

Coming Up Roses: A Sustainable Solution to Continence Products Disposal
Julianne Munro, Christchurch Women's Hospital
A Webber Training Teleclass



Coming Up *Roses*

**A sustainable solution to
continence products disposal**

Julianne Munro
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Canterbury District Health Board

Hosted by Jane Barnett
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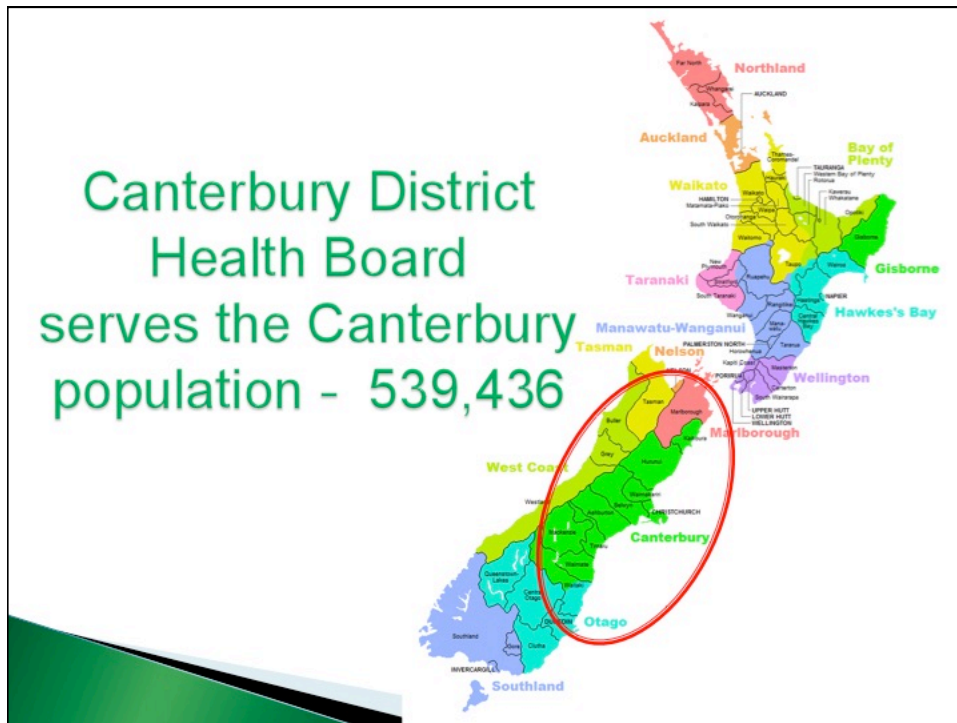
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Objectives

- ▶ Explain the current situation
- ▶ Establish if continence products are a significant part of the waste stream
- ▶ Describe composting system for continence products
- ▶ Analyse the costs of composting continence products as opposed to medical/infectious waste removal costs
- ▶ Clarify whether a new waste stream was achievable in a clinical setting
- ▶ Outline requirements to meet standards and ensure safety for the general public

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Continence Products Facts of the Matter

- ▶ Essential in health care
- ▶ Usage in older populations increasing
- ▶ 2021 – 65 yrs+ 18% of Canterbury population



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Adult continence product purchase CDHB hospitals - 2010 to 2014

Year	Individual products
2010	518,053
2011	507,838
2012	540,229
2013	590,008
2014	654,142
2021	1,274,738 *

** Conservative projection based on historical growth*

Figures do not include

- ▶ Nappies
- ▶ Sanitary pads
- ▶ Aged residential care facilities



'Continence products are two-thirds the size of the nappy market, but expected to grow five times'

EnviroComp

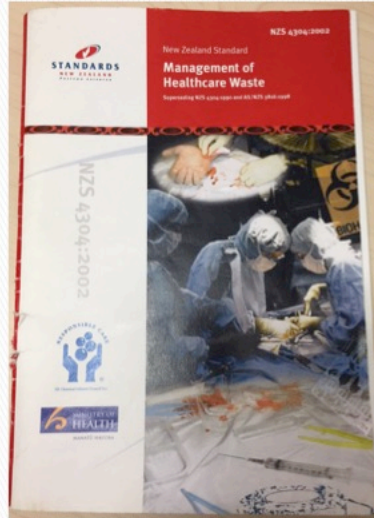
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New Zealand Healthcare Waste Streams

▶ Healthcare waste:

- **Hazardous**
 - Sharps
 - Non sharps
 - infectious
- **Non-Hazardous**
 - General
 - Recyclable
- **Controlled**



Kate Valley Landfill



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Plastic Fantastic Reality Check



► Breakdown of plastic in landfill = 10, 100, 500, 1000 years, never?

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There has to be a better way!



Coming Up Roses Project



Thinking outside the square

- ▶ *Human potential at its best is to transform a tragedy into a personal triumph, to turn one's predicament into a human achievement.*

–Victor Frankl

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- ▶ A local company
- ▶ Environmental Winners
- ▶ R5Solution's HotRot
- ▶ *'We have the technology but we need to have someone to take the risks and go out into the community and encourage people to do this'*

–George Pottinger, R5Solutions



HotRot Technology



- ▶ Products shredded
- ▶ HotRot vessel with green waste added
 - Mixed ±480 times/day
 - 16–20 days
 - Over 55°C

- ▶ End product compost

▶ New Age Miners!



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Was anyone using this system?

- ▶ Ngaio Marsh Village Manager, Jenny Thiele
 - *'The only initiative we've introduced where everyone was excited'*
 - *'Saves time, and it's the right thing to do'*

Pilot Ward – 3 weeks

- ▶ Assessment, Treatment & Rehabilitation Ward for ≥ 65
 - Very enthusiastic staff
 - Brainstormed issues
 - Champions
- ▶ Infection Prevention
- ▶ Segregation
- ▶ Education
- ▶ Surveys
- ▶ Commenced with MOU



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Set up a temporary new waste stream



Were continence products a significant part of the waste stream?

2010 - 3 week trial

- ▶ 72% of hazardous waste was continence products
- ▶ Average Product Weight = **287 grams**
- ▶ Annual TPMH Weight 22,939 kg
- ▶ Annual CDHB Weight 141,465 kg

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2010 Pilot Cost Calculations

- ▶ Disposal costs based on weight
 - Hazardous Waste = 79c/kg
 - Plastic (white) Bag = 14c/kg
 - 2013 Emission Trading Scheme (ETS) Tax = 2.5c/kg
- ▶ Composting without ETS = **29% Savings**



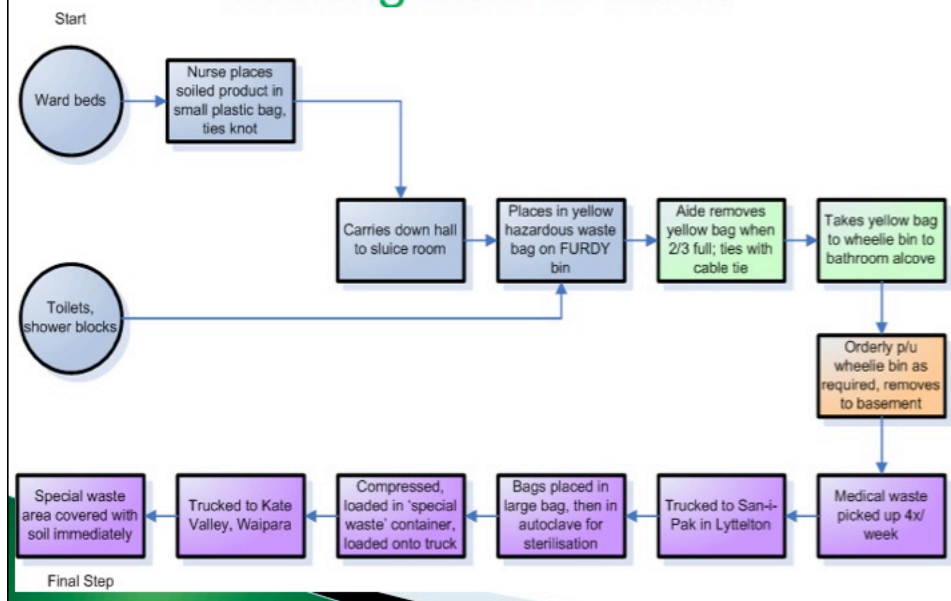
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But it is not all about money!

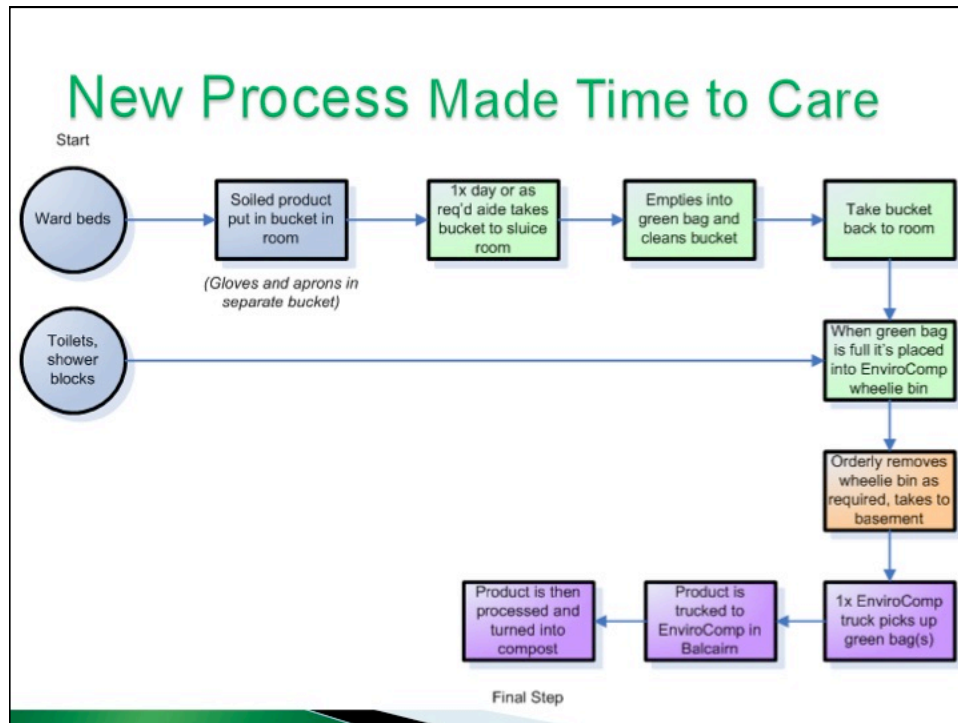
- ▶ Staff Survey
 - *'It's good we're looking at new and better ways'*
 - *'The more we can compost and recycle, the better'*
 - *'There is too much waste and not enough thought into dealing with it'*
 - *'I feel extremely concerned that we are adding to the landfill when there are options.'*
- ▶ Patient Survey
 - *'I believe we must make the effort to protect the environment'*
 - *'I would be perfectly happy to provide funds to help reimburse any expense'*
 - *'Do it!'*

Making time to care?



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Where to next? Progressing a successful pilot

- ▶ Senior CDHB management support
- ▶ **No benchmark worldwide for a composting continence product waste from healthcare**
- ▶ Technical advisory group formed
 - Medical Officer of Health, Clinical Microbiologists, Infectious Diseases, Infection Prevention & Control
 - Advised how to progress
 - Reviewed process at the plant end - site visit
 - Advised changes

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Medical Officer of Health support

- ▶ *This project aims to compost all the incontinence products of Canterbury DHB, saving thousands of tons of landfill waste, improving the environment and ultimately saving money better spent on clinical care.*
- ▶ *This is a truly innovative project as it will be the first such project from a health service in the world.*

-Alistair Humphrey, MoH

Infection Prevention and Control advise

- ▶ Improved containment of pre composted shredded waste
- ▶ Minor redesign of the layout of deconstruction zone
- ▶ An upgrade of Personal Protective Equipment

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Consents & Laboratory Results

- ▶ Building Consent
- ▶ Land Use Consent
- ▶ Haulage of Dangerous Goods Licence
- ▶ Discharge to Air Consent
- ▶ Laboratory Testing

Sample Type: Compost

Sample Name:	Envirocomp Compost Day 1 23-Nov-2011	
Lab Number:	955572.1	
Escherichia coli*	MPN / g	5
Salmonella	per 25g	Not Detected

Management of Healthcare Waste Standards NZS 4304:2002

- ▶ No plan to update NZS 4304:2002
- ▶ Composting initiative developed after 2002



Reclassified Waste stream

- ▶ 3.2.1 The classification of hazardous waste, other than that classified under other legislation, shall be the responsibility of the healthcare facility generating the waste.
- ▶ 3.5.2 Recyclables – Identification of recyclables shall be made in consultation with the recycling receiving agent or local authority as appropriate. Recyclables include: Paper, (b) cardboard, (c) glass, (d) plastic, (e) metal, (f) Composting waste.

Guideline for the Safe Application of Biosolids to Land , 2003

- ▶ Currently meet Grade B
- ▶ Grade A
“Grade A biosolids (being essentially free of pathogens) would not be classified as ‘infectious’”. (Section 3.7)

1. Verification sampling showing that:-

- *E. coli* < 100 MPN/g
- *Campylobacter*
< 1/25g
- *Salmonella* < 1/25g
- enteric viruses
< 1 PFU/4g
- helminth ova < 1/4g

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Initial outcomes!

1. Mandate to proceed
2. Support for development of an orange waste stream
3. Staggered rollout to 2 hospitals & smaller units
4. To develop templates for other CDHB hospitals



Requirements when developing a new waste stream

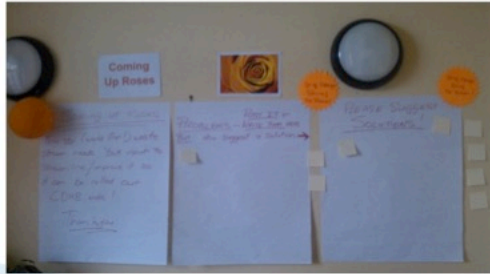
- Senior approval – CEO
- Senior sponsorship – GM
- Management staff – CNM
- **Dedicated allocation of resources**
- **Dedicated team to**
 - Undertake development of waste stream
 - Brainstorm issues
 - Coordinate rollout
 - Trial bins & bags
 - Drive change

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Innovation is resource intensive

- Change Management Exercise
- Compostable bags - development of & trialling
- Appropriate waste bins - use of current foot controlled flip top bins
- Innovative solutions to issues
- Champions' support



Education essential

- Segregation education & communication essential & ongoing but requires resources
- Education includes what can & can't go into composting waste:
 - No aprons or gloves
 - No blue incontinence sheets
 - No paper handtowels
 - No plastic
 - Left over lunch



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Rollout to all CDHB hospitals
- not progressed

The Negative

- ▶ No team or resources allocated
- ▶ Hospital 1 – business as usual but lack of senior champion
 - compliance dropped to 50% in 2014 – but still diverted 107,218 continence products from landfill to compost
 - increasing plastic/gloves in waste stream
- ▶ Issues with plant under new ownership

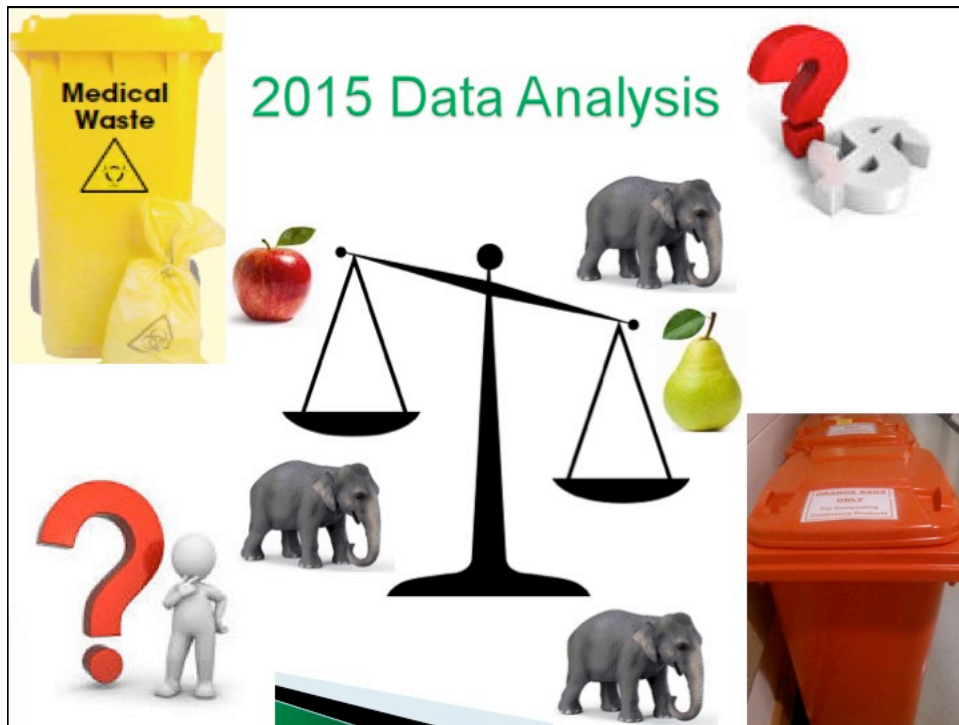
Rollout to all CDHB hospitals
- not progressed

The Positive

- ▶ Hospital 2 – business as usual
 - 100% compliance in outlying unit – diverted 95,804 products from landfill in 2014
- ▶ 50% compliance =
 - 50% is still a significant number of products to redirect from landfill to compost
 - e.g. predicted 2021 product purchase of 1,274.738/year = 365 tonnes
- ▶ CDHB hospital's newly implemented role –
Environmental Sustainability Advisor



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**It is not all about money!
Healthcare facilities need to 'do
the right thing' and consider
sustainable options for the
future of our society and planet
BUT resources are vital for
innovative development and
success!**

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Coming Soon

April 30 **ARE WIPES (TOWELETTES) EFFECTIVE FOR SURFACE DECONTAMINATION IN HEALTHCARE SETTINGS?**
Prof. Jean-Yves Maillard, Cardiff University, Wales

May 5 *(FREE WHO Teleclass – Europe)*
10 YEARS OF WHO CLEAN CARE IS SAFER CARE: WHY YOU SHOULD BE A PART OF THE SOCIAL PANDEMIC THAT IS SAVE LIVES: CLEAN YOUR HANDS
Prof. Didier Pittet, World Health Organization
Sponsored by the World Health Organization

May 7 **VACCINATION OF HEALTHCARE PROVIDERS: A CRITICAL STEP TOWARD PATIENT SAFETY**
Dr. Helena Maltezou, Hellenic Center for Disease Control and Prevention, Greece

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