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# New York State Pollution Prevention Institute

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**Sustainable Supply Chain Program Manager**  
**June 30, 2016**

# NYS Pollution Prevention Institute



- Established in 2008 “**NYSP2I**”
- HQ at RIT
- **\$4M** in annual NYS funding
- Focus on reduction of natural resource consumption (water, raw material, energy) and elimination of waste and toxics
- P2 research, technical assistance, education and outreach
- **15+** full-time staff

R·I·T

Clarkson  
UNIVERSITY  
*defy convention*



Department of  
Environmental  
Conservation

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# Environmentally Preferable Purchasing (EPP)



EPP is the act of

- ✓ purchasing products or services
- ✓ whose environmental impacts have been considered and
- ✓ found to be less damaging to the environment and human health
- ✓ when compared to competing products or services.

<https://practicegreenhealth.org/topics/epp>

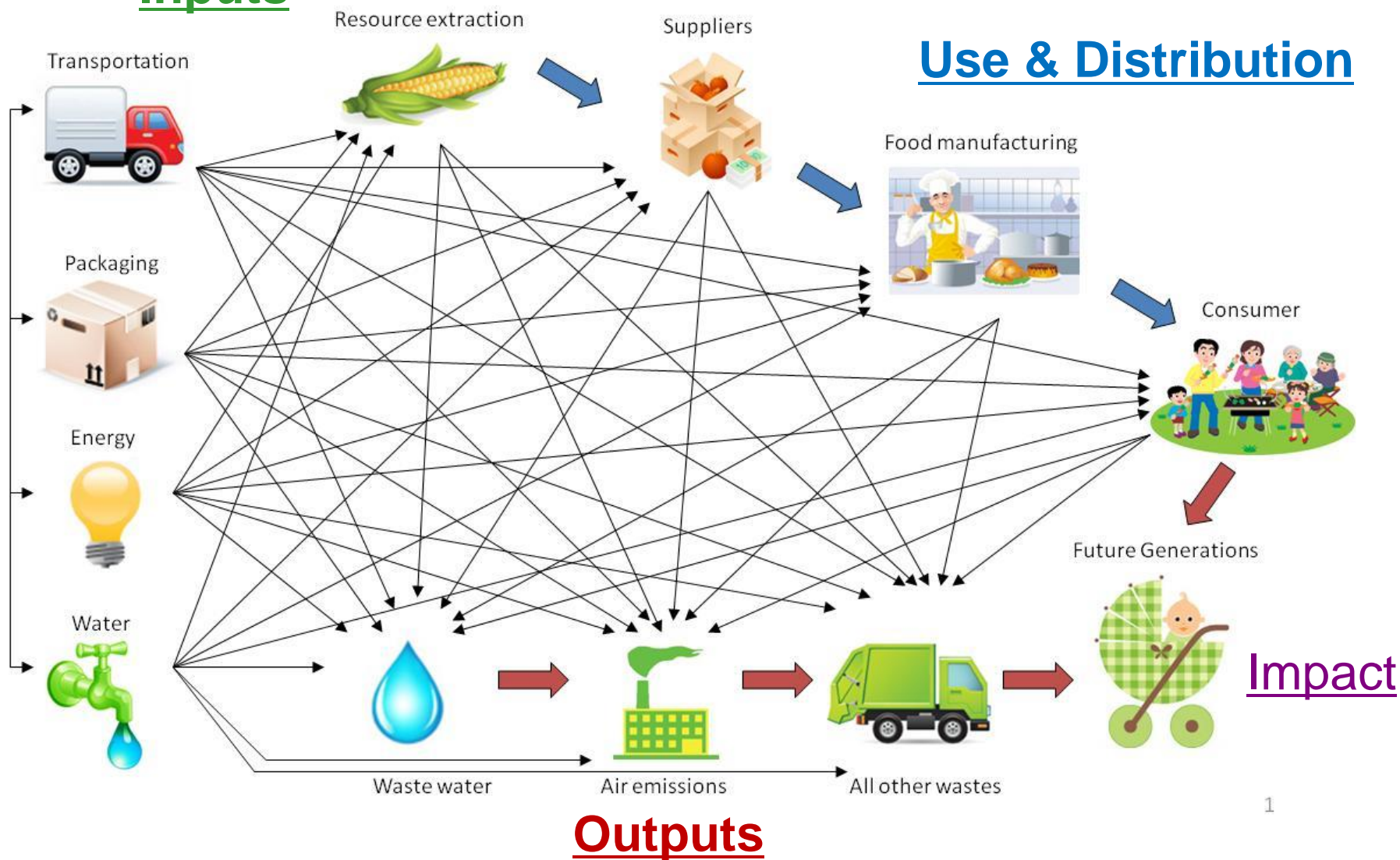
This comparison applies to raw materials, manufacturing, packaging, distribution, use, reuse, operation, maintenance and disposal.

<https://www.epa.gov/greenerproducts/about-environmentally-preferable-purchasing-program>

# Supply Chain Environmental Concerns



## Inputs



# Creating Sustainable Suppliers for EPP





## ***Case Study Review:***

# **Waste Generation and EPP Assessment**

# Background



- Hospital in downstate New York
- 240 medical staff

## Interest Areas

- Environmentally Preferable Purchasing
- Total Cost of Ownership of products
- Environmental attributes of products



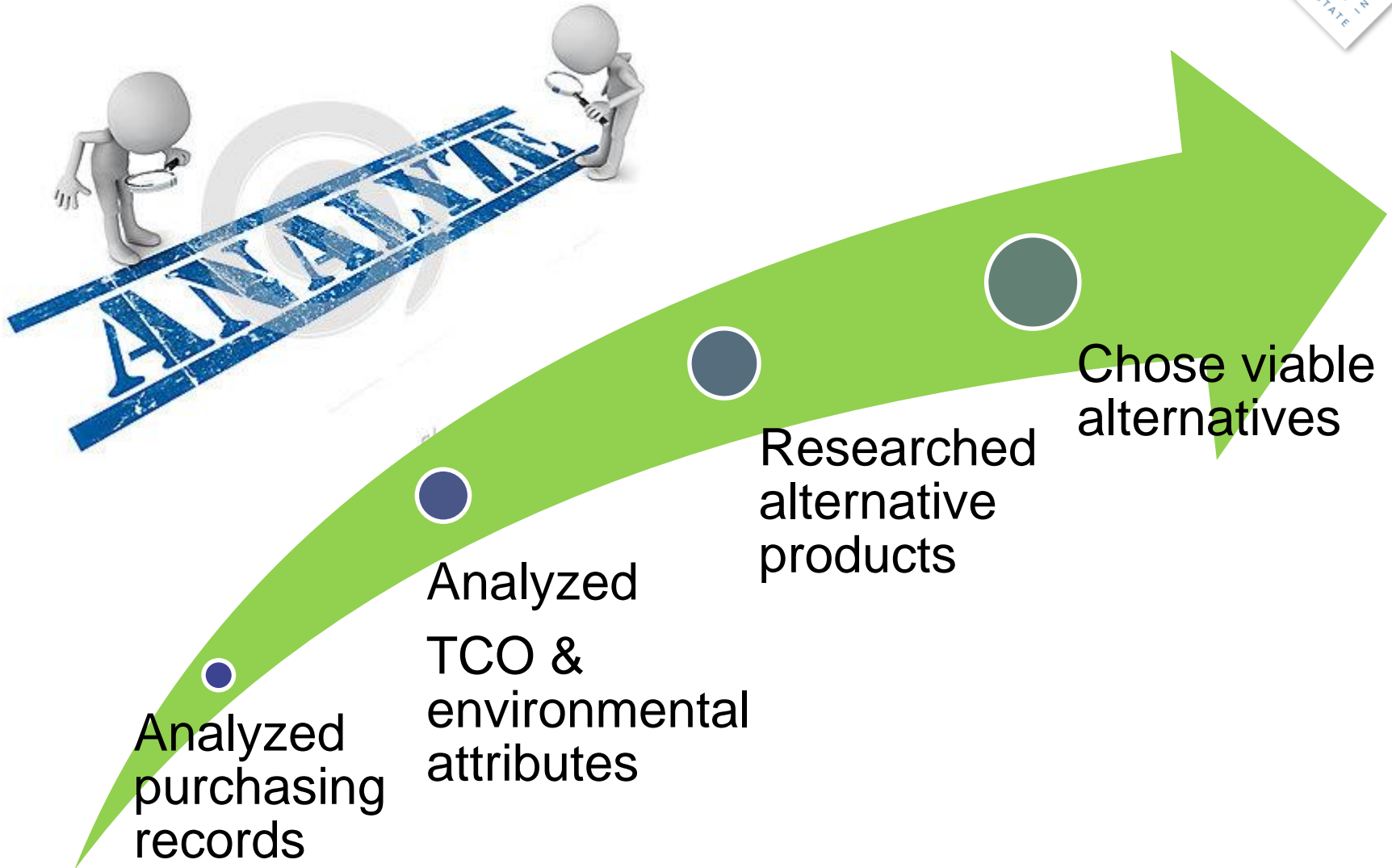
# Project Objective



1. Examine purchasing records to identify focus areas
2. Explore the total cost of ownership (TCO) of products
3. Identify environmentally preferable alternatives



# Process



# Analyzing Purchasing Records



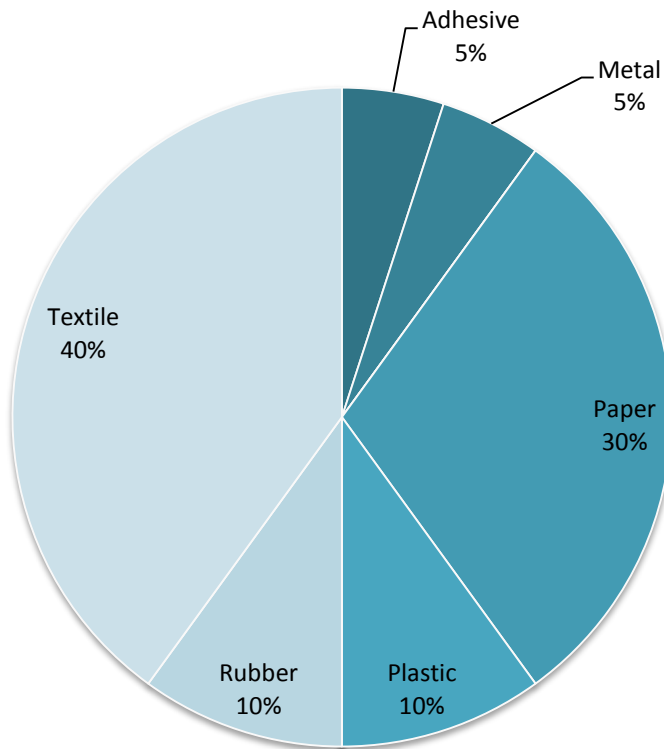
- Worked with purchasing team to acquire records for a year
- 1,795 unique products
- Total annual purchase cost of >\$3.1 M



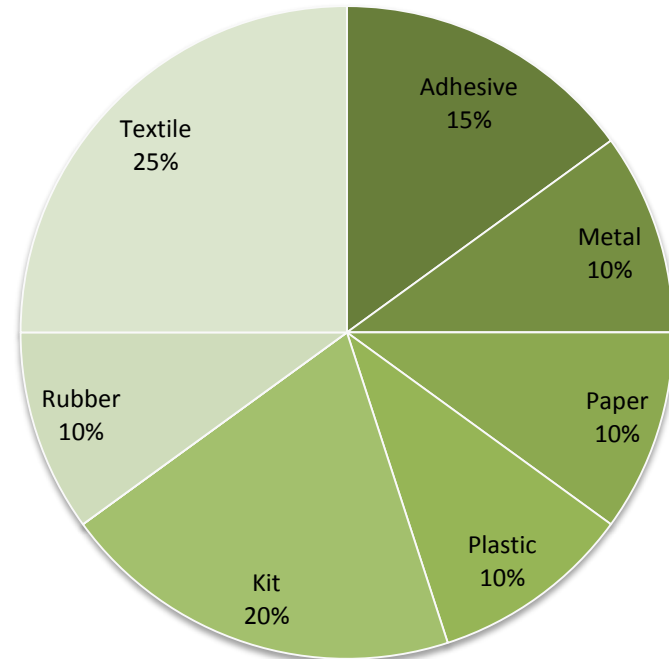
# Analyzing Purchasing Records



**Distribution of Top 20 Purchased Medical Products (by number of units purchased)**



**Distribution of Top 20 Purchased Medical Products (by annual cost)**



- Top 10 products were chosen for focus



# Products Identified



#	Product Name	Description
1	Medc. Tissue Facial Bedside 40 CT	Small box of tissues
2	Sponge All Purpose Versal4ply 4 x 4	Medical wound sponge
3	Wipe SANI-Textile XLG 55% Alcohol	Sanitizer wipe
4	Cup Paper Hot Solo Symphony 10oz	Disposable Cup
5	486802 Glove Sensicare Medium Ice	Glove
6	Medc. Tourniquet Latex Free 1 x 18 RL	Tourniquet
7	Medc. Slipper SSO DBL tread XXL Yell.	Bedside Slipper
8	Carafe w/handle 1QT Mauve	Water Pitcher
9	Underpad 17 x 24 Tendersorb	Underpads
10	Proctor & Gamble/Pampers	Baby diapers

# Total Cost of Ownership



## Medical Tissue (Facial Bedside) 40 CT

Total Annual Purchase Cost	\$4,315.00
Total Annual Disposal/tipping cost	\$132.16
Total Annual Labor Cost	\$5,739.72
<b>Total Estimated Annual Cost of Ownership</b>	<b>\$10,186.88</b>



# TCO Calculations for 10 products



- Purchase Cost: \$83,709 /yr
- Disposal Amount: 20,984 lb
- Disposal Cost: \$1,733
- Labor Cost: \$28,615

Total Cost of Ownership: \$113,427

# Alternatives Assessment



- Alternatives were examined for each of the 10 products

## Steps:

- Identified product concern
- Identified potential alternatives
- Identified procedure or purchase change



# Example: Medical Tissue



## Product concern:

- provided at bedside and disposed of, regardless of use

## Potential alternative:

- Selecting items that are chlorine free or Green Seal Certified

## Potential Procedure or Purchase Change:

- Housekeeping evaluation as opposed to automatic disposal



# Example: Bedside Facial Tissue



Company Name	Product Name	Environmentally Preferable Attributes
Wausau Paper	EcoSoft™ Facial Tissue	<ul style="list-style-type: none"> <li>Made of <u>100% recycled fiber</u> and meets or exceeds EPA guidelines for post-consumer wastepaper content, and environmentally preferable packaging.</li> <li>Select facial tissue is <u>Green Seal</u>™ certified.</li> </ul>
Cascades	Facial Tissues	<ul style="list-style-type: none"> <li>Made from <u>100% recycled fibres</u> using post-consumer and post-industrial materials.</li> <li>Made with <u>less water</u> than the paper industry average.</li> <li>Whitened <u>without chlorine</u>.</li> <li>Packaged in a material made from <u>recycled fibres</u> and 100% recyclable.</li> </ul>

# Results



- Top 10 products contributing to MSW stream were identified
- Environmentally preferable, cost effective alternatives were found for 8 of the 10 products identified.

# Takeaways



- Important to focus efforts with upfront work
- Upstream decisions can have a real effect on purchasing, labor , and disposal costs (TCO)
- Understanding total cost of ownership is key to making smart purchasing decisions.





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# **Rochester General Hospital Case Study Review**

**Wayne Morton**  
**Environmental Health and Safety Manager**  
**June 30, 2016**

# Rochester General Hospital (RGH)



## General Info

- 500+ beds
- 1,200 + medical staff
- 5,000 + employees

## Annual Waste Generation

- 2.8 M lb MSW
- 1.4 M lb RMW
- 282 K lb sharps
- 114 K lb cardboard



# Project Objective



## Interest Areas

- MSW and RMW composition
- Opportunities for decreasing waste and associated costs

## Project Objective

- Characterize the waste streams
  - Purchasing record assessment
  - Solid waste audit
- Identify opportunities for improvement



# Purchasing Record Assessment



- Analyzed purchasing records
- Focused on top suppliers
  - US Food
  - Owens & Minor
- Identified top 10 products from each supplier contributing to packaging waste
  - Only looked at products shipped in cases

# Packaging Waste Assessment



Rank	Item No	Item Description	Packaging	Unit Measure (UM)	Annual Unit Measures purchased	# of cases per year	# of cartons per year	# of boxes per year	# of packages per year	# waste items	Manufacturer
1	3331	SPONGE GAUZE STERILE 2 X 2IN 8PLY 1806	Cases/30 Boxes/50 Package(s)/2 Each	Boxes	15,441	515	-	15,441	772,050	788,006	COVIDIEN
2	2332	SPONGE GAUZE STERILE 12 PLY TUB 4 X 4IN 6939	Cases/128 Package(s)/10 Each	Package(s)	45,569	356	-	-	45,569	45,925	COVIDIEN

- Based on type of packaging, estimated # of waste items was calculated

# Solid Waste Audit



- Audited pediatrics ED and one nursing floor
- Collected waste over a 5 day period
- RMW visually inspected
- MSW physically inspected

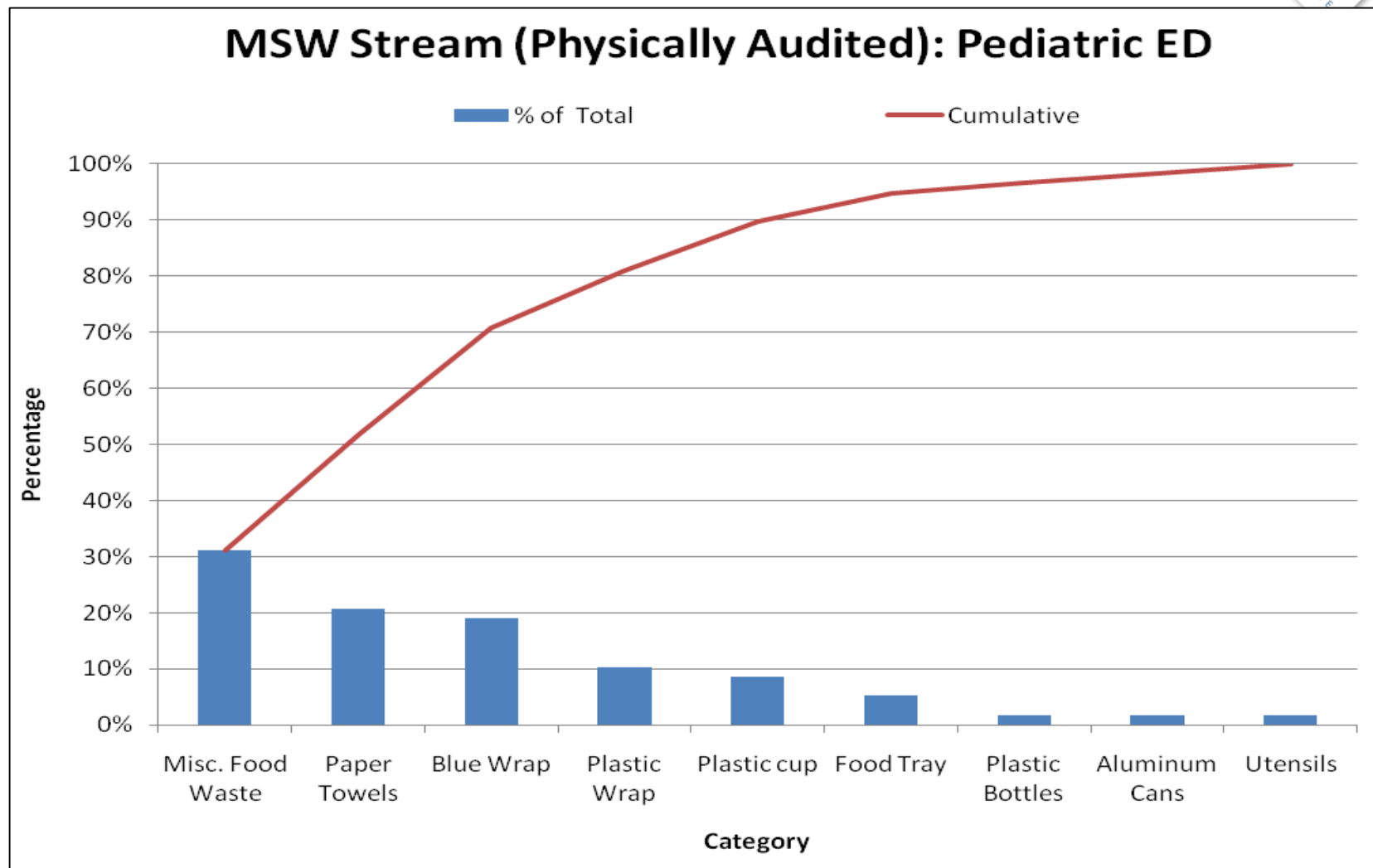


# Audit Results



	Pediatrics ED				Nursing			
	# of bags per day	# of bags per year	Weight per bag (lb/bag)	Waste per year (lb/year)	# of bags per day	# of bags per year	Weight per bag (lb/bag)	Waste per year (lb/year)
MSW	43	15,622	1.9	30,682	22	8,150	2.77	22,575
RMW	3.5	1,277	1.9	2,471	31	11,435	2.06	23,556

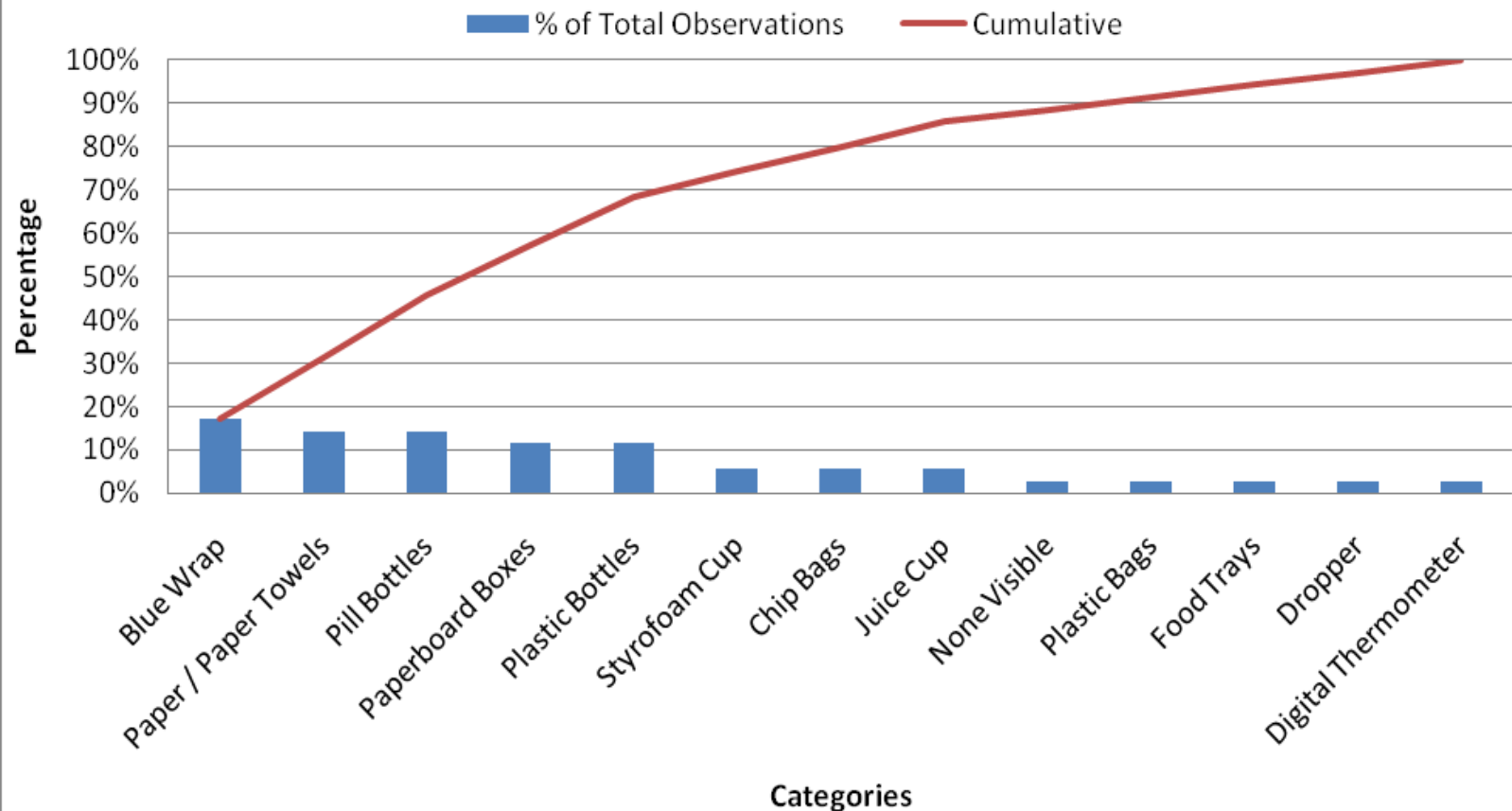
# MSW Audit Results



# RMW Audit Results



## MSW Observed in RMW Stream: Pediatrics ED





# RMW Audit Results



- Estimated savings= \$200,000 annually

# Takeaways



- Understanding your waste streams can uncover hidden opportunities to:

- Reduce waste
- Save \$

By:

- Adjusting purchasing practices
- Training staff



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# Questions?



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