Putting Breast Cancer Out of Work

How to Move Our Workplaces and Our Country from Dangerous Chemicals to Safer Alternatives
Shocking new information on breast cancer.

A November 2012 study that found that Ontario women who work manufacturing plastic automotive components and processing food are five times more likely to have breast cancer before menopause than other women living similar lives in the same communities.
The Cause of Most Breast Cancers Is Not Genes or Family History

- Genetic Breast Cancer
- Family History
- All Other Causes
The Cause of Most Breast Cancers Is Not Genes or Family History
The Cause of Most Breast Cancers Is Not Genes or Family History

- Genetic Breast Cancer
- Family History
- All Other Causes
Early Detection is not Prevention

• Detecting breast cancer early may help treat it before it has a chance to spread, but it is not prevention.
• Real prevention means eliminating causes, so that disease doesn’t have a chance to start.
• We can’t change genetics, but we can change personal, environmental, and work factors
We can reduce the chemical part of the breast cancer problem
Putting Cancer Out of Work

How to Move Our Workplaces and Our Country from Dangerous Chemicals to Safer Alternatives
Putting Infertility Out of Work

How to Move Our Workplaces and Our Country from Dangerous Chemicals to Safer Alternatives
Putting Diabetes Out of Work

How to Move Our Workplaces and Our Country from Dangerous Chemicals to Safer Alternatives
Putting Birth Defects Out of Work

How to Move Our Workplaces and Our Country from Dangerous Chemicals to Safer Alternatives
Today’s Objectives

- To explain the relationship between chemicals, breast cancer and other diseases.
- To describe how the new science linking chemicals and human health should mean new laws and policies.
- To discuss how if Congress won’t act, we need to do it ourselves and become Do It Ourselves Chemical Policy Reformers.
- To familiarize ourselves with informational resources on chemicals and their effects, such as MSDS, SDS and ChemHAT.
- To use these resources to identify an improvement we can make in our workplace.
What’s the connection between breast cancer and chemicals and other diseases?
U.S. Breast Cancer Mortality Rate, 1975-2010

National Cancer Institute, Surveillance Epidemiology End Results Program, SEER 9
U.S. Breast Cancer Incidence Rates, 1975-2010

Rate per 100,000

National Cancer Institute, Surveillance Epidemiology End Results Program, SEER 9, delayed adjusted incidence rate
and breast cancer is increasing in men too.
Camp Lejeune Study Finds Higher Cancer Death Risk

BY MAGGIE FOX
Small Group Exercise #1

- Break into small groups
- Pick a reporter
- Using the small group activity method, read the fact sheet that’s been assigned to you
- Prepare these questions for report back:
  1. What have these 5 new studies told us about breast cancer as an occupational disease?
  2. What can we do to prevent occupational breast cancer?
Alternative Exercise 1
Tackling Toxic Chemical Myths
There are at least four subtypes of breast cancer.

- Luminal A
- Luminal B
- HER-2 positive
- Basal like breast cancer (triple negative)
  - Most aggressive, most difficult to treat
  - Occurs most often in younger women, women with lower economic status, Black and Latina women

Slide from the Breast Cancer Fund www.breastcancerfund.org
Breast Cancer and other diseases are caused by the interaction of genes and environment.
The Breast Cancer Resilience Scale

- Genes
- Breast Density
- High Birth Weight

Positive Factors:
- Strong Union
- Pregnancy
- Happiness
- Exercise
- Healthy Diet

Negative Factors:
- Radiation
- Alcohol Abuse
- Tobacco
- Night Shift
- Chemicals
More children are getting cancer but fewer children are dying from cancer.

Cancer Incidence and Mortality in Children

Measure D5

Cancer incidence and mortality for children under 20

Incidence

Mortality

Cases per million children


DATA: National Cancer Institute, Surveillance, Epidemiology and End Results Program

Cancer Incidence and Mortality in Children
Asthma up 100%  Impaired fertility up 40%
Autism diagnosis up 1000%
30% more babies are being born too early
The scientific understanding of how and why chemicals are making us sick has changed dramatically since the 1970s.
Old thinking: People aren’t animals

So, they’ve been testing steroids on you, eh?
Old thinking: Unique diseases come from a single cause.

Asbestos

You'd think... a substance that kills 10,000 Americans each year would be banned.

You'd think... that Congress would do everything possible to help those afflicted with asbestos diseases.

Think again.
Old thinking: The dose makes the poison
Old thinking: When the science proves cause, we make new protective policies
Old thinking: The U.S. has the most protective laws in the world.
Small Group Exercise #2

• Break into 7 small groups
• Pick a reporter
• Each group will be assigned a different factsheet.
• Read the fact sheet that’s been assigned to you and prepare for your report-back:
  • Summarize your factsheet for the group
  • Answer the questions at the end of your factsheet
How the Reproductive Problems of Florida Panthers and American Men Connected
DBCP: Infertility

Clipped from the film, Song of the Canary, produced by New Day Films
Old thinking: People aren’t animals

FALSE
What we learned from an Uncontrolled Experiment on American Soldiers and the People of Southeast Asia?
Hodgkin’s Disease, non Hodgkin’s lymphoma, Prostate Cancer, Chronic B-cell Leukemia, Respiratory Cancers, Type 2 Diabetes, Ischemic Heart Disease, Parkinson’s Disease
Old thinking: Unique diseases come from a single cause

You'd think... a substance that kills 10,000 Americans each year would be banned.

You'd think... that Congress would do everything possible to help those afflicted with asbestos diseases.

Think again.
Breast Cancer and DDT: Sometimes Timing Matters More Than Dose
"DDT is good for me-e-e-e!"
Old thinking: The dose makes the poison

Response

Dose

S-Curve

FALSE
Biomonitoring tells us that we all are being exposed to toxic chemicals
Mother’s Lips

Father’s Color Hair

Chemical Industry’s lead, mercury, PFCs, PBDE, PCBs, dioxin, BPA and perchlorates
Two Ways to Make Hormones

Phthalates, Bisphenol A, Perfluorinated Compounds, Cadmium, DDT, Dioxin

Estrogen, Testosterone, Insulin, Progesterone, Thyroxine and others
Hormones: Tiny doses control communication and coordination of body tissues

300 ppt in a 143 lb. woman is equivalent to \(0.0000000002\) of one plain M &M candy
From the CDC’s 2009 Fourth National Report on Human Exposure to Environmental Chemicals
Old thinking: The dose makes the poison
I need to wake up to the 21\textsuperscript{st} Century. It’s not just dose that matters. There’s also timing, and chemicals that act like hormones at low doses, long delays between exposure and disease and so much more.
Our occupational safety and health and chemical management laws lost in the 1970s
OSHA is Out of Date

40 Years of OSHA

80,000 Chemicals

16 Permissible Exposure Limits (PELs)
<table>
<thead>
<tr>
<th>Current OSHA Penalties</th>
<th>Are Too Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum penalty for a serious OSHA violation</td>
<td>$ 7,000</td>
</tr>
<tr>
<td>Maximum penalty for willful and repeated violation</td>
<td>$ 70,000</td>
</tr>
<tr>
<td>Maximum USDA penalty if dairy company doesn’t pay milk advertising fees</td>
<td>$ 130,000</td>
</tr>
<tr>
<td>Maximum FCC fine for broadcasting indecent content</td>
<td>$ 325,000</td>
</tr>
</tbody>
</table>
Old thinking: When the science proves cause, we make new protective policies
TSCA is less protective than laws in Europe and Japan
David and Julia Koch
The Toxic Substances Control Act (TSCA)

80,000 different chemicals have been produced and used since TSCA became law in 1976.

62,000 of these chemicals were grandfathered in when TSCA became law with no requirement that they be tested and shown to be safe.

In the 37 years that TSCA has been the federal law on chemicals, EPA has required testing on just 200 chemicals.

When EPA was prevented from using TSCA to restrict asbestos 23 years ago, it gave up trying.
Old thinking: The U.S. has the most protective laws in the world.
More than 40,000 Americans die prematurely each year from exposure to toxic substances at work — 10 times as many as those who die from occupational injuries.
How do we act on the new science with or without Congress?

How can we join the Do It Ourselves Chemical Policy Reformers?
Will she be the one in eight that gets breast cancer?
“...genetic and environmental factors individually contribute and interact with each other to increase breast cancer risk.”

Breast Cancer and the Environment: Prioritizing Prevention
Family history
Genes
High birth weight
Dense breasts
Lifetime exposure to estrogen and progesterone
Unhealthy diet and excessive tobacco and alcohol use
Night shift work
Second hand smoke
Radiation
Vinyl chloride
Acrylonitrile
Styrene
BPA
Phthalates
Brominated flame retardants
Fake leather vinyl backpack
Acrylic sweater
Polystyrene food container
BPA lined food cans
Phthalates in personal care products
Flame retardants in foam, electronics and fabric
REDUCE THE CHANCE OF BREAST CANCER BY:

Eliminating exposure to chemical hazards
Genetics and the environment will still be a factor but by reducing the chemical risk factors, we can reduce the cancer risk.
20 States have passed 100 laws restricting chemicals

States in green have passed one or more laws
States considering Toxic Chemicals Policies in 2014
GreenScreen for Safer Chemicals helping companies, workers and product designers find and use safer chemicals
The 4 GreenScreen Benchmarks

All chemicals can be assessed for their hazards and put into one of four benchmarks.

- **Benchmark 1:** Avoid – Chemical of High Concern
- **Benchmark 2:** Use but Search for Safer Substitutes
- **Benchmark 3:** Use but Still Opportunity for Improvement
- **Benchmark 4:** Prefer – Safer Chemical

⬅ Identifies High Hazard Chemicals
GreenScreen Benchmarking

• Benchmark 1 identifies chemicals of high concern (carcinogens, hormone disrupting chemicals, chemicals that cause birth defects, etc…)

Benchmark 1

Avoid – Chemical of High Concern
Moving away from hazardous chemicals - yes! But how can companies avoid using substitutes that are equally hazardous?
Helping to lead our industry towards zero discharge of hazardous chemicals
GreenScreen for Safer Chemicals

- Companies can demand suppliers only use ingredients that are Benchmark 2 or higher to ensure substitutes are not another carcinogen or chemical of high concern.

- This is what Hewlett-Packard demands from their plastics suppliers for cables.
Our Sustainability Index provides powerful tools to help you improve the sustainability of the products our customers love and increase our customers’ trust in us and our brand.

For each large GHG innovation project, we work with Deloitte consulting and in partnership with key NGOs to develop the best set of assumptions and methodologies we can.

At Walmart we are on target to eliminating 20 million metric tons of greenhouse gas (GHG) emissions from our supply chain by 2015.

Fertilizer Optimization is a top sustainability priority for our food business. Our entire value chain needs to produce more, with less.
Appendix 1: Walmart reference lists of priority chemicals

As of February 21, 2014

The following authoritative and regulatory lists may be used as resources to identify Walmart Priority Chemicals for reduction, restriction, or elimination in accordance with Walmart's Policy on Sustainable Chemistry in Consumables.

Note: The policy excludes active ingredients that provide therapeutic benefit when present in a product approved by the FDA New Drug Application process.

EU - Endocrine Disrupters - Ranked Priority List - Human Health Categorizations 1 and 2

EU - Interim Strategy for Management of Persistent Bioaccumulative Toxic (PBT) and very persistent very bioaccumulative (vPvB) Substances

EU - REACH (1907/2006):
- Annex XIV - Substances Subject to Authorisation
- Annex XV - Candidate List of Substances of Very High Concern for Authorisation
- Annex XVII Appendices 1 and 2 - Carcinogens Categories 1A and 1B
- Annex XVII Appendix 4 - Mutagens Category 1B
- Annex XVII Appendices 5 and 6 - Reproductive Toxicants Categories 1A and 1B

International Agency for Research on Cancer (IARC) Groups 1 (Carcinogenic to Humans) and 2A (Probably Carcinogenic to Humans) and 2B (Possibly Carcinogenic to Humans)

United Nations Environment Programme (UNEP) - Stockholm Convention Secretariat
Stockholm Convention on Persistent Organic Pollutants (POPs)

U.S. EPA - Priority PBT List

U.S. EPA - Toxic Release Inventory (TRI) PBT Chemicals

U.S. EPA - National Waste Minimization Program - Priority Chemicals

U.S. National Toxicology Program (NTP) - Report on Carcinogens - Known to be Human Carcinogens and Reasonably Anticipated to Be Human Carcinogens

U.S. State of California - Proposition 65 - Developmental/ Reproductive Toxicants

U.S. State of Maine:
- Chemicals of High Concern
- Priority Chemicals

Also of Interest

Our Goals - Our three sustainability goals

How to Make a Difference - Reduce food waste

How to Make a Difference - Plastic packaging: design for recyclability & recycled content

How to Make a Difference - Plastic products: optimize recycled content

How to Make a Difference - Fertilizer optimization
Benzene
CAS: 71-43-2

How can this chemical affect my health?

ACUTE (SHORT TERM) EFFECTS

- Toxic to Humans & Animals – Can be fatal on contact, ingestion or inhalation for humans and other mammals.
- Irritates the Eyes – Can cause irritation or serious damage to the eye.
- Irritates the Skin – Can cause irritation or serious damage to the skin.

CHRONIC (LONG TERM) EFFECTS

- Causes Cancer – Can cause or increase the risk of cancer.
- Birth Defects – Can cause harm to the developing child including birth defects, low birth weight and biological or behavioral problems that appear as the child grows.
- Affects Reproductive System – Can disrupt the male or female reproductive systems, changing sexual development, behavior or functions, decreasing fertility, or resulting in loss of the fetus during pregnancy.
- Damages Genes – Can cause or increase the rate of mutations, which are changes in genetic material in cells.
- Endocrine Disruptor – Can interfere with hormone communication between cells which controls metabolism.
- Other Health Effects – Can cause serious damage on contact or ingestion.
ChemHAT.org
Chemical Hazard and Alternatives Toolbox

Formaldehyde
CAS: 50-00-0

How can this chemical affect my health?

**ACUTE (SHORT TERM) EFFECTS**

- **Toxic to Humans & Animals** – Can be fatal on contact, ingestion or inhalation for humans and other mammals.
- **Irritates the Skin** – Can cause irritation or serious damage to the skin.

**CHRONIC (LONG TERM) EFFECTS**

- **Cancer** – Can cause or increase the risk of cancer.
- **Asthma Trigger** – Can result in high sensitivity so that small quantities trigger asthma, nose or sinus inflammation or other allergic reactions in the respiratory system.
- **Sensitizes the Skin** – Can lead to allergic reactions on the skin.

**Inherent Hazards**

- **Restricted List** – This chemical is on a list from an authoritative body recommending that its use be avoided.

What safer alternatives are available for this chemical?
Cancer – Can cause or increase the risk of cancer.

Asthma Trigger – Can result in high sensitivity so that small quantities trigger asthma, nose or sinus inflammation or other allergic reactions in the respiratory system.

Sensitizes the Skin – Can lead to allergic reactions on the skin.

**Inherent Hazards**

Restricted List – This chemical is on a list from an authoritative body recommending that its use be avoided.

**What safer alternatives are available for this chemical?**

Find case studies related to substitutions for this chemical in SubsPORT, the substitution support portal.

**How am I likely to be exposed to this chemical?**

- Skin contact
- Ingestion
- Inhalation
MOVING TOWARDS SAFER ALTERNATIVES

Case story database
You can use the free text search function to find information in the case story database. Use the search filters to refine your search.

Please enter your search text or numerical substance identifier

50-00-0

Search filters
Sector
All

» More search filters

Items per page

Search Database

New search
Show methodology
Show all case stories
Show all abstracts

English 321

Translations
German 80
French 78
Spanish 97
The Globally Harmonized System of Classification and Labeling of Chemicals

- Acute toxicity (severe)
- Corrosives
- Gases Under Pressure

- Carcinogen
- Respiratory Sensitizer
- Reproductive Toxicity
- Target Organ Toxicity
- Mutagenicity
- Aspiration Toxicity

- Environmental Toxicity

- Irritant
- Dermal Sensitizer
- Acute toxicity (harmful)
- Narcotic Effects
- Respiratory Tract
- Irritation
ChemHAT will give you more information when you see the GHS Health Hazard Pictogram
Exercise Three

In your group, shuffle the cards and lay them out for a game of Concentration (also called the Memory Game).

When you make a match, show everyone In your group the two cards and read the definition out loud.
Hierarchy of Controls

- Personal protective equipment
- Administrative controls
- Engineering controls
- Substitution
- Elimination
Green chemistry innovation can bring jobs back to the United States.

<table>
<thead>
<tr>
<th>Process</th>
<th>Substitution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decaffeinate coffee with benzene</td>
<td>Decaffeinate coffee with water or carbon dioxide</td>
</tr>
<tr>
<td>In 1970s benzene replaced with dichloromethane</td>
<td></td>
</tr>
<tr>
<td>Manufacture IV bags and tubes using polyvinyl chloride and DEHP</td>
<td>Switch production to lighter, stronger polypropylene plastic that do not contain chemicals of concern and does not need a moisture overwrap</td>
</tr>
<tr>
<td>Produce glass for electronics using arsenic to remove air bubbles</td>
<td>Maintain liquid glass at higher temperature for longer periods</td>
</tr>
</tbody>
</table>
How can we start to make a change in our workplaces?
Joining the movement in our workplaces

List some examples of health and safety improvements that your local union has made in your workplace. How did you make the change?
CWA District 9 is a model
Moving forward

How do we put breast cancer out of work?
Small Group Exercise Four:
In your group, review a MSDS then look up the chemicals on ChemHAT. What did you learn?
Were there safer substitutes on Subsport?
Exercise Four: Chemical Body Mapping Activity

- For this activity at your tables you will do a specific Chemical exposure Body Map.
- Use the Color code on the next slide to identify the areas of the body that you are exposed at your work place.
- Then explain the chemical and the process that you are doing when you are exposed. Use www.ChemHAT.org to learn more about the chemical.
What is Body Mapping?

A body map is a picture that can be used to identify the various injuries, illnesses and stresses you have all experienced from the work you are doing or have done in the past at your workplace.
# Body Mapping

## Color-Code for Body Mapping

of Your Work-Related Injuries, Illnesses and Exposures

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Heat burns, heat stress, flash burns</td>
</tr>
<tr>
<td>Orange</td>
<td>Back or repetitive strain (ergonomic injury)</td>
</tr>
<tr>
<td>Yellow</td>
<td>Stress/stress-related health effects</td>
</tr>
<tr>
<td>Dark Blue</td>
<td>Workplace violence-related injuries (physical and/or emotional)</td>
</tr>
<tr>
<td>Dark Green</td>
<td>Chemical exposure/health effects from chemicals</td>
</tr>
<tr>
<td>Light Green</td>
<td>All other occupational diseases (like skin rash, sinus infection, occupational asthma, hearing loss, work-related cancer)</td>
</tr>
<tr>
<td>Light Blue</td>
<td>All other occupational injuries (like cuts, bruises, broken or fractured bones, eye injuries, electric shock)</td>
</tr>
</tbody>
</table>
Chemical Body Map
color code

Red = Gas absorption Hazard

Yellow = Solids Dust inhalation Hazard

Blue = Liquid Absorption Hazard

Green = solids Dust contact Hazard

Orange = Other Hazard explain

Light Blue = Vapor inhalation Hazard
What’s Behind The Other ChemHAT tabs?
OSHA Safer Chemicals Toolkit

Compiles existing tools and methods to help employers effectively accomplish elimination and substitution

https://www.osha.gov/dsg/safer_chemicals/
Take Home Checklist

• Identify potential carcinogens in your workplace

• Get the MSDS to identify the chemical

• Look it up on ChemHAT

• If there’s a substitute on ChemHAT
  • Take it to your union leadership
  • Use the tools for change that we discussed earlier
Take Home Checklist, cont’d

• If there is NO substitute on ChemHAT:
  o Take it your union leadership

• Work with the Joint Health & Safety Committee to
  o Work with your employer and manufacturer to eliminate to do informed substitution for the problem chemical you’ve identified
  o Introduce them to OSHA Safer Chemicals Toolkit and contact the USW Health, Safety and Environment department for more information.