

Irish mourn dead students

By **DANICA KIRKA**
The Associated Press

LONDON — Flags flew at half-staff around Ireland and the country's parliament suspended normal business Wednesday as the nation mourned six students killed when a balcony collapsed during a party in Berkeley, California.

Prime Minister Enda Kenny offered a message of sympathy, and books of condolences were opened at University College Dublin, where three of the students studied. Tributes were paid to the students, who were among 700 Irish students in the San Francisco Bay Area for the summer.

Olivia Burke

Burke, 21, was expected back at the Dun Laoghaire Institute of Art, Design and Technology in September to start her final year of a degree in entrepreneurship and management.

Annie Doona, the institute's president, said Burke was working at a sushi restaurant and sharing an apartment with some of the others killed and injured in the Berkeley balcony collapse.

"She was doing very well, and enjoying herself and making great friends," Doona said. "It's terribly sad."

Eoghan Culligan

Culligan had finished his third year at the Dublin Institute of Technology, where he was studying logistics and supply chain management.

Ballyboden St. Enda's — the club where he played Gaelic football — posted a tribute to him.

"Eoghan was very popular with his teammates, and this tragic news is keenly felt by all members of our club, but especially by those players and mentors who knew him well," the club said.

Ashley Donohue

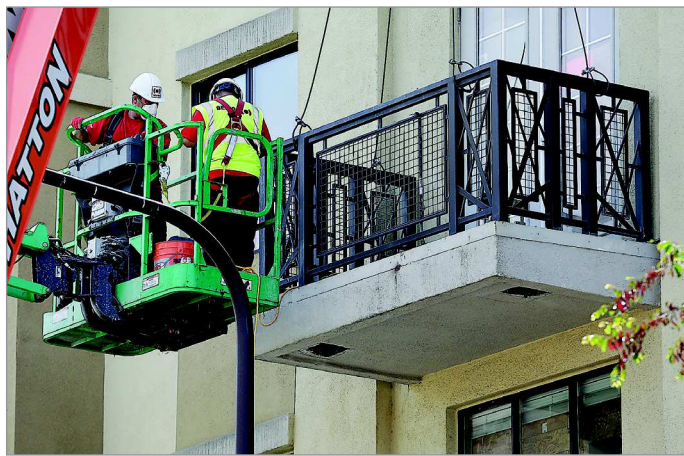
Irish-American Donohue, 22, was a first cousin of Burke and student at Sonoma State University north of San Francisco.

Josh Wilson, assistant principal at Rancho Cotate High School, remembers Donohue as a cheerful person and skilled soccer player who returned after graduating to help coach the soccer team.

"She absolutely was well-received and well-liked not only by her peers but the faculty at Rancho Cotate," he said.

Lorcan Miller

Miller was studying medicine at University College Dublin. At his high school, St. Andrew's College in Booter-



JEFF CHIU/The Associated Press

A crew begins work on the Library Gardens apartment building balcony below the remaining wood from a balcony that collapsed in Berkeley, California. The balcony broke loose from the building during a 21st birthday party early Tuesday, killing several people and injuring others.

stown, south Dublin, headmaster Peter Fraser recalled Miller as a "positive, engaging, decent boy who was incredibly talented, but normal, modest and balanced about it all."

Miller played on the school hockey team, sang in the choir, performed in musicals and took part in the school's Model United Nations.

Niccolai Schuster

Schuster, 21, was studying at University College Dublin and had been a student at St. Mary's College in the Rathmines district near the Irish

capital. In 2010, he took part in the Ghana Immersion Project, which sends young people to the West African country, where they attend school and help students learn English.

Eimear Walsh

Walsh, a medical student at UCD, was a high school classmate of Burke at Loreto College in Foxrock, south Dublin.

The principal at Loreto described the two girls as smart and beautiful.

"They were in the prime of their lives," principal Bernadette Prendiville said.

Feds won't charge Kansas governor

By **ROXANA HEGEMAN** and **JOHN HANNA**
The Associated Press

TOPEKA, Kansas — Federal prosecutors have completed their investigation into loans made to Kansas Gov. Sam Brownback's re-election campaign by his lieutenant governor and plan to bring no criminal charges, the U.S. attorney's office said Wednesday.

Jim Cross, spokesman for U.S. Attorney Barry Grissom, said in an email statement that no federal charges are expected in the case that involved the loans from Lt. Gov. Jeff Colyer. Minutes earlier, Brownback and Colyer released a joint statement saying they had been informed of the decision.

"As we have stated many times, our campaign finances were conducted in full compliance with applicable law and ethics regulations," according to the statement by the Republican running mates. "We will have no further statements regarding this concluded matter."

The Associated Press was first to report about the federal investigation in January, after obtaining through an

open records request a copy of a grand jury subpoena sent to the executive director of the Kansas Governmental Ethics Commission. Brownback's office issued a statement at that time saying the investigation "has no merit" and that any loans were completed in compliance with Kansas law and ethics regulations.

The three loans totaling \$1.5 million raised eyebrows not only because their size is unusual in Kansas politics but because the first two were repaid within days. Democrats speculated they might have been timed to inflate campaign finance reports. They came as the Republican governor faced the real prospect of losing to the well-financed Democratic challenger, Paul Davis.

Kansas Senate Minority Leader Anthony Hensley, a Topeka Democrat, questioned the decision not to issue any indictments.

Democratic Rep. Jim Ward, of Wichita, said legislators need to rewrite campaign finance laws to prevent short-term "scam loans."

"It deceives the public, and we should stop it," Ward said.

FROM THE FRONT PAGE

Tornado happenings hard to record

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the one in 1990, calculated as an F3, with \$2 million in estimated damage — including a hole in the roof of Columbia Mall.

On Nov. 10, 1998, another tornado hit with reported wind speeds in excess of 158 mph. Sixteen people were hospitalized, 20 homes were destroyed and property damage was estimated at \$6 million or more.

Do geographic features like the Ozark Plateau protect our area from tornado activity?

There is not enough evidence to support the notion that the Ozark Plateau protects mid-Missouri from tornado activity, said Bohumil Svoma, an assistant professor on the Soil, Environmental and Atmospheric Sciences faculty at MU.

The Ozark Plateau is a geological term for the Ozark Mountains, which covers roughly 50,000 square miles of northern Arkansas, southeastern Kansas, southern Missouri and northeastern Oklahoma. The tallest peaks are more than 2,000 feet high.

Yet, there is little research to support the idea that the plateau prevents tornadoes in central Missouri, Svoma said. He said he is not confident that the plateau offers protection for portions of Missouri, but he also said he wouldn't expect any other geographic feature to be capable of affecting tornado activity in the

state. "The Missouri River is too small from a moisture or topographic standpoint," Svoma said.

Geographic features like mountain ranges are definitely important to weather activity on the larger scale of continents, said Greg Carbin, warning coordination meteorologist with the National Oceanic and Atmospheric Administration's Storm Prediction Center in Norman, Oklahoma.

"There are a whole bunch of basic things we don't know about tornadoes," Svoma said of why some areas of Missouri seem to experience more tornadoes than others, adding that it "might have to do with just how difficult it is to observe tornadoes" in mid-Missouri, rather than an effect of the Ozarks.

Do complete and fully accurate records of tornado activity in Missouri exist?

The short answer is no. "We can never confirm if a tornado touched the ground or not" from radar readings alone, Svoma said. The nearest weather service radar stations are not even able to detect debris picked up into the air by a tornado, so confirmation of a tornado touchdown in the Columbia area is "entirely based on visual observation," he said.

Radar beams from National Weather Service stations in Springfield, Kansas City and St. Louis cannot scan below

several thousand feet over Columbia, Svoma said. This is because of the curvature of the earth, which causes a radar gap over Boone County.

Carbin said radar capabilities probably only account for a small percentage of unreported tornadoes. Other factors are topography and "population bias," which refers to the prominence of reports in urban areas over those in sparsely populated areas.

What does tornado season look like this year in Missouri and nationally?

The National Weather Service estimates that 26 tornadoes have touched down in Missouri so far in 2015 — 12 in April and 14 in May. Boone County was not hit by any of them.

Since 1950, April and May have been the most active months in the state for reported tornadoes, according to available data from NOAA.

Close to half — 44.8 percent — of the NOAA tornado records were reported in April and May, with May the more active month. A total of 635 tornado reports were counted in May, compared to 453 in April.

When June is added, with 298 tornado records since 1950, and March with 232 records, the four months together represent about 66.7 percent of historical tornado records in Missouri. Those four months are considered peak tornado season in the state.

When and where do tornadoes typically occur in Missouri?

The Weather Service reports an average of four tornadoes every March in Missouri, seven tornadoes in April, 12 in May and six in June. The remaining months generally have two reports of tornadoes each year.

This year, activity in April and May are above average but still slightly below average for the year to date, compared to the 25-year month to month averages.

Most of the tornadoes this year have been weak EF0 or EF1 storms that caused minimal damage, if any at all. As of June 10, Polk County just north of Springfield led the count in the state with three reported tornadoes touching down there in May. Dallas County, which is near Polk County, and Ozark County on the Arkansas border each had two tornadoes reported in May. Jasper and Barton counties in southwest Missouri and Cape Girardeau County in southeast Missouri had two tornadoes each in April.

According to the weather service's 20-year average of annual tornado watches, far

southern counties like Ozark County are roughly twice as likely as counties farther north, including Boone County, to experience the atmospheric conditions favorable to tornadoes.

Nationally, the country's tornado picture was also well below normal during April, Carbin said.

It was a "very quiet start to the year," he said, adding that tornado activity picked up late April into May and those months were "quite active." Using an "educated guess," he estimated 500 tornadoes, compared to usually about 600 by this time.

How do tornadoes form and why during certain times of the year?

Tornadoes occur when a horizontal tube of rotating air close to the ground beneath a strong thunderstorm is tilted vertically, stretched and accelerated by an updraft of air, Svoma said. The tube is created by a rain-cooled downdraft that hits the ground as it comes out of the thunderstorm.

Any thunderstorm can produce tornadoes, he said, although strong thunderstorms called supercells are the most likely to spawn one.

Ideal conditions for supercells include a layer of warm, moist air, known as instability, sitting beneath an upper level of cool, dry air in the atmosphere and wind shear near the ground. Wind shear is a sudden shift in wind direction or speed, which Svoma described as light winds near the ground and higher-speed winds a few thousand feet above that.

These conditions arise in different parts of the country at different times of the year, creating storm seasons and tornado seasons. In the South, the peak occurs in late winter and early spring, Svoma said. For the Great Plains — the classic Tornado Alley — it is late April through early June, with May as the most active month. Farther north, it happens later, he said.

Is climate change likely to affect tornado activity?

There is not a lot of consensus on the possible effects of climate change, Svoma said. In a warmer world, wind shear would be expected to decrease, he said, but there would be more instability in the atmosphere, more warm, moist air near the ground.

More research in tornado science needs to be done, and "observed tornado records are inconsistent over time, not clean and lengthy enough," he said.

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CDC to consider vaccine next week

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infection that affects the brain and nervous system. If you get it, you have a 10 percent chance of dying. If you survive it, you still have about a 20 percent chance of having significant neurological effects.

How is it spread?

It's spread through respiratory secretions. So with college-age kids sharing drinks, kissing and just sharing things are ways to transmit the bacteria.

What is the difference between the old vaccine and the new one?

There have been several versions of the current vaccine out for about 10 years that cover about two-thirds of the strains of meningitis that are out there. It covers strains A, C, W and Y. Unfortunately, the other third is covered by a group called B, and it's just been very difficult to make a vaccine. In the last year, the vaccine against B came out. We're excited because it covers another third of the cases of meningitis.

When can people get the new vaccine?

It is available on the market, but what's limiting use is that we have not gotten instructions on insurance coverage. Next week, after the CDC Advisory Council on Immunization Practices meeting, we're going to get a lot more answers. If they approve the vaccine, which we expect they will, and give us age guidelines and dosing guidelines, which we expect them to do, then insurance companies will get on board. Usually that's what it takes to get the vaccine really to market and used regularly.

Will my insurance cover it?

The current vaccine is covered by really any insurance plan. Our expectation is that they are going to approve it similar to other meningitis vaccines out there.

How old should I be when I get the vaccine?

Meningitis B is a three-shot series, with one shot given at time zero (time zero is when

you first get the vaccine), two months and six months. That's how we expect them to be giving the dosing guidelines. The current vaccine is a two-shot series — with one shot before age 16 and the second one after age 16.

Who is affected by meningitis and should be vaccinated?

As a pediatrician I recommend all my patients to get it. It tends to pick on the college population. Anytime you have a group of young people living close together — so college dorms, military barracks and even incarcerated youth — that's a high-risk population. It's a way to protect our youth from a very serious issue.

The state of Missouri statute requires all college students living in university-sponsored housing to get the meningitis vaccine. I don't think it is known whether that will include the new B vaccine or not. I think

No vaccine is 100 percent perfect, but the studies that have been done to get the approval show at least 80 percent to 95 percent protection, as opposed to maybe 1 percent protection in just the normal population.

that's something for the legislature to answer. The state requirement did keep an exception rule, so you have to do a certification that you are aware of the risks (of not being vaccinated). If you're older than 18, you can do that yourself. If you're under 18, your parent would need to do that.

I think Mizzou is a setting where (a meningitis outbreak) could happen, and I think we're trying to be proactive to try to prevent that from happening.

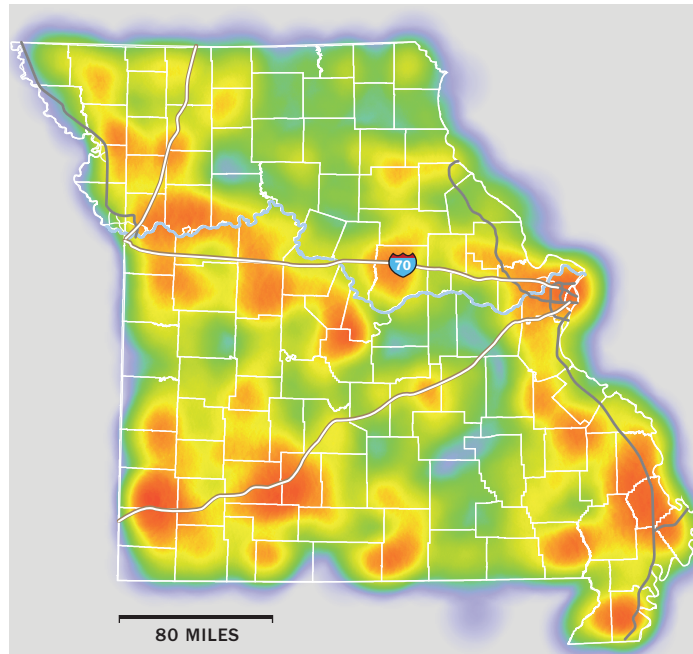
Is the vaccine safe?

I've personally never had a patient have a bad outcome other than the common side effects of muscle soreness, chills and a headache. Those are pretty common for any vaccine. I've never had a patient with a serious side effect.

No vaccine is 100 percent perfect, but the studies that have been done to get the approval show at least 80 percent to 95 percent protection, as opposed to maybe 1 percent protection in just the normal population.

The CDC has posted an agenda for next week's meeting on the vaccine and public comment instructions.

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*Darker red indicates more reports of tornadoes
Source: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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