

Food Waste: Impact and Options

How to prevent waste in community food
programs from planning to service

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Open Hand Atlanta

Open Hand

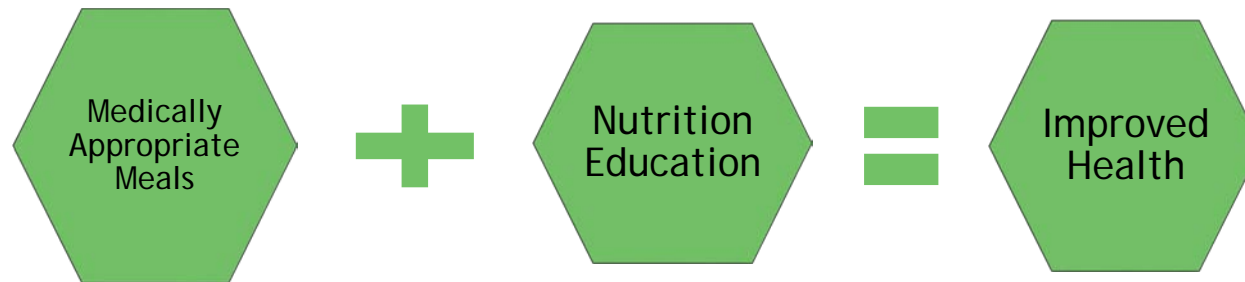
- ▶ Community-based non-profit organization
- ▶ Founded in 1988
- ▶ Mission: help people prevent or better manage chronic disease through *Comprehensive Nutrition Care*[™], which combines home-delivered meals and nutrition education as a means to reinforce the connection between informed food choices and improved quality of life



Open Hand Atlanta

Comprehensive Nutrition Care™

- ▶ Health promoting and therapeutic menus
- ▶ Nutrition and health education programs throughout the community
- ▶ Medical Nutrition Therapy in clinics and client homes





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Open Hand Clients

- ▶ Homebound seniors
- ▶ HIV/AIDS
- ▶ Diabetes
- ▶ Heart Disease
- ▶ Hypertension
- ▶ Cancer
- ▶ Chronic Kidney Disease
- ▶ Other chronic conditions
- ▶ Youth





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Home Delivered and Congregate Meals

- ▶ Over 5,000 meals per day
- ▶ 1, 2 or 3 freshly cooked meals
- ▶ Healthy Balance: healthy meals to prevent and control chronic disease
- ▶ Therapeutic: mechanical soft, renal
- ▶ Preference: vegetarian, no red meat, no pork, no seafood





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Good Measure MealsSM

- ▶ Social entrepreneurship - business unit of Open Hand
- ▶ 100% of net proceeds go back to Open Hand
- ▶ Calorie levels: 1200, 1400, 1700, 2100



**Healthy Selection
Meal Plans**



**Vegetarian Meal
Plans**



**Diabetic Meal
Plans**



**Healthy Selection
No Seafood**



Open Hand Atlanta

Good Measure MealsSM

Customers include:

- ▶ The “fitness-oriented”
- ▶ People with chronic conditions
- ▶ People wanting to lose or maintain weight
- ▶ People who value the convenience of prepared meals
- ▶ People who want to eat a well-balanced diet





Resource Investment

- ▶ Community Nutrition Education & Medical Nutrition Therapy Dietitians
- ▶ Culinary/Food Service Management Dietitians
- ▶ Research & Development Chef
- ▶ Production Head Chef
- ▶ Inventory Control Manager
- ▶ Packaging Manager
- ▶ ServSafe Certified Culinary and Packaging Staff
- ▶ Cost Analyst



Defining the Food Waste Problem

Pre-Consumer

"Kitchen Waste"

- ▶ Due to overproduction, spoilage, expiration, trim waste, etc.
- ▶ Controlled by kitchen staff



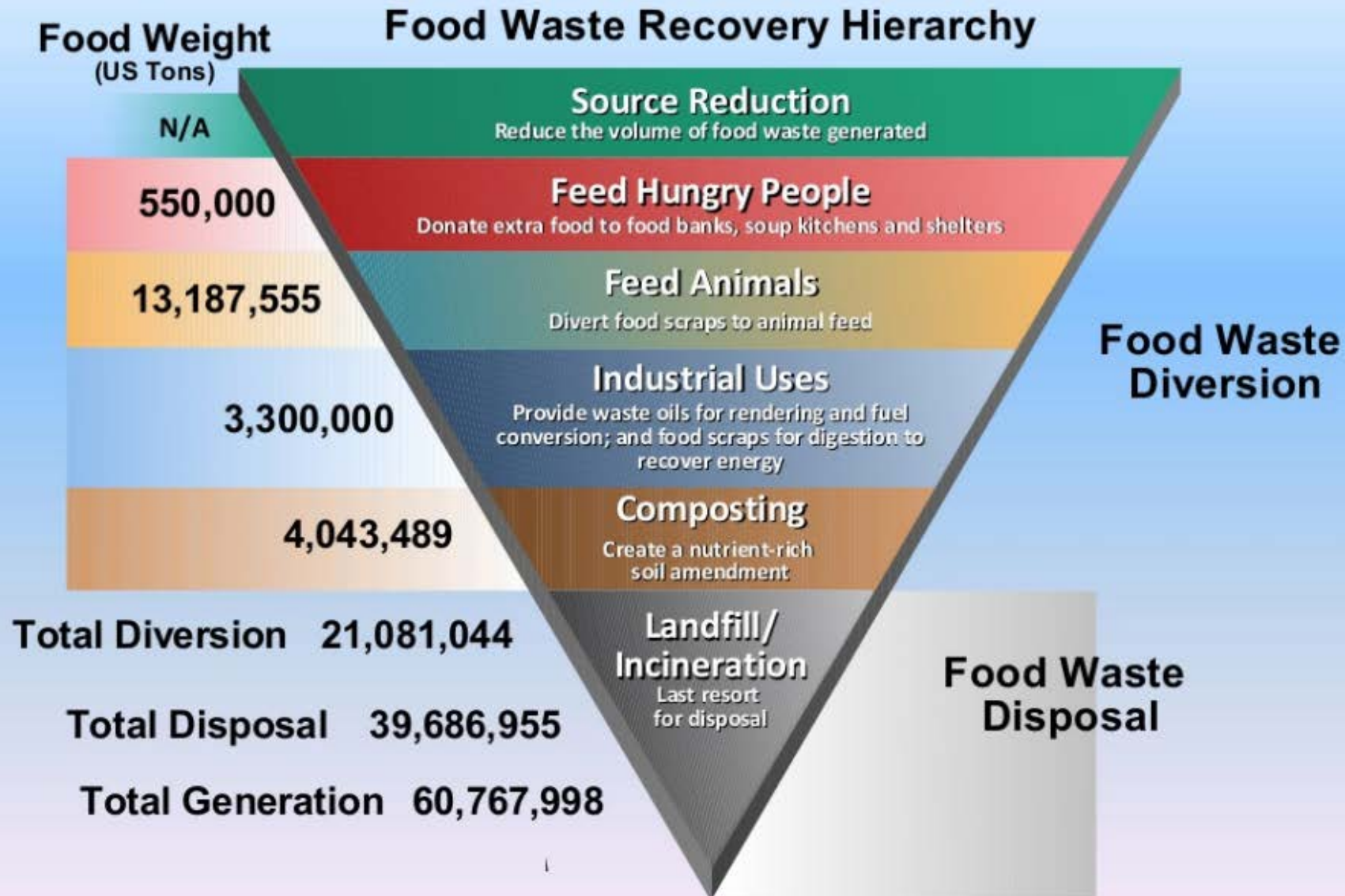
Post-Consumer

"Plate Waste"

- ▶ Due to behaviors, portion sizes, self-service, etc.
- ▶ Controlled by clients, customers, guests, etc.



Better Use for Food Waste





Principles of prevention

- ▶ Food waste is a behavioral problem
- ▶ Successful prevention requires everyone to consistently repeat the right behavior
- ▶ Culture change
- ▶ Develop a good system

“Food Waste” Must be Put on the Foodservice Scoreboard





Recipe Development Process

Recipe formulation and testing

- ▶ Benchtop testing
 - ▶ Scrap factors: $\text{start weight} \div \text{finished weight}$
 - ▶ captured at every process step of a recipe
- ▶ Analyzed for nutritional compliance
 - ▶ Scrap factors removed
 - ▶ Genesis R&D software
 - ▶ Reformulated as necessary to fit nutritional parameters



Recipe Development Process



Recipe formulation and testing

- ▶ Large batch testing and tastings
 - ▶ Scrap factor refinement for accurate recipe scale-up
 - ▶ Internal and external tasting to ensure satisfaction



Results = consistent quality and yield



Pressure Test



Is every prepared food item tasted and evaluated prior to service?





Quality Assurance

Daily Product Review

- ▶ Team of experienced food professionals
- ▶ Evaluation of food/meals prior to packaging
- ▶ Objective sensory evaluation system
 - ▶ Appearance, Taste, Texture
- ▶ Opportunity to address quality concerns prior to packaging and/or delivery
- ▶ Ensures consistent quality
- ▶ Continuous quality improvement
- ▶ Assures client satisfaction



Pressure Test



How much food
(and money) did
you throw away
in your kitchen
last week?





Yield Monitoring



Why and where is food wasted?

- ▶ Data collection
 - ▶ Culinary shortages
 - ▶ Culinary overages





Yield Monitoring



Needs Action Meetings

- ▶ Formalized resolution process
- ▶ Itemized log of yield issues by recipe name, date, quantity under or over, cost, and reason
- ▶ Investigation
- ▶ Corrective and preventive actions
 - ▶ Training, recipe testing/reformulation, method clarification, equipment repair/maintenance/purchases, etc.
- ▶ Monitoring
- ▶ Resolution



Pressure Test



What are your clients
top 3 favorite and least
favorite menu items?



Expert Menu Design

Includes:

- ▶ Seasonality
 - ▶ 28-day / 4-week, semi-annual menu cycle with quarterly menu meetings
 - ▶ Supports time for creative menu development that is both healthful and satisfying
- ▶ Consistent nutrient targets to train/promote healthy palettes
 - ▶ Requires quality ingredients, less processed foods, and healthy preparation techniques





Expert Menu Design

Includes:

- ▶ Innovative equipment / best technology
- ▶ Variety - important to find the right balance
- ▶ Thoughtful composition of meals
- ▶ Choice





Expert Menu Design

Client focused menu development

- ▶ Undernutrition, weight loss, and poor food intake are serious issues in the older adult population
- ▶ Engagement in the development process allows Seniors to maintain their dignity and autonomy through making food choices
 - ▶ New menu item requests
 - ▶ Retain, return or increase favorite menu items
 - ▶ Replace least favorites



Expert Menu Design

Client focused menu development

- ▶ Quarterly menu meetings
- ▶ Client feedback log
- ▶ Site visits
- ▶ Surveys

Results = client satisfaction and
reduced plate waste

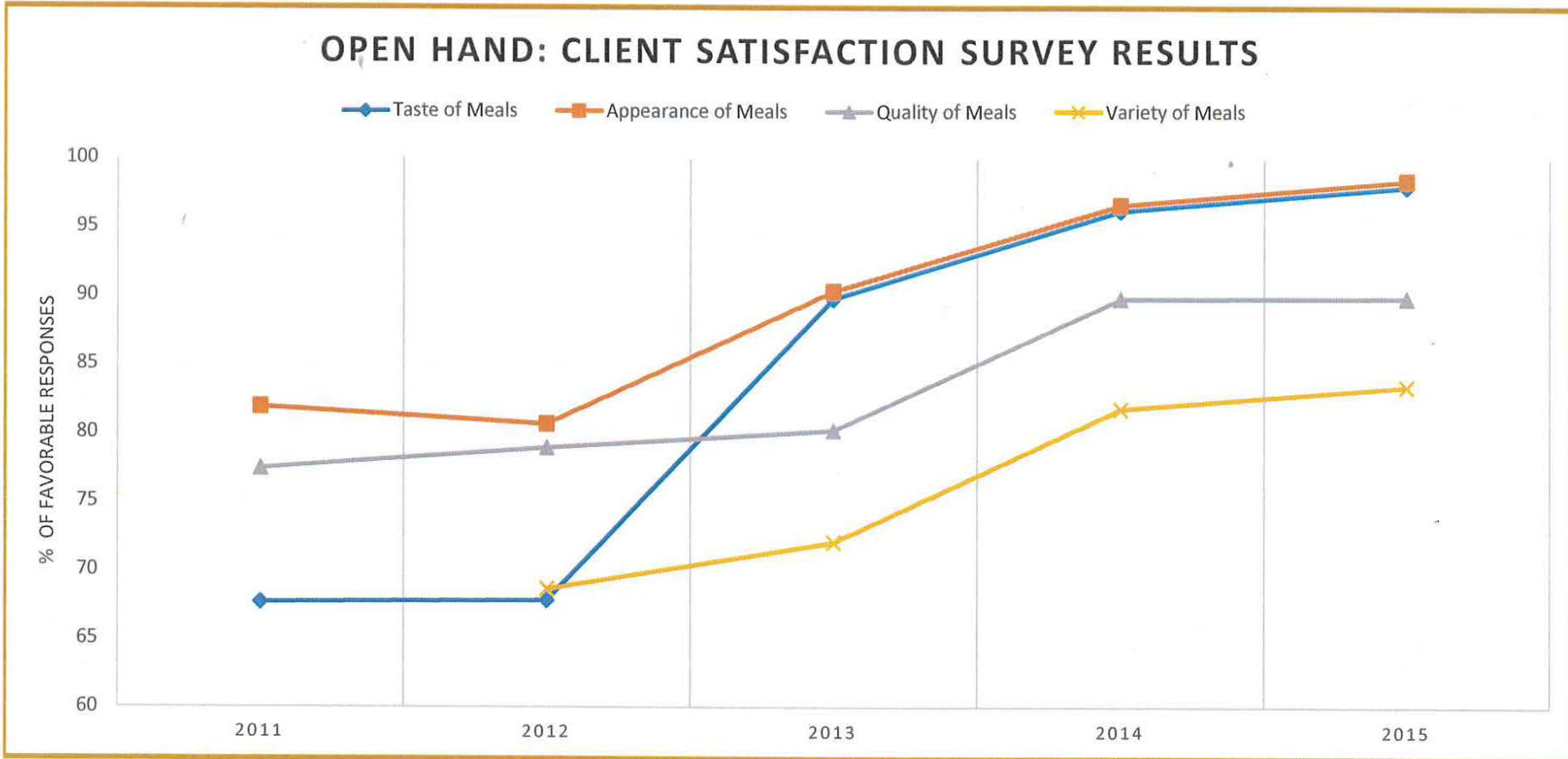


Open Hand Meals

Client Satisfaction Survey Results

(combination of top 2 ratings)

	2011	2012	2013	2014	2015
Taste of Meals	67.66	67.79	89.8	96.22	97.99
Appearance of Meals	81.86	80.62	90.3	96.6	98.4
Quality of Meals	77.4	78.9	80.2	89.79	89.84
Variety of Meals		68.6	72	81.75	83.38



Pressure Test

When was the last time
your team discussed
wasted food in a stand-up
meeting?





Portion Control



- ▶ Data collection – by weight and by cost
 - ▶ Packaging shortages
 - ▶ Packaging overages/discards
- ▶ Watch lists – more frequent weight checks
 - ▶ Monitoring sheets





Portion Control

- ▶ Adequate equipment and organization
 - ▶ scoops, scales, etc.
- ▶ Volunteer training
 - ▶ buddy system, visuals, training videos





Plate Waste Studies

Two Primary Methods:

- ▶ Weighing method
 - ▶ Weight of trays or food items remaining
 - ▶ Permits analysis of nutrient content & approximate cost
 - ▶ Most accurate but time consuming
- ▶ Visual method
 - ▶ Written scale
 - ▶ Half Waste Method, *Quarter Waste Method**, and Photograph Method
 - ▶ Saves time and resources but data is subjective

Resources:

- ▶ <http://www.leanpath.com/>
- ▶ <https://www.gfs.com/en/idea-center/running-your-business/plate-waste-studies>
- ▶ <http://foodpsychology.cornell.edu/discoveries/quarter-waste-method>





Inventory Control

- ▶ Evaluate order cutoff timing for purchasing, production, packaging, etc.
 - ▶ Schedule as closely to consumption or delivery as possible to limit forecasting (guess days)
 - ▶ Limit number of employees or departments that need to forecast
 - ▶ Monitor number comparisons
 - ▶ Compare numbers to historical data to tighten as much as possible
 - ▶ Limit padding = reduced purchasing needs, reduced overproduction, reduced packaging discards/food waste





Inventory Control

- ▶ Perpetual inventory
 - ▶ Actual versus theoretical
 - ▶ Inventory records are continuously updated to account for:
 - ▶ Received items
 - ▶ Items issued from inventory for production needs
 - ▶ Items returned from production back to inventory
 - ▶ Items removed from inventory due to damage, spoilage, recall, etc.
 - ▶ Items moved from one location to another





Inventory Control

- ▶ Perpetual inventory benefits:
 - ▶ Inventory accuracy is maintained
 - ▶ Uncover inventory discrepancies and their root causes
 - ▶ Permits timely corrective actions
 - ▶ Reduce need for wall-to-wall physical inventories
 - ▶ Increase labor efficiency, improve product flow, and improve internal customer service
 - ▶ Decrease downtime and extra labor required to handle shorts/substitutions
 - ▶ Lower safety stock levels = inventory reduction and lower inventory carrying costs
 - ▶ Less food waste





Inventory Control

- ▶ Evaluate purchasing practices
 - ▶ Tighten standing par levels
 - ▶ Consider alternate product options
 - ▶ Pre-cut / pre-sliced produce = less waste
 - ▶ Adjust pack sizes to production needs
 - ▶ Adjust order guides and menus based on waste trend



Inventory Control



5S EXPLANATION:



Sort

When in
doubt,
move it
out –
Red Tag
technique



Set in Order

A place
for
everything
and
everything
in its
place



Shine

Clean and
inspect
or
Inspect
through
cleaning



Standardize

Make up
the rules,
follow and
enforce
them



Sustain

Part of
daily work
and it
becomes
a habit



Pressure Test



How much of your food cost variance is due to waste?



Inventory Control

- ▶ Limiting access to inventory
 - ▶ Staging goods by day
 - ▶ Enables monitoring of returns and extra requirements
 - ▶ Reduces pilferage
 - ▶ Easier to maintain organization and cleanliness
- ▶ Pre-weigh - adherence to recipes
 - ▶ Consistent product yield and quality





Summary

- ▶ Every operation has food waste
- ▶ Rethink the opportunity
- ▶ Waste management requires a comprehensive approach
- ▶ Focus on prevention
- ▶ Attack waste head-on with corrective and preventive actions



Question & Answer



