Supplementary File 2 – Co-Design Workshop 1 Field Notes

Session 1:

1. **Exploration of Recycling**
    a. **Is there much recycling of non-contaminated waste occurring in this hospital?**
    - Hospital's Green champion reported that the hospital's staff cultural survey identified that staff would like to see more action to reduce waste and carbon footprint
    - Currently there are no commingled recycling bins around the hospital at sources of waste generation; the only commingled recycling bin is located outside the back door of the kitchen and not conveniently located for use by clinical staff
    - Staff at this time had been voluntarily sorting appropriate bottles into Containers for Change program and dropping it off themselves. Collection being done in staff tearoom, however management stopped the practice as the funds should be coming back to the hospital. The staff couldn't set up a hospital-based account with the scheme because there is no bank account that the hospital can deposit funds into currently so plastic bottles are still going into landfill. One participant stated that the local Containers-for-Change scheme offered to provide bins that they would pick up and drop off. Did not progress due to limitation around what to do with the money. They suggested donating it to the Base hospital foundation and was told they would look into it. This was about six months ago.
    - Recycled cardboard has had most success, easy to do
    - One wardsman voluntarily sorts recyclables out of general waste, has had resistance from other staff due to concerns around infection control. Kitchen waste has no separation of recycling, he also sorts this sometimes.
    - Green Champion located PVC Recycling In Hospitals service.
        - Handles any Baxter bags, lines, and oxygen masks, as long as they are not contaminated
        - Potential transport fee (unknown) if this hospital site was deemed "remote," otherwise free of charge
        - Baxter doesn't collect used tubing from the hospitals in this region as deemed not feasible logistically
        - Visiting Obstetrician and Gynaecologist specialist leaves boxes at this hospital (voluntary) and collects when doing his rotations through this hospital and takes them to a larger regional hospital which is a collection point for Baxter. Pharmacist advised research team that
        - A previous Manager of Operational Services at the hospital had stopped staff from collecting Baxter plastic waste to give to this visiting specialist
    - Food waste identified as issue: the hospital cooks on site for inpatients and Meals on Wheels - the Manager of the town's waste facility later advised that the town's waste facility cannot process food waste.
    - Clean paper waste: first cut up and used as note paper, then shredded, then left for staff personal use (pet bedding, gardens etc.)

Commented [JS1]: BCW: Motivation

Commented [JS2]: BCW: Lack of physical opportunity

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Commented [JS4]: BCW: Physical opportunity (barrier)

Commented [JS5]: Barrier: organisational hierarchies

Commented [JS6]: BCW: Capability (knowledge of what is appropriate to recycle)

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Commented [JS8]: BCW: Physical opportunity (Barrier: hospital lacks a food dehydrator - financial constraint)

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- Surface level bin check showed 12 general waste bins mostly all full (with recyclable materials inside) and one commingled recycling bin (almost empty, mostly aluminium cans)
- Stainless steel surgical equipment and instruments identified by CN in charge of theatre as major waste stream:
    - certain metal instruments are "just tossed"
    - CN in charge of theatre was collecting these, but had to start putting them in landfill again due to volume collected with no means of recycling them
    - Staff do not disinfect and re-use steel implements as much as they could. CN in charge of theatre had been disinfecting them at high temperature, but had ceased doing that at some stage
- Green Champion and Pharmacist believe running recycling to local Waste Facility won't be issue. Only five minute drive from hospital, plenty of vehicles and willing staff
- Hospital staff voluntarily take cardboard waste to local Waste Facility

b. Do you feel knowledgeable on what components of the non-contaminated waste generated in your work area could be recycled?

- Lack of confidence on knowledge of appropriate recycling found in informal conversations with staff
    - "I think the area of plastics is very confusing, so certainly in the home space. Some is recyclable, some isn't, some is return to store, some is thrown away, so I think that's a complex space for people. You can't assume that all plastics are recyclable… I think for the plastic side of stuff is very complicated… I think probably making people aware of what items are easily recyclable and how we would store those and segregate those in the workspace" – Participant G05,
    - "I would need some guidance and some education around what we can put and where." – Participant G29
    - "No. Obviously with education, yes, and the team would be very happy to, as long as they're told what they can and can't put in there. But, at this point in time, I wouldn't say that I've got enough knowledge to know what I could and couldn't put in a bin." – P12
    - "…I would want guidance on a document or a poster or on the bins." P21

c. Do you have any suggestions for how this hospital could improve waste segregation, recycling, and disposal?

- Get some commingled recycling bins around the hospital for staff to use – everyone is keen to recycle the plastic water bottles
- Lack of space for bins identified as barrier to recycling:
- "One of the constraints we've got here is space, so having lots of different bins would be a challenge, so really looking at how we could perhaps centralise some of those collection areas to help us." – Participant G05, Phase I
- Desire to not introduce more workload identified as potential barrier to recycling:

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Commented [JS11]: BCW: Capability (knowledge)

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Commented [JS14]: BCW: Capability (Barrier)

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- "…trying to get that and not put an additional workload on the staff trying to get that separated out would be a challenge, so I think some education in that space about how we're smarter in that way of segregating…" – Participant G05
- Lack of bank account for Containers for Change identified as barrier to recycling:
  - Much discussion around a desire to participate in Containers for Change scheme, and lack of bank account to accept funds from scheme

d. In your work area are there recycling bins?

- Currently, little to no recycling bins inside hospital.
- One of the participants says every room needs separate recycling and landfill bin, but recognises possibility for space limitations
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e. Are there any barriers to placing recycling bins at points of waste segregation?

- Nursing participants identified space limitations in treatment rooms and nurses' stations as a problem
- Participants also queried which staff would be responsible for collecting bins and emptying contents into the large wheelie bins out the back of the hospital – acting MOS reported that wardsmen and not cleaning staff would collect these bins.

Session 2

2. Brainstorming Barriers to Recycling within Hospital
   i. BINS
      a. How many recycling bins does the hospital need?
         - What recycling streams?
         - How many different types of bins?

      b. Water bottles: eligible for the Containers-for-change scheme
         - Would one CFC bin on each ward work for collecting water bottles?
         - How do we educate nurses, operational services staff and patients/visitors to dispose of empty water bottles in these bins?

      c. Who?
         - In each area who will be responsible for ensuring waste goes in the correct bins?
         - Who will be responsible for emptying smaller CFC bins on wards into CFC wheelie bin at back of hospital?

      d. Limited Space
         - How do we get recyclable waste into the appropriate bin if there not enough space in the work area for a recycling bin?
         - With limited space, which recycling stream do we prioritise?

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