The Chamber of Commerce of Hawaii

The Voice of Business in Hawaii

Testimony to the Senate Committee on Health
Monday, February 13, 2012; 10:45 a.m.
Conference Room 229
Hawaii State Capitol

RE: SENATE BILL NO. 2477 RELATING TO HEALTH

Chair Green, Vice Chair Nishihara, and Members of the Committee:

The Chamber of Commerce of Hawaii ("The Chamber") does not support SB 2477 relating to Health.

The Chamber is the largest business organization in Hawaii, representing more than 1,100 businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of its members, which employ more than 200,000 individuals, to improve the state's economic climate and to foster positive action on issues of common concern.

We believe that requiring retailers to post warning labels of radio-frequency radiation on cellular telephones, or otherwise prohibit their ability to sell cellular telephones, reaches too far beyond what is necessary to protect consumers. The Food and Drug Administration and the World Health Organization set safety standards for products, and the Federal Communications Commission ensures that every device that goes to market meets existing safety standards. The State of Hawaii should look to federal authorities for ensuring product standards and compliance, rather than adding an unnecessary layer of requirements for warnings that do not protect the consumer.

In addition to not improving consumer protections, the bill, if enacted, would cause unwarranted confusion for customers. A warning label implies that a product is dangerous, when, in fact, the Federal Communications Commission has found cellular telephones to be safe for consumer use. Further, a warning label that does not accurately characterize the federal safety standard of that product puts retailers and retail employees in an unfair position of liability, should they have to answer any questions from customers concerning the potential dangers of human exposure to radio-frequency radiation.

The Chamber supports the roles and authority of federal regulation for consumer protection. We are concerned that efforts such as SB 2477 add an unnecessary layer of confusion and liability for retail businesses and consumers, while providing no extra protection for the consumer. We respectfully oppose this bill. Thank you for the opportunity to testify.

Senator Josh Green, Chair
Senator Clarence Nishihara, Vice Chair
Committee on Health
State Capitol, Honolulu, Hawaii 96813

HEARING Monday, February 13, 2012
1:15 pm
Conference Room 229

RE ~~SB2476~~, Relating to Health
SB2477

Chair Green, Vice Chair Nishihara, and Members of the Committee:

Retail Merchants of Hawaii (RMH) is a not-for-profit trade organization representing 200 members and over 2,000 storefronts, and is committed to support the retail industry and business in general in Hawaii. The retail industry is one of the largest employers in the state, employing 25% of the labor force.

RMH strongly opposes SB2477, which requires all cellular telephones, including refurbished and remanufactured cellular telephones, sold or leased by a retailer in the State to bear a label that warns consumers of the potential dangers of electromagnetic radiation emitted by cellular phones.

A Fact Sheet from The National Cancer Institute's website reveals the following:

- Cell phones emit radiofrequency energy, a form of non-ionizing electromagnetic radiation, which can be absorbed by tissues closest to where the phone is held.
- The amount of radiofrequency energy a cell phone user is exposed to depends on the technology of the phone, the distance between the phone's antenna and the user, the extent and type of use, and the user's distance from cell phone towers.
- **Studies thus far have not shown a consistent link between cell phone use and cancers of the brain, nerves, or other tissues of the head or neck.** More research is needed because cell phone technology and how people use cell phones have been changing rapidly.

http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones

Requiring that retailers in Hawaii who sell or lease cellular phones add a label that "warns consumers of the potential dangers of electromagnetic radiation emitted by cellular phones" is mandating the proliferation of information that is not scientifically accurate.

We respectfully request that you hold SB2477. Thank you for your consideration and for the opportunity to comment on this measure.

Carol Pregill, President

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Testimony of
Gerard Keegan
Director, State Legislative Affairs
CTIA – THE WIRELESS ASSOCIATION®
In Opposition to Hawaii Senate Bill 2477

February 13, 2012

Before the Hawaii Senate Committee on Health

Chairman Green and members of the committee, I am Gerry Keegan, Director of State Legislative Affairs for CTIA-The Wireless Association®. CTIA is the international trade association representing wireless carriers, device manufacturers, and Internet service providers. I am here today to speak in opposition to Senate Bill 2477, which would require warning labeling on cell phones. I appreciate the opportunity to be here today to discuss the legislation. Dr. Howard Ory, retired Deputy Director of Epidemiology for the U.S. Centers for Disease Control, was unable to appear here but has submitted a written statement about the proposed legislation on behalf of the wireless industry.

In 1996, the Federal Communications Commission (FCC), after consultation with the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH), adopted standards governing radiofrequency (RF) energy from cell phones and determined that all cell phones that comply with those standards are safe for use by the general public. The FCC asserted that its standards represent the "best scientific thought and are sufficient to protect the public health."[1] No wireless device may be offered for sale or lease in the United States unless the cell phone has been authorized in accordance with the FCC's RF regulations. The FCC states that "[a]ny cell phone at or below these SAR levels (that is, any phone legally sold in the U.S.) is a 'safe' phone, as measured by

[1] The FCC has explained that its RF testing, certification, and emissions standards "protect the public health with respect to RF radiation from [all] FCC-regulated transmitters," including wireless phones. In re Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Release No. 96-326, 11 F.C.C.R. 15123, 15184 ¶ 169 (1996) ("FCC First Order").

these standards."[2] In addition, the Federal Radiofrequency Interagency Work Group, composed of representatives from NIOSH, EPA, FCC, OSHA, and National Telecommunications and Information Administration, continues to monitor the medical literature in this area to ensure the FCC standards remain appropriate.[3]

Leading national and international health and safety organizations have concluded that there are no known adverse health risks associated with the use of wireless devices. In fact, the Food and Drug Administration concludes that, "[t]he scientific evidence does not show a danger to any users of cell phones from RF exposure, including children and teenagers."[4] Additionally, the FCC advises in its consumer fact sheet on the issue of wireless devices and health concerns that, "[r]ecently, some health and safety interest groups have interpreted certain reports to suggest that wireless device use may be linked to cancer and other illnesses, posing potentially greater risks for children than adults. While these assertions have gained increased public attention, currently no scientific evidence establishes a causal link between wireless device use and cancer or other illnesses."[5] Moreover, in its June 2011 factsheet on this issue, the World Health Organization advises that, "[a] large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use."[6]

The bill's labeling mandate on cell phones is intended to serve as a consumer product warning. The Maine Legislature considered and rejected a similar proposed warning label bill in 2010. It did so based, in large measure, on testimony provided by then-director of the state Center for Disease Control

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[2] *See* "Cellular Telephone Specific Absorption Rate (SAR)," available at http://www.fcc.gov/cgb/sar/ (last visited Feb 10, 2012).

[3] *See* Cell Phones, available at: http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm (last visited Feb 10, 2012).

[4] *See* Children and Cell Phones, available at http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116331.htm (last visited Feb 10, 2012).

[5] *See* Wireless Devices and Health Concerns, available at http://www.fcc.gov/cgb/consumerfacts/mobilephone.html (last visited Feb 10, 2012).

[6] *See* Electromagnetic fields and public health: mobile phones, available at http://www.who.int/mediacentre/factsheets/fs193/en/index.html (last visited Feb 10, 2012).

and Prevention, Dr. Dora Anne Mills. Dr. Mills summarized it best when she advised the Maine Legislature that "to warn against something, there should be a defined risk. Our [Maine CDC and Department of Health and Human Services] reading of the research, including numerous studies and analyses, does not indicate there is a defined cancer risk to warn against."[7] Moreover, Dr. Mills explained that issuing warnings based on undefined risks would result in an "over-warned and turned-off public as well as a lack of credibility in the warnings themselves."[8] As the Maine CDC found, mandating cell phone labeling is unnecessary and would result in consumers doubting the efficacy of warning labeling generally, thereby lessening the impact of labels on other consumer products where they serve to protect consumers from defined risks and true harm.

Senate Bill 2477 is proposed based on what the bill itself calls "*speculation* over the *potential* dangers of human exposure to electromagnetic radiation emitted by cellular telephones." It conveys a message that is inconsistent with what Dr. Ory describes as "the weight of a large body of high quality scientific evidence," which shows no adverse health effects, such as brain cancer, from cell phone use. Senate Bill 2477 also contradicts the clear message of the federal regulatory agencies that have carefully considered this issue, which is that devices compliant with the federal standards are safe for consumer use. As such it simply does not meet the fundamental purpose of consumer product information: to better inform the consumer about the product. Instead, it constitutes a contradiction to established RF safety levels and, more specifically, challenges the efficacy of the U.S. government's determinations of the safety of wireless products. Such a result will not benefit consumers.

Finally, any attempt by state governments to regulate cell phone labeling based on alleged safety concerns is preempted by federal law. The federal government's exclusive jurisdiction over radio communications is predicated on a finding that national regulation is not only appropriate, but it is essential to the operation of a seamless, interstate telecommunications network because radio waves

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[7] Testimony of Dora Anne Mills, M.D., Ph.D., Director, Maine Center for Disease Control and Prevention, in Opposition to Maine LD 1706, Cell Phone Warning Label Legislation, 03/02/2010 at page 1.
[8] Id at page 4.

operate without regard to any state lines. In light of the federal government's primacy over wireless communications in general and RF in particular, state government authority to regulate in this area is severely constrained.

In closing, Senate Bill 2477 is unnecessary, inconsistent with the FDA's conclusion that "[t]he scientific evidence does not show a danger to any users of cell phones from RF exposure, including children and teenagers," and conflicts with federal law. Thank you for the opportunity to be here today.

Written Statement of Dr. Howard Ory
Prepared in Opposition to SB 2477

Introduction

I am Dr. Howard Ory. I received my MD degree from Tufts University Medical School in 1969 and joined the U.S. Centers for Disease Control in 1971. I received a Masters Degree in Epidemiology from the Harvard University School of Public Health in 1974. I worked at the CDC as a practicing epidemiologist for twenty-three years until my retirement in 1994. While at the CDC, I held various management positions including Deputy Director for Epidemiology. Over the course of my career, I have conducted multiple large-scale epidemiologic studies involving numerous diseases including cancer. The focus of much of that research was to determine the safety of, for example, common medical practices and medications and to consider potential warnings. Over the course of my career, I have consulted on numerous public health issues for the CDC as well as other public health agencies such as the World Health Organization and the Food and Drug Administration. After retiring from the CDC, I was a Vice President for Health Care Research at Prudential Healthcare. I left there at the end of 1996, and since then I have been a private consultant in epidemiology. I have published more than 100 scientific articles in peer-reviewed publications on a wide range of subjects. My full resume is attached.

Purpose and Summary of Testimony

I am submitting this testimony on behalf of the wireless industry to address the proposed SB 2477 which would, if enacted, require that all cell phones sold in the State of Hawaii bear a warning that the devices emit electromagnetic radiation, exposure to which may cause brain cancer. The warning advises users, especially pregnant women and children, to keep the cell phone away from the head and body.

The proposed legislation is based on "**speculation** over the **potential** dangers of human exposure to electromagnetic radiation that can be emitted by cellular telephones." (Bolding mine) The proposed warning also strongly suggests to consumers that the risk may be greater for children and pregnant women.

In my opinion, the proposed legislation is unnecessary, mis-leading, and inflammatory and is not based on sound science as any health warning should be. SB 2477 is not supported by the weight of scientific evidence, which indicates no adverse health effects from wireless phone use. In addition, the proposed warning is inconsistent with the conclusions of the National Cancer Institute (NCI), Federal Communications Commission (FCC), the Food and Drug Administration (FDA) and other agencies that have reviewed the available science. A brief review of the available scientific evidence follows.

There has not been an increase in the incidence of brain cancer and other nervous system tumors following the introduction of wireless phones.

Brain cancer and other nervous system tumors (which I will refer to collectively as "brain cancer") occurred long before the introduction of wireless phones and would continue to occur even if people no longer used wireless phones. In other words, there is a natural incidence of brain cancer in the population, which includes people who use wireless phones. If, as some people speculate, wireless phone use causes brain cancer, then we would expect to see an

increase in the incidence of brain cancer coincident with the use of wireless phones. We have not seen any such increase.

The U.S., like many other countries, has tracked the incidence of brain cancer for many years. These data are collected by the NCI and the CDC and are considered representative of the entire United States. In the U.S., the incidence of brain cancer has not increased since at least 1992. This is demonstrated in the charts below which are taken from a recent NCI study. This study states, "[d]uring the period of use when mobile phones was increasing sharply, the overall incidence of brain cancer changed little." The NCI report concludes, "Overall, these incidence data from the United States based on high quality cancer registries do not provide support for the view that use of cellular phones causes brain cancer."
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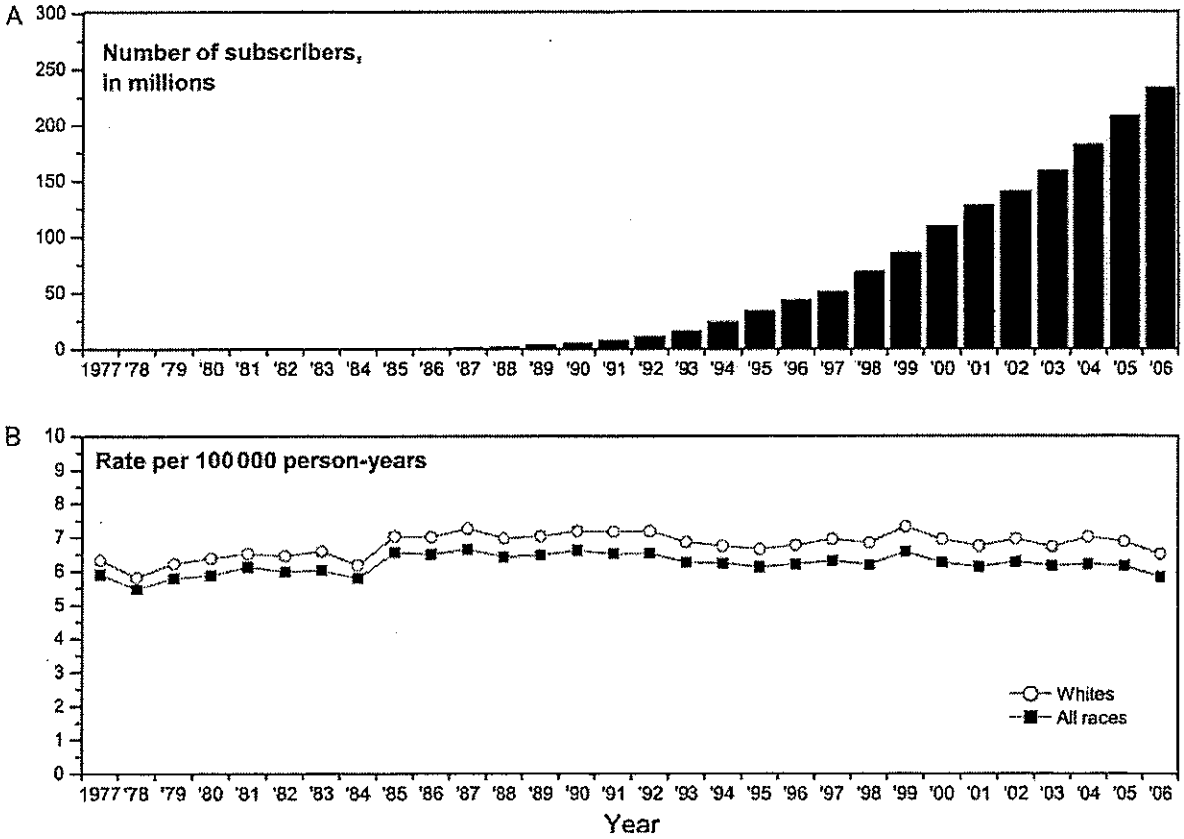

Recently in their annual report to the nation on the status of cancer, which had a special focus on brain cancer, the NCI noted that the incidence of brain cancer has fallen 0.4% per year from 1987-2007.[2]

Latency

In the U.S. alone, there were almost 40 million users of wireless phones by 1996 and there were almost 200 million in 2005. Even given the latency of brain tumors, by which I mean the time it

[1] Inskip, Hoover and Devesa. Neuro Oncol. 2010 Nov;12(11):1147-51.
[2] Kohler, et al. J Natl Cancer Inst. 2011 May 4;103(9):714-36.

takes to develop a tumor, the NCI notes that there has been "sufficient time" for an increased incidence of brain tumors caused by cell phones to begin to be detected in these surveillance data.[3] Again, however, we do not see any such increase.

Time trend data from other countries, including England, Norway, Denmark, Finland, Sweden and Switzerland, strongly reinforce the conclusion that in spite of sufficient time having elapsed, there has been no rise in brain tumor incidence. While cell phone use in those countries began earlier than in the U.S. and has risen at least as dramatically as in the U.S., brain cancer incidence rates have not changed as cell phone use has dramatically increased in the above listed countries through at least 2007 and through 2009 in Sweden where such data is available.[4]

The most recent Deltour study (2012) addresses the latency issue extensively. They note: "We detected no upward turn in the time trends of glioma incidence rates in the Nordic countries during 1979-2008, overall or in any subgroup by country, age, or sex among adults.... These analyses are based on the entire adult population of Denmark, Finland, Norway, and Sweden (17 million people) and are strengthened by the comprehensive high-quality cancer registration in these countries.... If mobile phone use causes brain tumors, the change in prevalence of use from 0 to nearly 100% over a 20-year period would eventually influence the incidence rates of these tumors. Conversely, a lack of change in the incidence time trends, at any point in time, would constitute evidence against this association.... Our data indicate that, so far, no risk associated with mobile phone use has manifested in adult glioma incidence trends...."

Time Trend Data in Children and Adolescents

While the above chart and data from other countries refer to all age groups combined, these studies have also looked specifically at children and adolescents under the age of 20 years. The results are similarly reassuring. In the US, Norway, Finland, Sweden, and England these studies report stable time trends in the incidence of brain tumors in these countries in people under 20 years of age. As the authors of the most recent time-trend study conclude about time trend data relating to those under 20 years of age: "These data are in line with our evaluation of time trends of brain tumor incidence in Sweden and altogether provide little support to the view that mobile phone use increases the risk of brain tumors."[5] In fact, there is now strong, affirmative evidence from time trend data that through 2008 in the U.S. and 2009 in Sweden cell phones have not caused an increase in brain cancer in people under 20 years of age. Given that trends in brain cancer have remained stable in young people, it is tautological that there has been no increase in brain cancer in young people that could have been caused by cell phones.

Mechanism

There is no known mechanism by which wireless phones could cause cancer.[6] Wireless phones emit a form of radiofrequency energy that is part of the electromagnetic spectrum. This energy

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[3] Inskip, et. al., op. cit.

[4] Deltour et al. J Natl Cancer Inst. 2009; 101:1-4; Roosli et al. European Journal of Cancer Prevention 2007; 16:77-82; de Vocht et al. Bioelectromagnetics. 2011 Jul;32(5):334-9; Aydin et al. J Natl Cancer Inst. 2011; 103(16):1264-76; Schmidt et al. Pediatr Blood Cancer. 2011 Jan;56(1):65-9; Ahlbom et al. BMJ 2011; 343:d6605; Deltour et. al. Epidemiology 2012; 23: (epub Jan 12 ahead of print).

[5] Aydin et al, op. cit.

[6] Boice and Tarone. J Natl Cancer Inst. 2011 Aug 17;103(16):1211-3; Repacholi, et. al. Bioelectromagnetics. 2011 Oct 21. doi: 10.1002/bem.20716. [Epub ahead of print]

is called non-ionizing radiation. People use many things that emit non-ionizing radiation, including televisions, radios, baby monitors, and cordless phones. The use of the term "radiation" in connection with the energy from wireless phones can cause confusion and fear. Non-ionizing radiation is different from what people commonly think of as "radiation." An x-ray is a good example of an exposure people think of when "radiation" is mentioned. An x-ray is one of the common forms of ionizing radiation. Non-ionizing radiation and ionizing radiation are quite different. Ionizing radiation, such as an x-ray, has the ability to damage DNA in human cells and therefore can cause cancer at high doses. By contrast, non-ionizing radiation from a wireless phone lacks the ability to damage DNA.[7] Therefore, there is no reason to believe that wireless phone use could cause cancer, and a wireless phone warning referring to electromagnetic radiation emissions and cancer would likely create further confusion and fear in consumers.

Repacholi has summarized the lack of support for any known mechanism: "In summary, the results of the *in vitro* studies are consistent with the results of the mechanistic studies, and despite extensive research that have failed to establish any relationship between exposure to RF fields and cancer. No clear pattern of evidence identifying a non-thermal mechanism that could underlie any adverse health effects of RF exposure has been identified."[8]

Despite the lack of any basis to suspect that wireless phone use could cause cancer, this issue has been studied scientifically for years. The two types of studies that provide the most information are studies in humans and studies in animals.

Epidemiology – Studies in Humans

Epidemiology is the study of causes of disease in human populations. There have been multiple epidemiologic studies of wireless phones and brain cancer. These studies have been conducted in different countries, have used varying methods and cover the time period in which wireless phones have been in use. A review of the overall results of these studies demonstrates the lack of evidence for a causal relationship between wireless phone use and brain cancer. A warning informing consumers that exposure to the electromagnetic radiation from cell phones "may cause brain cancer" is not supported by the science.

Conclusions about causation cannot be based on any one particular study; they should be based on the data as a whole. When drawing conclusions from scientific data, scientists look for consistency in the results across studies. One technique used to evaluate multiple epidemiologic studies is called meta-analysis. Meta-analysis is a statistical technique that combines data from multiple studies in order to assess any potential association between the exposure and the disease (here, between wireless phones and brain cancer). In addition, this method identifies which studies are inconsistent with the overall result from the combined data.

In September 2009, the International Committee for Non-ionizing Radiation Protection (ICNIRP) published a meta-analysis of all existing studies of wireless phone use and tumor risk.[9] ICNIRP's review included the published studies that have been conducted as part of the thirteen-country INTERPHONE study being coordinated by the World Health Organization as well as

[7] Boice, op. cit.
[8] Repacholi, et. al. Bioelectromagnetics. 2011 Oct 21. doi: 10.1002/bem.20716. [Epub ahead of print]
[9] Ahlbom et al. Epidemiology 2009;20:639-52.

studies conducted by Dr. Hardell's group in Sweden. ICNIRP concluded that there was no overall association between wireless phone use and brain cancer, and this result was true even in people who had used a phone for more than ten years. ICNIRP identified only one outlier – the pooled analysis of the studies conducted by Dr. Hardell.

In July of 2011, after the publication of the full INTERPHONE study, ICNIRP reviewed the issue of cell phones and brain cancer again and concluded, "Although there remains some uncertainty, the trend in the accumulating evidence is increasingly against the hypothesis that mobile phone use can cause brain tumours in adults."[10] ICNIRP noted that time trend data "can give powerful evidence constraining what can reasonably be proposed as an etiological relationship." They reviewed the same time trend data that I presented above and noted these data "showed no indication of increases in brain tumour incidence in relation to the introduction and growing use of mobile phones, up to 20 years after their introduction and 10 years after their use became widespread." Finally, ICNIRP noted that the recent studies dealing with exact location of the brain tumor, "which one would expect to give the most rigorous analysis since it has greater precision without bias, does not support a causal association."

The elevated risks shown in some case-control studies are incompatible with Deltour's (2012) incidence trend findings, discussed earlier. Deltour notes that the many of the elevated risks found in some case-control studies "are implausible, implying that biases and errors in the self-reported use of mobile phone have likely distorted the findings."

At the end of last year, a prospective Danish study that included information on 3.8 million person-years of follow-up was published; this study finds no increased risk of brain tumors even after 13 years since beginning cell phone use. While the Danish cohort study, like all epidemiologic studies, has limitations, it is consistent with the time trend data, showing no association of cell phone use and brain cancer over a long time period.

Epidemiology in children and adolescents and pregnant women

There is now one published epidemiologic study of cell phone use and brain cancer among children and adolescents. It concludes, "In summary, we did not observe that regular use of a mobile phone increased the risk for brain tumors in children and adolescents."[11]

There is also one published study examining the effect on neural development of prenatal exposure to cell phone use. The study concludes, "This study gives little evidence for an adverse effect of maternal cell phone use during pregnancy on the early neurodevelopment of offspring."[12]

Animal Data

The human epidemiology provides the most information about the effect of wireless phone use on humans. However, animal studies can provide useful information because they permit controlled exposure conditions. Scientists have conducted multiple studies exposing animals to high doses of RF for the life of the animals – that is, while *in utero*, and then from birth to death.

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[10] Swerdlow et al. http://dx.doi.org/10.1289/ehp.1103693, published online July 1, 2011
[11] Aydin, op. cit.
[12] Vrijheid M, et.al. Epidemiology 2010; 21:259-262.

Overwhelmingly, these studies do not report an association between wireless phone exposure and cancer, (including tumor initiation, promotion or genotoxicity) even under these extreme exposure conditions. The results of these studies are consistent with those of the time-trend and epidemiologic studies on children and pregnant women that I discussed earlier.

The recent International Agency for Research on Cancer (IARC) classification of cell phones as showing limited evidence of carcinogenicity

Last year, the International Agency for Research on Cancer (IARC) classified RF emissions from cell phones as "possibly carcinogenic." A recent article by John Boice, a widely respected expert in this field, addressed this IARC classification.[13] After reviewing the body of research on potential health effects of cell phone RF emissions, Dr. Boice concluded:

> Amid this encouraging evidence from human observational studies, coupled with the negative findings from virtually all experimental animal and in vitro studies and the absence of any known biologic mechanism by which weak nonionizing radio waves emitted from cell phones could damage DNA and lead to cancer, it may therefore seem surprising that a monograph committee of the [IARC], an agency of the WHO, recently announced that cell phones may be "possibly carcinogenic to humans". The change from [a prior classification of] "no conclusive evidence" to "possibly carcinogenic" was not new research, and it has understandably led to widespread public as well as media concern and confusion. The footnote accompanying the [IARC] press release [announcing the classification] is often missed – that a "possibly carcinogenic to humans" (2B) classification is based on "limited evidence of carcinogenicity" and that "chance, bias, or confounding could not be ruled out with reasonable confidence" for the few positive associations reported in the literature. A published summary of the IARC working group conclusions noted that some members found the epidemiologic evidence to be inadequate to support the 2B classification. Viewed in this context, "possibly carcinogenic" is not a signal to abandon mobile phones and return the landline phones. Rather it is a signal that there is very little scientific evidence as to the carcinogenicity of cell phone use.

The above assessment is similar to the recent assessment by ICNIRP that I have reported above.

WHO, IARC's parent organization, noted in the press release accompanying IARC's classification that "[a] large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use."

Following the IARC classification, the NCI reiterated its conclusion that "although there have been some concerns that radiofrequency energy from cell phones held closely to the head may affect the brain and other tissues, to date there is no evidence from studies of cells, animals, or humans that radiofrequency energy can cause cancer." The NCI added, "It is generally accepted that damage to DNA is necessary for cancer to develop. However, radiofrequency energy, unlike ionizing radiation, does not cause DNA damage in cells, and it has not been found to

[13] Boice, op.cit.

cause cancer in animals or to enhance the cancer causing effects of known chemical carcinogens in animals."

Conclusion

The scientific evidence does not support the proposed warning on wireless phones. Basing any warning on evidence the bill itself calls "speculation" would be irresponsible. In fact, the evidence on the issue of cell phones and brain cancer is not "speculation"; the weight of a large body of high quality scientific evidence shows no adverse health effects, such as brain cancer, from cell phone use.

The lack of association in the epidemiology and in the animal studies is consistent with the fact that brain cancer incidence, in both adults as well as children and adolescents, has not increased since wireless phone use has become common in the U.S as well as countries around the world. These data are also consistent with the fact that there is no known mechanism by which non-ionizing radiation from wireless phones could cause cancer. The FDA has stated "The scientific evidence does not show a danger to any users of cell phones from RF exposure, including children and teenagers."[14]

In addition, the available scientific evidence does not demonstrate any adverse health effects in the offspring of pregnant women. The lack of an increase in the incidence of brain cancer, the lack of any adverse effects in the totality of the animal data and the lack of a known mechanism all apply equally to pregnant women.

U.S. Government agencies that have reviewed the scientific evidence have reached the same conclusion. The federal agency with primary responsibility for regulating wireless phones, the FCC, has stated that "[t] here is no scientific evidence that proves that wireless phone usage can lead to cancer or a variety of other problems, including headaches, dizziness or memory loss."(www.fcc.gov/cgb/cellular.html#evidence). The FDA, which worked with the FCC in developing the current RF safety standard for wireless phones, has also stated "[t] he weight of scientific evidence has not linked cell phones with any health problems."(http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116282.htm). And the NCI states that concerns about the potential health effects of using cellular phones – "and specifically the suggestion that using a cell phone may increase a person's risk of developing brain cancer – are not supported by a growing body of research on the subject." (http://www.cancer.gov/ncicancerbulletin/NCI_Cancer_Bulletin_092308/page7)

Based on all of this evidence, it is my opinion that the proposed warning that cell phone use may cause brain cancer is scientifically unfounded. Imposing warning requirements is a serious responsibility and, as a former public health official, I firmly believe that any such requirements must be grounded in scientific fact. The warning requirement proposed here is not.

February 13, 2012

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[14]See http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116331.htm