



# Atrium Health

## **Construction & Demolition (C&D) Recycling Pilot Update**

March 2018

Jennifer Sellers

# About Atrium Health



## Vitals

- Charlotte, USA
- 900 Facilities
- 60,000+ teammates
- 6300 beds
- 17.5 M ft<sup>2</sup>
- Utilities \$37M (US)
- Sustainability department born in 2013

# Environmental Sustainability Solutions (ES2)

Collaborate ♦ Innovate ♦ Accelerate



**Less Waste**



**Energy  
Connect**



**Wiser Water**



**Healthy Food  
Systems**



**Climate and  
Health**



**Better  
Buildings**



**Safer  
Chemicals**

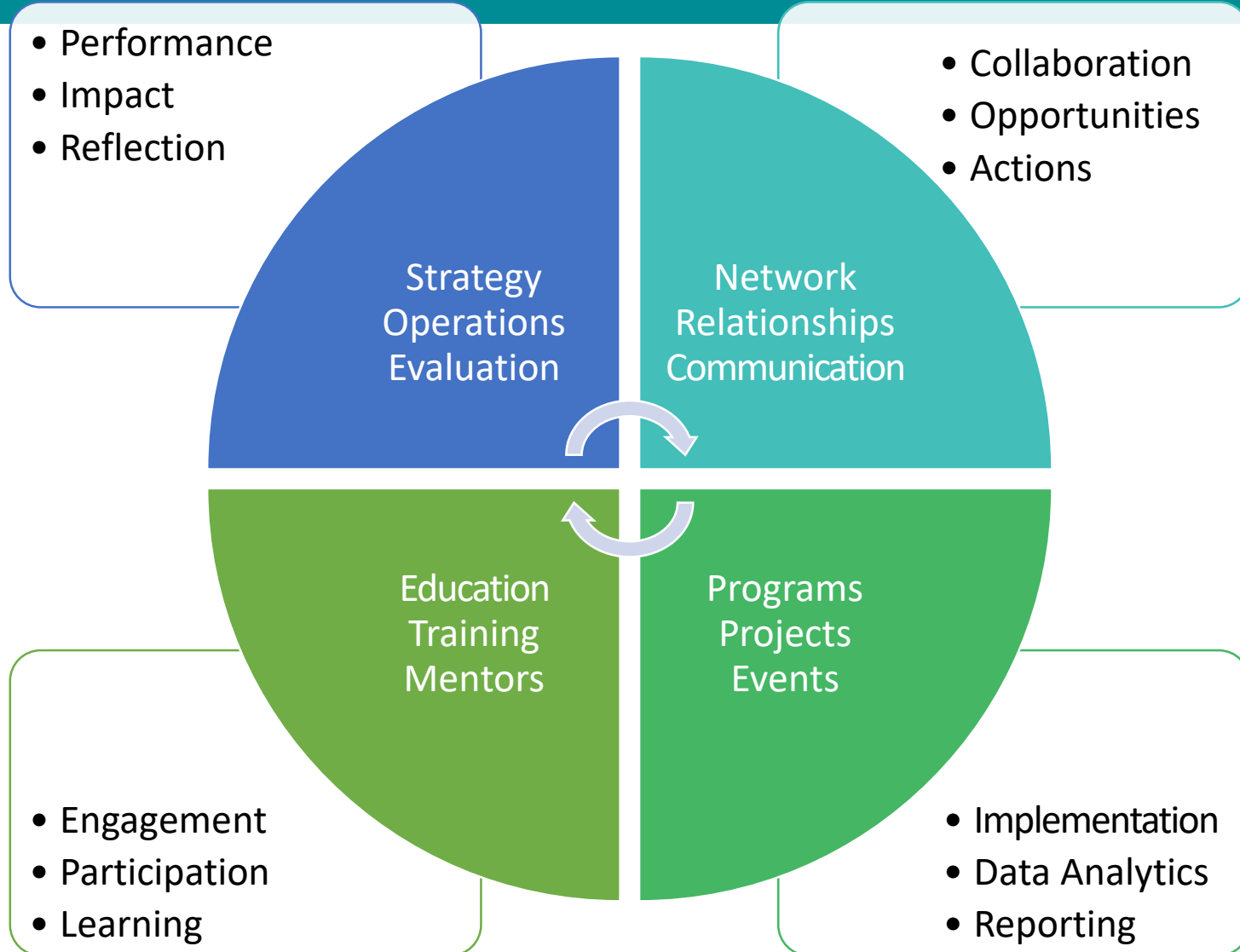


**Smarter  
Purchasing**

# Other projects/programs in motion

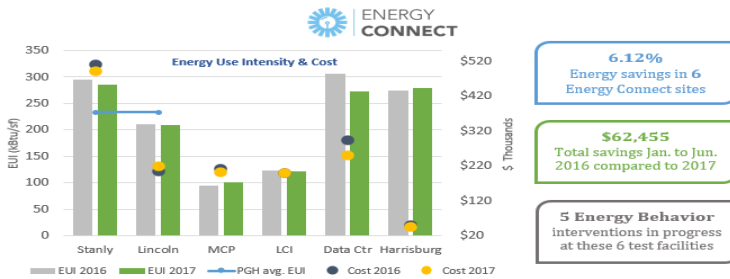
1. Energy Connect behavior program
2. Recycling – cardboard, HIPAA paper, cans and bottles in breakrooms
3. Volunteering – EarthShare Corporate Challenge (April 12)
4. Recycling Roadshow at several locations
5. Education and Outreach (Recycling Roadshow)
6. Single use device reprocessing with Sterilmed
7. Greening the OR Team at Mercy
8. Climate and Health vulnerability assessment
9. Behavioral Health and Climate Change – grand rounds
10. Duke Energy – Smart Energy In Hospitals (SeiH)

# ES2 Strategic Framework



# ES2 Dashboard

## ENVIRONMENTAL SUSTAINABILITY SOLUTIONS Energy Savings: Year to Date Dashboard January to June 2017



**6.12%**  
Energy savings in 6 Energy Connect sites

**\$62,455**  
Total savings Jan. to Jun. 2016 compared to 2017

**5 Energy Behavior**  
interventions in progress at these 6 test facilities

### GLOSSARY

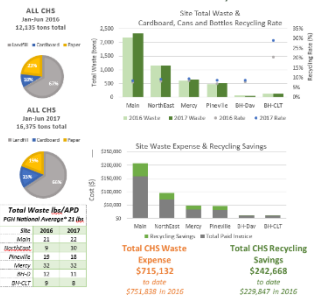
**British Thermal Units (Btu):** a measure of heat content of fuels or energy sources  
**Energy Use Intensity (EUI):** energy consumption measured in kWh per square foot per year  
**Practice Green Health (PGH):** national membership organization supporting sustainable healthcare  
**Carbon Dioxide (CO2):** a greenhouse gas that traps heat in the atmosphere

Energy savings and occupant comfort can be achieved quickly and permanently in large complex facilities when building operators and engineers are empowered to solve building performance issues as part of the building management team. No and low cost Energy Connect behaviors including data sharing, energy champions, training, documentation, and energy conversations will result in 3-10% energy savings across CHS primary enterprise when fully implemented. This is equivalent to saving \$560K-\$1.9M or enough energy to power 1000-5000 homes per year.

Jan-Jun 2016/2017	STANLY	LINCOLN	MEDICAL CENTER PLAZA	LEVINE CANCER INSTITUTE	DATA CENTER	HARRISBURG ED
<b>ENERGY SAVINGS</b>	<b>10.6%</b>	<b>1%</b>	<b>4.1%</b>	<b>1.1%</b>	<b>13.9%</b>	<b>6.1%</b>
<b>DOLLAR SAVINGS</b>	<b>\$19K</b>	<b>-\$15K</b>	<b>\$10K</b>	<b>\$2K</b>	<b>\$41K</b>	<b>\$4.6K</b>
<b>FII</b>	...	...	...	...	...	...

- Published semi-annually
  - March and September
- Energy and Waste metrics
  - System wide
  - Site specific
- Summary of goals, accomplishments and collaborations
- Cornerstone of our annual report

### ENVIRONMENTAL SUSTAINABILITY SOLUTIONS Less Waste: Year to Date Dashboard January to June 2017



**Total Waste by AP/APS**  
 PDI Network Average\* 21 lbs  
 Site 2016 2017  
 Stanly 21 22  
 Backlund 9 39  
 Phoenix 23 28  
 MCP 32 32  
 LCI 12 11  
 Data Ctr 9 8

### ENVIRONMENTAL SUSTAINABILITY SOLUTIONS Program and Project Update

**Climate and Health**

**Corporate Briefing Note**  
 To address the most complex health challenge of this century, Environmental Sustainability Solutions is convening stakeholders and community experts to rethink the design of our care and health mitigation, resiliency, and leadership.

**Provision Green Hub Network**  
 A decisive response to climate resilience at CHS is required to sustain the conditions for unopposed solutions to emerge and initiate the transformation required to protect our infrastructure assets, assure uninterrupted operation during and following extreme weather events, and support the health and well-being of our communities. Our Provisions are planning and working together via the Green Hub to account for climate in their daily practices.

**"In 2016 to March Canada 6947 people visited the emergency department for heat-related illness. This is a 40% increase from the previous year."**  
 Source: www.cbcnews.ca/canada

**Engaged Leadership**

**Awards**  
 Centives Healthcare System - Phoenix and Lincoln have received 2017 Provider for Change Awards from Practice GreenHealth for Environmental Leadership.

**Presentations**  
 Presentations are delivered over 50 formal presentations to internally and delivered over 500 formal presentations to external stakeholders. Presentations are scheduled for 2017, including one keynote to the Independent Electricity System Operator in Toronto, Canada.

**Openness and Membership**  
 This year ESG joined a growing number of Charlotte...

**Buildings**

**Construction and Demolition**  
 CHS Construction Services Group (CSG) launched a pilot to recycle at least 50% of its construction waste, concrete, metal, and wood from projects. Two sites are in progress, one in the northeast and the other in the West region.

**Green Construction**  
 In partnership with Clean Air Carolina and OpenSpace we are working towards the reduction of harmful air emissions from diesel construction equipment and temporary power generation used on site during construction.

**Indoor Air Quality**  
 Overwintering, the breaks, excessive maintenance, high loads and poor plant quality results from inadequate engine systems and chemicals. This pilot at Harrisburg and Kansas City Emergency Department will show if ignition technology to demonstrate the potential for water and dollar savings.

**"90% of CHS buildings have been diagnosed with indoor air quality issues."**  
 Source: NC State Center for Health Statistics

**Earth Day**

**Green Hub Network**  
 CHS has established a Green Hub Network with an interest in sustainability and learning to share experiences and take action. Currently 10 teams meet quarterly to support each other in their commitment to advancing the environment of work.

**Training**  
 CHS continues awareness and training is delivered in person via business presentations. To date we have delivered 185 hours training 460 team members. Best in class. ESG hopes to double the number of trainees over the next year compared to last.



# Awards



**Carolinas HealthCare System**  
**Pineville**  
**Lincoln**



[Watch the video](#)

# Green Hub Network

The Green Hub Network is a network of teammates with an interest in sustainability who are willing to learn, collaborate, and take action to reduce our environmental footprint.

**Better  
Buildings**

**Climate and  
Health**

**Greening the  
OR**

**Sustainability**



# Better Buildings Green Hub Project Work

**C&D Recycling Pilot**

**Brick Recycling at  
Mercy**

**Recycling Standard**

**Clean Construction  
Partnership with  
Novant for Air Quality**

# Construction & Demolition (C&D) Recycling

- At least 80% of debris can be diverted from the landfill during major renovations and new construction, according to Healthier Hospitals, a program of the membership-based organization Practice Greenhealth, which helps advance sustainability in healthcare.



# Typical C&D Recyclable Materials

Asphalt

Shingles

Concrete and  
Block

Dirt

Land Clearing

Carpet

Scrap Metal

Cardboard

Gypsum /  
Wallboard

Ceiling Tiles

Untreated  
Wood

Architectural  
Salvage

# CSG Construction & Demolition Recycling Pilot

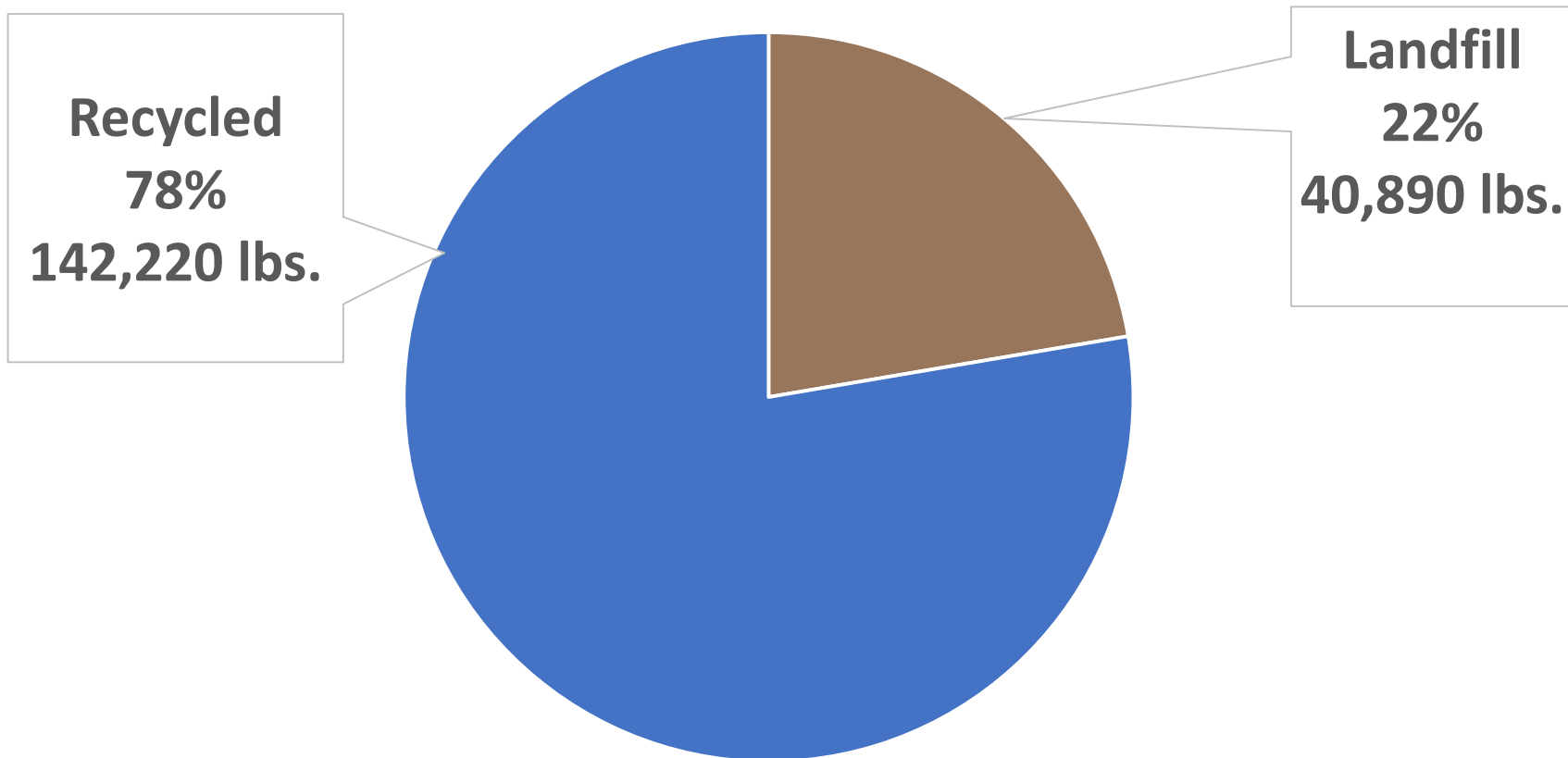
When: Summer 2017

Partners: Construction Services Group (CSG)  
Environmental Sustainability Solutions (ES2)  
Russo Services (local recycling facility)

What: 30-yard bulk dumpster placed at each location that will be later sorted at the recycling facility



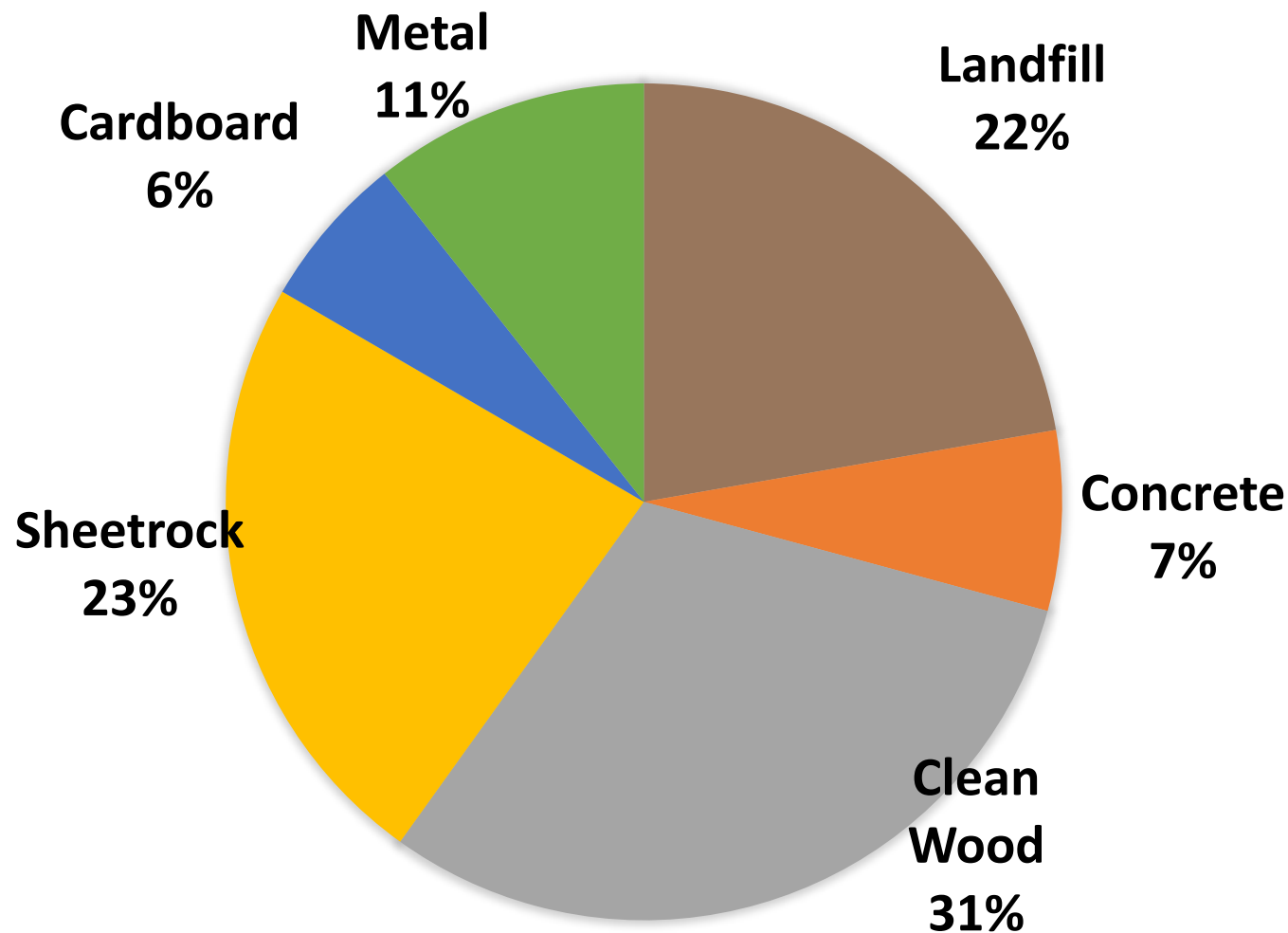
# C&D Pilot Program Recycling Rate



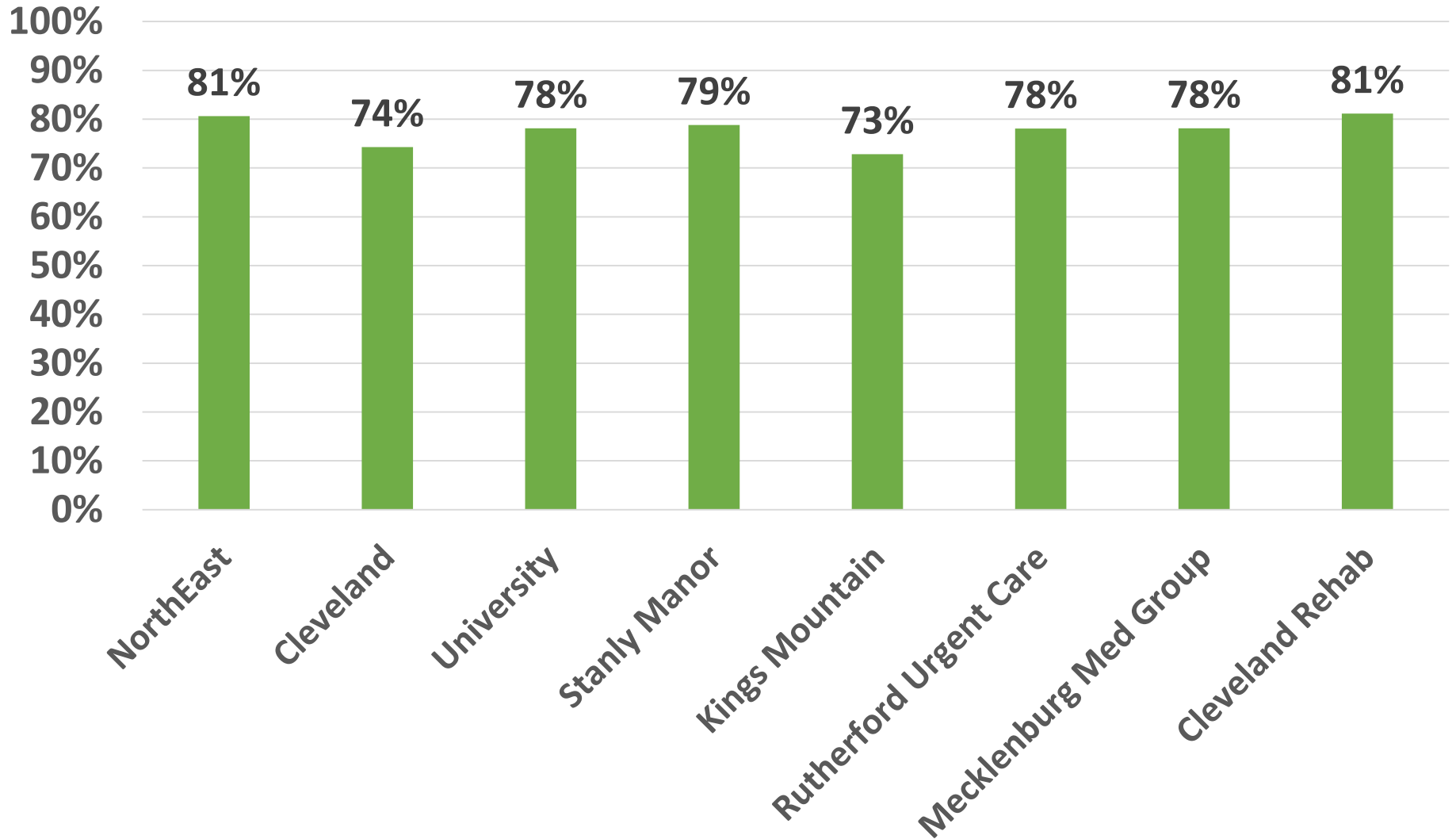
*Current as of Feb. 2018*

# How much material was recycled? August 2017-January 2018

78% of the  
C&D  
materials  
was diverted  
from the  
landfill,  
totaling  
142,220 lbs  
and \$10,637



# C&D Recycling Rate Per Location



# How much material was recycled? August 2017-February 2018



78% of the C&D materials was diverted from the landfill at 8 locations, totaling 142,220 lbs and costing \$10,637



# Program Impact C&D Recycling Pilot

- Supports local business. The vendor is listed with system's procurement. Project Managers may choose this vendor because they have similar pricing as the competitors who don't recycle the material.
- Project Managers can request that their outside general contractor use Russo or another recycling company to manager their project's recycling needs.
- Looking to add a statement in the RFP language for future projects.
- Initiated general contractor research to see if they recycle their material or not. What can be changed with this?
- Initiated a large-scale greening pilot project at Union.
- Opens the conversation for Better Buildings opportunities across the system, including EV stations and water refill stations.

# Next steps for Better Buildings

Going Greener  
at Union

General  
Contractor  
Engagement

Education  
Spread

Demo Group  
Opportunities

# Thank you!

## Questions?

Jennifer Sellers

*Program Manager*

*Environmental Sustainability Solutions (ES2)*

*Atrium Health*

[jennifer.sellers@carolinashealthcare.org](mailto:jennifer.sellers@carolinashealthcare.org)

(704) 667-9311

