



# EHSSSENTIALS 2018

Environmental, Health & Safety Symposium for Healthcare

**October 8, 2018**  
**Legacy Emanuel Lorenzen**  
**Conference Center**  
**Portland, OR**



PRESENTED BY



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# Long Term, Low Level Chemical Exposure: How Environmental Sustainability Programs Can Help

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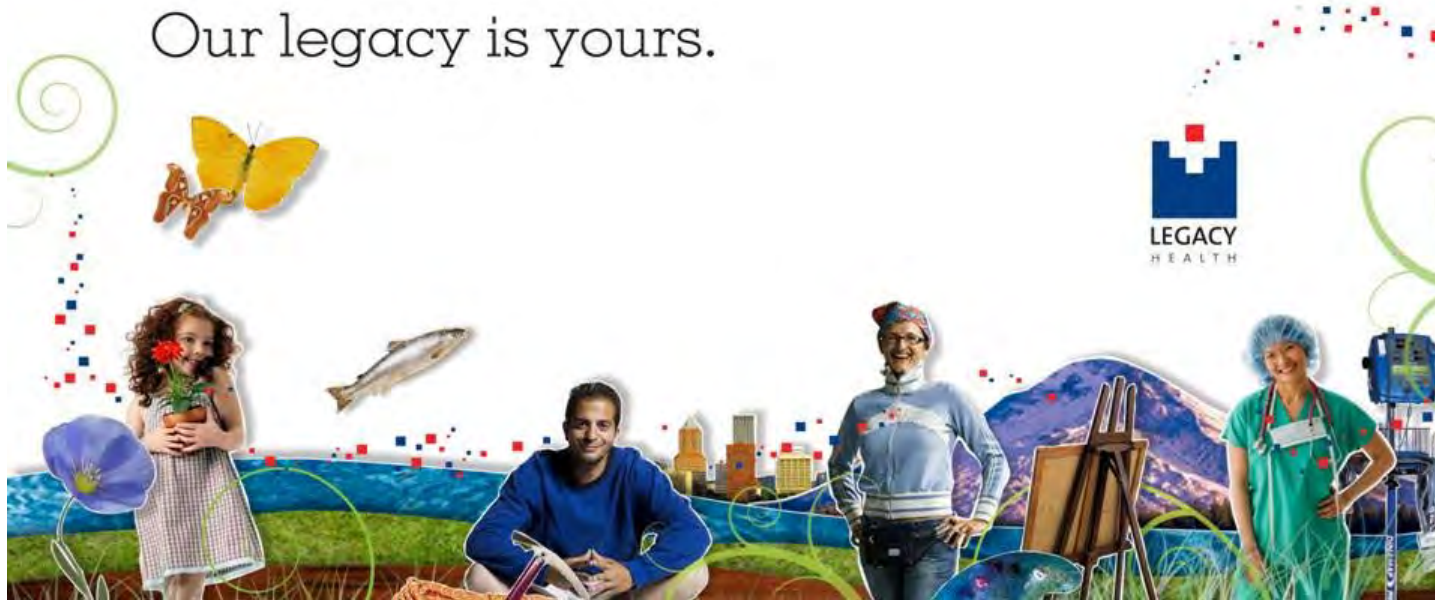
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## Legacy Health

Sustainability and Strategic Resource Management

Our legacy is yours.



## Legacy Health – Overview

- Diverse range of space use types:
  - Hospice
  - Administrative office buildings
  - Central lab and research site
- In many respects similar to lodging, food service, retail, warehouse/logistics, etc.
- Wide range of building ages, urban, and suburban locations
  - Salmon Creek 2005
  - Randall Children’s 2012
  - Good Samaritan founded in 1875
  - Emanuel in 1912



# The Birth of Our Sustainability Programs

- All Legacy hospitals are members of Practice Greenhealth



## Who is Practice Greenhealth?

- Nonprofit membership organization founded on principles of environmental stewardship in healthcare



## Environmental Sustainability Programs

- Engaged leadership
- Healthy food
- Energy and water resource management
- Safer chemicals
- Less waste
- Environmentally-preferable purchasing
- Employee commute options



## Environmental Sustainability Programs

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- Energy and water resource management
- **Safer chemicals**
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## What Do We Mean By Safer Chemicals?

- Chemicals are pervasive in our buildings and in the supplies we use to deliver care
- Many are beneficial; many are not
- Building materials contain substances that may be hazardous
  - Halogenated flame retardants
  - Formaldehyde
  - Phthalates
  - Diisocyanates
- Cleaning supplies and chemicals can include ingredients that are health hazards
- **Question for you** – Who ensures products are safe for use?

## Answer...

- There is no agency properly empowered to ensure chemicals in products are safe
- In 1976 the Toxic Substances Control Act became law; empowered the EPA to regulate and ban harmful chemicals
- Since then only five substances banned for use in the US – out of 80,000 chemicals/substances
- The act included enormous hurdles for EPA to overcome to ban
  - Even asbestos failed to meet the requirements for a ban
- TSCA updated in 2016
- Not likely to be a priority for the current administration
- **It's up to us**

# Is It Really a Big Deal? Does This Really Matter?

- Much of the focus in sourcing and product selection activities focused on price and clinical/functional efficacy
  - Is it really a good value if it's toxic?
- Human health impact
  - Occupationally-acquired asthma
    - “Our incidence data suggest that exposure to substances in the workplace causes more than 10% of all cases of adult-onset asthma. Occupations with the highest risk include nursing and cleaning.”  
The Lancet, [Volume 370, ISSUE 9584](#), P336-341, July 28, 2007
  - Cancer
    - “If you look at...what causes adult cancer globally...it is generally exposures that people sustain from products that are mass produced by corporations...tobacco...alcohol...fast food...chemicals and pesticides...”  
James Sargent, M.D. Dartmouth-Hitchcock Medical Center  
Excerpt from the President’s Cancer Panel, Annual Report 2006-2007

## Why It Matters – Body Burden

- The CDC publishes the National Report on Human Exposure to Environmental Chemicals
  - <https://www.cdc.gov/exposurereport/>
  - Biomonitoring data gathered from 1999-2000 through 2015-2016
  - Documents the chemicals found in humans
  - Doesn't necessarily mean they will cause disease
  - The **2009** **75** new chemicals found update included

The *Fourth Report* includes results for 75 chemicals measured for the first time in the U.S. population. These chemicals are in the following groups:

- acrylamide and glycidamide adducts;
- arsenic species and metabolites;
- environmental phenols, including bisphenol A and triclosan;
- perchlorate;
- perfluorinated chemicals;
- polybrominated diphenyl ethers;
- volatile organic compounds; and
- some additions to chemical groups previously measured.

## How Are Chemicals Getting In Our Bodies?

- Long-term ongoing exposure to chemicals in everyday products:
  - Building materials (adhesives, paints, carpeting, laminates, etc.)
  - Furniture (flame retardants, stain repellants)
  - Cleaning and disinfecting products
  - Consumer products
  - Clothing
  - Pesticides
  - Insecticides
- At work and at home
- Off-gassing (new car smell); particle releases resulting in dust

## Potential Long-Term Exposures

- Pesticides (pest management program)
- Cleaning chemicals
- Thermal cash register receipts (BPA)
- Finishes and furnishings
  - Flame retardants
  - Adhesives
  - Paints
- Perfluorinated compounds (stain/water repellent)
- Phthalates
- DEHP
- Endocrine disruptors

Anyone heard of any of these?

## How Can We Go About Reducing Exposure?

- Be aware of the potential for exposure; learn about high risk categories of products
- Work with your supply chain to source products certified to be less harmful (see resources slide)



- Leverage existing programs and workgroups
  - HCWH, Practice Greenhealth
  - Your Supply Chain Management department
  - Value analysis
  - Standards setting workgroups

## What Can We Do About It?

- Examples at Legacy:
  - Group Purchasing Organizations
    - Vizient Environmental Advisory Council
  - Environmental Services Resource Council
    - Selects standardized cleaning products for the system
  - Facilities Design/Construction/Operations
    - Existing buildings – building systems and exteriors including landscaping
    - New buildings – healthy interiors
  - Food and Nutrition Resource Council
    - Selects standardized foods for the system
    - Chemicals? In food? Unfortunately yes
  - Environment of Care; at Legacy includes teams focused on:
    - Safety/security
    - Fire/life safety
    - Self insured loss prevention



## Self Insured Loss Prevention Team

- My connection to this conference
- Much of the team's focus is on "near term" risk
  - Reduce, eliminate accidents
  - Exposures
  - Injuries
- Our Environmental Sustainability programs bring ideas to reduce longer term exposure risk from:
  - Building materials
  - Chemicals used for cleaning, maintenance
  - Foods and food service ware (surprisingly)

## On a Personal Level

- Dr. Blum (sixclasses.org) has outlined a list of steps each one of us can take to limit our chemical exposure which includes:
  - Don't use plastic containers for microwaving or for hot food/drinks
  - Eat more fresh food and less processed, packaged food
  - Wash hands after touching cash register receipts; especially before eating
  - Select products without "fragrance," "perfume," or "parfum" on the ingredient label
  - Vacuum with a HEPA filter to eliminate dust
  - Choose textiles and carpeting without water and stain-repellency
  - Avoid food with greaseproof packaging such as some fast food
  - Read ingredient labels and avoid products containing triclosan and triclocarban
  - When possible, ask for products without antimicrobials such as soap, deodorant, skin cleansers, sunscreens and cosmetics
  - When buying upholstered furniture, look for a label stating that the item does not contain flame retardants.
  - Select eco-labeled cleaning products such as US EPA's "Safer Choice"

Excerpt from a blog article published by Cristina Indiveri, MS, Sr. Director Program Services, Vizient

## Resources

- CDC - <https://www.cdc.gov/exposurereport/>
- President's Cancer Panel - <https://prescancerpanel.cancer.gov/>
- Practice Greenhealth - <https://practicegreenhealth.org/>
- Healthier Hospitals Initiative - <http://www.healthierhospitals.org/>
- Green Science Policy Institute - <http://www.sixclasses.org/>
- Ecolabels for cleaning products - <http://www.ecolabelindex.com/ecolabels/?st=category,cleaning> and <https://www.epa.gov/saferchoice>
- Living Building Challenge - <https://living-future.org/lbc/>
- DECLARE - <https://access.living-future.org/declare-products>
- LEED - <https://new.usgbc.org/leed>
- Well Building Standard - <https://www.wellcertified.com/>
- BREEAM - <https://www.breeam.com/>
- Green Globes Sustainable Interiors - <https://www.thegbi.org/>
- Health Product Declaration (HPD) - <https://www.hpd-collaborative.org/>

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## Thank You!



EMANUEL Medical Center

GOOD SAMARITAN Medical Center

MERIDIAN PARK Medical Center

MOUNT HOOD Medical Center

SALMON CREEK Medical Center

RANDALL CHILDREN'S HOSPITAL Legacy Emanuel

LEGACY MEDICAL GROUP

LEGACY LABORATORY

LEGACY RESEARCH

LEGACY HOSPICE