COMPUTER-MEDIATED COMMUNICATION IN MEDICAL CONSULTATION: A CASE STUDY OF DOCTORGEORGE.COM

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APPROVAL SHEET

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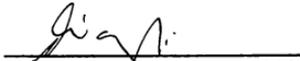Prof. Adela Caño-Beringuela, PhD
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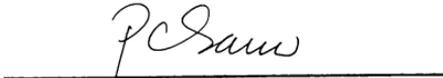
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-To all of those who believed and to all those who were naysayers;

-To all of those who supported and those who doubted;

-To the big and the small people who made me what I am today;

Thank you all!

ABSTRACT

In the early stages of human medical history, physical and psychological disorders were treated through quasi-religious rites rather than through scientifically based procedures. The application of the scientific method to problems of human health and illnesses began at the time of ancient Greek physician Hippocrates, around the 5th century BC. By the 21st century, medicine, the treatment of human illnesses and disease, has advanced so dramatically with the rapid development in information in the medical sciences. Central to the practice and successful pursuit of medicine is communication with a stress on communication with the patient. Communication is used for the purposes of diagnosis, cooperation, counseling, education, and a more recent view of it having a direct impact on the recovery of patients.

The primary form in the doctor-patient communication relationship is the medical consultation wherein a patient seeks the professional advice and opinion of a doctor for recourse and instruction regarding his health or medical condition. Effective communication during the medical consultation is of utmost importance, since the doctor's competent diagnosis and the patient's eventual compliance is based upon it. There are three factors affecting effective doctor-patient communication namely: patient related (physical symptoms of the illness, psychological factors such as anxiety and denial, previous and current experience in medical care); doctor related (training in communication skills, self-confidence in ability to communicate, personality, physical factors such as tiredness, and psychological factors such as anxiety); and interview setting requirements (comfortable surroundings, and an appropriate seating arrangement).

Traditionally, medical consultations have been face-to-face interactions. In this age of the development of the computer, communication technology, and the Internet, society is faced with medical consultation using computer-mediated communication, otherwise known as on-line medical consultation. Computer mediated communication is defined as any communication wherein a computer or network of computers is used as a means or medium of communication. The most often used types of on-line medical consultation is via e-mail and via chat; both text-based forms of computer mediated communication. On-line medical consultation can either be through the patient's personal doctor or through on-line doctors from e-medicine websites that offer on-line medical consultation.

Only one Philippine based e-medicine website offers on-line medical consultation via chat and this is DoctorGeorge.com. The newness of the technology and the phenomena, particularly in the Philippine setting, makes one cast doubt upon the effectiveness of DoctorGeorge.com to provide medical consultation via on-line chat to Filipino patients. Thus, the author posed the main problem, "Is DoctorGeorge.com an effective medium for medical consultation as perceived by its patients?" The sub-problems were: "What is the nature of DoctorGeorge.com and its services?"; "What is the profile of the Filipino patients of DoctorGeorge.com?"; "What is the profile of the Filipino doctors of DoctorGeorge.com?"; "How often do patients consult DoctorGeorge.com?"; and "What are the perceived advantages/disadvantages of computer mediated communication (DoctorGeorge.com) in medical consultation?"

The study's general objective was to determine whether or not DoctorGeorge.com is an effective medium for medical consultation. Also known as the clinical interview, medical consultation has traditionally been in the form of face-to-face interpersonal communication. Being the primary form of doctor-patient communication, medical consultation is the original basis of all other steps in curing a patient. Society is now faced with a very novel situation where computer mediated communication through the Internet is fast becoming a part of their daily lives and on-line 'everything' is daily fare. This situation gives scholars an unlimited area of study for communication.

This study focused on the use of computer mediated communication in medical consultation via on-line chat, more conveniently referred to as on-line medical consultation, as offered by DoctorGeorge.com. This study will try to discover a deeper understanding in this new field of on-line medical consultation, the profile of the people who participate in it, as well as their experience with it. Its key informants were exclusively Filipino patients of DoctorGeorge.com and only those patients who have consulted on-line via DoctorGeorge.com's medical chatroom.

As far as the researcher knows, this is the first time that a study which focuses on the Filipinos' use of computer mediated communication in medical consultation was undertaken. In this situation where there is a dearth in information regarding this novel phenomenon in the Philippine setting, an exploratory descriptive approach was taken. Now that there is a limited number of Filipinos who use on-line medical consultation via the medical chatroom of DoctorGeorge.com, a non-probability convenience sampling procedure was used. Primarily, the data was gathered through a survey questionnaire sent via e-mail, to facilitate questions regarding the respondents' profile and their experience with DoctorGeorge.com.

It was found that DoctoGeorge.com is a California established, Philippine based e-medicine website, which among other things, offers on-line medical consultation via chat and e-mail 24-hours a day. Filipino patients are mostly college educated, computer and Internet proficient, relatively well-to-do adults. Majority of them are comfortable and satisfied in consulting via DoctorGeorge.com's medical chatroom and would recommend the service to their friends and acquaintances. Majority of the doctors are young, well schooled (majority of whom are UP College of Medicine graduates), and Internet proficient individuals. The competency of the doctors in providing on-line medical advice is guaranteed through a stringent recruitment, qualification and training process. Most of the Filipino patients have consulted one to four (1-4) times, while an average of 20 Filipino patients a day consult through the medical chatroom.

The perceived advantages of on-line medical consultation via DoctorGeorge.com are convenience, practicality, being free, immediacy, anonymity, privacy, informativeness, detailness comprehensiveness, comfortability, reliability, being a good source of second opinion, good for emergency purposes, and more patients having more time for questions. The perceived disadvantages are that there are no actual physical check-ups, no face-to-face encounter, no real diagnosis, no medical tests, no prescription, and unknown doctor's credentials, coupled with technical difficulties, the possibility of miscommunication, doubts in reliability and accuracy, being generalized in nature, being too careful in giving advice, being time consuming, time limitations, and inappropriateness for difficult cases.

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INTRODUCTION

"I swear by Apollo the physician, and Aesculapius,
and Hygeia and Panacea"
from the Hippocratic Oath

Background of the Study

In the early stages of human medical history, physical and psychological disorders were treated through quasi-religious rites rather than through scientifically based procedures. Before Hippocrates' lifetime, the dominant force in Western medicine was the cult of Aesculapius. Aesculapius was said by some to be mortal and by others to be the son of the God of Medicine, Apollo. In the temples of this cult, healing was accomplished through ceremonies and fasting and was often guided by the priests' interpretations of the patient's dreams. The application of the scientific method to problems of human health and illness began at the time of ancient Greek physician, Hippocrates, who lived around the 5th century BC. Hippocrates' treatment procedures included medicine, surgery, and changes in diet and exercise.

By the 21st century, medicine, the treatment of human illnesses and disease, has advanced so dramatically with the rapid development in information in the medical sciences as well as the development of sophisticated diagnostic and treatment technologies. But even with all this development and technology, the most basic factor in the successful pursuit of medicine (as well as any other human pursuit)--is communication. Communication in medicine includes all aspects of medicine and involves all categories of communication. Medical communication simply is any

communication used within and for the art and science of preserving the health and physical condition of the human being. With the advent of the field of psychosomatic medicine as well as the importance given to health psychology, communication with the most important participant in this field- the patient, is further stressed. As communication is defined as the sharing of meaning, medical communication is used for the purpose of diagnosis, cooperation, counseling, and education. More recently, communication is recognized as having a direct impact on the recovery of patients.

The primary form of medical communication is the doctor-patient communication relationship, the first stage of w/c is the **medical consultation**; wherein a patient seeks the professional advice and opinion of a doctor for recourse and instruction regarding his/her health or medical condition. Effective doctor-patient communication is of utmost importance in this stage since the doctor's competent diagnosis and the patient's eventual compliance is based upon this stage. There are three factors affecting effective doctor-patient communication; namely patient related, doctor-related and interview setting requirements (Lloyd and Bor 9-10). Patient related factors are the physical symptoms of the patient's illness, psychological factors related to the illness or medical care(e.g. anxiety, depression, anger, denial), previous and current experience in medical care. Doctor related factors are training in communication skills, self-confidence in ability to communicate, personality, physical(tiredness) and psychological(anxiety) factors. The interview setting requirements are privacy, comfortable surroundings and an appropriate seating arrangement.

Traditionally, the medium and form of medical consultation has been the interpersonal face-to-face clinical interview. In this new millennium, with the

development in computers, communication technologies and the Internet, society is now faced with the phenomena of medical consultation using computer-mediated communication or simply called, on-line medical consultation. Computer mediated communication is any communication wherein a computer or network of computers is used as a means or medium of communication. The Internet, the newest medium of communication, is now mainstream. It is no longer just a novelty. E-mails, groupmails, chatting, web phones and web video is changing the ways that Filipinos communicate in their personal and professional lives. On-line banking, on-line education, on-line payments and on-line news changes the way we bank, get education, pay our bills and get our news. Will "on-line medical consultation", otherwise more technically known as computer mediated medical consultation, be effective for Filipinos who seek medical help? Computer mediated medical consultation being a recent phenomenon, any research on this field, specifically in the Philippine context, would fill a very big gap in knowledge. Only one Philippine-based webpage offers on-line medical consultation-DoctorGeorge.com. The newness of the technology and the phenomena makes us cast doubt upon the effectiveness of DoctorGeorge.com to provide medical consultation via on-line chat to Filipino patients.

Statement of the Problem

This study has considered on focusing on the use computer mediated communication as a medium for medical consultation, otherwise referred to as on-line medical consultation, which is offered by the DoctorGeorge.com website. Their main form of CMC medical consultation is through on-line chat. They are the only Filipino company that offers this particular service. Thus the author poses the main problem, "Is

DoctorGeorge.com an effective medium for medical consultation in the Philippines as perceived by the people who use it?" namely, the patients.

The study has the following sub-problems:

1. What is the nature of DoctorGeorge.com and its services?

2. What is the profile of the Filipino patients of DoctorGeorge.com?

3. What is the profile of the Filipino doctors of DoctorGeorge.com?

4. How often do patients consult DoctorGeorge.com?

5. What are the perceived advantages/disadvantages of computer mediated communication (DoctorGeorge.com) in medical consultation?

Objectives of the Study

Through the course of this study, the researcher's general objective is: To determine whether or not DoctorGeorge.com is an effective medium for medical consultation as perceived by it participants(patients).

The following are the specific objectives:

1. To discover the nature of DoctorGeorge.com and it services;

2. To determine the socio-economic, medical and on-line experience of the Filipino patients of DoctorGeorge.com;

3. To determine the socio-economic, medical and on-line experience of the Filipino patients of DoctorGeorge.com;

4. To determine the frequency of patients consulting DoctorGeorge.com;

5. To identify the advantages and disadvantages of computer mediated communication (DoctorGeorge.com) in medical consultation, as perceived by its patients.

Significance of the Study

Communication is at the heart of medical practice. Effective doctor-patient communication will determine the efficacy of any diagnosis about a patient's condition. The clinical interview, otherwise known as medical consultation, being the primary form of doctor-patient communication, is the original basis of all other steps in curing a patient. Traditionally, clinical interviews have been face-to-face interpersonal communication. Information technology, the convergence of computer and communications technology, through the Internet, brings with it new mediums of communication formerly limited to a select clique of our society. The lowering of costs of the hardware, and the ease of use of the software, now gives us the chance to use this new medium of communication, computer mediated communication. The novel situation that we have now, where the Internet is fast becoming a part of our daily lives, on-line everything is becoming daily fair, gives us an unlimited area of study for communication. This study will focus on the use computer mediated communication via on-line chat, in doctor-patient communication, specifically in the clinical interview, otherwise known as medical consultation. On-line medical consultation is a new field of study since the technology that made it possible and the mediums it presents is new and continually evolving. This study will try to discover an understanding of the new field of on-line medical consultation, the profile of the people who participate in it, and it's perceived effectiveness from patients. Though various studies of such nature may have been made on this topic, this is the first time such a study will be made in the Philippine context.

Scope and Limitations

This study will focus on doctor-patient communication using computer-mediated communication, specifically in terms of the clinical interview. Its key informants will be exclusively Filipino on-line medical consultation patients and only those who consult via DoctorGeorge.com medical chatroom. The study will catalogue the data related only to doctor-patient communication, particularly regarding clinical interviews or medical consultation through on-line chat. More so, in as much as this is a relatively new occurrence, we will try to discover the process of on-line medical consultation as offered by DoctorGeorge.com via on-line chat. We will also try to find out the experiences of the people who use it, with focus on the patients, in the use of this service.

Chapter 2

REVIEW OF RELATED LITERATURE

Communication

Communication, in its most global usage, simply means, acting on information. (Redmond 4/ Dance & Larson), which in this definition does not require intention. How do you know if something or someone has acted on information? Because there is change. Change occurs in response to information.(Redmond, 4). Communication is the process of creating meaning with the objective of establishing "commonality" among its participants (Tubbs and Moss 4). One way to illustrate the communication process is to provide a model showing the different elements and the relationships between them (Yoder 6).

Models of Communication

Actional Model. This model approaches the communication process from the message sender's point of view (Yoder 6), in which there is simply an action followed by a reaction. One thing reacts to another without a reciprocal effect; thus, the communication is a one-way process (Redmond 4).
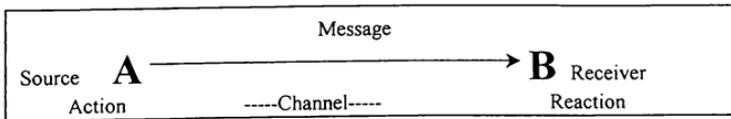
Figure 1. Actional Model of Communication

The action approach to communication looks at the skills and performance of the source. By focusing only on the speaker and message, the action approach to communication ignores the receiver's reaction.

Interactional Model. Also known as the reaction approach (Yoder 8), is a series of actional, one-way, linear communication events. Each action is a response to a prior action; and each action evokes a new response. Thus, the model proceeds from an action to a reaction/action to another reaction/action, and so on (Redmond 6).
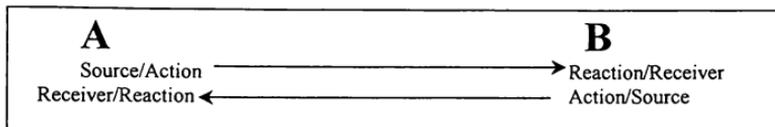
Figure 2. Interactional Model of Communication

The reaction approach views communication as a two-way process in which a sender and receiver exchange messages. Rather than being concerned primarily with the form and delivery of a message, the reaction approach interprets and responds to the message. This focus on the way a person responds to a message, and how the sender subsequently adapts to the response, suggests communication is sequential. A source has to send a message before a receiver can respond; the receiver has to respond to the message, before the sender can adapt and send the next message. (Yoder 9)

Transactional Model. The transactional model of communication applies when two things affect one another simultaneously (Redmond 6/ Wilmot). The transaction definition of communication emphasizes that senders and receivers share responsibility in the communication process. As a result, the transaction approach defines communication as the mutual creation of shared meaning through the simultaneous perception of verbal and non-verbal behavior within a specific context. As simultaneous
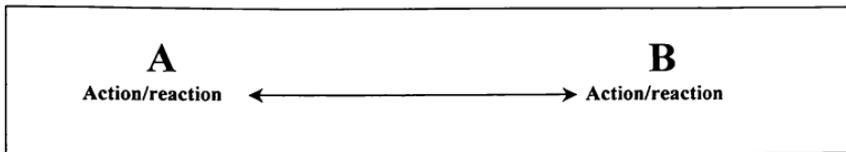
Figure 3. Transactional Model of Communication

receivers and senders of messages, we process our own verbal and non-verbal behaviors at the same time we are interpreting another's messages.

Components of Communication

  Context. Human communication never occurs in a vacuum. Rather, it always occurs in a context, and in the presence of that context, affecting how we talk to others and what we talk about. A context is a variable that surrounds and influences communication. The easiest context to is the environmental context. The environmental context includes the physical surroundings, the temperature, the presence of others, and the location of the interaction. Other contexts include the psychological, relational, situational, and cultural. (Redmond 10).

  Source (Sender) and Receiver. For communication to occur, there must be a source of information that is perceived by someone. When the source is **unintentional**, we call it an object. Objects are simply those stimuli around us that we perceive that were not intentionally directed toward us. People are objects when you watch them walking by your window; the clouds are objects as you watch them floating in the sky; and cars passing by as you walk are objects. In these situations, you are the perceiver of these objects. A perceiver is someone who attends to, perceives, decodes, and is affected by objects in the environment(Redmond 11).

When the source of information is **intentional**, we call it a sender. A sender is someone who engages in a process of encoding and delivering a message to produce some effect (Berlo). People waving at you from across the street are senders because they intend to communicate with you. Advertisers who put advertisements in the newspaper are senders; your friend who e-mails you is a sender. To encode a message means to decide on the words and actions that will be used to reflect the thoughts that the person is trying to communicate.

A **receiver**, is someone who attends to, perceives, decodes, and is affected by a message transmitted by a sender. You can tell that someone is a receiver in the same way you can tell if communication has occurred. The receiver is affected or changed as a result of having received the message. Receivers decode the message by attributing meaning to what they have perceived. Messages are sent with the intention of being transmitted to receivers. Sometimes other people besides the intended receiver pick up the message, as in eavesdropping situations. In these cases, the unintended hearers are perceivers rather than receivers, and the message becomes an object to be perceived (Redmond 11).

Depending on the type of communication, the receiver's reaction to the original message might be perceived by the original sender. In essence, the original receiver's reaction then becomes a new message. Sometimes the receiver's reaction is called feedback. Feedback is easy to identify in the interactional communication model, in which one message responds to a previous message. In the transactional model, the sender and receiver are both sending and receiving messages at the same time, and feedback is more difficult to discern, but it does occur (Redmond 12).

Messages & Codes. Messages are what we send and receive in communication. More formally, messages are the units of information that we intentionally convey to one another (Redmond 12). Messages involve the creation of a patterned and ordered set of verbal and non-verbal behaviors (Redmond 12/Berlo). Senders intentionally create messages to affect receivers in some particular way. Messages are not always effective, however senders don't always evoke the effect they intended. These are also dependent upon the symbols that carry a message or the code.

There are three basic communication codes (Hamilton 13): the language, the paralanguage, and nonverbal codes. The language code, also known as the verbal code is either spoken or written words used to communicate thoughts and emotions. The paralanguage, also known as the vocal code are the vocal elements that go with spoken language, including tone of voice, pitch, rate, volume, and emphasis. Although many texts list paralanguage as a subcategory of nonverbal communication, it has been separated to emphasize the importance of each. The nonverbal or visual code are all intentional and unintentional means other than writing or speaking by which a person sends a message; including facial expressions, eye contact, gestures, appearance, posture, size and location of office, and arrival time at meetings.

Messages are culture specific. This means that a thought encoded in one culture is not encoded in the same way in another culture. If you've taken a foreign language, you have learned a second set of words to describe concepts for which you already have words. Moreover, what we learn as the formal language of a country often differs from the language in everyday use (Redmond 13).

Messages are composed of two dimensions: content and relationship (Redmond 13/Watzlawick et al). The **content dimension** is the one we most easily recognize. The content dimension represents the face value of a message, the information that is explicitly stated. This **relational dimension** conveys feelings about the other person, reflects power, and reinforces a certain communication pattern (Redmond 13). Each message you create and communicate to other people reflects your perception of the relationships and the receivers (Redmond 14). The way a superior communicates to a subordinate and how a subordinate reacts to the message shows the power that the superior has over the subordinate as well as the acceptance of the subordinate of this relationship.

Noise. No two people ever have exactly the same meaning for the same message; there is always an element of distortion, or noise. Noise is anything that causes a message to get lost or be decoded in a manner different from the way it was intended. Noise can be classified into three types, namely external, internal, or physiological noise. External noise is stimuli from the environment that compete with a speaker for one's attention. Sight, sounds, feelings, and smells that fill our environment are all potential sources of noise (Redmond 14). Internal or psychological noise is stimuli that distract us not from our surroundings but from our own thoughts. Thoughts of a fight with your spouse last night while listening to a lecturer on systems integration might affect your understanding of the subject matter. Physiological noise is caused by physical breakdowns, handicaps or impairments. Examples of such are speech disorders, accents, hearing impairment, stress, or illness. Both the speaker and listener can be sources of this kind of noise.

Channels or Modes. They are pathways on which our messages travel (Redmond 14). In many instances, the success of your message may depend on the channel you select. A channel is a medium selected to carry the message. Some examples of communication channels are face-to-face discussion, memos, magazines, newsletters, radio, telephone, and television.

In a business meeting, where participants are using the face-to-face communication channel, all three codes-nonverbal, language, and para-language carry messages. Television also carries all three codes. Because radio and telephone communication lack the nonverbal code, depriving the listener of visual clues to the meaning, these channels involve a greater chance of communication breakdown. Memos are even more limited because they contain only the language code; although some people tend to add paralanguage by underlining, drawing an arrow, or circling in red pen.

In deciding which channel is most appropriate for communication with your superior, colleague or friend, consider these items: the importance of the message, the needs and abilities of the receiver, the amount and speed of feedback required, the necessity of a permanent record, the cost of the channel, the formality of informality desired. What is the **importance of the message?** Important messages usually require the face-to-face channel. What are **the needs and abilities of the receiver?** Some people are able to work from memos and phone conversations; others are better at interpreting messages and are happier in face-to-face situations. What is the **amount and speed of feedback required?** Complicated message and messages needing immediate feedback may require the face-to-face channel, in which all codes are present. Is there **necessity of a permanent record?** Memos and written instructions can be used to verify

a conversation and to serve as a permanent record of what was said. What is **the cost of the channel?** In the business world, time and energy spent equal cost. For example, it costs less to fax, more to speak on the phone long distance, and much more to bring employees to a central place for a face-to-face meeting. What is **the formality or informality desired?** Although face-to-face communication can be quite formal, it is normally considered less formal than a newsletter or a memo.

The channel selected is also very important when communicating with the public. When selling merchandise or ideas, one should select the channel that is (1) is the least expensive (2) reaches the target audience with (3) the appropriate codes needed to sell the item or idea. When using a channel other than face-to-face meeting, a sender must be sure to follow through by checking to see that the message has been received, understood, and carried out correctly (Hamilton 15-17).

Categories of Human Communication

Intrapersonal communication. It is communication within ourselves. It is our thoughts, our self-discussion, our talk directed to ourselves (Redmond 18). Sometimes intrapersonal communication acts as "noise" during other forms of communication. Another problem with intrapersonal communication occurs when we deliver egocentric messages to other people without realizing the need to adapt the message (Redmond 18/ Vygotsky). In our use of our own personal jargon, due to terms or phrases that have a unique meaning for us, a message may be unrecognized or distorted.

Interpersonal communication. When two or more people transactionally influence one another. Two people make a dyad. Therefore, when only two people are

involved in the interaction, it is sometimes referred to as a special form of interpersonal communication called dyadic communication (Redmond 18-19).

Interviewing. It is a goal-structured form of interpersonal communication in which one party plays the role of interviewer and the other party plays the role of interviewee. The interviewer is the person who primarily asks the questions and the interviewee is the person who primarily responds. There are many types of interviews, including employment (selection) interviews, problem-solving interview, and information-action interviews (in which the interviewer seeks information to aid in a certain action) (Redmond 19).

Small group communication. Involves interpersonal communication among three or more people who view themselves as a group and who are working toward a shared purpose and goal (Redmond 20). When three or more people are present, speaking time decreases while listening responsibility increases, as well as the possibility for coalition or clique formation.

Organizational communication. It can simply be defined as communication within organizations. An organization is a group of interdependent individuals brought together by a hierarchical structure to perform a variety of structured tasks toward the accomplishment of some goal (Redmond 21, Albrecht & Wackernagel).

Presentational communication. Primarily it is an actional form of communication in which one person speaks most of the time and other people listen (Redmond 21). Also called public communication, it involves a source who is face to face with and audience. Presentational communication can also be interactional in form.

Mass Communication.   It is the development and transmission of (common) messages to a large (mass) audience simultaneously, through electronic or mechanical means. Mass communication encompasses newspapers, magazines, radio, television, movies, and now, computer mediated communication, such as the Internet. Like presentations, its purpose is to entertain, inform &/or to persuade.

Intercultural and Multicultural Communication.   Intercultural communication is the communication that occurs between or among individuals from different cultures or subcultures (Redmond 23). Multicultural communication occurs between & among individuals in which several cultures are interacting. Intercultural communication and multicultural communication cannot be taken out of the contexts of interpersonal, small group, organizational, and mass communication.

Communication Technology

Communication technology (Rogers 2-3) is the hardware equipment, organizational structures, and social values by which individuals collect, process and exchange information with other individuals. Certain communication technologies go back to the beginnings of human history, such as the invention of spoken language and such written forms as the pictographs on the walls of caves. Mass media technologies (with at least the potential for reaching a mass audience) date from the clay tablets of such early civilizations as the Sumerians and the Egyptians. But technologies such as Gutenberg's movable-type printing press did not actually reach a mass audience until the 1830's, with the advent of the "penny press" in the United States. In the decades that followed, such chemical and electronic media technologies as film, radio, and television became important. These mass media technologies are mainly unidirectional, allowing

one or a few individuals to convey a message to an audience of many. During the 1980's, a different kind of communication technology became important, as it facilitated the exchange of information on a many-to-many basis through computer-based communication systems. Whether you call it "the new communication technologies," "the new media", or "interactive communication," it is obvious that a very basic change is occurring in human communication.

All communication technology extends the human sense of touching, smelling, tasting, and (especially) hearing and seeing. Such extensions allow an individual to reach out in space and time, and thus obtain information that would otherwise not be available (McLuhan, Rogers). Media technologies provide us with " a window to the world," and as a result, we know more about distant events than we can ever experience directly. (A lot of people all over the world were able to watch the developments of the September 11, WTC and Pentagon bombings, through cable television, almost immediately after it happened).

Communication technology has had a very strong impact on the nature of scholarly research on human communication. The issues studied by communication scientists over the past forty years have been affected by the changing nature of communication. In the past, the basic division of the scholarly field has been a dichotomy on the basis of channel: **interpersonal channels** (w/c is face-to-face) vs. **mass media channels**. All those means of transmitting messages such as radio, TV, etc., which enable a source of one or a few individuals to reach an audience of many. This classification is mainly on the basis of the size of the audience with interpersonal channels reaching from one individual up to a small group of fifteen to twenty. Now,

scholars (Dominick & Roger 3) recognize a third category, "machine-assisted interpersonal communication", that has certain qualities of both mass media and interpersonal channels. Yet is different in several important ways from either one. An example of such machine-assisted interpersonal communication is the telephone. It does not fit into either category of mass media or interpersonal channels because it is neither face-to-face nor one-to-many. Examples of newer communication technologies are teleconferencing, networks, electronic messaging systems, computer bulletin boards, and interactive cable television. These are the interactive communication technologies.

Changes in Human Communication as a Result of the New Technologies

Interactivity. All of the new communication systems have at least a certain degree of interactivity, something like a two-person, face-to-face conversation. Interactivity is the capability of new communication systems (usually containing a computer as one component) to "talk back" to the user, almost like an individual participating in a conversation. The new media are interactive in a way that the older, one-to-many mass media could not be; the new media can potentially reach many more individuals than if they were just face-to-face., although their interactivity makes them more like interpersonal interaction. So the new media combine certain features of both mass media and interpersonal channels.

Interactivity is an inherent property of the communication process, not just of the communication technology itself, and is thus, a unique communication concept (Rafaeli). The exact degree to which computer based communication can approach human interaction is an important question. One measurement of the ability of computers to think is the Turing test, in w/c a computer's intelligence is measured by its performance

to respond to conversational questions in comparison to human performance in the same tasks. Obviously, not all computer communication is interactive; in fact, not all human face-to-face communication behavior is interactive if interactivity means a two-way exchange of utterances in which a third remark in a series is influenced by the bearing of the second on the first. This is an interesting illustration of a three-message exchange: (1) a sign on a soda machine catches an individual's attention; (2) the individual inserts 10 pesos in the machine; (3) the machine dispenses a can of soda. Are soda machines interactive communication media? No, because they are not "intelligent". The third response is not predicated on the bearing of the second exchange on the first. Here we see that not all two-way exchanges are necessarily interactive; automatic, mechanical reaction is not the same as mutual responsiveness. Human response implies listening, attentiveness, and intelligence in responding to a previous message exchange.

Interactivity is a desired quality of communication systems because such communication behavior is expected to be more accurate, more effective, and more satisfying to the participants in a communication process (Rafaeli,1984).

So, the most distinctive quality of the new media is their interactivity , indicating their basic change in the directionality of communication from the one-way, one-to-many flow of the print and electronic mass media of the past century. In interactive communication systems, the individual is active rather than completely passive or reactive.

De-massified. The new media are also de-massified, to the degree that a special message can be exchanged with each individual in a large audience. Such individualization likens the new media to face-to-face interpersonal communication,

except that they are not face-to-face. The high degree of de-massification of the new communication technologies means that they are, in this respect at least, the opposite of mass media. De-massification means that the control of mass communication systems usually moves from the message producer to the media consumer.

Asynchronous. The new communication technologies are also asynchronous, meaning they have the capability for sending or receiving a message at a time convenient for an individual. For example, say that an electronic message is sent to you on a computer teleconferencing network; you may receive it in your home or office computer whenever you log-on. Unlike a telephone call, electronic messaging systems avoid the problem of "telephone tag," which occurs when you call someone who is unavailable, then when they return your call you are unavailable, etc. Only about 20 percent of business calls directly reach the individual being telephoned. In some new communication systems, the participants do not need to be in communication at the same time. The asynchronous nature of computer-based communication means that individuals can work at home on a computer network and thus make their workday more flexible. The new media often have the ability to overcome time as a variable affecting the communication process.

Asynchronicity is part of the shift of control from the source to the receiver in a communication system; in this case, the control of time is put in the hands of the receiving individual. With increasing frequency, this person can determine the most convenient time to receive a message. Automated teller machines (ATMs) allow one to bank in an asynchronous way; instead of being a slave to a banker's hours, one can now

do his banking 24 hours a day. With e-banking, you can also do this from the comfort of your own home).

Computers and Communication

The development of communications technology has been congruent to the development of computer technology beginning in the 1950's; with the development of the first programmable electronic computer in the US (ENIAC & UNIVAC)(Williams 5). The convergence of these two technologies was the turning point of our society into the information society. An **Information Society** is a nation in which a majority of the labor force is composed of information workers, and in which information and the communication of these information, is the most important element (Rogers 10) The marriage of computer and communication technology, gave birth to information technology. Information technology is technology that merges computers with communication producing a **technological convergence** with the coming together of different industries such as computers, communications, consumer electronics, entertainment, and mass media (Williams 2-3). In its primary stage, information technology was limited to government institutions, big business and the academic cliques because of the high costs it involved and the high level of expertise it required. It is only in recent years with the lowering of costs of the hardware and the development and ease of use of the software, did it become mainstream in society. The personal computer became a significant medium of communication for people

Computer Mediated Communication

Computer-mediated communication simply means communication via computer.

Computer mediated communication can either be through networked or non-networked computer systems. Non-networked computer systems involve the use of a stand-alone computer in communication. This can be in the form of interactive CD-ROMs or via computer diskettes. Networked computer systems involve the use of electronically inter-connected computers.

Networked Computer Systems and the Internet

The first networked computer system was formed in 1969 , the ARPAnet, by the US Department of Defense.. Networked computer mediated communication systems can be classified according to the **users** or according to the **size of the network.**

User Classified Network. User classified networks can either be intranets or extranets. Intranets are internal networked computer systems designed to connect the members of a specific organization or a single company. One of the greatest considerations of an intranet is security - making sure that sensitive organizational data accessible on the intranet is protected from the outside world. Extranets are extensions of an internal network (intranet) to connect not only internal personnel but also customers, suppliers, and other strategic offices. Extranets provide a direct line of communication that makes it easier, for example, to access databases and to send faxes without incurring long-distance phone charges (Williams 347).

Size Classified Network. Size classified networks can either be **local networks, metropolitan area networks, wide area networks, or international networks.** **Local networks** are privately owned communications network that serves users within a confined geographical area. The range is usually within a mile—perhaps one office, one building, or a group of buildings close together, as a university campus. Local networks

are of two types: PBXs and LANs (Williams 377). A **metropolitan area network** (MAN) is a communications network covering a geographic area the size of a city or suburb (Williams 377). A wide area network (WAN) is a communication network that covers a wide geographical area, such as a whole province or a country (Williams 377). An example of a wide area computer network is the system used in the ATMs (automated teller machine) of banks. An **international network** (internet with a small "i") is a communications network that is, geographically, internationally connected. This is a network of LANs, MANs, and or WANs that are connected beyond the borders of a particular country. International computer networks (internets) are used by international banks, multinationals, corporations and organizations that give access to users to communicate or transact business from one country to another part of the globe. Other examples of internets are the Gophernet and the Internet.

The Internet links together hundreds thousands of computer networks (be they MANs or WANS or otherwise) of academic, scientific, government and commercial institutions. The ease of use of the technology has also allowed individuals and small organizations to network themselves to the Internet and become members of the World Wide Web. The world wide web is the best-known part of the Internet. It stores and presents information in multimedia form (sound, video, photos, animation and text) through what is called a web page. Because of the ease of use and rapid growth of this medium, there is no exact estimate on the number of web pages that comprise the world wide web. Hundred of web pages are put up everyday, with various content and purposes.

The Internet is the newest and fastest growing medium of communication in human society. The speed by which information is accessed and given or goes through the Internet, has made some people dub it as the **information superhighway**. More and more people now have access to the world wide web. . It is estimated that there are approximately 268 million computers connected to the Net. More and more people access it everyday. It is both a medium for mass communication and interpersonal communication.

Forms of Interpersonal Communication Through the Internet

E-mail or electronic mail. Similar in form to regular mail, e-mail are electronic letters that can be sent and received through the Internet. Retrieval is through a personal e-mail address. Sending and retrieval is faster than traditional mail which has now been dubbed as "snail" mail. It is asynchronous sharing of information between two individuals sent and retrieved through the computer connected to the Internet. E-mail is the most widely used Internet-based medium of interpersonal communication Though e-mail is generally text based, developments have made it possible to send photos, animation, video and the like through e-mail.

Group Mail. Same in form as e-mail, sharing of information is from one to many, or to all the members of the group. A message sent by one member of the group will be received by all of the members of the group. Groups are formed by interest, affiliation, and, actually, for any or every purpose possible. Schoolmates, groups of friends, or any group for that matter can communicated via group mail.

Chat. Internet Relay Chat is a text-based form of computer-mediated communication. Whereas, e-mail is asynchronous in nature, chat is synchronous or real

time. Two or more people can communicate real time or almost instantaneously. There are two common ways to chat. The first is by going to a MIRC-hosted chatroom. Like groupmail, chatrooms can be classified by interest, affiliation, or any purpose the participants makes of it. Participants can post and send messages instantaneously and view their messages, and the messages sent by the other participants in the chatroom. Another way one can chat is through ICQ. ICQ is a program making instantaneous one-to-one communication possible, without going to a mIRC-hosted chatroom.

Telephony. It is using the Internet to make voice calls.. Telephony can either be computer to computer or computer to regular telephone line It can be used for one-to-one voice communication or for audio conferencing for different groups. It is very much the same as making regular telephone calls; long distance charges are avoided, even if you're talking with a person half-way around the world. All one has to pay is local Internet connection fees to an Internet Service Provider (ISP).

Video Telephony. The increased speed by which data is transferred through the Internet today makes possible this new technology. Rather than just making voice calls, video telephony also carries the video image of the person you are talking with. Though video phones were first introduced through regular telephone lines years ago, it was both very expensive, and it required specialized equipment and telephone connections. Though today, one still has to have a relatively fast Internet connection to effectively use video telephony, technically one only needs a multimedia computer, a microphone and an inexpensive web camera to use this technology. Quite recently, a video telephony call center was launched in Metro Manila.
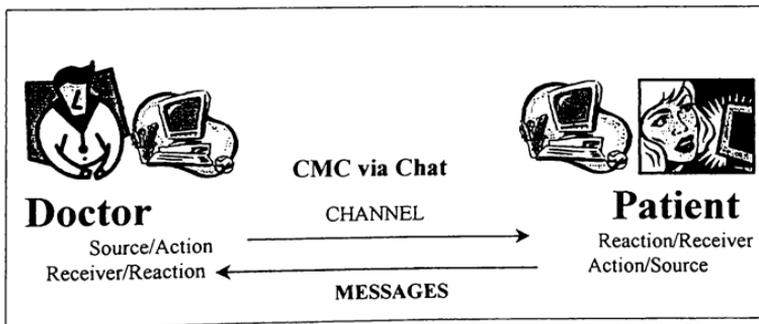
Internet and Medicine

The development of the Internet has changed the way people go about their daily lives. One can now do banking, trading, shopping, and almost any activity on-line. As with the introduction of any new technology, the Internet should not be assessed on the basis of how it can replace an old technology, rather new technologies should be assessed on how new things can be done through it, things never thought of as possible in the past. We now have e-banking, e-commerce, e-shopping and the like. The Internet has also given us e-health and e-medicine. E-health are websites wherein health information is provided or accessed. Information can vary from exercise routines, healthy lifestyle forums, e-magazines, exercise equipment supplies, and other related types of information. Under the e-health classification is a more detailed sub-classification, which is e-medicine. These are websites that offer specific medical information. Hosts of these websites can either be hospitals, government entities, educational institutions, pharmaceutical companies, and commercial websites that provide medical services and information. Websites on specific illnesses on various medical ailments, some of which are put up by the patients themselves, are also available. The health information available to the ordinary man through the Net can be overwhelming. All the information you need and even more, is literally, right at your fingertips ; thus, one would need great patience and perseverance to sift through all the available information.

One service some e-medicine websites offer, which aids you go through the chaff and directly to the grain, is on-line medical consultation. Rather than going through all the information regarding a medical ailment or concern, one can consult with a doctor on-line for these concerns. Some of these websites are on-line arms of health

institutions, universities or hospitals. Some are outright on-line only medical websites. Both types of websites are manned by licensed health professionals or medical doctors. Some examples of websites offering on-line medical consultation is WebMD, America's Doctor's On-line, MayoClinic On-line and DoctorGeorge.com. Doctor George.com is the only Philippine-based web page that offers on-line medical consultation.

There are two forms by which on-line medical consultation are provided today. First is through an e-mail based medical consultation, wherein a patient e-mails his medical information, ailment or concern to a doctor through a medical website. Based on the information given by the patient, through the e-mail, a reply is given concerning the ailment. If the web doctor thinks that more information is needed for him to make a more proper assessment on the patient's condition, the web doctor would ask for more information or clarification. This type of on-line medical consultation can be compared

CMC via Chat

Doctor
Source/Action
Receiver/Reaction ◄

CHANNEL ──────────────►

MESSAGES

Patient
Reaction/Receiver
Action/Source

Figure 4. Model of Computer Mediated Medical Consultation via Chat

with writing a letter to you doctor regarding your medical concern or ailment. Writing letters would simply take too long. It would be all right if a concern or ailment is not

time-critical, but otherwise, the second form of on-line medical consultation would be more appropriate: on-line medical consultation via chat.

On-line medical consultation via chat would be the closest thing possible to a face-to-face medical consultation. Consultation in this mode is real-time. Information can be sent and given fast, thus the assessment of a condition or concern would be immediate.

Medical Communication

We are now in the 21st century. Medicine has developed as human society has progressed through the centuries. But when one becomes ill or feels that he is ill, who is the first one do you consult? You seek the opinion of your parents, your older siblings, friends or some other figure of authority within your immediate environment in the hope that, with their advice, you would know what to do so that you could cure your illness. You've just gone through the process of a medical consultation; that of seeking the opinion and advice of others as a guide to one's own judgment in the curing of an illness or for information on your health and well being. The problem with this kind "medical consultation" is that the people you have consulted may not have the proper knowledge or understanding of the symptoms you are experiencing. Their opinion and advice may just have been based from their past experiences with similar symptoms or illnesses, or folk and/or religious beliefs. This does not mean that the opinion and advice they may offer you will not be good for you, or will not cure you of your illness. But your best bet would probably be with a medical professional. Why? Because a medical professional bases his diagnoses of your health and/or illness on a scientific method of education,

experience and observation. Because doctors are more technically proficient in the treatment of illness and the study of human health.

In the twentieth century, healthcare has changed dramatically with the rapid growth in knowledge in the medical sciences, as well as, the development of sophisticated diagnostic and treatment facilities. It is also within the latter part of the last century, with the advent of psychosomatic medicine and health psychology, that better medical communication studies and the attitudes and techniques of medical professionals' communications with their patients has improved.

Medical communication is any communication that deals with the healthcare profession. More specifically, medical communication is the process, attitudes and development of relationships between the healthcare professional (doctor) and the most important part of the healthcare system - the patient. Why is good communication important? The short answer is better care for patients (Lloyd 3). Doctors who communicate well with patients are more likely to make a more accurate, and comprehensive diagnosis; detect emotional distress in patients, have patients who are satisfied with the care they have received and who are less anxious about their problems; have patients who agree and follow the advice given (Lloyd 3-4). It is important to note that not only does the doctor need to remedy the physical conditions that ail a patient, but also help the patient in relieving the stress and anxiety brought about by his physical condition or ailment.

Functions of communication in healthcare contexts (Thompson 3-4).

There are seven functions of communication in healthcare contexts, namely : **instrumental, expressive, diagnosis, cooperation, counseling, education, and**

recovery. The **instrumental function** of communication involves the **sharing of information**. This might include describing symptoms and giving medical histories. This can be called the content dimension of communication; all that is important here is the content that is being shared, the information itself. The **expressive function** of communication involves talking about something just because you want or need to. Often if you are upset or happy about something, you would want to talk about it just because doing so makes you feel better. The information you are providing to the receiver of the message is not necessarily something that he or she needs to know. Expressive communication facilitates the building of a trusting and open relationship between doctors and patients. Just as we said earlier, instrumental communication usually functions on a content level, expressive communication frequently functions on a relationship dimension. Actually, all communication function, in different degrees, on a relationship dimension. What that means is that communication creates the relationship between two people. If the interaction is short, characterized by little personal contact, and cold, then the relationship will be like that too. This kind of relationship is not likely to help patients feel free to provide full information, to communicate their fears, and so on. Communication is the relationship. The point here is that each message sent between two people helps create the relationship between them. Indeed, the communication is the relationship in every way that counts—the only thing that can be seen about the relationship is the communication (Thompson 6). A relationship that allows for expressive communication is more likely to lead to open sharing of information. As people get to know each other better, they are able to talk about more facts and deeper feelings (Thompson 3-4). Communication is needed **for diagnosis,** in

that the patient communicates the information or the provider asks questions so the needed information can be elicited. Communication can **lead to cooperation** or compliance with doctor's instructions and prescription. Ineffective ways of communicating messages may lead to non-compliance. Instructions to patients do little unless cooperation follows. Patients are more likely to comply with their treatment if they are satisfied with their consultation. **Counseling** is used in a broad sense, to refer to **creating change or facilitating adaptation**, as in helping patients make changes in health habits, stop smoking, or learn to adjust to an illness. Communication is needed to **educate patients about health**. Education about health or diseases may help patients avoid some problems, identify others, and adjust to still others (Costello, Thompson 3-4). In the recovery function, evidence indicates that communication can have a **direct** impact on patient pain and recovery. Studies in hospitals have found that encouragement and education by anesthesiologists reduce pain and enable the patient to be discharged earlier (Thompson 4/Egbert).

The process of communication within the healthcare environment does not differ from the communications processes that occur in other communication situations, in general. Models used in describing medical communications processes involve the actional, interactional and transactional. Central to the categories of communication in the healthcare environment is the medical consultation - an interpersonal clinical interview type of communication between doctor and patient where the "medical history" of the patient. "History" here is taken as a narrative of the basic information about the patient, a description of the present problem, a history of presenting problem, review of body systems, past medical history, family history, and social history (Lloyd

and Bor 26). It is in this stage that a doctor gathers information, from the patient, on which the doctor bases his diagnosis or estimation of what is wrong with the patient and, eventually, the appropriate plan for treatment of the patient. The thoroughness and accuracy of the information gathered in this interview is directly related to the quality of healthcare that a patient receives (Thompson 37). This is further stressed by a study that found that, in 83% of the time, the correct diagnosis was made on the patient's history alone. In nine percent (9%) of the time, the initial diagnosis changed after the physical examination, and in eight percent (8%), it changed after the results of lab tests were available (Lloyd and Bor 25).

It is not only the information that is gathered which is important in this stage, but also first impressions. First impressions shape how a patient responds or acts upon the medical consultation process. This is the first stage of the relational communication between doctor and patient. The quality of the communication between the doctor and the patient is based upon not only the amount of communication between the two but the quality of communication between them. As in any relationship, the quality of communication is the basis of the quality of the relationship. A bad precedent of communication at this stage of the doctor-patient communication, will be the foundation of the doctor-patient relationship. Will the patient become comfortable and give his trust to the doctor and communicate more freely? Will the patient follow the doctor's advice on how to cure his ailment? Will the patient come back to the doctor for another consultation? Will the current patient be satisfied with the communication and, likewise, the relationship that may have been established between him and the doctor? Will that patient recommend the doctor to his friends and acquaintances so that the doctor would

have more patients, and thus more income? It would be quite safe to assume, that the competence of a doctor, in the eyes of the patient, would not be dependent on the number of diplomas posted on his ego wall, but the quality of the relationship he is able to establish with the quality of the communication he has with his patients. As with what a doctor stated in one pf the initial interviews, "... there is no use for a doctor who's a magna cum laude in med school, has numerous post graduate courses and specializations, if he lacks the communication skills to put his knowledge to the final arbiter of his competence - the patient."

Factors affecting effective doctor-patient communication

These can be categorized into three, namely: doctor-related, patient-related and interview setting requirements (Lloyd and Bor 9-12). Patient-related factors include the patient's physical symptoms, psychological factors related to illness and/or medical care (e.g. anxiety, depression), previous experience of medical care, and present experience of medical care. Doctor-related factors include the doctor's training in communication skills, self-confidence in ability to communicate, personality, physical factors (e.g. tiredness), and psychological factors (e.g. anxiety). Interview setting requirements simply mean privacy and providing a setting which facilitates communication between the doctor and patient. Most consultations usually take place in hospital wards or the doctor's office or clinic. If the doctor feels that the interview setting is not right, he should try to find an alternative where they would have no interruption as well as have comfortable lighting and temperature. Appropriate seating arrangements, where the patient would be most at ease, should also be observed. This includes the position of tables and chairs as well as the physical distance between the doctor and patient.

Chapter 3

METHODOLOGY

Research Design

Since this study will focus on computer-mediated communication in medical consultation, a very recent and novel phenomenon in the Philippine setting, and in such a situation, an exploratory-descriptive approach will be taken.

Respondents

The study incorporated a non-probability convenience sampling procedure. This procedure was deemed appropriate because of the newness of on-line medical consultation. The respondents were patients who have consulted medical "professionals" via DoctorGeorge.com's medical chatroom. Because of DoctorGeorge.com's being an Internet-based on-line medical consultation chatroom, and thus, its services are offered worldwide, we tried to limit respondents to its Filipino patients. A difficulty in choosing a sample size was encountered. There is no data available as to the number of people who use or have used DoctoreGeorge.com. Thus, the basis for the sample size was very hard to determine. What was gathered though, was that on a two-shift day, doctor's averaged from a low of 30 patients/shift to a high of 50 patients/shift. It was also gathered that, of this average number, it is estimated that 30 percent are Filipinos. It was also known, that DoctorGeorge.com has an e-mail list numbering around 5,000 individuals. But it is not known how many of this number are Filipinos and how many of them have consulted on-line. The respondents were taken randomly from the doctors' logbook, which recorded the e-mail addresses, and some other data patients would give

in the course of his/her on-line medical consultation. Respondents were chosen by: (1) the Philippine-based e-mail address; and (2) any other indication found in the logbook that such patients were Filipinos. 650 e-mail addresses were selected from the November 2000 logbook and those selected were sent questionnaires via e-mail. Each e-mail was sent "individually" so as to protect the privacy of the patient respondents. Of this number, around 450 were discovered to be authentic e-mail addresses since there were around 200 "bounces" or "returned" from the e-mails sent. Of the 450 successfully sent e-mails, there were 67 replies. Two replies were discarded because one was from a Taiwanese living in the Philippines and the other was from a Filipino who had visited the chatroom but didn't consult on-line.

Tools for Data Gathering

The primary source of data for this research was through a survey questionnaire sent via e-mail to the patients of DoctorGeorge.com. The survey questionnaire included questions that could be answered both qualitatively and quantitatively. Secondly, data was also gathered from in-depth interviews from two doctors from DoctorGeorge.com, one of whom is the medical chatroom manager and a pioneer on-line chat doctor of DoctorGeorge.com. Though it was initially intended that I be able to conduct interviews with all of DoctorGeorge.com's chat doctors, a current organizational situation prevented me from doing this. Data was also gathered through library research, Internet research, and a review of documents provided by DoctorGeorge.com.

Tools for Data Analysis

Since this study will focus on computer-mediated communication in medical consultation, a very recent and novel phenomenon in the Philippine setting, such a situation warrants an exploratory-descriptive approach will be taken.

Chapter 4

DATA PRESENTATION AND ANALYSIS

The data gathered by way of the use of the methods discussed in the foregoing section are presented here.

DoctorGeorge.com's Nature and Services

Nature

DoctorGeorge.com is a privately owned and operated website by DoctorGeorge.com International Inc., a duly registered American corporation based in San Mateo California, USA, located at 142 36th Avenue, San Mateo, California, USA, 94403 with working partners in the following countries: Philippines, El Salvador, Malaysia, Pakistan, China, and Australia.

The company was formed in November 1998 and became fully operational by April 1999. Their Research and Development Offices as well as Operations are currently located and based in Malate, Manila, Philippines. Aside from the information technology personnel who keep the website online, the staff are composed of marketing people, writers, editors and consultants; majority of whom have medical backgrounds or are actually licensed medical practitioners and doctors. Even the head of the information technology department is a licensed medical doctor.

DoctorGeorge.com's user target are both males and females, between 14-46 years old, from the A, B, and upper class C who are computer-literate, and with some knowledge in the use of the Internet.

They are currently in partnership and alliance with the following entities: Smart, Globe, Infocom, Women's Forum (DrGeorgette.com), Medque, 24/7 Media, People's Daily News, Xiamen Emergency Centre Hospital, Pakistan, Mead-Johnson, Wilkins, and Warner-Lambert. DoctorGeorge.com feeds regular health news and tips to both Smart and Globe Telecom subscribers through WAP technology. SMART subscribers can have 24-hour online access through their WAP enabled phones to the DoctorGeorge.com Health WAP site, which offers Emergency Procedures content, and health news. Infocom partnership is in the form of co-branding through the establishment of a Doctor George-Infocom Health Site. Women's Forum is the exclusive online advertising agency of record (AOR) of the co-owned site DcotorGeorgette.com. As such, they bring paid advertising and sponsorship opportunities, and the chance for DoctorGeorgette.com to participate in individual partner sites' campaigns and content swaps. Catcha.com is a leading Southeast Asian specific online network, providing Internet content, community activities and e-commerce opportunities throughout Singapore, Malaysia, Indonesia, Thailand and the Philippines. Catcha's health section will be co-branded with DoctorGeorge.com, in exchange for an ad-revenue split. MedQue Inc is a fast growing company dedicated to providing patients, consumers, and healthcare professionals a convenient on-line method of ordering their medical supply needs. Banners ads to be displayed are solicited by 24/7 Media. People's Daily News invests in print and online advertising for Greater China in exchange for shares. They are the official paper/news organs of the Chinese Communist Party. Xiamen Emergency Centre Hospital is the Emergency Annex (a 911 center) to Fujian Province's foremost hospital, the Xiamen General Hospital. They provide and train doctors for the on-line Chinese consultations

rooms and provide medical content in Chinese. They are currently in talks with groups in Pakistan for the development DoctorGeorge.com Pakistan. Partnership with Mead-Johnson is through Microsite development of a Baby Resource Center. Wilkins is a sponsor in its disease pages content particularly regarding diarrheal diseases. Warner-Lambert is also a sponsor of DoctorGeorge.com's disease page.

Mission. It is DoctorGeorge.com's mission to replicate the "Family Doctor Experience" on the Internet all over the world. The family doctor experience can be described as a personal, more informal relationship a patient has with his/her doctor or healthcare provider based on trust and a genuine concern. With doctors on the web, users have the leisure of discussing their issues in a more relaxed atmosphere with a live, qualified doctor 24 hours a day.

Aside from being the friendly face of health on the web, DoctorGeorge.com also aims to reduce the transactional cost and time of seeking health advice and services for most common ailments. Consultations with a real doctor through chat and other internet applications can greatly enhance healthcare practices on a global level. Access to a low-cost, high quality pool of doctors and healthcare workers in three languages (English, Chinese and Spanish) is the competitive advantage that will enable Doctorgeorge.com to succeed over other sites that merely offer written content.

Vision. DoctorGeorge.com was established based on a premise on the Internet Healthcare Industry: that by 2005, 88.5 million adults will use the Internet to find health information, shop for health products and communicate with affiliated payors and providers through online channels; consumer demand for healthcare content has already

reached an estimated 36.7 million adults - and will continue to grow at roughly twice the rate of the overall online population (Cyber Dialogue's study, "The Future of e-Health"); 11 million consumers shopping for health and beauty products on-line and is predicted to grow to more than 55 million by 2005.

Their prospectus on the reasons of the continued growth of the Internet-based medical industry are: increased online penetration among the elderly (65+ years); health insurance companies aggressively migrating their customers to the Web; health providers urging patients to use the Web for education, insurance, and prescription drug orders; employees conducting health insurance transactions online; new parents relying on the Web for health/parenting information; 17.5 million adults are using the Internet to search for health information; 81 percent of the consumers who go online for health information say the information they find is either useful or very useful; many are also interested in learning more about educational services, medications, physical fitness, and alternative medicine; 53 percent of physicians believe that using secure Web sites to report lab results would be of great value; 45 percent of health-care organizations plan to offer Internet access to physicians and other clinical staff.

Thus, it is DoctorGeorge.com's vision to disseminate health advice and related health services globally at the lowest possible time and cost to the consumer to help keep up with the demand for better healthcare service on a local level. They would also use the Internet as the driving force that will propel the growth of the medical and healthcare industry in new directions to address the steadily increasing population (6 billion people as of 1999). They also aim to further develop, adapt and institutionalize the practice of telemedicine by the family doctor on the web using more sophisticated technologies.

Their target healthcare industry participants in their vision are content providers, consumers, advertisers and sponsors, and related medical industries. Content providers include institutions such as hospitals, media, universities, research facilities, and health data centers. Consumers include general Internet users, doctors, and healthcare workers. Advertisers and sponsors are pharmaceutical companies, managed healthcare providers, home medical equipment suppliers, etc. Product vendors are pharmaceutical companies, home medical and diagnostic equipment, and personal care products. Related medical industries include socialized healthcare systems and insurance companies.

It is DoctorGeorge.com's aim to merge all aspects of the online medical industry, in a synergistic manner, in which all industry participants can benefit. The consumer (users and healthcare providers) remains the focal point of DoctorGeorge.com and it is envisioned that content providers, advertisers/sponsors and vendors find value in establishing a trustworthy relationship with the consumer through DoctorGeorge.com.

Services

In order to achieve their vision, DoctorGeorge.com presently offers the following services through their website.

Medical Chatroom. The medical chatroom is where a patient can make all medical queries, be it basic medical information, inquires regarding medical myths or practices, or consultations for ailments. Being the main feature of the DoctorGeorge.com, the chatroom is already prominently displayed once you reach their website. Licensed medical doctors moderate the chatroom, 24 hours a day, 7 days a week. Once at the website, the only thing a patient has to do is to sign-up with a log-on name into the chatroom and one can immediately participate and get into the chatroom.

Since everyone present in the chatroom can see the communication exchanges in the chatroom, log-on names need not be the participants' real names, to ensure their privacy. There are usually two to three chat doctors available at any one time for the consultations. The doctors are identified generically as either Doctor George #1 or Doctor George #2 and so forth. Once a patient gets into the chatroom, he can ask for the doctor on duty for a consultation. The doctor on duty then puts the two of them into a private section of the chatroom, where communication would be restricted to just the two of them, meaning, the other people present in the chatroom would not be able to see the communication between them. This would be equivalent to the consultation room or office of the doctor where privacy is secure. A clinical interview would then proceed, depending upon the patient's needs or purpose for seeking the service. If the patient is consulting for a condition that he/she is suffering or experiencing, aside from asking for the description of symptoms that the patient is experiencing, a medical history and other vital information is taken by the doctor; very much like a regular visit to a regular doctor. Because the chatroom is limited to clinical interviews, an on-line doctor cannot give a medical diagnosis. He can only technically and ethically give a hypothesis regarding the patients condition, since no physical examination takes place. Likewise, he cannot give prescriptions to the "patient". If ever a patient would want more, he is referred to see his own doctor for further consultation. The on-line doctors could also refer other doctors or specialists from its database, readily available in the patient's general location.

E-mail Consultation. Medical consultation is also available via e-mail 24 hours a day, 7 days a week. Queries through this medium are answered within a 24-hour time

frame. A unique DoctorGeorge.com feature are "e-mail reminders" for users to go for check-ups, regular breast examinations and, basically, remind them to watch their health.

Content. DoctorGeorgeorge.com provides varying content in its website. Aside from its resource of various medical professionals in its employ, content is also co-licensed from reputable sources such as medical book publishers, medical software producers, respected hospitals in the U.S. and in the country of origin and respected wire services, among others. Since reliability of content in any website, much more for a medical website, is a major concern, sources are stated explicitly and users reminded to exercise caution when obtaining medical information from the Internet. Such content is provided through the Medical Library, Medical News, Health and Lifestyle Articles, Alternative Medicine, and the Data and Listings Sections. The **Medical Library,** Also known as the **Encyclopedia of Diseases and Conditions**, is a multi-lingual source of information, and as the name explicitly states, is an encyclopedic resource of diseases and medical conditions classified by disease or ailment and condition. The **Medical News** provides both international and local medical news in English or in the language of the country of origin. **Health and Lifestyle Articles** is a multi-lingual health magazine of health and lifestyle whose articles are updated regularly. The **Alternative Medicine** section provides information on alternative medical practices such as traditional Chinese medicine and Ayurveda (a traditional medicine practice originating from Pakistan) is included in the content of its pages, either in the medical library or as articles in its online magazine. The **Data and listings section** contain the contact information and web page addresses of medical institutions, hospitals and medical organizations, alternative health

clinics, specialist and subspecialist doctors and registered healthcare providers. This forms the basis of DoctorGeorge.com's database and doctor/hospital referral program.

Regarding the chatroom and e-mail consultation services of the company, it should be noted that users are not limited to ordinary patients or consumers. Doctors and other healthcare professionals have used DoctorGeorge.com's services regarding healthcare situations they encountered with their own patients. The company has helped them through what company doctor's themselves have experienced, through the company's medical database and library, or by guiding inquiring doctors to other webpages that may have the information they are seeking. Users are also given contact to other doctors and specialists from the DoctorGeorge.com database for further advice and inquiries.

Profile of Filipino Patients of DoctorGeorge.com

The respondents of the survey used for this study are the Filipino patients of DoctorGeorge.com who have consulted with them through their online medical chatroom. Table 1 presents their basic socio-economic profile. Table 2 presents their medical or health profile. Table 3 presents their computer and Internet use profile. Table 4 presents their on-line medical experience profile. Table 5 presents their DoctorGeorge.com experience profile.

Socio-Economic Profile. Based on the data gathered, it shows that DoctorGeorge.com has slightly more female patients (55%) than male patients (45%). Majority of their patients are aged from 18 to 44 years old, with a combined per cent total of eighty-nine percent (89%). There are also some users who are aged below 18 yrs. of age (1.5%) and 45 yrs. old and above (9.5%). There is an almost equal number of

patients belonging to both civil status. It seems to show that both single (54%) and married (46%) persons are attracted to the services of on-line medical consultation of DoctorGeorge.com. But it seems, in terms of area of residence, the majority of the users reside within Metro Manila (75%). This is understandable due to the fact that internet access is more available here in Metro Manila. The biggest number of patients are college graduates (92%), some of whom have also acquired or are pursuing masteral or doctorate studies. Only eight percent (8%) have an educational level of college and below.

Table 1. Socio-Economic Profile

	f	%
I. Sex		
A. Male	29	45
B. Female	36	55
II. Age		
A. below 18	1	1.5
B. 18-26	24	37
C. 27-36	20	31
D. 36-44	14	21
E. 45-53	3	5
F. 54-62	2	3
G. 63-71	1	1.5
III. Civil Status		
A. Single	35	54
B. Married	30	46
IV. Area of Residence		
A. Metro Manila	49	75
B. Outside Metro Manila	15	23
C. no answer	1	2
V. Profession		
VI. Monthly Income (in Phil. pesos)		
A. below 15,000	29	45
B. 15,001-25,000	14	21
C. 25,001-35,000	8	12
D. 35,001-45,000	1	2
E. above 45,000	6	9
F. no answer	7	11

Interestingly, a big number of those who go to DoctorGeorge.com have a monthly income of P15,000 and below (45%). This is followed by those in the income range of

P15,001 to P25,000 (21%) and P25,001 to P35,000 (12%). But those who have an income of P45,000 and above (9%) also represent a large segment. The pattern seems to suggest that DoctorGeorge.com is being patronized by those with income levels of P25,000 and below (66%).

Medical Profile. It seems that patients who go to DoctorGeorge.com are both those who have regular doctors (57%) and those who do not have regular doctors (43%). Those who have regular doctors may be using the services of DoctorGeorge.com to seek second opinions regarding their health condition or ailments. Those without regular doctors who use DoctorGeorge.com may be there to seek primary information regarding their health concerns.

Majority of those who go there have no major health problems (69%). Their health needs are not immediate. Their consultation with DoctorGeorge.com may be preventive in nature or minor; some of which are: migraine, hypertension, pharyngitis and chronic sinusitis. However, those who experienced major health problems (31%) have had cases of dengue, endometriosis, gallstones, diabetes, policystic kidney, and high blood pressure as their medical concerns.

Table 2. Medical Profile

	F	%
I. Regular Family Doctor		
A. Yes	37	57
B. No	25	43
II. Major Health Problem		
A. Yes	20	31
B. No	24	69
III. Read health related printed materials		
A. Yes	57	88
B. No	8	12
IV. Watch Health Related TV Shows		
A. Yes	41	63
B. No	23	35
C. No answer	1	2

The respondents also seem to be reading-oriented people, especially with respect to health, since a large majority of them (88%) read health-related printed materials and

only (12%) did not read any health-related printed material at all. They also seem to be very knowledgeable about health-related TV shows as shown in that a majority of them (63%) watch these health-related TV shows.

Computer and Internet Use Profile   They are also knowledgeable of computer programs like word-processing (84%), followed by spreadsheet (55%), desktop publishing (38%) and database (29%) applications.   A number of them are also knowledgeable of other computer programs (21%) like computer programming, web page design, imaging, graphics, finance and engineering programs or software.

Table 3. Computer and Internet Use Profile

	f	%
I. Computer Programs Used		
A. Word-processing	55	84
B. Spreadsheet	36	55
C. Desktop Publishing	25	38
D. Database	19	29
E. Other Programs	14	21
F. no answer	2	3
II. Hours per week of Internet Use		
A. 1-4	24	37
B. 4-8	16	25
C. 8-12	17	26
D. more	8	12
III. Place of Internet Access		
A. Home	26	40
B. Home & Office	17	26
C. Office	11	17
D. Internet Café	4	6
E. Home, Office, & Internet Café	3	4
F. Home & Internet Café	2	3
G. Home + others	1	2
H. others	1	2
IV. E-mail checked		
A. Everyday	46	71
B. several times a week	14	21
C. others	5	8
V. Chatted over the Internet		
A. Yes	55	84
B. No	9	14
C. no answer	1	2

More than half of them spend one to eight hours using the Internet in a week (62%). Or they spend an average of one hour a day in using the Internet. Quite a large

number also use it more than this, from eight (8) hours and above per week (38%). When asked from where they access the Internet, it seems that a majority of them have their own computer units ate home, from where they exclusively access the Internet (40%), have access from both their homes and offices (27%), and exclusively from their offices (17%). Only six percent (6%) of them exclusively access the Internet from Internet cafes. They also seem to be checking their e-mails everyday (71%) and such shows that they are really proficient in using the Internet. Majority of them are also into chatting on-line.

On-line Medical Experience Profile. Majority of the respondents surf websites about health (72%). However, most of them have not consulted a doctor on-line aside from DoctorGeorge.com (74%). Of those who have consulted on-line, aside from DoctorGeorge.com, a majority of these consultations where via e-mail only (53%) while the rest where via chat (40%), and both e-mail and chat (7%).

Table 4. On-line Medical Experience Profile

Aside from DoctorGeorge.com	F	%
I. Surfed other Health Related Websites		
A. Yes	47	72
B. No	18	28
II. Consulted a Doctor On-line		
A. Yes	15	23
B. No	48	74
C. no answer	2	3
III Of those who have consulted on-line		
A. E-mail	8	53
B. Chat	6	40
C. Chat & E-mail	1	7

DoctorGeorge.com Experience Profile. Majority of the respondents have known of DoctorGeorge.com for 1 to 2 years (61%). At the time of the survey, DoctorGeorge.com was 2 years and 2 months in existence, since they were established in July of 1999, while their medical chatroom was opened in September of the same year.

Thus, a majority of the respondents, it can be deduced, are loyal patrons of DoctorGeorge.com. The majority learned of DoctorGeorge.com through the mass media (60%), followed by, through friends or acquaintances (31%), and, finally, through a link or an advertisement from another website (18%).

Table 5. DoctorGeorge.com Experience

	F	%
I. Length of time knowing of Dr.G.com		
A. Less than a year	16	25
B. 1-2 years	40	61
C. more than 2 years	9	14
II. Got to know Dr.G.com through		
A. link or ad from another website	12	18
	39	60
B. through mass media	20	31
C. from a friend or acquaintance	4	6
D. others		
III Times consulted		
A. 1-4	42	65
B. 5-8	16	24
C. 9-12	4	6
D. more	3	5
IV. Comfortableness in using DrG.com		
A. very comfortable	17	26
B. comfortable	44	67
C. not comfortable	3	5
D. no answer	1	2
V. Satisfaction		
A. very much satisfied	10	15
B. satisfied	46	71
C. not satisfied	6	9
D. no answer	3	5
VI. Would Recommend to Friends/ Acquaintances		
A. Yes	63	97
B. No	2	3

When asked whether they were comfortable in consulting on-line via DoctorGeorge.com, the majority of the respondents replied that they were comfortable (67%), followed by those who were very comfortable (26%), while a small number were not comfortable (5%). "Comfort" rating in the use of DoctorGeorge.com totals a high 93% of the respondents. With regards to their satisfaction with their on-line medical consultation via DoctorGeorge.com, seventy one percent (71%) indicated that they were

satisfied, followed by those who were very much satisfied (15%), and then, those who were not satisfied (9%). Percentage-wise, satisfaction rating on their on-line medical consultation via DoctorGeorge.com is 86%. Of those who were satisfied, the primary reason for their satisfaction is the perception that they were dealing with competent and professional doctors on-line. Secondly, they considered DoctorGeorge.com very informative. A third reason for their satisfaction is their perception that they were asked comprehensive advice and thus given good direction on what remedies may alleviate their medical concern. The fourth reason is promptness and quick replies to queries. Fifth, is that answers to queries given by doctors are specific. Other reasons for satisfaction include: the perceptions that doctors seemed very accommodating, allayed patient's fears and gave them "peace of mind". With regards to the patients who were not satisfied with their consultation (9%), varied reasons were given, including the perception that their consultation was vague and, thus, they were not able to understand the doctor. Other reasons given are: that they prefer to see a doctor personally or are advised to see a doctor personally, the doctors seemed to be in a rush, the doctors don't prescribe, and that it was difficult to connect to the chatroom.

The majority of the respondents would recommend DotorGeorge.com (97%) to their friends, while only three percent (3%) would not do so.

Profile of the Filipino Doctors of DoctorGeorge.com

The doctors of DoctorGeorge.com are young, with all of them belonging to the age bracket of 27-34 yrs. old; thus Internet use can be considered normal and a regular activity for them. This may be a reason why they have adapted so easily into this new field, or, should I say, genre of medical practice. This doesn't mean that only young

doctors accept this new delivery system of medical services. DoctorGeorge.com has established quite a large network of doctors not included in their original roster, ranging in ages, fields of specialization, and length of medical practice. This network is used in their symbiotic need for the strengths and services of one another. One of the pioneer chat doctors of DoctorGeorge.com was actually a 55 yr. old medical practitioner.

Majority of the doctors are female (60%), while the rest are male (40%). All of them are required to be Metro Manila residents. A large number of the doctors are graduates of the UP, College of Medicine (70%), most of whom were actually Intarmed students (60%). The big number of UPCM graduates who became involved with the company may be attributed to the proximity of the Philippine office of DoctorGeorge.com, which is just around three blocks away from UP, Manila. Majority of them are actually residents or are pursuing their specializations at the UP-PGH. Other doctors came from other medical schools (30%), like La Salle Cavite, UERM, UST and MCU. Most also passed the medical board exam from 1996-2000. All of them are pursuing further studies or are residents of various hospitals and medical institutions within Metro Manila.

Competency of the doctors is guaranteed through a comprehensive selection process. Chat doctors are recruited by referral from the current, practicing doctors of DoctorGeorge.com, as well as from the network of doctors and medical institutions that it has established. Prospective chat doctors must take written examinations to gauge their medical knowledge. An essay exam is also given to test their communication capabilities. Those who pass these exams are then interviewed and given an orientation regarding the nature of the **on-line work** that they will be doing. There is also an assisted

on-line training period for the new recruits. Chat doctors can be either regular or part-time.

In a talk I had with one of DoctorGeorge.com's doctors, I was informed that in medical school, they were taught to use S.O.A.P. in treating patients; or the subjective, objective, appraisal and prescription formula. "Subjective" meaning the clinical interview, where what the patient "feels" is said, and the doctor, and whatever information the doctor may need to gather, is acquired from the patient. The "Objective" part includes the actual physical check and/or other tests. "Appraisal" is a conclusion or judgment based on the subjective and objective data gathered, thus formulating a diagnosis. Then comes the "Prescription", which is giving out the solution for the patient's problem.

Frequency of Patients who Consult DoctorGeorge.com

Different data was gathered to determine the frequency in on-line medical consultation. The Survey reveals that a majority of the patients have consulted DoctorGeorge.com 1-4 times (65%), followed by those who have consulted 5-8 times (24%), then 9-12 times (six percent), and more than 12 times (five percent). Based on

Table 6. Frequency of Patient Visits

	F	%
Number of times patient has consulted		
A. 1-4	42	65
B. 5-8	16	24
C. 9-12	4	6
D. more	3	5

two interviews, one from the chatroom manager, and another from a chat doctor from DoctorGeorge.com, with two twelve-hour shifts in the chatroom, there is a low of 20 patients per shift who consult DoctorGeorge.com to a high of 45 patients per shift. This

would give us an average rate of around 33 patients per shift or 66 patients per day. The chatroom manager also gave us the information that 30% of those who consult are Filipinos. Thus, we could suppose that there is an average of 20 Filipino patients who consult with DoctorGeorge.com in a day.

Perceived Advantages and Disadvantages of Computer Mediated Medical Consultation

Based on the data gathered, respondents gave disparate perceived advantages and disadvantages of on-line medical consultation via the chatroom of DoctorGeorge.com.

Advantages

The primary perceived advantage is that it is convenient and practical for them to consult on-line. This means that they have easy access to on-line service thus this saves them time. Data presented earlier also indicates that a large majority of the patients (92%) have access to the service from their own homes or from their places of work.

Secondly, patients' perceived advantage of medical consultation through DoctorGeorge.com is that it is free. I need not elaborate further on this matter. Thirdly, patients feel that they are getting immediate health solutions to their immediate health concerns. A fourth advantage is anonymity. With the presence of anonymity, there is less hesitation regarding sensitive medical information or queries that may be embarrassing when asked face-to-face with your doctor. The on-line doctor doesn't know the patient personally. Fifth is privacy. Though similar to anonymity, privacy suggests that the interview setting is secure and that information shared with the doctor is secure between the two of them. Also at fifth is the perceived advantage that on-line consultation is very informative. Information obtained from a doctor face-to-face during a regular medical consultation would be limited to the ailment at hand. This may be due

to the reality of time constraints in the consultation hours and the awareness that there is a queue outside the doctor's office to see him. In addition to this, a chatroom has a very casual atmosphere, and since the service is free, the patient would be inclined to ask any medical or health-related query that may come to his mind; no matter how insignificant it may seem.

A sixth perceived advantage is that the on-line consultation is detailed and comprehensive. Tied at sixth is that it is a good source of second opinion. Patients who may have doubts regarding a diagnosis that was made regarding their health condition by their current doctors, can easily present their situation to the chat doctor. Based upon the findings of the first doctor, or other lab results that have been made, the patient can seek the opinion of another competent medical practitioner, the DoctorGeorge.com doctor. If ever there is still doubt in the patients' minds, the chat doctor can still recommend other doctors from the DoctorGeorge.com's database, another doctor or specialist who may be more knowledgeable regarding the patient's condition. Also tied at sixth is the perceived advantage that it is good for emergency purposes or first aid. Easy access to the internet and the real time communication via the chatroom, 24 hours a day, makes this so.

Other perceived advantages mentioned are that it makes the patients feel "at ease", the perception that the service is reliable, and the advantage of having more time to ask more questions.

Disadvantages

The **primary** perceived disadvantage of on-line medical consultation is that there is no actual physical check-up. In the normal face-to-face medical consultation, a

physical examination follows the clinical interview. Since there is no actual physical check-up conducted, patients may have doubts regarding the validity of the chat doctor's opinion regarding their health condition, based solely on the on-line consultation.

At second place is the perceived disadvantage that the medical consultation is not face-to-face and thus it is "not personal". Also at second place is the perceived disadvantage of the technical difficulties in accessing the website. Technical difficulties mean slow Internet connection, computer and download hang-up, and the site being difficult to access. Tied at third place are two perceived disadvantages, one of which is the perception that there is no real diagnosis that occurs during the respondents on-line medical consultation. This perception is congruent to the primary perceived disadvantage of the service since the S.O.A.P. process is not completed. Since S.O.A.P. is not complete, no "real" diagnosis can be given. Ethically and professionally, "advice" can only be given to the patient. The other disadvantage, placed at third, is the occurrence of misunderstanding or miscommunication. Due to the limitations of the medium, lapses in communication can occur; such as different meanings given by both parties of words and terms used as well as messages that are "given" may be given different interpretations.

Fourth is the perception that the doctor being consulted might not be a doctor and/or his credentials are unknown. Still, at fourth, are doubts in the accuracy and reliability of the advice given. At fifth are other disadvantages such as the perception that medical tests cannot be conducted, costly internet time, and that the advice given is very generalized and thus further face-to-face consultation with other medical doctors may be needed. Other perceived disadvantages are that the doctor is being too careful in

giving out advice, the consultation being time-consuming and, therefore would not be appropriate for difficult medical cases, on-line doctors are not allowed to give prescriptions, and time limitation. The interplay of the different perceived advantages and disadvantages is apparent.

Perception of DoctorGeorge.com Being Effective as a Medium for Medical Consultation

The great majority of patients feel that DoctorGeorge.com is an effective medium for medical consultation. The number of respondents that agrees (74%) and strongly agrees (18%) that it is such, gives us a ninety-two percentage (92%) of respondents that agree that DoctorGeorge.com is an effective medium for medical consultation. Only a very little number of the respondents feel otherwise (six percent).

Table 7. Perceptions of DoctorGeorge.com Being Effective

	F	%
Opinion whether DrG.com being an effective medium for medical consultation		
A. very much agree	12	18
B. agree	48	74
C. no	4	6
D. no answer	1	2

Chapter 5

FINDINGS, CONCLUSION, IMPLICATIONS AND RECOMMENDATION

This chapter will be a four-part discussion regarding the results of this study. It contains the researcher's findings, conclusion, its implications, and recommendations for further study related to this research.

Findings

This study sought to answer the main problem, "Is DoctorGeorge.com an effective medium for medical consultation?" and the sub-problems, "What is the nature of DoctorGeorge.com and its services?", "What is the profile of the Filipino patients of DoctorGeorge.com?", "What is the profile of the Filipino doctors of DoctorGeorge.com?", "How often do patients consult DoctorGeorge.com?", and "What are the perceived advantages and disadvantages of computer mediated communication in medical consultation?"

DoctorGeorge.com is a US registered, but Philippine based e-medicine website that seeks to replicate the "family doctor experience" on the Internet all over the world; where users have the leisure of discussing their issues in a more relaxed atmosphere with a live qualified doctor 24-hours a day. It aims to reduce the transactional cost and time of seeking health advice and services for most common ailments. It's prime service is on-line medical consultation via chat as well as e-mail. The website also offers a medical library, provides medical news, health and lifestyle articles as well as information on alternative medicine. They also have a data and listings section providing a database of hospitals, medical institutions, medical organizations, medical clinics,

specialist and subspecialist doctors, and registered healthcare providers, which is the basis of their doctor/hospital referral program.

The patients are generally both male and female patients, both single and married individuals, aged 18-44 years old college graduate, Metro Manila residents belonging to the A, B and C social classes. Most of the patients have regular doctors, have had no serious illnesses, but are generally well informed about health issues through print and TV. Patients have a very good understanding of computer programs, use the Internet more than 1-hour a day, check their e-mail regularly, and have experienced chatting on-line either from their home and/or places of work. Majority of the patients also seek health information from the Net but most have not consulted on-line services, aside from DoctorGeorge.com. Most of the patients have known of DoctorGeorge.com from 1-2 years, learned of the site through the mass media, and have consulted DoctorGeorge.com through its chatroom from 1-4 times. Nearly all of the patients are comfortable and satisfied with their medical consultation and would recommend the service to their friends and acquaintances with reasons given as the perception that the doctors are competent and professional, very informative, ask comprehensive questions and give good direction, give prompt and quick replies, their) answers being specific, as well as that they are accommodating, allay patients' fears and gave them peace of mind.

The doctors of DoctorGeorge.com are young, with ages ranging from 27-34, an age where they have a very good grasp and appreciation of the power of the computer and the Internet. They have impressive medical education backgrounds, with the majority of them having graduated from the UP College of Medicine, adding that most of them were UP Intarmed students. The competency of the doctors is guaranteed with

regards to the practice of on-line medical consultation through a stringent recruitment and qualification process , as well as a monitored training period which would help make them competent in this new field of delivering medical and healthcare services.

Most of the Filipino patients have consulted on-line, via the medical chatroom 1-4 times. An average of 20 Filipinos a day consult with them or a number of 600 Filipino patients in a month. This number does not exclude repeat consultations, within the time period, of some of the Filipino patients.

This study reveals that the primary perceived advantage of on-line (computer-mediated) medical consultation is its convenience and practicality. Second, is the fact that the service is being provided for free. There is no need to pay for doctor's consultation fees since website sponsors shoulder the cost of the service. Other perceived advantages are that the patients get immediate health solutions to immediate health concerns, anonymity, privacy, being informative, good source of second opinion, casual, for free but still comprehensive and detailed. Other advantages included are that patients feel at ease during the consultation, reliability, and having more time to interact with the doctor.

The disadvantages of on-line (computer-mediated) medical consultation are as follows: no actual physical check-up, not being face-to-face, thus being impersonal in nature, no real diagnosis, the possibility of miscommunication or misunderstanding brought about by the medium, the perception that the other person on-line providing the consultation may not a doctor or not knowing his/her credentials, doubts in the accuracy and reliability of the advice, the fact that medical tests cannot be conducted, costly Internet time, generalized consultation requiring further face-to-face consultation with

other doctors, being too careful in giving out advice, time consuming, inappropriateness in difficult cases, the inability to give prescriptions, and time limitation.

Patients perceive that on-line medical consultation via chat through DoctorGeorge.com is effective.

Conclusion

DoctorGeorge.com is a Philippine based e-medicine website that offers free on-line medical consultation via chat and e-mail. Their clients are both patients and fellow health professionals.

The Filipino patients of DoctorGeorge.com are young to middle-aged, college educated, belong to the middle class, computer and Internet proficient individuals. These individuals regularly use computer-mediated forms of communication in their personal and professional lives, and are comfortable and satisfied with their chat-based medical consultation with DoctorGeorge.com and would actually recommend it to their friends and acquaintances.

The Filipino doctors of DoctorGeorge.com are young, well educated, and computer and Internet proficient.

Most of the Filipino patients have consulted on-line 1-4 times. An average of 20 Filipino patients consult DoctorGeorge.com per day.

The perceived advantages of on-line (computer-mediated) medical consultation through DoctorGeorge.com is its being convenient and practical, free, immediate, provides anonymity, privacy, informative, detailed, comprehensive, a good source for a second opinion, good for emergency purposes, comfortable, reliable, and having more time to ask questions.

The perceived disadvantages of DoctorGeorge.com are that no actual physical check-up can be provided, it is not face-to-face, technical difficulties exist, no real diagnosis can be obtained, the possibility of miscommunication and misunderstanding, professional credentials of the on-line doctor are unknown, doubts in the accuracy and reliability of the consultation, diagnosis and advice offered, medical tests cannot be conducted, costly Internet time, generalized nature of the consultation thus requiring further face-to-face consultation, on-line doctors being too careful about providing advice, time consuming, inappropriate for difficult cases, no prescription, and time limitations.

The majority of the patients believe that DoctorGeorge.com is an effective medium of medical consultation.

Implications

It would be recalled that doubt was cast upon the effectiveness of DoctorGeorge.com to provide on-line medical consultation to Filipino patients. Based on this study, it was found that the patients believe that DoctorGeorge.com is an effective medium of medical consultation. This is supported by the data that they are comfortable in using the medium, satisfied in the service, and would actually recommend it to their friends and acquaintances.

The medium of communication that information technology brings us today gives us converging and continually shifting paradigms on how we live our daily lives. Things we thought that could only be done in science fiction movies are now being practiced everywhere you look. Computer-mediated communication, in all forms, has made the sharing of infinite amounts of information easier, more efficient, and accessible

throughout the world. In particular, the accessibility of health and medical information empowers the ordinary man on the streets in assessing and nurturing his/her health needs and lifestyle.

On-line medical consultation, together with its limitations, shouldn't be taken as something that would replace regular face-to-face medical consultations, but rather as something that would supplement, if not enhance, in serving the healthcare needs of the people. Geographical barriers in seeking professional medical consultation are being torn down. New paradigms in medical consultation are being built. Though the mediums of on-line medical consultation are currently limited through e-mail and chat, developments in information technology, which allows voice and video communication, as well as the transfer of other vital medical information, will surely develop and enhance on-line medical consultation, thereby bridging the gap with traditional medical consultation. Other developments that would address the absence of actual physical check-ups and medical tests, current limitations of on-line medical consultation would certainly be forthcoming.

On-line medical consultation has a very big potential in reaching out and helping a very big number of people who normally wouldn't have an easy access for professional medical services. But unless the use of computers and the Internet would be able to reach the grassroots level of society, this medium would remain in the exclusive use and benefit of the privileged in society.

Recommendations

For further study regarding on-line medical consultation, the researcher suggests the following:

1. Since this study only used a survey questionnaire in gathering the information, an interview type of data gathering method would get a more in-depth understanding of the patient's experience, understanding and appreciation of DoctorGeorge.com.

2. It would also be interesting to research on the quality of the doctor-patient relationship that is established in DoctorGeorge.com through a direct observation of the chat session.

3. A content analysis of the transcripts from the medical chatroom of DoctorGeorge.com would also be interesting.

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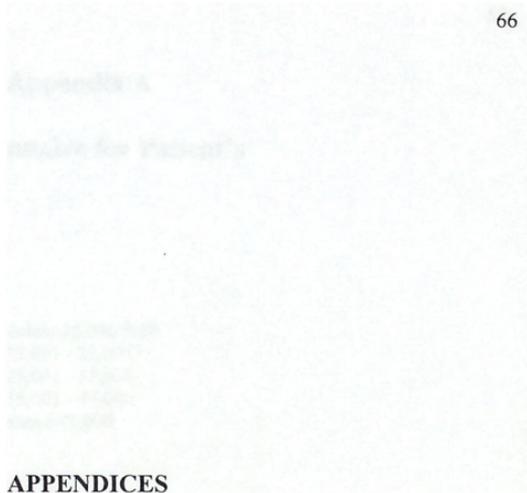
APPENDICES

Appendix A

Questionnaire for Patient's

Age:___
Sex:___
Civil Status:___
Nationality: ___
City/Municipality of residence: _____
Educational Attainment: _____
Profession/ Field: _____
Monthly Income(in PH-Pesos):   ( ) below 15,000 PHP
                                ( ) 15.001 - 25,000
                                ( ) 25,001 - 35,000
                                ( ) 35,001 - 45,000
                                ( ) above 45,000

1. Do you have a regular or family doctor?
    ( )a: Yes   ( )b: No

2. Have you had any major health problem or illness within the last year?
    ( ) a. Yes ( ) b. No
        If yes, please specify the illness: _____

3. Do you read any health related printed materials (ex. health mags, newspaper articles, etc.)
        ( ) a. Yes   ( ) b. No

4. Do you watch health related TV shows?
        ( ) a. Yes   ( ) b. No

5. What computer programs/applications do you use?
        ( ) a. word-processing
        ( ) b. spreadsheet
        ( ) c. database
        ( ) d. desktop publishing
        ( ) s. others: _____

6. How many hours per week do you usually use the Internet?
        ( ) a. 1-4
        ( ) b. 4-8
        ( ) c. 8-12
        ( ) d. others:

7. From where do you access the Internet?
        ( ) a. at home
        ( ) b. at the office
        ( ) c. at an Internet cafe?
        ( ) d. others:_____

8. How often do you send or check your e-mail?
      ( ) a. everyday
      ( ) b. several times a week
      ( ) c. others:_____

9. Have you chatted over the Internet?
      ( ) a. Yes
      ( ) b. No

10. Aside from DoctorGeorge.com:
    a. Have your surfed other websites about health information?
      ( ) a. Yes   ( ) b. No

    b. Have you consulted a doctor on-line?
      ( ) a. Yes   ( ) b. No

11. If you have consulted on-line:
    a. From what website/s: DoctorGeorge.com
    b. In what form: ( ) e-mail
                 ( ) chat

12. How long have you known DoctorGeorge.com?
      ( ) a. less than a year
      ( ) b. 1-2 years
      ( ) c. more than 2 years

13. How did you get to know DoctorGeorge.com?
      ( ) a. through a link or advertisement from another website
      ( ) b. through the newspaper, magazine, radio or TV
      ( ) c. from a friend or acquaintance

14. How many times have you consulted DoctorGeorge.com?

      ( ) a. 1-4 times
      ( ) b. 5-8 times
      ( ) d. 9-12 times
      ( ) e. more::_____

15. Are you comfortable in consulting DoctorGeorge.com about your medical concerns?
      ( ) a. very comfortable
      ( ) b. comfortable
      ( ) c. not comfortable

16. Are you satisfied with the medical consultation you had with DoctorGeorge.com?
      ( ) a. very much satisfied
      ( ) b. satisfied
      ( ) c. not satisfied

Why? _____

17. Would you recommend DoctorGeorge.com to your friends / acquaintances?
    ( ) a. Yes   ( ) b. No

18 What do you think are the advantages / benefits of on-line medical consultation with doctorgeorge.com?

    Please state briefly: _____

19. What do you think are the disadvantages / difficulties of on-line medical Consultation?

    Please state briefly: _____

20. In your opinion, is doctorgeorge.com an effective medium for medical consultation?

    ( ) a. I very much agree
    ( ) b. I agree
    ( ) c. N O

Appendix B

**Reconstructed Image of DoctorGeorge.com's Homepage
downloaded last September 10,2001**