

SOCIAL MEDIA TOOLBOX: CREATING AN INSTAGRAM GUIDE FOR ONTARIO
DENTISTS

By

Ambika Agarwal
HBSc, McMaster University, 2018

A MRP Presented to Ryerson University

in partial fulfillment of the
requirements for the degree of
Master of Professional Communication
in the program of
Communication and Design

Toronto, Ontario, Canada, 2020

© Ambika Agarwal, 2020

Table of Contents For MRP

1.0 Introduction	1
2.0 Literature Review	3
2.1 Communication and Social Media in Dentistry	3
2.1a Use of Social Media by Dentists	4
2.2 Health Communication	10
2.2a Assessing Deficiencies Present In Health Communication	10
Part 1: Breaking Down Dental Communication	15
3.1 Communication Guidelines Published by CDA and RCDSO	15
3.1a Dentist - Patient Communication	16
3.1b Dentist - Dental Staff & Other Medical Personnel Communication	21
Part 2: Breaking Down Current Instagram Use	23
5.0 Methodology	23
5.1a Image Selection	23
5.1b Coding Procedures	24
5.1c Coding Reliability	26
6.0 Results and Discussion	26
6.1 Management Recommendations	26
6.2 Content Recommendations	34
7.0 Conclusion	43
8.0 References	45
9.0 Appendix	50

AUTHOR'S DECLARATION FOR ELECTRONIC SUBMISSION OF A MRP

I hereby declare that I am the sole author of this MRP. This is a true copy of the MRP, including any required final revisions.

I authorize Ryerson University to lend this MRP to other institutions or individuals for the purpose of scholarly research.

I further authorize Ryerson University to reproduce this MRP by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

I understand that my MRP may be made electronically available to the public.

ACKNOWLEDGMENTS

I would like to give my sincerest thanks to Dr. Jessica Mudry for all her support, guidance and patience throughout my research and MRP process. I would also like to thank my second reader, Dr. Yukari Seko, for her valuable input and expertise in the subject matter.

I would like to deeply thank my family and friends for all their love and support.

1.0 Introduction

Dentistry is an amalgamation of many roles; they are providers of care, innovators and lifelong guides to a perfect smile. By pursuing a career in dentistry, I hope to wear those many hats and provide compassionate and meaningful patient-centered care. During my high school career, I volunteered at a nursing home. Many of the seniors I worked with had trouble chewing and swallowing, were missing teeth, and had uncomfortable dentures. I realized how oral health could directly impact an individual's quality of life. Teeth are simply irreplaceable; a lack thereof affects diet and nutrition, leading to deterioration of health. It can cause a loss of self-esteem and confidence. From this experience, I began looking into dentistry. My growing interest persuaded me to shadow my dentist, from whom I gained insight about a dentist's role and how a practice operates.

The impact dentists have on their patient's well being is truly immense. The paragraph above was my opening statement to my application when applying to dental school. For many years I have been so enamored and passionate by what dentists do that this year I applied to dental school. I am very happy to share that I will be attending this coming Fall.

Dentistry, like all fields, evolves when something new is discovered or made, and implemented into practice. As a future dentist, I foresee social media playing a role in communication between healthcare professionals and their patients. Young dentists, dental students, pre-dental students, and patients born after the 1980s are born into the digital age (Dhar, 2018). Growing up, they have been accustomed to social media and technology from a very young age. Individuals born before the 1980s are following suit and are increasingly using social media as well (Dhar, 2018). Social media is ubiquitous in today's world and will probably

exist in some shape or form in the future as well; therefore, upcoming generations of dentists and patients alike may never know a world without social media. With a large user base, a natural expansion for dental practices to communicate with their patients via social media is beneficial for both parties involved. For a patient, social media can serve as an educational tool and a method to strengthen doctor - patient relationships (Sykes et al., 2017). For a dentist, social media can increase their network with other dentists and healthcare professionals, promote their clinic to new potential patients, and serve their patients better (Sykes et al., 2017).

Social media has so much potential that dentists can use to their and their patients benefit. There are currently many types of social media outlets that exist in today's world, Facebook, Instagram, Twitter, LinkedIn, to name a few. According to a 2018 study, 56% of patients use Instagram, while only 11% of dentists are targeting patients on this platform (Parmar et al., 2018). This is the lowest dentist to patient engagement of all the social media platforms aforementioned. There are some dental practices on Instagram but not enough to serve the strong patient audience. As an Instagram user myself, I would say Instagram communicates visual images and text - more emphasis on the visual however. Since dentistry values not only health but aestheticism as well, translating dentistry onto Instagram should be seamless, especially for dentists. Hence, this study will focus on Instagram primarily.

Therefore, the purpose of this study is to determine: how should dentists implement Instagram for their practice? I will conduct a literature review on social media and dentistry, and health communication failures to understand how Instagram can serve the dental field today. Next, I will assess how communication is handled between dentists and different parties, by looking at Canadian Dental Association (CDA) and Royal College of Dental Surgeons of

Ontario (RCDSO) guidelines. Additionally, I will examine how current dentists are using Instagram by carrying out a content analysis of a total of 53 Instagram posts in November 2019 under the hashtags #Ontariodentist. By comprehending the current communication practiced by dentists via established guidelines and their current Instagram activity, I will make content and management suggestions that can be applied to the practice's Instagram page. The purpose of these suggestions are to ensure that communication gaps/failures that exist are being addressed and communication that is already present on Instagram is improved. The proposed primary audience of the practice's presence of Instagram is patients. The proposed secondary audience is patient family (and whoever is involved in patient care) and other healthcare professionals (general dentists, dental specialists and medical professionals).

2.0 Literature Review

2.1 Communication and Social Media in Dentistry

I conducted a literature review to understand how social media is currently used in the dental field. This literature review was conducted within the last three years (2017 - 2020). The search terms "dentistry," "dentist" along with "social media" and "Instagram" were used in Google Scholar. Apart from the literature review, in this section I also conducted an additional Google search under the search term "Instagram popularity" to determine how big Instagram's base is.

2.1a Use of Social Media by Dentists

Social media is a communication tool, through which dentists can engage with their patients, staff and other healthcare professionals. There are many benefits social media brings to the dental field, as it is inclusive in nature (Sykes et al., 2017). Anyone with access to the internet can participate in the conversations taking place online; joining and participating in social media does not usually require a monetary fee. Health professionals active on social media engage in “personal communications with their own patients, or offer general advice to an open population group” (Sykes et al., 2017). It is a beneficial tool for building rapport between patients (before patients arrive for the initial consultation or even between treatment) and doctor. By building a strong patient - doctor relationship, it can improve understanding and patient health outcomes. Moreover, to ensure patient comfort, dentists can use social media to prevent patients from feeling dental anxiety or any other negative emotion they may be feeling prior to dental surgery (Parmar et al., 2018).

Social media can be used as an educational tool for community health as well (Sykes et al., 2017). For an example, “social media has been used to educate the public on oral cancer, the links between oral and systemic health, the impact of smoking on periodontal conditions...” (Sykes et al., 2017). By being more knowledgeable of dental topics from a reliable source, patients can have the ability to make proactive beneficial decisions for themselves and for the people they care about. Park et al. (2018), investigated dermatology posts on Instagram. They found that a small number of certified dermatologists were posting content, the remaining posters were made by people who were not qualified. Information on the internet is growing, therefore, the study recommends more dermatologists be present on Instagram (Park et al., 2018). The

same sentiment can be applied to dentists, dentists need to be on social media so they can guide patients to what is correct and what is not.

It provides a communication medium that allows dentists and patients to interact with each other in a cost and time effective way, without much regard for geography (Parmar et al., 2018). It establishes an interactive two-way communication system (Bennadi et al., 2020). It gives patients agency by allowing them to engage in their own healthcare, “patients can alert the profession about public health issues and concerns they may have experienced or witnessed” (Sykes et al., 2017). Social media can be used to spread correct information, provide online consultations and it can serve as a marketing medium (Parmar et al., 2018). According to Parmar et al. (2018), “...dentists hold a positive attitude toward social media as an effective tool to reach new patients” (pg 6). There is a higher return of investment via social media marketing in comparison to dental marketing practices before social media (Parmar et al., 2018). Social media can be used as a tool to boost revenue for dental practices (Parmar et al., 2018). Moreover, it can be used to encourage online word of mouth by users sharing content with each other (Parmar et al., 2018). As the paper by Kaur et al. (2017) describes, “when patients see that some of their friends like a dental clinic page, then they will be much more interested in that clinic” (pg 18). Individuals are more inclined to get treatment from the same place their friends and family are going to; it helps build rapport between the dentist and patients (Kaur et al., 2017).

Additionally, being versed in social media contributes to the dentist’s e-professionalism (Wilson and Luo, 2019). E-professionalism is the “application of professional competence, values and behaviours within the realm of social media and digital technology” (Nasseripour et al., 2019). Dentists in their careers will need to work with a multitude of patients of all ages.

Therefore, whether they are serving those from a baby boomer generation, Millennials, Generation Z, and future generations - dentists will need to be skilled enough in “dealing with the differences in behaviours and attitudes of different generations,” which includes social media (Wilson and Luo, 2019). Therefore, dentists being skilled and comfortable enough in their social media use will help them serve their community and patients to a greater extent. According to Kaur et al. (2017), social media can help dentists build a trust filled relationship with their patients by providing excellent care, engaging in social media and listening/answering patient questions, are all contributing factors in making lifelong patients. Not only between patient and dentist, but social media helps dentists make connections with their colleagues (Kaur et al., 2017). By being connected they can learn from each other and seek opportunities (such as conferences and symposiums) (Kaur et al., 2017). Furthermore, it can perhaps help them find sponsors/organizers for community events (Kaur et al., 2017). By dentists having social media, it makes their patients feel that their healthcare provider is more available to them (Kaur et al., 2017). A patient may only see their dentist when they enter their clinic, which may be only a few times a year. Since social media may be used daily, patients can have more exposure to their dentist, as a result, the dentist - patient relationship can be strengthened (Kaur et al., 2017).

Social media is a great tool for dentists, there is a growing user base of both upcoming dentists and patients (Dhar, 2018). Millennials/Generation Y (1981 - 1997) and Generation Z (1998 - 2016) are classified as digital natives. Whereas, Generation X (1965 - 1980), Baby Boomers (1946 - 1964), and Silent Generation (1925 - 1945) are known to be the digital immigrants (Dhar, 2018). Digital natives rely heavily on technology and social media to communicate, they were born into the digital era (Dhar, 2018). Digital immigrants are not born

into but are increasingly joining the world of technology and social media (Dhar, 2018).

Looking at the digital immigrants specifically, Generation X has a higher social media use (Dhar, 2018). The number of digital natives are growing, they are slowly becoming old enough to enter the dental field (Dhar, 2018). The younger generation (16 - 24 years) have a higher social media usage, 88% of them use it daily. (Kaur et al., 2017). According to the findings from the study by Parmar et al. (2018), from their sample, 98% of patients use Facebook and 77% of dentists use Facebook to target their patients. LinkedIn was 62%, Twitter was 60%, and Instagram was 56%, used by patients surveyed. 37% of dentists used Twitter to target patients as did 27% of dentists on Google Plus, 17% of dentists on LinkedIn, and 11% of dentists on Instagram. 56% of patients do not want to be contacted by dentists through social media, whereas 44% would be happy to be contacted (Parmar et al., 2018). 74% of dentists and 44% of patients do not think that dentists and patients should be friends on social media (Parmar et al., 2018). From those surveyed, “29% of dental professionals have accepted friend requests from patients” and “17% of patients have added their dentists on social media” (Parmar et al., 2018).

Looking at the Parmar et al. (2018), Instagram was used by 56% of patients, however only 11% of dentists were using that platform to target their dentists. There is a large discrepancy between dentists and patients on Instagram. There is a missed opportunity that dentists are not taking advantage of - “Instagram is a very fast and easiest way for a clinician to get the attention of patients” (Kaur et al., 2017, pg 18). In the Apple store, it is one of the top three most downloaded free applications (Newberry, 2020). It is the “fastest growing social media platform in Canada” (Newberry, 2020). Looking at Instagram data specifically, one billion people use this social media platform per month and there are about half a billion users using Instagram

Stories every day (Newberry, 2020). An average user spends about half an hour on the site (Newberry, 2020). About 60% of people login at least once a day (Newberry, 2020). The male to female ratio of users is fairly equal as well (Newberry, 2020). 200 million people engage with a business profile once a day and about 33% of total users view stories posted by businesses (Newberry, 2020). For advertising, Instagram has the reach of 849.3 million users (Newberry, 2020). In Canada, Instagram is used by 59% of generation Y and 36% by generation X (McKinnon, 2019). 23% of Baby Boomers are Instagram users (McKinnon, 2019). Therefore, there is a large market for Instagram users, that dentists are not engaging (89%) with users (Parmar et al., 2018). Apart from the large user base and engagement Instagram has, representing dentistry on social media should be effortless. Both Instagram and dentistry value the visual. Treatments such as braces, crowns, bridges, veneers, teeth whitening for an example are visible. The outcome of the treatments as well, a healthy smile, is readily visible to patients and onlookers as well.

Despite literature being all for dental social media use, healthcare professionals seem to be “somewhat conservative and reluctant to involve social media in their workplace” (Parmar et al., 2018, pg 2). Medicine is perceived to be formal and professional, whereas social media is not (Parmar et al., 2018). Social media can blur the lines between the dentist - patient relationship, which may prevent both parties from engaging with each other (Parmar et al., 2018). Other reasons that may prevent dentists from getting social media (such as Instagram) is that it is public. Therefore any negative engagement from either the dentist or patients can hurt the practice’s and/or the healthcare professional’s reputation and image (Parmar et al., 2018). For an example, posting unprofessional comments/content and not respecting patient confidentiality can

warrant this (Sykes et al., 2017). To combat this, dentists should be clear of the type of communication that will take place on Instagram. By educating users on the social media rules, it can preserve the integrity of the patient - dentist relationship. Furthermore, there may be some privacy issues that may come about if dentists make patient information (such as pictures or case history) public (Parmar et al., 2018). Dentists should always ask for consent when posting pictures and remove identifiers to protect patient privacy. According to Bennadi et al. (2020), social media can propagate false or exaggerated information to a wide audience, which can mislead readers. Online information can pose a risk, if patients use this information instead of going to an actual healthcare provider to treat and diagnose themselves it can be harmful to their health (Sykes et al., 2017). Information online can be misinterpreted, which can also have negative effects (Sykes et al., 2017). Information given to patients should be complete and correct to prevent miscomprehension and incorrect spread. Moreover, when posting content about treatment, dentists should educate their audience what the treatment is and what it is used for. Information provided through the page should not replace treatment with healthcare professionals by any means. As per the study by Parmar et al. (2018), there is currently not much information present about how dentists and patients feel about social media. Due to this “lack of insights ... [it] may prevent dentists from taking advantage of social media activities that might benefit both dentists and patients” (Parmar et al., 2018,pg 2). By encouraging practices to create a page it has the potential to normalize Instagram use in the healthcare industry. With normalization, it can change dentist and patient attitudes.

2.2 Health Communication

It is vital to understand the current health communication failures occurring today. In doing so, Instagram in dental practices can be used to attempt to strengthen communication and prevent failures for continuing on. Articles found in this section were found using “health communication,” “medical communication,” along with “failures,” “problems” or “deficiencies.” An etextbook was included in this section found under the search term “health communication” from the Ryerson University Library. All resources included were from 2015 to 2020, and were written in the context of Western health/medical communication.

2.2a Assessing Deficiencies Present In Health Communication

The dental setting to some extent mimics an ICU, in the sense that the patient themselves may not be able to readily communicate with their care provider. Due to the patient being in a compromised state themselves, the family is more inclined to participate in care. As a result, emotionally charged conversations may occur in the dental setting as well. A study by Schubart et al. (2015), aims to “understand communication in the ICU, perceptions of miscommunication and the circumstances in which they present” between patient’s family members and healthcare professionals (pg 316). Researchers found four emergent categories. The first category that was discussed was “person factors,” this was broken down into two themes, “background and social category” and “emotions” (Schubart et al., 2015). Person factors can be fixed (e.g., education, personality, culture) or fluid (emotion) (Schubart et al., 2015). Emotions are a driving force of behaviour and can pose a hindrance to effective communication (Schubart et al., 2015). These occurrences last for a short period of time. In the healthcare setting, an emotionally charged conversation can either start or prevent communication from occurring (Schubart et al., 2015).

Since family members can be emotionally invested into the patient's care, the practice's Instagram account could be used to not only communicate with the patient but with the patient's family as well. Engaging them can strengthen communication outside of the immediate clinic and keep the conversation ongoing.

Category two from the Schubart et al (2015) study is "structural factors," which is made of the "roles and roles constraints" and "coordination of information" themes. A problem in communication occurs when differing healthcare roles are not clearly outlined (Schubart et al., 2015). Due to the lack of clarity, miscommunication is likely. Medical professionals are often restricted for time, this prevents them from adequately providing social support along with treatment, which can create communication problems (Schubart et al., 2015). As a result, the Instagram page can be used to provide the social support needed by having the practice engage with their patients and their families outside of the clinic. Patients can share their own experiences and feelings on their own accord on the page. This will allow the dentist and other followers of the page to like and comment on each other's comments. Social support will be built by creating a community.

Category three is "information management," which includes the themes of "information seeking," "information distribution" and "comprehension" (Schubart et al., 2015). When families are not knowledgeable about what and when to collect information, they remain quiet and do not ask questions (Schubart et al., 2015). This is harmful as negative feelings may arise (Schubart et al., 2015). Communication problems can come about when there is too much or too little information; therefore, incorporating and summarising important and relevant information is vital to prevent a communication failure from ensuing (Schubart et al., 2015). Lastly, the final

category is “relationship management” (Schubart et al., 2015). This includes the themes “expectations” and “social distance” (Schubart et al., 2015). In this category, families either arrive with or develop negative expectations after their consultation with their healthcare provider (Schubart et al., 2015). As the paper says, “expectations include bias and distrust” (Schubart et al., 2015). Negative expectations can be hard to resolve. Taking this into consideration, the Instagram account can be used to build rapport and trust, through establishing ongoing conversation and education.

Social distance is how much the family and the patient are involved in each other’s lives (Schubart et al., 2015). The family may not be able to provide enough information that the healthcare provider needs during the time of care (Schubart et al., 2015). In the context of the Instagram page, social distance can be decreased by keeping the patient and their family up-to-date on oral health education. Additionally, by being aware of each other’s healthcare provider it instigates some involvement in each other's lives.

According to the study conducted by Pugel et al. (2015), “communication failures are common in the operating room.” When performing complex procedures in the operating room (OR) mistakes happen and often. As Pugel et al. (2015) says, “[they occur] every 7 - 8 min and affect up to 30% of interactions in the OR [operating room].” To mitigate these communication failures, a checklist has been created to ensure small details are not forgotten, time wastage does not occur, and collaboration is practiced by team members (Pugel et al., 2015). To a great degree, a dental clinic operates like an OR. Dentists carry out complex procedures and they work with other dentists, dental specialists, hygienists, dental assistants, and other medical professionals to ensure quality care is provided. Using simple language and ensuring the team is

on the same page can prevent misinterpretation, miscommunication and dangerous practices. This concept can be applied to the Instagram page. When communicating with the Instagram page's audience or when discussing ideas with staff, communication should be simple and inclusive.

According to Gluyas (2015), communication problems can arise when there are “differences in gender, culture, ethnicity, education, and styles of communication” (pg 52). In healthcare settings, there is a hierarchy that exists between different forms of healthcare professionals and seniority (Gluyas, 2015). Due to this established pyramid, it prevents individuals from challenging ideas or asking questions from those who are higher up on the hierarchy (Gluyas, 2015). It prevents a discussion from ensuing, which may lead to negative patient outcomes (Gluyas, 2015). Communication failures can also occur if co-workers have unresolved tensions, hence, co-workers may not participate in open communication (Gluyas, 2015). Furthermore, communication styles between the different healthcare roles may prevent clear communication (Gluyas, 2015). For example, when a physician communicates they tend to use more scientific facts and be succinct (Gluyas, 2015). Whereas a nurse, his/her communication comprises less scientific facts and has more of a story aspect (Gluyas, 2015). Due to differences in communication styles, “professional staff have expectations of others that are not explicitly communicated” (Gluyas, 2015). Since each role has a different objective, the content and the way they communicate, affects the understanding of their receiver. Therefore, the Instagram page can also serve as a networking medium. Dental professionals (general and specialists) and other medical professionals can follow each other's practices on social media. By being kept up-to-date what different members of the healthcare team are doing, it can help establish understanding. For the primary and secondary audience, even perhaps creating

informational content of what different healthcare professionals and staff do in context of dentistry.

Communication occurs at multiple levels with different parties involved, the profession of dentistry follows suit of other healthcare professionals in macro, meso and micro system levels (Easley et al., 2016). The macro level of care involves policy, the meso level represents the health care institution itself (e.g., hospitals, nursing homes, community programs), lastly the micro-level is the everyday clinical interaction between the healthcare professional and their patient (Easley et al., 2016). Communication between dentists and dental specialists/other medical professionals may also have the similar experiences as family physicians and oncologists. In the paper by Easley et al. (2016), found “delays in medical transcription”, “difficulties accessing patient information” and “physicians not copied on all reports” were macro/meso system level issues. A “lack of rapport between family physicians and cancer specialists,” and “lack of clearly defined and broadly communicated roles” were practice (micro) level issues (Easley et al., 2016). Due to the deficiencies that are present in the multi-layered healthcare system, communication failures still continue to persist.

In provider-patient communication, one message simply does not fit all. It is vital to assess, “what meanings certain practices have for the people that engage in them, the importance, value and currency that they hold and the context in which they occur” (Cross et al., 2017, p 125). When focusing on a certain group, implications (for example, other populations may not be included in the conversation) should be considered. As a result, the Instagram page should not target only a specific group, rather content should be posted about different populations. Keeping in mind the diverse patients they see, dentists should be inclusive in the content they are putting

out. Moreover, understanding “how certain groups of people may be stigmatized or even oppressed” (Cross et al., 2017, p 128) can prevent communication failures in the future. When posting content for a specific audience, dental professionals should be aware of their history to fully understand and support differing populations. Lastly, being aware of and maintaining ethical standards as well as working to solve any ethical concerns that may come up is recommended to prevent mishaps from occurring (Cross et al., 2017, p 131).

Part 1

3.0 Breaking Down Dental Communication

3.1 Communication Guidelines Published by CDA and RCDSO

To implement social media, specifically Instagram for dentists all across Ontario, directives are needed. Below is a summary of the communication guidelines by the CDA and RCDSO. CDA (Canadian Dental Association) and RCDSO (Royal Canadian Dental Surgeons of Ontario) are established governing bodies of dentistry of Canada and Ontario respectively. By understanding communication guidelines published on the CDA and the RCDSO website, I will make management suggestions to ensure that established communication practices were still carried out through this medium.

3.1a Dentist - Patient Communication

The Dental Association of Alberta, British Columbia and Nova Scotia shared their communication guidelines with the CDA. Since the CDA represents dentistry all across Canada, the communication guidelines can be considered to be applicable to all of Canada. The communication guidelines between the aforementioned provinces are identical with the exception of their logos, formatting and a few statistics. These communication guidelines outline that the purpose of communication by a dentist is, “to empower [their] patients with the knowledge required to make an informed decision about their oral health” (British Columbia Dental Association, 2020).

Strong communication skills are important in dentistry, it reduces the number of complaints from patients, it increases patient contentment and efficiency as well. With good communication skills, 70% of complaints received by the College of Dental Surgeons of BC, 70% of the complaints received by the Alberta Dental Association + College, and 80% of complaints received by the Nova Scotia Dental Association could have been resolved or avoided (British Columbia Dental Association, 2020; Alberta Dental Association + College, 2020; Nova Scotia Dental Association, 2020). This concept can be applied to Royal Canadian Dental Surgeons of Ontario, which is Ontario’s governing dental body, who may also receive complaints that can be resolved through communication. Patients are perceptive to the quality of care they are receiving, therefore, by having a dentist who is flexible in their communication style, empathizes with their patients and communicates openly, can not only increase satisfaction but also increase patient loyalty (British Columbia Dental Association, 2020). Some patients may experience dental anxiety (or the more extreme version, dental phobia), therefore,

communication interventions taken accordingly can curb those feelings (Freeman and Humphris, 2019). Content patients can lead to increased dentist satisfaction, dentist productivity and business (British Columbia Dental Association, 2020). Communication allows the dentist to collect information and understand patient concerns, as a result, it can increase efficiency by decreasing the likelihood of complications later on (British Columbia Dental Association, 2020). A patient would like their dentist to treat them as individuals (British Columbia Dental Association, 2020). They would like “friendliness, empathy, efficiency and punctuality, control, options and alternatives, information, and trust about treatment cost” in the dental setting (British Columbia Dental Association, 2020).

There are five points of communication that arise during care (British Columbia Dental Association, 2020). The first one being initial contact. In this step, it is recommended that the dentist build rapport with their patient by greeting the them warmly, introducing themselves and their staff, and by treating patients as equals (e.g., calling patients by their name, communicating with them at the same eye level, not using complex or specialized terms, asking for consent to examine the patient) (British Columbia Dental Association, 2020). The first step sets the tone for the meeting; therefore, it is vital that the dentist is attentive and gives the patient confidence by guiding them through the treatment process (British Columbia Dental Association, 2020). Step two is the dental examination (British Columbia Dental Association, 2020). In this step, the patient and dentist have direct contact (British Columbia Dental Association, 2020). It is recommended that the dentist explain and inform the patient of what they are examining and what their findings are (British Columbia Dental Association, 2020). In this step, the dentist should encourage the patient to ask questions, if they have any (British Columbia Dental

Association, 2020). After making and stating the diagnosis, discussing treatment options is the next step (British Columbia Dental Association, 2020). When discussing treatment options, the dentist should fully inform the patient of the different options that are available (British Columbia Dental Association, 2020). The pros and cons, and thorough and simple instructions for each treatment plan should also be disclosed (British Columbia Dental Association, 2020). Furthermore, in this step, dentists should present options from least complex/expensive to most, they should provide educational materials if available, be objective, and encourage patients to ask questions and paraphrase the conversation to ensure understanding (British Columbia Dental Association, 2020). The dentist is responsible for documenting the conversation and the chosen treatment plan (British Columbia Dental Association, 2020). Step four is to have a discussion about cost and insurance coverage for treatment (British Columbia Dental Association, 2020). Some provinces have a fee guide and others do not - regardless of where the dentist practices, dentists need to be transparent with the price (British Columbia Dental Association, 2020). Considerations of what can affect the price of treatment is the duration of the procedure, materials, overhead costs, staff, and specialized knowledge that is needed to carry out the treatment (British Columbia Dental Association, 2020). By being honest, the dentist is able to build trust and enhance the dentist - patient relationship (British Columbia Dental Association, 2020). In the last step, the dentist should reaffirm the treatment plan and schedule a follow-up appointment (British Columbia Dental Association, 2020). The dentist should look at the patient when speaking. Furthermore, the dentist should accompany the patient to the reception desk and provide assurance to the patient that they are there to help them (British Columbia Dental Association, 2020). To perform effective communication with patients, dentists should actively

listen to their patients, “ask relevant questions,” “be mindful of [their] tone and non-verbal cues with patients and [their] staff,” “keep [their] bad day or frustrations to [themselves],” “be polite,” and “don’t appear rushed, even if [they] are” (British Columbia Dental Association, 2020).

Whether the dentist is providing care during the first consultation appointment or the follow-up, a dentist must obtain informed consent - it is their ethical and legal obligation (Grover and Aylward, 2020). Informed consent respects patient autonomy and ensures understanding (Grover and Aylward, 2020). Consent involves having an open and honest conversation between the dentist and patient (Grover and Aylward, 2020). As per the Ontario’s Health Care Consent Act, before the procedure the patient should be informed of the “nature of the treatment,” “expected benefits of treatment,” “material risks and side effects of treatment, taking into account the individual circumstances of the patient,” and “alternatives, including other types of treatment including no treatment, and consequences of decline the proposed treatment” (Royal College of Dental Surgeons of Ontario, 2007). Not only verbal consent but the patient may be also asked to sign consent forms, this document itself is not consent rather proof that there was a conversation about consent (Grover and Aylward, 2020). The dentist must also practice written communication skills and document consent in their notes (Grover and Aylward, 2020). Whether the patient is a minor, has a disability that renders them unable to provide consent or if there is a language barrier present between the dentist and patient, alternative arrangements should be made to obtain consent (Grover and Aylward, 2020). An integral portion of informed consent is patient understanding (Grover and Aylward, 2020). To consolidate patient understanding, the dentist should evaluate if the patient has asked questions and the quality of questions asked to gauge understanding (Grover and Aylward, 2020). Using written and visual aids to supplement

understanding can be used by the dentist as well (Grover and Aylward, 2020). Furthermore, the dentist can encourage the patient to seek out a second opinion (Grover and Aylward, 2020). The dentist should spend a reasonable amount with the patient and not rush step three (Grover and Aylward, 2020). If there are other parties involved besides the patient in the decision making process, the dentist should ensure they have adequate understanding of the treatment process and its alternatives (Grover and Aylward, 2020). Patients and their family should not be surprised while care is being provided, if this does happen, parties involved were not informed adequately (Grover and Aylward, 2020).

A dentist patient relationship is one that can last for years; therefore, having a positive patient - dentist relationship plays a significant role in successful “oral health diagnosis and treatment” (RCDSO, 2018). In order to have a good working relationship, both parties must respect each other, “mutual respect fostered by excellent communication will always yield the best results, including timely access to care and continuity of care” (RCDSO,, 2018). To build that mutual respect, the dentist must be mindful of the power dynamics between themselves and the patient. The dentist is more knowledgeable and has more clinical experience than their patient, hence, clear and inclusive communication is necessary to build a healthy dentist - patient relationship. To build a relationship with their patient, RCDSO recommends dentists: (1) invest time in understanding their patients (this is especially crucial for first appointments), (2) establish trust by performing active listening and facilitating an open dialogue, (3) be honest about all possible outcomes of treatment, (4) encourage the patient to provide feedback about their treatment, (5) check with the patient if they are “aware of the office policies and protocols,” (6) prevent language barriers from affecting care by facilitating an interpreter, (7) be honest about

costs and provide contacts for costs related questions, and (8) to ask patients if they any questions before ending the exchange. A patient's financial capability, past negative experiences, differences in culture, and/or other health conditions can hinder their engagement to the treatment (RCDSO, 2018).

If a conflict arises, the dentist should speak to the patient in a polite, respectful manner (RCDSO, 2018). They should not let their emotions overcome them, professionalism should always be maintained (RCDSO, 2018). After having a conversation with the patient, a letter should be sent to them summarizing the meeting (RCDSO, 2018). All communication should be documented by the dentist and should be included in the patient file (RCDSO, 2018). If, however, the conflict between the dentist and patient is not getting better despite efforts then it would be optimal for both parties to not engage anymore (RCDSO, 2018). If this scenario occurs then the dentist should send the patient a letter of dismissal to outline the end of a relationship and what the steps going forward are (RCDSO, 2018). Through this separation process, the patient's oral health should not be compromised (RCDSO, 2018). Therefore, the dentist may provide necessary treatment to the patient while looking for another dentist (RCDSO, 2018).

3.1b Dentist - Dental Staff & Other Medical Personnel Communication

A dentist works with a team to deliver care. Taking a dental clinic as an example, dentists work with dental hygienists, dental assistants, and receptionists to ensure smooth work-flow and that all aspects of care are addressed. Dentists are not the only ones that patients look to for guidance, they also turn to clinic staff. Clinic staff can help patients with questions about their appointments, costs, and lab tests (British Columbia Dental Association, 2020). Therefore, the

team's communication skills towards patients and each other should be worked on as well (British Columbia Dental Association, 2020). It is recommended that dentists hold staff meetings where effective communication skills are discussed (British Columbia Dental Association, 2020). Through these meetings, goals should be set, implementation plans should be created, and staff should be appropriately trained (British Columbia Dental Association, 2020). In doing so, it will make staff feel that they have been listened to, a stronger team will be built, and "... it establishes a level of accountability for communication..." (British Columbia Dental Association, 2020).

Apart from being a general dentist, some dentists can be specialized into more specific parts of dentistry. Regardless of which branch of dentistry a dentist is responsible for, they must always provide care within their scope of practice (RCSDO, 2012). When a patient presents with a condition or situation that is outside a general dentist's expertise, the dentist is required to refer the patient to a dental specialist (RCSDO, 2012). The general dentist should continue to act as the primary provider of oral health, while the dental specialist is an extension of care (RCSDO, 2012). Therefore, "communication and collaboration [between all types of dentists] are imperative in providing optimal patient care and treatment outcomes" (RCSDO, 2012). Not only between the dentist and specialist, but both parties must partake in open communication with the patient as well (RCSDO, 2012). Moreover, depending on the patient situation and the clinical setting, a dentist may also have to collaborate and communicate with other healthcare professionals outside of the dental field entirely. (RCSDO, 2012) Oral health is a part of systemic health, "signs and symptoms of life-threatening diseases may appear in the mouth long before they show up in other parts of the body" (CDA Board of Directors, 2005). As a result,

dentists may need to collaborate with other health professions to provide a more holistic approach to care. If a dentist works in a hospital or nursing home setting for example, they will also need to work with other healthcare professionals.

Part 2

5.0 Methodology

5.1a Image Selection

To understand dental practices current Instagram use, I conducted a content analysis on their Instagram posts. In this study November 2019 posts were chosen because December is when dental offices are closed to the Christmas and other holidays. January 2020 and onwards are unique due to COVID-19. Dentists may not be engaging with their patients as they usually did in the past. Therefore, November is the closed point in time where there was normalcy in how dentists operated. Only images were taken into consideration.

There are 146 posts in November 2019 under the #Ontariodentist. #Ontariodentist was typed into the Instagram search bar, which was how these public images were accessed. I do not follow these practices nor had prior knowledge of them. #Ontariodentist was chosen because these suggestions are specific to this demographic. Moreover, part one discussed CDA and RCDSO, which covers all of Ontario. #Ontariodentist was more heavily used (approximately 22 times more) than #Ontariodentists, which is why it was chosen. Only Instagram posts that came from dental practices (including dental specialties) were included. Thus, in the data set, posts made from personal accounts, posts that were a part of a mural, posts from 3rd party organizations, non-english posts, and videos were not included. Keeping the exclusion and

inclusion criteria in mind, the total number of posts in November 2019 applicable to this study is 53 posts. This study acknowledges the importance of engaging with the audience on special events such as Remembrance Day (5), Children’s Day (3), International Men’s Day (2), however, these posts were not included in the study as they do not have a direct relation to dentistry. Flossing Day (3), TMJ Awareness Month (3), and World Diabetes Day (1) were included. As a result, 53 posts were included in this study¹.

5.1b Coding Procedures

The 53 posts were analyzed using the content analysis method. Content analysis is described as “...an empirical (observational) and objective procedure for quantifying recorded ‘audio-visual’ (including verbal) representation using reliable, explicitly defined categories (‘values’ on independent ‘variables’)” (Bell, 2001). The first category was to get an understanding who and where the Instagram post came from.

The second category is to gain an understanding of the intent of the post. Only one variable from each category was assigned to each post. If there were two variables from one category that was applicable to the post, the more prominent one (the one that takes more space) in the picture was chosen. For example, if an image had a patient interacting with their dentist and within the image there is embedded text encouraging the viewer to book an appointment. The image was coded for “educative oral health” rather than “advertisement” because it portrays

¹ *Research involving the observation of people in public places is exempt from REB review in cases where the research involves (a) no direct interaction with individuals, (b) no identifying information, and (c) where the individuals observed have no reasonable expectation of privacy.* <https://www.ryerson.ca/content/dam/research/documents/ethics/guidelines-for-activities-requiring-reb-review.pdf> All images used are public. Page and dentist names (and any other identifying information) was not included.

the patient taking care of their oral health. This picture shows that the onus is on the patient to seek care.

According to the paper by Hu et al. (2014), there are eight different categories in which Instagram posts fit in. For category three, Instagram posts from November 2019 were also coded according to these categories. An additional category of “other” was added. Please see the Appendix, Figure 1 for the breakdown for each category as described in the paper by Hu et al. (2014). By understanding which categories dentists post, it helps me understand how dentists engage with their audience. The pictures were categorized according to the following variables listed below:

1) The account is from:

1. Dental Practice: dentist who own their own private practice or work in one
2. Dental Specialist Practice: specialized dentist who owns their own practice or works in one
3. Dental Corporation: Corporation that hires dentists, they tend to have chains

2) Image Types

1. Educative Oral Health: the purpose of the image is to educate the patient about oral health
2. Educative Systemic Health: the purpose of the image is to educate the patient about systemic health
3. Services & Procedures: the purpose of the image is to educate the patient the services and procedures they provide
4. Healthcare Provider: This post gives patients more information about their dentist
5. Advertisement: Advertises the clinic and/or encourages patients to book an appointment
6. Engagement: the purpose of the post is to purely engage with the audience

3) Instagram Categories (Appendix Figure 1)

1. Friends
2. Food
3. Gadget
4. Captioned Photo
5. Pet/Animal
6. Activities
7. Selfies
8. Fashion
9. Other

5.1c Inter-coder Reliability

To ensure reliability of the coding done, 11% of the data set was double coded by an independent coder. Posts that were double coded were randomly selected by the second coder. This coder was a fellow Master Professional Communication student. The match rate between I and the second coder was 77%. By confirming inter-coding reliability, the correctness of the coding was checked and the absence of internal biases by the coder was confirmed.

6.0 Results and Discussion

6.1 Management Recommendations

Based on the CDA and RCDSO guidelines mentioned, the following are management and content suggestions for a dental practice's Instagram page. The primary audience for the page are patients. The secondary audience are patient family and friends, and healthcare professionals (including dentists and dental specialties).

When it comes to decision-making, a study by Parmar et al. (2018) found that social media did not play a big role. Patients put more value in what their family, friends and online reviews had to say about a dental practice (Parmar et al., 2018). The facilities and technology offered, and how well done the practice's website is, are all traits of a dental practice patients place value on (Parmar et al., 2018). According to Parmar et al. (2018), "patients appear to not know why they should use social media when selecting a dental practice. Such ambiguity and mismatched attitudes present a barrier for dentists to take advantage of social media fully" (pg

8). Therefore, I recommend, dentists should clearly state the intent of the Instagram page and how following the page can help supplement their care.

A patient can rely on their family and friends for advice (Parmar et al., 2018). Thus, I suggest, dentists should encourage the patient's family and friends to follow the practice's Instagram page. This would ensure that education is provided to all. Furthermore, I recommend, encouraging other medical professionals to follow and engage with the page would increase networking opportunities and idea sharing.

To prevent information from being misinterpreted, it is essential that dentists think critically of who has access to this information and of whether or not the information they are presenting is appropriate for their audience (Sykes et al., 2017). The authors of Sykes et al. (2017) encourage dentists to understand what their primary audience wants to see from their dentist's social media. Information should be catered to a specific audience (Sykes et al., 2017). I propound dentists to administer surveys in the clinic or post on social media asking their audience "what would you like to see?" By understanding what content patients want to see, the dentist can get an understanding of what patient concerns are and where the knowledge gap lies (if any). From obtaining mass understanding, they can present content accordingly. This will not only increase efficiency in the care they provide, but it will decrease future misunderstandings/complications. If messages are tailored, they should not address a particular person or case, rather they should be specific to a population. That way content is applicable to a number of people. Conducting outreach will not only increase patient awareness of oral health education and the practice in general, but outreach builds a sense of community. It is a part of the healthcare professional's e-professionalism.

Since the page represents the practice, dentists and their staff should hold meetings or at least reserve some time in their meetings to discuss social media. By incorporating staff working in the social media aspect of the practice, it allows for collaboration, creativity and feedback, and it makes sure that everyone is on the same page. If a patient or someone else asks about the practice's Instagram page, staff should be able to adequately field those questions. Additionally, training staff in social media can increase staff competence and keep the overall practice up-to-date. Incorporating staff ideas and thoughts will diversify content and truly represent the practice holistically. The practice should have a set schedule for posting, this ensures that the page is regularly active. I recognize that a dentist's schedule can be busy, hence, I recommend that the Instagram page be a team effort. Instagram within itself has many image editing features that allows dentists to put up high quality content. With Instagram's built in features, it makes posting content easier without having formal photo editing experience.

Misinformation may cause harmful practices, such as self diagnosis and treatment themselves (Sykes et al., 2017). Information not understood as intended can have consequences as well (Sykes et al., 2017). If dentists themselves are not posting or creating content for the practice, I recommend that the dentist go through each post before it is published. All posts should be authorized by them. Dentists have the background and education to ensure that the information that is being disseminated is correct and evidence-based (Sykes et al., 2017). Authors of Sykes et al. (2017) suggest, dentists should acknowledge the contribution of their peers and cited resources, and all conflict of interests should be expressed clearly in posts as well. By being present on Instagram and disseminating correct information, dentists can act as gatekeepers against misinformation.

A dentist has the responsibility of being honest with their audience, they must engage with their audience in accordance with their scope of expertise (Sykes et al., 2017). If the dentist does not know the answer to a particular question, they should let the inquirer know and not try to answer the question (Sykes et al., 2017).. The dentist should try to refer the inquiry to another resource (Sykes et al., 2017). Another method, I would take into consideration is to tag a dental specialist or another healthcare professional. In doing so, they can directly reply to the question instead.

All social media, including Instagram, should be listed on the practice's website (Parmar et al., 2018). Websites have traffic, therefore, by linking them together, it will increase awareness to social media (Parmar et al., 2018). This gives the patient confidence that they have found the right page. It also shows that different social media channels are connected to one another. Since the Instagram page is an extension and representation of the practice, there are rules and regulations that need to be followed. The website should contain," SM [social media] policy covering issues such as privacy setting, patient confidentiality, establishment of boundaries, respect for colleagues and reputational behaviour guidelines (Sykes et al., 2017). A copy of these guidelines should also be given to the patient (Sykes et al., 2017). This ensures that the professional standard is being maintained across all of the practice's social media. I encourage practices to have a social media tab on their website where social media rules and regulation are explained. The list of rules may be too extensive to be written out in the "bio" section of the Instagram page; therefore a link to the policy should be sufficient. Taking inspiration from RCDSO's social media policy, third party comments and responses that are not associated with the practice should not be allowed ("Operational Social Media Policy," 2020). Comments and

responses that are hurtful in nature (such as inappropriate, sexual, racial, aggressive or threatening language) should not be tolerated (“Operational Social Media Policy,” 2020). Comments and responses that are incorrect, unlawful, have negative intent and is discriminatory should not be tolerated (“Operational Social Media Policy,” 2020). Discussions about staff members, other healthcare professionals should not be permitted (“Operational Social Media Policy,” 2020). Advertisements that did not come from the page itself, information about a patient’s case (either one’s own or someone else’s), incorrect claims/allegations/conclusions should not be allowed (“Operational Social Media Policy,” 2020). Users may not impersonate another (“Operational Social Media Policy,” 2020). If any engagement by the user is deemed inappropriate, it is recommended that the dentist remove comments, replies and any posts from social media (“Operational Social Media Policy,” 2020). Apart from RCDSO’s directives, I encourage dentists to remind users of Instagram’s terms and conditions as well. If the following is not practiced, RCDSO suggests user access to the page be restricted or be blocked (“Operational Social Media Policy,” 2020).

Social media can be considered an extension of an individual, it showcases their “personalities, values and priorities” (Sykes et al., 2017). When a healthcare professional posts photos, comments, and engages with other people/organizations, it contributes to their image (Sykes et al., 2017). That being said, a paper by Kaur et al. (2017), suggests that dentists keep their personal and professional life separate when using social media. Therefore, the dentist should not mix their personal and the practice’s Instagram page separate (Sykes et al., 2017). Moreover, patients and patient family/friends can follow the practice on Instagram but I do not suggest the practice follow them back. It blurs the lines between a patient - dentist relationship. I

do not recommend the practice open up direct messaging to patients and patient family/friends. Direct messaging between doctor and patient can steer communication from formal to informal. Additionally, when managing the practice's Instagram page, I advise dentists to be mindful of who and which organization the practice follows back. The pages the practice follows on Instagram are visible to the public. I recommended that the practice follows @cdndentalassoc (CDA), @ontariodentalassoc (ODA), Canadian or specifically Ontario dental schools (such as @uoft [University of Toronto] and @westernuniversity [University of Western Ontario]), other dental and healthcare practices, @worldoralhealthday, to name a few.

The study found that patients would like their dentist's qualification prior to the dental visit (Parmar et al., 2018). However, it is not recommended that dentists list their academic achievement out on display (Sykes et al., 2017). This is to make sure that all dentists are being perceived equally by the public (Sykes et al., 2017). For the Instagram page, I recommend dentists follow this advice and only list their degrees and qualifications in the bio portion of the page.

Dentists should work on creating a community that is built on trust (Bennadi et al., 2020). It is recommended that dentists "monitor and moderate content" for any violations such as spam, comments that violate patient privacy, or copyright (Bennadi et al., 2020).

When it comes to advertising, RCDSO recommends that the dentist go through advertisement before it becomes public ("Professional Advertising," 2012). Therefore, I suggest the dentist go through each Instagram post before making it public on Instagram. RCDSO advises dentists not to promote anything that requires them to share/split funds with other organizations. In advertisements, they suggest dentists are to be truthful, clear and not

misleading. They should not use language that hypes up or scares the public of the product or service being offered. They should not use language that creates false expectations and no superlatives. Dentists should not give away free products or services through competitions, contests or draws. RCDSO also encourages dentists to not make reference to positions or memberships they hold at RCDSO or any other governing college. Testimonials and statements should be based in facts as per RCDSO. When talking about a dental procedure or practice, the dentist should disclose in which area the dentist has specialized in. RCDSO also mentions when advertising a price, it should be clearly stated and should be the maximum (inclusive of services provided by the dentist and any third party organization involved). Following RCDSO's recommendations about advertising, I too suggest dentists follow these while managing their practice's Instagram.

To maintain patient confidentiality and doctor-patient trust, images of patient progress should be accurate (Simplício., 2019). According to the paper by Simplício (2019), images should be free from any manipulations and modifications. Accurate images prevent unrealistic expectations from treatment. The paper by Kaur et al. (2017) advises that patient consent be collected before sharing their information on social media (Kaur et al., 2017). Furthermore, before posting patient information or image, all identifiers should be removed according to Kaur et al. (2017).

Instagram is a public platform; therefore comments made on a post are visible to the public. If a patient asks questions that are specific to their condition, the dentist should answer it theoretically (Sykes et al., 2017). However, if this information is asked online, I would suggest dentists avoid answering these types of questions and kindly ask the patient to contact them via

phone or discuss the topic in an appointment. This will protect patient privacy. All conversations occurring online should be documented in the patient's file (Sykes et al., 2017). I would not recommend dentists using their practice's Instagram to provide consultations. Instagram is great for connecting to a wide audience but for a one-on-one meeting, it can blur the lines between personal and professional.

Negative social media interactions can tarnish how patients view their healthcare providers (Parmar et al., 2018). With social media exposure, rude comments or comments with ill intent can be made and can be easily viewed by the public (Bennadi et al., 2020). This can affect the trust the public has on their dentists, it can cause negative publicity (Sykes et al., 2017). In situations where there are disagreements, respect should be maintained always, and a patient's wellbeing and health must be top priority at all times. Moreover, a dentist should not let emotions get the best of them (Sykes et al., 2017).

As per the suggestions by Sykes et al. (2017), if there is a disagreement between the dentist and patient, it is encouraged that the dentist reach out to the patient and speak to them about the situation. This conversation should not be carried out on social media but either through phone or in-person. This will maintain privacy and give the dentist more time to investigate the situation (Sykes et al., 2017). If a disagreement occurred with a patient's family/friend, guardian, power of attorney, or another health professional, I encourage the same protocol to be practiced. Even though they may not be a direct patient, professional standards must be maintained. If there is conflict between Instagram users, depending on the situation, I would say it is the dentist's choice to moderate it or not. Moreover, the decision of whether or not to remove comments, I would leave it to the dentist's best judgement. If comments do not

comply with the practice's or Instagram's social media rules, then I would encourage the dentist to take the correct steps needed. During a conflict, I recommend dentists follow RCDSO's guidelines and maintain respect, politeness, and professionalism (RCDSO, 2018).

6.2 Content Recommendations

Looking at Figure 2 in the appendix, in November 2019, dental practices were posting the most on Instagram. In second place were dental specialists posting on social media. From the data, only one specialist clinic was active at the time this data was scraped. There was only one dental corporation to post in November 2019. In Figure 3, images intended to educate their audience about oral health was the highest image type posted (32.1% of images were from this category). Services and procedures were the next highest on the list, this image type made up 24.5%. Images intended to advertise their clinic was the third image type with 24.5%. Images solely for the purpose of engaging with their audience was 11.3% and images about healthcare providers were at 7.5%. There were no images in the data set that were intended to educate the patient on systemic health. Analyzing common Instagram posts (please see Figure 4), dentists and dental specialists posted 62.3%, under the category of "Captioned Photo" with "Selfies" and "Activities" coming to a close second and third. Categories called "Other" were posted 5.7% and "Friends" were posted 7.5% of the time in November 2019. "Gadget" and "Pet/Animal" were tied at 1.9%. No pictures under the category "Food," and "Fashion" were not found in the data set. Images under "other" were images of teeth.

Analyzing the data from Figure 2, an equal distribution was not seen between general dentists, specialists and corporation. This was expected because there are more general dentists

than specialists and corporations. I was quite surprised to see only one specialist clinic active under the hashtag #Ontariodentist in November 2019. There are many other dental specialists such as endodontics, prosthodontics, periodontics, pediatric dentistry, orthodontics and dentofacial orthopedics, oral and maxillofacial radiology, oral medicine and pathology, oral and maxillofacial surgery, and dental public health (“Dental Specialties,” 2020). More representation from other specialties would not only provide education but also raise awareness about the different dental specialties that exist. Instagram can also allow general dentists and other dental specialists to stay connected to different parts of the dental field. Instagram is more visual and customizable to a dentist’s practice than, for an example, LinkedIn (an online professional networking platform). As a result, practices on Instagram can supplement networking by making it more personal. Moreover, dental specialists may not see a patient as consistently or as prolonged as a general dentist, they should however, still try to maintain a community to support their patients.

Dental corporations are companies that own multiple dental practices, dentists do not have ownership of the practice they work in.). According to the CDA, 2% of dental practices are run by corporations, this number is expected to increase (“Economic Realities of Practice,” 2020). Whether or not corporatization of dentistry expected the trend, I recommend dental corporations engage with their patients like non-corporate dentists. environments are perceived. As a result, an increased presence from both dental specialists and corporations would be beneficial. By having a consistent online presence as non-corporate clinics, it ensures standardization, and prevents discrepancies within the dental field and how dentists working in different environments are perceived.

According to the Canadian Industry Statistics, in 2019, Ontario had 2571 dental offices with 1 to 4 employees, 4279 dental offices with 5 to 99 employees, and 8 dental offices with 100 - 499 employees (Government of Canada, 2019). Ontario has one of the highest number of dentists and dental establishments in Canada. Considering how great the presence of dentists is in Ontario, only fourteen dental establishments posted on Instagram in November 2019. This shows that dental practices have a very low Instagram participation rate. Moreover, looking at the location of the fourteen dental offices that posted in November, all the Instagram pages come from Southern Ontario. While Southern Ontario has a high saturation of dentists, it does not take away from the fact that there are many other dentists practicing all over Ontario. Therefore, the number of dentists active on social media should ideally be proportionate to the number of dentists practicing in a certain geographical area.

Analyzing Image Types in Figure 3, there were no images coded for systemic health. There was an image that alerted users about World Diabetes Day, however, the image itself did not educate the user about diabetes itself nor did it explain the connection between diabetes and dentistry. As a result, the image was coded for “Engagement.” The lack of reference to medicine in the posts provides support that despite medicine and dentistry being correlated, they are viewed as two separate entities (Mertz, 2016). There are many systemic diseases that are associated with the decline of one’s oral health such as diabetes, osteoporosis, cardiovascular diseases, complications in pregnancy, stroke, joint disease, and other diseases (Canadian Dental Association Board of Directors, 2005). Thankfully, there are a large variety of commemorative days for different systemic health diseases. I encourage dentists to choose whichever they feel passionate about or whichever they think links to dentistry. In the images that dentist post, I

suggest dentists show a clear connection between systemic health and oral health (this is to ensure that dentists are operating in their scope of practice and to provide information from a dental perspective). A few suggestions of the commemorative days I recommend dentists look into include: Bell Let's Talk Day (January), World Cancer Day (February), International Childhood Cancer Day (February), Rare Disease Day (February), Nutrition Month (March), Brain Awareness Week (March), World Water Day (March), Be a Donor Month (April), World Health Day (March), World Autism Day (March), Hypertension Month (May), Speech and Hearing Month (May), Mental Health Week (May), World Red Cross and Red Crescent Day (May), World No Tobacco Day (May), Canadian Men's Health Week (June), International Self-Care Day (June), World Alzheimer's Month (September), Pregnancy and Infant Loss Remembrance Day (October), World Arthritis Day (October), International Stuttering Awareness Day (October), Osteoporosis Month (November), World Diabetes Day (November), and World AIDS Day (December) ("Calendar of health promotion days," 2020). By being active of commemorative days, it allows dentists to post more, therefore have a sustained presence on their followers' feed. Commemorative days occur every year, therefore, dentists have the opportunity to recycle posts and give themselves a break from their posting schedule. Additionally, dentists can post oral and systemic health questions on their page. These questions should increase the audience's general knowledge about dentistry and their health.

Images that were coded as "Educative Oral Health" mostly consisted of images of oral health facts, people brushing their teeth, Flossing Day, and TMJ Awareness Month. Flossing Day and TMJ Awareness Month are directly tied to dentistry, images like these raise awareness of different oral health diseases and remind patients to maintain good oral health. Other oral

health days I recommend dentists participate in include: Gum Disease Awareness Month (February), Toothache Day (February), Tooth Fairy Day (February & August), Dental Assistants Recognition Week (March), Dentist Day (March), Dental Hygienist Day (April), Root Canal Awareness Week/Day (May), Gum Care Month (September), Craniofacial Awareness Month (September), World Smile Day (October), Mouth Cancer Awareness Month (November), Brush Day (November), and Handwashing Awareness Month (December), to name a few examples (The DentalPost Team, 2018).. These types of posts can be captioned with a fact that educates the public about oral health. Images with oral facts are a quick and easy way for patients to expand their current knowledge about oral health and dentistry in general. When educating patients, it gives them the agency to make correct decisions and act proactively to ensure not only adequate oral but systemic health as well. Participating in events like these gives dentists an opportunity to disseminate correct information. If dentists all across Ontario participate in events like these, it will showcase unity within the profession as well. Other content suggestions include posts about the history of the dental field and how it has evolved over the years. This will provide more information about the field and how grandparents (and those generations before) used to manage and maintain oral health. Furthermore, posts about Fluoride and its role in oral health is advised. Educating the public from a reliable resource, will help decrease concerns and fear mongering. Moreover, images of patients taking care of their oral health, educates viewers to maintain their oral health and to take appropriate steps to do so.

Oral health education was the topic that was most posted on. It is also one the many roles dentists perform to provide quality care. According to the results of the paper by Arceneaux and Dinu (2018), “information retention was most improved [in college students] by visually based

information published by professional news outlets” (pg 4155). Therefore, when posting educational oral health information from actual dental clinic accounts, in which the patient goes to, will not only help them trust the information they are getting but also retain it faster too. When a patient sees that the information is coming from a page that they trust, communicator credibility is established (Arceneaux and Dinu, 2018). According to Arceneaux and Dinu (2018), it is recommended to continue posting visuals rather than solely textual information in the Instagram posts because visual information is easier to remember and recall, and requires less cognitive processing power. Therefore, text heavy images should be limited or information should be organized in such a way that is easy to read. Since Instagram engages with its users, it allows consumers to be contributors too. Another way to promote engagement and education, is to hold a meme making competitions about a given topic about oral or systemic health, or dentistry in general. Memes are attention grabbing, they are easy to make, and those making the memes learn (Purnama, 2017). It cultivates a community among those who are in the Instagram page (Arceneaux and Dinu, 2018).

In “Healthcare Provider” there were imaging of staff introducing themselves and there was one image of staff conducting outreach. By providing an image of themselves (for the purpose of an introduction) it builds rapport. These images can go under the Instagram category of “selfies,” “friends,” or “activities.” I recommend dentists continue with this practice. It will give staff an opportunity to greet patients onto their page, allow the patients to be more familiar to their healthcare providers, and equalize the patient - dentist dynamics. If there are events running in the practice or the practice is participating in outreach, I encourage the practice to post pictures telling their audience what they did and how it contributed to the practice or care. This

will help build rapport with the community. I also advise dentists to post about different dental specialists that exist in the dental field and what they do - this raises awareness about the different areas of the dental field.

Posts under “Advertisement” consisted of images booking patients, patients smiling with perfect teeth, and money in the trash can/money thrown away. Images under this category let patients know that they are not fully using their resources by not seeing their dentist and that booking an appointment is easy. I highly encourage dentists to communicate empathy and show to your patients that they care. This can help increase comfort, and decrease feelings of dental anxiety and phobia (post content that does not evoke fear). Posting about money does not communicate this, it takes away from the profession and the intent to provide care. Therefore, posts about money in the trash, in my opinion, is not ideal. Content reminding patients to book an appointment is much more powerful, it puts the patient’s oral health first. Rather than making patients feel guilty for not using their insurance money. Furthermore, I suggest dentists to not include price in their Instram posts. There are many fluid variables that affect price such as cost of material, staff, time, and more. Adding cost in may cause confusion later in future.

The category of “Engagement” was made of memes. I advise dentists to continue to post dental memes, they are entertaining and eye catching. Apart from them, I encourage dentists to post images on New Year’s Day (January), Black History Month (February), Valentines Day (February), Family Day (February), St Patrick’s Day (March), International Women’s Day (March), Easter Monday (April), Mother’s Day (May), Eid (May), Father’s Day (June), Canada Day (July), Teacher’s Day (October), Thanksgiving (October), Halloween (October), Remembrance Day (November), Diwali (November), Children’s Day (November), Christmas

(December), and Kwanzaa (December), to name a few. Acknowledging the community (and different parts of it) allows dental practices to participate in what's current. Moreover, it allows dentists to have a sustained presence on their followers' feed and acts as a break in the posting schedule.

Additionally, in Canada, not everyone has equal access to oral care, posts inclusive to seniors, low-income individuals, minors, refugees, Indigenous folk, and special needs may resonate with the targeted audience of the page or it may apply to someone they know (CDA Board of Directors, 2010). By doing this, it may lead to proactive decisions about one's own oral health or oral health of a friend/family member.

It was found that pictures with faces get more engagement (number of faces, age, gender do not have a significant impact) (Bakshi et al., 2014). Oral health applies to all; therefore the imagery used should project that sentiment as well. I advise images include models from all ages, races and sexes. Having imagery that is representative of the practice's patient population will help patients content more with the content they are engaging with. Looking at all the pictures in the data, there were 23 images that featured Caucasians, 7 images from other minority groups and 5 were ambiguous. Most of these images were made of young adults. Hence, I suggest dentists incorporate images from people of all ages and backgrounds. Not only incorporating models but I suggest that dentists post content specific to different minority groups. To be more inclusive, dentists can post the same image with different languages.

Images under Image Type "Services and Procedures" are mostly made of people smiling with perfect teeth and visiting their dentist - it is the text embedded in these images that let patients know what is offered in the practice. I agree with posting images about the services and

procedures provided on the practice's Instagram page, however, rather than listing many on an image, focusing one post per service or procedure would increase readability. Not information bombing the reader and allowing the dentist to provide more information about a service or procedure would bring more understanding and would focus more of the readers attention to one topic at a time. Additionally, I advise, posting images about common technologies that exist in a dental practice will give users more insight about what dental tools that exist and what these dental tools do. This in turn will increase images under the category "gadgets." Dental technologies used should not be portrayed in a negative way - it may be anxiety inducing for the patient and cause distrust between dentists - patients. I encourage only approved dental technologies to be posted about).

In Common Instagram Categories, food was not posted about - one of the main purposes of good oral health is to be able to chew and swallow. Therefore, I encourage dentists posting images of food and relaying the message of how food relates to health and dentistry. This would educate patients and add to the diversity of images posted. "Fashion," is a tricky Instagram category to participate in. Setting unrealistic expectations on social media may plant unreasonable expectations from treatment, which may hurt the dentist - patient relationship down the road. It may also cause other negative implications on the patient's health. While providing cosmetic dentistry procedures is part of the duties a dentist performs, it is important to be mindful of the audience from whom these Instagram pages are for. For "Pet/Animal," I encourage dentists to post images about oral health in animals or how animals contributed to our oral health. In the November 2019 data there was one post about how cow's hair contributed in the production of early toothbrushes. Content like this is refreshing and engaging. Pictures in

the “Others” section were mostly pictures of money and teeth. As the paper by Hu et al. (2014) says, “a user’s audience (number of followers) is independent of his/her shared photos on Instagram.” Therefore, I encourage the dentist to post under all categories to add variety to images and increase diversity in the content they can post about.

Captioned photos were the highest type of image posted. Rightly so, I think they convey quick information while the reader is scrolling through their Instagram feed. When incorporating words on the image, language should be clear and concise. Having too many words can make the image hard to read and may take away from the image’s meaning. Wording should be free of technical terms and jargon, language should be inclusive to all audience members. I recommend wording be free from causing confusion. This can be done by showing the post to other staff members and patients in the clinic for feedback, and to think critically who the intended audience is. Text on the image should be organized well and be readable.. Information posted on the images should be referenced in the caption that way the audience knows where this information came from, it allows the audience members to research and look more in-depth within the subject matter, and it adds more credibility to the dentist. Information presented should be correct and evidence-based.

7.0 Conclusion

There are many benefits to social media, such as strengthening and building rapport between dentist - patient and being used as an educational tool. For a dentist, social media can serve as a tool to extend care beyond the clinic, connect with other healthcare professionals and grow their business. As a future dentist, I truly believe that social media (particularly Instagram) will play a big role in health communication, particularly in dental communication. With the

growing amount of patient and dentist users, it is inevitable that dental practices will be making their way onto social media. The sooner dentists transition to social media the more time they will have to build and serve their user base. While there are many benefits, dentists have a low Instagram presence. Hesitations that prevent them from joining Instagram include the possibility of a blurred patient - dentist relationship, the apprehension of negative engagement, miscommunication/miscomprehension, and the lack of general understanding of social media in dentistry. Guidance is needed to help dentists make the transition to social media and to utilize social media to help prevent current communication failures occurring today. Thus expanding its scope to not only help dentists but the field as well. This study attempted to make this transition easier by providing directives.

For dentists to take full advantage of Instagram for their practice they must be familiar with other features Instagram provides. Therefore, future studies can explore dental practices using Instagram stories, Instagram live, and hashtags in their posts. With more understanding, dentists can optimize their Instagram use to engage with more people. Future studies can also look into comments and how different types of audience engages/reacts with each type of post. By understanding what is perceived positively by the audience and what is not, dentists can create content accordingly. Moreover, this study was done using only Instagram data from Ontario, more studies should be conducted to include other provinces and territories. Through understanding different audiences, Instagram pages can thus cater to specific audiences.

8.0 References

- Arceneaux, P. C., & Dinu, L. F. (2018). The social mediated age of information: Twitter and Instagram as tools for information dissemination in higher education. *New Media & Society*, 20(11), 4155-4176. <https://doi.org/10.1177/1461444818768259>
- Alberta Dental Association + College. (2020). *Patient Communication Guide*. Ottawa: Canadian Dental Association.
- Bakhshi, S., Shamma, D. A., & Gilbert, E. (2014, April). Faces engage us: Photos with faces attract more likes and comments on instagram. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 965-974).
<https://doi.org/10.1145/2556288.2557403>
- Bell, P. (2001). Content analysis of visual images. *Handbook of visual analysis*, 13.
- Bennadi, D., Thummala, N. R., & Sibyl, S. (2017). Dentistry in E-world. *Journal of the Scientific Society*, 44(1), 2. http://doi.org/10.4103/jss.JSS_27_16
- British Columbia Dental Association. (2020). *Patient Communication Guide for BCDA Members*. Ottawa: Canadian Dental Association.
- CDA Board of Directors. (2005, February). CDA Position on Association between Periodontal Disease and Systemic Disease. Retrieved from
https://www.cda-adc.ca/en/about/position_statements/periodontalsystemic/

- CDA Board of Directors. (2010, May). Position Paper on Access to Oral Health Care for Canadians. Retrieved from https://www.cda-adc.ca/en/about/position_statements/accesstocarePaper/
- Canadian Dental Association. (2020). CDA Membership. Retrieved from <https://www.cda-adc.ca/en/about/membership/>
- Canadian Dental Association. (2020). Economic Realities of Practice. Retrieved from <https://www.cda-adc.ca/en/services/internationallytrained/economic/>
- Canadian Dental Association. (2020). Dental Specialties. Retrieved from https://www.cda-adc.ca/en/oral_health/specialties/
- Cross, R., Davis, S., & O'Neil, I. (2017). *Health communication : Theoretical and critical perspectives*. Retrieved from <https://ebookcentral-proquest-com.ezproxy.lib.ryerson.ca>
- Dhar, V. (2018). Social Media and Its Implications in Pediatric Dentistry. *Pediatric dentistry*, 40(3), 174-176.
- Easley, J., Miedema, B., Carroll, J. C., Manca, D. P., O'Brien, M. A., Webster, F., & Grunfeld, E. (2016). Coordination of cancer care between family physicians and cancer specialists: importance of communication. *Canadian Family Physician*, 62(10), e608-e615.
- Freeman, R., & Humphris, G. M. (2019). Dental anxiety, communication and the dental team: responses to fearful patients. *Journal of the California Dental Association*. <http://hdl.handle.net/10023/18266>
- Gluyas, H. (2015). Effective communication and teamwork promotes patient safety. *Nursing Standard (2014+)*, 29(49), 50. <http://doi.org/10.7748/ns.29.49.50.e10042>

- Government of Canada. (2017, May 31). Businesses - Canadian Industry Statistics. Retrieved from <https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/6212>
- Government of Canada. (2020, June 17). Calendar of health promotion days. Retrieved from <https://www.canada.ca/en/health-canada/services/calendar-health-promotion-days.html>
- Grover, B., & Aylward, S. (2020). *Informed Consent: From Material Risks to Material Information*. Toronto: Royal College of Dental Surgeons Ontario.
- Hu, Y., Manikonda, L., & Kambhampati, S. (2014, May). What we instagram: A first analysis of instagram photo content and user types. In *Eighth International AAAI conference on weblogs and social media*.
- Kaur, S., Singh, R., & Kaur, S. (2017). How social media can help dental professionals. <http://dx.doi.org/10.22192/ijcrbm.2017.02.08.004>
- Mertz, E. A. (2016). The dental–medical divide. *Health Affairs*, 35(12), 2168-2175. <https://doi.org/10.1377/hlthaff.2016.0886>
- McKinnon, M. (2019, June 30). 2019 Report: Social Media Use in Canada. Retrieved from <https://canadiansinternet.com/2019-report-social-media-use-canada/>
- Nasseripour, M., San Diego, J., & Gallagher, J. (2019). Digital/e-professionalism: a new trend or simply professionalism in the digital age?. *Faculty Dental Journal*, 10(2), 72-75. <https://doi.org/10.1308/rcsfjd.2019.72>
- Nova Scotia Dental Association. (2020). *Patient Communications: A Guide for Dentists*. Ottawa: Canadian Dental Association.
- Newberry, C. (2020, June 12). 37 Instagram Statistics That Matter to Marketers in 2020. Retrieved from <https://blog.hootsuite.com/instagram-statistics/>

- Park, J. H., Christman, M. P., Linos, E., & Rieder, E. A. (2018). Dermatology on Instagram: an analysis of hashtags. *Journal of drugs in dermatology: JDD*, 17(4), 482.
- Parmar, N., Dong, L., & Eisingerich, A. B. (2018). Connecting with your dentist on facebook: Patients' and dentists' attitudes towards social media usage in dentistry. *Journal of medical Internet research*, 20(6), e10109.
- Pugel, A. E., Simianu, V. V., Flum, D. R., & Dellinger, E. P. (2015). Use of the surgical safety checklist to improve communication and reduce complications. *Journal of infection and public health*, 8(3), 219-225. <https://doi.org/10.1016/j.jiph.2015.01.001>
- Purnama, A. D. (2017). Incorporating memes and instagram to enhance student's participation. *LLT Journal: A Journal on Language and Language Teaching*, 20(1), 1-14. <https://doi.org/10.24071/llt.2017.200101>
- Royal College of Dental Surgeons of Ontario. (2007, August). *Informed Consent Issues Including Communication with Minors and with Other Patients Who May Be Incapable of Providing Consent*. Toronto: Royal College of Dental Surgeons Ontario.
- Royal College of Dental Surgeons of Ontario. (2018, June). *Maintaining a professional patient-dentist relationship*. Toronto: Royal College of Dental Surgeons Ontario.
- Royal College of Dental Surgeons of Ontario. (2012, June). *Most Responsible Dentist*. Toronto: Royal College of Dental Surgeons Ontario.
- Royal College of Dental Surgeons of Ontario. (2020). What we do. Retrieved from <https://www.rcdso.org/en-ca/about/what-we-do>
- Royal College of Dental Surgeons of Ontario. (2012, November). *Professional Advertising*. Toronto: Royal College of Dental Surgeons Ontario.

Royal College of Dental Surgeons of Ontario. (2020). Operational Social Media Policy.

Retrieved from <https://www.rcdso.org/en-ca/social-media-policy>

Schubart, J. R., Wojnar, M., Dillard, J. P., Meczowski, E., Kanaskie, M. L., Blackall, G. F., ...

& Lloyd, T. (2015). ICU family communication and health care professionals: A qualitative analysis of perspectives. *Intensive and Critical Care Nursing*, 31(5), 315-321.

<https://doi.org/10.1016/j.iccn.2015.02.003>

Simplicio, A. H. D. M. (2019). Social media and Dentistry: ethical and legal aspects. *Dental*

Press Journal of Orthodontics, 24(6),

80-89.<http://dx.doi.org/10.1590/2177-6709.24.6.080-089.sar>.

Sykes, L. M., Harryparsad, A., Evans, W. G., & Gani, F. (2017). Social Media and Dentistry:

Part 8: Ethical, legal, and professional concerns with the use of internet sites by health care professionals. *South African Dental Journal*, 72(3), 132-136.

The DentalPost Team. (2018, May 29). National Dental Holidays to Celebrate at Your Practice.

Retrieved from

<https://www.dentalpost.net/dental-jobs/content/celebrate-national-dental-holidays>

Wilson, N. H., & Luo, J. (2019). Dentists of the Future. *Primary Dental Journal*, 8(1), 30-33.

<https://doi.org/10.1308/205016819826439565>

9.0 Appendix

Category
Friends (users posing with others friends; At least two human faces are in the photo)
Food (food, recipes, cakes, drinks, etc.)
Gadget (electronic goods, tools, motorbikes, cars, etc.)
Captioned Photo (pictures with embed text, memes, and so on)
Pet (animals like cats and dogs which are the main objects in the picture)
Activity (both outdoor & indoor activities, places where activities happen, e.g., concert, landmarks)
Selfie (self-portraits; only one human face is present in the photo)
Fashion (shoes, costumes, makeup, personal belongings, etc.)

Figure 1: 8 Instagram Photo Categories (Hu et al., 2014)

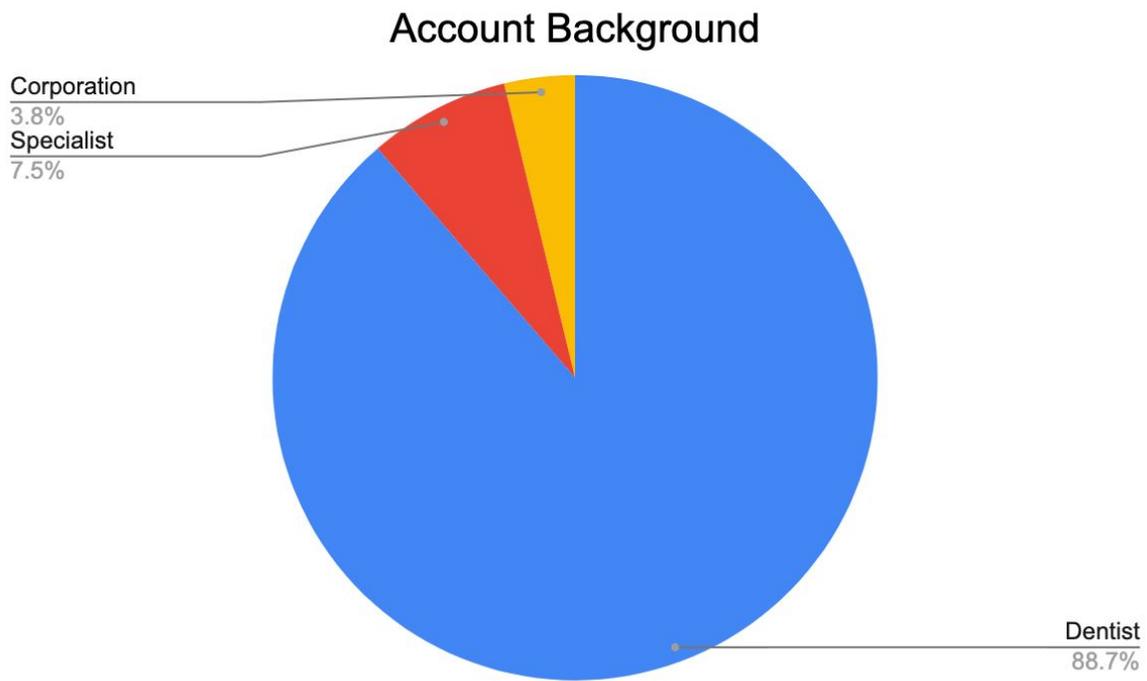


Figure 2: Breakdown of posters who published images onto Instagram in November 2019

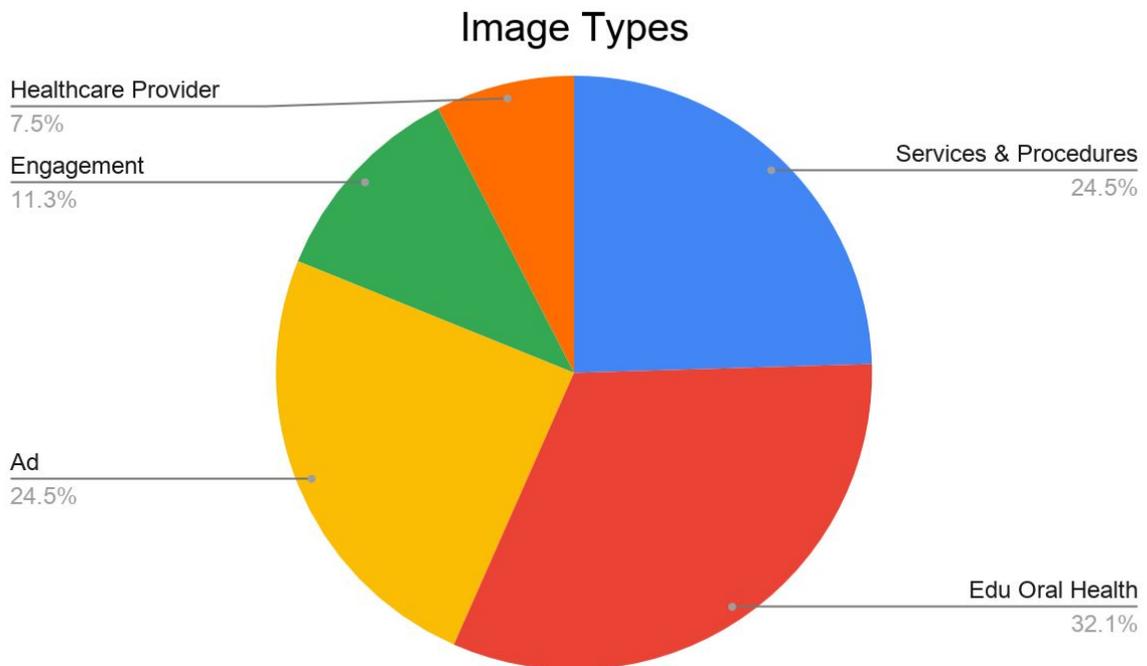


Figure 3: Breakdown of the types of images dental practices published onto Instagram in November 2019

Common Instagram Categories

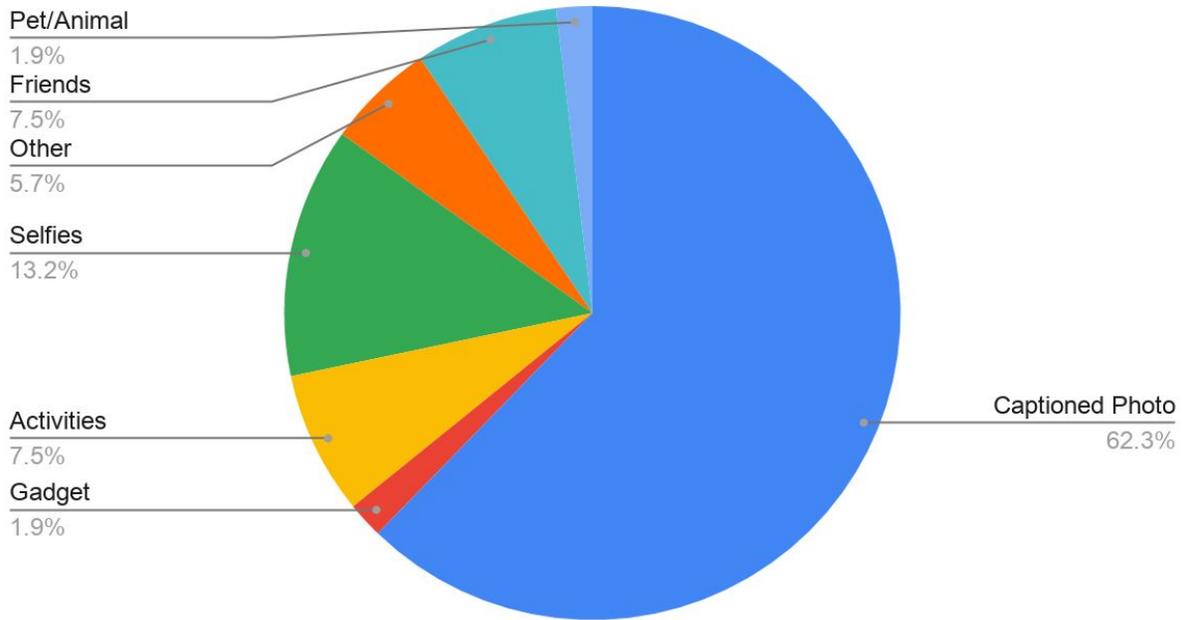


Figure 4: Breakdown of images published in Instagram November 2019 as per the most common Instagram photo categories