

February 2016 NWIA Members' Newsletter

Events

- 2 Feb Groundhog Day
- 8 Feb Chinese New Year – Year of the Monkey
- 11 Feb Don't Cry Over Spilled Milk Day
- 11 Feb White T-Shirt Day
- 14 Feb Valentine's Day
- 17 Feb Random Acts of Kindness Day
- 20 Feb Love Your Pet Day
- 22 Feb Be Humble Day
- 22 Feb World Thinking Day
- 25 Feb Quiet Day

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Gentle Reminder

Have you received a renewal notice via email?

Member's renewals for 2016 membership are now due.

We as an organization strongly appreciate and value your membership – one which has greatly contributed to the support of raise awareness about wellness, provide a collective voice on Wellness issues etc.

The continuation of delivery of the newsletter is dependent on your on-going paid-up membership.

Your continued support is much appreciated.



February Floral Emblem: Violet

PRESIDENT'S MESSAGE

We all get them in our inbox – emails - some important, some funny, some informative, some selling something, some invasive, some directive, some researched and referenced facts, some just somebody's ideas and musings, and of course the scams - from people you don't know, sales people from organisations you somehow are linked to but can't work out how, people whose name you vaguely remember but can't place where from, your boss, people who are acquaintances, people who are friends, from dear friends, from colleagues, from respected trail blazers, etc etc but then also from true friends.

How do you deal with such emails? Do you have a conscious or subconscious system of dealing with them based on hierarchy of which category the sender falls into as per the above listing? Is that system fixed or fluid depending on a number of factors, such as how busy you are, what the subject line promises, a historical knowledge of the person's emails in the past and any number of other influences on such decisions at the time of spying it in the list of emails waiting for your attention?

Often wonder what was in the messages you deleted without opening? Probably not, for in this age of information overload one would go crazy.

Facing a mammoth backlog of 4 weeks of emails this month, due to being absent from technology because of a family medical issue, in a hurry I ignored a 2 week old group email from a long time friend for later viewing (possible not probable) and moved on to ascertain what was critical to deal with immediately (my system at the time rightly or wrongly). But while my eyes had moved to the next on the list the cursor had not, and on clicking to open it (needed urgent attention) found that I had in fact opened the passed over email. I could (should?) have hastily moved the cursor and clicked on the one I had intended to open while not paying any attention to the friend's now open email. Whether the subject line on closer scrutiny resonated with me, or it was for some other reason, I did not. And am extremely pleased I did not, for I would not have the wisdom related in his forwarded message.

If your 'system' will have you passing over my sharing of his email with you and getting to the rest of this newsletter, then I acknowledge your strength for being true to your 'system' – but sometimes we become a weller informed person by accident/breaking our rules.

SUBJECT: Wisdom of an Aged Person

Message Content:

A very important message from a dear friend of mine and I have sent it to you as you fit the same category in my life.

Wisdom of an aged person.

As we grow older, and hence wiser, we slowly realize that wearing a \$300.00 or a \$30.00 watch ----
they both tell the same time...

Whether we carry a \$300.00 or \$30.00 wallet/handbag -----
the amount of money inside is the same;

Whether we drink a bottle of \$300 or \$10 wine -----
the hangover is the same;

Whether the house we live in is 300 or 3000 sq. ft. -----
loneliness is the same.

You will realize, your true inner happiness does not come from the material things of this world.

Whether you fly first or economy class, if the plane goes down -----
you go down with it..

Therefore, I hope you realize, when you have mates, buddies and old friends, brothers and sisters, who

you chat with, laugh with, talk with, have sing songs with, talk about north-south-east-west or heaven & earth, That is true happiness!!

Five Undeniable Facts of Life:

1. Don't educate your children to be rich.

Educate them to be Happy.

So when they grow up they will know the value of things not the price.

2. Best awarded words in Australia ...

"Eat your food as your medicines.

Otherwise you have to eat medicines as your food."

3. The One who loves you will never leave you

because even if there are 100 reasons to give up

he or she will find one reason to hold on.

4. There is a big difference between a human being and being human.

Only a few really understand it.

5. You are loved when you are born.

You will be loved when you die.

In between, You have to manage!

NOTE:

If you just want to Walk Fast, Walk Alone!

But if you want to Walk Far, Walk Together!

Six Best Doctors in the World

1. Sunlight

2. Rest

3. Exercise

4. Diet

5. Self Confidence and

6. Friends

Maintain them in all stages of Life and enjoy a healthy life.



Sent with Smiles, Affection and Love!!

Would enjoy reading in future newsletters any 'wisdom' gained similarly *accidentally/without intent* by readers – send to admin@wellnessaustralia.org

I trust your eyes are firmly fixed on the Wellness end of the Travis Illness-Wellness Continuum this year.

Handwritten signature of Bob Boyd.

Bob Boyd
President NWIA

International Wellness Connections

This is the 35th article of a series featuring information from International Wellness Practitioners about the state of Wellness in their country of residence. This and any following International Connections monthly articles have appeared in the National Wellness Institute (USA) monthly newsletter, at least 12 months previous to them appearing in this publication.

NWIA extends a sincere thank you to the authors for their contributions to the NWIA newsletter.

[Healthier, Happier Workplaces: A Queensland Local Government Perspective](#)

Posted By NWI, Tuesday, February 03, 2015

By Camilla Williams

Wellness Consultant, Queensland, Australia

Chronic diseases are a major burden in Australia, particularly in the state of Queensland. According to the latest Queensland Chief Health Officer's report (http://www.health.qld.gov.au/cho_report/), two-thirds of Queenslanders are now overweight or obese, making it the fattest state in Australia.¹ There are approximately two million people of working age in Queensland, representing a captive audience for health promotion initiatives. Outdoor workers (blue collar workers) have the highest prevalence of smoking (33.1%), physical inactivity (77.8%), overweight or obesity (64.6%) and the second highest prevalence of inadequate fruit and vegetable intake in Queensland.² Additionally, being sedentary at work (white collar workers) is an independent risk factor for chronic disease such as type 2 diabetes, overweight, and obesity.²

To combat Australia's rising chronic disease prevalence, the National Partnership Agreement on Preventive Health funded a national-wide 'Healthy Workers Initiative'. Queensland's version, *The Happier, Healthier Workplace Initiative (formally known as Queensland Workplaces for Wellness)*, has delivered a mix of targeted, evidence-based workplace wellbeing initiatives to a variety of industries over the past four years.

Led by Queensland's Department of Health, these initiatives have been aimed at modifiable lifestyle risk factors including smoking, poor nutrition, physical inactivity and harmful alcohol consumption. Initiatives have included:

- A free *Quit Smoking Program* (free nicotine replacement therapy and counselling to blue collar workers)
- *Get Healthy* online and phone health coaching services (free for all Queenslanders)
- Workplace health and wellbeing workshops for workplace coordinators/workers
- Website with free tools and resources (e.g. policy templates, action plans, promotional material that make 'healthy choices easy choices')
- Funding/grants (to be used for developing/improving a wellness strategy)

Funded by the Department of Health, I have been working as an advisor for the *Happier, Healthier Workplace Initiative* (<http://workplaces.healthier.qld.gov.au/>) at a local government level via the Local Government Association of Queensland (LGAQ) (<http://lgaq.asn.au/>). LGAQ is best placed to target the 40,000+ local government employees across Queensland through its association with the 77 local governments (councils). My role includes consulting with local governments, providing advice and assisting with the delivery of the *Happier, Healthier Workplace Initiative* tools and resources (<http://lgaq.asn.au/community-wellbeing>)

The local government workforce is a mix of white and blue collar workers. It is well known that healthier workers within local government are more productive, happier and provide a better service to their members.³ Similarly, leaders within councils who are healthier and happier, are able to deliver to their staff and their community more effectively.³

However, many local governments' focus has traditionally been towards the core safety needs of employees.³ Whilst this is extremely important, the 'health' in workplace health and safety has been inadequately addressed, with particular reference to chronic disease risk factors.

In 2011, it was identified through an LGAQ audit⁴ that less than 30% of Queensland local governments had a strategic wellness plan within their organization or adequately planned and evaluated their wellness initiatives. Wellness within councils was deemed non-core business. Flu vaccinations, health checks and other individually-focused initiatives were common. These being ad-hoc in approach and not holistic rather than sustainable policy-

based, cultural and infrastructure supported.

As a result of the *Healthier.Happier Workplace Initiative*, over 50% of local governments now have a strategic wellness program. More local governments are realizing that healthier employees are safer employees and that a health and wellbeing program can be used as control measure to mitigate many risks within the workplace.

A greater number of local governments are including policy-based (e.g. healthy catering, vending machines, work/life balance policies), infrastructure (lockers, showers, standing desks, fruit bowls), cultural and people-based initiatives (e.g. education and programs) that address the health needs and interests of workers. As a result, absenteeism, productivity, staff turnover and injury rates have significantly improved across the local government workforce.

These results should continue beyond the funding period for the *Healthier.Happier Workplaces Initiative*. Resulting ripple effects to the greater community (<http://lgaq.asn.au/local-wellbeing>) will hopefully be reflected in the next Chief Health Officer's report.

¹ Queensland Health, *The Health of Queenslanders 2014: prevention of Chronic Disease*. Second Report of the Chief Health Officer Queensland, Queensland Health, Brisbane; 2014.

² Queensland Health, *Implementation Plan for the Healthy Workers Initiative*. National Partnership Agreement on Preventative Health. Version 4. Queensland Workplaces for Wellness Program, 2010.

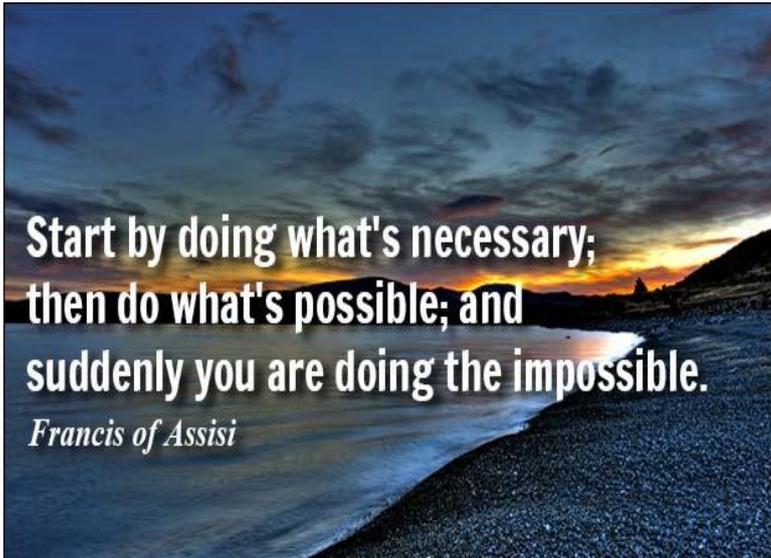
³ LGA group, *A glass half-full: how an asset approach can improve community health and well-being*. Healthy Communities Team, UK, 2011.

⁴ 2012 LGAQ Council Workplace Wellness Audit



Camilla Williams is an accredited exercise physiologist and registered nutritionist with over eleven years experience in corporate health and private practice settings. Camilla has worked as a wellness consultant with various organisations, including the Queensland Police Service, Brisbane City Council and the Local Government Association of Queensland. With practical-based, rehabilitation and chronic disease prevention skills, Camilla enjoys improving the health, wellbeing and safety of employees and their organisations.

Quote for the month



**Start by doing what's necessary;
then do what's possible; and
suddenly you are doing the impossible.**

Francis of Assisi



How Face-To-Face Still Beats Facebook

Limitations on the size of our offline social groups seem to apply online as well

Social media may seem to be a way to make and maintain hundreds of friendships. But University of Oxford research, supported by Dorset bakers Thomas J. Fudge's, suggests that the constraints that limit the number of friends we have offline also apply online. The study is published in the journal *Royal Society Open Science*.

Offline, research has given rise to what's called the Social Brain Hypothesis. This says that our brain's ability to process multiple relationships creates a natural group size for humans of 100 - 200 people. This size is also constrained by the time required to maintain relationships - we only have so much time to devote to meeting or talking to people.

It has been suggested that social media might overcome the constraints because posts, tweets and pictures allow us to talk to many more people at the same time even if the interaction is not direct. So psychologist Professor Robin Dunbar carried out two surveys of more than 3300 people to see whether using the internet really means we can have more friends.

What he found was that even among regular social media users, the average number of friends they had on Facebook was 155 in the first survey and 183 in the second, right in the bracket predicted by the Social Brain Hypothesis.

Women had more friends than men (In the first sample, women averaged 166 and men just 145 friends; in the second, it was 196 vs 157), while - perhaps unsurprisingly - older generations had fewer friends than younger ones.

The first survey group, made up of regular social media users, considered only 28% of their Facebook friends to be 'genuine' (ie close) friends. When asked specifically how many people they would turn to for support in a crisis and how many they would turn to for sympathy, on average those groups were just 4 and 14 friends respectively, matching the offline findings of the Social Brain Hypothesis.

While a few people did have much larger groups of online 'friends' on Facebook, they had similar sized support and sympathy groups to others. This suggests that when social media seem to allow someone to have more friends, it is because looser acquaintances were being included in the 'friend' category, partly because social media sites tend not to differentiate between close and more distant relationships - even though we clearly distinguish between friends and acquaintances in the offline world.

Professor Robin Dunbar explained: 'Social media certainly help to slow down the natural rate of decay in relationship quality that would set in once we cannot readily meet friends face-to-face. But no amount of social media will prevent a friend eventually becoming 'just another acquaintance' if you don't meet face-to-face from time to time. There is something paramount about face-to-face interactions that is crucial for maintaining friendships. Seeing the white of their eyes from time to time seems to be crucial to the way we maintain friendships.'

Sue Fudge, Director at Thomas J. Fudge's said: 'Although social media may seem like the perfect way to make and maintain friendships, this research shows that face-to-face interaction is essential for truly authentic relationships and that shares, selfies and 'likes' are no replacement for the bonding that takes place whilst sharing food, experiences and anecdotes.'

The paper, Do online social media cut through the constraints that limit the size of offline social networks?, is published in *Royal Society Open Science* (DOI: 10.1098/rsos.150292). <http://rsos.royalsocietypublishing.org/>



Group Learning Makes Children Better Decision-Makers, Study Finds

Children who participate in collaborative group work to learn about significant social issues become better decision-makers than their peers who learn the same curriculum through teacher-led discussions, a new study finds.

More than 760 fifth-grade students were involved in the study, which compared the efficacy of collaborative group work with conventional direct instruction at promoting students' ability to make reasoned decisions and apply those skills in a novel task.

The students studied a six-week curriculum in which they explored whether a community should hire professional hunters to kill a pack of wolves that was causing many residents concern. Students examined various perspectives on the issue, including the potential impact on the ecosystem, the local economy and public policy.

The curriculum's purpose was not to lead students to a predetermined best answer but to raise their awareness about making responsible and reasoned decisions, said Xin Zhang, a doctoral student in psychology at the University of Illinois and the lead author on the paper.

After completing the wolf curriculum, the students wrote two individual essays: one that explained their personal decision on what should be done about the wolf pack, and another about their decision on an unrelated moral dilemma between two friends, presented in the story "The Pinewood Derby."

In the story, a boy named Jack has an unpopular friend named Thomas who wins a pinewood derby competition but later confesses to Jack that he violated the rules by enlisting his older brother's help in building his car. After reading the story, the students were asked to write an essay about whether Jack should reveal his friend's dishonesty.

Children who had worked in collaborative groups on the wolf project were better prepared to take on the role of decision-maker about Jack's moral dilemma with his friend Thomas, the researchers found.

These children were more proficient at three key aspects of decision-making: recognizing more than one side of a dilemma, considering a range of reasons to support differing viewpoints, and weighing the costs and benefits associated with different decisions, according to the researchers.

These children appealed to a significantly greater number of moral principles and practical considerations when drawing conclusions about the action Jack should take, the researchers found.

By contrast, students who studied the wolf curriculum in teacher-led discussions were no better at making a decision on Jack's dilemma than children in the control groups who had not been exposed to the wolf project, according to the study.

"Collaborative group work positions students as active decision-makers, whereas direct instruction places them in a passive role, following the reasoning of their teacher," Zhang said. "We further theorize that the essential difference between collaborative group work and direct instruction is that students learn about the 'self as agent and others as (the) audience,'" a hypothesis explored in another paper by Zhang's co-authors, Richard C. Anderson, director of the Center for the Study of Reading, and graduate student Joshua A. Morris, both of the U. of I.

The researchers found girls were significantly better than boys at recognizing Jack's predicament and were more likely to weigh reasons when considering opposing viewpoints, but suggested that these gender differences could be related to girls' better writing ability.

Because the moral dilemma with the two boys had little in common with the wolf exercise, students' reasoning on whether Jack should tell on his friend Thomas provided strong evidence as to which children were competent decision-makers and were able to apply those skills in an unrelated situation, the researchers wrote.

The children in the study were from eight public schools that serve predominantly low-income families and were well below the national average in academic attainment, as measured by reading comprehension, according to the study.

While the Common Core standards emphasize development of reasoning and critical-thinking skills, the standards' perpetuation of a test-driven accountability system and teacher-directed learning environment compromises children's development of these higher-order skills. This can be especially detrimental in schools with large enrollments of minority and low-income populations, which may devote the majority of instructional time to arithmetic exercises and simple reading strategies, the researchers wrote.

"If children are to become thoughtful decision-makers, they need more time in the school day for collaborative group work that involves active reasoning about significant issues," Zhang said. "Promoting active reasoning is one key to cultivating disadvantaged students' development of intellectual competence and academic ability."

The study was published in *American Educational Research Journal*.

Additional co-authors included Brian Miller of Towson University, Tzu-Jung Lin of Ohio State University, May Jadallah of Illinois State University, Beata Latawiec of Wichita State University, Jingjing Sun of the University of Montana and Jie Zhang of Western Kentucky University.

<http://aer.sagepub.com/content/early/2015/12/07/0002831215618663.full>



Genetics Influences Knee Pain Sensitivity In Osteoarthritis Patients

Genetics play a key role in knee pain sensitivity, according to a team of researchers studying knee osteoarthritis patients.

"This work was part of a larger study focused on the daily lives of couples in which one person has arthritis," said Lynn Martire, professor of human development and family studies, Penn

State.

The researchers looked at how arthritis affects mood and interactions with each other.

"The biggest problem in arthritis is that a person becomes physically inactive because they are in pain, but if they don't move, then it makes them hurt more," she said. "As a supplement to the larger study, we collected genetic data from those who were willing to participate to determine if there were any associations with daily knee pain sensitivity."

Previous research focused on two specific genes, COMT and OPRM1, and how having one or more copies of a certain allele -- a specific version of the gene -- for either of these genes affects pain sensitivity. These studies looked at average pain severity between people with different genetic backgrounds but not in osteoarthritis patients specifically. In the present research, published in the *Scandinavian Journal of Pain*, the researchers focused on differences in the variability of knee pain and the level of pain following daily physical activity within individual osteoarthritis patients. According to Martire, within-person variability looks at whether patients who have more pain

are less active, whereas between-person variability looks at whether patients are less active on those days when they have more pain.

As part of the study, 120 knee osteoarthritis patients went through a 22-day assessment protocol in which they wore an accelerometer to measure daily physical activity and reported on their pain three times a day using a questionnaire. According to Martire, reporting more pain variability throughout the day reflects increased sensitivity to pain after physical activity.

"Our results showed that the genotypes that had increased pain sensitivity were the opposite of what we predicted, but the context and the design of our experiment are different from previous work," said Martire.

The researchers predicted that patients with one or more copies of a certain allele in either COMT or OPRM1 would report having greater pain variability and more pain after daily physical activity. However, they found that patients with two copies of a different allele showed more pain variability and more pain at the end of the day as a result of physical activity.

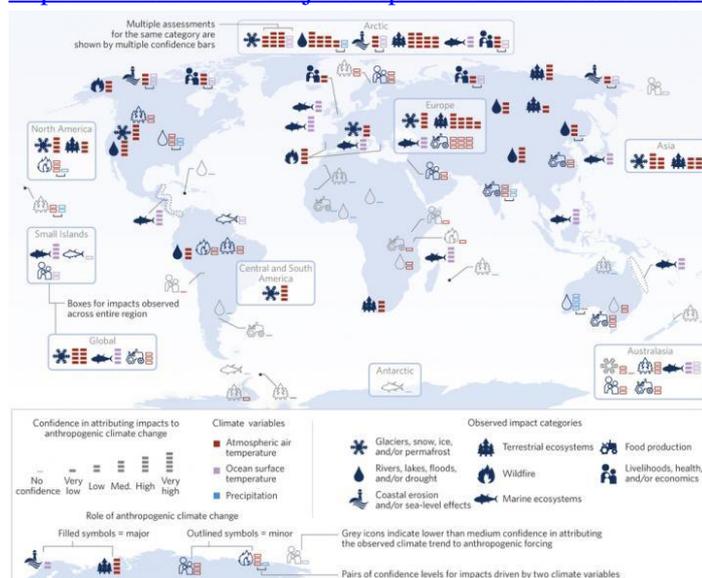
"With such a novel study, part of the challenge was trying to make predictions because there's not a lot of other data out there," said Stephanie Wilson, graduate student in human development and family studies, Penn State. "Previous studies looking at clinical populations compared different people within the arthritis group to each other and to healthy populations to try to associate their genotype with greater severity of pain. However, we were looking at day-to-day pain changes for a single person and its association with their genetics."

According to Martire, the biggest issue in arthritis is trying to get the patient to be more physically active. If these preliminary findings can be confirmed in a larger study, then tailored behavioral programs could be used that are sensitive to a person's genotype.

Also working on this project were Brent J. Small, professor of aging studies, University of South Florida; Yvette P. Conley, professor of health promotion and development, University of Pittsburgh; and Piotr K. Janicki, professor of anesthesiology, and Martin J. Sliwinski, professor of human development and family studies, both at Penn State.

The National Institutes of Health supported this work.

[http://www.scandinavianjournalpain.com/article/S1877-8860\(15\)00083-X/fulltext](http://www.scandinavianjournalpain.com/article/S1877-8860(15)00083-X/fulltext)



Assessing The Impact Of Human-Induced Climate Change

Scientists apply new method to determine whether specific climate impacts can be traced to human-caused emissions.

The past century has seen a 0.8°C (1.4°F) increase in average global temperature, and according to the Intergovernmental Panel on Climate Change (IPCC),

the overwhelming source of this increase has been emissions of greenhouse gases and other pollutants from human activities. Scientists have also observed that many of Earth's glaciers, ecosystems and other systems are already being impacted by rising regional temperatures and altered rainfall amounts and patterns.

What remains unclear is precisely what fraction of the observed changes in these climate-sensitive systems can confidently be attributed to human-related influences, rather than mere natural regional fluctuations in climate. So Gerrit Hansen of the Potsdam Institute for Climate Impact Research in Germany and Dáithí Stone of Lawrence

Berkeley National Laboratory (Berkeley Lab) developed and applied a novel methodology for answering this challenging question. Their work was published in *Nature Climate Change* on December 21, 2015.

Their computer modeling-based study focused on various particular regional impacts around the world identified in the last IPCC report (such as melting glaciers and snow ice in Europe, changes in terrestrial ecosystems in Asia, wildfires in the state of Alaska, etc.). The IPCC report listed over 100 such impacts of various kinds in various regions across the globe. The Hansen-Stone study focused on the regional climate trends relevant to these impacts over the 40-year period 1971-2010.

Using a sophisticated algorithm, the study essentially required satisfaction of three distinct types of tests. First, the algorithm assessed the adequacy of the available climate data--the so-called observational record--related to the particular regional impact over the 40-year period. Was the data sufficient to provide a basis for understanding what actually had been taking place? Next, the algorithm determined whether the climate models the researchers used provided sufficient resolution or detail concerning regional climate so as to be considered an appropriate source of information. Finally, the researchers examined collections of model simulations with and without human emissions factored in to understand to what degree human emissions were responsible for a given impact, by comparing these simulations against observed trends.

The result of each test of data set quality or of observation-simulation agreement was expressed as a numerical score, and then these scores were merged into an overall measure of confidence in the hypothesis that human-generated emissions have affected the regional climate, ranging from "none" to "very high".

"There are many ways we could combine the scores", says Stone, "but we found that it didn't matter which plausible method we used--the results all pointed to the same conclusions."

Their analysis revealed that almost two-thirds of the listed impacts related specifically to the warming over land and near the surface of the ocean could confidently be attributed to human-generated emissions. However, the researchers could not find the same kind of link for trends in precipitation.

According to Stone, cases where the link between human-generated greenhouse gas emissions and local warming trends were weak were often due to the fact that the climate observational record was insufficient in those regions to build a clear picture about what has been happening over the past several decades.

"Previous analyses linking observed impacts to climate change have been generic in nature, addressing whether there is an influence of human-related warming on impacts globally, without an inference to individual impacts," says Hansen. "Our analysis is the first to bridge these gaps for a large range of impacts, by assessing the role of human-related emissions in each impact individually, including impacts related to trends in precipitation and sea ice."

"Studies linking emissions to climate change impacts provide the most stringent test available for evaluating the accuracy and confidence of our projections of impacts in a future warmer world," says Wolfgang Cramer, Director of the Mediterranean Institute for Marine and Terrestrial Biodiversity and Ecology in Aix-en-Provence, France. "With these tests, we can be much more confident in our calculations of how a 4°C world will differ from a 1.5°C world. It is crucial that we continue to develop and maintain observational efforts around the world in order to continue documenting how the world is responding to our greenhouse emissions, as well as to agreed reductions in those emissions."

Stone and Hansen's work was partially supported by the Department of Energy's Office of Science and the German Ministry of Education and Research.

Lawrence Berkeley National Laboratory addresses the world's most urgent scientific challenges by advancing sustainable energy, protecting human health, creating new materials, and revealing the origin and fate of the universe. Founded in 1931, Berkeley Lab's scientific expertise has been recognized with 13 Nobel prizes. The University of California manages Berkeley Lab for the U.S. Department of Energy's Office of Science. For more, visit <http://www.lbl.gov>.

DOE's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time. For more information, please visit the Office of Science website at science.energy.gov/.



New Experiments Determine Effective Treatments For Box Jelly Stings

Researchers at the University of Hawai'i - Mānoa (UHM) developed an array of highly innovative experiments to allow scientists to safely test first-aid measures used for box jellyfish stings - from folk tales, like urine, to state-of-the-art technologies developed for the military. The power of this new array approach, published this week in the journal *Toxins*, is in its ability to rigorously assess the effectiveness of various treatments on inhibiting tentacle firing and venom toxicity - two aspects of a sting that affect the severity of a person's reaction.

Box jellyfish are among the deadliest creatures on Earth, and are responsible for more deaths than shark attacks annually. Despite the danger posed by these gelatinous invertebrates, scientists and medical professionals still do not agree on the best way to treat and manage jellyfish stings.

"Authoritative web articles are constantly bombarding the public with unvalidated and frankly bad advice for how to treat a jelly sting," said Dr. Angel Yanagihara, lead author of the paper and assistant research professor at the UHM Pacific Biosciences Research Center (PBRC) and John A. Burns School of Medicine (JABSOM). "I really worry that emergency responders and public health decision makers might rely on these unscientific articles. It's not too strong to point out that in some cases, ignorance can cost lives."

The results from Yanagihara and team's rigorous testing demonstrate that tried-and-true methods, including vinegar and hot water immersion, really do work on Hawaiian box jellyfish (*Alatina alata*) stings. Further, the study shows that a new therapeutic, Sting No More™, developed by Yanagihara with Department of Defense funding, inhibits the venom directly.

Yanagihara, aided by Dr. Christie Wilcox, a postdoctoral fellow at JABSOM, set out to test which first-aid measures actually help reduce the venom delivered when a tentacle stings or lessen the harm caused by venom that has been injected. But because box jelly stings can be life threatening, experimentation on people was out of the question.

"What we needed were innovative models which would allow us to test how different options might affect the severity of a sting without putting anyone at risk," Yanagihara said. "So we designed a set of experiments using live, stinging tentacles and live human red blood cells which allowed us to pit first-aid measures against one another."

The ultimate test compared the effects of treatments in a living sting model comprised of human red blood cells suspended in an agarose gel and covered with lanolin-rubbed sterile porcine intestine, which was used as a mock skin. The researchers found that the most effective treatments were Sting No More™ products and hot water, with Sting No More™ shown to work faster and better than hot water, according to the data.

"People think ice will help because jelly stings burn and ice is cold," said Wilcox. "But research to date has shown that all marine venoms are highly heat sensitive. Dozens of studies, including our recent work, have shown that hot water immersion leads to better outcomes than ice."

Wilcox hopes that the new experimental models will allow for more rigorous testing of first-aid measures for venomous stings from other species of Cnidaria. "The science to date has been scattered and disorganized," she said. "We strived to design methods that were straightforward and inexpensive, so that others can use them easily. The field has suffered from a lack of standardized, rigorous and reproducible models. Our paper outlines a way to change that."

While the current study only tested first-aid measures using the Hawaiian box jelly, the researchers said they are

working on seeing how treatments work for stings from other common Hawaiian species, including the Portuguese Man O' War which wash ashore on leeward shores during strong winds. And, they hope that they won't be the only ones testing treatments with their experimental array.

Sting No More™ (Alatalab Solutions, LLC) was developed under a Department of Defense grant that aimed to rapidly and effectively treat stings in US Special Operations Command combat divers. With the intention of supporting the development of technologies and therapies of benefit to people, the funding required a commercialization plan for resulting products. All testing of the new commercial product, in the current study was performed under an approved University of Hawai'i Conflict of Interest plan. This product demonstrates the strongly pro-innovation culture at UH dedicated to bringing to the public sector technologies that have been developed with federal and state research dollars.

Link to video and sound: <http://bit.ly/1J7MB30> (note: can only be opened on a professional editing system)



In results published on October 19, 2015 in the *Journal of Lipid Research*, a team of translational scientists at the Medical University of South Carolina (MUSC) report a new reason why non-alcoholic steatohepatitis (NASH) worsens in people who are obese.

The results may help prevent cirrhosis and liver cancer, according to co-senior authors Kenneth D. Chavin, M.D., PhD, a transplant surgeon in the MUSC Health Department of Surgery, and Lauren Ashley Cowart, PhD, Associate Professor of Biochemistry and Co-Director of the MUSC Center of Biomedical Research Excellence in Lipidomics and Pathobiology.

NASH (also called non-alcoholic fatty liver disease) has become a major cause of liver disease requiring transplant. "In my 17 years of doing liver transplants, it's gone from 4% of patients to around 20% of patients who get transplants because of NASH," says Chavin. "In 10-15 years, because of advances with Hepatitis C, it will probably become the number one reason why patients get transplants."

When excess dietary fats are consumed over time, fat deposits form in the liver and NASH can develop. Early-stage NASH is typically not associated with any physical symptoms; nearly 30% of people in the U.S. have it. Though obesity is correlated with the development of NASH, the team wanted to know exactly why NASH worsens to a stage requiring transplant in certain obese people.

"Obesity doesn't cause disease in every obese person and we don't understand why it does in some but not others," explains Cowart.

The team suspected that inflammation stemming from a lipid molecule called sphingosine-1-phosphate (S1P) might be responsible. They'd previously discovered in other organs that S1P is increased by excess dietary saturated fat.

Chavin took biopsies from human livers during transplant surgery and supplied them to Cowart, who determined the levels of sphingosine kinase 1, the enzyme that makes S1P. They found double the normal amount of sphingosine

kinase 1 in livers of obese people with non-alcoholic steatohepatitis.

The team wanted more understanding of why S1P causes inflammation, but NASH has previously been difficult to mimic in the laboratory setting. They developed a new and highly improved preclinical model of NASH, wherein mice were fed on custom-designed diets of either high saturated fat or high unsaturated fat. Curiously, mice on each type of diet became obese, but only mice on the saturated fat diet developed inflammation and NASH-like pathology stemming from S1P. Taking the human and pre-clinical studies together, it's likely that saturated fat, but not unsaturated fat, raises S1P levels in obese people, and it's S1P that unleashes the inflammation that characterizes NASH.

Performing lipid studies in the laboratory is not easy--most biochemistry is water-based, and fat and water don't easily mix. The group relied on the MUSC Sphingolipidomics Core laboratory, one of only a handful of such facilities in the country capable of developing the new methods needed to examine S1P for their study. "Without lipidomics, we never would have understood that saturated fats activate this pathway," says Cowart. The team is working to identify the S1P receptors responsible for inflammation in NASH, with the ultimate goal of designing treatments to prevent the need for a liver transplant in obese patients with NASH.

Does this work support the idea that it's the type of fat, but not all fat, that leads to health problems? After all, mice fed a high unsaturated fat diet still became obese but were metabolically healthy. "Because the unsaturated fat diet didn't cause NASH, it may provide a clue as to what actually links obesity to disease," says Cowart. "Even if it's difficult to lose weight, dietary modifications might prevent some disease associated with obesity."

MUSC researchers Tuoyu Geng, PhD, Alton Sutter, MD, PhD, Arun Palanisamy PhD, and Michael D. Harland also contributed to this study.

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About MUSC

Founded in 1824 in Charleston, The Medical University of South Carolina is the oldest medical school in the South. Today, MUSC continues the tradition of excellence in education, research, and patient care. MUSC educates and trains more than 3,000 students and residents, and has nearly 13,000 employees, including approximately 1,500 faculty members. As the largest non-federal employer in Charleston, the university and its affiliates have collective annual budgets in excess of \$2.2 billion. MUSC operates a 750-bed medical center, which includes a nationally recognized Children's Hospital, the Ashley River Tower (cardiovascular, digestive disease, and surgical oncology), Hollings Cancer Center (a National Cancer Institute designated center) Level I Trauma Center, and Institute of Psychiatry. For more information on academic information or clinical services, visit musc.edu. For more information on hospital patient services, visit muschealth.org.

<http://www.jlr.org/content/56/12/2359>



Researchers Find Meals At 92 Percent Of Dining Establishments Tip The Scales

Chain and non-chain restaurants serve oversized portions; researchers propose restaurants should be required to give patrons the choice to reduce meal size for a proportional price

Meals consumed at fast-food restaurants are often seen as one of the biggest contributors to the obesity epidemic. But according to a new study in the *Journal of the American Academy of Nutrition and Dietetics*, 92 percent of 364

measured restaurant meals from both large-chain and non-chain (local) restaurants exceeded recommended calorie requirements for a single meal. In 123 restaurants in three cities across America, the research team found that a single meal serving, without beverages, appetizers, or desserts sometimes exceeded the caloric requirements for an entire day.

"These findings make it clear that making healthy choices while eating out is difficult because the combination of tempting options and excessive portions often overwhelm our self-control," said senior author Susan B. Roberts, Ph.D., director of the Energy Metabolism Laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston.

"Although fast-food restaurants are often the easiest targets for criticism because they provide information on their portion sizes and calories, small restaurants typically provide just as many calories, and sometimes more. Favorite meals often contain three or even four times the amount of calories a person needs, and although in theory we don't have to eat the whole lot in practice most of us don't have enough willpower to stop eating when we have had enough," Roberts continued.

The study was conducted by researchers at the HNRCA and the Friedman School of Nutrition Science and Policy at Tufts University and colleagues, who analyzed the calorie content of frequently ordered meals in both local restaurants and their large-chain equivalents in three separate locations: Boston, San Francisco and Little Rock, Ark. The data were collected between 2011 and 2014 by comparing the meals against human calorie requirements and USDA food database values. The cuisine studied by researchers included American, Chinese, Greek, Indian, Italian, Japanese, Mexican, Thai and Vietnamese fare.

The study also found that American, Chinese and Italian had the highest calorie counts with a mean of 1,495 calories per meal.

"Oversize servings lead a lot of dieters to avoid most restaurants entirely, or stick to items like salads that they know are served in reasonable portions," said co-author William Masters, Ph.D., professor of food economics at the Friedman School. "Standard meals are sized for the hungriest customers, so most people need superhuman self-control to avoid overeating. There is a gender dimension here that is really important: women typically have a lower caloric requirement than men, so on average need to eat less. Women, while dining out, typically have to be more vigilant."

He believes that local ordinances empowering customers to order partial portions at partial prices would lead restaurants to adjust their default sizes towards what the average customer wants, rather than the hungriest person. "Customers could then order anything on the menu in a more appropriate size, and be able to eat out more often without weight gain."

While most people blame themselves for having weak willpower when they eat more than they need while dining out, Roberts credits our biology as the cause. "More than 100 years ago the Russian scientist Ivan Pavlov received the first Nobel Prize awarded for integrated systems physiology for discovering the 'cephalic phase of digestion,' which is basically a mechanism designed to make us hungry and tempted when there is available food for the taking. All we have to do is see and smell food and our sympathetic nervous system revs up, insulin secretion drops blood glucose and our stomach relaxes - the goal of these physiological changes being to prepare us to eat all the food within reach," said Roberts, who is also a professor at the Friedman School at Tufts. "So we order our favorite dishes because that is what tempts us, and then we eat more than we need because the portion is too large."

This study extends Roberts and her research team's previous research work on restaurant portion sizes and calorie information. A study published in *JAMA* in 2011 by Roberts and her team compared calories in 269 food items from fast-food and sit-down chain restaurants and found that the items suitable for people being careful with their weight, those listed with the least calories, were not accurately described and in fact contained more calories than stated.

The first author on the study is Lorien Urban, Ph.D., a graduate of the Biochemical and Molecular Nutrition Program at the Friedman School, formerly a post-doctoral scholar in the Energy Metabolism Laboratory at the HNRCA and now manager of clinical research at Gelesis.

Additional authors are Judith L. Weber, Ph.D., R.D., University of Arkansas for Medical Sciences; Melvin B. Heyman, M.D., M.P.H., University of California San Francisco; Rachel L. Schicht, M.S., R.D.N., L.D.N., University of Central Arkansas; Sofia G. Verstraete, M.D., University of California San Francisco; Nina S. Lowery, B.S., Sai K. Das, Ph.D., Molly M. Schleicher, M.S.; Gail Rogers, M.A.; all of the HRNCA; and Christina Economos, Ph.D., of the Friedman School of Nutrition Science and Policy at Tufts.

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Urban LE; Weber JL; Heyman MB; Schichtl RL; Verstraete S; Lowery NS; Das SK; Schleicher MM; Rogers G; Economos C; Masters WA; and Roberts SB. "Energy Contents of Frequently Ordered Restaurant Meals and Comparison with Human Energy Requirements and US Department of Agriculture Database Information: A Multisite Randomized Study." *Journal of the American Academy of Nutrition and Dietetics* (published online January 20, 2016) DOI: 10.1016/j.jand.2015.11.009

About the Jean Mayer USDA Human Nutrition Research Center on Aging and the Friedman School of Nutrition Science and Policy

For three decades, the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University has studied the relationship between good nutrition and good health in aging populations. Tufts research scientists work with federal agencies to establish the USDA Dietary Guidelines, the Dietary Reference Intakes, and other significant public policies. The Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University is the only independent school of nutrition in the United States. The school's eight degree programs - which focus on questions relating to nutrition and chronic diseases, molecular nutrition, agriculture and sustainability, food security, humanitarian assistance, public health nutrition, and food policy and economics - are renowned for the application of scientific research to national and international policy.

<http://dx.doi.org/10.1016/j.jand.2015.11.009>

Study Finds 30 Percent Of Global Fish Catch Is Unreported

Countries drastically underreport the number of fish caught worldwide, according to a new study, and the numbers obscure a significant decline in the total catch .

The new estimate, released today in *Nature Communications*, puts the annual global catch at roughly 109 million metric tons, about 30 per cent higher than the 77 million officially reported in 2010 by more than 200 countries and territories. This means that 32 million metric tons of fish goes unreported every year, more than the weight of the entire population of the United States.

Researchers led by the [Sea Around Us](#), a research initiative at the University of British Columbia supported by The Pew Charitable Trusts, and Vulcan Inc., attribute the discrepancy to the fact that most countries focus their data collection efforts on industrial fishing and largely exclude difficult-to-track categories such as artisanal, subsistence, and illegal fishing, as well as discarded fish.

"The world is withdrawing from a joint bank account of fish without knowing what has been withdrawn or the remaining balance," said UBC professor Daniel Pauly, a lead author of the study and principal investigator of the Sea Around Us. "Better estimating the amount we're taking out can help ensure there is enough fish to sustain us in the future."

Accurate catch information is critical for helping fisheries officials and managers understand the health of fish populations and inform fishing policies such as catch quotas and seasonal or area restrictions.

How much fish are we really catching?

Accounting for the world's unreported catch

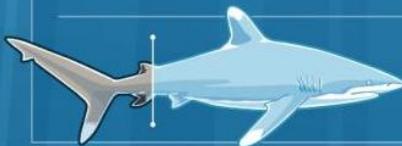
Thirty percent of global fish catch may be unreported, according to new research. Activities such as artisanal, subsistence, and illegal fishing are often not included in official statistics—obscuring the true extent of fishing worldwide. Scientists now estimate global catch is **109 million metric tons (mt) annually**.



Wild numbers

Not knowing how much fish we take from the oceans makes sustainable management more difficult. **From 1950-2010**, landings of economically important fish such as tuna and sharks were underreported, according to the study, led by the Sea Around Us and published Jan. 19, 2016 in the journal *Nature Communications*.

Global tuna landings were **9%** higher than reported.



Global shark catch was **60%** higher.

9% The share of fish estimated to be discarded each year.

Annually, **25%** of global fish catch comes from small-scale fishing, mostly for food.

The scale of unreported catch

Every year, the official data underestimate global fish catch by about **32 million mt**— that's more than the weight of the **population of the United States**.



Catchall

In the new study, scientists gathered data using an array of sources and methods to piece together a more complete picture of the world's fisheries. Called "catch reconstruction," this approach allows countries to gain a better understanding of catch and provides an important tool for building more profitable and sustainable fisheries.

For further information, please visit:

pewtrusts.org/globalcatch

For the *Nature Communications* study, Pauly, his co-author Dirk Zeller, and hundreds of their colleagues around the world reviewed catch and related data from more than 200 countries and territories. Using a method called catch reconstruction, they compared official data submitted to the UN Food and Agriculture Organization (FAO) with estimates obtained from a broad range of sources, including academic literature, industrial fishing statistics, local fisheries experts, fisheries law enforcement, human population, and other records such as documentation of fish catch by tourists.

"This groundbreaking study confirms that we are taking far more fish from our oceans than the official data suggest," said Joshua S. Reichert, executive vice president and head of environment initiatives for Pew. "It's no longer acceptable to mark down artisanal, subsistence, or bycatch catch data as a zero in the official record books.

"These new estimates provide countries with more accurate assessments of catch levels than we have ever had," said Reichert, "along with a far more nuanced portrait of the amount of fish that are being removed from the world's oceans each year."

"Data are integral to maintaining global fisheries," said Raechel Waters, senior program officer for ocean health for Vulcan Inc. "Without an accurate understanding of fish catch, we risk underreporting or misreporting, which can handicap countries in their efforts to implement effective fisheries policy and management measures.

"This is particularly important for countries that do not have the resources to conduct comprehensive fishery assessments," said Waters.

Video <https://youtu.be/YRtqt4CCe7s>

The Sea Around Us is a research initiative at The University of British Columbia that assesses the impact of fisheries on the marine ecosystems of the world, and offers mitigating solutions to a range of stakeholders. The project was initiated in

collaboration with The Pew Charitable Trusts in 1999, and in 2014, the Sea Around Us also began a collaboration

with Vulcan Inc to provide African and Asian countries with more accurate and comprehensive fisheries data.



Recipe: Smoked Trout Spread

By Mayo Clinic Staff

Dietitian's tip:

An elegant party appetizer, this easy-to-prepare spread can be made up to a week in advance and kept tightly covered in the refrigerator. Serve it on whole-grain crackers or thin slices of plain or toasted baguette.

Serves 12

Ingredients

- 1/4 pound smoked trout fillet, skinned and broken into pieces
- 1/2 cup 1 percent low-fat cottage cheese
- 1/4 cup coarsely chopped red onion
- 2 teaspoons fresh lemon juice
- 1 teaspoon hot pepper sauce
- 1/2 teaspoon Worcestershire sauce
- 1 celery stalk, diced

Directions

In a blender or food processor, combine the trout, cottage cheese, red onion, lemon juice, hot pepper sauce and Worcestershire. Process until smooth, stopping to scrape down the sides of the bowl as needed. Fold in the diced celery. Cover and refrigerate until just before serving. Makes 12 tablespoons.

Nutritional analysis per serving

Serving size :1 tablespoon

Total fat 1 g
Calories 26
Protein 4 g
Cholesterol 14 mg
Total carbohydrate 1 g

Dietary fiber 0 mg
Monounsaturated fat 0 mg
Saturated fat 0 mg
Sodium 234 mg

This recipe is one of 150 recipes collected in "The New Mayo Clinic Cookbook," published by Mayo Clinic Health Information and Oxmoor House, and winner of the 2005 James Beard award.

Source: <http://www.mayoclinic.org/healthy-lifestyle/recipes/smoked-trout-spread/rcp-20049911>