Severe flu brings medicine shortages, rising death toll in Calif.

By Soumya Karlamangla, Los Angeles Times

So many people have fallen sick with influenza in California that pharmacies have run out of flu medicines, emergency rooms are packed, and the death toll is rising higher than in previous years.

Health officials said Friday that 27 people younger than 65 have died of the flu in California since October, compared with three at the same time last year. Nationwide and in California, flu activity spiked sharply in late December and continues to grow.

The emergency room at UCLA Medical Center in Santa Monica typically treats about 140 patients a day, but at least one day this week had more than 200 patients – mostly because of the flu, said the ER's medical director, Wally Ghurabi.

Read the whole story

Calif. gas prices highest to start new year since 2014

By Todd R. Hansen, Daily Republic

California motorists entered the new year paying the most for gasoline since Father Time ushered in 2014.

Those prices, according to AAA, are expected to fall in coming weeks – maybe.

The first week of 2018 saw the average price in San Francisco as the highest in the state at $3.23, which is 33 cents higher than South Lake Tahoe, where the top price typically is paid.

Read the whole story

Road salt, other pollutants may disrupt circadian rhythms

By Jennifer Marie Hurley

Every winter, local governments across the United States apply millions of tons of road salt to keep streets navigable during snow and ice storms. Runoff from melting snow carries road salt into streams and lakes, and causes many bodies of water to have extraordinarily high salinity.

At Rensselaer Polytechnic Institute, my colleague Rick Relyea and his lab are working to quantify how increases in salinity affect ecosystems. Not surprisingly, they have found that high salinity has negative impacts on many species. They have also discovered that some species have the ability to cope with these increases in salinity.

But this ability comes at a price. In a recent study, Rick and I analyzed how a common species of zooplankton, Daphnia pulex, adapts to increasing levels of road salt. We found that this exposure affected an important biological rhythm: The circadian clock, which may govern Daphnia‘s feeding and predation avoidance behaviors. Since many fish prey on

Daphnia, this effect could have ripples throughout entire ecosystems. Our work also raises questions about whether salt, or other environmental pollutants, could have similar impacts on the human circadian clock.

Daily biological rhythms and the circadian clock

In studying how road salt affects aquatic ecosystems, the Relyea lab showed that Daphnia pulex can adapt to handle moderate exposures in as little as two and a half months. These levels ranged from 15 milligrams of chloride (a building block of salt) per liter of water to a high of 1,000 milligrams per liter – a level found in highly contaminated lakes in North America.

However, an organism's ability to adapt to something in its environment can also be accompanied by negative trade-offs. My lab's collaboration with Rick's began in an effort to identify these trade-offs in salt-adapted Daphnia.

In my lab, we study how our circadian rhythms allow us to keep track of time. We investigate how the molecules in our cells work together to tick like a clock. These circadian rhythms allow an organism to anticipate 24-hour oscillations in its environment, such as changes from light (daytime) to dark (nighttime), and are essential to an organism's fitness.

Rick and I hypothesized that adaptation to high salinity could disrupt Daphnia's circadian rhythms based on recent evidence showing that other environmental contaminants can disrupt circadian behavior. One important behavior in Daphnia that may be controlled by the circadian clock is the diel vertical migration – the largest daily biomass migration on Earth, which occurs in oceans, bays and lakes. Plankton and fish migrate down to deeper water during the day to avoid predators and sun damage, and back up toward the surface at night to feed.

Given what we know about circadian function, it would be

logical to assume that exposure to pollution would not affect an organism's circadian rhythms. While circadian clocks can incorporate environmental information to tell the time of day, they are heavily buffered against most environmental effects.

To understand the importance of this buffering, imagine that the timing of an organism's day length responded to environmental temperature. Heat speeds up molecular reactions, so on hot days the organism's 24-hour rhythm could become 20 hours, and on cold days it might become 28 hours. In essence, the organism would have a thermometer, not a clock.

Adaptation to pollution affects key circadian genes

To determine whether clock disruption is a trade-off to pollutant adaptation, we first had to establish that Daphnia is governed by a circadian clock. To do this, we identified genes in Daphnia that are similar to two genes, known as period and clock, in an organism that serves as a circadian model system: Drosophila melanogaster, the common fruit fly.

We tracked the levels of period and clock in Daphnia, keeping the organisms in constant darkness to ensure that a light stimulus did not affect these levels. Our data showed that the levels of period and clock varied over time with a 24-hour rhythm – a clear indication that Daphnia have a functional circadian clock.

We also tracked the same genes in populations of Daphnia that had adapted to increased salinity. Much to my surprise, we discovered that the daily variation of period and clock levels deteriorated directly with the level of salinity the Daphnia were adapted to. In other words, as Daphnia adapted to higher salinity levels, they showed less variation in the levels of period and clock over the day. This demonstrated that Daphnia's clock is indeed affected by pollutant exposure.

Daphnia and other plankton are among the most abundant organisms on Earth and play critical ecological roles.

We currently don’t understand what causes this effect, but the relationship between salinity levels and decreased variation in the levels of period and clock offers a clue. We know that exposure to pollutants causes Daphnia to undergo epigenetic regulation – chemical changes that affect the function of their genes, without altering their DNA. And epigenetic changes often show a gradual response, becoming more pronounced as the causal factor increases. Therefore, it is likely that high salinity is inducing chemical changes through these epigenetic mechanisms in Daphnia to suppress the function of its circadian clock.

The broad effects of circadian clock disruptions

We know that environmental conditions can affect what the clock regulates in many species. For example, changing the sugar that the fungus Neurospora crassa grows on changes which behaviors the clock regulates. But to our knowledge, this study is the first to show that genes of an organism’s core clock can be directly impacted by adapting to an environmental contaminant. Our finding suggests that just as the gears of a mechanical clock can rust over time, the circadian clock can be permanently impacted by environmental exposure.

This research has important implications. First, if Daphnia’s circadian clock regulates its participation in the diel vertical migration, then disrupting the clock could mean that Daphnia do not migrate in the water column. Daphnia are key consumers of algae and a food source for many fish, so disrupting their circadian rhythms could affect entire ecosystems.

Second, our findings indicate that environmental pollution may have broader effects on humans than previously understood. The genes and processes in Daphnia’s clock are very similar to those that regulate the clock in humans. Our circadian rhythms control genes that create cellular oscillations affecting cell function, division and growth, along with physiological

parameters such as body temperature and immune responses.

When these rhythms are disrupted in humans, we see increased rates of cancer, diabetes, obesity, heart disease, depression and many other diseases. Our work suggests that exposure to environmental pollutants may be depressing the function of human clocks, which could lead to increased rates of disease.

We are continuing our work by studying how the disruption of Daphnia's clock affects its participation in the diel vertical migration. We are also working to determine the underlying causes of these changes, to establish whether and how this could happen in the human brain. The impacts we have found in Daphnia show that even a simple substance such as salt can have extremely complex effects on living organisms.

Jennifer Marie Hurley is an assistant professor of biological sciences as Rensselaer Polytechnic Institute.

Comments sought on Stateline event center

The Tahoe Douglas Visitor's Authority and Tahoe Regional Planning Agency are seeking scoping comments on the proposed Tahoe South Events Center in Stateline.

The events center would be a publicly-owned assembly, event, and entertainment venue located on Highway 50 where the current parking lot of MontBleu is.

Edgewood Companies owns the parcels it would be built on.

TDVA will be responsible for the planning, construction, and eventual operation of the events center.

A subdivision of land consistent with TRPA policies is anticipated for the purpose of conveying the newly created parcel to TDVA. The newly created parcel will function completely independent from the Edgewood Companies parcels through the acquisition of utility and access easements necessary for the events center to operate as a standalone facility.

The events center is estimated to be a 88,420 square foot building.

Comments are due Feb. 5. For more info, contact Paul Nielsen at 530.318-6025 or pnielsen@trpa.org.

More info is available **online**.

Lukins rates affected by third party contamination

By Kathryn Reed

Lukins Brothers water customers are likely to have higher water bills in order to deal with contaminants in the groundwater that the company had nothing to do with.

If only it were as easy to get rid of the "stain" on South Lake Tahoe's groundwater as it is to dry clean a blouse.

It is PCE – tetrachloroethylene – a solvent used at the old Lake Tahoe Laundry Works at the Y that is blamed for polluting the aquifer and contaminating wells used by Lukins, South Tahoe Public Utility District and Tahoe Keys Water District.

While Lahontan Regional Water Quality Control Board is tasked

with determining who is responsible for remediation, what that would then look like and how it will be paid, progress is moving at a glacial pace.

PES Environmental out of Novato has been in South Lake Tahoe this week near the Y using “remote sensing equipment to see what the subsurface swales are like and where potential contamination is,” Jeff Brooks, an engineer with Lahontan, told *LTN.* These are screening instruments. This work will be followed up with water samples; results could be ready by the end of the month.

The state first mandated water companies test for PCE in 1989.

Lukins was the last of these three companies to be affected, with detection coming in July 2014. Since that time the family-run business that has 975 customers has been trying to solve the problem with the cooperation of the other water districts and various regulatory agencies.

Lukins lost use of four of five wells, though the biggest producing one is still in operation. Tahoe Keys had to shut down two of its three wells. South Tahoe PUD had to shut wells, but has since drilled new ones.

Lukins is in the process of requesting approval from the California Public Utilities Commission to go out for a $2.1 million loan that would be used to build a treatment plant. In the long run, this will be cheaper so the company could stop buying water from STPUD.

At the same time Lukins is applying for a state grant that would do the same thing, and in turn would be less of a burden to the ratepayers.

The loan route would on average add $15 to customer’s monthly bills for the next 20 years. This would make monthly bills about $91.

The public comment period has closed and now Lukins has about another week to respond to the 10 letters that were submitted regarding the loan request/rate increase.

“In general they are protesting the increase, saying the amount is too much. They say they should not pay for something they did not cause, which I agree with. But at this point and time we have to get the wells up and running,” Jenn Lukins, who runs the water company, told *Lake Tahoe News*. “I’m doing everything in my power to find alternate solutions, to get the responsible parties to pay, and to get a grant.”

She’d like the public to direct their frustration/concerns to Lahontan and the Division of Drinking Water to prod those state agencies to do more and do it faster.

“We are working to get a plan up to our standard,” Brooks, the senior engineering geologist with Lahontan, said. “We are trying to do what we can as fast as possible. These cases generally are not fast.”

Some believe there have been plenty of studies, that now is the time for real cleanup of what is out there. Compounding the problem is there are at least two plumes and the original source undetermined. Even though the dry cleaners is being blamed, where exactly it oozed from is a mystery, so it’s not like anyone can plug a hole or turn off a spigot.

While there is somewhat of a remediation plan in place, it is not all encompassing. Part of this has to do with the plume moving, lack of consensus if all of the contamination is from the former dry cleaner, and then who associated with that business and building should be liable.

The system in place near the site that is supposed to treat the water was offline between August and November because of a dispute with the electric bill. The state didn’t learn of this until an email was sent Nov. 10 by those responsible for the remediation. The local water companies were never advised more

pollutants were headed their way.

Bi-state chase ends with 1 arrest

A car chase that started in Carson City on Thursday night ended in South Lake Tahoe with a foot chase.

James Thomas Cook, 35, was driving a stolen vehicle from the Bay Area. He faces five charges, including driving under the influence, vehicle theft and evading a police officer. Bail was set at $90,500.

Nevada Highway Patrol troopers followed him from Carson City to Stateline, then South Lake Tahoe officers took over the pursuit on Jan. 5.

Officers said Cook went up Pioneer Trail to Black Bart Avenue, then through the South Tahoe PUD gate. That's when the suspect ran. Offices were able to apprehend him.

– Lake Tahoe News staff report

Nev. docs say opioid law causing them pain

By Jessie Bekker Las Vegas Review-Journal

It's been only four days since Nevada's new opioid

prescription law took effect, and doctors already are venting about its impact on their practices.

About 40 physicians, lawyers and others attended a meeting of the state medical and dental boards Wednesday in Las Vegas to express concerns over draft disciplinary rules for doctors who issue illegal, fraudulent, unauthorized or “otherwise inappropriate” prescriptions for pain medications under the law.

Several doctors said the law makes unreasonable paperwork demands, while the proposed regulations don’t specify the types of conduct that could lead to penalties or even the loss of their medical licenses.

Read the whole story

Fed pot policy change could alter Nev. economy

By Colton Lochhead, Las Vegas Review-Journal

Nevada’s thousands of marijuana employees and millions of dollars in pot tax revenue could be in jeopardy with the rescinding of a federal memo seen as the sole protector for state-regulated pot markets.

The Obama-era policy called the Cole Memo had paved the way for legalized marijuana to flourish in states across the country, but Attorney General Jeff Sessions said in a memo to federal prosecutors that they should follow “federal law enforcement priorities set by the Attorney General.” Sessions has often stated his opposition to marijuana.

The directive puts the hundreds of licensed marijuana businesses in Nevada – and nearly 9,000 workers – in a state of flux as they wait to see what the move means for the state's budding industry that generated more than $126 million in sales and some $19 million in tax revenue through its first four months of operation.

Read the whole story

Calif. homeowners struggle to get fire insurance

By Johnathan J. Cooper, AP

California's top insurance regulator said Thursday that insurers are increasingly refusing to offer homeowner's policies in areas prone to wildfire – a problem that's likely to get worse as companies respond to last year's devastating blazes.

Insurers in 2016 refused to renew more than 10,000 policies in the 24 counties most prone to wildfires, according to a report issued by Insurance Commissioner Dave Jones. That was up 15 percent from the prior year, when fires in Lake and Calaveras counties destroyed more than 3,000 buildings and became some of the most destructive in state history.

Read the whole story

Traffic fatalities decline in Nevada in 2017

Preliminary data shows that 303 traffic fatalities occurred on Nevada roads in 2017, down from approximately 330 deaths the previous year.

The decline in traffic fatalities marks the first time since 2013 that traffic fatalities were less than the previous year in Nevada. Total year-end traffic deaths could be adjusted based on ongoing traffic crash investigations.

While overall traffic fatalities declined, the number of pedestrian deaths jumped from 80 in 2016 to 99 in 2017. Bicyclist deaths also rose; from six in 2016 to nine in 2017.

NDOT dedicates approximately $10 million every year to pedestrian safety projects on state roads.

To help save lives, traffic safety partners across the state utilize focused strategies in six emphasis areas: pedestrian, intersection, seatbelt and motorcycle safety, as well as reducing impaired driving and limiting lane departure crashes by focusing on distracted driving.

Through the Nevada Department of Public Safety Joining Forces program’s heightened enforcement campaigns, Nevada law enforcement officers in 2017 issued approximately 73,000 citations to help reduce impaired, unbuckled, distracted or otherwise unsafe driving.