Food Waste in Healthcare. European policy and national initiatives

A methodology for measuring and reducing food waste in Dutch hospitals

Brussels: June 27, 2017

Joost Snels
My message for today

(-)×(-) = +

why?

- Combining two negatives into one positive
- Connecting the issues of Food waste and Malnutrition
Food waste in the Dutch healthcare
Why measuring food waste?

Understanding the extent of food losses (kg €, %)

inventory of bottlenecks

Finding improvement measures

Understanding effects of adjustments

Food intake goes up

Improving patient satisfaction through the meal
How to measure: Methodology

Examples of performance indicators:

- Total kg a/o € per day
- Total kg a/o € per day:
  - as a % of the amount of food offered
  - per main process (portioning, ...)
  - per department (oncology, maternity ward, ...)
  - looked at differences per day
  - per patient
1. Identification: options
# 2. Measuring: determining monitoring sites

<table>
<thead>
<tr>
<th>Time</th>
<th>Supplier</th>
<th>Hospital kitchen</th>
<th>Bed/location nearby</th>
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<tbody>
<tr>
<td>At least 2 days before</td>
<td></td>
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<tr>
<td>Ordering between 10:00 and 13:00</td>
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<tr>
<td>Building trolleys between 13:30 and 15:00</td>
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<td>Regenerating department 90 minutes before</td>
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<tr>
<td>Serving starting at 17:00</td>
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<td>Eating between 17:00 and 18:00</td>
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<tr>
<td>Trolleys return to the utility room</td>
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- **Supplier**
- **Hospital kitchen**
- **Bed/location nearby**
2. Measuring: standard form

<table>
<thead>
<tr>
<th>Form 3:</th>
<th>weighing plate waste dinner</th>
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<tbody>
<tr>
<td>Current date:</td>
<td></td>
</tr>
<tr>
<td>Date on which the meal is served:</td>
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<td>Name:</td>
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<table>
<thead>
<tr>
<th>Department</th>
<th>Vegetables (Kg.)</th>
<th>Meat (Kg.)</th>
<th>Potatoes (Kg.)</th>
<th>Gravy (Kg.)</th>
<th>Composite meals (Kg.)</th>
<th>Others (Kg.)</th>
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3. Analysis: additional information

- Number of patients / ordered meals per day per department
- Cost of meals, including preparation
- Weight of different meals (note: the system most often displays anything other than the quantity that is actually cooked!)
Some examples

42% Maxima Medisch Centrum

30% Rijnland Ziekenhuis

33% Ziekenhuis Gelderse Vallei

40% Utrechts Medisch Centrum
Some examples (before and after)

Bron: MMC

42% Maxima Medisch Centrum

30% Rijnland Ziekenhuis

33% Ziekenhuis Gelderse Vallei

40% Utrechts Medisch Centrum

2% Maxima Medisch Centrum

19% Rijnland Ziekenhuis

20% Ziekenhuis Gelderse Vallei

? % Utrechts Medisch Centrum

Bron: Wageningen UR
Numbers: hot meals for patients

- Weight hot meal for patients per day
- Grams food waste hot meal for patients per day
- Grams consumption hot meal by patients per day
- % food waste of hot meal for patients

Traditional vs. Modern
Numbers: hot meals for patients

Average waste hot meals:

Traditional  242 grams  42 %
Modern      134 grams  24%
Care: results

Seminar: Slimmer eten en drinken in de zorg 28 januari 2015, Radboud UMC, Nijmegen

Before

23% Regina Pacis Haus für Senioren

21% Insula Dei Huize Kohlmann

After

13% Regina Pacis Haus für Senioren

11% Insula Dei Huize Kohlmann
Some causes, in general

- Predicting number of meals is difficult, especially for 'short stay'
- Chefs cooking different amounts then system indicates. There are usually made far too many meals (Because there is too much? ‘Blanco meals’ ordered?)
- Translating ingredients to kg. finished product is difficult
- Portioning is done by people and hardly ever the same weight (preferring to serve something more than too little)
- Portioning is often not tailored to the needs of patient / client
- Order unit of a product is sometimes too large and best-before-date therefore sometimes is a problem
Benefits of this standardized approach

- **Easy to implement**: all steps have been fully described
- **Flexibility**: choices regarding the level of detail, number of departments, type of meals, type of ‘consumers’, ...
- **Benchmark**: Results are comparable to other institutions
- **Trend analysis**: when the measurements are repeated the results are also comparable within the same institution
- **Accountability**: transparency and insight into how the measurement is handled and how the results have been achieved
Less food waste = cost reduction?

Reinvestment in the meal or the food concept

Bron: NHS patient under the pseudonym of Traction Man (2009)
No, it is an investment opportunity

- Lowering food waste leads to cost reduction
- With constant budget this creates investment opportunities
- Investment opportunity to improve the meals for patients
- Investment opportunities for further and constant improvement
Reinvest and reduce cost

Via prevention of malnutrition?
Malnutrition: connecting care and cure

28
% prolonged hospitalization

17
% malnutrition in care and nursing homes

Source: SEO rapport "Ondervoeding onderschat"
Look at the whole healthcare chain
Budget to invest

- Investment opportunities for further and constant improvement
- Changing meals or food concept
- More and better food, better absorption of nutrients (in particular, proteins)
- Reducing malnutrition
- Reducing hospitalization (cure)
Investing in prevention of malnutrition

1 Euro (€) invested

1−4 Euro (€) return on investment

Source: SEO rapport "Ondervoeding onderschat"
Overall conclusions and recommendations

- Don’t see reducing food waste just as a way to reduce cost, but as an option to better serve the patient (satisfaction, food intake, …)
- And connect care and cure (The Netherland ?)
- Data get more value if they are placed in perspective of numbers of patients and production volume
- Create realistic objectives in line with the capacity (people, budget, …)
- Involve not just the food (facility) department but also the people responsible for cure in the measurements, sharing the results, and looking for possibilities to reinvest
Thanks

Questions?

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Download reports (in Dutch):
http://www.wur.nl/nl/Onderzoek-Resultaten/Themas/Voeding-Gezondheid/Voedselinnovatie/Voedselverspilling-in-de-zorg.htm