Psychological Burden of Oral Cancer and Targeted Potential Interventions

> *"The tricky part of illness is that, as you go through it, your values are constantly changing. You try to figure out what matters to you, and then you keep figuring it out. It felt like someone had taken away my credit card and I was having to learn how to budget. You may decide you want to spend your time working as a neurosurgeon, but two months later, you may feel differently. Two months after that, you may want to learn to play the saxophone or devote yourself to the church. Death may be a one-time event, but living with terminal illness is a process"* (Kalanithi 160).

Living with chronic disease dramatically alters not only an individual's physiological health, but also an individual's psychological health. Terminal illnesses like cancer can invoke a sense of helplessness. Cancer as Kalanithi emphasizes "felt like someone had taken away my credit card and I was having to learn how to budget" (Kalanithi 160). Cancer, which is uncontrollable cell division that amasses in local tissue and distal tissue through the blood stream, is parasitic in nature as it steals local blood supplies from normal, healthy tissue and bombards the immune system making the individual more susceptible to opportunistic infections (National Cancer Institute 2017). Ultimately, if left uncontrolled or if treatment is resisted, cancer devours the body.

Cancer not only weakens the body, but it also weakens the mind. Cancer causes people to not only lose control over their body, but to also question their sense of self and their overall life values. Kalanithi discovers through documenting his journey with lung cancer that "living with terminal illness is a process" (Kalanithi 160) that requires the affected individual to rethink their core values and reevaluate how they want to truly live out the rest of their life.

Kalanithi's courageous memoir showcases the crossover between healthcare provider to patient. *When Breath Becomes Air* highlights the mental transition Kalanithi underwent as a completely healthy young adult to a terminally ill patient. By becoming the patient, Kalanithi begins to truly appreciate and sympathize with the patients who he has medically treated in the past. In essence, Kalanithi's terminal lung cancer diagnosis allowed him to reevaluate who he was as a person and what he actually wanted to live for.

Kalanithi's account with his battle with cancer highlights a dilemma that many healthcare providers face daily when they treat their patients. How do healthcare professionals effectively meet both the physiological and psychological needs of a cancer patient?

Oral cancer is essentially the uncontrollable cell division of cells in the oral cavity and may commonly appear as lesions and/or masses that do not heal or disappear within fourteen days (Oral Cancer Foundation 2017). Oral cancer has been linked to gene mutations caused by smoking and dipping tobacco substances as well as the human papillomavirus number sixteen (Oral Cancer Foundation 2017). Oral cancer screenings are typically done by the dental hygienist as a preventative measure. However, these preventative screenings may not always detect early oral cancer. With the rise of human papillomavirus number sixteen linked oral cancer that typically manifests in the hard to see areas of the back of the throat and tonsils, oral cancer is typically caught in its later stages after it has parasitically spread to other organs and tissues (Oral Cancer Foundation 2017).

Not only do dental hygienists play an pivotal role in screening for oral cancer, dental hygienists help maintain oral hygiene as well manage the adverse effects of chemotherapy on the mucosal membranes of the mouth. Chemotherapy, which is the use of potent drugs that attack rapidly dividing cells, causes many adverse oral conditions like oral mucositis, which is the inflammation of the oral mucosal membrane characterized by the painful formation of red patches and/or ulcers (Wilkins 947). Patients undergoing chemotherapy may also face dry mouth and bleeding as well (Wilkins 947). Dental hygienists provide maintenance treatment preventing the patient from facing dental infections, as they are immunocompromised from chemotherapy. Furthermore, dental hygienists provide their patients with the education that they need to know to maintain their oral health during chemotherapy.

Oral mucositis occurs as a common side effect of chemotherapy in a majority of oral cancer patients (Chaitanya et al. 2016). Since the condition is so painful that many patients are often ultimately forced to avoid eating all together, many oral cancer patients undergoing chemotherapy face nutritional deficiencies and poor quality of life (Chaitanya et al. 2016). With the physiological stress of oral mucositis, many patients suffer from anxiety and depression during chemotherapy treatment (Chaitanya et al. 2016).

Anxiety and depression should be addressed in oral cancer patients as it negatively impacts quality of life (Frick et al., 2007). Although dental hygienists perform procedures to help maintain the oral health of patients, dental hygienists should also educate their patients on how to maintain their oral health themselves through proper nutrition and oral hygiene. As educators, dental hygienists can address the psychological distress oral cancer patients face by teaching oral cancer patients effective techniques on how to handle their anxiety and stress.

Oral cancer patients do not only face physiological complications such as oral mucositis, but they also undergo psychological complications as well. As a clinician, dental hygienists have a moral obligation to not only provide oral health care, but also promote a better quality of life for their cancer patients. Psychological

complications are typical of oral cancer patients and can be addressed by the dental hygienists. In this paper, the psychological burdens oral cancer patients face due to the physical complications of their disease and the potential interventions that may be taken on a case-by-case basis to improve their mental health and quality of life will be examined. (Note: All patients mentioned in this paper have been given different names and all confidential details have been disguised.)

I. Problems of Oral Cancer

Oral cancer patients face an array of physical complications that consequently affect the individual's psychological health and quality of life. These problems do not only extend to the physical complications of oral cancer, but also to the cultural and social stigma associated with the disease. Consequently, these problems can ultimately cause patients to become withdrawn, and unmotivated, fueling their non-compliancy. In this section, the psychological issues related to the physical complications of oral cancer and the associated social and cultural stigma contributing to patient non-compliancy will be evaluated.

The Physical Complications of Oral Cancer: Mechanical Loss of Function & Facial Disfiguration

> The art of losing isn't hard to master;
> so many things seem filled with the intent
> to be lost that their loss is no disaster.
>
> Lose something every day. Accept the fluster
> of lost door keys, the hour badly spent.
> The art of losing isn't hard to master.
>
> Then practice losing farther, losing faster:
> places, and names, and where it was you meant
> to travel. None of these will bring disaster.
>
> I lost my mother's watch. And look! my last, or
> next-to-last, of three loved houses went.
> The art of losing isn't hard to master.
>
> I lost two cities, lovely ones. And, vaster,
> some realms I owned, two rivers, a continent.
> I miss them, but it wasn't a disaster.
>
> —Even losing you (the joking voice, a gesture
> I love) I shan't have lied. It's evident
> the art of losing's not too hard to master
> though it may look like (*Write* it!) like disaster

(Bishop 1926-1979).

Everyone loses something in their life. It may be an object like a watch, or a place like a home, or even a person like a family member. Initial loss may make subsequent loss easier. As Elizabeth Bishop emphasizes in *One Art*, "it's evident the art of losing's not hard to master" (Bishop 1926-1979). A person can come to terms with losing an object, a home, or even a family member. However, the psychological impact of losing your own personal physical health may not be as easy to overcome.

Being able to verbally communicate our thoughts, feelings, and desires is important for our daily social interactions with friends, family, and colleagues. For patients with oral cancer, the ability to verbally communicate may be limited or completely compromised due to the physiological complications of the disease. Contrary to Bishop's thoughts on loss, the loss of the ability to speak may actually be "too hard to master" and "it may look like disaster" (Bishop 1926-1979).

Oral cancer causes an array of physical complications that affects an individual's ability to speak, eat, and drink. The impairment of these basic functions has not only negative physiological health consequences, but it also has significant adverse psychological effects. The loss of functionality of the mouth can consequently lower an individual's quality of life (Moore et al. 2014).

Oral cancer is more prevalent in certain demographics and lifestyles. Individuals with oral cancer are usually male, over the age of 50, and are Black or Hispanic (National Institute of Dental and Craniofacial Research 2014). According to the National Institute of Dental and Craniofacial Research, approximately 10 adults out of 100,000 will develop oral cancer (National Institute of Dental and Craniofacial Research 2014). There are certain lifestyle choices that increase the risk of developing oral cancer. Lifestyle risks include using tobacco, drinking alcohol, having a poor diet, and chewing a Southeast Asian herb called betel quid (Petti 2009). Tobacco, alcohol, and betel quid have all been shown to be carcinogenic to the oral cavity, and daily consumption of these substances increases the risk of oral cancer development (Petti 2009).

Patients with oral cancer face many special physical complications as a result of the disease. Oral cancer patients lose essential basic functions such as being able to eat due to difficulty in chewing and/or swallowing as well as being able to verbally speak to other people due to tumors and lesions (Fig. 1.; Hassanein et al. 2005). Many patients also face physical facial disfigurement depending on the severity of their oral cancer and whether or not they had to undergo surgical procedures to remove tumors (Fig. 2; Hassanein et al. 2005). Patients that faced more severe oral loss of functionality were reportedly more anxious and depressed (Hassanein et al. 2005).

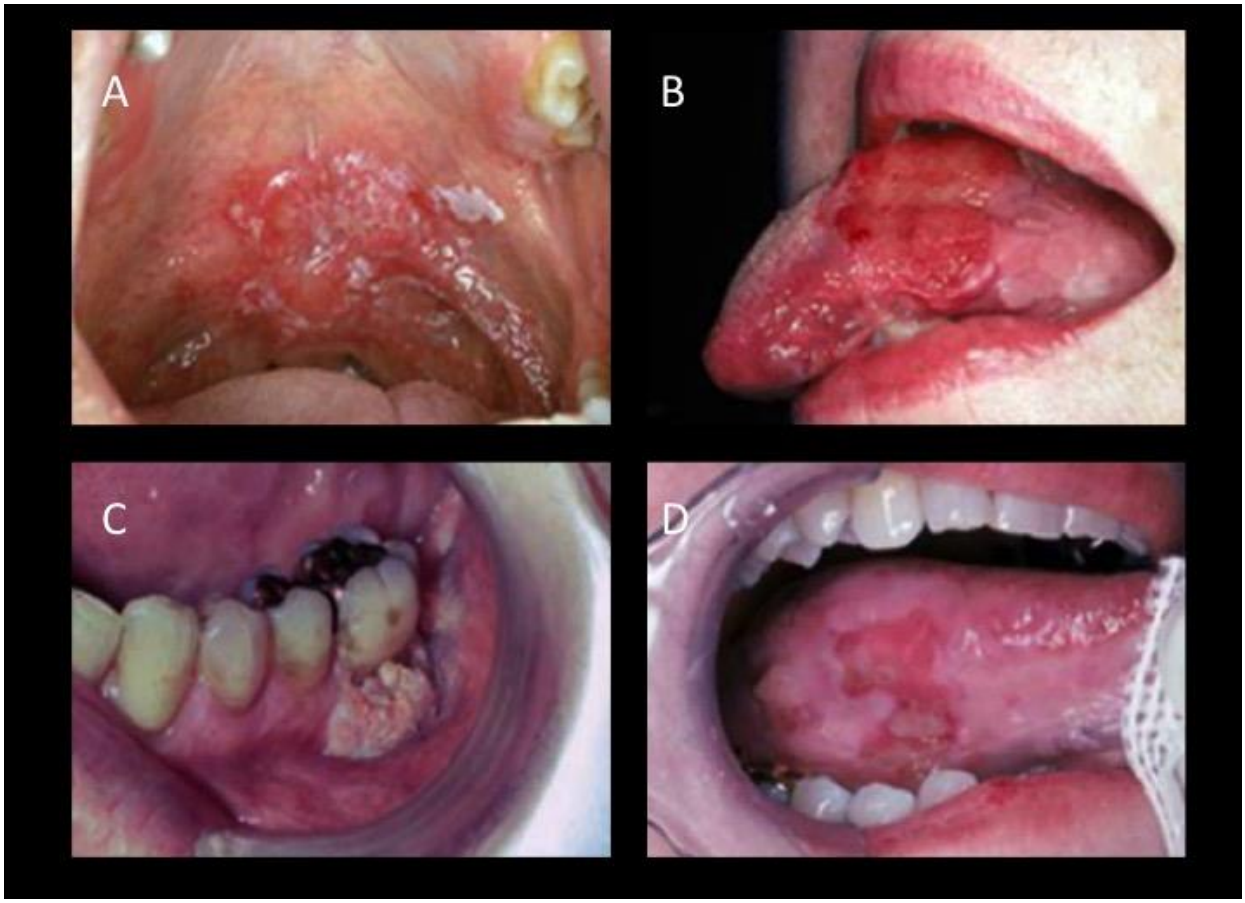

Fig.1. Oral cancer lesions on (A) palate, (B) & (D) sides of tongue, and (C) gingiva of a mandibular molar. (Source of images: https://oralcancerfoundation.org/dental/oral-cancer-images/)

Fig. 2. Facial disfiguration exemplified by the before and after photographs of Oral Cancer Activist Gruen Von Behrens after more than forty surgical procedures to remove oral cancer lesions originating from his tongue. (Source of image: https://upload.wikimedia.org/wikipedia/commons/5/57/BeforeandafterGruen.jpg)

The degree to which a patient is able to more positively cope with the oral cancer diagnosis is dependent on the patient's individual personality type. Patients who are more neurotic, which means that they are more prone to switch between an array of emotions like anxiety, fear, and anger often, have a harder time coping with their illness and are more likely to become anxious and depressed (Rana et al. 2016). In contrast, patients who have personality traits like optimism, conscientiousness, and openness react and cope more positively to their illness (Rana et al. 2016). These individuals are more accepting of their illness and as a result are less anxious and depressed than their counterparts. Furthermore, the ability to positively cope with the disease is associated with an overall better quality of life (Hassanein et al. 2005).

For oral cancer patients, the disease can lead to surgical removal of facial tumors, which may result in permanent facial disfiguration. Patients who place a high value on their physical looks feel facially disfigured after surgery and their quality of life is more negatively impacted after surgery (Flexen et al. 2012). Evidently, facial disfiguration and facial dissatisfaction increases with the stage of cancer as more advanced diseases require more surgical intervention (Flexen et al. 2012). Thus, more advanced cancer patients face more psychological distress with facial disfiguration. Furthermore, women tend to place higher value in their physical looks. As a result, women with oral cancer reported being more psychologically distressed due to facial disfigurement because they associated their physical looks to their self-identity (Flexen et al. 2012).

Loss of functionality as well as facial disfigurement causes psychological distress in oral cancer patients. Quality of life is directly impacted as a result. For these patients losing the ability to speak and eat has many social consequences. Being unable to verbally communicate with others can cause anxiety and stress in the patient. Inevitably, speech impairment can make the patient socially withdrawn and depressed. Although it is apparent that losing the ability to verbally speak can impede an individual's ability to interact socially, losing the ability to eat can also affect an individual's social life, as they will be unable to participate in social eating events such as family dinners and public outings to restaurants. Eating can be viewed as a communal event and a means for people to get together and socialize, fostering the feeling of belongingness and group identity.

Ultimately, loss of oral function will negatively affect an oral cancer patient's quality of life, as they will face anxiety and psychological distress from being unable to speak and eat. Facial disfigurement after surgery also causes psychological distress. Oral cancer patients who value their physical appearance and associate their physical appearance with their self-identity are likely to face psychological distress if they become facially disfigured. Facial disfigurement, in essence, will serve as a pessimistic reminder of their disease and its progression.

Those Kept Silent: Cultural and Social Stigma Associated with Oral Cancer

> "Those who kept silent yesterday will remain silent tomorrow" (Wiesel Preface 12).

For some, adverse events such as an illness or trauma will keep them silent. As Wiesel says in the preface of her book, *Night*, "those who kept silent yesterday will remain silent tomorrow" (Wiesel Preface 12). For others, adversity does not silence them. Adversity, rather, compels them to speak up about their adversity to raise public awareness. For Gruen Von Behrens, a rising baseball star that quickly lost his chance to become a professional baseball player because of his oral cancer diagnosis at the prime age of seventeen, silence is not a choice for him at all, despite having lost his lower jaw, half his neck muscles, and a third of his tongue to cancer (Fig. 2; Korby 2010).

Von Behrens is an oral cancer survivor and a socially active advocate against chewing tobacco. He uses his negative experience to not remain silent but to speak out against the negative effects of the tobacco chewing culture in major baseball leagues on impressionable American youth (Korby 2010). Von Behrens has not only spoken out about the adverse effects of chewing tobacco on baseball culture and its subsequent effect on young aspiring baseball players, Von Behrens has also spoken to children all over the North American continent warning them about chewing tobacco (Korby 2010).

Chewing tobacco, which is a prevalent risky behavior typical in baseball culture, highlights the power of culture and community on an individual's health and their behaviors. For Von Behrens, he aspired to be a baseball star and at thirteen years of age he began emulating the baseball stars he looked up to by dabbing into chewing tobacco (Korby 2010). Von Behrens personally identified with his baseball community and because it is so prevalent and so normal within his community, Von Behrens began using chewing tobacco. But four years later, Von Behrens learned that chewing tobacco would not only cause him to lose parts of his mouth and neck, but it would also endanger his life.

Culture has and will always play an integral part in an individual's health. Culture can dictate the health behaviors that an individual will partake in whether it is positive or negative on their overall health. Culture, social communities, and social groups impact behavior. Despite the apparent influence of culture on the health behaviors people, there is a disparity in research to really pinpoint the direct influence culture has on people's health (Singer et al. 2016). This is due to the complexity of culture as a shared framework of beliefs among groups of people as

defining specific social groups and world perspectives that are not specified by just ethnicities and races can be difficult (Singer et al. 2016).

Culture can influence not only people's behaviors, but it can also influence people's perspective on disease. Cancer, in particular, is viewed differently across various cultures. In some cultures cancer can be seen as a fatal disease and those who are diagnosed with the disease are facing some divine retaliation or an act of karma (Daher 2012). There are also other misconceptions about cancer that encourage people to not only shy away from preventative health care screenings, but also to not treat their cancer. In some cultures, people believe that surgically removing cancer only actually helps the cancer metastasize to other parts of the body because the cancer is being cut into (Daher 2012). These patients may also seek questionable alternative treatment such as natural remedies, herbs, or therapies that are culturally accepted and believed to be healing but may not actually stop their cancer (Daher 2012). The social stigma with cancer is only perpetuated in these cultures and can be further emphasized by the individual's family as well as they may socially isolate the individual with cancer (Daher 2012). Families may chose to shun the family member with cancer and avoid even mentioning about their family member, as there may be shame associated with cancer. Social isolation and stigmatization of cancer only causes the patient suffering from cancer to become socially withdrawn, and depressed. Ultimately for these patients who face heavy stigmatization from cancer, cancer inevitably "silences" them.

The social stigma associated with cancer has been shown to be prevalent in countries like Taiwan, even though there has been open mass media coverage of cancer and cancer patients making it more socially acceptable to talk about cancer. In a case study that interviewed ten women diagnosed with cancer, researchers found that these patients felt as if their cancer diagnosis was a death sentence and they constantly felt as if death was encroaching upon them (Tang et al. 2015). There was prevalent shame associated with the disease, as patients with cancer did not want to tell their colleagues or friends that they had cancer (Tang et al. 2015). Surprisingly, these cancer patients believed that having cancer was socially shameful, as they believed that cancer was a bad disease caused by karma (Tang et al. 2015). They refused to tell anyone about their cancer because they were worried about their reputation and the judgment that they would face with being branded by the word "cancer" (Tang et al. 2015). As a result, many of these patients refused to communicate with anyone, left their jobs, and purposely isolated themselves. In many of these cases, the social stigma that these patients felt was self-inflicted and self-projected.

For many of these Taiwanese cancer patients, cancer was synonymous to death. The association with cancer to death is due to the threat cancer poses as it can

ultimately lead to death if it is left uncontrolled. Additionally, many Taiwanese patients with cancer associated cancer with unending suffering as they believe that living with cancer equated to suffering for the rest of your life with cancer (Tang et al. 2015). All participants in the study were women who all strongly cared about their appearance and their appearance was a significant factor of their self-identity and self-esteem (Tang et al. 2015). Many of them were worried about their appearance declining because of chemotherapy treatment and how they would physically become weakened by the chemotherapy (Tang et al. 2015). They also became more emotionally sensitive to topics about death and felt that friends and family were constantly indirectly reminding them that they were going to die from cancer. Furthermore, because cancer and survivorship is typically talked about in a five year span, many patients felt as if their days were numbered as they kept track of their diagnosis stage and the number of years they had already survived as predicted by their physician (Tang et al. 2015). As exemplified by the interviews done on Taiwanese cancer patients, there is a heavy social stigma associated with cancer that is only exacerbated by personal negative beliefs about cancer.

Social stigma about cancer presents a problem for healthcare providers as it can make a patient more anxious, fearful, and depressed. As depicted by the Taiwanese cancer patients, social stigma can be caused by the patient themselves. For cancer patients, the social stigma of cancer that they face can be self-inflicted and self-projected as they may view cancer as an act of karma or divine retaliation. Furthermore, many patients resort to blaming the disease on themselves and they irrationally believe that they have done something bad to deserve it. For many of these cancer patients who carry the burden of stigma, they may also blame themselves for the disease even though it may be beyond their control. Cancer patients may become fearful of what their friends and colleagues would think of them because having cancer is typically viewed as a debilitating terminal disease. Fear of shame and damaging their social reputation can cause patients to socially isolate themselves, ultimately causing them to become withdrawn and depressed.

High-Risk Populations: Social Withdrawal & Social Stigma Fueling Non-Compliancy

> Do not go gentle into that good night,
> Old age should burn and rave at close of day;
> Rage, rage against the dying of the light.
>
> Though wise men at their end know dark is right,
> Because their words had forked no lightning they
> Do not go gentle into that good night.

Good men, the last wave by, crying how bright
Their frail deeds might have danced in a green bay,
Rage, rage against the dying of the light.

Wild men who caught and sang the sun in flight,
And learn, too late, they grieved it on its way,
Do not go gentle into that good night.

Grave men, near death, who see with blinding sight
Blind eyes could blaze like meteors and be gay,
Rage, rage against the dying of the light.

And you, my father, there on the sad height,
Curse, bless, me now with your fierce tears, I pray.
Do not go gentle into that good night.
Rage, rage against the dying of the light.

(Thomas 1914-1953)

In the face of death, some people will yield to it, while others will fight against it. For many cancer patients, fighting against death is an upward hill battle that they are motivated to overcome. These patients will "rage against the dying of the light," (Thomas 1914-1953) and do everything possible to defeat their illness. They are the patients who will make every chemotherapy session and take their cocktail of drugs consistently every day. They are the patients who are optimistic about fighting against their cancer. They are the patients who have the support of their friends, family, and colleagues. Patients with fighting spirits and positive outlooks are individuals who show resilience against their disease as "grave men, near death, who see with … [eyes] blaze[d] like meteors and be gay," and are unlikely to succumb to the depression and anxiety associated with their chronic illness.

For many other cancer patients, fighting against death is not an option. They lack the motivation to overcome their cancer diagnosis and they will likely succumb to the depression and anxiety associated with their cancer diagnosis. These are the patients who lack the resilience to wrestle against the psychological issues that come hand in hand with cancer. They are the patients who will miss every chemotherapy session, and will inconsistently take their cocktail of drugs rendering their treatment absolutely ineffective. They are the patients who are pessimistic about their progression of their disease and have given up any hope that they had to overcome their disease. They may be apathetic about their cancer diagnosis and continue to engage in risky behaviors such as abusing alcohol, tobacco, and drug products. These

maladjusted patients likely do not have any type of support system and constantly have to deal with the social stigma of having cancer, ultimately making them socially withdrawn and unmotivated to be compliant.

For health care professionals, the patients who are non-compliant, depressed, and frequently engage in risky behavior are the most concerning. How do health care professionals effectively treat a patient who refuses to cooperate because they apathetic about their situation and have given up all hope and motivation to attempt to even fight against the uphill battle of cancer? For patients who have oral cancer, this scenario is likely a common one. Individuals with oral cancer are usually individuals who have developed the disease by engaging in risky behavior such as abusing tobacco, alcohol, and drugs (Petti 2009). They are likely to be from lower socioeconomic statuses and are poorly educated (Rana et al. 2016). Furthermore, they are expected to be non-compliant to treatment plans as they were unable to successfully overcome the very addictions that likely caused their oral cancer.

With every disease there are preventative measures that can be taken to increase public awareness and to help patients catch their disease early on before it has progressed too far. Public awareness programs as well as public cancer screenings are necessary resources for lower socioeconomic status risk groups, who lack the education and resources to notice any malignancies. Compared to other cancers like breast, lung, and skin cancer, there is a lack of socially active campaigns for oral cancer. Because oral cancer lacks a social media presence in comparison to breast cancer, there is less public awareness. With this lack of public awareness, less people will be able to look for the signs and symptoms associated with the early stages of the disease causing health care professionals to catch the disease in a later and more untreatable stage (Smith 2016).

Currently, there is no formal national screening program for oral cancer resulting in a higher mortality rate associated with oral cancer (Speight et al. 2017). The lack of a formal public screening program is especially problematic for low socioeconomic status groups who lack the resources to seek out preventative education and cancer screenings. Creating a formal public oral cancer-screening program has been a concern as determining whether or not an oral lesion is cancerous or benign is difficult to assess. Oral lesions are variable in shape, color, and size and there is potential for a lesion to be the manifestation of another disease or condition (Speight et al. 2017). As a result, lesions may need to be extracted, tested, and examined microscopically, which may be costly for public screening programs. Furthermore, there has been a rise in the development of oral cancer in hard to see areas such as the back of the tonsils and throat that can be easily missed by a dental health care professional (Speight et al. 2017). Consequently, oral cancer screening is just recommended by the American Dental Association to be performed

in high-risk populations by dental health professionals when it is seen fit (Speight et al. 2017).

With preventative screening done only when it is deemed fit by dental health professionals, many people may be overlooked. Even then, high-risk patients are likely to be from lower socioeconomic status brackets and may not even have access to dental health care. Additionally, these population groups are likely to be less educated and may not even consider their oral healthcare to be important to their overall health and may not even visit the dentist or dental hygienist who would screen them for oral cancer.

Patients who are from lower socioeconomic status brackets and are less educated are high-risk patient populations. Overall, these patient populations are more likely to develop oral cancer because they lack the access to dental healthcare and preventative dental healthcare education. Patients who have had a high school education or higher are more likely to be able to properly maintain their dental hygiene, which can act as a protective buffer against the development of oral cancer (Chen et al. 2017). Patients who more frequently visited the dentist had a lower risk of oral cancer than patients who did not (Chen et al. 2017). Regardless of education status, patients with poor dental hygiene are more likely to develop oral cancer than patients with good oral hygiene (Chen et al. 2017). Furthermore, patients who lost multiple teeth and frequently wear dentures for long periods of time are at a higher risk for oral cancer (Chen et al. 2017). Ultimately, socioeconomic status and education may be indicators of whether or not a patient may be at risk in developing oral cancer.

A patient with oral cancer is likely to be a Black or Hispanic male in their 50s who has poor dental hygiene and frequently engages in risk behaviors such as abusing tobacco, alcohol, and drugs. These patients are likely to be non-compliant and unmotivated to follow through with treatment plans. They are likely to miss chemotherapy sessions and are inconsistent in their medication-taking regime. For these patients, getting them to adhere to therapy treatment is a struggle. However, addressing the root of these problems can improve patient compliancy in these problematic patient populations.

Because oral cancer patients tend to be poorly educated patients from lower socioeconomic statuses, it is necessary to provide preventative education and preventative oral cancer screenings to these patients. Compliancy can be encouraged by offering these patients access to support groups. Fostering a positive provider to patient relationship with non-compliant patients will encourage these patients to keep up with their treatment regime. Even though it is ultimately it is up to the patient to actually comply and keep up with treatment, the dental healthcare

provider has a moral obligation to the patient to educate them on their condition and to offer the resources necessary to motivate the patient to undergo treatment as well.

Patients who are non-compliant tend to lack the support systems and groups that are needed to keep them motivated to fight against cancer and to continue treatment when they face adverse side effects from their cancer treatment. Dental health care professionals can refer these patients to support groups to psychologically help the patient cope with their disease in order to keep them motivated and compliant with cancer treatment (Mislang et al. 2017). Furthermore, the relationship between patient and provider is especially important in these patient population groups as consistently following up with the patient can encourage the patient to keep up with their treatment plan (Mislang et al. 2017). Follow-ups are also necessary to reevaluate treatment plans in order to modify the plan to better suit the needs of the patient in case of adverse reactions to treatment or drug (Mislang et al. 2017). Follow-up treatment plan modifications may include using multipurpose drugs to simplify the drug intake regime and/or switching various drugs to avoid side effects that may make the patient feel uncomfortable (Mislang et al. 2017).

Overall, encouraging compliancy in problematic patient populations is necessary in order to lengthen life expectancy, reduce healthcare cost, and improve quality of life for the patient (Mislang et al. 2017). Non-compliancy is fueled by patient apathy that may be exacerbated by the physical complications of their disease as well as the social and cultural stigma of having oral cancer.

II. Failings of the System

The problems oral cancer patients face are not only due to the physical complications of the disease in conjunction with the social and cultural perceptions and stigmas associated with oral cancer, but also are etiologically related to the failings of the healthcare system as a whole. These failings are the result of poor public education on the link of alcohol to oral cancer, and the lack of a comprehensive public intervention program leading to diagnostic delay and poor patient prognosis. In this section, the problems of the system in terms of poor public education, and the lack of a formal public screening system leading to diagnostic delay will be evaluated.

Big Alcohol: The Lack of Public Recognition of Alcohol as a Carcinogen

> While many people are aware of the high death rates that tobacco and unhealthy food cause, fewer are familiar with the staggering burden of alcohol. Although some research suggests that moderate amounts of alcohol

> may protect against heart disease, most health researchers agree that harm from excess alcohol use far outweighs the benefits from moderate use (Freudenberg, 29).

The association with using tobacco products and cancer has been apparent public knowledge, yet the health risks with consuming alcohol, a substance that may as well be synonymous to tobacco, has not been publically addressed. As Freudenberg emphasizes in *Lethal But Legal,* the "staggering burden of alcohol" has been left unaddressed, protected by the significantly influential and corrupt political lobbying of "Big Alcohol" (Freudenberg, 29). The knowledge that alcohol consumption does in fact increase "the risk for cancers of the oral cavity, pharynx, larynx, esophagus, liver, colon, rectum, and, in women, the breast" like tobacco products do is not common public knowledge (Freudenberg, 30). In fact, adults have been able to successfully identify tobacco and sun exposure as risk factors for cancer, but were unable to identify alcohol consumption as a cancer risk factor (Fig. 3; ASCO 2017; Rabin, 2017).

Fig. 3. National Cancer Opinion Survey conducted by American Society of Clinical Oncology. (Source: [https://www.asco.org/sites/new-www.asco.org/files/content-files/research-and-progress/documents/ASCO-National-Cancer-Opinion-Index-infographic.pdf)](https://www.asco.org/sites/new-www.asco.org/files/content-files/research-and-progress/documents/ASCO-National-Cancer-Opinion-Index-infographic.pdf)

The clear association with cancer, specifically oral cancers of the head and neck, is undeniable as “cancers account for one in five alcohol-related deaths” (Freudenberg, 29). In a statement published in early November of 2017, the American Society of Clinical Oncology has officially deemed alcohol as “an established risk factor” and “a potentially modifiable risk factor for cancer” (LoConte et al., 2017). If alcohol has been scientifically acknowledged as a carcinogen with also a recent announcement as a direct link to cancer, especially cancers of the oral cavity and neck, why is alcohol not widely and publically recognized as a carcinogen?

Alcohol use has been culturally ingrained in society with its use typically greatest during holidays, special events, and specific occasions. Alcohol is typically used recreationally in a social context with friends and family. Alcohol use is persistently portrayed in mass media as socially acceptable and even at times necessary for social interactions in television shows, movies, and even in cartoons like *The Simpsons*. Alcohol use is perpetuated throughout a cartoon that many children and teens may end up watching. The main character Homer can be consistently seen in episodes drinking beer after work with friends. When Homer is not at Moe’s Tavern, he can be seen drinking beer on his couch while watching television.

The mass media acceptance of alcohol use and the portrayal of it being used as a norm in certain social contexts like in parties, outings, and special occasions facilitate a cultural recreational use of alcohol. Because it is so normalized in society, it is no wonder very few people can identify alcohol as a risk factor for cancer as they can for tobacco consumption, which in the last few generations has worked towards spreading scientific knowledge about the adverse consequences of tobacco use on the human body.

The slogan, “drink responsibly” is designed by multibillion dollar alcohol companies, which push forth responsible drinking campaigns that are overall ambiguous to please consumers; for teens and frequent drinkers “drink responsibly” may mean that alcohol use is fine as long as it is done in moderation and for parents “drink responsibly” may signify to them that their teenager will not be drinking until they are of age (Freudenberg, 33). These “Drink Responsibly” campaigns are sponsored and rallied by the alcohol industry strategically to lower the need for government sponsored campaigns regarding alcohol use as they are technically promoting “healthy” public alcohol consumption (Freudenberg, 33). However, the messages of the “Drink Responsibly” campaigns do not even graze over the scientific body of knowledge linking alcohol with cancer; rather it is a marketing scheme meant to remain ambiguous in statement and slogan at an attempt to ingrain the idea that alcohol consumption should and can be done as long as it is done “moderation” (Freudenberg, 33).

Past studies have recognized that there may be potential health benefits to alcohol products like red wine; however, the risk factors of alcohol have not been widely addressed by the media as much as the potential health benefits. These minor potential health benefits compared to the risk of cancer are starkly miniscule. Compare the potential of reducing cardiovascular disease with a daily glass of red wine to the published statement by the American Society of Clinical Oncology that "alcohol is a cause of cancers of the oral cavity, pharynx, larynx, esophagus, colorectum, liver (ie, hepatocellular carcinoma), and the female breast (LoConte et al., 2017). In this light, alcohol consumption is no different from tobacco consumption. The recommended one glass of wine may not only reduces cardiovascular disease, but it is *also* associated with an increase in breast cancer risk (Rabin, 2017).

Alcohol does not only damage teeth as the acid in alcohol erodes enamel, it also has mutagenic properties from the production of acetaldehyde, which is carcinogenic, when alcohol is broken down in the human body (LoConte et al., 2017). In the body, enzymes called alcohol dehydrogenase and aldehyde dehydrogenase break down alcohol into acetaldehyde and then acetaldehyde is broken down to acetate (LoConte et al., 2017). Acetaldehyde is a known carcinogen that binds to DNA and mutates it (LoConte et al., 2017). There is significant individual genetic variation between rates of alcohol breakdown to carcinogenic acetaldehyde and then to harmless acetate (U.S. Department of Health & Human Services, 2007). For some people processing alcohol to acetaldehyde and then acetate is a quick process and the intermediate processing to acetaldehyde is short-lived; for others processing alcohol to acetate is a longer process and the intermediate product of acetaldehyde persists longer putting the individual at risk for DNA mutation and carcinogenesis (U.S. Department of Health & Human Services, 2007). Ultimately, alcohol does break down into a carcinogenic substance that has the potential to cause the development of cancer.

Alcohol use is a public health issue as advertisement consistently targets vulnerable populations: teenagers, women, and people of color from lower socio-economic backgrounds (Ferre-Sadurni, 2017; Freudenberg, 31). Recently, alcohol advertisements have been banned from New York City MTA buses, subways, and stations in attempt to prevent vulnerable populations from seeing alcohol advertisements in an endeavor to curb off underage drinking (Ferre-Sadurni, 2017). Advertisers typically portray hyper sexualized images of women and even cater to women as they idealize fun, beauty, and the autonomy of choice (Figure 4; IOGT, 2017; Freudenberg 31). For major brands like Smirnoff, young women and teenagers are their targeted consumers as they produce fruity vodka fizzy drinks, which can be seen as gateway beverages to long-term alcohol consumption (Freudenberg, 31).

Fig. 4. Alcohol advertisements of major alcohol brands like Bud Light, SKYY Vodka, and Smirnoff hyper sexualizing women as well as appealing to women on personal values like entertainment, beauty, and autonomy. (Source of images: https://www.pinterest.com/pin/575405289862952987; https://2iqy4z3syn7i37qgp730z28m-wpengine.netdna-ssl.com/wp-content/uploads/2014/07/1_skyy_print_021-320x410.jpg; https://skyfineusa.com/wp-content/uploads/2016/02/new-marketing-gallery-image.jpg)

Alcohol presents a clear problem as it is a risk factor associated with oral cancer, but the carcinogenic effects of cancer are not publically known due to lack of media presence and public service announcements addressing the issue. There is little differentiating the alcohol and tobacco industry as they play by their own for-

profit marketing tactics and consistently curtail scientific research and advancement and consumer public education (Davey, 2017). Professor Kypri from the University of Newcastle's school of medicine and public health emphasizes the reality of alcohol versus tobacco as he says "'While the tobacco industry can't argue against the science anymore, the alcohol industry continues to…In the past the alcohol industry has claimed alcohol is different to tobacco because there is a safe level of consumption but even that is now up for debate" (Davey, 2017). There is an ongoing struggle between the alcohol industry and scientific communities as alcohol industries attempt to self-regulate in vague "Drink Responsibly" campaigns that ultimately do not even address the scientific health link between alcohol and cancer.

In the context of oral cancer, alcohol education should be a significant point of public education and awareness. It is apparent that the carcinogenic properties of alcohol are not public knowledge (Fig. 3). Public knowledge of tobacco and sun exposure as cancer causing agents, emphasize the power of public health education through public service announcements and mass media reports to penetrate the public domain. Alcohol education is a necessary as alcohol is modifiable cancer risk factor that can be addressed through not only health care provider education, but also through public service announcements and mass media campaigns and articles highlighting the science supporting the carcinogenic properties of alcohol.

As oral cancer has been neglected and fairly less publically addressed in comparison to other cancers like breast and lung cancers, public policy addressing the effects of alcohol need to be addressed in order to also lower the rates of oral cancer and to identify at-risk populations. Healthcare professionals must educate their patients on the risk factors of using alcohol and correctly identify alcohol as a carcinogen related to the development of many cancers like oral cancer.

Oral cancer lacks a formal preventative oral cancer-screening program that can provide consistent preventative screening to all patients. This lack of preventative care and education leaves a gap that can potentially be addressed through public education of the carcinogenic effects of alcohol and the established link between alcohol consumption and cancers of the oral cavity. As alcohol consumption is seen as a social and cultural norm, alcohol education is necessary in school, health, and dental care settings in order to inform consumers and the public about the true potential harm of alcohol as a carcinogen. Ultimately, alcohol should be addressed publically through public service announcements and mass media outlets to inform the masses of the now known scientific knowledge that alcohol is a direct cause of many cancers of the mouth and neck.

Oral Cancer Preventative Screenings: The Lack of a Formal Public Preventative Oral Cancer Screening Program & Incentives for Private Practice to Perform Screenings

> "One essential characteristic of modern life is that we all depend on systems—on assemblages of people or technologies or both—and among our most profound difficulties is making them work" (Gawande, 184).

Healthcare and dental care all systems that rely on congregations of health care professionals to provide proper health and dental care to patients. As Gawande emphasizes in *The Checklist Manifesto: How to Get Things Right* that the most significant issue is actually "making these systems to work." We have many diverse striations of healthcare and dental professionals that work in coalescence to maintain the integrity of the healthcare and dental care system. Even with these multiple layers of clinicians who each specialize in the type of care they provide – from nurses to hygienists to physicians and dentists – errors can be made through negligence. Failure to provide a patient with the proper standard of care can result in poor prognosis and ultimately can be viewed as not only patient neglect, but as a form of patient abuse.

Many misdiagnoses and preventable diseases can be seen as failings of the system. One may even view late stage diagnoses of cancers critical shortcomings of the health care system given the advancement of modern day technology and improved access to preventative care through yearly preventative screenings and examinations. Cancers like oral cancer, which can easily be diagnosed during its early stages through regular head and neck cancer screenings done by any health care professional such as a dentist, dental hygienist, nurse, or physician, and typically take only five minutes to assess, but have been overlooked as a standard of care. Furthermore, clinicians are not typically held fully accountable for the standard of care that they provide to their patients, until they face litigations due to malpractice or negligence on part by the clinician.

The lack of preventative screenings such as head and neck examinations for oral cancer should be a standard of care that all clinicians should be held accountable for as it is a relatively easy examination that can be done within five minutes during the beginning of any patient health history assessment in not only the dental care setting, but also the medical care setting. Although head and neck oral cancer screenings should be a part of every patient assessment in the dental setting, many times it is not as head and neck examinations have been more heavily recommended

for high-risk populations of smokers and drinkers. Therefore, a clinician may skip head and neck screenings when they review their patient's history and see that the patient is not at risk; however, unintentionally, they are denying their patient a standard of care service.

One may wonder if the source of the problem is the education that these clinicians are receiving. Maybe head and neck screening examinations are heavily deemphasized; maybe it is a procedure that is taught to dental and dental hygiene students to allow them to simply pass their clinical boards. The procedure may be taught, but the thought process is not. This situation may be true at certain schools. At New York University, however, this scenario widely untrue as head and neck screenings are emphasized throughout the curriculum. Dental and dental hygiene students are required to perform a head and neck examinations on their patient even if their patient already had a head and neck examination done previously by another student. Often patients will have two head and neck examinations done in one sitting: one done by the dental student followed by another done by the dental hygiene student. Dental hygiene students are even tested on head and neck exams in clinic and the rationale behind why they perform a head and neck examination is heavily stressed.

So if dental and dental hygiene students are being taught not only to perform a head and neck examination every time they see a patient as well as the rationale behind the procedure, why do we see a lack of head and neck examinations outside of institutional clinics? The candid answer may be that many clinicians outside of educational institutions do not simply "not have the time." In an interview with Dr. Cheung, a local general dentist who owns a small clinic in Brooklyn, he simply says, "It's hard to see so many patients in a day by yourself. Sometimes, I don't even get much reimbursement for seeing these [Medicaid] patients." Every second counts, and to his credit he is willing to see patients from lower income brackets, but as a result of the poor insurance reimbursement, he is forced to quickly see many patients a day in order to make a decent living. "I'm a one man show," he said to me as he performed a dental prophylaxis on a thirteen-year-old girl, a procedure that is normally done by dental hygienists. "Dental hygienists train for two years to do this, but I had a couple of weeks to learn this in dental school," he said laughing. But that is what he needs to do to keep his small clinic running with only two total chairs, one dental assistant, and one receptionist keeping his clinic afloat. The overhead cost of keeping his small clinic running is immensely high; dental materials and x-ray units cost him thousands of dollars to not only purchase, but also to maintain.

Sometimes insurance companies do not even cover head and neck examinations and if they are not covered by insurance, head and neck examinations will typically not be done (Hubbard, 2016). "It's sad to say, but I do think about

reimbursement by insurance companies. A procedure won't be done unless we know that we will get reimbursed," said Dr. Cheung. Private clinics are, after all, businesses. "People won't come see me unless they're covered anyway [by their insurance], or if they need to use up any annual benefits." As a general dentist, Dr. Cheung says he has not really seen many oral cancer patients. In fact, for many general dentists, when head and neck screenings are done, dentists may not be performing the examination correctly or consistently. Critical areas such as the floor of the mouth as well as cervical lymph nodes in the neck may be forgotten during head and neck palpations (Langevin et al., 2012). Many dentists also claim that they have no issues visually assessing and determining oral cancer lesions, but feeling for and assessing swollen lymph nodes may be more of an area of concern (Langevin et al., 2012). Many dentists may have been more visually trained to identify oral cancer lesions and overlook the tactile part of palpating for potential masses and swollen lymph nodes, which can ultimately lead to a cancer diagnosis.

Some dentists may claim head and neck examinations are actually meant to be done by the dental hygienist whose role so actively involves preventative procedures and preventative dental care. However, in interviews of local dental hygienists in Brooklyn, it appears dental hygienists may be under more pressure to not even perform head and neck examinations due to time constraints "I have exactly thirty minutes to do a cleaning at the private clinic that I work at. That's just not even enough time to finish half of the mouth," one hygienist told me. Thorough cleanings take much longer than a mere thirty minutes, especially if the hygienist must first identify all the areas of calculus and then proceed to remove them all. Another hygienist even said, "Shouldn't head and neck examinations be done by the doctor?" as hygienists legally lack the ability to diagnose conditions or illnesses in a patient. Time constraints and personal beliefs on whether or not head and neck examinations fall into the standard of care for patients provided by dental hygienists has reportedly made head and neck examinations a rare practice of private clinics. Consequently, about one in four dental hygienists actually perform head and neck oral cancer screenings, because they are either inadequately trained, or do not grasp the importance of head and neck screenings (Hubbard, 2016).

Head and neck oral cancer screenings are not lengthy examinations, yet many dentists and dental hygienists rarely perform them. The importance of a preventative head and neck screening, which only typically takes a staggering five whole minutes to complete, is overshadowed by the lack of time clinicians may have in private practice to perform the screening for the patient. Dentists and hygienists are working against the clock to see as many patients as possible to make their practice profitable as overhead costs are immensely high from the cost of essential dental materials like amalgams and resins for fillings, which can cost a private clinic more than one hundred dollars per filling. Furthermore, insurance companies may not even cover

head and neck screenings, encouraging more private practices to ignore the preventative examination all together. The lack of head and neck oral cancer preventative screenings being done by private clinics demonstrates the failings of the dental health care system. The importance of the preventative procedure is being overlooked, as some insurance companies do not even cover the service, consequently encouraging private practices to skip head and neck screenings as basic standards of care for patients.

Ultimately, these failings emphasize critical areas of dental health care that must be addressed. First, it is essential that head and neck screenings must be seen as a standard of care for all patients as much as annual dental cleanings have been seen as a regular standard of care for all patients. Secondly, there must be proper reimbursement for head and neck screenings by insurance companies to even give private clinics more of an incentive to make sure that they include preventative head and neck screenings as a part of routine patient checkup. Thirdly, head and neck oral cancer screenings should be seen as not only a dental care routine check up, but also a health care routine checkup. Nurses and physicians should be trained to also perform these preventative screenings as well to increase patient access to head and neck preventative screenings if they lack dental insurance or simply do not regularly see their dentist for checkups. Clearly, head and neck screenings should be provided to patients as basic services and standards of care as they are simple, fast, and easy ways of detecting oral cancer.

Diagnostic Delay: Poor Patient Prognosis due to Poor Public Education & Lack of Preventative Screenings

> Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime – Unknown

When it comes to formulating a true solution to help the mass general public be able to combat oral cancer, finding the most optimal solution that requires minimal resources is necessary. As the saying goes, “Give a man a fish and you feed him for a day. Teach a man how to fish, and you feed him for a lifetime.” Following the logic of this saying, along with the fact that going to a health care provider that can provide a thorough oral cancer screening may be difficult due to lack of dental insurance and the variability of the standard of care a dental provider may provide to their patient, the most optimal solution would be educating the masses enough so that they can detect signs and symptoms of oral cancer on their own to then seek professional help. Prevention can and should start with the patients themselves; patients can learn to screen themselves for oral cancer similarly to the self-guided breast cancer screening routines that patients can do to potentially detect the disease early at the comfort of their own time and home.

The lag between the time oral cancer is detected and treated is problematic and presents a true issue of diagnostic delay that affects the overall positive prognosis of treating oral cancer. Diagnostic delay is a combination of patient delay, professional delay, and system delay that can result in up to five to six months of lag time before a patient is actually being treated for their oral cancer (Guneri & Epstein, 2014; Fig. 5). However, the most crucial step in diagnostic delay is patient delay. Patients must be able to notice a sign or symptom of oral cancer to seek professional help, but often times they do not because awareness for oral cancer and the associated signs and symptoms are at a dismal low.

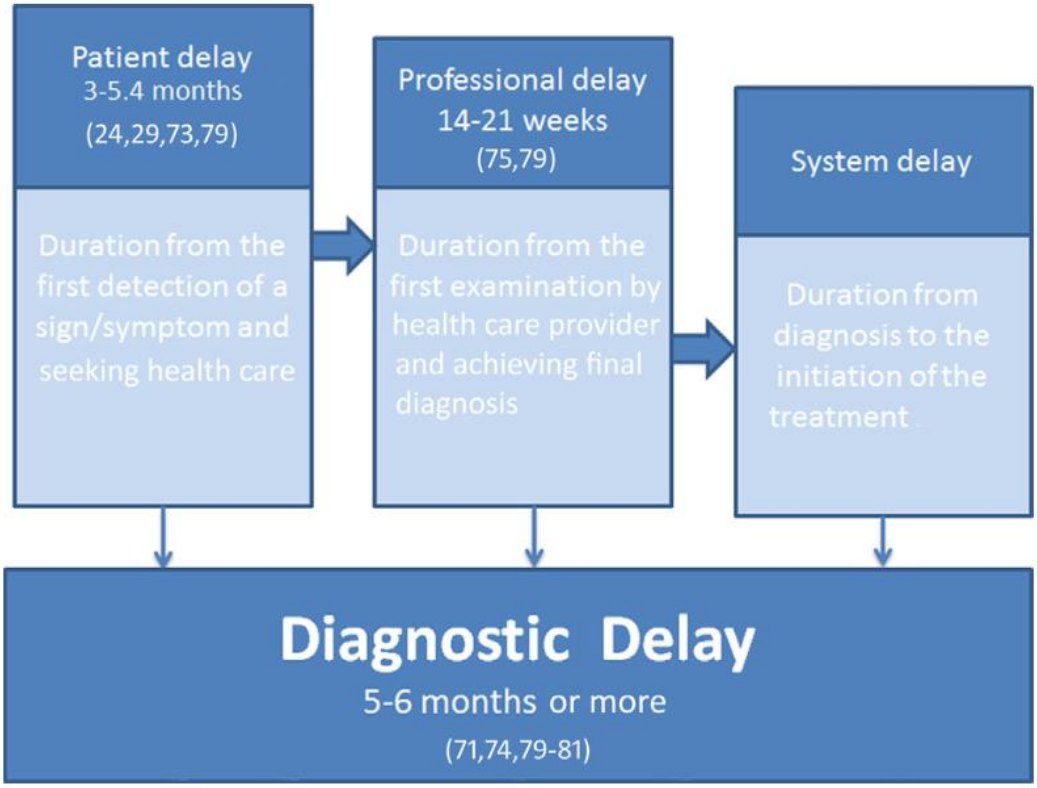

Fig. 5. The three factors affecting diagnostic delay (Source: Guneri & Epstein, 2014).

The lack of awareness as well as the lack of awareness programs due to the overall poor attention that is given to oral cancer as a major preventable cancer emphasizes the failure of the health care system as "the public health challenge is the domination of a system of production and consumption that has come to value profit over human well-being" (Freudenberg, 217). These failings are significant and pose the ultimate challenge to lowering the incidences of terminally ill oral cancer patients that can be prevented by simply educating the public about the signs and symptoms

of oral cancer and developing an effective screening process that can be done by anyone at home to narrow the time between patient delay and seeking professional treatment.

Fear, avoidance, and denial are all traits associated with patient delay, which ultimately affect the overall prognosis of an oral cancer patient (Guneri & Epstein, 2014). However, these traits highlight a generalized lack of knowledge about oral cancer that may cause patients to avoid seeking help immediately after finding any lesions in their mouth. The lack of knowledge of the signs and symptoms of oral cancer highlights an area for improvement that can potentially lower late-stage diagnosis and poor prognosis of oral cancer as it has been found that only 13% of patients experiencing serious signs and symptoms even thought their signs and symptoms were indications of a serious disease or condition (Guneri & Epstein, 2014). Furthermore, alarmingly more than half of patients believed that their signs and symptoms would naturally improve on their own with time (Guneri & Epstein, 2014). The few individuals who knew about oral cancer as well as those who thought their lesions were cancer were more likely to visit a health care provider to examine their lesions and abnormalities (Guneri & Epstein, 2014). Evidently, the initiation of treatment can only begin with the patient and patient delay of treatment can be reduced as long as the patient is well educated about oral cancer enough to recognize the sign and symptoms to seek treatment.

Many oral cancer patients lack the general knowledge about the signs and symptoms of oral cancer and subsequently ignore any signs and symptoms and therefore cannot seek early stage treatments. Like many of these patients, George did not know much about oral cancer and found out about his condition after an oral cancer screening with his dental hygienist during a routine cleaning. " I was so lucky, if I hadn't gone to get my cleaning, I wouldn't have found out that I had cancer," said George. At first he was shocked when he found out. "Out of all people, I wouldn't think I would've had cancer. I eat healthy and I exercise every day," said George.

Oral cancer was simply not on George's mind. When George was asked about any notable signs and symptoms of cancer he replied, "I do remember noticing these little white spots underneath my tongue. I thought they would eventually go away and maybe that they were from stress. I didn't think anything of it until the check-up when the hygienist asked me about them during the examination" stated George. Like many other patients who generally lack the knowledge about the signs and symptoms of oral cancer, George's cancer might have been found late if he was not screened for oral cancer at the dental office he went to. George, like many other people, was able to notice lesions in his mouth, however, he was not able to associate them with oral cancer and he believed that they would naturally heal or disappear with time. Fortunately for George, his cancer was found still in an early stage that is

treatable. However, if he did not regularly visit the dentist, George would have potentially have not found about his oral cancer until later stages, because he did recognize the early signs of potential cancerous lesions in his mouth.

In contrast to George's experience, diagnostic delay does detrimentally affect patients, especially when oral cancer is not detected early on. For the Oral Cancer activist Gruen Von Behrens, who was diagnosed with cancer at the age of 17, diagnostic delay drastically affected his prognosis of oral cancer as he began to notice at the age of sixteen a white spot on his tongue, which grew larger by day (American Association for Cancer Research, 2017). Despite seeing this white lesion, recognizing it as an early cancerous lesion, and then seeking professional help, Von Behrens chose to delay seeking professional help until his mother forced him to see a dentist when he began displaying concerning outward signs such as slurring his speech and having difficulty keeping food in his mouth (American Association for Cancer Research, 2017). He was later diagnosed a year later after his initial self-discovery of the cancerous lesion on his tongue, which he initially dismissed and ignored. As the result of his patient delay, his prognosis was extremely poor with only a 25% survival rate after his first initial surgery to remove the tumor on tongue. Although Von Behrens was able to survive his first surgery, he had to endure over 40 surgical procedures, the physical loss of his jaw and neck muscles, and permanent facial disfiguration (Fig. 2; American Association for Cancer Research, 2017).

Knowledge is the greatest barrier to initiating oral cancer treatment. Without the knowledge of what early signs and symptoms of oral cancer are, people may simply ignore and overlook small patches in their mouth that can be cancerous just like how George and Gruen Von Behrens did. With the simple knowledge of the sign and symptoms of oral cancer anyone can visually examine their mouth for lesions and increase their chances of detecting early onset cancer that is treatable. When George was asked if he knew about any signs or symptoms of oral cancer and what to look out for he replied, "I really had no clue. Didn't think much of it. You hear more about skin cancer than you do about oral cancer. If I had known those spots in my mouth were a sign of cancer, I would've immediately gone to the doctor." Evidently, oral cancer lesions are not commonly recognized compared to skin cancer lesions.

As George's and Von Behrens' experience emphasizes, the general lack of knowledge of the signs and symptoms of oral cancer are apparent and can potentially be detrimental to a positive prognosis. Oral cancer is simply not talked about enough in the media and the signs and associated symptoms of oral cancer are not emphasized compared to skin and breast cancer. Although oral cancer may affect a smaller group of people in comparison to skin and breast cancer, oral cancer is a treatable cancer if caught early. With the rise of oral cancer related to the Human Papilloma Virus #16, oral cancer has affected more than just patients who engage in

high-risk behaviors such as using tobacco products and alcohol products. Luckily for George, he was able to catch his cancer early on through preventative screenings done by his dental hygienist. However, for at risk oral cancer patients who do not have access or have limited access to dental health care, this is a significant issue that must be addressed.

III. Potential Interventions

The psychological burden oral cancer patients face can be addressed through various interventions tackling the anxiety, depression, and social withdrawal oral cancer patients face due to physical disfigurement and loss of functionality of the oral cavity. A major preventative issue that oral cancer patients face is lack of a formal public preventative screening program and consequently general public knowledge about the signs and symptoms of oral cancer. With today's technology, oral cancer patients can use online platforms, forums, and resources to address their needs. In this section, we will be examining the potential use of social media platforms, online forums and communities, self-guided therapies, and therapy animals for oral cancer patients to alleviate the psychological issues associated with oral cancer.

Power of Social Media: Potential to Spread Public Awareness & Preventative Oral Cancer Knowledge

> *"I had come to see language as an almost supernatural force, existing between people, bringing our brains, shielded in centimeter-thick skulls, into communion. A word meant something only between people, and life's meaning, its virtue, had something to do with the depth of the relationships we form"* (Kalanithi 39)

With the rise of social media, everyone and anyone can connect and communicate globally with each other. Social media websites such as Facebook, Instagram, and Twitter are social media platforms that are used daily to transmit life updates as well as news and a variety of information ranging from medical and health sciences to art and literature. We can communicate our thoughts, feelings, and desires through social media and we can relay news and information through these platforms for all our friends and acquaintances to see. For many people, social media is a way for people to quickly connect on a nationwide and a global scale.

Communication through language as Kalanithi emphasizes, "is as an almost supernatural force existing between people, bringing our brains, shielded in

centimeter–thick skulls, into communion" (Kalanithi 39). As Kalanithi connects millions of minds together through his memoir, *When Breath Becomes Air*, to his own journey on learning how to live with lung cancer, Kalanithi builds an intimate relationship between the reader and author. Kalanithi uses his memoir to come to terms with himself and to explore what it means to be alive. His words connect many with the idea of life and death and what it is like to live with a terminal illness.

Quintessentially, social media is almost like "a supernatural force" as Kalanithi describes as it has become as a prominent method of communication connecting minds together through quick, electronically written words allowing people to maintain and form relationships online (Kalanithi 39). Social media has not only become a swift and easy way of communicating with others, but it also has become a powerful influential force allowing people to rally together promoting political and medical awareness and activism.

Social media has become a platform to promote public awareness and activism. It is a place to spread information electronically quickly to a social network and it plays a pivotal role in spreading information. The true potential of social media to be used as a medium to spread viral public health awareness was seen in the summer of 2014 when $114 million was raised for amyotrophic lateral sclerosis, a progressive neurodegenerative disease affecting motor neurons, through a concerted social media challenge called the "ice bucket challenge" (Robins 2017). The "ice bucket challenge" spread like wildfire throughout social media and just about everyone, including celebrities, was participating in it and tagging their friends and families to either record themselves dumping a bucket of ice water on their heads within twenty-four hours or they had to donate to the ALS Association. Before the "ice bucket challenge" many were unaware of amyotrophic lateral sclerosis and its crippling effect on patients affected by it. The "ice bucket challenge" paints a phenomenon that can only be achieved through current day social media as information can be spread globally within seconds of submitting a social media post.

As we have seen with the success in raising public awareness for amyotrophic lateral sclerosis through social media, the potential for raising viral public awareness for cancers like oral cancer exists. Oral cancer, which has been associated with a high mortality rate due to the fact that it is typically caught in later stages of progression, has been neglected by the media. Social activism has been more prevalent for cancers like breast, lung and skin cancer (Smith 2016). Activism has been more widespread for these cancers due to the fact that there are more individuals affected by breast, lung, and skin cancer than there are individuals affected by oral cancer (Smith 2016). Despite less individuals being affected by oral cancer, oral cancer still has a high mortality rate, because it is often only caught after the cancer has metastasized (Oral Cancer Foundation 2017). Alarmingly, studies have shown that

two out of three people may have heard of oral cancer, but are completely unaware of the warning signs and symptoms of oral cancer (Kerr et al. 2006). Thus, oral cancer remains a significant issue with a high mortality rate due to the lack of public awareness and oral screening interventions (Speight et al. 2017).

Public awareness about oral cancer is necessary to broadly educate people on the initial warning signs and symptoms of oral cancer in order to diagnosis the disease in its more treatable early stages. Mass media campaigns to raise public awareness on the signs and symptoms of oral cancer have been done in other countries like Malaysia through national television broadcasts (Saleh et al. 2012). These television broadcasts, which included public service announcements showing images of early signs of potential oral cancer lesions as well as an account from an oral cancer survivor proved to be effective in raising awareness for oral cancer as there was a significant increase in the number of people who said they knew about oral cancer after these public broadcasts (Saleh et al. 2012). Evidently, public broadcasts about oral cancer are necessary in order to spread preventative health care information quickly and effectively to the masses.

Although these broadcasts did increase the number of individuals who knew what oral cancer was, many people still did not know the critical signs and symptoms associated with the early stages of oral cancer (Saleh et al. 2012). More research must be done to find effective ways of educating the masses on the signs and symptoms of oral cancer, but public broadcasts and educational videos must be made first to raise awareness about oral cancer as a prevalent cancer that can affect the well-being of many. Nonetheless, these Malaysian broadcasts were effective in increasing the sheer number of people who knew about oral cancer. The same can be done in the United States to raise awareness for oral cancer through public television broadcasts as well as public educational videos on oral cancer posted through various social media platforms.

Social media is not only a platform that can be used for social awareness; it can also be used to connect oral cancer patients together. Because oral cancer plays a hefty toll on an individual's ability to verbally talk, especially if they had soft and hard tissue excised from their mouth, neck, and throats, communication through social media platforms may be an effective alternative for patients to connect to other patients and to develop support networks instead of having to physically attend a support group meeting. Support networks are necessary for cancer patients to improve their quality of life as they help the cancer patient cope with the disease. Support networks allow the patient to develop a group identity and may be used to combat the social withdrawal and anxiety patients may encounter due to facial disfigurement and the inability to talk and consequently effectively socialize with other people. Because there is a social stigma towards cancer, online support groups

through social media and through forums can be utilized in lieu of physical support group meetings for oral cancer patients who cannot verbally speak and/or are too weak to physically attend meetings.

Social media support groups have the greatest potential to reach a wider population unconstrained by socioeconomic status and healthcare access (Chou et al. 2007). Studies have shown that cancer patients who are actively participating in social media support groups and forums come from all different types of socioeconomic statuses and they all have varying access to healthcare (Chou et al. 2007). There also have been a number of cancer patients who have started online blogs depicting their cancer journey, which may be also useful in precipitating information about oral cancer to the masses (Chou et al. 2007). There is great potential for social media support groups to be used by many more patients from diverse socioeconomic status backgrounds, because it is online and free to use.

There are, however, potential constraints to social media support groups. Populations who lack access to the technology necessary to use social media as well as older patients aged fifty-five and older who do not have any experience using social media may be unable to utilize social media support group resources (Chou et al. 2007). However, access to social media support groups can be expanded in these populations by teaching these individuals how to use social media or by having a caregiver act as a proxy for the patient. Caregivers can help elderly patients access social media support groups by navigating and posting on these social media support groups for them. For populations who lack access to the technology needed to go online and participate in these social media support groups, these patients can use the computers and public Internet access that may be available at public libraries.

In general, social media can be used as a platform used to spread oral cancer awareness and be used to create social media support group networks. Social media has the greatest potential to spread information on a nationwide and global level and to reach populations from diverse socioeconomic status groups. Access to these online support groups is free of charge and do not require the patient to have access to healthcare at all. For patients who have lost their ability to speak and are physically weak, online social media support groups are good options for them to receive the social support they need to overcome the psychological stress and anxiety associated with their illness. Social media as a platform has the greatest potential to reach low socioeconomic status populations who may be more at risk in developing oral cancer to convey necessary preventative oral cancer education to these populations as well.

Online Forums and Communities: Fostering Community & Socialization

> "At moments, the weight of it all became palpable. It was in the air, the stress and misery. Normally, you breathed it in, without noticing it. But some days, like a humid muggy day, it had a suffocating weight of its own" (Kalanthi 78).

Cancer bears a significant weight on not only the patient who is diagnosed with the disease, but it also bears a heavy weight on the family and caregivers of the patient. For Joseph, being diagnosed with oral cancer did have "a suffocating weight of its own" (Kalanthi 78). The suffocating weight of cancer has had an effect on not only his health, but also on his social relationships. "I feel like I've become a burden and will continue to be only a burden," said Joseph.

For Joseph who did not smoke, but drank recreationally, oral cancer was a shock to him. "I'm not a smoker," Joseph said. "But I didn't know that I didn't have to be a smoker to get oral cancer, and I definitely didn't know drinking would increase my chances, either." Joseph did not notice any lesions until a red, hard mass on the side of his tongue grew bigger and that is when he went to his physician to have it looked at. Joseph did not frequently visit his dentist or keep up with his dental appointments. If Joseph had been more actively looking for oral cancer through self-screenings and/or frequently visited his dentist, his oral cancer lesion could have been potentially caught and treated in an earlier stage.

The extent to which cancer has limit Joseph and his autonomy has in return resulted in Joseph's reliance on his close family members' support to bring him to his scheduled chemotherapy and radiation treatments. One day you are strong enough to independently live your life and go through daily life routine freely; the next day you are too weak to even make any doctor's appointments on your own and you require the help of your close family members to even make simple appointments.

The lack of autonomy is a major adverse reaction caused by cancer; it weakens the individual and consequently the individual must rely on a caretaker/family member to meet daily needs. For Joseph, the lack of autonomy that he faces with his diagnosis of oral cancer has been a key constraint. "Before cancer, I lived freely. Now I live just trying to manage my cancer. Every day I wake up and I think about my cancer. I wake up and I have to think about the medications I have to take for the day for my cancer, the doctor appoints and medical treatments I have to go to for my cancer. Every day it is all about treating my cancer," said Joseph in response to how he personally felt cancer has affected him and his daily life. Cancer may physically invade tissues and organs, but it also invades every crevice of an individual's life and social identity as an individual's life may become solely centered around living with

the chronic illness and subsequently having to treat the chronic illness on a daily basis.

Social withdrawal and depression are common side effects of cancer as well as cancer has commonly been thought of as a fatal disease that leaves its victims constantly struggling to fight it on a daily basis (Tang et al. 2015). For Joseph, cancer has definitely affected his personal relationships and has strained his social life. “No one knows I have cancer except for my family. I don’t really talk to anyone about it, really. I don’t want everyone to know that I have cancer. It’s just awkward to talk about to begin with,” Joseph said in response to how cancer has socially affected his relationships. “There are no social relationships now. It’s just me and cancer,” Joseph emphasized. As evident in Joseph’s case, cancer strains social relationships and causes the patient to act socially withdrawn. The cancer patient may only confide in people who are the closest to them, such as family members. Any social interaction outside family is unlikely as the cancer patient typically cuts off all unnecessary social communication and interactions.

Along with social isolation and withdrawal, cancer patients typically face a social stigma associated with cancer that may be self-inflicted and internalized through personal beliefs as well as facilitated through social interactions with friends and family (Daher 2012). For Joseph the social stigma associated with cancer as an incurable, fatal disease was prevalent. “When you mention cancer, or even talk about it, the first thing someone thinks about is death. When I was first diagnosed, the first thing I thought about was that I was going to die. You don’t really hear about people getting cured of cancer. You hear about them dying. That’s why I don’t like to talk about it. You can see it in their face – friends, and even worse family. They feel bad for you, because they think you’re going to die. You think you’re going to die because you have cancer and the people around you think that you’re going to die, too.”

The social stigma associated with cancer as well as the fatalism imbedded in the context of cancer makes it incredibly hard for any cancer patient to even talk about their disease with friends and family. They may feel that it is socially unacceptable to even talk about cancer all together because of all the negativity associated with the disease. Consequently, this causes the patient to avoid talking about their condition all together. As Joseph emphasizes, talking about cancer is “awkward to begin with,” and this awkwardness may contribute to a maladaptive perspective on cancer, causing the patient to be unable to cope with disease effectively as they are constantly trying to avoid confronting having the cancer and are just coasting by living with the cancer and letting it take over every aspect of their life. Ultimately, the social stigma associated with cancer creates a barrier between the patient and those around them. The inability to talk about cancer and how it

affects an individual cripples the patient's ability to cope with and learn how to live with their cancer in a more positive light.

As these psychological issues affect Joseph's well-being, there must interventions that can address these issues for Joseph, allowing him to more effectively cope with his disease and begin to relinquish the jarring control cancer seemed to have on his life. Joseph should be able to openly communicate with his friends and family about his disease in order to positively cope with having cancer rather than just living day by day with cancer.

Joseph appeared to be reluctant to participate in support groups because he felt that there was a social stigma associated with oral cancer. A good alternative way to participate in support groups and communities may be done online through forums, where Joseph can potentially remain anonymous under a pseudonym and be free to talk about his disease. Although Joseph was hesitant, Joseph said he would try to join an online community to talk about his disease. Using online oral cancer communities and the forums associated with these online communities may be helpful for an oral cancer patient who not only has difficulty traveling to attend group counseling programs, but also for a patient who has a strong association with the stigma and shame of cancer.

Online forums may be the necessary medium to ease cancer patients into communicating about their disease by allowing patients who associate a strong negative stigma with their disease to participate in and be a part of an online community. Online forums, however, do not replace a patient from receiving proper psychological counseling from a licensed therapist. Online forums should be viewed as a preliminary point to encourage a patient to begin communicating with other people about their disease. Although these online forums will not address all the psychological issues an oral cancer patient may face, it may be used as a starting medium to ease a cancer patient into the process of talking about their disease, accepting their disease, and developing a positive social group identity and a sense of community and belongingness.

Alongside with joining an online community in which Joseph could actively socialize in and begin talking about his disease, Joseph was encouraged to try relaxation therapies such as taking a yoga class as well as listening to soothing music before his chemotherapy and radiation treatment sessions. Joseph was more receptive to these suggestions and agreed that they may help lower his anxiety before treatment and told me that he would sign up for a yoga and meditation sessions before radiation and chemotherapy treatment. He also agreed that he would try to listen to soothing music before his treatments as well. Participating in relaxing activities such as yoga through mediation and posing as well as listening to soothing

music before cancer treatments has been associated with more positive reactions to treatment by reducing initial anxiety levels before treatment (Brown & Gerbarg, 2005; Rossetti et al. 2017).

Ultimately, Joseph found that participating in yoga and meditation as well as listening to soothing music before a treatment session was effective in lowering his anxiety before treatment, subsequently making the process of undergoing treatment easier and smoother. Joseph has also joined an online forum for oral cancer patients, and has begun to actively make the steps necessary to combat the psychological issues associated with oral cancer.

Cathartic Dark Humor: Using Humor to Overcome Cancer

"Life would be tragic if it weren't funny." - Stephen Hawking

For some, having a sense of humor is a significant trait to have. Some may even say that having a sense of humor is an essential human trait, allowing an individual to reflect on their experiences in an extrinsic perspective. Humor plays many roles in everyday life, and for many humor can act as a coping mechanism, allowing an individual to come to terms with their reality in a light-hearted manner. Without humor to help an individual cope with their personal situation, an individual can easily succumb to the negative aspects of their lives and become completely consumed by negativity.

Stephen Hawking, a renowned physicist who was diagnosed with amyotrophic lateral sclerosis at the early age of twenty-one, relies on humor despite his daily struggles with ALS. As Stephen Hawking emphasizes, humor may be an essential psychological tool for humans as without humor, "life would be tragic." Stephen Hawking's ability to transcend his illness, despite the physical deterioration of his body, exemplifies that although illness may weaken the body, it does not have to weaken the mind. Humor has been a powerful coping tool for Hawking, as Hawking has said that "work and a sense of humor" has allowed him to overcome the challenges he faces from the motor neurodegeneration of ALS (Jamieson 2016). Having a sense of humor is an important quality for Hawking as he emphasizes, "It is also important not to become angry no matter how difficult life because you can lose all hope if you can't laugh at yourself and life in general" (Jamieson 2016). Hawking uses humor to detach himself from his disease and view the circumstances in his life in a more positive perspective in order to positively adapt to his ALS.

For patients with chronic illnesses like ALS and cancer, humor may be a quintessential adaptive trait that allows them to reflect and come to terms with their present reality. Humor has been shown to be an adaptive trait used commonly by cancer patients to allow them to actively communicate their thoughts and

experiences that would have otherwise would have never been expressed, as it may be viewed as socially unacceptable to even talk about cancer openly and humorously in the first place (Demjen 2016).

Cancer is a heavy topic loaded with negative connotations and is subsequently rarely the subject of humor or comedy. It can be seen as socially inappropriate to even openly talk about cancer, let alone laugh about it (Demjen 2016). However, when humor is used by cancer patients to reflect about their experiences in a lighter perspective, humor may mediate the adverse psychological strain of having cancer on the patient (Demjen 2016). When patients laugh at the experiences they have because of cancer, they do not only reflect and cope with their disease, they also may feel a sense of empowerment and control over their disease to freely react to consequences of the scope of their illness (Demjen 2016). Patients who talked anonymously on a cancer forum about their funny experiences and jokes about cancer, patients appeared to be able to not only positively cope with their disease, but also be able to build a positive social identity within an online community around mocking their disease (Demjen 2016).

For Joseph, humor is an adaptive trait that he personally developed in response to his oral cancer, allowing him to come to terms with his reality by humorously reflecting on his current situation. Humor allows Joseph to view his oral cancer diagnosis in a more positive way. “On the bright side, you know, I don’t even have to worry about middle-aged balding,” Joseph would jokingly say about his hair loss in response to intensive rounds of chemotherapy and radiation. Humor for Joseph is a psychological tool, allowing him to address the negativity associated with his disease transforming his negative experiences into more positive experiences. Joseph’s ability to laugh at his disease and himself allows him to cope with the disease.

Developing a humorous response to cancer, however, is not a natural inclination. “I wasn’t always able to joke about it though. At first, it was devastating,” Joseph said. Cancer can be viewed as a loss of not only health, but also psychological soundness. With any type of loss, people typically grieve and may go through all the stages of grief when they are diagnosed with cancer. Cancer patients may initially go through denial and refuse to acknowledge that they have cancer. For Joseph, he experienced exactly that as he could not believe his initial oral cancer diagnosis. “It felt like I was stuck in a nightmare, and I really hoped that I was,” said Joseph. Following denial, a cancer patient may experience a mix of emotions such as anger and/or fear. Feeling anger after denial may be common for cancer patients who are attempting to grieve about their cancer diagnosis. Patients may end up questioning why they have the disease and may resort to blaming the disease on external forces,

or they may even completely blame the disease on themselves, which can spiral them into a deep depression.

In response to the grief associated with being diagnosed with cancer, cancer patients can develop defensive coping mechanisms to deal with psychological burden of their cancer. Patients may look to avoiding their disease all together by keeping themselves busy and preoccupied. They attempt to live their lives as they normally as possible in hopes of emulating the life that they had before their cancer diagnosis. Like many other cancer patients, when Joseph first learned that he had cancer, Joseph did not want to believe it. He wanted to live his life normally. It took Joseph quite some time to accept his cancer diagnosis as he attempted to continue living as normally as possible until he reached his breaking point. "I just woke up one day feeling so tired. I was losing a lot of weight and I knew it just wasn't the same anymore" said Joseph. Cancer was there and there was no way to avoid it anymore.

Humor quickly evolved as Joseph's coping mechanism, allowing him to face cancer directly. Joseph began to view his condition in a light-hearted manner and his humor allows him to detach himself from the negative aspects of the disease to view his cancer in a more positive light. Furthermore, Joseph constantly makes a conscious effort to find humor in all aspects of his life and this gives him a sense of control over his disease as he can detach himself from his "cancer status." "I like having a few laughs here and there, it keeps me at ease. It lets me not feel worried about it. If you keep worrying, it eats away at you. Bit by bit," said Joseph. Without humor, surely Joseph would be have a more maladaptive approach towards his cancer; he would be more anxious, worried, and concerned over his disease.

As Joseph exemplifies, humor appears to be an essential adaptive mechanism to allow cancer patients to positively cope with their disease. Because there is a strong stigma attached to cancer, humor directed towards the disease may not appear socially appropriate. As such, many cancer patients may not feel inclined to use humor to positively cope with their disease. However, because we live in a digital age where anonymity exists along with massive online communities, humor directed towards cancer may be more socially acceptable written online through online personas. Humor has been used online directed towards cancer and the experiences of cancer patients in cancer forums in the United Kingdom (Demjen 2016). Online communities can foster a sense of community and belongingness and anonymity associated with using forums and usernames can potentially foster online communities with little to no social stigma. Humor is an essential coping mechanism and people have used humor to cope with their disease and experiences online through forum threads dedicated to humor and cancer.

As Joseph already uses humor as a coping mechanism throughout his daily life, online forum use dedicated to humor and cancer was suggested to him so he could document his experiences and be able to interact with an online community. Joining an online community was recommended to him to encourage him to interact with a community of individuals facing the same situation as himself to help diminish feelings of isolation and encourage him to develop a sense of group identity and community. Joseph hesitantly agreed that he would attempt to join these online communities and that he would potentially post in these forums. For Joseph, and perhaps many middle-aged patients, online communities are foreign to them and they may face technological barriers in accessing online resources and communities that may be helpful to them. Socioeconomic status of the individual may also pose as a barrier to access, as lower socioeconomic status individuals may lack the resources and knowledge to access these online communities and forums.

Despite the disadvantages of using online forums and communities to foster community identity and as mediums to use humor to cope with their disease, online forums and communities are potential platforms to allow people to adaptively cope with their disease. Humor directed towards cancer may appear more appropriate online as people can remain anonymous and there may be less of a social stigma associated with cancer online. Online communities may be ideal places for people to actively use humor to cope with the daily negative consequences of their disease to allow them to come to terms with their disease by extrinsically reflecting.

Self-Guided Therapy: The Option in lieu of Group Therapy

"When you come to the end of your rope, tie a knot and hang on" – Franklin D. Roosevelt

Cancer is challenging in many ways as it is not only physically draining but also very mentally draining. Those with cancer may need an extensive support network in order to not only cope with their disease, but also to be able to keep motivated to continue complying with treatment in their fight against cancer. However, for some patients, such an extensive support network does not exist for them. They may lack close family and friends that they can inherently confide in, and coping with the extent of cancer can be very problematic as they lack the social support systems that can help the patient adapt to the demands of cancer treatment. For these individuals, they may be at "the end of [their] rope, [where they must] tie a knot and hang on," (Franklin D. Roosevelt). These individuals may struggle and have to deal with adjusting their maladaptive behaviors entirely on their own. As this is the reality for many patients, these patients must somehow learn how to adopt adaptive behaviors to deal with cancer on their own. There may also be individuals who do not desire assistance from others at all and wish to independently deal with

their disease entirely on their own. For these patients, interventions geared towards developing positive psychological outlooks must be suited for them in order to improve quality of life and promote healthier psychological outlooks.

There may be a variety of reasons as to why an individual may need self-guided psychological interventions. For these individuals, there is a strong sense of shame associated with their disease and a desire to deny that they have cancer. People may also feel as if that it is socially inappropriate for them to even talk about their cancer, because that would affect their social status as people may view them as sickly and weak. Like many people who want to avoid their cancer and inevitably disconnect from their cancer diagnosis, Michael felt a strong compelling urge to deal with his oral cancer diagnosis on his own. Only a few close family members even knew about his oral cancer diagnosis. "I didn't want to seek help. I didn't want to be that guy that needed help. I wanted to handle it on my own, I am a man after all" said Michael. Because Michael's masculinity plays a significant role in his self-identity, Michael avoided confiding in others about his cancer and avoided suggested group therapy sessions, as he believes that he can and should deal with the psychological effects of cancer on his own. "It's just embarrassing attending those group therapies," Michael emphasized. Because of the strong shame that he associated with his cancer, Michael did not want to socially participate in group therapies.

Fortunately, for individuals who are unwilling to seek group therapy, there are self-guided interventions that may help them manage the stress and the psychological impacts of cancer. Self-guided interventions can be useful for individuals who feel a strong sense of social shame associated with their disease, barring them from participating in group therapies and even online communities as these interventions require the individual to open up and socially acknowledge their disease status. There are a significant number of self-guided interventions that anyone can partake in to alleviate the psychological distress associated with their cancer (Ugalde et al. 2017) One intervention consists of using online videos and booklets about relaxation and meditation (Ugalde et al. 2017). With this program, they can learn how to use relaxation techniques at home.

Self-guided meditation and relaxation techniques have been successful for Michael as it has lowered his stress and anxiety levels when he used it before chemotherapy and radiation treatments. "I used online videos and a booklet about relaxation and meditation and meditated before any chemotherapy and radiation therapies to loosen up" said Michael. Meditation helps Michael focus and be able to relax his mind before stressful procedures or treatments like radiation or chemotherapy. "It has really helped; I feel different before treatments now and I

don’t feel an overwhelming sense of anxiety before going to my treatment appointments,” Michael said.

There are some people who strongly feel that it is not socially acceptable for them to express their feelings towards their cancer with others. For these particular individuals, they may have a hard time participating in support groups, or even forums online as a result. However, one potential self-guided intervention that may allow people who feel as if it is socially inappropriate for them to talk about their cancer to actually vent about their disease may be accomplished through encouraging these patients to keep an active diary or journal, in which they can privately express their thoughts and feelings about their life and journey with cancer (Ugalde et al. 2017). By keeping an active journal dedicated to their daily lives, patients can not only keep track of their personal health, but it can also help patients come to terms with their disease instead of actively avoiding it.

For Michael, there was a strong belief that talking about his cancer with others was socially unacceptable and potentially damaging to his social reputation and identity as a strong, independent, man. Michael refused to talk about his cancer with his family or friends, because he believed that it would only emotionally strain his relationships making them feel pity towards him. Because of these strong beliefs, Michael simply avoided his cancer and was unable to positively cope with his cancer. However, journaling became an effective solution to this dilemma as it allowed Michael to write about his cancer and how it affected his well-being without having to physically tell anyone else about his cancer." Being able to vent and let all my feelings out into this journal is relieving. I felt like I was lifting away a heavy burden and that I could finally talk about my cancer" said Michael. With the use of a journal to allow cancer patients to vent, people can express how they truly feel without any social judgment or social stigma.

A limitation of self-guided interventions is that they are generally not goal orientated and do not systematically tackle individual specific issues a patient may encounter. One potential way to possibly address this problem is by allowing patients who do not want to physically participate in group therapies to use video and audio recordings of a stress management group therapy in order to be able to participate in more organized and goal oriented interventions (Ugalde et al. 2017). Seeking help through the means of watching a recording can be beneficial to those who are shyer or prefer not to consult with another person. By allowing a person to watch and listen to stress management therapy sessions, it essentially allows them to participate in a support group session. Furthermore, by watching these therapy sessions, there is potential to change the person's mind about physically participating in group therapies. This may encourage a resistant individual to even show up to a stress management group in person.

Michael, in particular, was resistant to attending any management therapies, because he felt embarrassed talking about his cancer. He felt uncomfortable talking to others about his cancer and refused to attend any of the group therapies suggested to him. “I didn't like the idea of going to a group therapy session and talking to strangers about my life, but using the videos and recordings were helpful" said Michael. Although Michael did not want to physically participate in a group therapy session, Michael was able to use recordings of stress management group sessions to help him develop and adopt stress management techniques that he can use to cope with his disease.

Self-guided interventions can be a viable alternative to help patients deal with the psychological burden of their cancer even when they feel an extreme sense of shame or social stigma associated with their cancer. Although these interventions are self-guided and may potentially lack linear consistency and progression, self-guided interventions can help patients who do not feel comfortable physically attending group therapies and stress management sessions. In Michael’s case, Michael was able to use these self-guided interventions to cope with his disease, and he did not have to socially interact with anyone. Ultimately, self-guided interventions can be used as an alternative psychological intervention for patients who refuse to physically attend therapies or lack the physical means to be able to attend one.

Companionship: Potential Uses of Therapy Animals

> “Mental pain is less dramatic than physical pain, but it is more common and also more hard to bear. The frequent attempt to conceal mental pain increases the burden: it is easier to say “My tooth is aching” than to say “My heart is broken.” (C.S. Lewis, 1940)

The mental distress cancer patients face cannot be over looked as anxiety and depression affect their overall prognosis and quality of life. For oral cancer patients, who may also potentially face loss of speech and function of their oral cavity as well as facial disfigurement, anxiety and depression are key concerns as the likelihood of social withdrawal is high. As C.S. Lewis emphasizes, “the frequent attempt to conceal mental pain increases the burden” and for some oral cancer patients this burden only intensifies as they avoid recommended therapy and counseling. Although patients may experience high level of stress, anxiety, depression, they may refuse to seek counseling or therapy due to perceived social stigmas associated with therapy and counseling.

Therapy and group counseling are essential tools that cannot only offset the depression and anxiety cancer patients may face, it can also help cancer patients develop positive adaptive behaviors to effectively deal with anxiety and depression. However, a key barrier to helping oral cancer patients develop these tools and

strategies is getting these patients to participate in group therapy and/or counseling. For patients who struggle with the idea of participating in therapy or counseling, animal assisted therapy may ease the patient into participating in therapy sessions as well as provide the patient with some kind of companionship. Animal assisted therapy may be a great option for these patients as animal assisted therapy encourages companionship, serves as positive distractions, and also provides a positive tactile stimulus (Cancer Treatment Centers of America, 2017).

The underlying negative connotation associated with seeking therapy may deter many from participating in group therapy sessions. Many people would not want to be told that they need to see a therapist in the first place and may even feel offended by the suggestion. A therapist may also seem intimidating to patients but with the help of an animal, such as a therapy dog, the patient would potentially view the therapist as less threatening and friendlier. The effect of having a happy, energetic animal alongside the therapist may overcome a patient's initial decision to refuse help from the therapist. For some patients who feel intimidated by therapists, but like dogs, they are more likely to interact with the therapist. "I never really liked seeing therapists, but when this therapist came into my room with a dog, I decided to interact with the dog. I would rather interact with a dog than have long therapy talks with a counselor" said George. For oral cancer patients like George, interacting with a dog may be easier than sharing intimate conversations with a therapist. Encouraging patients who may not want to interact with a therapist to interact with a therapy dog may be beneficial for the mental health of these patients as interacting with therapy animals can be relaxing and therapeutic.

Another way a therapy animal can help is by positively altering a patient's mood which in turn can improve a patient' mood and overall wellobeing. A dog accompanying a patient not only reduces a patient's loneliness, but also can also reduce their stress and anxiety. With a dog, the patient can feel occupied and distracted from the negativity of their lives "Time flew by so quickly when the dog was here, I was so focused on playing with the dog I forgot about eating my lunch" said George in response to animal therapy sessions he has been participating in. For the time being, the patient is relieved of his/her stress and anxiety, which can ultimately positively affect the patient's mental well-being (Johnson et al., 2008).

Not only do cancer patients face mental fatigue, but they also face physical fatigue that can potentially be addressed with interacting or even getting a therapy animal or even a pet to take care of. Raising a pet can be beneficial for the patient, as it would not only provide structure to the patient's everyday life; it would encourage companionship and allow the patient to positively interact with another organism. Raising a pet can push the patient to be more physically active, especially if they have

to walk a dog every day. Being more physically active can improve the patient's overall physical health and how positively the patient responds to treatment.

Like humans, animals can show affection and love. Raising a dog as a pet can resemble raising a child. For a patient to take care of a pet, it requires time and attention. Getting a pet or therapy animal to take care of can bring purpose to an oral cancer's patient life. "After being told I had cancer and that I needed chemotherapy, I never felt alive or the same. But ever since I got Sam, my dog, I was ecstatic. I felt like I had a purpose in life and I came to love my pet as my own child. I can't imagine a day without Sam. I felt that my life is back to normal and that I look forward and enjoy each and every single day of my life with Sam" said William. With a pet, a patient can devote their time and mind into this animal. The love and care people have towards dogs are also reciprocated back and making people feel loved and have importance in their lives. Dogs can provide unconditional love and support that can encourage a patient to continue on with treatment.

Animal assisted therapy may be particularly useful for bed-ridden patients as well as these patients tend to feel lonelier and can get easily get depressed as a result of being immobile. Regular animal assisted therapy visits can induce more positive moods and help bed-ridden patients to have something to look forward for (Johnson et al., 2008).

Although animal assisted therapy may provide positive benefits, it may not work for every single patient. For patients who do not like animals in general as well as patients who are allergic to various animals, animal assisted therapy would not be used. Taking care of a dog or any other living creature requires a financial commitment that some patients may not be able to commit to so raising an animal would not be suggested to them. A good way to work around this is by arranging free daily or weekly therapy animal visits provided by non-profit organizations to these patients to allow them to interact with therapy animals without the financial burden if the patient wishes to do so.

Furthermore, animal assisted therapy does not have to always include interacting with dogs. A good alternative to animal assisted therapy may be to start raising an animal such as a fish or possibly even taking care of a plant. Having something to care for may not only positively distract a patient, but it can reestablish a more normal, routine lifestyle for the patient. For example, Michael who is using self-guided therapy interventions to deal with the psychological stress of oral cancer has also decided to begin to take care of a Betta fish. "For some reason, taking care of [him], makes things feel more normal. Like I have something to do. Something to care about," said Michael. Being able to see a fish or even a plant grow can give a

patient a sense of accomplishment as well as help them establish not only routine, but periodic goals as well.

Although there have not been definitive conclusive studies finding a clear direct correlation between animal assisted therapy and improvement of their mood, animal assistant therapy has the potential to positively improve the lives of patients (Johnson et al., 2008). In the end, animal assisted therapy can help to improve a patient's overall well being by reducing stress, providing companionship, providing positive distractions, as well as providing a positive tactile stimulus.

Despite the fact that there has not been a statistical direct correlation between animal assisted therapies and their mood, patients with oral cancer should be encouraged to seek out and participate in animal assisted therapy. Animal assisted therapy may work very well with oral cancer patients who may have difficulty speaking and verbally communicating as interacting with therapy animals does not require any verbal communication. Animal assisted therapy can potentially improve the mood of oral cancer patients. Oral cancer patients do not have to participate in animal assisted therapy, as they also can be encouraged to raise a pet or plant to improve their mood and reestablish a more routine and steady lifestyle. Animal assisted therapy may be a good choice for oral cancer patients, because oral cancer patients typically face facial disfigurement and compromises to their oral cavity inhibiting their ability to verbally communicate. Animals can provide oral cancer patients with companionship and a way to positively interact with another living being.

IV. Future Directions

In conclusion, oral cancer patients face a variety of psychological burdens that may reduce their quality of life if they are unable to positively adjust to their cancer. Subsequently, it is necessary to recommend and offer oral cancer patients resources and interventions that suit their personal needs. Some patients may be comfortable with physically participating in support groups, whereas other patients would prefer self-guided interventions where they would participate in support groups or resources online. Some patients may also benefit from having therapy animals visit them or may even raise an animal or plant of their own if they are financially able to. Health care professionals need to tackle the psychological issues associated with oral cancer by a case-by-case basis and offer suitable interventions and suggestions for each individual.

Universally, the stigma against oral cancer can debilitate many patients and prevent them from seeking treatment interventions. Promoting oral cancer patient advocacy, public oral cancer prevention screening programs, and public oral cancer education programs can reduce cultural stigma against oral cancer. For many oral

cancer patients, online interventions may be used as a generalized intervention as it may be a cheap and easy way to allow all patients of all socioeconomic statuses access to resources through online interventions and communities.

Most, if not all, of the psychological issues that oral cancer patients face can be prevented by the development of a public preventative oral cancer-screening program. This can be done by creating a social movement calling forth more attention to oral cancer as a preventable public health issue through social media platforms as well as a the development of more accessible information about oral cancer online. As what was done for ALS to promote public awareness, viral challenges can be created for oral cancer awareness as well.

Health care professionals can and should provide preventative screening services by not only screening their patient for oral cancer, but also by educating their patient on how to screen themselves at home for oral cancer through visual inspection as well as physical palpation of the lips, tongue, cheek, palate, and floor of the mouth. Healthcare professionals can teach patients how to palpate and inspect for lesions by having the patient hold a hand mirror to observe how to screen for oral cancer as the health care professional is performing a screening on the patient. Health care professionals should educate patients about high-risk behaviors associated with the development of oral cancer such as smoking and drinking alcohol. By educating patients on the early signs and symptoms of oral cancer and risk behaviors, the healthcare professional can lower patient diagnostic delay and improve patient prognosis.

Future directions include working on creating online videos or resources teaching people self-screening procedures to examine their own mouths for any potential cancerous lesions. Patients can easily screen for oral cancer at home by visually inspecting their lips, cheeks, tongue, and floor of the mouth for any abnormal lesions as well as palpating their mouths on their own for any abnormal masses and lumps, especially in soft tissue areas. As there has been a public push in knowledge about checking borders of existing moles for abnormalities, similar concepts can be applied to the oral cavity as lesions can be visually assessed for any abnormal changes in color, symmetry, and shape as well as any notable hard mass development near typical soft tissue.

Furthermore, with current technology, patients can potentially monitor their own lesions. A future phone application can be created for patients to upload images of lesions that can be compared to known abnormal cancerous lesions and the application can potentially determine how much the patient's lesion matches with the characteristics of an abnormal oral cancer lesion through an image matching software. The phone application can also have compiled images of oral cancer lesions

that the public can look at to compare their own lesion to a lesion that was diagnosed as cancerous. The phone application could also record any signs and symptoms of oral cancer that the patient may check off from a generated list of all known signs and symptoms. This list of signs and symptoms can help patients potentially distinguish any warning signs their lesion may cancerous and prompt them to seek professional help.

There are, however, potential issues of developing and using a phone application to screen for oral cancer lesions, as the application will potentially have accuracy discrepancies. Furthermore, there is a possibility that patients may rely on phone applications to diagnose lesions to avoid consulting a health care professional. However, the development of a phone application that can potentially help patients identify cancerous lesions will eliminate the issue of access to preventative care for patients who do not have health insurance, have limited access to health care, and/or have avoidance issues and do not like seeing healthcare professionals. For these patients, having a way to identify potentially cancerous lesions can also encourage them to actually seek health care professional help as well as remain vigilante about any notable changes in their mouths.

Ultimately, the psychological issues associated with oral cancer boil down to lack of patient education and social awareness. Patients are not taught the necessary information and skills that they need in order to potentially catch a lesion early on to lower diagnostic delay and seek medical treatment quick enough in order to have a good prognosis. However, with how quickly information can be transmitted through the Internet and modern day technology, the general public can be easily taught step-by-step through online videos preventative screening techniques in order to catch and treat oral cancer early on. Finally, the development of a screening phone application to identify lesions as well as signs and symptoms may help provide a much-needed public screening intervention for patients to keep track of lesions and potentially decrease patient delay in seeking professional help.

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Outline

I. Introduction: State thesis as a complex, compound sentence

A. Oral cancer affects patients both physically and psychologically and dental health care professionals must address not only the physiological symptoms of oral cancer, but also the associated psychological disorders in order to increase quality of life for these patients.

1) What is cancer and specifically oral cancer? What are the risk factors?

a) Cancer is the uncontrollable division of cells causing mutated cells to amass in local and distal tissue. This causes local and distal complications such as poor organ function and decreased immunity to foreign pathogens.

b) Oral cancer is cancer originating at the mouth, throat, and neck.

c) Oral cancer screening is usually done by the dental hygienist. Often, oral cancer will not be detected until later stages as lesions may occur in hard to see areas such as the back of the throat.

d) Risk factors for oral cancer include lifestyle choices such as smoking, overconsumption of alcohol, poor diet and exercise, as well as having human papillomavirus number sixteen (HPV16).

i) There are cultural risk factors that also increase your likelihood of oral cancer such as being a part of a community (baseball social culture) that encourages risk behaviors such as consuming tobacco products. There are also high incidences of smoking in certain cultures such as Asian cultures and consequently smoking is more culturally accepted and seen as the norm in those communities.

B. How are these patients treated for their oral cancer?

1) Depending on the specific stage, treatment may include radiation, chemotherapy, and surgery.

a) Radiation uses electromagnetic waves to target specific areas to attack cancer cells.

b) Chemotherapy uses potent drugs and may cause adverse reactions and conditions in the mouth such as dry mouth, inflammation of the gingiva, and oral mucositis.

i. Oral mucositis is a major concern as it causes painful patches and lesions in the mouth making it very difficult to eat, drink, and talk.

c) Surgery may be used to remove tumors and lesions.

i. Surgery often causes functional issues and facial disfigurement as tumors will be excised from soft and hard tissue, which may adversely affect their ability to use their mouth and may cause permanent facial disfigurement. Loss of oral function and facial disfigurement can have

severe psychological effects on the patient effecting their self-esteem and confidence making them more socially anxious and depressed.

C. How do we encourage compliancy in medical treatment and psychological treatment?

a) Healthcare professionals need to educate their patients on their condition and the benefits of medical and psychological therapies on their health and quality of life.

b) Elderly patients can be encouraged to be compliant by simplifying their treatment routine by lowering the number of drugs being taken and actively involving their caregiver and educating the caregiver.

c) Government subsidized programs and/or insurance covered treatments can help patients pay for cancer treatment, which will reduce the financial barrier lower socioeconomic status patients will have in terms of financing their therapy.

d) For patients who are in the further stages of cancer and are facing extreme adverse side-effects of the disease, healthcare professionals should be looking into palliative care to treat symptoms and make patient more comfortable.

e) Treatment can be a taxing regime of drugs and radiation therapies that can play a toll on whether or not a patient is compliant. Health care professionals can opt to use a more simple treatment plan and promote a routine that the patient can easily follow by giving them step-by-step instructions, and using multipurpose drugs so that the patient does not have to take a large number of drugs every day.

f) Healthcare professionals should be trying to build a positive relationship between patient and provider. Health care professionals should be following up with the patient to determine if they are complying with treatment as well as modifying treatment to better fit the needs of their patient.

II. Claim of Fact--Restate thesis around major problem.

A. Description of specific time, place, demographics, etc of your study

This study investigates possible therapeutic interventions dental health professionals can offer New Yorkers who have oral cancer in 2017 to reduce the adverse psychological effects of the disease on their quality of life.

Many oral cancer patients are over the age of 50 and have higher incidences in Hispanic and Black males. According to the National Institute of Dental and Craniofacial Research 10.5 adults per 100,000 will develop oral cancer.

A) Oral cancer patients are more likely to engage in various risky behaviors that are associated with developing oral cancer.

i) Many oral cancer patients either smoke, drink, and/or take drugs that are carcinogenic to oral mucosa.

ii) Another risk factor that increases the likelihood of developing oral cancer is poor dental hygiene, which fosters bacteria flora that may be carcinogenic to oral tissue. Poor dental hygiene has been associated with lower socioeconomic status and having an education below high school level.

iii) Poor diet and lack of exercise is another risk factor for oral cancer and is more common in lower SES and education levels.

iv) There are also cultural risk factors such as betel quid chewing in South Asian populations, which have been shown to be carcinogenic to oral tissues.

Psychological Problems Oral Cancer Patients May Face

1) Oral cancer patients may face anxiety and depression due to loss of oral function and facial disfigurement.

2) Oral cancer patients may also lose their sense of identity due to facial disfigurement if they have to undergo surgery to remove tumors from soft and hard oral tissues. Unfortunately, many of these patients will face scaring and facial tissue disruptions that will permanently change how they physically look like. Facial scaring and disfiguration will negatively affect their self-image and self-esteem.

3) Many oral cancer patients may feel isolated and socially withdrawn because there is a social stigma attached to oral cancer and they may not feel as if they have a support group that they can rely on.

a) Social stigma associated with cancer is more prevalent in some cultures, where cancer is viewed as a fatal disease and there is strong shame associated with admitting that they or a family member has cancer. Therefore, individuals with cancer will feel strong shame associated with their disease and will be socially withdrawn and feel as if it is socially unacceptable to talk about cancer.

B. Counterclaim to your claim of fact

1) A majority of oral cancer patients demographically consist of less educated individuals from lower socioeconomic status (SES) brackets. They are likely long-term smokers and/or alcohol abusers. These individuals are likely to be non-compliant. They will not be attending or participating in any psychological counseling or programs as they are non-compliant and they have likely refused the smoking and alcohol cessation programs recommended to them in the past.

2) Anxiety and depression are also genetically related psychological disorders that may require medication. If there is a significant neurological chemical imbalance, relaxation therapies may not be as effective for these patients.

3) Disfigurement becomes a significant concern for oral cancer patients, especially for individuals with late stage oral cancer who have had facial surgery, and may

cause the patient to become withdrawn and less willing to attend therapies where they will have to interact with other people.

III. Claim of Value--Refine thesis in terms of values, what certain groups of people, religion, culture deem better or worse.

A. Description of your angle on the claim of value: Quality of life is a major concern for all cancer patients and it is negatively impacted for oral cancer patients as they face difficulty eating, drinking, and speaking.

1) Patients value their physical health.

A) Eating is not only necessary to sustain humans physically, but eating also has a social aspect to it as well.

B) Oral cancer patients have impaired ability to eat and even taste food. Ultimately they will lose the ability to participate in the social aspect of eating (i.e. family dinners, restaurant outings, etc.).

i) This will likely impact the oral cancer's patient's social relationships causing the patient to feel withdrawn and depressed.

2) Patients value being able to communicate their feelings with their family.

A) Speaking is difficult for many oral cancer patients as it may be difficult to swallow.

B) Depending on the severity of their cancer as well as tumor location many may find that they have difficulty speaking. Speaking is essential for humans to effectively communicate their desires and feelings to others. Impairment of speech will likely impact the oral cancer patient's social relationships.

i) This will likely cause the patient to feel withdrawn and depressed.

3) Patients value their looks, as this is a part of their identity as an individual.

A) Many oral cancer patients will have their tumors surgically removed and this may cause facial disfigurement.

B) An individual's identity is linked to how they physically look.

i) This may cause the patient to feel insecure, anxious, and socially withdrawn.

4) Patients value comfort.

A) Treatment plans may be long sessions of radiation and chemotherapy treatments causing the patient to feel overwhelmed and exhausted.

i) Treatment plan should be simplified and take into account the patient's current health.

B) There are many side effects to taking multiple drugs at the same time and the patient may have gastric problems with taking a lot of drugs.

i) Healthcare professionals should opt to using drugs that are more multipurpose and can treat many symptoms instead of just one.

5) In some cultures, patients will cancer will feel strong shame associated with their disease and because their culture puts a social stigma on having cancer they will value their social reputation and will consequently try to hide that they have the disease and will feel socially withdrawn.

a) Consequently, it will be difficult to get patients who feel intense shame identifying themselves as oral cancer patients to attend therapy sessions as well as actively socialize with oral cancer communities.

6) Patients value autonomy as for some patients who undergo intensive chemotherapy and radiation therapy face a loss of autonomy as a result due to their bodies weakening. These individuals will have to rely on family members and caretakers on a daily basis and will face an issue off loss of autonomy.

7) Patients value having control over their lives. Cancer takes away this control and may make them feel as if cancer has taken over their lives.

8) Patients value their social reputation and may feel as if talking about their cancer to others including close family and friends lowers their social reputation, because of the shame and stigma associated with cancer.

B. One or more counterclaims to your claim of value.

1) They do not value their long-term health and they may not understand the severity of the disease. Many of these patients may be long-term smokers and alcoholics and they may be so addicted to these substances that they simply do not care about their long-term health.

2) They do not care about their physical looks and it is not a part of their self-identity.

IV. Claim of policy-- Develop thesis in terms of potential solutions to your problem.

A. Present a methodical plan to solve your problem.

1) The healthcare provider should encourage patients to seek a support group for group counseling.

a) Support groups will encourage the patient to interact with other people and this will reduce the social stigma associated with their cancer as this will allow the patient to meet other people who are facing the situation as them.

b) Support groups will help the patient develop a sense of community. This will help the patient socialize with others like them and allow them to feel like they belong to a particular group.

2) The healthcare provider can encourage the patient to participate in relaxation exercises such as yoga.

a) This will helps the patient cope with their anxiety and stress.

3) The healthcare provider can suggest music therapy to patient before medical treatment.

a) This helps the patient cope with their anxiety, stress, and depression.

b) Furthermore, this allows the patient to meet individuals facing the same problem they are facing allowing the patient to grow their own self-identity and group identity.

c) Music therapy can improve patient reaction to medical treatment such as radiation by lowering the stress and anxiety patients would feel before their treatment session.

4) Healthcare providers can encourage compliancy in treatment routine for patients by educating the patient and/or their caregiver about the condition and treatment.

a) Healthcare providers can create a more simple treatment plan that better fits the lifestyle and needs of the patient.

b) Healthcare providers can also encourage routine compliancy with oral drug intake routine by giving the patient reminders through the phone through text message and applications.

c) Health care providers should also schedule frequent follow up appointments to modify treatment to be more suitable towards patient needs.

4) Healthcare providers can direct oral cancer patients to online forums or social media pages that allow them to connect to other oral cancer patients.

a) Online social media and forums can be helpful for bed-ridden oral cancer patients as they can seek an online support group through the internet.

b) This will allow bed-ridden patients to socialize with other oral cancer patients online to foster a sense of community.

c) Oral cancer online forums and social media pages will not only link oral cancer patients together, but it can also encourage social activism for the disease that may increase trafficking to fund oral cancer research and overall oral cancer awareness.

5) Oral Cancer Awareness and prevention programs should be used and spread to all different types of communities and cultures to break the stigma of having oral cancer. These awareness and prevention programs can be broadcasted in various different languages targeting the communities in which cancer is heavily stigmatized. These awareness programs can target communities that have stronger stigmas associated with having cancer to reduce the stigma or shame that individuals would feel by having oral cancer.

6) Autonomy can be restored by giving the patient some control over an aspect of their life. This can be done by allowing the patient to participate in therapies by themselves or participate online discussions themselves.

7) Humor can be used as a coping mechanism for cancer patients. Humor directed towards cancer may not be socially accepted, but patients can participate in online threads about their disease, where humor can be used and may be more socially acceptable online. Humor can unite people in communities, start friendships, as well as give a person a sense of control over their lives as it allows them to detach themselves from events of their lives, reflect on these events, and commentate. Humor can be seen as therapeutic and can be used in a way for patients to regain some control over their lives and health conditions by allowing them to look at their disease and be able to mock it.

8) For patients who do not want to physically attend therapies session and a variety of self-guided interventions can be used to address the psychological issues associated with their cancer. Patients can use online videos and booklets about meditation and relaxation therapies and implement those techniques before chemotherapy or radiation in order to reduce their stress levels, allowing them to potentially react more positively to treatment. Furthermore, patients can keep an active journal or diary to document their cancer journey. This allow patients to vent about their lives and cancer without having to talk to a therapist or a friend or family member, which they may be embarrassed to do so in the first place. Finally, instead of attending stress management therapies or any other therapies of the same nature, patients can watch and listen to recordings of stress management sessions in order to learn about techniques that they can use and implement in their lives to reduce their stress. This allows them to learn about techniques and participate in a therapy session without having to physically attend the therapy session if they feel anxious about interacting with other people.

9) Head and neck preventative screenings should be standards of care for patients as they are quick and easy ways to assess for oral cancer within five minutes. Head and neck preventative screenings can be done by not only the dentist, dental hygienist, but also nurses and physicians as well as a standard preventative care.

10) Alcohol has been officially stated as a cause of many cancers of the oral cavity and neck and should be addressed publically through PSA and intervention programs educating the public about the true scientific based risks of alcohol consumption. This needs to be addressed in public government preventative service announcements and programs as well as through mass media outlets to reach a large mass of people.

11) Phone applications can be used as personal screening tools and to encourage people to monitor lesions in their mouths in order to catch oral cancer early enough so that it is still treatable. This can broaden access to care by being a source of information that many people can access for free and easily.

12) Encourage patients to seek animal assisted therapy in order to improve mood and mental health of patients. Animal assisted therapy can be particularly helpful for oral cancer patients who do not want to participate in group therapy or counseling as they can potentially socially interact with an animal instead to improve their mood.

B. Counterclaim(s) to your policy claim. For example, I may present a therapeutic model to solve back pain, and the counterclaims might be what other therapists do in their rehab centers.1)

1) Any type of psychological therapy or counseling will not be effective because they are previously depressed long-term alcoholics and smokers who are non-compliant and will not attend any of these therapies.

2) Support groups and relaxation therapies are not helpful because these patients are genetically predisposed to be anxious and depressed. These therapies will have little to no effect on them as they are facing untreated neurological chemical imbalances that must be corrected by medication.

3) Support groups and relaxation therapies will be ineffective because these patients have neurotic personalities that make them naturally more anxious and depressed.

4) Support groups and relaxation therapies will not be the best options for patients undergoing intense radiation and chemotherapy as they are so physically weak that they are bed-bound and cannot attend these group therapies or relaxation therapies.

5) Using social media to connect oral cancer patients to each other and to support groups will exclude populations that do not have access to technology, or do not know how to use social media.

6) Social stigma associated with cancer is so engrained in certain cultures that it would be hard to change the opinions of these cultures in response to cancer.

7) For elderly patients or patients who lack resources to technology, there is a barrier to access technology in order to participate in online resources, forums, and other online mediums.

8) Self-guided interventions lack organization and linearity that other patients may have by physically attending these therapies, because there is a group therapist to guide conversation and to adapt techniques individually to a person. Self-guided interventions can negatively encourage patients to remain socially withdrawn.

9) Private clinics are often not being reimbursed by insurance companies for head and neck examinations, which lower the incentive to even perform these procedures. Dentists are visually trained to identify oral cancer lesions, but may not have the tactile skills to properly identify masses of tissue or swollen lymph nodes. Overhead costs of private clinics are immense, and dentists and hygienists are typically working against the clock to see as many patients as possible in order to meet a profit margin at the end of the day. Dental hygienists may not be performing head and neck examinations as they believe that these examinations should be done by dentists who are more trained and can actually diagnose conditions and diseases in their patients.

10) It will be hard to deter people from consuming alcohol since it is so socially ingrained and a norm to consume alcohol in social settings. There are also studies of benefits of alcohol and that may be confusing to consumers as there is conflict as to whether alcohol is beneficial or detrimental to health. Furthermore, there is also an issue of funding these public service announcements as it will require quite an

amount of money to create these public service announcements and programs as well as broadcast them to reach as many people as possible.

11) Using phone applications may potentially cause people to rely on the applications, which do not give the medical advice a real health care professional would give. It would potentially enable people who want to avoid seeing health care professionals from seeing them, as they would be using the phone application instead.

12) Animal assisted therapy does not work for patients who do not like animals and/or is allergic to those animals. Patients would not be able to interact with the animal in order to improve their mood, because they generally dislike animals. A good alternative to animal assisted therapy would be to encourage the patient to try to raise a fish or a plant to restore routine and normality in a patient's life.

V. Conclusion

A. Summarizing and evaluating your evidence.

1) Psychological status affects quality of life. Dental health professionals should recommend that these patients look to group therapy counseling as well as relaxation therapies to reduce their anxiety and stress to increase their quality of life. Many oral cancer patients may be non-compliant to their treatment routines. Healthcare professionals can offer an array of preventative measures on top of psychological support interventions to encourage compliancy by offering these patients more simple treatment plans and using modern technology as tools to help these patients comply to their medication routine.

B. Identifying unsolved problems and giving suggestions for future research.

1) Many of these patients have been long-term smokers and alcoholics and are typically non-compliant to cessation therapies. Many of these patients are also less educated and are from lower SES backgrounds. How do you encourage these patients to attend these therapies?

2) How do you relieve strong social stigma towards cancer in cultural communities that heavily shame having cancer and try to distance themselves from the disease and refuse to even talk about family members or themselves having any type of cancer?

3) Further socio-cultural research needs to be done on the risk factors of oral cancer patients in terms of alcohol and tobacco use. Alcohol use is more tolerated in society and the biological effects of alcohol have not been addressed, as few adults know that alcohol is a risk factor for cancer and can be a causal link of cancer.

4) Future directions include developing a phone application that can address the lack of a centralized public screening program. This application can provide information to the masses about how oral cancer lesions look like as well as signs and symptoms of oral cancer. Furthermore, this application can potentially use image-matching

software in which patients can upload images of their lesions to match with compiled images of diagnosed lesions to compare any similarities. This application will encourage people to seek professional help if they see any distinguishing lesions in their mouth.