



# PLANETARY HEALTH WEEKLY

BRINGING YOU CURRENT NEWS ON GLOBAL HEALTH & ECOLOGICAL WELLNESS

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## THE POST-ANTIBIOTIC ERA IS HERE. NOW WHAT?

Bacterial resistance to antibiotics is both natural and inevitable. By the luck of the draw, a few bacteria will have genes that protect them from drugs, and they'll pass those genes around, not just to their progeny, but sometimes to their neighbors too. Now, computational epidemiologists are finally getting the data and processing to model that phenomenon. But no one's using these tools to predict the end of the antibiotic era, because it's already here. Instead, they're focusing their efforts on understanding how soon resistant bacteria could be in the majority, and what, if anything, doctors can do to stop them. "We say that because pan-resistant bacteria are now here" says Jean Patel, who leads the CDC's Antibiotic Strategy & Coordination Unit. "Folks are dying simply because there is no antibiotic available to treat their infection, infections that not too long ago were easily treatable." For public health officials like Patel, that case marks the end of an era, and the beginning of a new one. Now, the question is: How fast is that kind of pan-resistance going to spread? "When does it get to the point where it's more common to have an infection that can't be treated with antibiotics than one that can?" says Patel. "That's going to be a very hard thing to predict."

[Read More on The Wired](#)



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Backpage: St. Paul's Millennium Medical College

Ryerson University Faculty of Community

## DEBUNKING THE TOP 10 CLIMATE CHANGE MYTHS

There are a number of myths that opponents of climate action use to make their case. These attacks on climate science are repeated often, despite their inaccuracy. Here's some rebuttals to the top 10 climate myths. "Warming has paused!" This is one of the most commonly repeated lines, despite the half-dozen studies disproving it. Rather than accepting the steady increase in globally averaged annual temperature across recent decades, the "pause" argument uses the exceptionally warm El Niño year of 1998 as a starting point and draws a trend line to the present, claiming warming has stopped. It ignores how natural cycles like El Niño and La Niña events impact surface temperatures; it purposefully distracts from long-term trends; and it ignores the important role of the ocean, which acts as a heat sink. The "warming has paused" claim is also based on cherry picked temperature measurements taken only from the atmosphere, as opposed to both the ocean and atmosphere.

[Read More on Climate Nexus](#)

## Characteristics of Science Denial



Fake Debate



Logical Fallacies



Impossible Standards



Cherry Picking



Conspiracy Theories



## A Systematic Analysis For the Global Burden of Disease Study 2016

Detailed assessments of mortality patterns, particularly age-specific mortality, represent a crucial input that enables health systems to target interventions to specific populations. Understanding how all-cause mortality has changed with respect to development status can identify exemplars for best practice. To accomplish this, the Global Burden of Diseases, Injuries, and Risk Factors Study 2016 (GBD 2016) estimated age-specific and sex-specific all-cause mortality between 1970 and 2016 for 195 countries and territories and at the subnational level for the five countries with a population greater than 200 million. Completeness in the registration of deaths increased from 28% in 1970 to a peak of 45% in 2013; completeness was lower after 2013 because of lags in reporting. Total deaths in children younger than 5 years decreased from 1970 to 2016. By contrast, numbers of adult deaths increased in each 5-year age bracket above the age of 25 years.

[Read More on The Lancet](#)

## Drone Transport of Chemistry and Hematology Samples Over Long Distances

This report addresses the stability of biological samples in prolonged drone flights in Arizona by obtaining 84 paired chemistry and hematology samples from 21 adult volunteers in a single phlebotomy event. Half of the samples were held stationary, while the other samples were flown for 3 hours (258 km) in a custom active cooling box mounted on the drone. After the flight, 19 chemistry and hematology tests were performed. Seventeen analytes had small or no bias, but glucose and potassium in flown samples showed an 8% and 6.2% bias, respectively. The flown samples (mean, 24.8°C) were a mean of 2.5°C cooler than the stationary samples (mean, 27.3°C) during transportation to the flight field as well as during the flight. The changes in glucose and potassium are consistent with the magnitude and duration of the temperature difference between the flown and stationary samples. Long drone flights of biological samples are feasible but require stringent environmental controls to ensure consistent results.

[Read More on American Journal of Clinical Pathology](#)



## Americans Die Younger Despite Spending the Most on Health Care

Typically, the more a developed country spends on health care, the longer its people live. The U.S., which spends the most on health care, bucks that trend. Compared to the 35 countries in the Organization for Economic Cooperation and Development, which promotes policies to improve social and economic well-being, the U.S. life expectancy of 78.8 years ranks 27th. It has the fourth highest infant mortality rate in the OECD, the sixth highest maternal mortality rate and the ninth highest likelihood of dying at a younger age from a host of ailments, including cardiovascular disease and cancer. The U.S. is the most obese country in the OECD, leads in drug-related deaths and ranks 33rd in prevalence of diabetes. Yet 88 percent of Americans say they are in good or very good health, according to OECD statistics. One big reason U.S. health care costs are so high: pharmaceutical spending. The U.S. spends more per capita on prescription medicines and over-the-counter products than any other country in the OECD.

[Read More on Bloomberg](#)



## There's No Room For Doubt: Pesticides Are Killing Off Bees and Scientists Want Canada to Ban Them

Lisa Gue, a senior researcher with the David Suzuki Foundation, said Canada has to catch up to Europe and ban the use of all neonics. A group of international scientists tried to convince parliamentarians there is no longer any doubt that common agricultural pesticides are toxic chemicals which are killing off honey bees. After beekeepers started sounding alarm bells about mass deaths of honeybees, scientists began to zero in on neonics as one of the culprits. Bees were consuming pollen contaminated with neonics as well as flying through chemical-laden clouds of dust from farm fields. But bees were only the most “visible part of the problem” because beekeeping is a big business and without bees, billions of dollars of farm crops would go unpollinated. Health Canada’s Pest Management Regulatory Agency has been studying neonics since 2012 and last fall came to a preliminary conclusion that one of them, imidacloprid, should be banned from use almost entirely after finding it was building up to toxic levels in surface and groundwater and killing aquatic insects that are a source of food for fish and birds.

[Read More on National Post](#)

## Urbanisation-Led Sand Shortages Fuelling Violent Conflict and Environmental Disasters

The past century has seen a 23-fold increase in the volume of natural resources used for buildings and transport infrastructure, and sand and gravel have accounted for the vast majority of these materials (79 per cent in 2010). In 2010, 11 billion tonnes were mined, with the Asia-Pacific region having the highest extraction rates. But because sand is typically treated as a common-pool resource (as it is costly to regulate access), it has led to a “tragedy of the commons”-type situation where it is being “selfishly” extracted without considering long-term consequences, leading to degradation and overexploitation. Rapid urbanisation was the main driver of increasing sand use as it is a key ingredient in building materials like concrete, asphalt and glass. Urban development is thus putting more and more strain on limited sand deposits, causing conflicts around the world. The environmental implications are sobering, with sand extraction from rivers, beaches and sea floors affecting ecosystem integrity, placing “enormous burdens” on habitats, migratory pathways, ecological communities and food webs.

[Read More on The Fifth Estate](#)



## Four Reasons Electric Cars Could Take Over the Market: Bernstein

There are four big reasons to be bullish on electric vehicles. Government support, improving cost economics, technological development, and increasing acceptance of the powertrain by both customers and automakers all suggest the market is nearing an inflection point with the technology, said Bernstein analyst Toni Sacconaghi. Countries are beginning to make pledges to phase out internal combustion cars entirely in the next few decades. Notably, the United Kingdom recently said it will ban the sale of all new gasoline and diesel cars starting in 2040. France has as well. Those countries account for 6 percent of all global auto sales, Sacconaghi said. battery electrics have certain technical advantages over internal combustion engines for many customers. For example, the ability to conveniently charge cars allows drivers to avoid a trip to the gas station. Battery electric motors also offer instant torque, which makes for a different driving experience. They still have disadvantages, such as longer charging time and lower range. But the advantages will remain constant and the disadvantages will diminish.

[Read More on CNBC](#)



## American Association for Cancer Progress Report

The AACR Cancer Progress Report is published by the American Association for Cancer Research (AACR). The mission of the AACR is to prevent and cure cancer through research, education, communication, and collaboration. Basic research is the foundation of new and better approaches to cancer prevention, detection, diagnosis, and treatment. With the personal and economic burden of cancer predicted to increase substantially in the next few decades, it is clear that the research that powers progress against cancer is a vital national investment. It is estimated that about half of cancer cases worldwide are attributable to preventable causes. We must identify new strategies to disseminate and implement our current knowledge of cancer prevention, in particular among the segments of the population who experience cancer health disparities.

[Read Report on American Association for Cancer Research](#)

## SPOTLIGHT ON POLICY: Decades After Alcohol Ban, Iran Admits It Has a Problem

In recent years, Iran, where alcohol has been illegal since the 1979 revolution and is taboo for devout Muslims, has taken the first step and admitted that, like most other nations, it has an alcohol problem. Since 2015, when the Health Ministry ordered addiction treatment centers to care for alcoholics, dozens of private clinics and government institutions have opened help desks and special wards for alcoholics. The government has also allowed a large and growing network of Alcoholics Anonymous groups, modeled after those in the United States. The government is even running public campaigns warning Iranians not to drink and drive, something it never would have done in the past. The Iranian police still organize media events where bulldozers squash thousands of bottles and cans confiscated from smugglers. But in contrast to the past, when the official line was that there was no drinking problem because no one drank, they now provide officers with breathalyzers.

[Read More on New York Times](#)



## SPOTLIGHT ON INDIGENOUS HEALTH: Justin Trudeau's UN Speech Outlines Canada's 'Humiliation' of Indigenous Peoples

Prime Minister Justin Trudeau used the brightest stage in international politics to shine a light on the darkest corners of Canada's story, devoting a speech at the United Nations General Assembly to the plight of Canada's Indigenous peoples. He spoke of forced migration, broken treaty promises and family separations via residential schools. These left a devastating legacy on reserves to this day, in a country whose very existence, he said, came without the consent and participation of the Indigenous populations who lived there for millennia. He also described another way this intersects with international affairs. When Canada tries to raise concerns about events elsewhere in the world, other countries quickly throw the aboriginal situation back. But Trudeau's speech was also optimistic. It looked ahead at a series of solutions: better infrastructure on reserves, better housing, signing of the UN Declaration on Indigenous Peoples and the dismantling of the old Indian Affairs department.

[Read More on The Huffington Post](#)





## QUOTE OF THE WEEK

**“My message is simple; if you wish to provide medical advice in this country, then become a medical professional or please, butt out” when talking about vaccinations.**

**Irish Health Minister Simon Harris**

[Read More on The Times](#)



## EVENTSTABLE

DATE	CONFERENCE	LOCATION	REGISTER
Oct 11-14	The 48th Union World Conference on Lung Health: Accelerating Toward Elimination	Guadalajara Mexico	<a href="http://guadalajara.worldlunghealth.org/about-us/welcome">http://guadalajara.worldlunghealth.org/about-us/welcome</a>
Oct 12	Women Leaders in Global Health Conference	Stanford USA	<a href="https://www.wlghconference.org/">https://www.wlghconference.org/</a>
Oct 19-22	Planet In Focus Film Festival	Toronto Canada	<a href="http://planetinfocus.org/">http://planetinfocus.org/</a>
Oct 29-31	Canadian Conference for Global Health	Ottawa Canada	<a href="http://www.csih.org/en/events/canadian-conference-global-health">http://www.csih.org/en/events/canadian-conference-global-health</a>
Nov 13-17	4th Global Forum on Human Resources for Health: Building the Health Workforce of the Future	Dublin Ireland	<a href="http://hrhforum2017.ie/">http://hrhforum2017.ie/</a>
Nov 22	Preventative, Proactive and Preparatory Ethics: Avoiding Pitfalls in Global Health Research	Montreal Quebec	<a href="https://mail.google.com/mail/ca/u/0/#inbox/15e726e2c34d0255">https://mail.google.com/mail/ca/u/0/#inbox/15e726e2c34d0255</a>
May 8-11	2018 International Congress on Integrative Medicine and Health	Maryland Baltimore	Abstracts accepted until October 11, 2017



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## IRMA, HARVEY, JOSE, KATIA: THE COSTLIEST YEAR EVER?



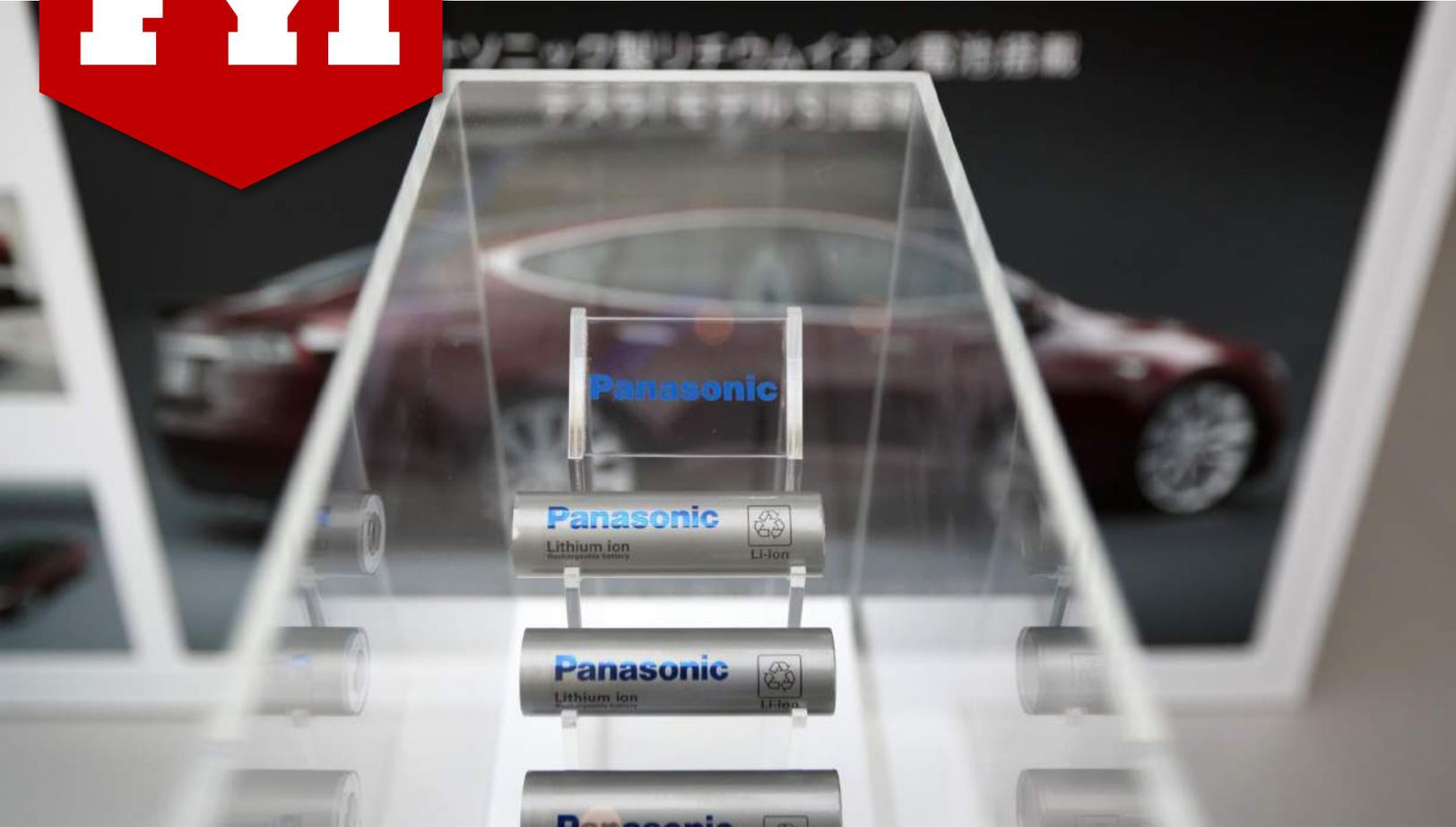
With costs still soaring from Hurricanes Harvey and Irma and the Caribbean still reeling, the full economic impact is unclear. As the list of catastrophic storms gets longer with Jose and Katia forming, disaster budgets are being tested like never before. For Harvey alone, risk-modeling company RMS estimated \$70 billion to \$90 billion in losses from wind, storm surge and flood damage, most of it in the Houston metropolitan area.

In the case of Hurricane Irma, Barclays Plc estimated insured losses at \$130 billion in a worst-case scenario earlier this week. That would put both storms among the world's most costly catastrophes since at least 1970.

[Visit Bloomberg to View Costliest Insured Losses](#)



# WE'RE GOING TO NEED MORE LITHIUM



Starting about two years ago, fears of a lithium shortage almost tripled prices for the metal, to more than \$20,000 a ton, in just 10 months. The cause was a spike in the market for electric vehicles, which were suddenly competing with laptops and smartphones for lithium ion batteries. Demand for the metal won't slacken anytime soon, on the contrary, electric car production is expected to increase more than thirtyfold by 2030, according to Bloomberg New Energy Finance.

Rest assured, Earth has the lithium. The next dozen years will drain less than 1 percent of the reserves in the ground, BNEF says. But battery makers are going to need more mines to support their production, and they'll have to build them much more quickly than anyone thought. By 2030, Tianqi Lithium, SQM, Albemarle, and FMC, the companies that dominate the business, will have to supply enough lithium to feed the equivalent of 35 plants the size of the Tesla Gigafactory now being built in Nevada, according to BNEF. The total investment in new mines, including some for other elements used in lithium ion batteries, will likely range from \$350 billion to \$750 billion, according to analysts at researcher Sanford C. Bernstein & Co.

Mining companies have promised to add 20 lithium production sites to the 16 currently operating, but the concern remains that they won't be finished in time to satisfy rising demand. And even if the companies struggle a bit to keep pace with demand, the global scramble may never be reflected in the sticker price of a Tesla or a MacBook Pro, says Edward Spencer, a senior consultant at London-based researcher CRU International Ltd. "The cost of lithium is absolutely nothing compared to the overall price of the vehicle," Spencer says. Lithium is, as Tesla Inc. co-founder Elon Musk has called it, "the salt on the salad." He'll just need to make sure he's got a steady supply.

[Read More on Bloomberg](#)



## CEREAL GIANT KELLOGG COMPANY JOINS GROUP COMMITTED TO RENEWABLE POWER



Four more big businesses have joined the RE100, a global initiative comprising some of the world's biggest companies, all committed to 100 percent renewable power. The Kellogg Company, The Estée Lauder Companies, DBS Bank Ltd and Cliff Bar & Company were the latest to join the collective, The Climate Group announced on Wednesday. The Climate Group, along with not-for-profit charity CDP, is behind the initiative.

"By joining our campaigns, corporates like The Estée Lauder Companies, Kellogg, DBS Bank and Clif Bar are demonstrating the highest level of commitment to climate action," Helen Clarkson, CEO of The Climate Group, said in a statement. Clarkson went on to add that renewable power made business sense and that corporate leadership was key to delivering on the Paris Agreement. For its part, Kellogg's goal is to achieve 100 percent renewable electricity by the year 2050, and it wants to slash its direct greenhouse gas emissions by 65 percent.

"As one of the first ten companies to have approved science-based greenhouse gas emissions targets in 2015, we've already invested in energy efficiency and low carbon technologies," Diane Holdorf, the Kellogg Company's chief sustainability officer, said in a statement.

"Going 100 percent renewable is the obvious next step; lowering business risk, generating financial savings, and helping other companies make the switch as well," Holdorf added.

[Read More on CNBC](#)



## WESTERN AUSTRALIA BANS PLASTIC BAGS, AS ALL EYES TURN TO NSW



The Western Australian government has confirmed it will ban plastic bags from 1 July 2018, bringing it into line with commitments from Queensland, South Australia, Tasmania, the Northern Territory and the ACT. The government said it was acting because while plastic bags made up a small proportion of solid waste and litter, they could seriously harm marine wildlife and birds.

“Studies have shown plastic pollution has a significant impact on our environment – seabirds have been found with their digestive tracts packed with plastic fragments and turtles can confuse plastic bags with jellyfish,” WA environment minister Stephen Dawson said. Premier Mark McGowan said that while the retail industry and community had been working to address the problem, the number of plastic bags used had continued to grow. “Therefore, it’s time for the state government to act, in the absence of a national approach,” he said.

The government’s actions are in stark contrast to its Liberal predecessor, which blocked the City of Fremantle from implementing its own plastic bag ban. Queensland also announced its own plastic bag ban, including degradable and biodegradable bags. This leaves NSW and Victoria as the only states to yet implement a ban, though Victoria has signalled its intention to act. In contrast, NSW Premier Gladys Berejiklian told the Tweed Chamber of Commerce in July that she did not want to put a ban in place because 80 per cent of plastic bans would already be cut due to phaseouts announced by retailers Woolworths and Coles. “I don’t need to put a law in for something that’s already happening,” she said. However Total Environment Centre executive director Jeff Angel said her response was not good enough.

[Read More on The Fifth Estate](#)



## POLAND, EU EXECUTIVE CLASH IN TOP COURT OVER ANCIENT FOREST



The European Union executive asked the bloc's top court to fine Poland for violating a ban on logging in an ancient forest, but Warsaw said it was only trying to preserve unique woods. The row over the three-fold increase in timber production in the primeval Bialowieza forest is being closely followed by environmental groups but also feeds into a wider clash between the EU and its biggest eastern member. Brussels accuses Poland's nationalist and eurosceptic ruling party, Law and Justice (PiS), of undermining democratic standards, including weakening judicial independence.

The Commission says Poland has ignored an order by the Luxembourg-based European Court of Justice (ECJ) in July to immediately stop logging in the forest, a UNESCO World Heritage site and home to the largest herd of European bison and unique birds and insects. The halt was meant to prevent irreversible damage to the delicate ecosystem before a final ruling on whether the higher timber production in Bialowieza violates EU nature preservation laws, as the executive European Commission argues.

A Commission lawyer showed satellite pictures to prove Warsaw was violating the injunction, and said the Commission would ask the court to fine Poland. It had four days to file a formal request including the size of daily fines it deems justified. Poland's Environment Minister Jan Szyszko told the hearing the logging was only to save the forest from a major beetle outbreak and that it respected EU laws, taking place only in regular parts of the forest, not in the protected national park. He said taking out infected trees was an important public security measure because the weakened ones could fall on people picking mushrooms or berries in the woods.

Environmental group ClientEarth said in a statement that argument did not hold, adding that the case is the first time in EU history that a country has disobeyed an ECJ decision.

[Read More on Reuters](#)



# HERE I AM LEARNING TO INCLUDE INDIGENOUS KNOWLEDGE IN THE CLASSROOM



## *Learning from Indigenous Writers*

There is a new duty felt by Canadian teachers at all levels of our education system to make good on the Truth and Reconciliation Commission calls to action, creating both a critically important opportunity and an unease about our preparedness.

As summertime began to wane a few weeks back, I began my usual reflections about prepping for my university teaching responsibilities. Getting back into the classroom with my graduate students always carries a sense of excitement. Teaching is a deeply personal act for most of us. We bring who we are and what we care about, encountering students who have weighty hopes and dreams. It’s an awesome responsibility. But this year is different from others. There is a new duty felt by teachers at all levels of our education system to make good on the Truth and Reconciliation Commission (TRC) calls to action, creating both a critically important opportunity and an unease about our preparedness.

Nation-wide, there are increasing efforts on the part of many universities, colleges and schools to “Indigenize” our curriculum and to “decolonize” how we teach. Thankfully, many educators now understand our collective Canadian future depends on how effectively we reconcile ourselves to a past marred by the devastating reality of residential schools. It’s a past that still imposes deep unfairness for Indigenous peoples today. For my part, I have needed to find a way to make the process of understanding these past truths a personal journey.

One of the many new specialty hospital buildings arising at  
St. Paul's Hospital Millennium Medical College  
Addis Ababa, Ethiopia  
October 4, 2017



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