Collaborative on Health and the Environment
eNewsletter -- March 2010

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The Complexities of Measuring Health and its Determinants

What is health? How do we measure it? What determines it? A new report from the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute takes a turn at answering these questions. "County Health Rankings: Mobilizing action toward community health" combines weighted measures of health outcomes and health determinants to define and rank the health of individual counties throughout the US.

Premature mortality and morbidity, estimated by a combination of how healthy people feel and the percent of low birth weight babies, were given equal weight as measures of health outcomes. Various measures of health behaviors, clinical care, social and economic factors, and the physical environment were weighted as measures of health determinants and expressed as composite scores. The website also provides comparative rankings of health outcomes and measures of health determinants at the county level. The authors describe their methods of data collection and analysis in some detail, including a justification of their final choices for weighting individual variables in the composite score. This remarkable effort is worth exploring.

At the outset, the authors had to choose among many candidate health outcomes and determinants. How did they do? Are these the right measures of health or just available statistics? What other health determinants could reveal important insights? Several limits are notable. Among them: This is a cross-sectional analysis and cannot determine causal relationships. Genetics, gender, race, and ethnicity are left out. The relative contribution of each group of health determinants always adds up to 100%, regardless of context. (Health behaviors were assigned a weight of 40%, health care 10%, socioeconomic factors 40%, and the physical environment 10% for the final composite score. The justification for these relative weights and alternative opinions are available on the website.) Thus, potential interactions among health determinants are not considered.

For example, the report uses air pollution as a measure of environmental quality, yet it doesn't acknowledge that people who are socioeconomically disadvantaged are more susceptible to the health effects of air pollution than people who are better off. It's increasingly clear that air pollution causes more asthma and asthma attacks in children lower on the socioeconomic ladder, independent of other environmental exposures. How should we think about this? Is the problem air pollution, socioeconomic stressors, or both? How does our answer influence what we propose to do? If we ignore interactions, we not only underestimate the impacts of combined eco-social variables in vulnerable groups but also set ourselves up to fail to identify interventions that can have multiple, cross-cutting benefits.
Despite its inevitable simplifications and assumptions, this detailed report deserves attention and discussion, especially among those of us embracing an ecological model of health. It raises many interesting questions. Is this the right mix of individual and county-wide variables? Are there other measures of health at the county level worth identifying? Are there other measures of environmental quality and integrity that should be added?

Maybe the report's biggest contribution will be to set the stage for soliciting ideas about what to do with the information. Should high-ranking counties be complacent? Should they compete with themselves to improve? Counties struggling with poor health outcomes and multiple adverse health determinants will need something more than disconnected, poorly-coordinated activities. They must understand that risk factors don't exist in isolation but rather in a complex, interactive web of causation. In those counties, the entire web needs fundamental transformation, achieved through creative, strategic interventions. This is no small task. I think of Donella Meadows' *Places to Intervene in a System* in which she says, "There are no cheap tickets to systems change. The higher the leverage point, the more the system resists changing it." Perhaps this is where collaborations like CHE come in...strength in numbers, ideas, and mutual support.

Ted Schettler, MD, MPH
CHE Science Director, and Science Director of the Science and Environmental Health Network; Coordinator of CHE's Science Working Group

***This essay is available on CHE's blog for comment and further discussion.***

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**CHE Partnership Calls**

**A Conversation with Dr. Linda Birnbaum, Director, NIEHS**

*New Date: Monday March 15, 2010 at 10 AM Pacific / 1 PM Eastern*

**RSVP for this call**

CHE is pleased to announce an upcoming Partnership call with Linda Birnbaum, PhD, Director of the National Institute of Environmental Health Sciences. Dr. Birnbaum will discuss the priorities and challenges facing the NIEHS in the coming years as well as discuss other pressing environmental health concerns.

This call will be moderated by Steve Heilig, Director of Public Health and Education at the San Francisco Medical Society and CHE. It will last one hour and will be recorded for archival purposes.

**Special note:** CHE expects this call to be well attended, and there are a limited number of lines available on the conferencing system. If you are interested in participating we recommend you RSVP as soon as possible. We apologize in advance if we are not able to accommodate everyone. A MP3 recording of the call will be available on CHE's website within a day after the call.

**Save the date**

**Evaluating the Impact of Cumulative Stressors on Health**

*Monday, April 19, 2010 at 10 AM Pacific / 1 PM Eastern*

On this call we will explore the common, but often complex, occurrence of co-exposures to multiple chemical and non-chemical stressors and their consequences on health. Confirmed speakers include Rachel Morello-Frosch, PhD, associate professor of Environmental Science, Policy and Management and the School of Public Health at the University of California, Berkeley and Jon Levy, MD, Mark and Catherine Winkler Associate Professor of Environmental Health and Risk Assessment, Harvard School of Public Health.

More information will be posted soon to the CHE website.
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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:

- January 21, 2010 - Upstream: Complex Chemical Contributors to Thyroid Function and the Potential Impacts on Policy
- January 19, 2010 - CHE Science Cafe call: A Conversation with Elizabeth Grossman, author of Chasing Molecules
- December 8, 2009 - CHE Fertility/Partnership call: To Ban or Not to Ban: A Review

And of course, you can always explore our archived resources.

CHE Working and Regional Group Updates

Special CHE Announcements:
This month CHE launched two new features, a CHE blog and a CHE Facebook page. CHE provides the blog to promote dialogue on issues at the intersection of human health and environment. Main blog posts are invited essays from CHE partners. CHE's Facebook page will be updated several times a week with CHE announcements, important new reports and news and other information that may be of interest to our Partners. We invite you to subscribe to the blog and to join the Facebook page.
Visit CHE's Facebook page
Visit CHE's blog: http://ourhealthandenvironment.wordpress.com

Working Group Highlights:
CHE is proud to highlight each month new and exciting working group efforts, which continue to draw the link between health and the environment.

This month:
~ The new biomonitoring report, "Mind, Disrupted: How Toxic Chemicals May Affect How We Think and Who We Are", released on February 4th, continues to receive media coverage.
Read more

CHE Autism
~ coordinated by Michael Lerner and Sheila Opperman

~ CHE's new working group on Autism is dedicated to exploring the new paradigm of autism research and treatment in Autistic Spectrum Disorders. To join CHE Autism contact: info@healthandenvironment.org
More information on the CHE Autism Working Group

CHE-Fertility
~ coordinated by Julia Varshavsky, CHE Program Associate, julia@healthandenvironment.org

~ Download the MP3 Recording from the February 10th CHE-Fertility Call, Chemicals and Reproductive Health: The Male Predicament: Are fewer boys being born today than 30 years ago? How might environmental chemicals be playing a role in this phenomenon? How might these chemicals also impact male development and reproductive health in boys that are born? We addressed these questions on the call and heard presentations highlighting the new video released by The Endocrine Disruption Exchange, The Male Predicament, in addition to new
research on male birth defects, brain development and behavior, sex ratios, anogenital distance and prostate cancer.

This call was moderated by Elise Miller, MEd, Director of the Collaborative on Health and the Environment. We heard a science update from Ted Schettler, MD, MPH, Science Director, Science and Environmental Health Network and the Collaborative on Health and the Environment. Featured Presenters included: Theo Colborn, PhD, President, The Endocrine Disruption Exchange (TEDX) and Professor, University of Florida, Gainesville; Shanna Swan, PhD, Professor of Obstetrics and Gynecology, Associate Chair of Research, Obstetrics and Gynecology, Professor of Environmental Medicine, and Professor of Community and Preventative Medicine, University of Rochester, School of Medicine and Dentistry; and Fred vom Saal, PhD, Professor, University of Missouri, Columbia, Division of Biological Sciences.

Listen to the MP3 recording

*** Stay tuned for an upcoming call announcement on flame retardants and reproductive health.

~ New Clinical Proceedings from Planned Parenthood and ARHP: Planned Parenthood and the Association of Reproductive Health Professionals have just released an accredited clinical monograph on Environmental Impacts on Reproductive Health. The purpose of the monograph is to provide front-line clinicians with practical guidance on environmental reproductive health issues, based on the best available evidence.

More information

~ Help the Association of Reproductive Health Professionals (ARHP) Win Support for Two Important Services: What can you accomplish with just two clicks online? You can help ARHP win $50,000 to support two innovative reproductive health projects. ARHP is in the running to win two grants for the following projects through the Pepsi Refresh program:

* a series of interactive webinars where an expert will offer practical guidance and answer questions on making your home, school, office, and community safer. You can vote today and every day through March.

Vote now

* keeping the DC and Oakland Stewart Centers equipped and available for progressive groups and adding additional training sessions for reproductive health professionals. The Stewart Centers are a working tribute to ARHP's former board chair, Felicia Stewart, MD, who dedicated her career to connecting progressive organizations and helping them collectively leverage their work. You can vote today and every day through March.

Vote now

For more information, please visit http://www.arhp.org

CHE-LDDI
~ coordinated by Laura Abulafia, laura@healthandenvironment.org and Elise Miller, CHE Director, elise@healthandenvironment.org

~ In late February, LDDI leaders and other colleagues working on chemical policy reform gathered in Baltimore, MD and Washington, DC for several important events featuring the new biomonitoring report, "Mind, Disrupted: How Toxic Chemicals May Affect How We Think and Who We Are".

Central to these events was a Congressional Briefing, co-sponsored by the Children's Environmental Health Congressional Caucus. It was very well attended with many Congressional staffers present. Speakers at the Briefing included Tom Zoeller, PhD (University of Massachusetts, Amherst), Maureen Swanson (Learning Disabilities Association of America) and Jeff Sell (Autism Society of America). Moderating the panel was Andy Igrejas with the Safer Chemicals, Healthy Families coalition. While in DC, a number of LDDI leaders also made visits on Capitol Hill to staffers of Representatives from Texas, Ohio, Iowa, Vermont, Michigan, California, Louisiana, New York and Washington.
In addition, the report was featured at the annual meeting of the Learning Disabilities Association of America (LDA) in Baltimore. Maureen Swanson with LDA’s Healthy Children Project hosted a very informative medical symposium on chemical contributors to LDDs. Speakers included several participants in the LDDI Biomonitoring Project: Vernell Jessie (advocate from Texas), Larry Silver, MD (LDA past president and author), Stephen Boese (LDA New York State), and Laura Abulafia (American Association on Intellectual and Developmental Disabilities and LDDI). After the panel on biomonitoring, other speakers presented on links between chemical contaminants and neurological development, including Ted Schettler, MD, MPH (Science and Environmental Health Network) and Peggy Shepard (West Harlem Environmental Action Coalition). Ellie Collinson and Katharine Huffman from the Raben Group, a DC-based communications firm, spoke about advocacy and messaging on environmental health concerns at the LDA meeting. Read more on the LDA annual meeting.

~ Pamphlet for Expecting Moms now in Spanish: The American Association on Intellectual and Developmental Disabilities (AAIDD) has developed a color, folded, cross-cultural pamphlet to be given to women at Ob-Gyn appointments. This educational pamphlet for expecting moms explains environmental risks at home, in the workplace, and outdoors and is intended for use in clinics and doctors offices around the country. Contributing partners include the Learning Disabilities Association of America (LDA), American College of Nurse Midwives, and the V.A. women’s health program, with funding from the John Merck Fund. Download the pamphlet - English Download the pamphlet - Spanish

~ Mental Health working group has released an educational brochure on "Mental Health Effects Arising from Pesticide Exposure: A Guide for Healthcare Providers and Mental Health Practitioners". Download the brochure

CHE Regional Working Groups Updates

CHE Alaska

~ coordinated by Pam Miller, pkmiller@akaction.net

~ CHE Alaska will host its next teleconference, Environmental Contaminants and Reproductive Health: Reasons for Concern on Tuesday, March 30th at 9:00 AM Alaska / 10 AM Pacific / 1 PM Eastern.

Chemicals that mimic hormones and interfere with fertility, reproduction and development of the brain are found in many common consumer products and the environment. Join CHE-AK for a discussion of the latest science on everyday exposures to toxic chemicals linked to adverse human health effects and the need for chemicals policy reform at the state and national level to protect present and future generations. Grassroots campaigns across the nation are working to reduce exposures by removing the worst offenders. Find out about the efforts in the Alaska State Legislature to phase out certain chemicals and what you can do to help.

Guest Speakers:
Dr. Sarah Janssen is a staff scientist in the health program at Natural Resources Defense Council. She is board-certified in Occupational and Environmental Medicine and has a PhD in Reproductive Physiology from the University of Illinois, Urbana-Champaign.

Jane Kava is a trilingual Inupiat Eskimo and Mayor of Savoonga, a Yupik village on St. Lawrence Island, Alaska. She is also a Community Health Researcher for Alaska Community Action on Toxics (ACAT) and formerly served as a Community Health Aide in Savoonga.

For more information or to join this free call and receive dial-up instructions, please RSVP to Alaska Community Action on Toxics at 907-222-7714 or diana@akaction.org

CHE Washington
In an effort to expand its efforts to educate the public on how to prevent exposures to harmful chemicals, the Institute of Neurotoxicology and Neurological Disorders has, since 2008, been working on IPMopedia, an educational website dedicated to helping people of Puget Sound and beyond reduce their dependency on pesticides and other gardening chemicals. Users can browse through pest fact sheets to learn about particular insects, diseases, and fungi they may encounter and how to solve them, as well as guides on sustainable design, plant choice, indoor pest control, and more.

Staff from IPMopedia and INND were also involved in the production of the 6th edition of Grow Smart, Grow Safe, performing the toxicity evaluations and rankings for a wide variety of gardening products. With environmental and health ratings of 600 pesticides, fertilizers and soil amendments, this publication offers a comprehensive guide to lawn and garden products.

Read more about IPMopedia and Grow Smart, Grow Safe

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**Reports, Resources and Other Updates**

**Where patients live matters:** A report detailing the first-ever county-by-county breakdown in each state finds wide disparities in health standings and notes factors contributing to those rankings.

Read the amednews.com article
View the county-by-county health ratings

**Columbia Center for Children’s Environmental Health released a new paper** that finds that children who were exposed to acetaminophen prenatally were more likely to have asthma symptoms at age five.

Read more

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**Announcements and News Highlights**

**American Chemical Society issues new official policy statement on endocrine disruptors** and strongly endorses expanded endocrine disruptor education and research and the development of more effective science-based decision-making tools and means for reducing and eliminating exposures of humans and the environment

Read more

**EPA is Now Accepting Applications for its National Environmental Leadership Award in Asthma Management**

If you are a health plan, health care provider or community in action that has demonstrated leadership in managing environmental asthma triggers as part of your comprehensive asthma management program, apply to receive recognition for your important work. Applications are due by March 16, 2010.

More information

**March 2010 issue of Environmental Health Perspectives available online**

Read more

**March 2010 issue of Environmental Factor available online**

Read more

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**The Alliance for a Clean and Healthy Vermont - a coalition coordinated by VPIRG** - released a study...
VPIRG - released a study that tested the bodies of Vermonters from all walks of life for toxic chemicals. The results demonstrated that Vermonters are no safer from toxic chemicals than anyone in the country. Dozens of chemicals showed up in the bodies of participants, many at levels suspected of causing health problems.

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
Julia Varshavsky, Program Associate

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