

Environmental Sustainability in Dental Hospitals  
- Hospital Environmental Audit & Improvement Tool (HEAIT) -



Sheffield Oral Sustainability

**Department of Restorative Dentistry**

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Report Card – [INSERT INSTITUTION HERE]

OVERALL GRADE

%

OVERALL PERCENTAGE

Tool Kit Actions	% Achievement
Green Actions	
Amber Actions	
Red Actions	

## Statement of Purpose

Planetary health is human health

The Hospital Environmental Audit & Improvement Tool (HEAIT) is a metric-based institutional advocacy tool created by Sheffield Oral Sustainability Task Team - SOS for auditing, evaluating and improving environmental practice in dental hospitals.

The Planetary Health Alliance describes planetary health as “a field focused on characterising the human health impacts of human-caused disruptions of Earth's natural systems” [i]. 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. 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 hospital priorities do not reflect the urgency of this danger to human health, including oral health.

As oral health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients’ general and oral health. All stakeholders in the operation of a dental hospital, play an important role in mitigating the general and oral health impacts of climate change and other anthropogenic environmental changes. We can achieve this through a systematic and pragmatic combination of activities that promote knowledge awareness, audit and service evaluation exercises and focused high-impact research.

The Hospital Environmental Audit & Improvement Tool (HEAIT) seeks to increase planetary health awareness and environmental accountability in dental hospitals. The DHTK is tailored to address all known environmental threats that arise from the delivery of care in a dental hospital.

A thematic analysis of the current literature has identified eight diverse but closely interlinked themes that determine the sustainability of oral health provision on a world-wide basis [ii,iii]. These themes are further validated and endorsed in the Consensus on Environmentally Sustainable Oral Healthcare [iv]: Environmental impacts (CO<sub>2</sub>e, air and water); Reduce, reuse, recycle and rethink; Policy and guidelines; Biomedical waste management; Plastics (SUPs); Procurement; Research & Education; Materials.

Patient and staff commuter travel account for the greatest contribution to the profession’s carbon footprint and this should be the focus of our activities through the adoption of different strategies. Opportunities to impact in this area focus on the use of smart clinical appointments with shared care, the use of technology for remote consultations and the adoption of a reductionist approach through the promotion of high standards of oral health that focuses on preventable diseases. The consequence of good oral health is a reduced need for interventional operative care that carries with it a reduced carbon footprint and a reduced waste pollution impact.

Reducing and recycling present the greatest opportunities for sustainable impact of our activities. The use of best practice guidelines through the adoption of technology, effective

logistical management systems and environmental regulations are key to a more sustainable practice.

Professional engagement with policy making at all levels, from a domestic in-practice level to regional, national or international is essential for the formulation and promotion of best-practice guidelines. These should consider in a balanced manner, patient wellbeing and environmental impacts, as both are inextricably linked to general planetary and human health.

Waste management should shift its focus from simply the segregation and efficient disposal of waste to satisfy safety regulations. This should also include sustainability drivers.

Plastic is an indispensable component of modern safe health care and this is unavoidable. Focus should consider the effect of reducing the volume at a local level and through the supply chain, including the use of packaging. Recycling (mechanical and chemical) should take a much greater role in the management of clinical SUPs (including PPE) and packaging.

Coordinated logistics and efficient procurement that ties in with waste management is important so that sustainable practice can take place. This approach can have significant financial gains by mapping procured plastic (at all levels of packaging) with sustainable recovery and recycling technologies.

Education and impactful research is key to an increase of professional awareness and this is considered a 'low hanging fruit' that can be adopted through undergraduate university degree programmes and through continuing professional development – This is a high priority activity as there is a need to establish a normalised attitudinal change amongst the next generation of professionals to provide oral health care in a sustainable manner. Academic environments have a responsibility to engage with this level of knowledge exchange and the associated research that will drive and identify sustainable solutions.

Dental materials and sundries, in a generic form, present the highest level of pollution. This is associated with the sourcing of constituents, the chemistry used, the packaging and transport incurred. The effects are noted at all levels of the supply chain, from manufacturing, through to distribution, procurement, clinical use and ultimately waste management. There is a pressing need to engage with all elements of the dental materials/products supply chain in a coordinated and systemic manner to reduce these environmental impacts

This hospital tool kit aims to audit the status of planetary health awareness and activity using discrete metrics in the eight themes identified. It is set out in a grid system, akin to the well-established EBEL standard setting concept. The axis coordinates for the nine-cell table determine: (i) the level of importance and environmental benefit, ranked as Essential, Important and Aspirational; and (ii) the degree of implementation difficulty, ranked as Easy, Moderate and Difficult.

		Degree of Implementation Difficulty		
		Easy	Moderate	Difficult
Environmental Sustainability Importance	Essential			
	Important			
	Aspirational			

## Instructions for Completion of the HEAIT

This self-assessment toolkit is composed of several action categories that represent the themes identified in the literature. They all have a similar question-and-answer style. Responders should answer each question as accurately as possible and provide justification for each score. To answer the questions accurately, it is anticipated that responders will need to seek input from other stakeholders (e.g., service providers, building and estates managers, hospital leads and managers)

### Categories

1. Behaviour Engagement
2. Provision of Good Quality Oral Healthcare
3. Knowledge Exchange, Research and Education
4. Travel and Transport
5. Energy Consumption
6. Reduce, Reuse, Recycle and Rethink
7. Waste Management
8. Plastics
9. Clinical Dental Materials
10. Impressions
11. Anaesthetic Gases
12. Radiography
13. Disinfectants
14. Laboratory (Removable and Fixed)
15. Procurement
16. Administration

### Completing the self-assessment tool

An ES project team lead should be appointed to manage this toolkit and review and report progress periodically as required.

Each question should be answered by selecting one option from the list of four presented.

- **Fully addressed** - A thorough understanding of the subject is achieved.
- **Partially addressed** - A limited understanding of the subject is achieved. Some of the suggested points and/or related topics are covered. The subject topics are not covered in detail and a superficial subject understanding is achieved.

- **Initial subject exploration commenced** - A baseline analysis and assessment of the current situation has been commenced. Minimum progress to date.
- **Not Addressed:** The action point has not yet been addressed.

Each answer should include evidence of action that matches the corresponding score. This can be a brief description, URL link or signpost to a further project/document (eg. Clinical Services meeting DD/MM/YYYY) or an attached document.

## Self-assessment tool (Key)

Action code – This allows each specific action to be tracked throughout the toolkit. Each action will have a unique code with the first number linking it to a specific category (e.g. 1 = Behaviour Engagement).

Action – This will be the specific action you are evaluating.

Importance/attainability code – The first letter denotes the level of importance relating to environmental benefit (essential, important, aspirational) and the second letter denotes the implementation difficulty (easy, moderate difficult).

1A	Promote awareness of ES in oral healthcare through staff mandatory training.	E-M
Score	Descriptor	Evidence - Resource, link, or description
3	This action is fully addressed	
2	This action is partially addressed	
1	Initial subject exploration commenced	
0	This subject is not addressed at all	

Score – These are the scores that can be assigned to the action in question.

Descriptor – These describe the level of completion of the action required to achieve each score.

Evidence – This column can be used to record evidence to justify the score being assigned to the action.

## 1. Behaviour Engagement

Create effective action plans and realistic targets for sustainability practice and organisational policies and procedures. Embedded and normalised within the team so that they become part of day to day running of the hospital.

1A	Use this toolkit to create an action plan for your department with SMART goals and a timeline for implementation		E-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed		
1	Initial subject exploration commenced		
0	This subject is not addressed at all		

Engage in a conscious and deliberate effort to translate our environmental 'home-based' citizenship behaviours to the work 'dental hospital' environment.

1B	Promote awareness of ES in oral healthcare through staff mandatory training.		E-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed		
1	Initial subject exploration commenced		



0	This subject is not addressed at all	
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1C	A standing agenda item within clinical services meetings on how you can improve sustainability within the dental hospital.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced.		
0	This subject is not addressed at all.		

1D	Have a named Sustainability Champion		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

1E	Have a named Waste Management Leader.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Consider and promote preventive measures that will deliver better oral health. This will lead to a reduced use of the oral health care services. A reduced need for more complex interventional therapeutic, reparative and restorative care will lead to a net reduction in the carbon footprint over the life of the individual.

1F	Share information with your patients to help them understand how their oral health is linked to their overall health and how this relates to ES.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Promote the positive financial business model that underpins the provision of sustainable clinical dental practice. The development of a multi-faceted, collaborative practical business model for the care provision stakeholders.

1G	Evidence of engaging patient in the management of their own oral health and the impact prevention has on the environment (e.g. patient information leaflets, posters).		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced.		
0	This subject is not addressed at all.		

## 2. Provision of Good Quality Oral Healthcare

Promote and consciously implement a framework for the management of preventable diseases, with a focus on the attainment of oral health.

2A	Encourage team members to work at their full scope of practice and expertise to actively promote oral health.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Promote patient engagement. Co-managers for their own oral health through their attitudes and behaviours to the management of recognised risk factors, such as plaque control, diet, smoking and alcohol intake.

2B	<p>Evidence of engaging patient in the management of their own oral health and the impact prevention has on the environment (e.g. patient information leaflets, posters).</p> <p>Departments can set up challenges for their patients: ie. "NO Cavity Clubs" – "How are your perio pocket numbers?" – Keep your appointments – teach importance of prevention vs waiting for discomfort and pain – keep track of patient's plaque scores and caries risk factors – Smoking cessation programs and successes – nutritional counseling – make and display "sugar boards" and have all of this not only in the hospital but interactive on websites and social media pages.</p>		E-D
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Score	Descriptor	<b>Evidence</b> - Resource, link or description
3	This action is fully addressed	
2	This action is partially addressed.	
1	Initial subject exploration commenced	
0	This subject is not addressed at all.	

## Reduction in prescribing, especially antibiotics

2C	Include antimicrobial stewardship in staff mandatory training.		E-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

2D	Audit and engage with antibiotic stewardship.		E-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### 3. Knowledge Exchange, Research and Education

Promote patient engagement. Co-managers for their own oral health through their attitudes and behaviours to the management of recognised risk factors, such as plaque control, diet, smoking and alcohol intake.

3A	<p>Evidence of engaging patient in the management of their own oral health and the impact prevention has on the environment (e.g. patient information leaflets, posters).</p> <p>Departments can set up challenges for their patients: ie. “NO Cavity Clubs” – “How are your perio pocket numbers?” – Keep your appointments – teach importance of prevention vs waiting for discomfort and pain – keep track of patient’s plaque scores and caries risk factors – Smoking cessation programs and successes – nutritional counseling – make and display “sugar boards” and have all of this not only in the hospital but interactive on websites and social media pages.</p>		E-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Knowledge acquisition in relation to the use of dental amalgam - Minamata Convention.

3B	<p>Reflect on what the Minamata Convention means to you, your team and your patients.</p>		E-M
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Score	Descriptor	<b>Evidence</b> - Resource, link or description
3	This action is fully addressed	
2	This action is partially addressed.	
1	Initial subject exploration commenced	
0	This subject is not addressed at all.	

The adoption of more preventive and adhesive dentistry.

3C	Promote learning on the use of adhesive dentistry with minimal intervention.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Promote a preventive regime implementing MID interventions where necessary.

3D	Promote learning of MID interventions over conventional treatments.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

#### 4. Travel and Transport

Promote and encourage walking and cycling of staff.

4A	Promote walking and cycling to the dental hospital		E-E
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Undertake Oral healthcare Outreach programmes where only the dental team travels, reduce travel emissions as there are fewer people travelling to provide care. Such as Childsmile ([www.child-smile.org.uk/](http://www.child-smile.org.uk/)) help to reduce travel, reduce carbon emissions and improve air quality.

4B	Evidence of a local outreach programme provided by your department.		A-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Engage with Tele dentistry and Remote Clinical Consultations. To reduce patient and staff commuter travel.

4C	Undertake tele dentistry service.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Electric vehicles are promoted as is an encouragement to employers to further promote and incentivise active travel amongst staff.

4D	Promote the use of electric vehicles among staff and patients.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Use of public transport and car sharing.

4E	Promote public transport and car sharing among patients and staff		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Combining multiple elements of patient care into fewer appointments providing multiple procedures in one visit.

4F	Combine multiple procedures into one visit whenever possible.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Bookings for families in one visit or a family appointment (e.g. paediatric clinics).

4G	Combine appointments for families whenever possible.		I-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Optimise efficiency of transport between the clinic and the dental laboratory.

4H	If using external laboratories put steps in place to ensure as minimal trips as necessary by sending work together to avoid unnecessary journeys.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Purchase larger bulk deliveries to reduce number of journeys.

4I	Bulk buy where possible.		I-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Use of high-end technologies (CAD-CAM and intra-oral scanning) that will reduce the number of appointments and transport to laboratories.

4J	Use digital fabrication technologies (e.g., Scanners and CAD/CAM) to reduce transport of dental impressions.		I-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Increased use of telecommunication for all administrative logistics (eg. SMS reminders, virtual post-op follow ups).

4K	Utilise technology to aid in administrative logistics e.g SMS reminders and virtual follow up appointments.		A-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



## 5. Energy Consumption

Produce own renewable energy, such as solar panels, wind turbines, solar thermal systems and heat pumps.

5A	Produce your own energy through solar/wind/thermal or heat		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Engage in local energy-saving strategies.

5B	Explore the current status and options for the use of energy saving strategies and devices such as; <ul style="list-style-type: none"><li>- Replacing bulbs with LEDs</li><li>- Using fluorescent bulbs</li><li>- Add light sensors</li><li>- Energy efficient monitors</li><li>- Energy efficient TVs</li></ul>		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		

1	Initial subject exploration commenced	
0	This subject is not addressed at all.	

5C	Make use of natural light where possible e.g. opening blinds rather than turning on lights.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5D	Explore the current status and options to maintain and upgrade boilers and air conditioning units to be more energy-efficient with thermostats and timers.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5E	Explore the current status and option for using blinds to assist in regulating the temperature of the dental hospital.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5F	Explore the current status and options for lowering ambient temperature by a few degrees on water heaters and washing machines.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Focus on a reduction of water usage through a range of strategies.

5G	Explore the current status and options for the installation of water meters.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5H	Explore the current status and options for use of low flow devices; Replacement of wet vacuum pumps with dry pumps.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5I	Remind staff and patients to avoid running taps excessively, for example when brushing teeth at home.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5J	Explore the current status and options for assessing water consumption e.g. audit.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5K	Explore the current status and option for switching to eco-friendly cleaning products.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5L	Explore the current status of the environmental sustainability targets of your decontamination supplier and how these may be improved.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

5M	Explore the current status and option to install water-saving devices in the dental hospital toilets.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



## 6. Reduce, Reuse, Recycle and Rethink

### 6.1 Reduce

Purchase of products with minimal packaging.

6A	Discuss and lobby suppliers to mitigate the impact of product packaging.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Use of reusable plastic containers (eg. dental laboratory items).

6B	Explore the current status and options to use and recycle plastic containers where possible (e.g. Laboratory transport).		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## Waste segregation.

6C	Use of colour coded and clearly labelled bins to aid segregation to drive recycling and reuse.		E-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

6D	Explore the current status and options for use of non-chlorinated bag/containers for waste collection; durable containers that can be reused.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 6.2 Re-use

The purchase of high-quality durable equipment that is well maintained.

6E	Engage with procurement processes for the purchase tenders of high-quality equipment with associated maintenance contracts.		E-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Use of low impact alternatives for surface cleaning e.g. hand towels.

6F	Explore the current status and options for surface cleaning and hand towels.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Reduce use of SUP equipment, barriers and shields.

6G	Explore the current status and options for replacing single use plastics where considered safe to do so.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Reusable PPE (including laboratory coats instead of disposable aprons, reusable face shields, reusable bibs for patients).

6H	Explore the current status and options for reusing PPE where considered safe to do so.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Use of washable cups, dishes and cutlery in the staff break room.

6I	Use reuseable crockery in staff rooms/areas.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Upcycle and use recycled products where possible.

6J	Explore the current status and options for upcycling and purchasing recycled products (electronics and furniture).		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Re-usable sharps containers.

6K	Utilise re-usable sharps bins.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Re-usable water bottles.

6L	Encourage the use of a re-useable water bottle for your dental hospital staff.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 6.3 Recycle

Increase staff knowledge about recycling.

6M	Ensure that recycling forms part of your standing agenda item within clinical services meetings on how you can improve sustainability within the dental hospital.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Enable waste separation for ease of recovery for recycling.

6N	Provide separate bins for recyclable materials in both clinical and non-clinical areas.		E-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Identify and use pre-existing recycling programmes to recycle paper and plastic halves of autoclavable bags and packaging.

60	Explore the current status and options for separating plastic and paper from sterilisation packets to recycle.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Recovery and recycling of old instruments, waste alloy, old materials and malfunctioning equipment.

6P	Liaise with waste management to ensure equipment/materials are disposed of correctly and recycled where possible.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



### Recycle waste clinical metal prostheses.

6Q	Explore the current status and options for recycling waste metals where possible including metal dentures, crowns and bridges.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Proactively identify other items that can be recycled effectively.

6R	Discuss at departmental meetings materials not already listed that your dental hospital could recycle (e.g. printer cartridges).		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 6.4 Rethink

Consider the nature of the waste generated and how this can be reduced.

6S	Undertake audit within each assessment cycle to evaluate the waste generated from dental procedures (e.g. surgical procedures) and consider how this could be reduced. Careful planning and execution of clinical procedures should lead to a reduction of plastic.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 7. Waste Management

Establish a baseline of knowledge of current practice through an audit process of waste management. To compare against desired (gold) standards and establish a practical waste management plan.

7A	Carry out audit of your current waste management process within each assessment cycle.		I-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Identify a practical waste management plan.

7B	Develop a waste management plan and review within each assessment cycle to identify steps you can take to improve this over time.		I-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Effective education and training of all staff to increase awareness and engagement with waste management in the hospital to encourage awareness of the environmental consequences of dental waste products.

7C	Hold a staff training session on the need for and benefits of waste management and identify suitable educational resources.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

7D	Create and display where appropriate effective and simple waste segregation flowcharts and clear local rules to enable training and implementation.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Engagement and advocacy with regulatory bodies, healthcare providers, professional dental associations and local/national government to enable effective waste disposal and avoid environmental pollution.

7E	Contact one of the listed organisations to raise your concerns about effective waste disposal and the environmental impact of dentistry.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Identify and use effective and licensed waste disposal services. Ensure that these are close to the hospital to reduce carbon emission from transportation of waste and implementing a practical waste segregation disposal system.

7F	Explore that waste contractors are licensed and complying with the appropriate local and national legislation at all levels, from collection to disposal.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		

0	This subject is not addressed at all.	
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7G	Use licensed handlers for off-site recycling of hazardous materials.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

7H	Use licensed handlers that have a recycle clause.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

7I	Establish a contract which uses total waste management.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

7J	Encourage contractors to diversify to include recycling opportunities.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



7K	Innovate new solutions for reducing waste.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

7L	Use incineration facilities with energy recovery.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Dispose of expired medications effectively.

7M	Have a process for disposal of any medications that have expired and are no longer usable.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Use of food waste collectors with conversion into energy by anaerobic digestion.

7N	Collect food waste for recycling.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 8. Plastics

Conduct environmental audits of the dental hospital following the principles of the International Chamber of Commerce. This should include a waste audit to establish a baseline for amount of plastic being used.

8A	Carry out a baseline audit of the plastic used in your dental hospital/department.		A-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Avoid the use of glossy, coloured, or plastic-coated paper.

8B	Eliminate/rarely use glossy or plastic-coated paper.		I-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Review options for disposal of plastic printed models if used.

8C	Explore the current status and options for recycling of plastic printed models if used.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 9. Clinical Dental Materials

### Effective disposal of dental amalgam.

9A	Have a SOP for the management of waste amalgam in all forms (including extracted teeth).		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Knowledge acquisition in relation to the use of dental amalgam - Minamata Convention.

9B	Reflect on what the Minamata Convention means to you, your team and your patients.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### The adoption of more preventive and adhesive dentistry.

9C	Promote learning on the use of adhesive dentistry with minimal intervention.		I-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Avoid local Hg pollution risks.

9D	Use of water-spray cooling, high-volume vacuum suction and dental dam during amalgam removal in order to significantly reduce environmental mercury vapour.		E-E
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

9E	Use of effective amalgam traps, vacuum filters and amalgam separators that meet ISO11143.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

9F	Review the use of hypochlorite cleaners, as they increase dissolution of mercury in effluent pipework.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## Undertake effective and safe storage of amalgam.

9G	Have an amalgam spill-kit for spills of elemental mercury.		E-E
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

9H	Use a dedicated special container in accordance with relevant regulations for amalgam storage. Ensure that this has a mercury suppressant, that the container is tightly sealed and stored in a cold environment.		E-E
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



Ensure that all waste is handled and disposed of to avoid environmental contamination, in accordance with appropriate local, national or international regulations.

9I	Explore the current status and options for the disposal of amalgam waste and ensure that amalgam is recycled through an approved biological waste management company.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Promote the use of BPA-free RBCs and in all other oral appliances.

9J	Purchase and use of BPA-free RBCs.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Promote a preventive regime implementing MID interventions where necessary.

9K	Promote learning of MID interventions over conventional treatments.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 10. Impressions

Use alternative biodegradable impression materials.

10A	Explore the current status and options for use of biodegradable impression materials.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Reduce the use of impressions and casts through the use of intraoral scanners.

10B	Promote and encourage the use of intraoral scanners.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

10C	Educate the team and the patients about the benefits of intraoral scanners.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

10D	Cross-train the dental team on the use of intraoral scanners to produce digital impressions.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

10E	Implement cost analysis of conventional impressions versus digital impressions.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

10F	Invest in smaller intra-oral scanners for children.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

10G	Implement quality improvement audits on the use of impression materials/scanners.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 11. Anaesthetic Gases

Reduce Nitrous Oxide levels where possible.

11A	Explore different behaviour management techniques before planning for Inhalation sedation.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Use effective protocols and standard operating procedures to avoid atmospheric pollution.

11B	Perform regular checks on potential leaks and wastage from piped hospital manifold systems. Use different technologies that extract gases from released air (e.g. Air scrubbing and Air purifiers)		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 12. Radiography

Use digital radiography to avoid the need for silver thiosulphate x-ray fixer and lead.

12A	Use digital radiography		A-D
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Effective management of radiographic fixer.

12B	If used, ensure radiographic fixer and developer are disposed of according to manufacturer's instructions and not mixed.		E-E
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



12C	If used, ensure you do not dispose of radiographic fixer or developer down the drain.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

12D	If used, ensure waste fixer is collected by a certified carrier.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Recycle lead foil if applicable.

12E	If used, segregate the lead foil from the other components of the film packet.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

12F	If used, do not dispose of film in domestic municipal waste that will end up in land fill or incineration.		E-E
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### 13. Disinfectants

Use of ultrasonic, steam or dry heat for sterilization instead of toxic cleaning agents.

13A	Explore the current status and options for steam sterilization to replace chemical-based sterilization.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Avoid the use of toxic pollutant solutions that could enter into the municipal wastewater sewerage system.

13B	Explore the current status and options for the decontamination of clinical waterlines and how this could be adapted to be more environmentally sustainable.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		

0	This subject is not addressed at all.	
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Avoid the use of certain cleaners containing hypochlorite (sodium hypochlorite and sodium dichloroisocyanate).

13C	Review the use of hypochlorite cleaners as they increase dissolution of mercury in effluent pipework.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 14. Laboratory (Removable and Fixed)

Digital manufacturing processes may mitigate environmental impacts.

14A	Explore the current status and options for the use of digital technologies to manufacture dental devices.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Engagement of laboratory in waste management processes.

14B	Explore the options to engage and collaborate with clinical services and third parties for the management of waste as outlined in this tool.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Reduce transport of dental devices as this carries a carbon footprint.

14C	Have an onsite dental technology laboratory.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

14D	Where possible manufacture dental devices on site.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## Recycle waste clinical metal prostheses.

14E	Explore the current status and options for recycling waste metals where possible including metal dentures, crowns and bridges.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## Recover and recycle dental gypsum, recycled gypsum powder is reported to be 99% as good as virgin gypsum.

14F	Recycle gypsum moulds.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



Review options for disposal of plastic printed models if used.

14G	Explore the current status and options for recycling of plastic printed models if used.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## 15. Procurement

Improved logistics through the combination of deliveries for bulk orders to reduce the environmental impact of transport from supplier to hospital.

15A	Combine deliveries for bulk orders to reduce the environmental impact of transport from supplier to hospital.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Review the environmental sustainability credentials of the products you are purchasing as part of the procurement process.

15B	Review the environmental sustainability credentials of the products you are purchasing.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Engage with suppliers to act in an environmentally sustainable manner.

15C	Discuss and lobby suppliers to mitigate the impact of product packaging.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

15D	Select products with minimal packaging that is easy to recycle.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Purchase eco-friendly alternative sundries, products, and equipment. Such as toilet tissue, paper towels and office furniture, such as bamboo and from reforested wood.

15E	Where possible purchase eco-friendly alternative sundries, products, and equipment. Such as toilet tissue, paper towels and office furniture, such as bamboo and from reforested wood.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Work with the hospital to purchase durable office equipment with long warranties.

15F	Work with the hospital IT department to purchase durable office equipment with long warranties.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Purchase necessary stationery in bulk.

15G	Purchase necessary stationery in bulk.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Purchase tea/coffee from Fairtrade or Rainforest Alliance sources.

15H	Encourage staff members to purchase tea/coffee from Fairtrade or Rainforest Alliance sources.		E-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Procurement should include environmental considerations in addition to fitness for purpose, financial and ethical considerations.

15I	Procurement should include environmental considerations in addition to fitness for purpose, financial and ethical considerations.		I-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Determine recycling information for medical equipment from manufacturers.

15J	Assess recycling information for medical equipment from manufacturers.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

Undertake effective internal stock management within the dental hospital.

15K	Regularly audit stock to check for expiry dates and monitor usage to reduce unnecessary waste.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

15L	Audit stock usage annually and change orders accordingly.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

15M	Use stock rotation to ensure items closest to their use by date are used in preference to newer stock.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

15N	Only order as it is required, reducing excess waste.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		



## 16. Administration

Reduce use of paper.

16A	Undertake paperless meetings.		I-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

16B	Smarter and more cost-effective printing (double-sided, thinner paper).		I-M
Score	Descriptor	Evidence - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

16C	Reduce unnecessary printing (e.g. clinic day lists).		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

16D	Where appropriate consider electronic appointment systems.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

16E	Use electronic order forms whenever possible.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

### Use of digital technology for patient records.

16F	Have an electronic patient record system.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

16G	Use of tablets to record patient clinical assessments (especially forms such as medical history), patient investigation request forms (intraoral scans, digital radiographs) and prescribing.		A-D
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

#### Engagement of administrative services in waste management processes.

16H	Explore the options to engage and collaborate with clinical services and third parties for the management of waste as outlined in this tool.		I-M
Score	Descriptor	<b>Evidence</b> - Resource, link or description	
3	This action is fully addressed		
2	This action is partially addressed.		
1	Initial subject exploration commenced		
0	This subject is not addressed at all.		

## Grading

### Points achieved in each ES Action-Category

Category	Task Code	Weighted Value	Score Achieved	Total Score
Behaviour Engagement	1A	2		
	1B	2		
	1C	2		
	1D	2		
	1E	2		
	1F	2		
	1G	2		
			Total Achieved	
Provision of Good Quality Oral Healthcare	2A	2		
	2B	3		
	2C	2		
	2D	2		
			Total Achieved	
Knowledge Exchange, Research and Education	3A	3		
	3B	2		
	3C	2		
	3D	2		
			Total Achieved	
Travel and Transport	4A	1		
	4B	3		
	4C	3		
	4D	3		
	4E	1		
	4F	2		

	4G	2		
	4H	2		
	4I	2		
	4J	3		
	4K	3		
			Total Achieved	
Energy Consumption	5A	3		
	5B	3		
	5C	1		
	5D	3		
	5E	3		
	5F	3		
	5G	3		
	5H	3		
	5I	1		
	5J	3		
	5K	3		
	5L	3		
	5M	3		
			Total Achieved	
Reduce, Reuse, Recycle and Rethink	6A	3		
	6B	3		
	6C	3		
	6D	3		
	6E	3		
	6F	3		
	6G	3		
	6H	3		

	6I	3		
	6J	3		
	6K	3		
	6L	1		
	6M	2		
	6N	3		
	6O	3		
	6P	2		
	6Q	2		
	6R	2		
	6S	3		
			Total Achieved	
Waste Management	7A	3		
	7B	3		
	7C	2		
	7D	2		
	7E	3		
	7F	3		
	7G	3		
	7H	3		
	7I	3		
	7J	3		
	7K	3		
	7L	3		
	7M	2		
	7N	3		
			Total Achieved	
Plastics	8A	3		

	8B	2		
	8C	3		
			Total Achieved	
Clinical Dental Materials	9A	2		
	9B	2		
	9C	2		
	9D	1		
	9E	1		
	9F	2		
	9G	1		
	9H	1		
	9I	2		
	9J	3		
	9K	2		
			Total Achieved	
Impressions	10A	3		
	10B	3		
	10C	3		
	10D	3		
	10E	3		
	10F	3		
	10G	2		
			Total Achieved	
Anaesthetic Gases	11A	1		
	11B	1		
			Total Achieved	
Radiography	12A	3		
	12B	1		



	12C	1		
	12D	1		
	12E	1		
	12F	1		
			Total Achieved	
Disinfectants	13A	3		
	13B	2		
	13C	2		
			Total Achieved	
Laboratory (Removable and Fixed)	14A	3		
	14B	2		
	14C	3		
	14D	3		
	14E	2		
	14F	2		
	14G	2		
			Total Achieved	
Procurement	15A	3		
	15B	3		
	15C	3		
	15D	3		
	15E	3		
	15F	3		
	15G	2		
	15H	2		
	15I	3		
	15J	3		
	15K	2		

	15L	2		
	15M	2		
	15N	2		
			Total Achieved	
Administration	16A	2		
	16B	2		
	16C	2		
	16D	3		
	16E	2		
	16F	3		
	16G	3		
	16H	2		
			Total Achieved	
Total Achieved (n)	Sum of the scores in final column			
Total Achieved (%)	$[(n) \text{ achieved} * 100] / (n) \text{ total achievable}$ e.g.: $(286 * 100) / 953$			
Total Achievable Score (100%)	$[16 \text{ G actions} * 3 \text{ Max grade} * 1 \text{ Weighting}] + (49 \text{ A actions} * 3 \text{ Max grade} * 2 \text{ Weighting}) + (68 \text{ R actions} * 3 \text{ Max grade} * 3 \text{ Weighting})$ $(16 * 3 * 1 = 48) + (49 * 3 * 2 = 294) + (68 * 3 * 3 = 612) =$			<b>954</b> (100%)

## Points achieved for ES Action according to RAG rating

Importance – Difficulty	Points obtained
Green Actions	
Amber Actions	
Red Actions	

## ES Actions Achieved - RAG

Environmental Sustainability Achievement Reckoner				
Tool Kit Actions	Activity Codes	Number of Points Available (Weighted: x1 for Green, x2 for Amber, x3 for Red)	Number of Points Achieved	% Achievement
Green Actions	E-E	48		(number points achieved/number points available) *100
Amber Actions	E-M, I-M, I-E	294		(number points achieved/number points available) *100
Red Actions	E-D, I-D, A-E, A-M, A-D	612		(number points achieved/number points available) *100

## Overall Attainment

The institution receives grade for each individual action as well as an overall institutional 'Final Grade'.

The overall institutional grade is a weighted average of the action grades according to the category and the position in the Ebel grid (the colour in the order of importance and difficulty of attainment) with Red receiving the higher weight than Amber and the Green category.

Due to large number of metrics, these are consolidated into an overall institutional grade according to the table below. Letter grades for each section assigned according to the table below.

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

Category	Raw Score	Potential Score	Percentage Achieved	Letter Grade
Behaviour Engagement		42		
Provision of Good Quality Oral Healthcare		27		
Knowledge Exchange, Research and Education		27		
Travel and Transport		75		
Energy Consumption		105		

Reduce, Reuse, Recycle and Rethink		153		
Waste Management		117		
Plastics		24		
Clinical Dental Materials		57		
Impressions		60		
Anaesthetic Gases		6		
Radiography		24		
Disinfectants		21		
Laboratory (Removable and Fixed)		51		
Procurement		108		
Administration		57		
Dental Hospital Grade		954		

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<sup>i</sup> <https://www.planetaryhealthalliance.org/home-page>

<sup>ii</sup> Martin N, Sheppard M, Gorasia G, Arora P, Cooper M, Mulligan S. Awareness and barriers to sustainability in dentistry: A scoping review. *J Dent.* 2021 Sep;112:103735. doi: 10.1016/j.jdent.2021.103735. Epub 2021 Jun 25. PMID: 34182058.

<sup>iii</sup> Martin N, Sheppard M, Gorasia G, Arora P, Cooper M, Mulligan S. Drivers, opportunities and best practice for sustainability in dentistry: A scoping review. *J Dent.* 2021 Sep;112:103737. doi: 10.1016/j.jdent.2021.103737. Epub 2021 Jun 26. PMID: 34182061.

<sup>iv</sup> Martin N, Mulligan S, Shellard IJ, Hatton PV, editors. *Consensus on Environmentally Sustainable Oral Healthcare: A Joint Stakeholder Statement*. York (UK): White Rose University Press; 2022 Dec. PMID: 38687834.