



INTRODUCTION OF REUSABLE COFFEE CUPS AND FOOD CONTAINERS AT ROYAL CORNWALL HOSPITAL - DOMESTIC SERVICES TEAM

TEAM MEMBERS: Charlotte Wakeham – Domestic service manager, Rachel Gibson – Duty Domestic Service Manager, Heather Tilsley – Quality Improvement Manager and Chris Simmons – Restaurant Manager.

Aim: Introduce and promote the use of re-usable cups and take away boxes in replacement of disposable coffee cups and containers.



Background:

At the Royal Cornwall Hospital Trust (RCHT) we have an onsite Starbucks located within our main restaurant and a satellite site which operates under the same franchise. We recognised that due to covid and regulations changing only disposable coffee cups and take away boxes have been in use. It was evident that these were ending up in general waste as well as littering site grounds.

RCHT have made a pledge to reach net zero by 2030, and with this in mind we are trying to adopt a reduce, reuse and recycle philosophy across our sites. Disposable coffee cups cannot go into standard dry mix recycling and therefore must be recycled separately, currently being thrown away with domestic waste. While our sites use vegware compostable containers, there is no dedicated compost disposal for these containers. We acknowledged we can have a greater impact by reducing the use of single use items in the first place by encouraging use of re-usable cups and take away boxes.

Methods / Approach:

Studying the system: We collected baseline data on how many disposable cups and boxes were being used based on restaurant sales. We assumed that for each sale, a disposable cup or box was used as reusables had been banned during the Covid19 pandemic. An average total of 1000 coffee cups and 500 takeaway boxes were used each day.

We initially provided a staff survey to gauge how responsive staff would be to the promotion of reusable cups and containers. The survey was released for 24 hours before being pulled due to technical issues, however in the one day, we received 25 responses, to which a 3rd of staff agreed to bringing their own cup and/or container.

Implementing change:

Due to several factors (as discussed later in barriers encountered), it was not possible to commence promotion of reusables over the Green Team project period however the facilities senior manager is involved in supporting us to drive this project forward. To promote this project in the best way we will be making a short video to inform and encourage the use of re-usable items for the restaurant, which will be shared on the trust's sustainability media pages.

We will be implementing a staff incentive of a 10p discount to anyone who uses a re-usable coffee cup initially only at our self-serve stations. We will then plan to roll out the same incentive to our restaurant and coffee shops. We have sourced branded re-usable cups that will be offered for sale to encourage patrons further. We will give patrons the option of using a re-usable plate to eat a meal within the restaurant and encourage them to 'bring your own' take away box which will be recorded at the till for monthly reviews. We recognise



we cannot eliminate all waste, so are also looking into options for improved recycling of disposable cups and containers.

We are initially aiming for a 10% reduction in the use of disposable cups and boxes, a conservative estimate based on 33.3% of staff reporting they would use recyclable cups in our small survey data set. We will be measuring progress by monitoring the sales data with 10p discount applied. This will be reviewed monthly by showing weekly reduction totals presented in a chart. Once we have reached a 10% reduction, we will promote a higher goal to keep momentum going.

Measurement:

Environmental benefit: We used the carbon emissions factor for disposable coffee cups calculated from the Mike Berners Lee book 'how bad are bananas'. To calculate an emissions factor for the vegware containers, we used the Nature Works Calculator¹. We also weighed a single cup and box to calculate waste savings. We made an assumption that all current single use items will be placed into domestic waste. As there will be huge variation in the types of cups and containers used by staff, and due to their use not contributing to the carbon emissions of the trust, carbon emissions for reusable products were not considered.

Financial benefit: There will be a financial saving from reduced procurement of disposable cups and containers, as well as from waste disposal.

Social impact: Engaging all staff in a simple step to help produce a greener future, money saved can be put towards creating a green space for a staff rest area.

Results:

Environmental benefits:

Based on an assumption of a 10% reduction of disposable items per day, we will prevent 100 cups and 50 containers from going to landfill per day. Potential carbon savings are summarised in the table below. Our total carbon reduction is equivalent to 12,865.96 miles driven in an average car.

Table 1:	Disposable coffee cup (cup and lid)	Vegware food tray
<i>Carbon footprint for single item (including disposal)</i>	0.11kg CO2e	0.0248kg CO2e
<i>Number of items used per day</i>	1000	500
<i>Total current carbon footprint</i>	110kg CO2e / day	12.8 CO2e / day
<i>10% reduction in number of items</i>	100	50
<i>Potential daily saving with 10% reduction in use</i>	11kg CO2e / day	1.24kg CO2e / day
<i>Potential annual saving with 10% reduction in use</i>	4,015kg CO2e	452.6kg CO2e
<i>Total saving:</i>	4,467.06kg CO2e	

Economic benefits:

Initially there has been no need to invest any finance into this project, although we would like to reduce our waste further by recycling our remaining disposable cups, which may require some investment as there is no waste stream in Cornwall available for this purpose currently.

There will be potential financial savings from reduced procurement of disposable items, however we have not been given authority to have the pricing of disposable items so cannot calculate potential figures.

There will be a reduction in waste of 4.6kg per day from cups and 1.4kg from containers, totalling 2.19 tonnes per year. Assuming this is all removed from the domestic general waste stream, there will be an annual financial saving of **£365.07**.

Social sustainability:

This project will hopefully impact everyone eventually, with staff developing a new habit to bring their own cups and containers, motivated by knowing the small change can make a big difference. We hope this habit will also be continued outside of work to cafes within the community, and shared with family, friends and even patients. We hope to further benefit staff using the restaurant by promoting green spaces to sit and enjoy lunch.

Clinical and health outcomes:

All processes have been approved and agreed by our infection prevention control team and we are following all the necessary precautions to avoid any cross contamination. This helps all patrons to feel safe and assured that these processes are not going to pose any infection control risks to anyone's health.

Barriers encountered:

Unfortunately, due to a spike in covid rates at the hospital, the café remaining closed, and key staff being sick or on holiday, progression with this project has been slow.

We have also identified issues in implementing the changes into our main coffee shop as we often deal with big orders in which they write directly onto the disposable cups to avoid confusion. We are working on identifying a solution to this issue, with one potential solution to source and sell re-usable cups that look the same as the disposable ones, with the ability for staff to write on them.

Cornwall does not have access to facilities for recycling. After much research and contacting we found that Cornwall doesn't have a direct waste stream to collect cups for recycling or an industrial composting plant to process our waste in a green way. It is something that we are still working on and hope to find a resolution for. We have discovered the companies that provide cup recycling services and onsite composting facilities. We have learnt that we need to adopt the re-use approach rather than recycle to get the best results to achieve net zero.

Conclusion:

Although the project didn't go quite in the direction we expected, we have persevered and are finally getting things in place. As a team we have learnt not to give up, to adapt where necessary and to remember that small changes do make a big difference.

The key to success is to do as much research as possible to find out your limitations before making plans. If possible, engage with people to understand their perspective and if they are willing to do things differently. Focus on one aspect instead of trying to change everything at once, educate and inform people will help to make lasting changes as most of the time people just do not know. i.e., most people do not realise you cannot recycle coffee cups with mixed recycling.

This project is relevant for everywhere and anywhere, most coffee shops offer discounts to people who bring their own cups, provide more facilities to offer recycling where re-usable is not possible. It could be

introduced in shopping centres, universities and offices. Set up a recycling bin just for coffee cups, inform people through media etc and maybe set up an incentive scheme to encourage change.

References

[NatureWorks | Environmental Benefits Calculator \(natureworksllc.com\)](http://natureworksllc.com)