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**Considering Cell Phone Disclosure Regulation:
How to Deal with Scientific Uncertainty**

by

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Abstract

There is a large debate going on in the scientific community today concerning the relationship between cell phone usage and increased health risks, such as cancer. Scientific studies have had varied results, making it difficult to truly know what risks, if any, are involved with using a mobile device. This thesis takes a look at the current scientific debate going on and evaluates whether or not there is sufficient evidence to warrant implementing new disclosure regulation for the cell phone industry in the United States.

In order to make a determination on whether or not the U.S. government should require cell phone companies to disclose the potential health risks associated with cell phone use, this thesis uses the history of cigarette disclosure regulation as a benchmark by which to compare. Looking specifically at the first cigarette disclosure regulation passed in 1965, the Federal Cigarette Labeling and Advertising Act, will enable insights into how the first disclosure regulation for cell phones might take shape.

During the course of my research, I tried to answer several questions. These questions were as follows: what are the current studies saying about cell phones' effects on people's health and how strong of a relationship has been made between cancer and cell phones? Is it strong enough to warrant action from government regulators? If there is a strong enough relationship to warrant disclosure, what would this disclosure look like? And lastly, how would new disclosure regulation affect the cell phone industry?

My thesis argues that cell phone companies in the United State should be required to disclose, at point of sale, the existence of potential health risks associated with the radiofrequency radiation emitted by cell phones. The consumer's right to know all of the potential risks associated with using a product far outweighs any company's concerns for monetary profit. Furthermore, given the links established by some studies, it would be irresponsible and illegal to withhold this information from consumers.

While it is agreed in the scientific community that more research is needed to provide conclusive evidence about the relationship between cell phone usage and health issues, it is reasonable to require disclosure at this point in time given the long term consequences associated with not making consumers aware now. If these early studies are in fact correct about the increased health risks from cell phone usage, not requiring disclosure means that consumers will continue being exposed to harmful radiation on a regular basis and may not be made aware of it until their health has already been irreversibly affected.

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Introduction

There are 321.7 million cell phone subscribers in the United States, as of June 2012 (CTIA: The Wireless Association). These people rely on their cell phones to stay in contact with work, friends, and family, and to do so much more. With the increased use of cell phones in our everyday lives, it is no wonder that there has been growing interest in learning how these devices may affect us. It is this curiosity that has led scientists to study the potential health effects associated with the use of cell phones. However, despite the scientific studies already completed, there has not been a firm consensus on the true effects of increased cell phone use. Some studies indicate that society's increased use of cell phones can lead to health diseases, such as brain cancer (American Cancer Society). Others state that there is no link between cancer and the use of mobile devices ("Cell Phones and Cancer Risk"). The public is not yet sure of the exact answer.

More pressing than the results of these scientific studies, however, is what should be done to address these growing concerns, if anything. If an increased risk for health issues is possible from using cell phones, should society act now and warn the public? Or should we continue with the status quo while more research is done? During the course of this thesis, I will show that cell phone companies in the United States should be required to disclose the potential health risks of cell phone usage to consumers.

In order to prove this, my thesis will explore the following questions: what are the current studies saying about cell phones' effects on people's health and how strong of a relationship has been made between cancer and cell phones? Is it strong enough to warrant action from government regulators? If there is a strong enough relationship to warrant disclosure, what

would this disclosure look like? What would the requirements be for cell phone companies? All of these questions are explored in the pages to come.

How, though, can policymakers decide if the scientific evidence is strong enough to justify compelling companies to disclose the health risks to consumers? It has already been stated that scientific studies have yielded mixed results on the topic. So how can a determination be made? This thesis will use the early regulatory history of the cigarette industry as a benchmark by which to compare the regulation of the cell phone industry. It is now a well-known fact that smoking cigarettes causes cancer (Center for Disease Control and Prevention). As a result, cigarettes are currently one of the most heavily regulated consumer products in the country. However, this harmful relationship was not always known or accepted by the general public. Examining the strength of the relationship between cancer and cigarettes at the time of the initial cigarette disclosure regulation in the 1960s will allow for this thesis to extrapolate the implications to regulating the cell phone industry today. The rationale for this comparison between cell phones and cigarettes will be explained in more detail later.

In order to successfully come to a conclusion on this topic, this thesis will first offer further background on the importance of the research being done on health risks and cell phones. Additionally, a closer look into the cigarette industry and the battle to regulate disclosure for this consumer product will be provided in order to understand how disclosure of health risks developed for this industry. This background knowledge will allow the reader to take a closer look at what the research says about cell phones and health risks in order to determine whether or not a strong enough relationship exists. After evaluating the strength of this relationship, a discussion on why policymakers should require health risk disclosure and what such disclosure might look like for the cell phone industry will follow.

Background

Should people be concerned about cell phones?

Why are some people questioning the safety of cell phone use? Should cell phone manufacturers pay serious attention to requests for new legislation regarding cell phones disclosure? These are important questions that are not necessarily easy to answer. In the United States, cell phones have become a major component of most people's everyday lives. Many people rely on cell phones to stay in contact with others and conduct important business—both in their personal and professional lives. With the advancement of technology, we now not only get calls, emails, texts, and instant messages on our phones, but we also have games, to-do lists, can look up directions, shop, and even scan documents with our cell phones. Many of us have come to think of our mobile phones as an extension of ourselves—ridiculous as that may sound—they have become a part of us. It is for this very reason that all people, consumers and companies alike, should be curious about the safety of using these products.

Cell phone companies fully understand how important mobile phones are to consumers. The cell phone industry is an extremely lucrative one, with new phones coming out multiple times each year and most costing hundreds of dollars. As of June 2012, annualized total wireless revenues were \$178.4 billion (CTIA). This includes annualized wireless data revenues of \$68.3 billion, 2.32 trillion annualized minutes used, and 2.72 trillion annualized text messages (CTIA). Additionally, statistics show that 35.8% of households are now wireless only (CTIA), opting to no longer have landline phones and to rely solely on their cell phones to make and receive calls. Cell phones have become not only vital for most people's everyday existence, but they have also become a fashion statement. Consumers want the latest and greatest phones, and they are willing

to pay for them. This means that cell phone manufacturers have a lot at stake when there is discussion of forming new legislation to regulate the industry's products.

So what is the health scare about when it comes to cell phone use? Cell phones “emit radiofrequency energy, a form of...electromagnetic radiation, which can be absorbed by tissues closest to where the phone is held” (National Cancer Institute). The concerns about people's health come from the debate on whether or not brain tissue is negatively affected by the absorption of this electromagnetic radiation. According to the National Cancer Institute, there are two types of electromagnetic radiation, ionizing and non-ionizing. Exposure to ionizing electromagnetic radiation, such as x-rays, is known to increase a person's risk of cancer. However, studies on exposure to non-ionizing radiation have generated mixed results regarding their health effects. The radiofrequency (RF) radiation that is emitted by cell phone use is currently classified as non-ionizing radiation (National Cancer Institute), leaving its effects on people's health ambiguous due to these varied scientific conclusions.

Method

In order to analyze the issue of disclosure of health risks when using cell phones, I will use the history of health risk disclosures for cigarettes as a benchmark. Looking at the first regulation surrounding cigarettes—the 1965 Federal Cigarette Labeling and Advertising Act, I will show how strong the link was between cigarette use and health issues when this legislation was enacted. By comparing the strength of this relationship to the strength of the link between cell phone use and health issues, I will analyze and determine what action should be taken, if any, at this point in time for regulation of cell phone health risk disclosure.

Additionally, in order to make this determination, I will discuss the other factors at play in the decision to enforce health risk disclosure for cigarettes, such as industry lobbyists and other political agendas, and how they affected both the government's decision to regulate disclosure and the shape that the regulation ultimately took. Bearing in mind these other factors at play in the decision making process, I will look at not only the strength of the research involving cell phones and cancer, but also the biases that may be present in the regulatory debate today. This will show why disclosure for the cigarette industry followed the path that it did in order to avoid repeating any mistakes that may have been made, ensuring the public good is being served. Ultimately, this will allow for a thoughtful discussion on what disclosure should look like for the cell phone industry.

Analysis

Cell Phones and Cancer: What does the Research say?

The biggest issue plaguing the debate around regulating cell phone disclosure is the lack of agreement in scientific studies. Reputable studies have had varied results, with some showing a possible link between cell phone use and cancer does exist, and others showing no statistically significant findings of cell phone use and increased health risks (National Cancer Institute at the National Institutes of Health, <http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>). However, the one thing all groups can agree on is that “more research is needed” (National Cancer Institute at the National Institutes of Health) on the topic in order to conclusively determine the long term effects of cell phone use on people's health. There is no way to truly know if the exposure to radiofrequency waves from cell phones puts users at risk, and to what degree, unless the issue is further investigated.

Thus, while the health effects of cell phone use may be uncertain, it is clear that it is a disservice to the public good if society chooses not to study the potentially harmful impacts of devices that produce RF electromagnetic fields. In light of research already completed, limiting further study in this area puts many people at risk for serious health issues, such as cancer and reproductive problems. The International Agency for Research on Cancer (IARC), as part of the World Health Organization, notes that the research completed thus far is “inadequate to draw conclusions” about many types of cancers. The logical next step is to conduct further research so that a clear determination can be made and consumers can make informed decisions based on the new insights developed.

The Federal Communications Commission (FCC) has commented on this issue, noting that “[t]hose evaluating the potential risks of using wireless devices agree that more and longer-term studies should explore whether there is a better basis for RF safety standards than is currently used” (“Wireless Advice and Health Concerns”). Vince Chabria, a city deputy attorney for San Francisco, reiterated this observation after reading the Government Accountability Office (GAO) report on Cell Phones and RF energy exposure, stating that: “New information keeps coming up about the relationship between cell phone use and health risks, such as cancer. And we think the public is better served if they're given the opportunity to take a closer look at this new information” (Reardon). It is crucial that these additional studies be carried out so the true health effects of RF energy exposure from cell phones can be determined.

Nonetheless, studies already completed have shown that possible links between cell phone usage and cancer or reproductive problems due to radiation exposure do exist. The IARC has stated that RF electromagnetic fields are possibly carcinogenic to humans, putting it in the same category as lead and mercury (International Agency for Research on Cancer, 1).

Furthermore, the IARC's study notes that a past cell phone study showed that long-term, heavy users of cell phones (characterized as 30 minutes per day over a ten year period) have a 40% increased risk of gliomas, a type of brain cancer (International Agency for Research on Cancer, 2). Even worse, this same study notes that if heavy users consistently use phones on one side of their heads, than the increased risk of gliomas jumps to 96% ("Cell Phones and Brain Cancer?"). This possible link between cancer and the RF electromagnetic fields produced by cell phones demonstrates the need for enacting disclosure regulations for cell phone companies, as it affects such a vast portion of the human population, with the IARC noting that there are 5 billion mobile phone subscriptions globally.

Moreover, the FCC has been advised by the GAO to reevaluate its guidelines on acceptable limits of radiofrequency energy exposure (Maisto, "FCC Should Reassess"). After a July report by the GAO, it has been determined that the FCC's current radiofrequency standards do not "reflect the latest research and that testing requirements may not identify the possible maximum amount of exposure in some use cases," (Maisto, "FCC Should Reassess"). This implies that while cell phone manufacturers are currently abiding by the FCC regulations, their devices may still be causing harm to users as the FCC regulations are not as updated as they need to be in order to ensure consumer safety (U.S. Congress, *Exposure and Testing*). Consumers should have access to clear information on the RF energy exposure levels of each device rather than relying on potentially outdated FCC regulation or waiting for the FCC to determine new and updated guidelines for companies to abide by.

Still, at the current point in time, there is not yet conclusive proof that devices such as cell phones in fact cause cancer from RF radiation exposure. As noted in the New York Times, "[b]oth the National Cancer Institute and the F.C.C. say that there is no scientific evidence that

wireless phones are dangerous, but each agency continues to monitor continuing medical studies” (McKinley). Forcing companies to label products with warnings about RF radiation levels before a conclusive link exists between the cell phone use and cancer may be premature and misleading to consumers. These labels could cause confusion amongst consumers, as well as the illusion that these labels indicate an unsafe product. It is worth asking whether or not companies should be required to incur the additional expenses, both financial and reputational in nature, associated with these labels before a clear link has been made.

Cigarettes and Cancer: A look back at regulatory history

Similar to the current debate about the health risks of using cell phones, the health risks associated with cigarettes have been a topic of great concern as well. Health risk disclosures for cigarettes remained completely unregulated for decades until finally, in the 1960s, the public began to listen more closely to scientific reports showing links between cigarette smokers and health risks such as cancer. In 1964, the Surgeon General released a report detailing the increased health risks involved with smoking cigarettes. There had been many reports before 1964 that showed a positive link between cigarette smoking and increased risk of cancer, but none were given the attention they deserved (Fritschler, 17). The 1964 government report, however, garnered much attention from the public and finally gave some weight to the argument that smoking cigarettes is bad for peoples’ health (Fritschler, 18).

Following this, the first legal move to educate the public on the risks of smoking came in 1965 in the form of the Federal Cigarette Labeling and Advertising Act (FCLAA). The FCLAA required warning labels to be put on every cigarette package, which stated the following: “Caution: Cigarette smoking may be hazardous to your health” (Rabin, 19). While more and

stronger regulation would develop in the cigarette industry in the years to come, this initial warning label served to educate the public and raise awareness that the health risks associated with smoking cigarettes were indeed real.

One thing that is clear from this information is that the government did not require cigarette companies to disclose health risks to the public until a strong link was established between smoking and cancer. It is also noteworthy that while a strong link was shown, the warning label required by the FCLAA did not express the severity of the risk associated with smoking. There had been numerous scientific reports that showed a strong positive relationship between smoking and cancers, yet the warning labels only stated that cigarette smoking “may be hazardous” to a smoker’s health. This is a clear understatement of the actual risk involved with smoking—death.

Both the delay in requiring disclosure and the lack of strength in the warning were predominantly due to the lobbying power of the cigarette industry in Washington, as the original warning labels proposed in the FCLAA provided much stronger language (Fritschler, 52). The original proposal offered two potential warning labels, which read as follows:

- a. “CAUTION—CIGARETTE SMOKING IS A HEALTH HAZARD: The Surgeon General’s advisory committee has found that ‘cigarette smoking contributes to mortality from specific diseases and to the overall death rate’

or

- b. CAUTION: Cigarette smoking is dangerous to health. It may cause death from cancer and other diseases” (Fritschler, 89).

Both of these warnings, unlike the one that actually passed through Congress, make it clear that the risks of smoking are severe and life-threatening. The cigarette industry, as well as the tobacco-state congressmen at the time, used their resources and power to serve their own interests, rather than the good of the consumer. This can be clearly seen from the Senate’s vote

to pass the FCLAA, as “there was virtually no opposition to the bill from cigarette manufacturers. On the contrary, they seemed to be supporting it. The bill passed the Senate...with most of the tobacco-state senators voting for it” (Fritschler, 122). These two groups were happy to support a watered down form of regulation on the industry, rather than accept more stringent disclosure regulation that some health interests and government agencies, such as the FTC, were proposing at the time (Fritschler, 124-5).

The tobacco industry was concerned about their profits, while the tobacco-state congressmen were concerned about keeping their constituents’ support (Fritschler, 129). Thus, Congress watered down the warning to eliminate the mention of death and undercut the severity of the risk being taken by consumers when smoking (Fritschler, 120). This was a mistake of the government to allow the cigarette industry to manipulate the product’s regulation in order to mask the true health risks caused by smoking—one that should not be repeated with cell phone disclosure regulation.

Despite the cigarette industry’s ability to sway legislature in 1965, the passing of the FCLAA would prove to be just the first step in a long list of disclosure regulation that would strongly impact the tobacco industry and actually protect consumers in the years to come. In fact, by 1967 the Surgeon General acknowledged that the warning labels being used were not strong enough given the grave effects of cigarette smoking (Fritschler, 20). New legislation would pass in 1969, known as the “Public Health Cigarette Smoking Act,” altering the warning labels on cigarettes (Brandt, 258). Then in 1984, the “Comprehensive Smoking Prevention Education Act” passed, which implemented four new rotating warning labels on cigarette packaging, which are still used to this day (Brandt, 258). These labels clearly state the severe risks taken by smoking cigarettes. For example, one of these four warning labels reads:

“SURGEON GENERAL’S WARNING: Smoking causes lung cancer, heart disease, emphysema, and may complicate pregnancy.” Even more recently though, in 2012, new disclosure regulation, called the “Required Warnings for Cigarette Packages and Advertising,” passed, which requires nine new warning labels to appear on all cigarette packaging (U.S. Food and Drug Administration). These new warning labels include graphic pictures to accompany the written warnings, which are also now larger in size, in order to visually show consumers what will likely happen to them as a result of smoking cigarettes (U.S. Food and Drug Administration). Notably, these new warnings must cover approximately 50% of the cigarette packaging, making it highly difficult for the consumer to miss or ignore.

These new, stricter warning label regulations all stem from the initial disclosure regulation passed in 1965. The FCLAA was the beginning of a long process of consumer protection and awareness. It is this same beginning stage that policymakers find themselves in now for cell phone disclosure regulation.

Cigarettes and Cell Phones: A Fair Comparison?

Cigarettes and cell phones most likely seem as though they have very little in common as a consumer product. However, when dealing with the topic of this thesis, they have more in common than one might assume. It is important to discuss the similarities and differences between the two products in relation to government regulation in order to fully consider how to approach cell phone regulation.

Smoking cigarettes is, presumably, far more deadly than using a cell phone. When smoking a cigarette, a person is physically inhaling nicotine, tar, and many other harmful compounds into the body. Nicotine is addictive and directly affects the lungs, heart, and liver,

while also causing other life threatening diseases like cancer (National Institute on Drug Abuse). The 2004 Surgeon General's report states that "Smoking harms nearly every organ of the body, causing many diseases, and reducing the health of smokers in general" (US Department of Health and Human Services, Executive Summary 8). The combination of the addictiveness and deadliness of cigarettes makes it the extremely harmful product that it is. While smoking one cigarette will not kill you, continual smoking will. Given that the addictive qualities of cigarettes enhance the probability that smokers will continue to use the product for a prolonged period of time, a smoker is continuously increasing their likelihood of disease and death.

Cell phones however do not contain any addictive chemicals, and the research is currently unclear as to whether or not they cause life threatening diseases. As stated earlier, while it is known that cell phones emit radiofrequency radiation when in close contact with the body, the exact effects of this radiation is still debated. Despite the several studies done so far to determine these effects, the American Cancer Society notes that "most studies published so far have not found a link between cell phone use and the development of tumors. However, these studies have had some important limitations that make them unlikely to end the controversy about whether cell phone use affects cancer risk" (American Cancer Society). One of the major limitations being referred to is that:

[C]ell phone usage is constantly changing. People are using cell phones much more than they were even 10 years ago, and the phones themselves are very different from what was used in the past. This makes it hard to know if the results of studies looking at cell phone use in years past would still apply today (American Cancer Society).

Due to these ambiguities, current policymakers must make decisions about cell phone disclosure regulation with less definitive scientific evidence than was available at the time of the first cigarette disclosure regulation. This difference is important to be aware of when deciding if health risk disclosure should be required for cell phones.

Additionally, there is no “healthier” way to use cigarettes, while there are safer ways to use cell phones. Cigarettes are unhealthy and life threatening no matter what type of cigarette it is. For years, the cigarette industry tried to advertise filter cigarettes, “light” cigarettes, and “ultra-light” cigarettes as safer alternatives to full strength cigarettes because they supposedly reduce tar levels (Parker-Pope). However, these types of cigarettes are all unhealthy and were marked as “safer” as a marketing ploy by the cigarette industry (Parker-Pope). The only real way a person can try to reduce his risk of disease or death from smoking is to stop using the product. Assuming the nicotine, tar, and other harmful compounds in cigarettes have not already caused various diseases and cancers in the body, stopping the intake of these chemicals will decrease the smoker’s probability of getting these illnesses in the future.

This is unlike cell phones, which can be used in ways that reduce the amount of exposure to radiation (American Cancer Society). Using the phone’s speaker function or a Bluetooth wireless device reduces the exposure to radiation because the phone is not coming into contact with the head. Another way to reduce this exposure is by sending text messages instead of making phone calls (American Cancer Society). These differences, along with the uncertain research on cell phone health risks, all need to be taken into consideration when deciding if health risk disclosure should be required for cell phones and what it should look like.

While the differences outlined above are important, there are also similarities that make cell phones and cigarettes an appropriate comparison for this thesis. The health risks being discussed for each product are severe, life-threatening illness, such as cancer. This means that the importance of researching and knowing the relationship between the health risks and using the product is the same. Both products also share similar scientific and regulatory history. When the first regulations for cigarettes were being discussed, there was still large debate around

whether or not smoking cigarettes posed a serious health risk. While there were many scientific studies that established a positive link between smoking cigarettes and various cancers, there were also many people, including the cigarette companies, that denied any such relationship existed. This gave the issue some ambiguity and allowed the cigarette industry to lobby Congress into weakening the ultimate regulation that passed in 1965 (Brandt, 257). Similarly, there is also a lot of debate going on now about the use of cell phones and an increased risk of cancer. This ambiguity surrounding the effects of using cell phones and being exposed to its radiation is very similar to the debate on the effects of cigarettes in the 1950s and 60s.

Another reason that these two products make for good comparison is the type of regulation that the public sought. For cigarettes, the first disclosure regulation dealt with placing warning labels on all of the cigarette packaging. Similarly, there has been proposed legislation in recent years that seek to place warning labels on cell phones to make consumers aware of and educated about the potential risks associated with using their mobile devices. At the heart of the issue, for both cigarettes and cell phones, is the consumer's right to know what will happen to her by using a company's product. The cell phone industry, similarly, cannot turn a blind eye to potentially harmful effects of cell phone use and deny the consumer their right to give informed consent to the potential risks of using the product.

Warning Labels and Cell Phones: Why require disclosure?

As previously mentioned, consumers have a right to know if they are being exposed to RF radiation through the use of cell phones and other electronic devices. People have a right to be informed of the risks associated with using various products as it affects their lives and decisions. A consumer cannot give informed consent to use a product if the full risks of doing so

have not been made available to her in a clear manner. United States courts have ruled on the issue of the appropriate standard for informed consent, stating the following:

A manufacturer of a product has a duty to warn consumers of the dangers inherent in the use of its product, of which it knows or has reason to know. The warning must be adequate. It should be communicated clearly and understandably in a manner calculated to inform the user of the nature of the risk and the extent of the danger; it should be in terms commensurate with the gravity of the potential hazard, and *it should not be neutralized or negated by collateral efforts on the part of the manufacturer* (Rabin, 76).

The cigarette industry did not meet this appropriate standard prior to regulation enforcing warning labels because consumers were not aware of the risks associated with using its products, “of which it knows or has reason to know.” Given the numerous reports on the issue by the 1960s, the cigarette industry had reason to know that there were life threatening risks associated with smoking cigarettes.

Likewise, the cell phone industry cannot ignore studies that have found relationships between health risks and cell phone usage either, as it would be denying the consumers their right to give informed consent to the potential risks of using the product. While further research needs to be conducted to provide definitive proof of the relationship between the health risks and the use of the cell phones, consumers should still be made aware of the health risks established by available studies in the meantime. It is a violation of the consumers’ rights to ignore or hide this information until they have already been exposed to a significant amount of cell phone radiation. Delaying disclosure until there is absolute certainty in the research would not be in the best interest of the consumer. The best interests of the consumers would be served by allowing them to take precautions if they so choose by using phones in a safer manner, or allowing them to at least take the risk knowingly, having given their informed consent.

Creating disclosure regulations for cell phone manufactures would require these companies to label their products so that consumers can be aware of their exposure to RF

radiation and understand how it may affect their health. Although the exact effects of RF exposure are still being researched and debated, it has been established by several reports that a possible link exists. Congressman Dennis J. Kucinich explains that: “While we wait for scientists to sort out the health effects of cell phone radiation, we must allow consumers to have enough information to choose a phone with less radiation. As long as cell phone users may be at increased risk of cancer or reproductive problems, Americans must have the right to know the radiation levels of cell phones” (Tam, “Congressman Introduces”). Making this information readily available enables consumers to make better choices about which products they wish to use.

Ultimately, companies have an obligation to their consumers and the public good. It is the legal responsibility of companies to keep consumers informed of the effects of their products. Misleading consumers or withholding information is not only irresponsible, it is also illegal. Some scientists have established a link between cell phones and cancer, due to the exposure to RF electromagnetic fields. This information must be shared with consumers so they can make an informed decision about their use of such products. In 2010, San Francisco voted in favor of legislation similar to the “Cell Phone Right to Know” Act, a bill proposed to Congress in 2012. This legislation would “require retailers to display, in 11-point type or larger, the amount of radiation emitted by each phone” (Maisto, “Kucinich”).

After a trade group for the wireless industry, CTIA, filed a lawsuit against San Francisco to try to stop this legislation, the then Mayor of San Francisco, Gavin Newsom, expressed disappointment and surprise that CTIA would “rather spend money in court than work with San Francisco to ‘comply with a reasonable law that provides greater transparency and information without putting any undue burdens on small businesses or discourage cell phone use in any

way.” (Maisto, “Kucinich”). These companies are attempting to elude their responsibility to consumer safety because research in the area is still developing. However, in light of the possible link between cell phone use and health problems, these companies cannot continue to evade their obligations to consumers.

The wireless industry claims that disclosing these potential health risks before a definitive link has been proven would be highly detrimental to the industry. They claim that consumers may shy away from using these electronic devices due to fear of cancer from radiation exposure, potentially causing extreme financial distress to electronics companies from lack of sales. A representative for the CTIA Wireless Association, Andrew McBride, noted that the proposed safety information policymakers want companies to give consumers at point of sale is “alarming, telling people to limit cell phone use for children” (Tam, “Wireless Industry”). Subsequently, if consumers fear that using cell phones is unsafe due to the exposure to RF energy, it is likely that sales of these devices will decline. Thus, the “\$190 billion wireless industry” (McKinley) views the proposed labeling as a “potential business-killing precedent” (McKinley). Based on these claims, the cell phone industry has lobbied to stop any health risk disclosure regulation until a clear link has been determined that suggests that exposure to the current levels of RF radiation emitted from cell phones causes health problems, citing that it is unreasonable to subject the industry to such financial distress.

However, by looking at the effects of cigarette health warning labels implemented through disclosure regulation in the 1960s, it is clear that widespread attrition from customers is not likely. Cigarette smokers “reacted slowly and quite begrudgingly” (Fritschler, 2), continuing to use the tobacco products even after it was clearly established that smoking caused life-threatening illnesses. In the beginning of 1967, one year after the FCLAA was implemented in

January 1966, sales of cigarettes actually “increased by 716 billion cigarettes during that year. Two years later cigarette sales dropped slightly. Then a rising trend began and sales reached new high records each year beginning in 1971” (Fritschler, 2). These statistics show that the implementation of warning labels on each cigarette package did not by any means cripple the cigarette industry.

With millions of people using cell phones in the United States, it is only sensible to make the potential risks of RF radiation known to the public. Requiring disclosure from the cell phone industry is the responsible and appropriate action to take given the stakes. This disclosure could take many different forms and could be delivered to the consumer through various methods. The following section will discuss some of the options for disclosing health risks of cell phone usage.

Cell Phone Disclosure: What might it look like?

Requiring disclosure would help raise awareness about the risks of using cell phones in the United States, which would enable people to make healthier decisions. There are numerous ways that disclosure can take shape, whether it is through warning labels on the devices or the packaging, information distributed to a consumer along with the product at point of sale, or simply providing comprehensive information about the risks on the websites of cell phone companies. Currently, information about the link between cell phone use and cancer is only available to consumers who put in cumbersome effort to seek it out.

However, there is also the concern of what exactly this disclosure would say. Given the mixed results of the research available today, should this disclosure be a simple warning like that first provided on cigarette packaging in 1965? Or should stronger and more detailed language be used that specifies the exact health risks being discussed? Are we ready to commit to strong

warning labels on all cell phone devices given the research available today? The paragraphs below explore some potential options for disclosure.

One model for disclosure regulation comes in the form of the “Cell Phone Right to Know Act,” proposed in 2012 by Ohio congressman Kucinich. This bill seeks to study and raise awareness of any potentially harmful effects to humans from exposure to RF electromagnetic fields produced from electronic devices, such as cell phones (U.S. Congress, H.R. 6358: Cell Phone Right to Know Act), while also requiring that cell phone companies put warning labels citing the RF radiation level on any given phone they produce, along with the legal amount of RF radiation set by the FCC, and safety tips to avoid harmful exposure to RF radiation from these devices (Rubio). Enacting regulation to implement warnings about cell phone use, similar to that on cigarette packaging, would make this information more easily accessible to consumers, allowing them to be aware of the pertinent health issues related to these devices.

However, this method is not without its flaws. Labeling cell phones with warnings that detail the RF radiation levels may give the impression that certain products are safer than others, potentially creating confusion amongst consumers. The industry claims this may produce an unfair competitive advantage for certain companies in the marketplace. John Walls, CTIA VP of Public Affairs, stated that labeling cell phones with warnings on RF radiation levels “suggests to the consumer that there is a meaningful safety distinction between FCC-compliant devices with different [RF energy absorption] levels” (Miesto, “CTIA Sues”). Given the current FCC guidelines, which establish what is an acceptable and non-harmful amount of RF radiation exposure, these warning labels might mislead consumers by giving the impression that some phones are safer than others because they have a lower RF radiation level. As noted earlier, the GAO has requested that the FCC reevaluate its guidelines on acceptable limits of RF energy

exposure to ensure they are up to date (Maisto, “FCC Should Reassess”). However, until that evaluation is completed, the current standards are the ones cell phone companies must legally abide by. Therefore, as long as a product does not exceed the current acceptable standard, the product is deemed safe for use by the FCC. Consumers may not understand this and therefore may be given the impression that certain phones are “less safe” due to a higher, but still acceptable, level of RF radiation. Overall, the warning labels proposed by the “Cell Phone Right to Know Act” seem to offer information that is more detailed than necessary given the current state of research on the topic.

A more suitable path would be to follow in the footsteps of cigarette disclosure with the 1965 FCLAA. While the warning label “Caution: Cigarette smoking may be hazardous to your health” was not strong enough given the clear link between smoking cigarettes and cancer at the time, it is a warning that would be more fitting for cell phones given the remaining uncertainty on the health effects of cell phone usage today. Thus, a similar warning provided at point of sale for cell phones, such as “*Caution: cell phone usage may be hazardous for your health due to increased radiofrequency radiation exposure*” could be enough to make consumers more aware of the existing issues without overstating the certainty of the risks or becoming too technical by stating the exact amounts of RF radiation emitted. The consumer does not need to know the exact amount of RF radiation being emitted to understand that the radiation itself may cause harm, especially given that current FCC standards are not being violated by cell phone companies. This warning label can be provided on the packaging rather than the physical product, as to not ruin the aesthetics of the product itself—which is an important factor for most consumers when purchasing a cell phone. This type of warning seems more appropriate in light of the mixed scientific results and the continued research being done.

Another method that would help to better serve the public is to make people aware of the alternative ways to use cell phones in order to minimize exposure to cell phone radiation. As stated earlier, the risks of exposure come from the close contact of the phone with the skin, particularly the head, while the phone is being held to a person's ear. However, a person can utilize a mobile phone's speakerphone option or talk via a Bluetooth wireless device instead of holding the phone to his ear. Doing one of these things would minimize the risk of radiation exposure because the phone is not coming into direct contact with the body (American Cancer Society). Another alternative option is texting. If people communicate via text messages instead of phone calls, this would also mitigate the risks of radiation exposure (American Cancer Society). Requiring disclosure that would educate the public about these healthier alternative choices that decrease their risk of radiation exposure would be greatly beneficial. It would allow consumers to take precautions that may greatly benefit their health while scientists continue to research the relationship between cell phone use and increased health problems.

Ideally, the regulation implemented would not only control the disclosure of potential health risks associated with using cell phones, but would also provide additional information to consumers about how to better use cell phones in order to mitigate the potentially harmful risks of using their mobile devices. A traditional warning label does not seem the best method to deliver all of this information. Thus, I would propose a combination of some of the methods discussed above. A small pamphlet can be included inside the packaging of mobile phones that both warns against the potential health risks,—for example, stating the above mentioned, *“Caution: cell phone usage may be hazardous to your health due to increased radiofrequency radiation exposure”*—as well as outlines the safer ways to utilize the product, such as texting and using Bluetooth devices. Lastly, this point of sale information provided with the device should

also include website links to additional resources on the subject. This would allow consumers to easily locate relevant information on the topic without hours of internet search if they wish to know more about the risks and current research that is available.

Conclusion

With so many people using cell phones each and every day, it would be irresponsible for society to sit back and wait for irrefutable evidence to pile up and show that our current use of cell phones causes cancer. The risk is too great for the government not to act sooner when possible links have already been shown. Additional research is certainly needed to bring more light to the issue and provide clarity on how great an effect radiation exposure from cell phones can have on a person's health. However, until that research is completed, it is not asking too much of our government to require disclosure from the cell phone industry that would inform its consumers about the healthier methods of using cell phones and the potentially harmful effects caused by the way society uses them now.

Since cell phones have become such an integral aspect of our everyday lives, with 321.7 million cell phone subscriptions in the United States and 35.8% of households relying on their mobile phones as their only method for making calls (CTIA), it is highly unlikely that people will suddenly stop using these devices that they have come to rely on as their main mode of communication. Will their use of these devices adapt and change? Perhaps. But it took years for cigarette smokers to finally listen to warnings about the deadly effects of smoking cigarettes even after disclosure regulation was enacted. In the meantime, far too many lives had been lost unnecessarily due to cigarette smoking. Yes, there is a difference between the addictive qualities

of cigarettes and cell phones. However, the regulatory debate on disclosure is remarkably similar.

It would be reckless to allow lobbyists of the cell phone industry to push their own agendas and financial desires to the forefront of the debate at the cost of educating the consumer and acting in the people's best interests. Disclosing the existence of potential health risks will simply give the consumer additional information on the topic and allow people to take whatever cautions they may desire. As shown earlier in this thesis, it would not lead to some mass exodus from the cell phone market that companies claim will devastate the industry.

The light warning proposed to accompany cellular products is unlikely to stop many consumers from purchasing these devices, which have “become a near-ubiquitous tool for information seeking and communication” (Smith). It would merely cause the consumer to be more cautious in his or her use of the device—whether it be opting to use Bluetooth headsets or speakerphone more often than before, or simply texting and emailing people rather than making phone calls. In fact, this changing trend is already happening in our society. A recent study showed that 63% of teens in the U.S. send and receive text messages on their phones daily, while on 39% of teens use their mobile devices to make phone calls (Purcell, 23). Thus, implementing disclosure regulation would not damage the success of the cell phone industry, it would merely cause it to adapt to another form. A form that is more reliant on email, texting, and mobile applications than it is on voice calls. Seeing as these services all cost the consumer money, requiring disclosure would not take away from the industry's revenue streams. It would merely change the makeup of these revenues. In weighing the positive and negative results of requiring health risk disclosure at this point in time, the good of doing so far outweighs the “bad” in this situation.

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