Agenda Item No: 15

Healthcare Waste and NHS Green Plans

To:	Adults and Health Committee
Meeting Date:	5 October 2022
From:	Chief Officer Partnerships and Strategy, Cambridgeshire and Peterborough Integrated Care System (ICS)
Electoral division(s):	All
Key decision:	No
Outcome:	To provide information on healthcare waste and disposal as requested by the committee To provide an overview of the ICS green plan, actions to reduce healthcare waste, and collaborative working opportunities
Recommendation:	Adults and Health Committee is recommended: to note the plans and actions underway to tackle waste and promote carbon reduction, including through partnership working at system level

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1. Background

1.1 This report was requested following a discussion at Full Council meeting of Cambridgeshire County Council in January 2022, which highlighted concerns regarding energy from waste plants as a local solution to dealing with waste, including healthcare waste.

In supporting these concerns, the Council invited the Integrated Care System (ICS) Estates Group to provide a collective response outlining how the healthcare sector locally are reducing waste, including plastic waste, and a brief overview on how waste generated within each trust is disposed of, including the role of the incinerator at Cambridge University Hospitals NHS Foundation Trust (CUH) in treating locally produced healthcare waste.

1.2 This report covers the following information:

- How different types of healthcare waste in Cambridgeshire and Peterborough are handled and disposed of
- Actions to reduce healthcare waste and the NHS carbon footprint
- Collaborative work on the green agenda across Cambridgeshire and Peterborough, with a focus on waste

2. How different types of healthcare waste in Cambridgeshire and Peterborough are handled and disposed of

2.1 Healthcare waste can be broadly categorised into: a) Domestic and Dry Mixed Recycling (DMR) and b) specific healthcare waste streams, which requires specialist treatment.

All trusts aim to maximise recycling of domestic mixed recycling wastes through sustainable waste management, including for example specialist recycling of certain types of waste, such as toner cartridges, batteries and reuse of items such as furniture and walking aids.

The remaining general/DMR waste is processed via contracted services. Each trust has their own contract to dispose of this waste. A summary of the different arrangements in place across the system is provided in Appendix 1, Table 1.

2.2 Healthcare waste that does not fit into the general/Dry Mixed Recycling waste is segregated into six principal waste streams:

- 180103: Yellow sacks – infectious – incineration only;
- 180103: orange sacks – infectious – suitable for alternative treatment;
- 180104: “tiger” sacks – non-infectious – offensive;
- 180103/09: sharps with medicinal contamination – infectious – incineration;
- 180103/08: sharps with cytotoxic/static contamination (and small quantities cytotoxic/static medicines) – incineration; and
- 180109: non-hazardous medicines – incineration.

All segregation is based upon risk assessment of hazard by the clinical staff generating the material.

Care is taken to try and utilise the incineration waste stream as little as possible for the

wastes that have only this option as a disposal method. NHS England have asked trusts to aim for a suggested “good practice” segregation split of 20:20:60 (incineration: alternative treatment: offensive).

2.3 A summary of the current disposal routes and segregation splits for the non-domestic /dry mixed recycling waste by Cambridgeshire and Peterborough trusts is provided in Appendix 1, Table 2.

2.4 The Cambridge University Hospitals NHS Foundation Trust (CUH) incinerator provides disposal for 7- 8 tonnes of healthcare waste per day. This waste is generated from CUH and Royal Papworth Hospital (RPH). On-site incineration of healthcare waste is subject to constant emissions monitoring and very tight permit controls whilst significantly reducing the carbon emissions that would arise from waste road haulage and providing heat recovery to directly warm the hospital campus premises (15% of total).

2.5 There is monitoring at a national level, with all providers responsible for providing regular returns. In future we expect to have greater visibility as part of the overall ICS oversight in tracking our carbon footprint.

2.6 Within primary care, there are also varying arrangements in place for managing clinical waste, facilitated by commissioners and property services. Future re-procurement will provide opportunities for improved co-ordination, oversight and performance.

3. Actions to reduce waste and plastics across Cambridgeshire and Peterborough ICS

3.1 The NHS has committed to net zero targets. The Green Plans set out each organisation’s priorities for delivering them. All trusts within Cambridgeshire and Peterborough have Board-approved Green Plans with specific targets to cut carbon emissions and priorities to embed circular economy principles and lifecycle thinking into how we procure, use and dispose of the goods and equipment required to run modern healthcare provision. From the waste perspective, examples include:

- Minimising the use of single use plastics and seeking more sustainable alternatives (e.g. PPE, surgical gowns, curtains, re-usable sharps bins and catering supplies)
- Expanding on-site reuse, repair and recycling facilities, e.g. for redundant furniture and walking aid returns
- Tackling medicines waste
- Working with suppliers to reduce product and packaging waste footprints through the procurement process

3.2 Some examples of specific initiatives:

- CUH sustains six specific re-use, sixteen recycling and two food waste bio-digestion segregation streams. As well as extensive recycling facilities across all hospital premises, the re-use and recycling aspects include: replacement of all catering plastics in retail outlets (and this is now being extended to other sources); collection of returned walking aids on site and at sixteen other locations around Cambridge for decontamination and re-use; promotion of re-use through the online SwapShop, with

plans to extend this via the national Warp It platform (a site that distributes reuses and recycles surplus redundant resources) and extensive repair and reuse via Estates Maintenance and Clinical Engineering. Waste segregation training is also provided to staff as an essential on-line learning module and in 2021 a project to relabel all lidded bins was completed to improve the clarity of the 'what goes in me' message.

- CPFT are undertaking a project to identify all uses of single use plastics with the aim of finding alternatives. They are also making increased usage of British Medical Auctions for serviceable medical devices and reusing furniture and equipment during refurb projects.
- CCS ensure 100% recycling of confidential waste, using a certified carbon neutral service provider
- NWAFT are targeting action to reduce pharmaceutical waste through improved education and better segregation of this waste stream.
- The Cambridgeshire and Peterborough pharmacy and medicines optimisation sustainability plan has a key focus on reducing medicines waste, for example through medication reviews and greener prescribing, with a particular focus on inhalers, and promoting recycling opportunities for medicines and blister packets.

4. Collaborative work on the green agenda

4.1 The Cambridgeshire & Peterborough Integrated Care System (ICS) was launched on 1 July 2022 and is a partnership between NHS organisations and providers, local authorities and voluntary, community and social enterprise organisations to promote, support and improve the health and wellbeing of the local population. It provides an opportunity to develop collaborative approaches in order to maximise our collective impact on health and wellbeing outcomes. Carbon reduction has a direct link with health outcomes and is a key joint priority for our ICS partnership. The priorities for carbon reduction in healthcare closely align with the priorities of local authorities and other partners, and we are working collaboratively both through the ICS structures and the climate action working group to address this agenda.

4.2 The ICS green plan builds on the individual trust plans and sets out a system-wide framework for sustainability and carbon reduction. It identifies areas of focus for collaborative action in order to embed circular economy principles within healthcare.

Our overall priorities:

Workstream	Vision	Strategic Objective
Workforce & Leadership	A knowledgeable and motivated workforce that understands sustainability and feels empowered to act on the issue in the workplace and independently.	Promote, increase awareness of and embed sustainability within the ICS through integrated training programmes, strategic processes, and voluntary opportunities.
Estates & Facilities	An ICS that minimises its climate impact by decarbonising its built environment and being prepared for future extreme climatic events.	Construct and retrofit buildings to the latest standards and pursue renewable energy solutions through partnerships to maximise efficiency and resilience.

Research & Innovation	An ICS with strong partnerships with business and academia to enable investment into and rollout of technologies and innovations.	Leverage the strengths of Cambridgeshire and Peterborough innovation and research networks to help assess, test and implement innovative products and practices that can support delivery of our green plan targets.
Active & Sustainable Travel	A workforce and patient base that is inspired and incentivised to use sustainable modes of transport where possible.	Align with and promote an active and public travel strategy for staff and patients to reduce carbon emissions from travel.
Supply Chain, Procurement & Waste	An ICS that drives emission reductions throughout the wider supply chain with a circular economy approach to procurement and waste.	Reduce emissions from the supply chain through the implementation of holistic procurement practices and more sustainable utilisation of consumables across healthcare service delivery
Sustainable Models of Care	An ICS that adopts sustainable healthcare practices, minimises preventable ill health, and supports people to manage their health and wellbeing through person-centred care.	Create forums for knowledge sharing and best practice, pursue digital healthcare solutions, and promote personalised care and social prescribing.

4.3 Specific areas of focus for collaborative system work:

Workforce and skills
The development of a carbon literate workforce is a shared objective across ICS partners, with the aim of supporting staff to feel empowered and enabled to adopt behaviours and make choices which minimise the impact on the environment. We are working together to learn from different approaches, share good practice and seek collaborative opportunities to promote green literacy across our staff and communities. We are also collaborating to ensure staff have the skills and tools to assess new initiatives and programmes from a sustainability and equality perspective, using a common approach.

Transport and travel
The public health benefits of active travel are well documented and encouraging our communities to walk or cycle where possible will have a significant impact on their health and wellbeing. The council's active travel strategy plays a key role in supporting this goal and continued engagement on this agenda will ensure future opportunities for collaborative working are maximised. For example, increasing access to active travel opportunities through social prescribers, health trainers, community champions and other local professionals as part of place-based pathways.

Procurement and waste
The largest contribution to the carbon footprint within the ICS comes from procurement of goods and services and the supply chain. Our greatest challenge in tackling climate change is embedding circular economy principles in the way we procure, use and manage resources, considering the cost of carbon and waste as part of our decisionmaking.

Sustainability is addressed within organisational procurement policies, and all NHS contracts include a 10% minimum weighting on social value. Our opportunity as an ICS is to share expertise, increase our knowledge of what works and promote a consistent approach with our suppliers in order to maximise our impact.

Single use plastics is a key priority within this theme. In the NHS, it is estimated that single use plastics represent between 25% and 40% of the total waste stream per annum (including infectious and non-infectious waste categories). There are many diverse challenges behind this including for example the complexity of design, packaging and recycling potential of different products, the knowledge and expertise of buyers, incorrect or excess use of infectious waste streams, and barriers to downstream recycling. Coming together to find system level solutions to some of these challenges will be crucial in addressing this agenda, as well as focusing on more immediate priorities such as supporting take up of walking aid reuse and remanufactured devices.

Engagement
The engagement and involvement of staff, partners and communities is crucial to our success. We have put in place mechanisms for joint planning of campaigns and engagement opportunities, with identified leads from each of our organisations to take this forward via the comms climate group.

Governance
We have established collaborative working as part of formal governance arrangements through the Climate Change Working Group and the ICS Green Plan Programme Board, and we are making sure there is oversight and ownership at a strategic level across our organisations.

5. Conclusion

5.1 By working collaboratively at system level with all partners, we have the opportunity to tackle more effectively our shared challenges on waste and carbon reduction. The Integrated Care System is at the early stages of this work, but this work is at the heart of our strategic aims and we have aspirations to make a meaningful impact for our population and the wider economy. To support this, we are in the process of firming up our governance structures and delivery plans to ensure we remained focused and track our progress. We will ensure there is regular communication and updates for system partners and leaders.

6. Source documents guidance

6.1 Source documents

None, information provided directly by the Estates Directors of trusts.

Links to trust Green Plans:

CUH - https://www.cuh.nhs.uk/about-us/our-structure/other-departments/think-green/what-are-we-doing-about-sustainability/

CPFT – https://www.cpft.nhs.uk/ (link to document not available at time of writing)

CCS - https://www.cambscommunityservices.nhs.uk/docs/default-source/default-document-library/ccs-green-plan-2022---2025.pdf?sfvrsn=0

NWAFT – Enabling Strategies – North West Anglia NHS Foundation Trust (nwangliaft.nhs.uk)

RPH - Providing sustainable healthcare at Royal Papworth Hospital

Appendix 1

Table 1: Disposal of general / dry mixed recycling healthcare waste

Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) and Cambridgeshire Community Services NHS Trust (CCS)	The majority of wastes from healthcare practices undertaken by CPFT and CCS are collected and disposed of under contracted services with Amey Cespa (East) Ltd, Waterbeach, Cambs. The DMR is taken to Amey's premises at Waterbeach and is processed in the recycling unit – the separated fractions are then sent off for reprocessing. The remaining general waste is taken to Amey's Mechanical Biological Treatment plant at Waterbeach where the materials are either further processed or diverted to an off-site energy from waste plant. This affords 97-98% landfill diversion.
Cambridge University Hospitals NHS Foundation Trust (CUH)	All CUH General and DMR wastes are collected by Ellgia Ltd. DMR is taken to Ely where it is sorted and segregated. Any wastes not considered to be recyclable which have been disposed of via this route, are then taken to Ellgia's alternate site in Ely where it is bulked up and sent to Scunthorpe for further processing into Refuse Derived Fuel (RDF). General waste is taken to Ellgia where it is bulked up and then sent to Scunthorpe for processing. It is sorted on arrival, and if not recyclable then will be processed for RDF. Ellgia have confirmed that no waste is sent to landfill from these processes. Should any waste not meet the criteria for RDF, then it is re-processed and until that process can be followed.
Royal Papworth Hospital NHS Foundation Trust (RPH)	At the Royal Papworth Hospital site and the Staff Accommodation site in Waterbeach general waste and DMR is collected by Veolia. At the Royal Papworth House site in Huntingdon waste is collected by Huntingdon District Council. Both general waste and DMR from the hospital site are taken to the Cambridge Veolia Transfer Station for segregation with appropriate materials taken to Veolia's Rookery South Energy Recovery facility where materials that cannot be recycled are converted from waste into energy to produce electricity for the national grid. No residual waste is taken to landfill through the process as all residuals are recycled including the ash. Recyclable DMR waste will be taken to Rochford in Essex where all the mixed recycling is segregated into the differing waste streams for recycling. Battery waste is collected by WasteCare via Veolia and processed at the Wakefield site.
North West Anglia NHS Foundation Trust (NWAFT)	At the Peterborough City Hospital, general and DMR wastes are transported by Tradebe's subcontractor, Veolia. At the trust's other sites (Hinchingbrooke Hospital, Stamford and Rutland Hospitals and other satellites), general and DMR wastes are transported by Biffa. Waste from all sites is taken to the local Viridor Energy from Waste centre in Peterborough to be reprocessed as RDF. Toners and battery waste from all sites are collected by WasteCare and processed at their Wakefield site.

Table 2: Disposal of non-general/dry mixed recycling healthcare waste streams:

	Incineration	Alternative treatment	Offensive
CPFT & CCS (same contract)	20.5% (CPFT) Sent either to Tyesley, Birmingham (Veolia) or Sandwich, Kent (WasteCare)	15.1% (CPFT) Amey Cespa (East) Ltd, Waterbeach, Cambs	64.4% (CPFT) Offensive wastes are currently sent either to landfill at Milton (FCC Environmental) or Energy from Waste at Benson, Oxfordshire (Grundon)
CUH	All of CUH non-domestic waste is incinerated on site, incorporating steam-generating heat recovery directly into the campus district heating system (this generates 15% of all site heating per year). On-site incineration provides additional very significant carbon/pollution savings from the avoidance of road haulage. Constant emissions monitoring systems are in place to ensure management of all potential pollutants, including dioxins are kept within strict limits.		
RPH	All non-domestic waste within RPH is incinerated via the CUH incinerator, incorporating all of the savings highlighted above. The Trust does not segregate as all alternative treatment waste is sent via the CUH route for incineration.		
NWAFT	34.64% Peterborough City Hospital (PCH): Transported by Tradebe to their Rochester site. Other sites: Transported by SharpSmart to their Rainham site.	41.55%* PCH: Transported by Tradebe to their Rochester site. Other sites: Transported by SharpSmart to their Rainham site.	23.81%* PCH: Transported by Veolia to Viridor's EfW P'boro. Other sites: Transported by Biffa to Viridor's EfW P'boro.

*These figures are expected to show improvement in 22/23 following the implementation of the offensive waste stream at Hinchingbrooke in March 22.