

## **Michael Mahoney Comments on Investment Implications of Cellphone Cancer Study**

Mobile-Phone Link to Cancer Stirred Up by Rat Study Findings (2)

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By Kristen Hallam, Michelle Fay Cortez and Olga Kharif

(Bloomberg) -- Preliminary findings from a controversial study in rats is reigniting a long-running debate over whether mobile-phone use can cause cancer.

Two types of tumors -- one in the brain, one in the heart - were spotted in male rats exposed to a type of radiation used by the U.S. wireless telephone industry, according to a 74-page report on partial findings from the U.S. government-funded study. The study follows a flurry of reports published in 2011 that confused more than clarified the cancer risk faced by the world's billions of mobile-phone users.

What today's announcement means for humans and mobile phones is far from certain, with potentially contradictory findings. While the unusual tumors were seen in rats that got high doses of the radiation -- about 9 hours a day, starting before birth -- those that weren't exposed were more likely to die during the two-year study period. Still, the results undercut the notion that radiation from cell phones can't cause cancer, according to government researchers.

"The direct translation of these findings to the way humans are using cellular telephones is not currently completely worked out," said John Bucher, associate director of the National Toxicology Program, on a conference call with reporters. Among experts the agency asked for feedback, the conclusion is that "it's not nothing," he said.

### Broad Implications

The two tumor types found at higher levels in male rats -- called gliomas and schwannomas -- were of particular concern because they have been elevated in earlier studies of cell phone use. The new findings support the International Agency for Research on Cancer's 2013 report concluding cellular phone radiation may cause cancer, the researchers said.

The work concerns the health effects of a type of radiation from cell phones, called radiofrequency, that doesn't produce particles -- like X-rays -- and hasn't been conclusively linked to cancer. Even small increases in disease from exposure to the radiation could have broad implications for public health given the number of people globally who use mobile communications, they said.

The U.S. Food and Drug Administration, World Health Organization and American Cancer Society have examined currently available research and found no evidence of health effects from radiofrequency signals used in cell phones, the wireless trade group CTIA, whose members include AT&T Inc. and Verizon Communications Inc., said in an e-mailed statement. The evidence includes statistics showing that brain cancer rates have remained stable since the mid-1980s, when mobile phones were introduced, according to the statement.

### Too Tangential

"I think it's too tangential right now for investors to worry about it," said Michael Mahoney, senior managing director of Falcon Point Capital LLC, which invests in wireless companies. "There aren't a lot of

people who are going to stop using their cell phones because of their effect on mice. There are no investment expectations right now.”

Other studies have suggested a low level of risk from cell phones, and consumers are advised to use some precautions to minimize harmful exposures, said Chetan Sharma, an independent wireless consultant.

The NTP results weren't formally peer-reviewed or published by a scientific journal. Instead, they were posted on a website hosted by Cold Spring Harbor Laboratory in New York that allows researchers to share raw data. Bucher said the approach allows scientists and others to weigh in on the findings, which will be taken into consideration.

### Males Only

“This is a way of crowd-sourcing the scientific evaluations,” he said. “It's one of the ways we need to evaluate science in the future.”

The small increase of cancer observed in the rats in the study was likely the result of whole-body exposure to the radiation, the researchers said. They had higher confidence in the link between the radiation and the heart tumors. Cancer only appeared in male rats, with no significant effects seen in females.

Among 90 rats exposed to high doses of one type of radiation from cell phones, called GSM, two developed brain cancers and six developed heart tumors. In another group of 90 rats exposed to a different type of cell phone radiation, called CDMA, three developed brain cancers and heart tumors grew in five. None of the unexposed rats developed these cancers, which was also surprising, since it's normal to find at least some.

The unexpected results will shift researchers' understanding of the interplay between radiofrequency radiation and cancer risk, said Otis Brawley, chief medical officer of the American Cancer Society. More study is needed to determine exactly how the results of high-dose radiation in rats compares to the lower levels that cell phone users are exposed to, said Brawley, pointing out that newer technology is using even lower transmission strength and leads to less exposure.

### Seeking Explanations

The longer average life among animals that were exposed to radiation also left the researchers looking for an explanation. It's possible that the rats who developed cancers were simply older, and more vulnerable to disease. The research will be completed in the second half of next year, with draft reports available for review and comment by the end of 2017.

“The results do not appear consistent with the cancer rates within the human population, nor with the majority of other experimental research, even at the very high exposure levels, which are many times higher than humans are exposed to,” Rodney Croft, director of the Australian Centre for Electromagnetic Bioeffects Research, said in an e-mailed statement on Friday.

The Federal Communications Commission said it was aware of the National Toxicology Program's ongoing research on radiation from cell phones.

“We will continue to follow all recommendations from federal health and safety experts including whether the FCC should modify its current policies and RF exposure limits,” said Neil Grace, an FCC spokesman.

--With assistance from Todd Shields.

To contact the reporters on this story:

Kristen Hallam in London at [khallam@bloomberg.net](mailto:khallam@bloomberg.net); Michelle Fay Cortez in Minneapolis at [mcortez@bloomberg.net](mailto:mcortez@bloomberg.net); Olga Kharif in Portland at [okharif@bloomberg.net](mailto:okharif@bloomberg.net) To contact the editors responsible for this story:

Drew Armstrong at [darmstrong17@bloomberg.net](mailto:darmstrong17@bloomberg.net); Chitra Somayaji at [csomayaji@bloomberg.net](mailto:csomayaji@bloomberg.net)  
Stephen West