



Collaborative on Health and the Environment eNewsletter - April 2013

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Massachusetts Pursues the Primary Prevention of Asthma

by Polly Hoppin, ScD, Co-coordinator of CHE's Asthma Working Group

Massachusetts communities have high asthma rates, resulting in a substantial societal burden of human suffering, lost capacity and productivity, and direct fiscal costs. In 2010, 10.4% of adults in Massachusetts had asthma—one of the highest prevalence estimates in the nation. Current asthma prevalence among adults increased by 22.4% between 2000 and 2010. In 2009, 9.3% of Massachusetts children had current asthma. And Massachusetts is not alone: asthma rates are increasing in states across the US.

As with other chronic diseases, far more resources focus on managing asthma in people who have it than on preventing the disease. Better compliance with medications, behavior modifications resulting from asthma education, and environmental interventions that reduce a person's exposure to allergens and irritants are essential secondary prevention strategies that can reduce asthma attacks and keep people out of the doctor's office, emergency room or hospital, often cost-effectively. Yet, there remains an urgent need to better understand the root causes of asthma and to develop strategies for reducing the rate of new cases.

A growing body of research documents associations between asthma onset and a range of risk factors, many of which are modifiable, such as exposure to contaminants and allergens in indoor air; lack of breast feeding; maternal health (including stress associated with poverty and racism, as well as obesity, and other factors; and outdoor air pollution. Evidence is also emerging that both adults and children living in close proximity to air pollution sources—for example traffic on busy roadways—are at higher risk than those living at greater distance. Even higher rates of asthma onset are observed among children exposed to traffic who also experience significant stress in their lives. Hundreds of specific chemicals have been associated with the onset of asthma in workers, and recent studies suggest that many of these same chemicals are found in household settings and may be associated with the onset of asthma in both children and adults. A small but growing body of research has examined the impacts on asthma onset of specific interventions to reduce modifiable risk factors such as exposure to dust mites and other indoor allergens as well

as vitamin D deficits. Several studies have demonstrated reduced rates of new onset asthma among recipients of an intervention to address multiple risk factors as compared to a control group. A review of these studies suggests that a more systemic, multifactorial approach may be effective.

What could a state concerned about asthma prevalence do to reverse rates over time? For which risk factors is the weight of the evidence strong, indicating a known association between exposure and asthma onset? Where there remain uncertainties about the strength of the science, what other considerations might justify action to modify one or more risk factors? What kinds of interventions would align best with an understanding of asthma development as a complex, multifactorial process?

A two-day symposium on April 23-24, 2013, at the Massachusetts Medical Society will pursue these questions and feed recommendations into the next statewide strategic plan for asthma, which is in the early planning stages. Polly Hoppin and Molly Jacobs of the Lowell Center for Sustainable Production at the University of Massachusetts, Lowell, are convening the symposium, pursuing a goal they and others helped install in the current state strategic plan: "to develop....[with input from] a diverse group of professionals and individuals... a roadmap for better understanding the causes of asthma and the role of primary prevention in Massachusetts". The Symposium planning committee includes representatives of the Massachusetts Asthma Advocacy Partnership, a statewide asthma coalition; the regional offices of the American Lung Association; the US Department of Health and Human Services and EPA; the state Department of Public Health; the Asthma Regional Council of New England; the Boston Public Health Commission; hospitals and universities. CHE Science Director Ted Schettler has been instrumental in helping shape the agenda and is giving the opening presentation.

Ten years ago, research on the cost-effectiveness of home-based programs in reducing asthma symptoms was just emerging. New England organizations were leaders in synthesizing the research and convening public and private payers to discuss how to provide people with severe asthma home-based environmental interventions and asthma education to help bring their asthma under control. These activities played an important role in generating federal support for the delivery and financing of home visits for asthma. Organizers of the primary prevention symposium intend the April meeting to break comparably new ground in both the meeting processes used and its outcomes. A decade from now, we hope to be able to point to this gathering as an important first step in advancing understanding of the primary causes of asthma and action to address them.

Note: References for this article are available on the [CHE blog](#).

CHE Partnership Calls

CHE Cafe call: A Conversation with Dan Fagin, Author of "Toms River: A Story of Science and Salvation"

Thursday April 11, 2013 at 10:00 am Pacific / 1:00 pm Eastern

[RSVP for this call](#)

In *Toms River*, a story of a small town ravaged by industrial pollution, Dan Fagin weaves together the history of toxicology, the origins of the chemical industry, the subtleties of cancer etiology and treatment, the politics of state and federal agencies as they interact with big corporations, the trauma and courage of the children with cancer and their families, the strains on the Toms River community, the intricacies of the legal mediation, and the pitfalls of "cluster" investigations--all in one extraordinary book.

Reviewers have described *Toms River* as "a gripping environmental thriller" (*Kirkus*

Reviews, starred review), "a crisp, hard-nosed probe into corporate arrogance and the power of public resistance" (*Publishers Weekly*), "an epic tale of our chemical age" (Carl Zimmer), and "essential reading for our times" (Siddhartha Mukherjee).

Join CHE for this conversation with Dan Fagin about *Toms River*, the Toms River community, environmental health and cancer.

About Dan Fagin:

A science journalism professor at New York University, Dan Fagin is a nationally prominent journalist on environmental health topics. He has twice been a principal member of reporting teams that were finalists for the Pulitzer Prize, and has won both of the best-known science journalism prizes in the United States, from the American Association for the Advancement of Science and the National Association of Science Writers. His recent publications include *Nature*, *The New York Times*, *Scientific American* and *New Scientist*. At NYU, Dan is an associate professor of journalism and the director of the masters-level Science, Health and Environmental Reporting Program (SHERP).



CHE Partnership call: Late Lessons from Early Warnings

Tuesday April 16th 9 am Pacific / noon Eastern / 5 pm Central European Time

[RSVP for this call](#)

This is the first in a series of calls about the issues of precautionary action, coping with multicausal hazards and taking public health decisions under conditions of uncertainty.

Much of the discussion in Europe about when to regulate hazardous chemicals turn around the issues of when to take precautionary action, before there is enough certainty about forthcoming harms to qualify as preventive action. Now the European Environmental Agency has released the second volume of the esteemed *Late Lessons from Early Warnings* publication, it is timely to look back and (re)discover the first volume, many of whose cases continue to be valid today. David Gee, from the European Environment Agency, a leading expert on the precautionary principle, and initiator and co-author of both volumes, will discuss the first volume *Late Lessons from Early Warnings: the precautionary principle 1896-2000* with Michael Lerner. The call will start by looking at how to learn from historical cases of environmental and health disasters, and then take a tour of some of the case studies on hazardous chemicals (Benzene, Asbestos, PCBs, DES). The distilled twelve late lessons from the case studies will be covered in the latter part of the discussion.

Save the Date: Upcoming May CHE Partnership calls:

[25 Years of the Superfund Research Program: Highlights and Hope](#)

Thursday May 23, 2013

This call will include an overview of the Program's history, highlighting some of the accomplishments of scientists, trainees and research translation efforts.

[Cancer: The Professional and the Personal: A Conversation with Dr. Susan Love and Susan Braun](#)

Tuesday May 28, 2013

On this call Dr. Love and Susan Braun will engage in wide-ranging dialogue about cancer issues--treatment, prevention, and politics.

Special Announcements

New CHE Partner Spotlight: Kate Davies, MA, DPhil

CHE Partner Kate Davies is in on the core faculty at the Center for Creative Change, Antioch University Seattle, and is a clinical associate



professor at the School of Public Health, University of Washington. She is also the author of *The Rise of the US Environmental Health Movement*, the first book to offer a comprehensive examination of the environmental health movement with a focus on the ways toxic chemicals and other hazardous agents in the environment affect human health and well-being (Rowman & Littlefield, April 2013).

[Read more about Dr. Davies, her work and her book](#)

Environmental Health Primary Prevention Training Upcoming Retreat: Ecological Health Across the Lifespan

Final call for applications to attend CHE's upcoming training retreat May 7-9 at the Commonweal Retreat Center in Bolinas, California. Entitled "Ecological Health Across the Lifespan," the training will examine the environmental conditions and influences that affect the ability to age with health, often occurring when we are very young.

[Application and more information](#)

Resources from recent CHE calls:

If you missed any of the following CHE calls, you may listen to MP3 recordings and find supporting materials at the following links:

- April 3, 2013 - [Breast Cancer and the Environment: Prioritizing Prevention](#)
- March 20, 2013 - [Transgenerational Effects of Prenatal Exposure to Environmental Obesogens in Rodents](#)
- February 14, 2013 - [Chemical Policy: Recent Developments and Controversies: A Discussion with Richard Denison, PhD](#)

You can subscribe via podcast to receive notifications of new call recordings added to the CHE archives. [View a list of past calls and subscribe to the podcast.](#)

CHE Working and Regional Group Updates

Stay in touch with CHE through social media:

Visit [CHE's blog](#) to read recent posts.

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Join CHE on [Twitter](#). Update: CHE now tweets during Partnership calls. Join the online conversation by following CHE on Twitter.

CHE Asthma

~ coordinated by Genon Jensen, for more information contact info@healthandenvironment.org

~ Road traffic pollution as serious as passive smoke in the development of childhood asthma

The European Lung Foundation (ELF) and the European Respiratory Society (ERS) highlight that road traffic pollution is as serious as passive smoke in the development of childhood asthma. The findings, which were published online on March 22nd ahead of print in the *European Respiratory Journal*, come at an apt time during the 2013 EU Year of Air, which highlights the importance of clean air for all and focuses on actions to improve air quality across the EU.

New research conducted in 10 European cities has estimated that 14% of chronic childhood asthma is due to exposure to traffic pollution near busy roads. The results are comparable to the burden associated with passive smoking: the World Health Organization estimates that between 4% and 18% of asthma cases in children are

linked to passive smoking.

[Read more](#)

CHE Breast Cancer

~ coordinated by Jeanne Rizzo and Michael Lerner, info@healthandenvironment.org

~ **Symposium: From Research to Action: Two Decades of Change, May 17-18, 2013, Costa Mesa, CA**

The California Breast Cancer Research Program commemorates 20 years of innovative research with a symposium highlighting the contributions of advocates to the influence of research on breast cancer policy and a discussion of the federal plan for investigating and implementing breast cancer prevention. The symposium will feature keynote addresses by Susan Love, MD, MBA, from the The Dr. Love Breast Research Foundation and Dennis Slamon, MD, PhD, from the Jonsson Comprehensive Cancer Center, UCLA.

Registration Deadline: April 26, 2013

Registration fee: \$25

To register visit: www.cabreastcancer.org/symposium

CHE Climate Change

~ coordinated by Genon Jensen, for more information contact

info@healthandenvironment.org

~ **EU Green Paper on 2030 framework for climate and energy policies**

On March 27th, the European Commission published a Green Paper on "A 2030 framework for climate and energy policies". This paper launches a public consultation open until July 2nd.

[Read more](#)

~ **Julia Huscher, HEAL Coal and Health Officer in the spotlight**



Julia Huscher, HEAL Coal and Health Officer

Following the recent launch of HEAL's coal report, *Tcktcktck*, the public campaign of the Global Call for Climate Action, caught up with Julia Huscher, HEAL's Coal and Health Officer. Julia discussed HEAL's mandate on coal and health, and how the EU can be a world leader in addressing this issue.

[Read the full interview](#)

CHE Diabetes-Obesity Spectrum

~ coordinated by Sarah Howard, for more information contact

info@healthandenvironment.org

~ **BPA exposure linked to yet another disease: type 1 diabetes**

Non-obese diabetic (NOD) mice spontaneously develop diabetes similar to type 1 diabetes in humans. A new study has found that BPA exposure accelerates diabetes development in these NOD mice. BPA has not been analyzed yet in relation to type 1 diabetes in humans.

Bodin J, Bolling AK, Samuelsen M, Becher R, Lovik M, Nygaard UC. 2013. [Long-term bisphenol A exposure accelerates insulinitis development in diabetes-prone NOD mice](#). Immunopharmacol.

~ **New articles and research published in academic and scientific journals**

[DDT and DDE Exposure and Obesity Status of 7-Year-Old Mexican-American Children in the CHAMACOS Cohort](#). Warner M, Aguilar SR, Harley KG, Bradman A, Barr D, Eskenazi B. 2013. Environ. Health Perspect.

[A case-cohort study examining lifetime exposure to inorganic arsenic in drinking water](#)

[and diabetes mellitus](#). James KA, Marshall JA, Hokanson JE, Meliker JR, Zerbe GO, Byers TE. 2013. Environ. Res.

CHE Fertility and Reproductive Health

~ coordinated by Karin Russ, karin@healthandenvironment.org

~ **New articles and research published in academic and scientific journals**

[Elevated airborne beta levels in Pacific/West Coast US States and trends in hypothyroidism among newborns after the Fukushima nuclear meltdown](#). The number of congenital hypothyroid cases in five US states from March 17-December 31, 2011 was 16% greater than for the same period in 2010, compared to a 3% decline in 36 other US States ($p < 0.03$). Open Journal of Pediatrics.

[Mixtures of xenoestrogens disrupt estradiol-induced non-genomic signaling and downstream functions in pituitary cells](#). This study examines the effects of xenoestrogen mixtures on estradiol-induced non-genomic signaling and associated functional responses. Individual xenoestrogens elicited phospho-activation of ERK in a non-monotonic dose- (fM-nM) and mostly oscillating time-dependent (2.5-60 min) manner. Environmental Health.

[Accumulation and endocrine disrupting effects of the flame retardant mixture Firemaster 550 in rats: An exploratory assessment](#). The goal of this exploratory study was to evaluate accumulation, metabolism and endocrine disrupting effects of FM 550 in rats exposed to 100 or 1000 $\mu\text{g}/\text{day}$ across gestation and lactation. Journal of Biochemical and Molecular Toxicology.

[Associations between ambient air pollution and Hypertensive Disorders of Pregnancy](#). Among non-obese women, 1st trimester exposure to PM2.5 and carbon monoxide are associated with increased odds of Hypertensive Disorder of Pregnancy. Environmental Research.



[Exposure to organochlorines and mercury through fish and marine mammal consumption: Associations with growth and duration of gestation among Inuit newborns](#). Prenatal exposure to environmental contaminants was associated with reduced gestation duration. DHA intake during pregnancy appeared to have independent positive association with fetal growth by prolonging gestation. Environment International.

[Sex specific impact of perinatal bisphenol A \(BPA\) exposure over a range of orally administered doses on rat hypothalamic sexual differentiation](#). Researchers examined the impact of perinatal BPA exposure on two sexually dimorphic regions in the anterior hypothalamus, the sexually dimorphic nucleus of the preoptic area (SDN-POA) and the anteroventral periventricular (AVPV) nucleus. Both are sexually differentiated by estradiol and play a role in sex specific reproductive physiology and behavior. Neurotoxicology.

[Biophysical evaluation of radiofrequency electromagnetic field effects on male reproductive pattern](#). The present review examines the possible concern on radio frequency radiation interaction and biological effects such as enzyme induction, and toxicological effects, including genotoxicity and carcinogenicity, testicular cancer, and reproductive outcomes. Cell Biochemistry and Biophysics.

~ **Call for Abstracts:**

[American Society for Reproductive Medicine/ International Federation of Fertility Societies conjoint meeting](#). October 12-17th. Boston, MA. ASRM/IFFS are seeking abstracts for their annual meeting. ASRM features a Special Interest Group in Reproductive Environmental Health. Deadline for abstracts: May 1, 2013.

CHE Regional Working Groups Updates

CHE Alaska

~ coordinated by Pamela Miller, pamela@akaction.org

~ CHE Alaska call: Perfluorinated Compounds (PFCs) in the Arctic Environment: Sources, Transport, and Health Concerns for Fish, Wildlife, and People

Wednesday April 24, 2013 at 9:00 am Alaska / 10:00 am Pacific / 1:00 pm Eastern

[RSVP for this call](#)

Perfluorinated compounds (PFCs) are synthetic chemicals widely used to make materials stain resistant, including fabrics and metals. PFCs are persistent organic pollutants that remain in the environment for long periods of time and accumulate in the bodies of fish, wildlife, and people. PFCs have been linked to adverse health effects, including reproductive and developmental effects, endocrine disruption and certain cancers. Join Dr. Craig Butt, post-doctoral research fellow in the Nicholas School of the Environment at Duke University for a discussion of the biological fate of PFCs in the arctic where he looked at PFCs in ringed seals and seabirds in the Canadian Arctic. Pam Miller, Executive Director of Alaska Community Action on Toxics will give an update on international actions of the Stockholm Convention (POPs Treaty) to phase out these persistent chemicals.

CHE HEAL

~ coordinated by Lisette Van Vliet, lissette@env-health.org

~ New WHO report reveals unequal improvements in health in Europe

While the overall level of health across the WHO European Region has clearly improved, European health statistics show inequities within and between countries, according to a new WHO report. The report also points to the role that environmental factors play in disease.

[Read more](#)

~ EFSA opinion on endocrine disruptors proves problematic

The EFSA opinion report on EDCs recently released is problematic in a number of areas, according to HEAL and CHEM Trust. The EFSA opinion is one of several inputs that contribute to the EU's development of criteria to identify chemicals with endocrine disrupting properties.

[Read more](#)

~ New video to ban endocrine disrupting pesticides in Europe

In this short video clip, Lisette van Vliet (HEAL) and Hans Muilerman (PAN Europe) explain why endocrine disrupting pesticides and other endocrine disrupting chemicals in Europe should be banned, the goals of the multi-NGO 'EDC Free Campaign' and urge organizations to join them (www.edc-free-europe.org).

[View the video](#)

~ Public consultation on most harmful chemicals under REACH

The European Chemicals Agency is gathering input on 10 chemicals nominated as Substances of Very High Concern. General support or specific input from interested parties is welcome. The deadline is April 18, 2013.

[Read more](#)

CHE Washington

~ coordinated by Steve Gilbert and Aimee Boulanger, info@healthandenvironment.org

~ CHE-WA Children's Environmental Health Working Group meeting

Thursday April 11, 2013, 9:30 am to 11:30 am Pacific

Aileen Gagny of the American Lung Association will speak on asthma and allergies. Participants may attend in person or by phone.

RSVP to Gail Gensler at gail.gensler@kingcounty.gov

Location: American Lung Association, 822 John Street, Seattle, WA 98109.

To participate by phone: 206-441-0645, access code: 3280#

~ **Particles on the Wall Explores Hanford and the Nuclear Age**

Particles on the Wall is an exhibit combining art and science to explore the impacts of the Hanford Nuclear Reservation and the nuclear age. An opening reception will be hosted May 3, 2013 from 6:00 to 8:00 pm in Portland, OR at the EcoTrust Building. The exhibit is open from May 3rd to June 14th. For more information visit www.oregonpsr.org or call 503-274-2720.

Announcements and News Highlights

7th annual "Sense of Wonder" Rachel Carson contest

This annual contest has been announced, and is co-sponsored by the US EPA Aging Initiative and others. Music has been added to the areas of creative expression that also include poetry, dance, essay, photo, and songwriting. The deadline for entries is June 10th, 2013.

[Contest details and submission guidelines](#)

EHN and its sister site, The Daily Climate, offer a wealth of valuable information each day at no cost to subscribers. The daily email subscriptions and the 350,000-item news archive have recently been supplemented by a Facebook page and Twitter feed.

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April 2013 issue of *Environmental Health Perspectives* available online

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April 2013 issue of *Environmental Factor* available online

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CHE maintains a [news feed](#) of environmental health related news announcements and events collected from a multitude of sources on CHE's website.

Reports, Resources and Other Updates

Updated report: *Fourth National Report on Human Exposure to Environmental Chemicals*

The Fourth National Report on Human Exposure to Environmental Chemicals, Updated Tables, March 2013 provides new data since the release of the *Fourth Report, 2009*. These data include updated tables for 117 chemicals in the *Fourth Report, 2009* and tables for 34 new chemicals. Review this publication for the most recent and complete biomonitoring data.

[Read more](#)

CHE lists hundreds of reports, books, videos, databases and other resources in a searchable [Portal to Science](#) on CHE's website.

Thank you for taking the time to read the latest about CHE. As always, we welcome your questions and suggestions. Please direct comments to Elise Miller, Director of CHE,

at elise@healthandenvironment.org.

Best wishes,

Elise Miller, MEd, Director

Steve Heilig, Director of Public Health and Education at San Francisco Medical Society
and CHE

Erika Sanders, Administrative Coordinator

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