to disconnect appliances and switch off working lamps when not in use.
- The following points are regarding the dental student laboratory facilities- patient materials and prosthesis are not manufactured here. Gypsum dental models used for teaching tooth morphology through a wax-up protocol are usually re-used for the next cohort- they are steam cleaned and safe to use again. This helps minimise plaster waste. Other dental models are recycled in a similar way whenever possible. If gypsum models cannot be reused, there is a protocol for disposal that is carefully followed. There are separate bins in the lab for domestic waste, recyclables, and plaster/gypsum waste. Students have sometimes used Agar to replicate gypsum models, and this Agar is never wasted and is usually reheated and reused. Plastic teeth used for phantom head training purposes are retained by the student for assessment and portfolio purposes, and so the disposal of this is at the student’s discretion.
- The lab technicians have implemented various protocols to ensure equipment is maintained well and used safely, and students are educated at the beginning of lab courses on how to take care of the equipment, and how to report or repair any defects. Many of the lab appliances and products are re-used, and the only things that are not reused is any lab work that a student produces that will be presented for oral presentation exams.
- More widely across the clinical science labs, the Education Technical Manager of Guy’s campus not only leads volunteering opportunities related to sustainability for all dental and medical students but drives the inclusion of environmental sustainability principles in practical science education.

Section Total (21 out of 22)

A+

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Grading

Section Overview

This section focuses on the grading of the report card. The institution received a grade for each of the individual sections as well as an overall institutional grade. Section point totals were tallied, divided by the total points available for the section, and converted to a percentage. The overall institutional grade is a weighted average of the section grades, with curriculum receiving a higher weight owing to its larger number of metrics. Letter grades for each section and the institution overall were then assigned according to the table below.

Letter Grade*	Percentage
A	80% - 100%
B	60% - 79%
C	40% - 59%
D	20% - 39%
F	0% - 19%

**Within each grade bracket, a score in the top 5% (_5 to _9%), receives a “+”, and a score in the bottom 5% (_0- _4%) receives a “--”. For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the Faculty of Dentistry, Oral and Craniofacial Sciences

The following table presents the individual section grades and overall institutional grade for the Faculty of Dentistry, Oral and Craniofacial Sciences on this dental-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(30/54) \times 100 = 55.6\%$	C+
Interdisciplinary Research (17.5%)	$(13/17) \times 100 = 76.5\%$	B+
Community Outreach and Advocacy (17.5%)	$(3/8) \times 100 = 37.5\%$	D+
Support for Student-led Planetary Health Initiatives (17.5%)	$(4/9) \times 100 = 44.4\%$	C-
Campus Sustainability (17.5%)	$(21/22) \times 100 = 95.5\%$	A+
Institutional Grade	61.1%	B-