Regional Pediatric Nursing Grand Rounds

Sustainability in Healthcare

Colleen Groll, Manager, Sustainability Programs
February 7, 2019
Disclosure

• I do not have any conflict of interest, nor will I be discussing any off-label product use.

• This class has no commercial support or sponsorship, nor is it co-sponsored.
Agenda

- Sustainability focus areas at Seattle Children’s
  - Waste, water, energy
- Climate change impacts pediatric health
  - Nurses Climate Challenge
- Nursing engagement – take action
Learning Objectives

• Identify at least three focus areas for sustainability in healthcare.
• Discuss the environmental impacts of healthcare operations.
• Identify the impact of climate change on pediatric health.
• Recognize the role of the healthcare professional in communicating the public health effects of climate change.
A Powerful Mission Statement

“We provide hope, care and cures to help every child live the healthiest and most fulfilling life possible”
Many factors affect child health

• Direct link - environmental health and pediatric health
Sustainability Focus Areas

- Water Reduction
- Waste Reduction
- Green Purchasing
- Healthy Food & Purchasing
- Green Building
- Anchor Project

Greenhouse Gas Emission Reduction
Energy Reduction & Transportation
Agenda

• Sustainability focus areas at Seattle Children’s
  • Waste, water, energy
• Climate change impacts pediatric health
  • Nurses Climate Challenge
• Nursing engagement – take action
Current State = 46% diversion
46% landfill

2020 Goal = 50% diversion
Recycling - Public Areas

Empty and Mostly Clean

Plastic Bottles and Cups

Aluminum Cans
Recycling - Public Areas

Empty and (Mostly) Clean

- Drink Containers and Lids
- Plastic Food Containers

Seattle Children's® Sustainability
Recycling - Public Areas

Paper Products
Clinical Recycling - Patient Units

Fluid Containers

Hard Plastics

Sani-Cloth Container-EMPTY

Beverage Containers/Lids

Non-PHI Paper & Cardboard
Recycling – Patient Units

Non-isolation patient rooms
Packaging

- Soft Packaging SEPARATED
- Packaging for IV Bags and Tubing
Recycling - NO

**COMBINED/FUSED MATERIALS (FOIL + PAPER)**

**TUBING, IV BAGS, TINY PLASTICS, GLOVES OR SYRINGES**
Recycling - NO

Paper Towels – Dry or Wet
COMPOST
Recycling - NO

Gloves, clean or soiled

TRASH
Recycling - NO

Plastic Utensils and Straws, clean or soiled

TRASH
Exception – Ocean Cafe

Compostable Straws and Utensils
No compost? Trash
Resource Use - Water

- Water Usage:
  - ~ 53 million gallons/year
  - Top 20 users in King County
  - $990,841 annually

- Water Reduction:
  - Staff: Report leaks – CHILD Make a Request, Fix-It
  - 2017 usage < 2014 (excluding Forest A)
  - Renovations - low flow toilets, lav faucets showerheads
  - Irrigation - reduced 1 million gallons/year
Seattle Hospital Energy Use Intensity (kBtu/sf/year)

SEATTLE CHILDREN'S HOSPITAL (MAIN CAMPUS)
SWEDISH MEDICAL CENTER CHERRY HILL
VIRGINIA MASON- CENTRAL PAVILLION
SWEDISH MEDICAL CENTER BALLARD CAMPUS
HARBORVIEW MEDICAL CENTER
FHCRC - SEATTLE CANCER CARE ALLIANCE
BUILDING HOPE (Children's)
NORTHWEST HOSPITAL & MEDICAL CENTER
SWEDISH HOSPITAL MEDICAL CENTER First Hill
Resource Use – Energy

• Electricity
  • Largely carbon neutral – hydropower, wind
  • $2.9 million annually
  • Trend – 4% reduction, despite warmer summers

• Natural Gas
  • Largest greenhouse gas emission
  • Fossil fuel
  • $1 million annually
  • Trend – 2% increase, despite warmer winters
Energy Reduction Projects

- Staff – wear layers
- LED lighting retrofits (ongoing)
- Overnight turn downs
  - Unoccupied areas in Mountain A - complete
  - Ambulatory, Operating Rooms
- Boiler plant upgrade (2021)
- Chiller conversion to heat recovery
- Future – alternative energy sources
Why we want to reduce energy

• Reduce our impact on climate change
• Reduce or stabilize utility costs
• Increase resiliency
• Futureproof operations for 2030 leaders
Success Stories

• Transportation
  • 33% of staff drive alone to work (6-9 am)
  • Reduced greenhouse gas emissions
  • Reduced air pollution

• Nutrition
  • 66.7% antibiotic-free meat (baseline 2%)
  • 19% local (baseline 6%)
  • 22% sustainable (baseline 11%)

• Facilities – green building
Agenda

- Sustainability focus areas at Seattle Children’s
  - Waste, water, energy
- Climate change impacts pediatric health
  - Nurses Climate Challenge
- Nursing engagement – take action
Greenhouse Gases

Global temperature deviations from mean (1880-2016)

Mauna Loa Observatory Monthly Average Carbon Dioxide (1960-2015)

Courtesy of the National Climate Assessment (2012)
Health care contributes to climate change

10% of U.S. greenhouse gas emissions

- Energy use for heating, cooling, lighting, & water use
- Waste hauling, treatment, & landfill gases
- Fleet vehicles
- Meat production & food transport
- Employee commutes
- Supplies & materials
- Waste anesthetic gases
Seattle Children's Hospital Greenhouse Gas Emissions

- Natural Gas: 53%
- Commuting: 26%
- Paper: 3%
- Business Travel (Air): 6%
- Business Travel (Other): 1%
- Electricity: 3%
- Anesthetic Gases: 3%
- Company Owned Fleet: 3%
- Waste: 2%
Climate Change and Pediatric Health

- “Climate change poses threats to human health, safety, and security, and children are uniquely vulnerable to these threats.
- Given this knowledge, failure to take prompt, substantive action would be an act of injustice to all children.”

American Academy of Pediatrics
Policy statement: November, 2015
A campaign to engage 5,000 health professionals around climate change and health

A collaboration between Health Care Without Harm and Alliance of Nurses for Healthy Environments
Nurses Climate Challenge goals

- Educate 5,000 health professionals on climate change and health.
- Build a cohort of informed and more-engaged health professionals in care settings.
- Launch a movement of health professionals committed to climate solutions at home and in care settings.
Extreme heat

• More very hot days, higher humidity, longer & hotter heat waves

• 14.5 million Americans exposed to heat waves annually (2000-2016)

• Illness and death from heat stroke and dehydration

Longer seasons for allergens
Air pollution

- 7 million annual deaths worldwide
- Heat increases wildfires, smog, and pollen
- Humidity and flooding leads to indoor mold growth
- Exacerbations in asthma and allergies
Changes in ecology

- Changes in range, lifespan, virulence, and population
  - Mosquitoes: West Nile virus, malaria, & zika virus
  - Ticks: Lyme disease
- Extreme weather leads to breeding grounds
Severe weather

- More frequent and severe rains, floods, droughts, fires, and major storms
- Housing displacement
- Decreased access to health services and medications
- Particularly damaging to mental health
Mental health, migration

• Depression, anxiety, anger, hopelessness, PTSD, uncertainty
• Familial, financial, and societal impacts are often unquantifiable and difficult to articulate
• Example: 215,000 Puerto Ricans fled to Florida after Hurricane Maria
• Climate change expected to lead to increased migration to the Pacific NW.
Review: climate change & pediatric health

- Poverty increases vulnerability
- Extreme heat, particularly in PNW
- Air pollution/smoke, allergens
- Changes in ecology = changes in mosquitos and tick populations
  - West Nile, Zika, Lyme disease
- Severe weather
- Mental distress, PNW migration
Agenda

- Sustainability focus areas at Seattle Children’s
  - Waste, water, energy
- Climate change impacts pediatric health
  - Nurses Climate Challenge
- **Nursing engagement – take action**
The role of healthcare professionals in climate change leadership

• Health professionals are trusted.
• We care for the patients most vulnerable to the impacts of climate change - children.
• Our directive:
  • UNDERSTAND how climate change affects pediatric health.
  • WORK to decrease your own carbon footprint and health care’s impact on the environment.
  • PREPARE patients who are at risk.
Work to decrease your carbon impact

• High Impact
  • Drive less, fly less
  • Food - Plant based food choices, Meatless Mondays
  • Buy Green Energy – PSE and Seattle City Light’s Green Power programs

• Moderate Impact
  • Reduce energy use at home
  • Food - Plant a garden. Eat local & organic. Compost
  • Laundry – wash in cold
  • Unplug devices
Engagement at work

- Join the Green Team: 16 to 230 members
- Nursing – Care Delivery Teams
- Nurses Climate Challenge
- Physician engagement
- Recycle more, compost more
This work is part of our Mission

- Integrate with EDI, social justice
- Make this initiative intersectional
  - Sustainability, EDI, Mission, Climate Change, Community Health
Educational Opportunities

- Webinar – How nurses can be hospitals’ climate champions – join the Nurses Climate Challenge!
  - February 21, 2019. 10am
- Alliance of Nurses for Healthy Environments
  - Nashville, TN
  - May 6 – 7, 2019
- CleanMed – Healthcare Sustainability
  - Nashville, TN
  - May 7 – 9, 2019
What’s ahead at Seattle Children’s?

- Tree Planting Carbon Offset
  - March 2, 2019
- April – Earth Day/Month
  - EcoChallenge
- Earth Day Climate Panel
  - April 25th, 2019
  - Physicians, leaders
Thank You

• Questions?