I. EVENTS

Flint, Michigan Lead in Water. In January, HHS was designated to lead the federal response efforts related to lead in Flint, Michigan. The HHS role is to mobilize and coordinate the federal government’s efforts to support the Flint community and the State of Michigan in addressing this public health crisis. OCPL has been working closely with HHS Assistant Secretary for Public Affairs, Office of the Assistant Secretary for Preparedness and Response, NIEHS and NTP staff, as well as other HHS agencies and federal partners to coordinate communications and activities. Updated information for public community members and researchers is being added to NIEHS Web pages. Aubrey Miller, Ph.D., NIEHS Senior Medical Advisor, is leading NIEHS efforts.

Tox Testing Challenge. NTP joined with the National Center for Advancing Translational Sciences and the U.S. Environmental Protection Agency (EPA), in January, to launch the Transform Tox Testing Challenge: Innovating for Metabolism. OCPL worked closely with its federal partners to develop materials for the launch, including a press release, listserve announcements, Environmental Factor story, NIEHS Web pages, and social media. Since the January 8 launch, 23 teams registered for the challenge. The stage 1 submission period is open until April 8. Stephen Ferguson, Ph.D., of NTP, is the lead scientist at NIEHS for this effort.

Congressional Visits. NIEHS welcomed two local congressmen to the NIEHS campus in the fall. OCPL helped coordinate and promote both events.

October 15, 2015, NIEHS welcomed Richard Burr, senator for North Carolina. Burr toured the campus and spent time talking with NIEHS and NTP Director Linda Birnbaum, Ph.D., and other members of the NIEHS leadership team. A Factor story highlighted his visit.

December 14, 2015, Rep. David Price, whose congressional district includes the NIEHS campus, came to the institute to hold a town hall-style meeting with an extended question and answer session. See story in the Factor.
Nobel Prize for NIEHS grantee. Aziz Sancar, M.D., Ph.D., a longtime NIEHS grantee, was named a winner of the 2015 Nobel Prize in chemistry. He shares the award with Paul Modrich, Ph.D., from the Duke University School of Medicine and Howard Hughes Medical Institute, and Tomas Lindahl, Ph.D., from the Francis Crick Institute. All three were honored for their work on the mechanisms of DNA repair. A Factor story highlighted the news. Also, OCPL worked with NIH to develop the NIH press release, and to promote it on websites and social media.

Children’s Health Research. In October 2015, grantees and staff from NIEHS and EPA convened for the annual NIEHS-U.S. Environmental Protection Agency (EPA) Children’s Environmental Health and Disease Prevention Research Centers meeting in Washington, D.C. A Factor story highlighted the meeting. DERT and OCPL also worked to highlight other new children’s research and communication efforts, including the Children’s Health Exposure Analysis Resource (CHEAR). CHEAR provides access to laboratory and data analyses, to add or expand inclusion of environmental exposures in children’s health research. A new fact sheet, Children’s Health – Why the Environment Matters, was also developed.

November 1 – NIEHS Celebrates 50 years of Environmental Health Research at NIH. OCPL has taken the lead in planning NIEHS 50th anniversary events. A committee and seven subcommittees are meeting regularly to plan and implement a yearlong calendar of activities, that kicked off on January 21 and will include a big celebration on November 1. A special Web page at www.niehs.nih.gov/50 highlights all the upcoming events. Council members, researchers, staff, and members of the public are invited to nominate items for a time capsule that was launched at the kickoff. Also, t-shirts and other commemorative products are available for purchase through the site. A Factor story about the kickoff captures the excitement of the event.

II. NEWS COVERAGE

News Coverage of NIEHS Science, Researchers, and Activities

September 2015 — 905 stories
October 2015 — 1129 stories
November 2015 — 807 stories
December 2015 — 1332 stories
January 2016 — 431 stories
February 2016 — 209 stories (as of February 10)

Press Releases

February 4, NIEHS press release, “Natural Protein Points to New Inflammation Treatment,” featured work by Perry Blackshear, Ph.D., and his DIR colleagues, which was published in the Proceedings of the National Academy of Sciences.
February 2, NIEHS media advisory, “Seafood Consumption May Play a Role in Reducing Risk for Alzheimer’s” was jointly released with the National Institute on Aging (NIA) to highlight a new paper in the Journal of the American Medical Association.

January 8, NIEHS joined with EPA and NCATS to release, “Federal Agencies Partner to Launch the Transform Tox Testing Challenge to Improve Chemical Screening.”

December 16, NIH-led press release, “NIH Unveils FY2016-2020 Strategic Plan,” was highlighted on the NIEHS website and shared with staff and grantees.

December 9, NIEHS posted a link to the University of Rochester press release, “Is Chemical Exposure in Mothers, Babies, Linked to Poor Vaccine Response? The paper was funded by NIEHS and the National Cancer Institute, and appeared in Environmental Health Perspectives.

December 8, NIEHS posted a link to the Harvard University press release, “Chemicals Linked With Severe Respiratory Disease Found in Common E-cigarette Flavors.” The paper was published in Environmental Health Perspectives.

December 3, NIEHS posted a link to the University of California, Berkeley press release, “Reduced Breathing Capacity in Kids Linked to Early Pesticide Exposure.” The paper was published in Thorax.

November 12, NIEHS posted a link to a University of Pennsylvania press release, “Lead Exposure Impacts Children’s Sleep.” The grantee paper was published in Sleep.

November 2, NIEHS press release, “In-House Test Kits Help Motivate Parents to Reduce Allergens in Their Homes” featured work by Darryl Zeldin, M.D.; Paivi Salo, Ph.D.; and colleagues in DIR. The paper was published in the Journal of Asthma.

October 8, NIEHS joined with NIH to announce, “NIH Grantees Win 2015 Nobel Prize in Chemistry.”


October 8, NIEHS joined with NIH to announce “US and Canada Partner to Invest $21 Million for Research Hubs in Developing Countries.”

October 2, NIEHS posted a link to Columbia University Mailman School of Public Health press release, “Exposure to Common Flame Retardants May Contribute to Attention Problems in Children.” The paper was published in the journal Neurotoxicology and Teratology.

September 28, NIEHS worked closely with NIH to announce, “NIH Awards ~$144 Million in Research on Environmental Influences on Child Health and Development.”

August 26, NIEHS press release, “Low-Level Arsenic Exposure Before Birth Associated With Early Puberty and Obesity in Female Mice,” featured work by Humphrey Yao, Ph.D., and DIR colleagues published in Environmental Health Perspectives.
August 10, NIEHS posted a link to the press release “Life is but a DREAM.” The press release included a quote from Allen Dearry, Ph.D., of OD, and highlighted a paper in *Nature Biotechnology* that discussed the collaborative effort and findings that came from the DREAM Challenge launched by NIEHS and its partners in 2013.

**Highlights from Newspapers, Trade Papers, and National Magazines**

February 9, a story by *Climatewire*, “Experts praise Zika funding but call for climate research,” included quotes from NIEHS Senior Advisor John Balbus, M.D.

February 3, *Voice of America* developed a story, “Less Alzheimer’s seen in elderly who consumed fish,” that featured quotes from Cindy Lawler, Ph.D., of DERT. This is a result of a media advisory issued by NIEHS and NIA.


January 27, *The Endocrine Society* put out an announcement, “Eating soy may protect women from health risks of BPA.” The story includes a mention of the NIEHS study and support.

January 27, *Cincinnati.com* highlighted NIEHS-funded work in their story, “Study: before-birth chemical exposure could affect brain.”

January 26, a story in *The Scientist*, “Animal-free toxicity testing” featured NTP and Tox21 efforts.


January 21, *Detroit News* story, “UM funds $100K to launch research on Flint water crisis” highlighted a potential NIEHS grant. January 19, *St. Louis American* story, “President Obama declares emergency in Michigan” also included a mention of NIEHS.

January 19, the *Chemical Regulation Reporter*’s story, “Outlook 2016: risk assessment – data, computational tools for risk analysts key in 2016,” featured quotes from John Bucher, Ph.D., and Mary Wolfe, Ph.D., of NTP.

January 16, Miami News Herald opinion piece, “When culture and science meet … now that’s a partnership,” mentions the work of Symma Finn, Ph.D., of DERT.

January 7, a story in *BNA’s Daily Environment Report*, “Agencies offer up to $1mil in toxicity testing challenge,” highlighted the interagency partnership between EPA, NIEHS/NTP, and NCATS.

December 16, *Chemical Watch* ran a, “Guest column by Leonardo Trasande on EDCs,” that quoted Birnbaum.

December 15, *Risk Policy Report* wrote, “NTP mountaintop mining health risks spurs regulatory debate,” which highlighted a concept presented at the NTP Board of Scientific Counselors meeting in December, and quoted Abee Boyles, Ph.D., of NTP.
December 10, Medical News Today and other media outlets highlighted an editorial by Honglei Chen, Ph.D., of DIR, about a paper published in Neurology. The story, “Could pesticide in milk contribute to Parkinson’s disease?” quoted by Chen.

December 9, the Wall Street Journal wrote, “Study finds E-cigarettes contain chemical tied to ‘popcorn lung,’” which mentioned NIEHS.

December 9, several stories ran about a new Parkinson’s study and commentary developed by Chen and colleagues. Chen was quoted in several stories, including:
• Med Page Today, “Got Milk? You might have PD-like neuron loss”
• Health Day, “Pesticide in milk years ago may be linked to signs of Parkinson’s”

December 2, Healio.com wrote, “Educational materials, in-home test kit reduces allergen concentration in household,” which highlighted an NIEHS press release and included quotes from NIEHS.

November 24, Chemical Watch wrote, “US low-dose review seeks systematic approach,” which included quotes from Andrew Rooney, Ph.D., of NTP.

November 19, The Indian Express featured a lengthy story, “Pollution research in India has some catching up to do, says US scientist,” which featured work and comments from Sri Nadadur, Ph.D., of DERT. The Times of India also wrote, “Vehicles bane of Delhi’s air,” which also featured Nadadur.

November 16, the Durham Herald-Sun highlighted a new hire in their story, “Chapel Hill Researcher joins NIEHS.” The story featured Natalie Shaw, Ph.D., of DIR.

November 10, NC Health News conducted a sit-down interview with Sally Darney of Environmental Health Perspectives and wrote a lengthy story, “A new editor-in-chief in town.”

November 10, ACR news wrote, “Experts to explain how to apply new myositis response criteria,” which included quotes from Lisa Rider, M.D., of the Clinical Research Branch.

November 9, as a follow-up to an active shooter exercise that NIEHS conducted with local law enforcement and EPA, Campus Safety, wrote an article, “6 lessons we learned from our active shooter exercise.” The July Factor story provided more details about the exercise.

November 9, Chemical Watch brought attention to a paper authored by Birnbaum and others that focused on adverse outcome pathways, in the story, “Medical research could benefit from toxicology’s AOPs – experts recommend ‘repurposing’ adverse outcome pathways.”

November 4, Med Page Today wrote, “Features predict chronicity in myositis – autoantibodies, rashes, and severity at onset linked to worse outcome,” which featured quotes from Rider.

November 1, Earth Magazine ran a lengthy story, “Does the sun trigger autoimmune disease?” which included quotes from Rider.

November 1, The Scientist wrote a lengthy story, “Obesogens,” which featured work by NIEHS grantees and included quotes from Jerry Heindel, Ph.D., of DERT.
October 30, the *Science* article, “Lifelong memories may reside in nets around brain cells,” included quotes from Serena Dudek, Ph.D., of DIR.

October 18, the *News and Observer* featured the talents of one of our NIEHS scientists. The story, “Double life: Raleigh painter Lori White combines science and art,” focused on Lori White, Ph.D., of NTP.

October 14, *Huffington Post* wrote, “Take down the bras and really work for a cancer cure.” The story pointed out messaging from NIEHS about environmental causes of breast cancer.


October 8, *Talk Radio News* included a quote from DERT Director Gwen Collman, Ph.D., in their story, ”NIH launches breast cancer prevention programs.”

September 29, *Rhode Island NPR* reported, “Superfund Research Program gets boost from federal government” which mentioned NIEHS.

September 28, the *Chicago Tribune* reported, “CPSC considers ban on toxic flame retardants in household products,” which included quotes from Birnbaum.

September 28, *Chemical and Engineering News* did a feature article, “The exposome turns 10,” that included quotes from David Balshaw, Ph.D., of DERT.


September 28, *Press Examiner* story, “Study results messes up with dishonest medical research subjects,” included quotes from David Resnik, J.D., of DIR.

September 4, *Science News* wrote, “Latest BPA replacement seeps into people’s blood and urine,” which included quotes from Kristina Thayer, Ph.D., of NTP.

August 26, *Science World Report* wrote, “Arsenic in low levels before birth linked to early puberty,” which included quotes from Yao. *Talk Radio News Service* wrote, “NIH lab mice see early puberty, adult obesity from low arsenic levels in water,” and *United Press International* wrote, “Pre-birth arsenic exposure linked to early puberty, obesity in mice.”

August 23, the *Durham Herald Sun* selected Terry Blankenship-Paris, D.V.M., of DIR, as their Volunteer of the Week for her work in helping to improve the life of animals in the region.


August 19, a perspective piece in the *New England Journal of Medicine*, “GMOs, herbicides, and public health,” authored by NIEHS grantees Phillip Landrigan, M.D., and Charles Benbrook, Ph.D., mentioned NTP.
August 19, the News and Observer featured a full page story, “UNC scientists trace autism ‘pathway’ from gene to brain,” which included quotes from Birnbaum.

III. PUBLIC INFORMATION AND OUTREACH

NIEHS Social Media Efforts

In accordance with popular trends, NIEHS continues to expand its use of social media in an effort to reach new audiences with its environmental health message. At present, NIEHS posts content through the following platforms:

- Facebook (targeted to a more general audience)
- Twitter (targeted to both the general public and science community)
- Google+ (targeted to the general public)
- LinkedIn (targeted primarily to those in the environmental health career field)

Growth Trends

The fall of 2015 saw continued growth in NIEHS social media followership. From August 1 to January 1, the NIEHS Twitter feed (@NIEHS) saw a seven percent increase in followership, growing from 11,200 followers to 12,100.

During that time, the NIEHS Facebook page saw a nineteen percent increase, growing from 9,000 “likes” to 11,150.

Social media highlights

NIEHS Partnership for Environmental Public Health (PEPH) LinkedIn Group — OCPL coordinated with Liam O’Fallon of DERT and others to construct a custom LinkedIn group for the NIEHS PEPH Program. This will allow institute staff, grantees, administrators, and other environmental health partners to share contacts, information, career news, and expand professional networks, both in and out of the institute.

NIEHS Climate Change and Environmental Exposures Challenge — OCPL coordinated with John Balbus, Ph. D., and others to promote the Climate Change and Environmental Exposures Challenge ongoing campaign through Facebook and Twitter.

2015 Endocrine Society Twitter Chat — OCPL participated in an interactive “Twitter Chat” hosted by the Endocrine Society. Throughout the hour, NIEHS relayed news, information, and links to various NIEHS studies, resources, and Web content related to institute and grantee research on the topic of endocrine disruptors.

NIEHS Grantee Twitter List — OCPL began adding grantee Twitter feeds to the NIEHS Grantees List on the NIEHS Twitter account. This will allow for better tracking ability of grantee news and information, while also giving NIEHS Twitter followers a one-stop-shop destination for grantee news and info.
Popular NIEHS posts on Twitter and Facebook

**Twitter**

**Tweet activity**

<table>
<thead>
<tr>
<th>Tweet</th>
<th>Impressions</th>
<th>Link clicks</th>
<th>Retweets</th>
<th>Likes</th>
<th>Detail expands</th>
<th>Hash tag clicks</th>
<th>Profile clicks</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIEHS</td>
<td>5,765</td>
<td>19</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Impressions — Possible users who may see the content, either directly through the NIEHS Twitter feed or through the feeds of others they follow that might retweet or favorite NIEHS content.

Engagements — Users who directly interact with NIEHS content, be it through favorites, retweeting, or page clicks, i.e., clicking on the link embedded in a tweet.

**Environmental Factor Redesign.** In January, the Factor launched a fully redesigned site. OCPL reached out to readers through focus groups, surveys, and other avenues to get feedback on design and content. The new design is optimized for mobile devices, including tablets and phones, more prominently displays key stories, and makes sharing stories on social media easier. A story in the January issue talks about the redesign.

Many of the stories in the Factor are selected and used by other publications, including the NIH Record (reaches out to all of NIH), NIH Catalyst (geared toward intramural researchers), NIH Research Matters (for the general public), NTP Update (for NTP followers), and others.
A few examples are illustrated below.

- January 29, **NIH Record**, NIEHS partners meet on NIH Campus.
- January-February, **NIH Catalyst**, Inflammation Insights: NIEHS Science Days Celebration
- November 20, **NIH Record**, In-House Test Kits Motivate Parents to Reduce Allergens in Their Homes” (page 10)
- October 9, **NIH Record**, Research Festival 2015 Lauds ‘Amazing Place to Do Science,’” included photo of Birnbaum.

**Patient Recruitment for Clinical Studies**

OCPL works closely with staff at the NIEHS Clinical Research Unit (CRU) to recruit patients for studies. Outreach materials for the Body Weight and Puberty Study will help recruit healthy girls, aged 8-14, to join the study. New recruitment materials for the Epigenetic Biomarkers of Smoking Study, or e-cigarette study, were also developed. A Factor story, stories sent to local media, and social media outreach are all being used to recruit volunteers. OCPL and CRU are also working to recruit women in North Carolina for a clinical study on black cohosh, a dietary supplement used by many women.

**Web and Materials Development**

- OCPL developed new web pages about Toxicology.
- The NTP Hexavalent Chromium fact sheet was updated.
- A new fact sheet on Children’s Health: Why the Environment Matters was released in October.
- New health topic Web pages were developed for Hexavalent Chromium, Lead, Mold, Acrylamide, Perfluorinated Chemicals, and Climate Change and Human Health.

**Christine Bruske Flowers**
Director, Office of Communications and Public Liaison
National Institute of Environmental Health Sciences
National Institutes of Health
919-541-3665

**Robin Mackar**
News Director, Office of Communications and Public Liaison