



PLANETARY HEALTH WEEKLY

BRINGING YOU CURRENT NEWS ON GLOBAL HEALTH & ECOLOGICAL WELLNESS

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PORTUGAL MAY BE WINNING THE BATTLE AGAINST DRUG ABUSE THROUGH DECRIMINALISATION

Decades ago, the United States and Portugal both struggled with illicit drugs and took decisive action, in diametrically opposite directions. Portugal undertook a monumental experiment; it decriminalised the use of all drugs in 2001, even heroin and cocaine, and unleashed a major public health campaign to tackle addiction. Ever since, in Portugal, drug addiction has been treated more as a medical challenge than as a criminal justice issue. Portugal may be winning the war on drugs, by ending it. Today, the Health Ministry estimates that only about 25,000 Portuguese use heroin, down from 100,000 when the policy began. The number of Portuguese dying from overdoses plunged more than 85%, before rising a bit in the aftermath of the European economic crisis of recent years. Even so, Portugal's drug mortality rate is the lowest in Western Europe, one-tenth the rate of Britain or Denmark, and about one-fiftieth of the latest number in the U.S.

[Read More on Independent](#)



SCIENTISTS MAPPING GREENLAND HAVE PRODUCED SOME SURPRISING AND WORRYING RESULTS

Two new studies of Greenland, using sophisticated technologies and large scientific teams to pull together and process the data, have now gone further in taking the full measure of the island through that ever-so-basic scientific act: mapping. A comprehensive seabed mapping project, relying in part on new data from NASA's OMG ("Oceans Melting Greenland") mission, concludes that the Greenland ice sheet is far more exposed to the planet's warming oceans than previously known, and has more ice to give up than, until now, has been recognized. Still more significant is how much of that ice is vulnerable to warm water that reaches the bases of the ice sheet's deeper glaciers. The new research finds that "between 30 and 100% more glaciers are potentially exposed to (warm Atlantic water) than suggested by previous mapping, which represents 55% of the ice sheet's total drainage area."

[Read More on The Washington Post](#)



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High Fructose Corn Syrup Sales Spiked With Free Trade, and Made More People Fat

The North American Free Trade Agreement may have dramatically changed the Canadian diet by boosting consumption of high-fructose corn syrup. That boost arrested a years-long decline in total sugar consumption. And it shifted Canadians away from liquid sweeteners such as maltose and molasses toward high-fructose corn syrup, a sweetener that has been linked to the obesity epidemic. The connection between free-trade agreements and health has not been well-studied. To date, most research on globalization and nutrition has examined the effects of foreign direct investment. Obesity rates increased from 14.8% in 1998 to 25% in 2017. According to Canada's national statistics agency, 14.2 million people, roughly 38% of all Canadians are currently obese, and almost another 30% overweight.

[Read More on The Washington Post](#)

WHO Launches New Leadership and Priorities

WHO's Director-General, Dr. Tedros, launched his new cabinet to widespread acclaim. His mix of deputy and assistant director-generals is made up of nine women (two-thirds of his leadership team) with a geographical spread across 14 countries. India, Brazil, Saudi Arabia, South Africa, and Barbados are all newly represented. The announcement also translated Tedros's verbal promises into structural commitments. New priorities include Universal Health Coverage, climate change, and access to medicines. Now it's all about WHO's actions. A special session of the Executive Board will be convened in November to agree a future global programme of work for the agency. Internally, the director-general has signalled to staff that he wants urgent and profound organisational change. Reports suggest that he is likely to appoint a transformation czar and hire McKinsey consultants to manage the change. The goal of transformational change is good. But it might be more practical for WHO to deliver on a limited number of tangible and feasible objectives rather than speaking in terms of broad generalities and aspirations. Dr. Tedros and his team will be judged on specific and measurable successes, such as pandemic protection and stronger health systems.

[Read More on The Lancet](#)



Ebola's Legacy: Children With Cataracts

Cataracts usually afflict the old, not the young, but doctors have been shocked to find them in Ebola survivors as young as five years old. And for reasons that no one understands, some of those children have the toughest, thickest cataracts that eye surgeons have encountered, with scarring deep inside the eye. Eye diseases from the Ebola epidemic in West Africa from 2013 to 2016, have become a dreaded complication.

[Read More on The New York Times](#)

HIV Infection, Even With Antiretroviral Therapy, Appears to Damage a Growing Child's Brain

Although advances in HIV therapy have enabled millions of people to live longer and healthier lives, the treatment of HIV-positive infants and children remains complex. Research finds ongoing disruptions in white matter development in seven year old HIV positive children who started antiretroviral treatment by the age of 18 months. Researchers are working to better understand how HIV infection affects children's development, specifically their neurodevelopment.

[Read More on Science Daily](#)



Oxford Aims to be World's First Zero-Emissions City

The college town of Oxford, England, is poised to become the first municipality in the United Kingdom to ban gasoline and diesel-fueled cars from its city center. A proposal headed to the Oxford City Council has four stages that would culminate in a city free of vehicular emissions by 2035. Initially, the city hopes to ban gas and diesel cars, taxis, and buses from six streets in the college town's historical center by 2020. Every five years after that, the proposal suggests widening the size of the area where gas and diesel vehicles are banned. Councils for both the city of Oxford and its county will begin a six-week comment period to gauge the public opinion. Over the last decade, Oxford says it has reduced NO2 levels by nearly 37 percent, but council member John Tanner told *The Telegraph* that a ban is "urgently needed." Oxford itself has a long history with automobiles; it's where Mini builds its Cooper hatchbacks and convertibles, but the city is putting a major emphasis on bicycles and electric vehicles.

[Read More on Green Car Reports](#)

Ahead of France, Paris to Phase Out Internal Combustion Engines by 2030

[Read More on Green Car Reports](#)

Some Marine Species More Vulnerable to Climate Change Than Others

Certain marine species will fare much worse than others as they become more vulnerable to the effects of climate change. After analyzing the biological characteristics of 1,074 marine fish and shellfish, a study identified 294 species that are most at-risk due to climate change by 2050. Species most at-risk include the Eastern Australian salmon, yellowbar angelfish, toli shad, sohal surgeonfish and spotted grouper. "We hope that this study will highlight the marine species that are most in need of management and conservation actions under climate change," said William Cheung, associate professor in the Institute for the Oceans and Fisheries and director of science for the Nippon Foundation, UBC Nereus Program. As part of the study, UBC researchers created a database that examines the long-term vulnerability of marine species that are important to fisheries around the world. The factors that restrict whether fish or shellfish can adapt to climate change include their preferred temperature range, restrictions on their geographic range, how long it takes to reproduce, and specific habitat requirements such as needing kelp or coral reef to survive. In Canada, sockeye salmon, along with the alewife, Pacific bonito, and sharks such as the porbeagle and thresher, are identified as at risk to climate change impacts.

[Read More on Science Daily](#)



Flying Dutch Win World Solar Car Race In Australia

Dutch team "Nuon" won an epic 3,000-kilometre (1,860-mile) solar car race across Australia's outback for the third-straight year, continuing its dominance of an innovative contest showcasing new vehicle technology. The World Solar Challenge, first run in 1987 and last held in 2015, began in the northern city of Darwin, with 41 competing cars heading to the final destination of Adelaide in South Australia. Cheers and chants of "Nuna" roared from the large Dutch contingent as the "Nuna 9" car, travelling at an average speed of 81.2 kilometres per hour (55.5 mph), crossed the finish line mid-afternoon. The US' University of Michigan "Novum" finished just under two hours behind in second place ahead of Belgium's Punch Powertrain, which completed the race half an hour later. The event has become one of the world's foremost innovation challenges with teams looking to demonstrate designs that could one day lead to commercially available solar-powered vehicles for passengers. The win is the seventh for Nuon, with their car overcoming cloudy skies as they took the lead early and stayed ahead in the elite Challenger class, which features slick, single seat aerodynamic vehicles built for sustained endurance and total energy efficiency.

[Read More on Solar Daily](#)



Tropical Forests Used to Protect Us From Climate Change. Now, Scientists Say, They're Making it Worse Through Deforestation

A study presents troubling news about the enormous forests of the planet's tropical midsection, suggesting that they are releasing hundreds of millions of tons of carbon to the atmosphere, rather than storing it in the trunks of trees and other vegetation. The results contradict prior work in suggesting that these forests, including the Amazon rain forest but also huge tropical forests in Indonesia, Congo and elsewhere, have become another net addition to the climate change problem. However, the accounting also implies that if the current losses could be reversed, the forests could also rapidly transform into a powerful climate change solution. "The losses due to deforestation and degradation are actually emitting more CO2 to the atmosphere, compared with how much the existing forest is able to absorb," said Alessandro Baccini, the lead author of the study and a researcher at the Woods Hole Research Center.

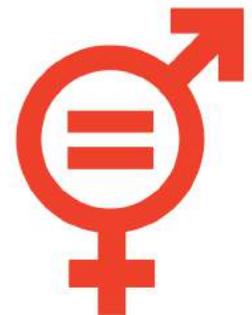
[Read More on The Washington Post](#)

SPOTLIGHT ON POLICY: Chart of the Day: What Policy Makers Don't Know About the Data They Need to Achieve Gender Equality By 2030

At the heart of the effort behind the Equal Measures 2030 survey is a desire to bring data and information to the fore; to ensure that the rights of women and girls are part of the vocabulary a common understanding, based on relevant, accurate and smart data is essential. Aside from being a standalone Sustainable Development Goal (SDG), gender equality issues also cut across all 17 SDGs, and impacts all aspects of a girl or a woman's life. At the practical, policy making level, this means that, every day, decision makers deal with issues that affect women and girls, no matter what ministry or agency they work for. One of the key themes discussed is the need to go beyond "roadmaps and good ideas", as Katja Iversen, CEO of Women Deliver noted. To further illustrate the disconnect between policy makers' understanding of key issues affecting women and the reality of how these issues play out in their country, the survey also gauges the accuracy of policy makers' estimates of the statistics around these key issues.

[Read More on UNDISPATCH](#)

5 GENDER EQUALITY



SPOTLIGHT ON INDIGENOUS HEALTH: Outrage, Calls For Health Study After Chemical Valley Spills Investigation in Sarnia, Ontario

A chorus of outraged Ontarians, ranging from the province's environment watchdog to the First Nations community living in the shadows of industrial smokestacks, called for a health study in the aftermath of an investigation revealing a pattern of potentially dangerous leaks in Sarnia's Chemical Valley. Ontario environmental commissioner Dianne Saxe said the situation in the area, home to Canada's highest concentration of petrochemical plants, is "shameful." "It is clear to me that this situation is outrageous and it needs immediate attention," Saxe said, adding that there needs to be better air monitoring by industry and the province. "First Nations communities disproportionately bear the burden of pollution across Ontario and that needs to change."

[Read More on The Star](#)



QUOTE OF THE WEEK

Speaking about the mercury poisoning of the Wabigoon River and the people of Grassy Narrows First Nation and nearby Whitedog First Nation in NW Ontario since the 1960s:

“I have never seen a case of such gross neglect. I am embarrassed as a Canadian that this ever happened and I can’t understand how people for 50 years sat in that environment office knowing this was going on as a minister and simply didn't do anything about it.”

Minister Glen Murray, Ontario Environment and Climate Change

EVENTSTABLE

DATE	CONFERENCE	LOCATION	REGISTER
Nov 13-17	4th Global Forum on Human Resources for Health: Building the Health Workforce of the Future	Dublin Ireland	http://hrhforum2017.ie/
Nov 22	Preventative, Proactive and Preparatory Ethics: Avoiding Pitfalls in Global Health Research	Montreal Quebec	https://mail.google.com/mail/ca/u/0/#inbox/15e726e2c34d0255
Apr 28-29	PEGASUS Conference	Toronto Canada	https://www.pegasusconference.ca/
May 8-11	2018 International Congress on Integrative Medicine and Health	Maryland Baltimore	Abstracts accepted until October 11, 2017



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HIGH PRICED MEDICINES AND LACK OF NEEDS DRIVEN INNOVATION: A GLOBAL CRISIS THAT FUELS INEQUALITY



On September 14, 2016, the UN Secretary General’s High Level Panel on Access to Medicines publicly released its final report entitled ‘Promoting Innovation and access to health technologies’.

One year after the release of the landmark report and building upon Oxfam’s September 2016 assessment, this paper provides an update on where the HLP report and its recommendations stand. It assesses the level of implementation by countries and institutions, especially the UN and the World Health Organization, and recommends ways to use the report to improve both innovation and access to medicines.

[Download and Read More on Oxfam International](#)



THE WORLD'S SOARING CO₂ LEVELS VISUALIZED AS SKYSCRAPERS



If you want an unusual but punchy telling of the world's explosion of climate-warping gases, look no further than this visualization of CO₂ levels over the past centuries soaring like skyscrapers into space.

"A Brief History of CO₂ Emissions" portrays the cumulative amount of this common greenhouse gas that humans have produced since the mid-1700s. It also projects to the end of the 21st century to show what might happen if the world disregards the Paris Agreement, an ambitious effort to limit warming that 200 countries signed onto in 2015. At this point, the CO₂-plagued atmosphere could see jumps in average temperature as high as 6 to 9 degrees Fahrenheit, the animation's narrator warns, displaying a model of Earth looking less like planet than porcupine.

"We wanted to show where and when CO₂ was emitted in the last 250 years, and might be emitted in the coming 80 years if no climate action is taken," emails Boris Mueller, a creator of the viz along with designer Julian Braun and others at Germany's University of Applied Sciences Potsdam and the Potsdam Institute for Climate Impact Research. "By visualizing the global distribution and the local amount of cumulated CO₂, we were able to create a strong image that demonstrates very clearly the dominant CO₂-emitting regions and time spans."

The visualization begins with a small, white lump growing on London around 1760, the start of the Industrial Revolution. More white dots quickly appear throughout Europe, rising prominently in Paris and Brussels in the mid-1800s, then throughout Asia and the US, where in the early 1900s emissions skyrocket in the New York region, Chicago, and Southern California. By the time the present day rolls around, the world looks like home to the biggest construction project in existence, with spires that'd put the Burj Khalifa to shame ascending in the US, China, and Europe, currently the worst emitters in terms of volume of CO₂.

[Read More on The Wired](#)



SENSIBLE BRAKING SAVES MORE GAS THAN DRIVERS THINK



A new study has quantified the impact speeding and slamming on the brakes has on fuel economy and consumption. Aggressive behavior behind the wheel can lower gas mileage in light-duty vehicles, which can equate to losing about \$0.25 to \$1 per gallon.

"Our findings added credence to the idea that an aggressive driving style does affect fuel economy probably more than people think," said ORNL's John Thomas, who led the study published by engineering professional organization SAE International. To address this complex topic, ORNL researchers examined several previous studies, developed a new vehicle energy model and applied it to two similar mid-sized sedans: a hybrid electric vehicle and a conventional gasoline vehicle.

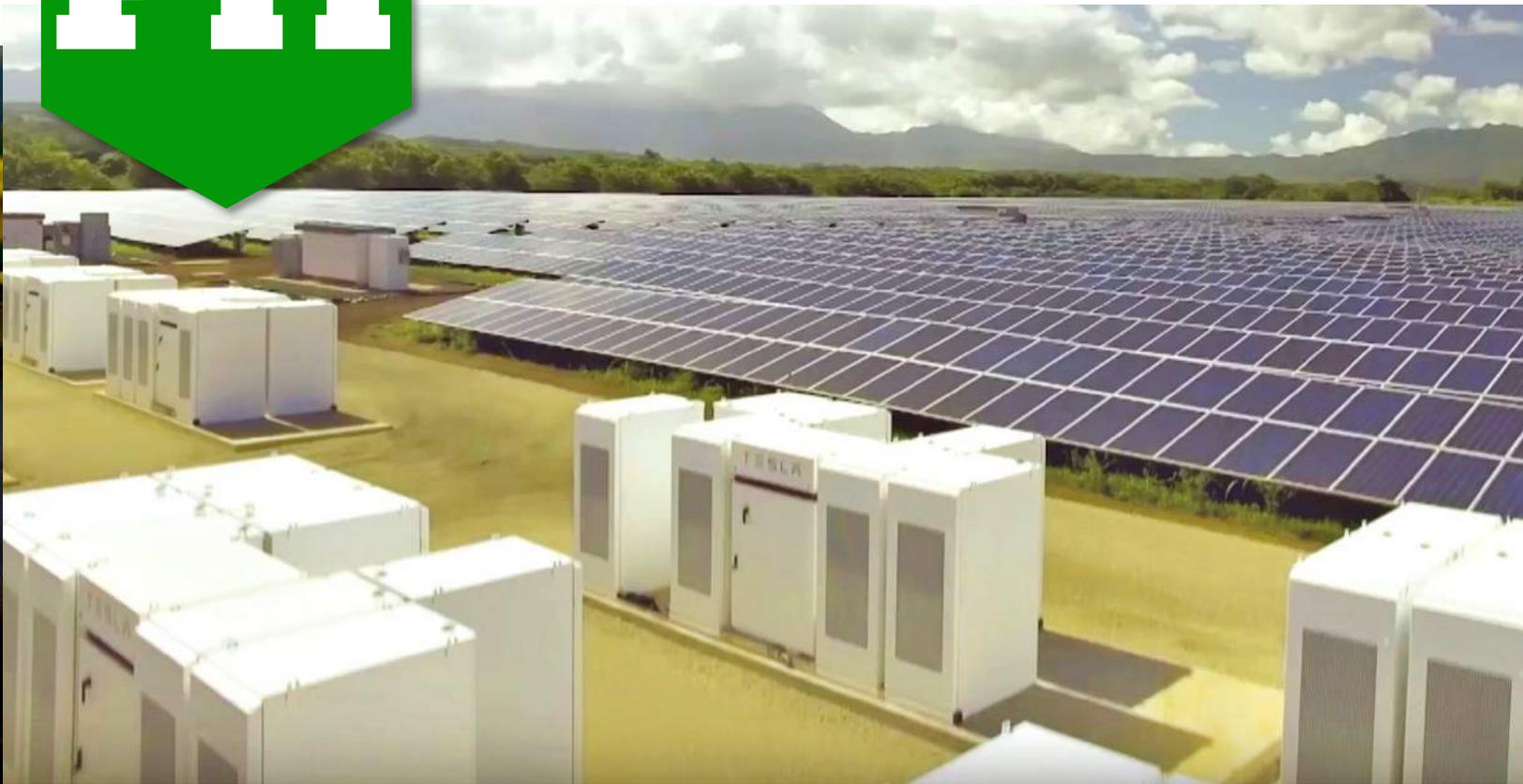
The researchers ran the two test vehicles through driving experiments at the lab's National Transportation Research Center to compare the differences in fuel consumption. In particular, they evaluated the HEV's limitations when recapturing energy to replenish the battery during different levels of hard braking.

The results confirmed a large dataset of gas mileage values self-reported by drivers on the government maintained fuelconomy.gov, which helps consumers make informed fuel economy choices. This dataset also implied that HEVs are more sensitive to driving style than conventional gasoline vehicles, although HEVs almost always achieve much better fuel economy. The study's findings appear on the website -- which is maintained by ORNL for DOE's Office of Energy Efficiency and Renewable Energy with data provided by the Environmental Protection Agency, along with other simple fuel-saving measures such as obeying posted speed limits, avoiding excessive idling or carrying too much weight, and using cruise control.

[Read More on Science Daily](#)



TESLA'S SOLAR AND BATTERY PROJECT IN HAWAII: WE DO THE MATH



Tesla's summer announcement of the world's biggest battery-storage system in South Australia characteristically kept key details confidential. Fortunately, while mystery and mystique still shroud that project, more can be unearthed or inferred for Tesla's solar panel and battery energy-storage deployment in Kauai, Hawaii, which came online earlier this year. In fact, there's now enough information that, to paraphrase Elon Musk, we can do the math. Inspiring math it is, too.

While the big story is that Tesla's solution is cheaper than diesel, the bigger story is that it's cheaper despite only using two-thirds of the solar panels' actual production and two-thirds of the batteries' actual capacity. Tesla's Kauai project comprises 55,000 solar panels capable of delivering 17 megawatts of peak direct-current power and 52 megawatt-hours of lithium ion battery storage in the form of 272 Powerpack 2s on a 44-acre site. That's a bit bigger than Buckingham Palace (40 acres) and a bit less than half the size of the Vatican (110 acres). Tesla has contracted with the Kauai Island Utility Cooperative to provide up to 52 MWh of electricity to the grid every evening. The utility has agreed to pay a flat rate of 13.9 cents/kWh for this stored sunlight, about a 10-percent discount to the price they pay for power from diesel generators. As for why Tesla can't sell electricity directly to the grid during the day, Kauai's grid simply can't absorb any more solar: at midday, photovoltaics can already produce upwards of 90 percent of the island's needs.

That said, the absolute energy capacity of each Powerwall 2 is certainly higher. The National Renewable Energy Laboratory estimated that the first generation Powerwall, with a nominal capacity of 7 kwh, was a 10-kwh battery designed to cycle to 70 percent of discharge.

[Read More on Green Car Reports](#)



ANTARCTICA: WIND FOUND TO SUBLIMATE SNOWFLAKES



Researchers have observed and characterized a weather process that was not previously known to occur in Antarctica's coastal regions. It turns out that the katabatic winds that blow from the interior to the margins of the continent reduce the amount of precipitation (mainly snowfall), which is a key factor in the formation of the ice cap. By forming a very dry layer of air in the first kilometer or so of atmosphere, the winds turn the falling snowflakes during their fall directly from their solid state into water vapor in a process known as sublimation.

The authors of this study used new data collected at the coast of Adélie Land over a yearlong period, together with simulations carried out using atmospheric models. They estimated that, across the continent, cumulative precipitation near the ground was 17% lower than its maximum level higher in altitude. Their measurements indicate that precipitation may be as much as 35% lower in the region around East Antarctica. The researchers believe that this phenomenon could be further aggravated by climate change. Their study has been published in *Proceedings of the National Academy of Sciences*.

The researchers then found evidence of katabatic winds capable of triggering sublimation in most of the data collected by radiosonde at permanent research stations across East Antarctica. Using a series of numerical atmospheric models and comparing the results with the measurements taken in Adélie Land, they were able to quantify the impact over the entire continent. And they discovered that the process of sublimation has a huge influence on the accumulation of precipitation.

Data on the ice sheet's mass balance is essential for predicting how sea levels will rise or fall. Researchers generally expect global warming to result in higher levels of precipitation in Antarctica. But the impact of the katabatic winds on precipitation could challenge these forecasts and make them far more complicated. The team therefore plans to continue analyzing the continent.

[Read More on Science Daily](#)



WHAT YOU SHOULD KNOW BEFORE YOUR STUDY ABROAD



In advance of Global Learning Opportunities Week, we asked Ryerson International about how to thrive during an international education experience.

Research, research, research

“We’re so lucky in this age that there are so many resources available that you can really choose the greatest destination for you and your needs, and find out a lot about it before you go,” said Laura Morello. One resource that students can use is the external, RI Student Blog, where students share personal stories of their trips, and all it takes to learn about the full range of countries and universities is a simple internet search. “I would recommend looking at not only the city, but also different travel opportunities you have from that location,” added Morello. “Even if you’re not located in a big city, you may have great transit to do weekend travel.”

Take the time to explore

During reading week on the North Island of New Zealand, Saura Haggart-Smith (now a student exchange intern at RI) took the opportunity to discover everything the country had to offer. “I took a road trip with one of my friends on the South Island,” she remembered. “We had this giant RV on the opposite side of the road. We started at the bottom of the island and worked our way up, and got to see some amazing sights. We got to do a bus tour and a little cruise, and just seeing all the different small towns and the mountains and the millions of sheep was really, really fun.”

You have support

RI hosts events for pre-departure and re-entry support, and some faculties have their own informational websites and exchange co-ordinators for one-on-one advice. “We host an annual re-entry event where we go through different ways that students can adjust to returning, as well as utilize their experience for future career success,” said Morello. “You have this wonderful experience, but how can you actually use it for the future?”

[Read More on Ryerson News](#)

Basimenye Nhlema, Drs. Paul Farmer, James Orbinski and Sharkira Choonara
Opening Session
Canadian Conference on Global Health
Ottawa, October 29, 2017



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